



**Boulder County Purchasing**  
**1325 Pearl Street**  
**Boulder, CO 80302**  
[purchasing@bouldercounty.org](mailto:purchasing@bouldercounty.org)

**INVITATION TO BID**  
**COVER PAGE**

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BID Number: 7123-20

BID Title: Tumbleson House at Hall Ranch  
Open Space Masonry Repairs

Mandatory Pre-Bid Meeting: Friday, March 6, 2020; 1:00 p.m.  
  
Hall Ranch  
31271 S. St. Vrain Drive, Lyons, CO 80540

BID Questions Due: Wednesday, March 11, 2020; 2:00 p.m.

Submittal Due Date: Thursday, March 19, 2020; 2:00 p.m.

Email Address: [purchasing@bouldercounty.org](mailto:purchasing@bouldercounty.org)

Documents included in this package:

- BID Instructions
- Bond Requirements
- Terms and Conditions
- Specifications
- Insurance and W-9 Requirements
- Bid Tab Section
- Submittal Checklist
- Signature Page
- Attachments:
  - A. Location map
  - B. Construction Drawings
  - C. Project Specifications
  - D. 2018 Asbestos Final Clearance Report
  - E. 2016-2017 Lead Paint Test Reports
  - F. Photos
  - G. Sample Contract



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## **BID INSTRUCTIONS**

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### **BACKGROUND:**

Boulder County Parks and Open Space (BCPOS) is seeking bids from qualified and experienced Contractors for masonry repairs at the Tumbleson House, located on the Hall Ranch Open Space property, 31271 S. St. Vrain Drive, Lyons, CO 80540. The house is approximately 1.9 miles west on Highway 7 from the intersection of Main Street and Highway 7 in Lyons.

These services are required in order to complete stabilization work of the masonry walls that will including installing stainless steel anchors, crack stitching, rebuilding the southeast corner masonry wall, repointing exterior cracks and possibly grout injection of the open voids in the masonry walls based on the pull-out performance of the installed stainless steel wall anchors. The selected Contractor will complete all aspects of the project within 120 calendar days from the date of Notice to Proceed.

The Tumbleson House is an unoccupied historic house is between 1268 and 1528 square feet, and located next to, but separate from the county's open space occupied caretaker's residence. The circa 1890s stone building was most likely constructed by John Tumbleson, the original land patent holder for this part of the Hall Ranch Open Space property. The county purchased the property in 1994 and landmarked the building complex in 1998. The county completed a rehabilitation of the house in 2001. Prior to the rehabilitation project, asbestos testing was completed in 1999, but limited to the tile floor and their adhesive. As a result of the positive test results received from Analytica Solutions for the tile floor samples, the county contracted with Misers Asbestos Removal to remove the asbestos containing floor materials in June 1999. In 2018, the county contracted with Heron Enterprises, USA to provide asbestos consultation services and develop a detailed asbestos abatement work plan. Oak Environmental completed the asbestos abatement following Herron's work plan. Exterior lead paint test results did not return a hazardous lead reading.

**Contractors are advised to review the Contractor Qualifications Requirement section.**

### **CONTRACT LANGUAGE:**

The successful bidder will be required to enter into a Contract for Services and meet all insurance requirements as required prior to any work beginning.

All bidders are instructed to thoroughly review all the stated insurance requirements for this Project, the insurance requirements stated are the minimum and standard for Boulder County Government, for this Project. All hired contractors are required to meet the insurance requirements, as stated, for contracted services as part of the Boulder County contracting process. Owner/Sole Proprietors/Officer are not Exempt from the county's insurance requirements and coverage limits. Please refer to the Insurance Requirements in this BID.

In the event the selected contractor is unable to commence work as agreed to, the Boulder County Commissioners may rescind the bid award and proceed to award the contract to another bidder based on BID# 7123-20, re-bid the work, or proceed in any lawful manner the County deems necessary.

**PAYMENT & PERFORMANCE BONDS:**

**Both a payment bond and a performance bond may be required for this project and each bond must equal 100% of the bid amount.**

**Payment and Performance Bond requirements are addressed in the attached Sample Contract. Payment and Performance bonds will be required for bids over \$50,000.00. Please include the cost of this bonding into the total proposed cost. Bonds must be received and approved, by the County, prior to the execution of a contract and work commencing. If applicable, retainage and a Notice of Final Settlement posting will be required.**

**BID BOND:**

A bid bond is not required for this Project.

**PRE-BID MEETING:**

**A Mandatory Pre-Bid meeting is scheduled, starting promptly at 1:00 p.m. on FRIDAY, MARCH 6, 2020. Interested Parties are asked to meet at the Tumbleson House at Hall Ranch, 31271 S. St. Vrain Drive, Lyons 80540.**

**Bids from firms not represented at the mandatory, pre-bid meeting, and site visit will not be accepted.**

**ATTACHMENTS:**

The following documents are part of this BID:

1. Attachment A: Location Map
2. Attachment B: Construction Drawings
3. Attachment C: Project Specifications
4. Attachment D: 2018 Asbestos Final Clearance Report
5. Attachment E: 2016-2017 Lead Paint Test Reports
6. Attachment F: Photos
7. Attachment G: Sample Contract

**WRITTEN INQUIRIES:**

All inquiries regarding this BID will be submitted via email to the Boulder County Purchasing Office at [purchasing@bouldercounty.org](mailto:purchasing@bouldercounty.org) on or before 2:00 p.m. **Wednesday, March 11, 2020**. A response from the county to all inquiries will be posted and sent via email no later than **Monday, March 16, 2020**.

**Please do not contact any other county department or personnel with questions or for information regarding this solicitation.**

**SUBMITTAL INSTRUCTIONS:**

BIDs are due at the Administrative Services Information Desk or email box (preferred) listed below, for time and date recording on or before **2:00 p.m. Mountain Time on THURSDAY, MARCH 19, 2020**. A bid opening will be conducted at 3:00 p.m. Mountain Time at county offices.

**Your response can be submitted in the following ways. Please note that email responses to this solicitation are preferred but are limited to a maximum of 50MB capacity. NO ZIP FILES ALLOWED. Electronic submittals must be received in the email box listed below. Submittals sent to any other box will NOT be forwarded or accepted. This email box is only accessed on the due date of your questions or proposals. Please use the Delivery Receipt option to verify receipt of your email. It is the sole responsibility of the proposer to ensure their documents are received before the deadline specified above. Boulder County does not accept responsibility under any circumstance for delayed or failed email or mailed submittals.**

**Email**     [purchasing@bouldercounty.org](mailto:purchasing@bouldercounty.org); identified as **BID# 7123-20** in the subject line.

-OR-

**US Mail**   One (1) unbound copy of your submittal, printed double-sided, 11 point, on at least 50% post-consumer, recycled paper must be submitted in a sealed envelope, clearly marked as **BID# 7123-20**, to the Administrative Services Information Desk located at 1325 Pearl Street, Boulder, CO 80302.

All BIDs must be received, and time and date recorded by authorized county staff by the above due date and time. Sole responsibility rests with the bidder to see that their BID response is received on time at the stated location(s). Any BIDs received after due date and time will be returned to the bidder.

The Board of County Commissioners reserves the right to reject any and all BIDs, to waive any informalities or irregularities therein, and to accept the proposal that, in the opinion of the Board, is in the best interest of the Board and of the County of Boulder, State of Colorado.

**Americans with Disabilities Act (ADA):** If you need special services provided for under the Americans with Disabilities Act, contact the ADA Coordinator or the Human Resources office at (303) 441-3525 at least 48 hours before the scheduled event.



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[purchasing@bouldercounty.org](mailto:purchasing@bouldercounty.org)

## **TERMS AND CONDITIONS**

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1. Bidders are expected to examine the drawing, specifications, schedule of delivery, and all instructions. Failure to do so will be at the bidder's risk.
  2. Each bidder will furnish the information required in the Invitation to Bid.
  3. The Contract/Purchase Order will be awarded to that responsible bidder whose submittal, conforming to the Invitation to Bid, will be most advantageous to the County of Boulder, based on best value not only price.
  4. The County of Boulder reserves the right to reject any or all bids and to waive informalities and minor irregularities in bids received, and to accept any portion of or all items proposed if deemed in the best interest of the County of Boulder to do so.
  5. No submittal will be withdrawn for a period of thirty (30) days subsequent to the opening of bids without the consent of the County Purchasing Agent or delegated representative.
  6. A signed purchase order or contract furnished to the successful bidder results in a binding contract without further action by either party.
  7. Late or unsigned bids will not be accepted or considered. It is the responsibility of bidders to ensure that the bid arrives at the Administrative Services Information Desk prior to the time indicated in the "Invitation to Bid."
  8. The proposed price will be exclusive of any Federal or State taxes from which the County of Boulder is exempt by law.
  9. Any interpretation, correction or change of the bid documents will be made by Addendum. Interpretations, corrections and changes of the bid documents made in any other manner will not be binding, and bidder will not rely upon such interpretations, corrections and changes. The County's Representative will not be responsible for oral clarification.

10. Confidential/Proprietary Information: Bids submitted in response to this “Invitation to Bid” and any resulting contract are subject to the provisions of the Colorado Public (Open) Records Act, 24-72-201 et.seq., C.R.S., as amended. Any restrictions on the use or inspection of material contained within the bid and any resulting contract will be clearly stated in the bid itself. Confidential/proprietary information must be readily identified, marked and separated/packaged from the rest of the bid. **Co-mingling of confidential/proprietary and other information is NOT acceptable. Neither a bid, in its entirety, nor bid price information will be considered confidential/proprietary. Any information that will be included in any resulting contract cannot be considered confidential.**

**The Boulder County Attorney’s Office retains sole authority for determining whether the Colorado Open Records Act requires or permits Boulder County to disclose proposal or bid documents, or any information contained therein, pursuant to an open records request.**

11. Boulder County promotes the purchase/leasing of energy efficient, materials efficient and reduced toxic level products where availability, quality and budget constraints allow. Bidders are expected whenever possible to provide products that earn the ENERGY STAR and meet the ENERGY STAR specifications for energy efficiency with power management features enabled. Bidders are encouraged to offer products and equipment with post-consumer recycled-content materials. Products should be packaged and delivered with a minimum amount of recycled packaging that adequately protects the product but is not excessive.
12. Pursuant to Colorado law (House Bill 1292), in any bidding process for public works in which a bid is received from a non-resident bidder who is from a state that provides a percentage bidding preference, a comparable percentage disadvantage will be applied to the bid of that bidder. Bidders may obtain additional information from the Department of Personnel’s website: <http://www.colorado.gov/dpa/>.



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## **SPECIFICATIONS**

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### **SPECIFICATIONS:**

The Tumbleson House proposed project scope of work is a masonry wall stabilization project. The Project elements include work on the north, east, south, and west masonry interior and exterior walls. The work on the masonry walls must be completed in accordance with the Project's masonry specifications and in conformity with the construction drawings.

#### **Stone Masonry Wall Anchors**

Install 8 mm stainless steel helical wall anchors at 16" on center in a staggered diamond pattern perpendicular to the face of the south elevation wall and extending nearly to the opposite face wall; spot repointing over the tie ends and cleaning of repointed areas.

#### **Stone Masonry Crack Stitching**

Remove mortar to the specified depth at cracks, installing new stainless-steel helical reinforcing bars in bed joints, replacing removed mortar areas with new compatible mortar installed and tooled to be consistent with the appearance of the original masonry work, and cleaning of repointed areas.

#### **Repointing Mortar Joints**

Remove cracked or failed mortar in mortar joints between stone units and place new compatible mortar into the mortar joints to be consistent with the appearance of the original masonry work.

#### **Injection of Stone Masonry Walls with Compatible Fill (grout)**

Based on the pull-out performance testing of the 8 mm stainless steel helical wall anchors by the County's consulting structural engineer, inject a compatible injection fill (CIF) into the stone masonry walls to fill voids in the center of the wall, bond the exterior and interior wythes together and make the wall function as a composite structural element.

Shore and deconstruct southeast elevation wall corner, install 8 mm stainless steel helical wall anchors, and relay stone to original.

**COUNTY RESPONSIBILITIES:**

BCPOS is responsible for submitting the building permit application for this project and will be required to add the construction contractor's name and Boulder County contractor's license number to the building permit before it will be issued by the Community Development and Permitting Department.

**CONTRACTOR RESPONSIBILITIES:**

Electric service. The house does not have electrical service, but electrical service is on the property with temporary electrical service as a contractor option.

Restroom service. The house does not have restroom facilities. The contractor is responsible for providing their own temporary restroom facilities.

Water service. The house does not have water service. The contractor is responsible for providing their own water for the Project.

Concrete washout. Prior to work commencing, the contractor is responsible for providing and maintaining a Boulder County approved concrete washout system to collect and retain all the concrete washout water and solids in leak proof containers so that the caustic material does not reach the soil surface and migrate into the ground water. The washout structure shall be sized large enough to contain washout from concrete placement, construction equipment cleaning operations, and residue from cutting, coring, grinding, grooving, and demolition work. Concrete washout water and solids are to be recycled when possible. Contractor shall ensure washout systems are inspected daily to check for leaks, plastic lining failures, and determine if they have been filled to over 75% capacity and need to be vacuumed off or allowed to evaporate to avoid overflows. The contractor is also responsible for overseeing all ready-mix deliveries and to ensure all sub-contractors follow the same proper washout procedures and avoid dumping of cementitious material—while on project site. If a spill occurs, the Contractor must notify the County immediately.

**CONTRACTOR QUALIFICATIONS REQUIREMENT:**

Contractors are required to submit their previous or current historic preservation project experience, including dates of work and service completion that demonstrates their ability to work with historic buildings and specifically masonry projects that have included anchoring, crack stitching, repointing and compatible injection fill (CIF). This information will be significant to the County's selection process for this Project and is a mandatory requirement for bidding the Project.

**PERMITS, LICENSES, LOCATES AND CODES:**

The selected Contractor shall have full responsibility for identifying and obtaining, prior to the start of work, and for maintaining throughout the term of the Project, any permits and licenses which may be required in order to carry out the work. The Contractor shall also be responsible for following all State and County codes, which may be required in order to carry out the Project. The Contractor shall also be responsible for all "locates" of all public utilities related to performing work under the terms of this Contract. The Contractor shall also be responsible for insuring that any of its subcontractors performing work on the Project satisfy the provisions of this paragraph.



**CONTRACTOR LICENSING:**

General contractors, HVAC contractors, and roofing contractors require licensing through the Boulder County Land Use Department. Electricians and plumbers are required to be licensed through the State of Colorado and registered with the Boulder County Land Use Building Safety and Inspection Division. Furthermore, it is required for all Architects, Professional Engineers and

Professional Land Surveyors to be fully-licensed through the State of Colorado. It is the responsibility of the selected Contractor to apply for and ensure the appropriate Contractor's license is obtained.

**PROJECT COMPLETION SCHEDULE:**

The successful bidder will have **120 calendar days** from the date of Notice to Proceed.

**CONFLICT OF INTEREST:**

Any party that has developed, designed or drafted specifications, requirements, statements of work and/or has participated in planning activities for this Project may be excluded from consideration for the award of this Project.

**CHANGE ORDERS:**

Any unplanned, change orders, modifications or additional services to this Project, shall be submitted by the Contractor, in a separate, written document, including a fee schedule and completion schedule and presented to the County for review. Approval from the County, in writing, must accompany all change order requests.

**OVERNIGHT CAMPING:**

Boulder County prohibits any overnight camping; all operational staff, including designated security staff, are not authorized to be present at Project site from sunset to sunrise, the open space property will remain closed during these hours to the contractor and its subcontractors and/or designated representatives and/or agents, unless specifically authorized by a BCPOS representative.

**HOURS OF OPERATION:**

Contractor work hours shall be designated as **Monday through Friday, 8:00 a.m. to 5:00 p.m.** Work on weekends, upon request. Work on designated Federal Holidays shall not be allowed unless approved, in writing, by the County. This Project location is not open to the public.

**PAYMENT FOR SERVICES:**

BCPOS will issue progress payments to the Contractor. Invoices submitted will be paid after it has been determined by BCPOS that the work was completed to the standard specified by BCPOS.

Contractor shall submit, in writing, to Boulder County, a request for payment. Invoices shall be submitted on company letterhead and include, but not limited to, depending on the activity completed, designated project name, date(s), type of work performed. Additionally, all invoices should contain the current date, invoice number, amount due and current return address.

**BIDS:**

The pricing is to be broken out as listed in the Bid Tab Section. In all cases work is to include all labor, materials and equipment.



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## **INSURANCE AND W-9 REQUIREMENTS**

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### **INSURANCE REQUIREMENTS:**

Note that the insurance amounts listed below are the minimum required for this project. **Proof of current insurance must be provided with your proposal in the form of a sample certificate or your proposal will be deemed non-responsive.** If you require a waiver of insurance requirements (e.g. Workers' Compensation and sole proprietorships) you may request one in your response with an explanation.

New certificates will be requested if the contract process takes more than 30 days after an award.

**This type of coverage will be required to remain in place and be maintained by the selected contractor for the specified period, as noted, after completion of the Project.**

<b>*General Liability</b>	\$1,000,000 Each Occurrence \$2,000,000 General Aggregate \$2,000,000 Products Completed Operations Aggregate 3 years Products/Completed Operations
<b>Automobile Liability</b>	\$1,000,000 Each Accident Including Hired & Non-Owned Auto
<b>Worker's Compensation and Employer's Liability</b>	Statutory limits
<b>*Pollution Liability</b>	\$1,000,000 Per Loss \$1,000,000 Aggregate <b><u>Coverage maintained or extended discovery period for 3 years</u></b>

### **W-9 REQUIREMENT:**

Please provide a copy of your business's W-9 with your proposal.



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**BID TAB SECTION**

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<u>Item Number</u>	<u>Item Description</u>	<u>Cost</u>
1.	Masonry stabilization work per construction drawings and specifications	\$ _____
2.	Injection of stone masonry walls with compatible fill (grout) per construction drawings and specifications, if required	\$ _____
3.	Electric service, temporary restroom facilities, water and concrete washout facility	\$ _____
<b>BID TOTAL</b>		<b>\$ _____</b>

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Company Name

---

Name of person and title submitting BID (PLEASE PRINT)

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Signature of Bidder

Date



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**1325 Pearl Street**  
**Boulder, CO 80302**  
[purchasing@bouldercounty.org](mailto:purchasing@bouldercounty.org)

### SUBMITTAL CHECKLIST

The bidder's attention is especially called to the items listed below, which must be submitted in full as part of the BID. Failure to submit any of the documents listed below as a part of your BID, or failure to acknowledge any addendum in writing with your BID, or submitting a bid on any condition, limitation or provision not officially invited in this Invitation to Bid (BID) may be cause for rejection of the BID.

**THIS CHECKLIST MUST BE SUBMITTED AS PART OF YOUR BID PACKAGE:**

Bidder will check each box indicating compliance:

INCLUDED	ITEM
	Name and Address of the Partners and Subcontractors, if applicable
	A detailed project schedule with an all-inclusive total cost
	Information on the relevant experience of key personnel
	State your compliance with the Terms and Conditions in the Sample Contract contained in this BID.  <b>Specifically list any deviations and provide justification for each deviation.</b>
	Submit three (3) examples of previous or current historic preservation projects demonstrating your company has experience working with historic buildings and specifically masonry projects that include anchoring, crack stitching, repointing and compatible injection fill (CIF) within the last five (5) years.
	Submit three (3) references for projects your company has completed within the last five (5) years and contact information.
	Professional certifications and/or license including copy of current Boulder County Contractor's license.
	Insurance Certificate - Sample
	Ability to meet Payment and Performance Bonds, if required
	W-9
	Signature Page
	Addendum Acknowledgement(s) (If Applicable)



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**SIGNATURE PAGE**

Contact Information	Response
Company Name including DBA	
List Type of Organization (Corporation, Partnership, etc.)	
Name, Title, and Email Address of Person Authorized to Contract with Boulder County	
Company Address	
Company Phone Number	
Company Website	

**By signing below, I certify that:**

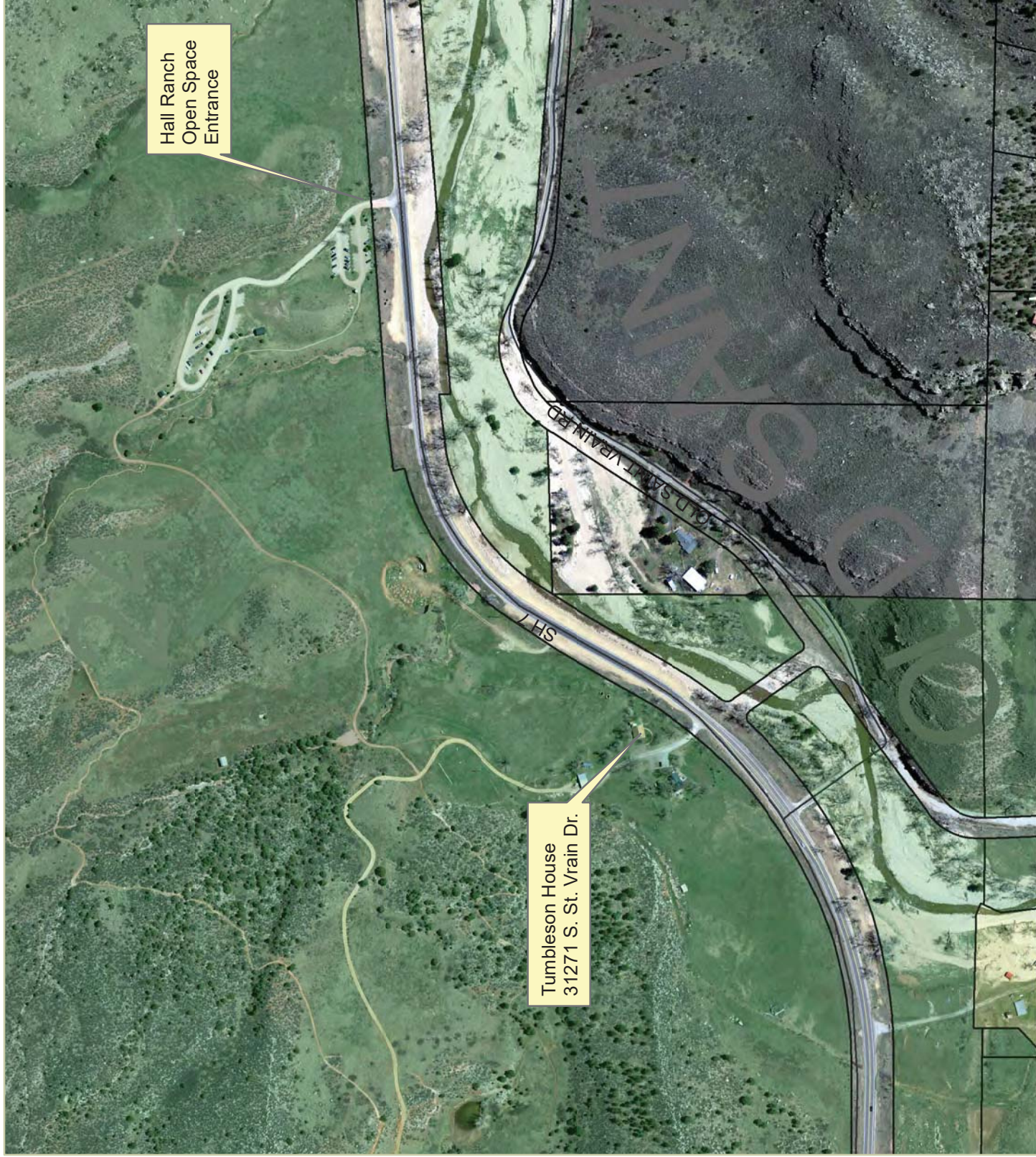
- I am authorized to bid on my company's behalf.
- I am not currently an employee of Boulder County.
- None of my employees or agents is currently an employee of Boulder County.
- I am not related to any Boulder County employee or Elected Official.
- (Sole Proprietorships Only) I am not a Public Employees' Retirement Association (PERA) retiree.

\_\_\_\_\_  
**Signature of Person Authorized to Bid on  
 Company's Behalf**

\_\_\_\_\_  
**Date**

Note: If you cannot certify the above statements, please explain in a statement of explanation.

Attachment A: Location Map



**Tumleson House**  
31271 S. St. Vrain Dr.  
Lyons CO 80540



2020

Scale 1:5000



0 2500  
Feet

The user agrees to all Terms of Use set forth by Boulder County.  
For Terms of Use, please visit: [www.bouldercounty.org/mappeduser](http://www.bouldercounty.org/mappeduser)

Attachment B

# HALL RANCH OPEN SPACE TUMBLESON HOUSE MASONRY STABILIZATION

31271 S. ST. VRAIN DRIVE  
LYONS, CO 80540



**OWNERS**  
Boulder County Parks & Open Space  
5201 St. Vrain Road,  
Longmont, CO 80503  
John W. Woodman, Natural Resource Specialist  
p. 303.678.6272  
e. cbeam@bouldercounty.org

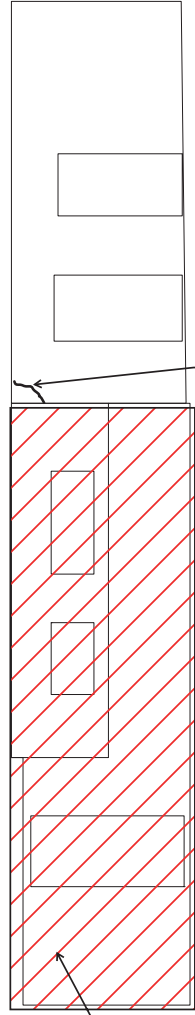
**STRUCTURAL**  
Atkinson-Noland & Associates  
2619 Spence Street,  
Suite 100,  
Dove Woodham, P.E.  
p. 303.444.3620



**Parks &  
Open Space**

CONSTRUCTION DOCUMENTS  
FEBRUARY 12, 2020

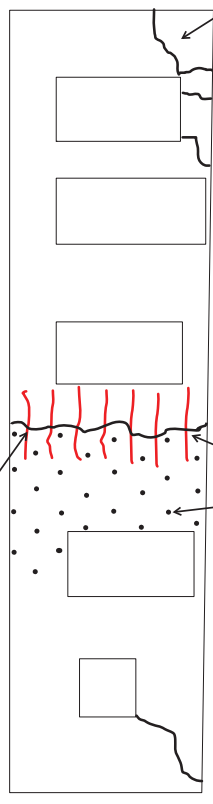




Hatched portion of N. elevation not in scope of work.

Repoint crack on exterior

1 NORTH ELEVATION  
 3/16" = 1'-0"  
 Install crack stitching reinforcing in mortar bed joints per specifications (Typ. all elevations at cracks).



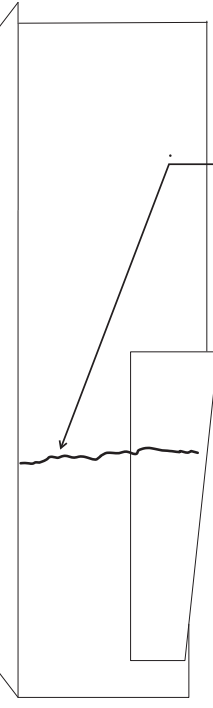
Install supplemental helical wall anchors at 16" o.c. horiz. and vert. in staggered diamond pattern (Typ. all elevations in stone).

Shore, deconstruct and relay stone masonry at corner. Relay both interior and exterior wythes. Install helical wall anchors when rebuilding.

2 SOUTH ELEVATION  
 3/16" = 1'-0"  
 Through wall crack. Stitch crack on exterior and interior - see Detail 1 on S0.2

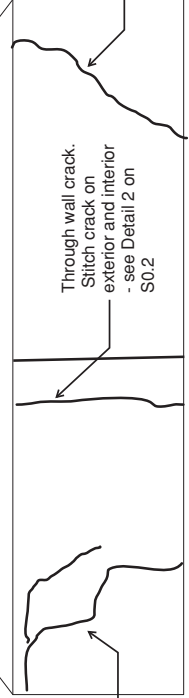


February 18, 2020



Through wall crack. Stitch crack on exterior and interior

4 EAST ELEVATION  
 3/16" = 1'-0"



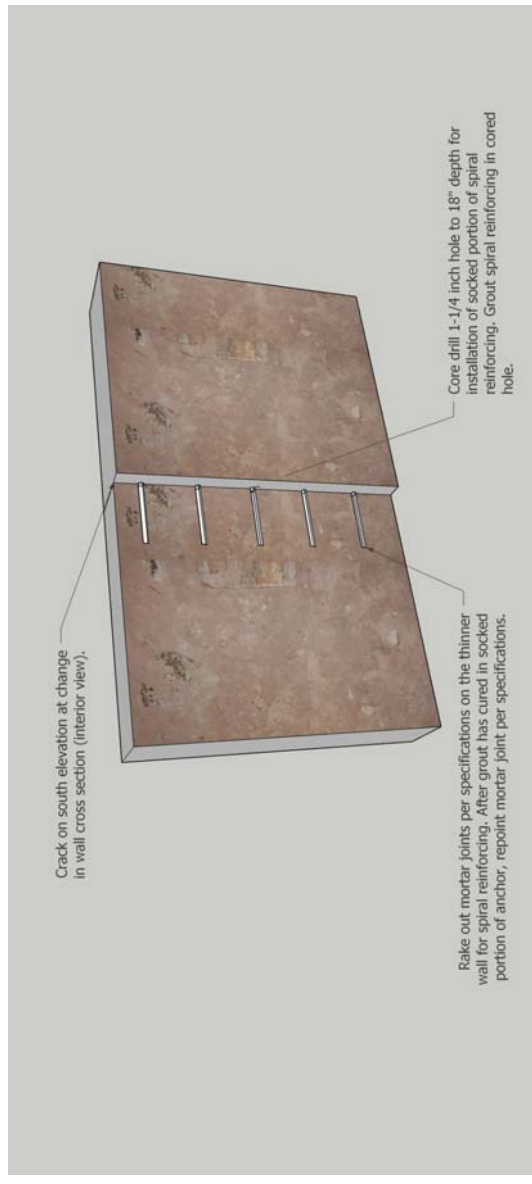
Through wall crack. Stitch crack on exterior and interior

Through wall crack. Stitch crack on exterior and interior - see Detail 2 on S0.2

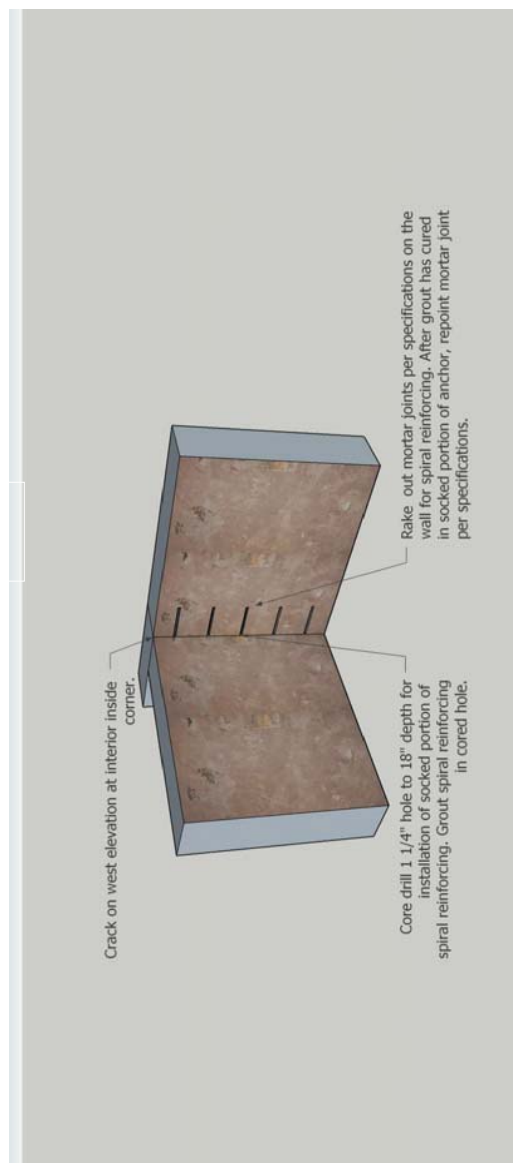
Through wall crack. Stitch crack on exterior and interior

3 WEST ELEVATION  
 3/16" = 1'-0"





1 DETAIL AT INTERIOR OF SOUTH WALL  
 N.T.S



2 DETAIL AT INTERIOR OF WEST WALL  
 N.T.S

# Attachment C

## Tumbleson House at Hall Ranch Open Space Masonry Repairs

### Project Specifications

31271 S. St. Vrain Drive  
Lyons, CO 80540

February 5, 2020

**SPECIFICATION TABLE OF CONTENTS**

**FOR**

**Tumbleson House at Hall Ranch Open Space Masonry Repairs  
31271 S. St. Vrain Dr., Lyons, Colorado**

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01 0000 BOULDER COUNTY CONSTRUCTION CONTRACTS  
GENERAL CONDITIONS

DIVISION 2 - SITE WORK

NOT USED

DIVISION 3 - CONCRETE

NOT USED

DIVISION 4 - MASONRY

SECTION 4 0300 CONSERVATION TREATMENT FOR PERIOD MASONRY

DIVISION 5 - METALS

NOT USED

DIVISION 6 - WOOD AND PLASTICS

NOT USED

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

NOT USED

DIVISION 8 - DOORS AND WINDOWS

NOT USED

DIVISION 9 - FINISHES

NOT USED

DIVISION 10 – SPECIALTIES

NOT USED

DIVISION 11 - EQUIPMENT

NOT USED

DIVISION 12 - FURNISHINGS

NOT USED

DIVISION 13 - SPECIAL CONDITIONS

NOT USED

DIVISION 14 - CONVEYING SYSTEMS

NOT USED

DIVISION 21 - FIRE SUPPRESSION

NOT USED

DIVISION 22 - PLUMBING

NOT USED

DIVISION 23 - HEATING VENTILATING AND AIR CONDITIONING

NOT USED

DIVISION 26 - ELECTRICAL

NOT USED

DIVISION 27 - COMMUNICATIONS

NOT USED

DIVISION 28 - ELECTRONIC SAFETY AND SECURITY

NOT USED

DIVISION 31 - EARTHWORK

NOT USED

DIVISION 32 - EXTERIOR IMPROVEMENTS

NOT USED

DIVISION 33 - UTILITIES

NOT USED

END OF TABLE OF CONTENTS

**BOULDER COUNTY CONSTRUCTION CONTRACTS**  
**GENERAL CONDITIONS**

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**A. COUNTY'S (OWNER'S) RESPONSIBILITIES**

1. Information on services under the control of the County (hereinafter referred to also as the Owner) shall be furnished by the County with reasonable promptness to avoid delay in the orderly progress of the Work.
2. Based on the observations of the County's Representative and an evaluation of the Contractor's Applications for Payment, the County will determine the amounts owing to the Contractor and will issue Certificates for Payment in accordance with the General Conditions on Progress Payments and Final Payments.
3. The Owner's Representative will be the interpreter of the requirements of the Contract Documents. He will make decisions on all claims, disputes or other matters in question between the Contractor and the Owner but he will not be liable for the results of any interpretation or decision rendered in good faith. Decisions of the Architect will be final, if consistent with the intent of the Contract Documents.
4. The Owner's Representative will have authority to reject Work which does not conform to the Contract Documents.
5. The Owner's Representative will have the authority to contact any regulatory agency concerning any alleged regulatory violation and to secure regulatory ruling or suspend work until such ruling is obtained. Such delays if confirmed to be an infraction or variance may give rise to charges against the Contractor by the County for delay of timely completion of contract work.
6. The Owner's Representative will review and approve or take other appropriate action upon the Contractor's submittals, such as Shop Drawings, Product Data, and Samples, but only for conformance with the design concept of the Work and with the information given in the Contract Documents.

**B. CONTRACTOR'S RESPONSIBILITIES**

1. The Contractor shall supervise and direct the Work, using his best skill and attention and he shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract.
2. Unless otherwise specifically provided in the Contract Documents, the Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, transportation, and other facilities and services necessary for the proper execution and completion of the Work whether or not incorporated or to be incorporated in the Work.
3. The Contractor shall at all times enforce strict discipline and good order among his employees and shall not employ on the Work any unfit person or anyone not skilled in the task assigned to him.
4. The Contractor warrants to the County that all materials and equipment incorporated in the Work will be new unless otherwise specified, and that all Work will be of good quality, free from faults and defects and in conformance with the Contract

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Documents. All Work not conforming to these requirements may be considered defective.

5. Unless otherwise provided in the Contract Documents, the Contractor shall pay all sales, consumer, use and other similar taxes which are legally enacted at the time bids are received and the Contractor will obtain any permits and pay governmental fees, licenses and inspections necessary for the proper execution and completion of the Work.
6. The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations, and lawful orders of any public authority bearing on the performance of the Work and shall promptly notify the County if the Drawings and Specifications are at variance therewith. If the Contractor performs any work contrary to such laws, ordinances, rules or regulations, he shall bear all costs arising therefore.
7. The contractor shall be solely responsible for the acts and omissions of his employees, Subcontractors and their agents and employees, and other persons performing any of the Work under a contract with the Contractor.
8. The Contractor shall review, approve and submit all Product Data and Samples required by the Contract Documents. The Work shall be in accordance with approved submittals.
9. The Contractor at all times shall keep the premises free from accumulation of waste materials or rubbish caused by his operations. At the completion of the Work he shall remove all his waste materials or rubbish from and about the Project as well as his tools, construction equipment, machinery and surplus materials.
10. The Contractor shall pay all royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and shall save the County harmless from loss on account thereof.
11. The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits, the Contract documents and the County's representative including storage of any materials or equipment.
12. The Contractor shall promptly correct any Work rejected by the County as defective or as failing to conform to the Contract Documents whether observed before or after Substantial Completion and whether or not fabricated, installed or completed, and shall correct any Work found to be defective or nonconforming within a period of one year from the Date of Substantial Completion of the Contract or within such longer period of time as may be prescribed by law or by the terms of any applicable special warranty required by the Contract Documents. The provisions of this Article apply to Work done by Subcontractors or Support Services as well as to Work done by direct employees of the Contractor. Corrections shall be made at no expense to the County.
13. Safety:
  - a. The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the work. The Contractor shall give all notices and comply with the applicable laws,

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ordinances, rules, regulations, and orders of any public authority bearing on the safety of persons and property and on their protection from damage, injury or loss. The Contractor shall take all reasonable steps to minimize inconvenience to users of the site and shall take all reasonable precautions for the safety to, and shall provide all reasonable protection to prevent damage, injury, or loss to:

- i. All employees on the work site and all other persons, including visitors and passersby who may be affected by the work;
    - ii. All the work and all materials and equipment to be incorporated therein; and
    - iii. All property at the site or adjacent thereto.
  - b. The Contractor shall designate a responsible member of the Contractor's organization at the site who shall be assigned the duty of the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the County. This person will also work closely with the County's work superintendent on safety issues and attend regular safety discussions as set by the County's work superintendent.
  - c. In the event the County's superintendent or his designee notifies the Contractor's superintendent of any unsafe conditions or practices, the Contractor shall immediately take all actions required under paragraph 14a to ensure the safety of the work. If the condition or practice continues to present an imminent hazard, the County shall have the authority to stop the work until the condition has been remedied at no expense to the County. In no event shall the County be responsible for ensuring the safety of the work or for remedying the unsafe condition.
14. Liabilities: The Contractor shall promptly remedy all loss or damage to any property or persons caused in whole or in part by the Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or by any one for whose acts or omissions any of them may be liable. These obligations are in addition to any other obligations under this contract.
15. Performance Bond and Labor and Materials Bond:
- a. Prior to the execution of the Contract by the County, the Contractor shall furnish and deliver to the County a Performance Bond and a Labor and Materials Payment Bond acceptable to the County, in a sum equal to the nearest integral of One Hundred Dollars (\$100) in excess of the Contract price, duly executed by a Corporate Surety qualified and licensed to do business in Colorado and maintaining a general agent therein. Such bond shall comply with the provisions of Section 38-26-106, CRS. **Such bonds are only required if the amount of the contract price is in excess of Fifty Thousand Dollars (\$50,000).**

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- b. Unless otherwise specified in the Bidding Documents, the bonds shall be written in the form AIA Documents A312, Performance Bond and Labor and Material Payment Bond.
- c. The Bidder shall require the Attorney-in-Fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of his Power of Attorney.

16. No Fumes Clause:

The use of any product that causes fumes or irritants to permeate through or into the building and would cause a reasonable person physical distress or discomfort, such that it would be necessary to vacate users of the building, is strictly prohibited during business hours. Violators will be subject to a \$5,000.00 per day fine for noncompliance. Any exception to this will require written approval from the County's Representative. The Contractor and County acknowledge and agree that the liquidated damages specified herein are reasonable in amount and are not disproportionate to anticipated actual damages. The County shall have the right to deduct liquidated damages from any amount due or that may become due to the Contractor, or to collect such liquidated damages from the Contractor or its surety.

**C. WORK BY OWNER OR BY SEPARATE CONTRACTORS**

- 1. The Owner reserves the right to perform work related to the Project with his own forces, and to award separate contracts in connection with other portions of the Project or other work on the site under these or similar conditions of the Contract. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, he shall make such claims as provided below.
- 2. Any claim for an increase or decrease in the Contract Price shall be based on written notice delivered by the party making the claim to the other party promptly (but in no event later than thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the amount of the claim with supporting data shall be delivered within sixty days after such occurrence and shall be accompanied by claimant's written statement that the amount claimed covers all known amounts (direct, indirect and consequential) to which the claimant is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Price shall be determined by OWNER if OWNER and CONTRACTOR cannot otherwise agree on the amount involved. No claim for an adjustment in the Contract Price will be valid if not submitted in accordance with this paragraph.
- 3. Any claim for an extension in the Contract Time shall be based on written notice delivered by the party making the claim to the other party promptly (but in no event later than thirty days) after the occurrence of the event giving rise to the claim. Notice of the extent of the claim with supporting data shall be delivered within sixty days after such occurrence and shall be accompanied by the claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant has reason to believe it is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Time shall be determined by OWNER if



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OWNER and CONTRACTOR cannot otherwise agree. No claim for an adjustment in the Contract Time will be valid if not submitted in accordance with the requirements of this paragraph.

4. The Contractor shall afford the Owner and separate contractor's reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work and shall connect and coordinate his Work with theirs as required by the Contract Documents.
5. Any costs caused by defective or ill-timed work shall be borne by the party responsible therefore.

**D. CHANGES IN THE WORK**

1. The County may order additions, deletions, or modifications in the Work by issuing a change order signed by its authorized representatives. These changes will not invalidate the Contract; however, the Contract sum and Contract time will be adjusted accordingly by unit prices or by negotiated amount where unit prices are not provided.
2. The Contract sum and the Contract time may be changed only by Change Order.
3. The cost or credit to the County from a change in the Work shall be determined by mutual agreement.
4. Questions concerning changes, modifications and other construction problems are to be submitted to the County for interpretations.

**E. SCHEDULING**

1. Work is to begin after the County has notified the Contractor to proceed, and a work schedule has been agreed to by the County and Contractor. The County and Contractor shall each have copies of this schedule.
2. The Contractor shall promptly inform the County of items which will not be delivered or accomplished according to the initial schedule.
3. If the Contractor is delayed at any time in the progress of the Work by changes ordered in the Work, by labor disputes, fire, unusual delay in transportation, adverse weather conditions not reasonably anticipatable, unavoidable casualties, or any causes beyond the Contractor's control, or by any other cause which the County determines may justify the delay, then the Contract Time shall be extended by Change Order for such reasonable times as the County may determine.

**F. PROGRESS PAYMENTS**

1. If this contract is for one hundred fifty thousand dollars (\$150,000) or less, partial payments shall be authorized by the County for work completed, if the Contractor is performing satisfactorily. Partial payments will be made based upon invoices submitted by the Contractor and certified by the County. Five percent (5%) of each amount certified by the

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County shall be retained by the County until final payment is made. The Contractor shall make partial payments to his Subcontractors in the same manner as the County pays him, provided the Subcontractor is performing satisfactorily.

2. If this contract is for more than one hundred fifty thousand dollars (\$150,000), partial payments of compensation due under this contract are subject to the provisions of Section 24-91-101, et. seq. CRS. If this contract exceeds One Hundred Fifty Thousand Dollars (\$150,000), partial payments shall be authorized by the County for work completed, based upon invoices submitted by the Contractor, if the Contractor is performing satisfactorily. Five percent (5%) of the calculated value of any work completed shall be retained until work is completed, The withheld percentage of the contract price of any such work, improvement, or construction shall be retained until the contract is completed satisfactorily and finally accepted by the public entity. If the public entity finds that satisfactory progress is being made in all phases of the contract, it may, upon written request by the Contractor, authorize payment from the withheld percentage. Before such payment is made, the public entity shall determine that satisfactory and substantial reasons exist for the payment and shall require written approval from any surety furnishing bonds for the contract work. The Contractor shall make partial payments of the amount due to each his subcontractors in the same manner as the public entity is required to pay the Contractor under this statute, provided that the subcontractor is satisfactorily performing under his contract with the Contractor.
3. If it becomes necessary for the County to take over the completion of any contract, all of the amounts owing the contractor, including the withheld percentage, shall be applied: First, toward the cost of completion of the contract; second, toward performance of the public entity's withholding requirement set forth in section 38-26-107, C.R.S.; third, to the surety furnishing bonds for the contract work, to the extent such surety has incurred liability or expense in completing the contract work or made payments pursuant to section 38-26-106, C.R.S.; then, to the contractor. Such retained percentage as may be due any contractor shall be due and payable as provided by section 38-26-107, C.R.S.
4. Payments may be withheld on account of:
  - a. defective work not remedied;
  - b. claims filed;
  - c. failure of the Contractor to make payments properly to Subcontractors or for labor, materials, or equipment;
  - d. failure to carry out the Work in accordance with the Contract Documents; or
  - e. failure to keep the designated superintendent on the site.
  - f. failure to obtain any necessary permits or licenses necessary to carry out the Work under this Contract.

**G. PREREQUISITES TO SUBSTANTIAL COMPLETION**

1. Submit specific warranties, workmanship/maintenance bonds, maintenance agreements, final certificates and similar documents.
2. Furnish a list giving the names, addresses and phone numbers of all subcontractors and materials suppliers who provided labor and/or materials for the work, with identification of the labor and/or materials provided.

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3. Obtain and submit releases enabling Owner's full use of the work and access to services and utilities, including occupancy permits, and similar releases.
4. Submit Record Drawings, maintenance manuals, operating instructions, and similar final records information.
5. Deliver tools, spare parts, extra stocks of materials, and similar physical items to Owner.
6. Make final change-over of locks and transmit keys to Owner.
7. Complete startup testing of systems, and instructions of Owner's operating/maintenance personnel. Discontinue (or change over) and remove from project site temporary facilities and services, along with construction tools and facilities, mock-up, and similar elements.
8. Complete final cleanup requirements.

**H. SUBSTANTIAL COMPLETION**

The Work (or a specified part thereof) has progressed to the point where, in the opinion of OWNER as evidenced by OWNER'S definitive certificate of Substantial Completion, it is sufficiently complete, in accordance with the Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it was intended; or if there be no such certificate issued, when final payment is due in accordance with paragraph N of these GENERAL CONDITIONS TO BOULDER COUNTY BUILDING CONSTRUCTION CONTRACT. The terms "substantially complete" and "substantially completed" as applied to any Work refer to Substantial Completion thereof.

**I. SUBSTANTIAL COMPLETION PROCEDURES**

1. When CONTRACTOR considers the entire Work ready for its intended use CONTRACTOR shall notify OWNER in writing that the entire Work is substantially complete (except for items specifically listed by CONTRACTOR as incomplete) and request that OWNER issue a certificate of Substantial Completion.
2. Within a reasonable time thereafter, OWNER and CONTRACTOR shall make an inspection of the Work to determine the status of completion.
3. If OWNER does not consider the Work substantially complete, OWNER will notify CONTRACTOR in writing giving the reasons therefore.
4. If OWNER considers the Work substantially complete, OWNER will prepare and deliver to CONTRACTOR a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment.
  - a. OWNER will within fourteen days execute and deliver to CONTRACTOR a definitive certificate of Substantial Completion with a list of items to be completed or corrected reflecting any changes from the tentative certificate.
  - b. At the time of delivery of the tentative certificate of Substantial Completion OWNER will deliver to CONTRACTOR a written recommendation as to

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division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, maintenance, heat, utilities, insurance and warranties. Unless CONTRACTOR objects in writing and so informs OWNER prior to OWNER'S issuing the definitive certificate of Substantial Completion, OWNER'S aforesaid recommendation will be binding on OWNER and CONTRACTOR until final payment.

5. OWNER shall have the right to exclude CONTRACTOR from the Work after the date of Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

**J. LIENS**

No Mechanics lien may be held against a publicly owned building in the State of Colorado. Protections are limited to those set out below.

**K. DEDUCTIONS FOR UNCORRECTED WORK**

If the County determines that there is a need to correct work which has not been performed in accordance with the Contract, an equitable deduction from the Contract price may be authorized by change order.

**L. ACCESS TO WORK**

The County and any architect/engineer retained by the County shall at all times have access to the work.

**M. FINAL PAYMENT**

1. Within ten (10) days after the Contractor's written declaration of completion of the Work, the County will make a final inspection thereof to determine whether the Work has been completed in accordance with the Contract Documents. If a list of deficiencies results from such final inspection, the Contractor shall promptly rectify all items appearing thereon, before final payment will be made. When the County indicates acceptance of the Work, the Contractor may requisition final payment, including retainage on account of the Contract price.
2. Final payment is subject to the provisions of Section 38-26-107, CRS. Any proposed final settlement for this work shall be duly advertised at least ten (10) days prior thereto by publication at least twice in a public newspaper of general circulation. Any creditor that has furnished labor, materials, team hire, sustenance, provisions, provender, or other supplies used or consumed on this project by the Contractor or its Subcontractors, or that supplies rental machinery, tools, or equipment to the extent used in the prosecution of the work, whose claim therefore has not been paid by the Contractor or the Subcontractor at any time up to and including the time of final settlement, may file with the County a verified statement of the amount due and unpaid. Such amounts claimed shall thereafter be retained by the County from final settlement pursuant to the provisions of the statute.

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3. In any event, final payment shall not be authorized until all inspections have been completed, and all work has been completed.
4. The making of final payments shall constitute a waiver of all claims by the County except those arising from:
  - a. unsettled claims
  - b. faulty or defective Work appearing after Substantial Completion
  - c. failure of the Work to comply with the requirements of the Contract Documents
  - d. terms of any special warranties required by the Contract Documents.
5. The acceptance of final payment shall constitute a waiver of all claims by the Contractor except those previously made in writing and identified by the Contractor as unsettled at the time of the final Application for Payment.

**N. TESTS**

The Contractor shall provide such equipment and facilities as the Architect may require for conducting field tests and for collecting and forwarding samples. The Contractor shall not use any material or equipment represented by samples found to be unacceptable. The Owner shall pay testing laboratory costs for materials testing. The Contractor shall give the Architect and testing laboratory timely notice for required tests.

**O. MEASUREMENTS**

Before ordering any materials or doing any work, the Contractor shall verify all measurements at the project and shall be responsible for the correctness of same. No extra charge or compensation shall be allowed on account of difference between actual dimensions and the measurements indicated on the Drawings. Any difference that may be found shall be submitted to the Owner for consideration before proceeding with the work. The Architect and Owner shall not be responsible for the scaling of Drawings.

END OF GENERAL CONDITIONS

## DIVISION 04 – MASONRY

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### Section 04 03 00 – Conservation Treatment for Period Masonry

#### 04 03 05.13

##### **REPOINTING MORTAR JOINTS**

This Supplemental Specification covers removal of deteriorated mortar and replacement with a compatible mortar in stone masonry mortar joints.

##### **GENERAL – REPOINTING MORTAR JOINTS DESCRIPTION**

This work consists of furnishing all labor, equipment and materials and performing all work necessary to remove cracked or failed mortar in mortar joints between stone units and placing new compatible mortar into the mortar joints to be consistent with the appearance of the original masonry work.

##### **MATERIALS**

##### **Portland Cement**

General Use: Comply with ASTM C150, Type I/II, non-staining, without air-entrainment, natural color or colored as required to produce a suitable match with existing mortar. Masonry cement is not allowed.

##### **Hydrated Lime**

Hydrated Lime: ASTM C207, Type S.

##### **Mortar Aggregates**

ASTM C144.

##### **Mortar Pigments**

Colored mortar may be required to match existing mortar. Provide synthetic and natural iron oxides, stable to atmospheric conditions, sunfast, weather resistant, alkali resistant, water soluble and free of any deleterious fillers and extenders. Provide finely milled and blended material capable of producing uniform and consistent tinting strength colors. Pigments shall not exceed 10% by weight of the weight of the cement fraction of the mortar mixture. The following is a manufacturer of acceptable mortar pigments:

Davis Colors  
3700 East Olympic Blvd.  
Los Angeles, CA 90023

##### **Water**

Clear and free of deleterious materials which would impair the work.

Do not lower the freezing point of mortar by the use of admixtures or antifreeze agents, including calcium chloride.

## CONSTRUCTION REQUIREMENTS

### Mortar Mixing

Stone Masonry Mortar: Mortar is to meet proportion requirements of ASTM C270, except limited to the mix materials specified and the following cement/lime ratios by volume. Damp sand shall equal 2-1/4 to 3 times the combined volume of cement and lime.

Use a mortar conforming to ASTM C270 Type O with 2 parts hydrated lime per 1 part Portland cement per 7 - 9 parts masonry sand. All parts per volume not weight.

### Mortar Repointing

Mortar repointing shall be conducted in such a manner as to produce a dense joint with a weathering surface free of any cracks or bond-line delaminations.

Remove all deteriorated mortar until sound mortar is reached. Mortar removal depth to be at least 2 times the joint thickness ( $\frac{3}{4}$  inch for a  $\frac{3}{8}$  inch joint) and no more than 2 inches deep.

All cutting shall be done by hand or small hand power tools to avoid damage to the units. Damage to adjacent materials exceeding  $\frac{1}{8}$  inch in size must be repaired by removal and replacement of brick or patching of stone or concrete.

Joints from which mortar is thus removed must be cleaned of dust and debris using water or compressed air. Joints are to be damp with no standing water immediately prior to pointing.

Mortar shall be proportioned to be compatible with existing mortar in terms of composition and material properties. The color and texture of repointing mortar should match the face appearance of in-place mortar. All dry ingredients shall be mixed thoroughly in a paddle batch mixer for at least three and not more than seven minutes using less water than needed for normal workable mortar to produce a stiff mortar mix. Small batches may be mixed by hand.

Mixed mortar shall stand for not less than one-half hour and not more than two and one-half hours for pre-hydration to reduce post curing shrinkage after which time water shall be added to small batches and mixed by hand to bring the mortar to a stiff yet workable consistency.

NOTE: The amount of water added may vary day to day and section to section of the walls depending upon the temperature, humidity, wind and the absorption of the units. On hot dry days repointing operations may require shading of freshly placed mortar to reduce evaporative shrinkage.

All mortar shall be used within two and one-half hours of its initial mixing, and within one hour of adding water to bring it to a working consistency. Re-tempering of the mortar to replace evaporated water is permitted within these time frames.

Any mortar not used within two and one-half hours of initial mixing shall be discarded.

Mortar shall be tucked into the joints in approximately  $\frac{1}{4}$ -inch layers and tightly compressed. When each layer is firm another layer may be installed. The final layer shall be tooled to compress the outer surface of the mortar and seal the joint. Joint tooling shall match the shape and texture of adjacent existing joints.

See Tables 1 and 2 for cold and warm weather repointing requirements.

**Table 1. Cold Weather Construction Requirements**

Wall Temperature (F)	Special Requirements
32 to 40	<ul style="list-style-type: none"> <li>Heat sand or mix water to provide mortar between 40 and 120°F at the time of mixing.</li> </ul>
25 to 32	Above requirements, plus: <ul style="list-style-type: none"> <li>Maintain mortar above freezing until used.</li> </ul>
20 to 25	Above requirements, plus: <ul style="list-style-type: none"> <li>Heat masonry surfaces under construction to 40°F during construction and prior to grouting.</li> <li>Provide wind break when wind speed is above 15 mph.</li> </ul>
less than 20	Above requirements, plus: <ul style="list-style-type: none"> <li>Provide enclosure heated to above 32°F.</li> </ul>

**Table 2. Hot Weather Construction Requirements**

Air Temperature (F)	Special Requirements
Above 100°F or 90°F with an 8 mph wind	<ul style="list-style-type: none"> <li>Maintain sand piles in damp, loose condition</li> <li>Maintain mortar and grout temperature below 120°F.</li> <li>Flush mixer, mortar transport container, and mortar boards with cool water before use.</li> <li>Retemper mortar with cool water.</li> <li>Use mortar within 2 hours of initial mixing.</li> </ul>
Above 115°F or 105°F with an 8 mph wind	Follow above requirements, plus: <ul style="list-style-type: none"> <li>Use cool mixing water for mortar and grout. Ice is permitted if all ice is melted when other mortar or grout materials are added.</li> <li>Shade materials and mixing equipment from direct sunlight.</li> </ul>



## **04 03 05.16:**

### **INJECTION OF STONE MASONRY WALLS WITH A COMPATIBLE FILL**

This Supplemental Specification covers the injection of a compatible fill (grout) into the stone masonry walls to fill voids in the center of the wall, bond the exterior and interior wythes together and make the wall function as a composite structural element.

### **GENERAL – COMPATIBLE INJECTION FILL**

#### **DESCRIPTION**

This work shall consist of furnishing all labor, equipment, and materials and performing all work necessary to inject a compatible injection fill (CIF) into the stone masonry walls of the Tumbleson House. The work shall be done in accordance with these specifications and in conformity with the construction drawings.

#### **AREA PREPARATION**

1. Wall anchors: Supplemental stainless-steel spiral anchors shall be installed prior to injection with CIF to resist the outward fluid pressure of the CIF. Do not drill injection ports near previously installed anchors.
2. Crack stitching: Crack stitching shall be done prior to injection grouting if grouting is necessary. Note: Do not drill injection ports in bed joints with previously installed crack stitching reinforcing.
3. Masonry repairs: Repoint all open mortar joints on the interior and exterior prior to grouting in order to retain the CIF in the wall. Rake out loose mortar and repoint with the specified mortar on all stone masonry. Exterior pointing mortar shall reasonably match the existing mortar in color, sand gradation and hardness. Provide 3-day mortar cure, minimum, at all repairs before CIF work.

#### **INJECTION PORTS**

1. Drill all ports from the exterior and in mortar joints only. Wall thickness varies from approximately 18 to 22 inches. Drill injection ports to a minimum of 6 inches (if no resistance is encountered beyond 6 inches), and a maximum of 12-14 inches depth in from the exterior face of wall.

Port diameter: 3/8" to 1/2"

Max. horizontal spacing: 16"

Max. vertical spacing: 16"

Use a staggered diamond pattern.

#### **MATERIALS**

##### **Mortar**

Mortar used for repointing injection ports shall be as specified in Section 04 03 05.13, Repointing Mortar Joints.

### **Compatible Injection Fill**

Injection fill shall be a low-strength, low viscosity, cementitious grout with integral water reducing and shrinkage compensating admixtures. Suitable products are made by:

Masonry Solutions International  
10815 Beaver Dam Road, Suite D  
Cockeysville, MD 21030 USA  
MSI 511 CIR

1. Flow time: API RP 13B-1 or ASTM C 939. CIF material shall be required to flow without separation. Mix dry-blended CIF with water to provide flow range of 30 to 40 seconds for the walls.

### **EXECUTION**

1. Mix all CIF materials according to supplier's recommendations. No hand-mixing will be allowed.
2. Monitor flow of the CIF daily using appropriate quality control procedures to maintain mix stability. CIF shall not be used longer than one (1) hour after mixing and flow testing.
3. Flush all injection ports and bleed ports within the designated repair area with water before CIF injection. Starting at the top of the repair area, inject a small amount of water (from ½ to 2 pints) into each injection port to flush away dust and drill cuttings. When operating outside in hot weather conditions, with temperatures greater than 90 F, spray additional water into each injection port to cool and partially saturate the masonry.
4. Proceed across the repair area, then downward, flushing each injection port in turn. When the second row from the bottom is reached, continue flushing until water flowing from the bottom-most ports runs clear and free from debris. It is not necessary to flush the bottom row of ports.
5. During the flushing procedure water must flow freely into each injection hole. If a port is partially or totally blocked, drill a new injection port 4 to 8 inches (along the same row) to each side of the blocked port.
6. Do not allow pressure buildup in excess of 2 ft. vertical during flushing.
7. Immediately prior to CIF injection (within 10 minutes) spray the masonry surface lightly with water, if necessary, to prevent CIF adhesion. Keep a water hose and brush on hand during injection for cleaning any CIF spills from the masonry surface.
9. Injection begins at the lower-most injection port at one edge of the injection area. Ports located above and to the side of the injection port and bleed ports at the exterior wall face must be plugged when CIF flows from them. A small quantity of standing water may be present at the base course from the flushing procedure; do not plug ports along the base course until un-diluted CIF flows from each port.
10. Injection shall proceed from the base of the injected wall to the top, moving first across the wall horizontally and then upward, in lifts of 4 feet or less. A lift is defined as the height of CIF in a single continuous operation. Have an observer on the interior of the structure to notify injection crew of any leak of CIF to the interior. Stop injection work immediately until leak is stopped and cleanup of CIF is completed.

11. Maintain an injection pressure of 10 to 15 psi during injection.
12. Each port shall be injected to refusal, as indicated by CIF flowing from an adjacent injection port or refusal of the present port to accept more CIF. Inject until CIF flows out of bleed ports at the exterior wall face. Maintain refusal pressure for at least 20 seconds at each port before moving on to the next port.
13. Dam CIF at full ports by using wood damming dowels.
14. Injected CIF will stiffen rapidly after placement: injection of each lift should proceed in continuous fashion, with no time lapses of more than three (3) minutes during injection of any single lift.
15. Allow in-place CIF to stiffen for at least 10 minutes before proceeding to the next lift. Proceed with injection of the next lift as described above until all ports in the designated repair area have either been injected or plugged. A maximum height of 4 feet may be injected in any 24-hour period.

#### **WALL CLEANUP**

1. Surface cleaning shall be conducted during injection by immediately flushing any CIF from the masonry surface with water.
2. Immediately following completion of the injection process, remove any remaining surface stains using water and a stiff, non-metallic bristle brush. Do not permit CIF material to harden on wall surfaces.

**04 03 05.19:**

**SUPPLEMENTAL WALL ANCHORS FOR STONE MASONRY WALLS**

This Supplemental Specification covers the anchoring of the two wythes in the stone masonry walls with new stainless-steel spiral anchors installed perpendicular to the face of the wall and extending nearly to the opposite wall face.

**GENERAL – STONE MASONRY WALL ANCHORS**

**DESCRIPTION**

This work shall consist of furnishing all labor, equipment, and materials and performing all work necessary, including tying the stone masonry walls with stainless steel spiral anchors and spot repointing over the tie ends and cleaning of repointed areas. The work shall be done in accordance with these specifications and in conformity with the construction drawings.

**MATERIALS**

**Mortar**

Mortar used for repointing over wall anchor locations shall be as specified in Section 04 03 05.13 Repointing Mortar Joints.

**Wall Anchors**

Spiral Anchors: Anchors shall be 8 mm stainless steel helical ties, Grade 304 or 316 . Suitable crack stitching reinforcing bars are available from:

Masonry Solutions International  
10815 Beaver Dam Road, Suite D  
Cockeysville, MD 21030  
Multi-Wythe Spiral Wall Tie, 8mm

Helifix, Division of Halfen USA Inc.  
4965 Eisenhower Rd, Suite 101  
Windcrest, TX.  
78218 USA  
HeliBar, 8 mm

Thor Helical USA  
340 West Passaic St.  
Rochelle Park, NJ  
07662 USA  
Helical Bars, 8 mm

Construction Tie Products  
7974 W. Orchard Drive  
Michigan City, Indiana  
46360-9390 USA  
Stitch-Tie, 8 mm

Simpson Strong-Tie  
PO Box 10789  
Pleasanton, CA  
94588 USA  
Heli-Tie, 8 mm

Blok-Lok  
A Hohmann & Barnard Company  
12 Ashbridge Circle  
Woodbridge, Ontario L4L 3R5  
Canada  
Spira-Lok, 8 mm

## **CONSTRUCTION REQUIREMENTS**

### **Supplemental helical wall anchors**

At locations shown in the construction drawings, install supplemental helical wall anchors at the specified spacing by predrilling holes for the anchors, cleaning the holes and installing the new spiral anchors with a rotary hammer drill.

1. Drill pilot holes perpendicular to the wall face at the locations, depth and spacing shown in the construction drawings. Drill the holes with carbide-tipped drill bits of the diameter recommended by the spiral anchor manufacturer. Use a drill depth guide to prevent drilling too deeply.
2. Clean the drilled holes in accordance with the anchor manufacturer's recommendations.
3. Using the manufacturer's proprietary installation tool, drive the helical anchor into the pilot hole using the recommended rotary hammer drill in the recommended mode (percussion and rotary or rotary only). Drive the anchor until it is countersunk below the face of the wall by ½ inch. If the anchor cannot be driven to the prescribed depth, attempt to remove the anchor. If the anchor cannot be removed, cut the anchor below the face of the wall. If the anchor was not driven to full depth, install a new pilot hole and anchor in the vicinity so that the maximum spacing requirements for vertical and horizontal spacings are not exceeded. Install the additional helical anchor to the required depth.
4. Repoint the pilot hole over the recessed anchors after all other phases of work have been completed. Follow specifications for repointing (including cold weather and warm weather construction requirements) of Section 04 03 05.13 Repointing Mortar Joints.

## **04 03 05.19a**

### **STONE MASONRY CRACK STITCHING**

This Supplemental Specification covers the stabilization of cracks in stone masonry with new stainless-steel helical reinforcing bars installed in bed joints.

### **GENERAL – STONE MASONRY CRACK STITCHING**

#### **DESCRIPTION**

This work shall consist of furnishing all labor, equipment, and materials and performing all work necessary, including the removal of mortar to the specified depth at cracks, reinforcing with stainless steel reinforcing and replacement with new compatible mortar installed and tooled to be consistent with the appearance of the original masonry work and cleaning of repointed areas. The work shall be done in accordance with these specifications and in conformity with the Project Plans.

#### **MATERIALS**

##### **Mortar**

Mortar used for crack stitching shall be as specified in Section 04 03 05.13, Repointing Mortar Joints.

##### **Crack Stitching Reinforcing**

Crack Stitch Reinforcing: Reinforcing shall be 6 mm stainless steel helical ties, Grade 304 or 316. Suitable crack stitching reinforcing bars are available from:

Masonry Solutions International  
10815 Beaver Dam Road, Suite D  
Cockeysville, MD 21030  
Multi-Wythe Spiral Wall Tie, 6mm

Helifix, Division of Halfen USA Inc.  
4965 Eisenhower Rd, Suite 101  
Windcrest, TX.  
78218 USA  
HeliBar 6 mm

Thor Helical USA  
340 West Passaic St.  
Rochelle Park, NJ  
07662 USA  
Helical Bars 6 mm

#### **CONSTRUCTION REQUIREMENTS**

##### **Crack Stitching**

All vertical cracks shown on the Project Plans shall be stitched using methods outlined in the drawings. Horizontal mortar joints on either side of the vertical cracks shall be raked out to a depth of 2 inches or until competent mortar is encountered. If raked out to a depth greater than 3 inches, repoint the mortar joint until the depth of the repointing reaches 2 inches from the face of the wall before installing the spiral reinforcing.

The cracks should then be “stitched” with 36-inch lengths of 6 mm spiral anchors placed so that the center of the anchor’s length is at the crack. At locations such as windows or corners, where the spiral anchor is longer than the available masonry wall, the end of the anchor shall be bend 90 degrees to form a leg that will be installed perpendicular to the face of the wall in a drilled hole. Holes will be drilled in the mortar joint for insertion of the horizontal 90-degree leg(s).

In two instances, partially-socked (hybrid) anchors will be used to stich cracks. The sock is necessary to retain the grout similar to that of a screen tube for epoxy anchors. At the vertical crack in the west elevation, half of the length of the anchors will be grouted in cored holes in the intersecting wall. The other half length of the anchor will be placed in a raked-out bed joint and repointed as usual. Similarly, the vertical crack on the south elevation (at the change in wall thickness) will be a hybrid anchor – grouted into cored holes on the thicker wall section and installed in mortar bed joints in the thinner wall. See Details 1 and 2 on Sheet S0.2.

The stainless-steel rods shall be hand bent to conform to the geometry of the bed joint and can then be mortared into place with successive, compacted layers of mortar (refer to mortar repointing procedures above). Rods shall be installed at a maximum of 16 inches on center along the length of the crack.

Follow specifications for repointing (including cold weather and warm weather construction requirements) of Section 04 03 05.13, Repointing Mortar Joints.



**HERRON™** Enterprises USA, Inc.

Hazardous Materials\* Mold\* Asbestos\* Lead Paint  
Environmental Services\* Industrial Hygienists

Phone (303) 763 9639

Fax (303) 763 9686

E-Mail Lennie.Herron@comcast.net

Website www.HERRON-Enterprises.com

7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

June 15, 2018

To: Boulder County Parks and Open Space Department / Michael Lohr, Carol Beam, Brian Bertin

**HERRON™ Project No.: 0421178**

**Job No.: RFP#6648-17**

**Location: Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County**

**Dates of Service: April 19, 2018 – June 15, 2018**

**Services Requested: Environmental Consultation/Asbestos Services**

Per Client request, and under the guidelines defined, HERRON™ Enterprises USA, Inc. (HERRON™) has concluded the Environmental Consultation/Asbestos Services for identification, removal, decontamination, encapsulation, enclosure, and/or Operations & Maintenance (O&M) of friable and/or non-friable ACM within full and/or mini-enclosure(s), and/or regulated area(s) at the aforementioned property.

HERRON™ Environmental Consultation/Asbestos Services report may include a Comprehensive or Limited Asbestos Building Inspection, descriptions of Bulk, Dust, and/or Air Monitoring samples, their locations and analyses data.

For calculation purposes, all TWA's are expressed basis actual sampling duration, which covers the vast majority of work shifts. In order to make exact determinations, the employer should calculate exact times based on containment sign-in/out sheets for TWA's, in accordance with current OSHA regulations.

For ease of review, we have compiled a project manual with a reference listing for each activity, i.e.,

1. Asbestos Services

HERRON™ was contracted by the Client, to perform:

1. Asbestos Services
2. Services may have included;
  - a. Air Monitoring: baseline air monitoring, pre-abatement visual inspection(s), removal air monitoring, final visual containment inspection(s), final clearance air monitoring, and final punch list visual inspection. Base Bid Work Areas have been defined in our Proposals, and/or Addendum.

HERRON™ may have been subsequently contracted by the Client, to perform:

1. Perform Additional and Emergency Response Actions associated with the project, i.e., additional hours, PCM analyses, TEM analyses, PLM analyses, etc., as indicated in Air Monitoring Reports.
  - a. Note: changes which may have occurred through the project may have added or deducted from some of the aforementioned work areas, or may have added or expanded other work areas. All work area identification may be reviewed in Air Monitoring Reports.

In each instance:

1. baseline (MAAL) air monitoring was performed, as established by AQCC Regulation 8 (State), 29 CFR 1926.1101 (OSHA), 40 CFR Part 61 EPA (NESHAP), and 40 CFR 763 EPA (AHERA) (where required), meeting a criteria of each sample of  $\leq 0.01$  f/cc, PCM, and/or  $< 70.0$  s/mm<sup>2</sup>, TEM, (where applicable);
2. daily Project Management;
3. setup was performed;





4. pre-abatement containment visual inspection(s) were performed;
5. Asbestos-Containing Materials were removed;
6. OSHA Compliance (excursion and personal) air monitoring was performed, as established by OSHA 1926.1101, for an Excursion Limit (EL) criteria of each sample of <1.00 f/cc, PCM, and for a Permissible Exposure Limit (PEL) criteria of each sample of 0.10 f/cc, PCM, (where applicable);
7. removal (MAAL) air monitoring was performed, as established by AQCC Regulation 8 (State), 29 CFR 1926.1101 (OSHA), 40 CFR Part 61 EPA (NESHAP), and 40 CFR 763 EPA (AHERA) (where required), meeting a criteria of each sample of  $\leq 0.01$  f/cc, PCM, and/or  $< 70.0$  s/mm<sup>2</sup>, TEM, (where applicable);
8. post-abatement containment final visual inspection(s) were performed;
9. final clearance (MAAL) air monitoring was performed, as established by AQCC Regulation 8 (State), 29 CFR 1926.1101 (OSHA), 40 CFR Part 61 EPA (NESHAP), and 40 CFR 763 EPA (AHERA) (where required), meeting a criteria of each sample of  $\leq 0.01$  f/cc, PCM, and/or  $< 70.0$  s/mm<sup>2</sup>, TEM, (where applicable);
10. work area(s) were completed and ready for re-occupancy without the use of respiratory protection on completion of the project.

Prior to demobilization of this phase of the project:

1. All final clearance air monitoring samples, on conclusion of Asbestos remediation activities, remained below all local, state and federal regulatory requirements, including but not limited to AQCC Regulation 8 (State), 29 CFR 1926.1101 (OSHA), 40 CFR Part 61 EPA (NESHAP), and 40 CFR 763 EPA (AHERA), which criteria was established at  $\leq 0.01$  f/cc, PCM, and/or  $< 70$  s/mm<sup>2</sup>, TEM (where applicable).

### *Recommendations*

Continue with demolition or renovation of the substrates which have been remediate in accordance with local, state, and/or federal regulations. Should 'any' suspect ACM material be discovered during the demolition, the Contractor should immediately stop work and comply with all requirements of local, state, and/or federal regulations.

During a normal inspection, it is not within the scope of the inspection to remove surface materials to inspect the structures and/or materials which may be inaccessible or under substrate surfaces, i.e., within or under concealed areas such as sub-floors, within chases, walls, crawlspaces, tunnels, etc.

HERRON™ recommends extreme caution during the renovation or demolition of the Building in the event that an area which was not suspect, visible, and/or accessible during the inspection, is discovered to contain or is suspected of containing a Hazardous Material. Under local, state and/or federal regulations, should such an event occur, the Owner and/or Contractor is required to cease operations which may effect this (these) material(s) until an inspection is concluded and a determination is made by a Certified Inspector.

Disturbance of these areas could create a potential health hazard.

Observance of any and all exclusions as indicated in previous inspections/assessments and/or this Report.



**HERRON**<sup>™</sup> Enterprises USA, Inc.

Hazardous Materials\* Mold\* Asbestos\* Lead Paint  
Environmental Services\* Industrial Hygienists

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Website [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

*Closure*

This report is provided for the use of the Client as it applies to the subject property. Its preparation has been in accordance with generally accepted practices in hazardous materials, indoor air quality, and industrial hygiene.

Thank you for the opportunity to be of service. Should you have any questions or comments regarding this report, please do not hesitate to call HERRON<sup>™</sup> Enterprises USA, Inc.

Sincerely,

Billie J. Herron-Lusk  
Project Manager  
HERRON<sup>™</sup> Enterprises USA, Inc.



**HERRON**<sup>™</sup> Enterprises USA, Inc.

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### *Assumptions and Limitations*

1. All observations stated in this report are based on facts and circumstances as they existed during the time of the observations, and during the time period of this report preparation and as available within the limits of the mutually agreed upon Scope of Work, budget, and schedule. The observations in this report is not intended to be exhaustive in scope, and is considered an ongoing working document. HERRON<sup>™</sup> reserves the right to modify the contents of this document, as necessary.
2. HERRON<sup>™</sup> recommends extreme caution during a renovation or demolition of these areas in the event that an area which was not suspect, visible, accessible and/or specified during the inspection, is discovered to contain or is suspected of containing a Hazardous Material. Under local, state and/or federal regulations, should such an event occur, the Client and or Contractor should cease operations which may effect this (these) material(s) until an inspection is concluded and a determination is made by a Certified Inspector.
3. This Environmental Consultation is applicable in whole, not in part, to the entire contents of the document.
4. HERRON<sup>™</sup> and this Environmental Consultation make no representation or assumptions as to past and/or future conditions/occurrences of the specific area(s) inspected.
5. The results, conclusions and/or recommendations expressed in this Environmental Consultation are based solely on the conditions which were observed at the time of this Environmental Consultation.
6. HERRON<sup>™</sup> inspection incorporated non-destructive sampling techniques and visual inspections in areas which were visible/accessible. Conditions and/or materials which were not inspected and/or commented on may very well differ from those which were inspected and/or commented on.
7. HERRON<sup>™</sup> selected sample locations and frequency of sampling based on observations, your requirements and/or the assumption that like materials in the same area are homogeneous.
8. HERRON<sup>™</sup> has specifically designed this Environmental Consultation for Client use in the location and identity of Hazardous Materials, and under no circumstances is this Environmental Consultation to be copied, used as a bidding tool and/or used for the development of a Hazardous Materials Abatement Specification document without the express written permission of an executive officer of HERRON<sup>™</sup>.
9. HERRON<sup>™</sup> is not responsible/liable for any opinions, conclusions and/or recommendations as provided by others based on any means presented in this Environmental Consultation.
10. With use of Environmental Consultation, and/or use of any services offered by HERRON<sup>™</sup>, Client(s) agrees that HERRON<sup>™</sup> has been given the authority by the Owner(s) of a property to enter the aforementioned premises, perform the services, utilize any and all floor plans, blue prints, etc., and agrees to indemnify, hold harmless, and defend HERRON<sup>™</sup>, its Officers, Employees, Assigns, etc. for any and all claims, costs or damages that may result from services contracted, etc.

---

**From:** Destiny M. Herron <HERRONAdmin@comcast.net> on behalf of Billie-Lusk@comcast.net  
**Sent:** Saturday, May 12, 2018 11:39 AM  
**To:** 'David W. Starks'; 'Allen Gallogly'  
**Cc:** 'Michael Lohr'; 'Brian Bertin'; 'Melissa Weber'; 'Billie J. Herron'; 'Christy Herron'; 'L. P. (Lennie) Herron'; Destiny M. Herron  
**Subject:** 0421178, RFP#6648-17- Tumbleson House at Hall Ranch Open Space Asbestos Consulting Services / Boulder County  
**Attachments:** 2018\_RFP2018-18\_AsbestosAbatementTumbleson\_Documents.pdf

## Designer Response

### Return Response Required / ~~Not Required~~

David, Allen,

As indicated below we have not received any of your pre-abatement submittals. We understand that your permit application did not indicate that you are initially responding to a major asbestos response. It's possible that there could be a CDPHE delay in your permit, once you modify your permit application. Please immediately forward these submittals to;

'Billie J. Herron ([Billie-Lusk@comcast.net](mailto:Billie-Lusk@comcast.net))'  
L. P. (Lennie) Herron ([Lennie.Herron@comcast.net](mailto:Lennie.Herron@comcast.net))  
'Destiny M. Herron' ([HERRONAdmin@comcast.net](mailto:HERRONAdmin@comcast.net))

If we can get these by Monday 05/14/18 we'll split these up in our office, and try to have a response by Tuesday 05/15/18.

In regards to all submittals and clarifications below, Designer Responses are from the attached contract specification.

Thanks,

Billie

Field Clarification;

1. As renovation direction may change on a daily basis, Designer Responses are given as field directives with client authorization, as they occur which may or may not be commented on outside of daily reports. Any daily report comments are considered incorporated to the Field Clarifications/Addenda (Summary of Work/Project Design), without further Designer response –
  - a. Information;
    - 1) Through May 11, 2018 clarification regarding the following;
      1. Project mobilizes Thursday 05/17/18 however, Contractor has not forwarded pre-abatement submittals for review;
      2. In accordance with the Contract Specifications;
        - a. **1.14, G, Submittal Processing,**
          - 1) The Contractor(s) will be required to forward all submittals within two (2) weeks of the Notice to Proceed. To avoid the need to delay work under this contract as a result of the time required to process submittals, allow sufficient time for submittal review, including time for resubmittals.

- 2) Allow 2 weeks for initial review. Allow additional time if the Asbestos Project Manager/Designer must delay processing to permit coordination with subsequent submittals.
- 3) No extension of Contract Time will be authorized because of failure to transmit submittals to the Asbestos Project Manager/Designer sufficiently in advance of the Work to permit processing.
  1. **Designer Response:** Please forward all pre-submittals for review including but not limited to the CDPHE permit application which we understand, has been submitted by the Contractor;
    - a. Received;
      - 1) Notifications, and Notices (Police and Fire Departments), where applicable;
      - 2) Sheriff's Department receipt Friday, May 11, 2018 1:20 PM

b. **1.14, F, 8, g, Major Spill Requirements, Appendix A, C, Work Area #1, #2**

- 1) Contractor will be responsible for any required CDPHE variances or authorizations regarding work practices for major spill response actions
- 2) Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall
  1. **Designer Response:** The project is a distinctly a phase project including, but not limited to, the 1st and 2nd Floors Decontamination, i.e., Cleanup and Decontamination of Rodent Feces, and Asbestos Major Spill. Contract Documents, Pre-Bid PPE requirements, and Pre-Construction Meeting confirmed. The asbestos spill was identified by Boulder County inspections via dust sampling, requiring PPE during entry during visits, for structural, specification assessments, and pre-bid entry. The dust sampling was consistent throughout the house, the house is designated as a Major Spill Response under AQCC Regulation No. 8. Permit modification will be required, prior to mobilization.

c. **1.13, A, Personal Monitoring**

- 1) The Owner will not be performing air monitoring to meet Contractor's OSHA requirements for personnel sampling or any other purpose. The Contractor will conduct his own air monitoring and laboratory testing. The cost of such air monitoring and laboratory testing shall be at no additional cost to the Owner, and shall be in compliance with all local, state and/or federal regulations, and shall be performed by qualified personnel. Daily written reports shall be posted, and furnished to the Asbestos Project Manager/Designer prior to the commencement of the next shift.
  1. **Designer Response:** The project requires daily monitoring with reports published prior to the commencement of the next shift.

2. Note:

- a. Refer to Project Memo(s).
- b. All observations stated in this report are based on facts and circumstances as they existed during the time of the observations, and during the time period of this report preparation and as available within the limits of the mutually agreed upon Scope of Work, budget, and schedule. The observations in this report is not intended to be exhaustive in scope, and is considered an ongoing working document. HERRON™ reserves the right to modify the contents of this document, as necessary.
- c. As agreed, daily conversations are occurring, and daily reports will be on site for employee review. Hard copy will not be mailed as this correspondence constitutes delivery of the specified documents.
- d. Refer to Project Definitions below.

Please advise within an RFI if you have any questions.

Thanks in advance,

Billie J. Herron  
Project Manager  
HERRON™ Enterprises USA, Inc.  
7261 W. Hampden Ave., Lakewood, CO 80227-5305  
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**REQUEST FOR PROPOSAL**

**ASBESTOS ABATEMENT SERVICES FOR THE  
TUMBLESON HOUSE AT HALL RANCH**

**RFP # 2018-18**



**SUBMITTAL DUE DATE  
TUESDAY, APRIL 10, 2018  
2:00 P.M.**

**BOULDER COUNTY  
PARKS AND OPEN SPACE DEPARTMENT**

**5201 ST. VRAIN ROAD  
LONGMONT, CO 80503**

**REQUEST FOR PROPOSAL  
ASBESTOS ABATEMENT SERVICES FOR THE  
TUMBLESON HOUSE AT HALL RANCH  
RFP # 2018-18**

**BACKGROUND:**

Boulder County Parks and Open Space is requesting bids from qualified contractors to perform an asbestos abatement for the Tumbleson House located at the Hall Ranch Open Space property at 31271 S. Saint Vrain Drive, Lyons, CO 80540.

The unoccupied historic structure is a stone building between 1268 ft<sup>2</sup> and 1528 ft<sup>2</sup> in total area. Major structural stabilization is needed on the settling 1890's era foundation to prevent further damage being done to the stone walls of the building. During the planning phase of a structural repair project it was discovered that the interior cracked plaster walls contained significant amounts of friable asbestos. The rehabilitation project has been put on hold until all asbestos containing materials (ACM) can be abated from the building.

A detailed abatement summary of work plan has been prepared for this project by HERRON™ Enterprises USA, Inc. This summary complies with all the determined requirements submitted by Boulder County and adheres to all local, state, and federal regulations including but not limited to; all of the requirements of AQCC Regulation 8 (State), 29 CFR 1926.1101 (OSHA), and 40 CFR Part 61 EPA (NESHAP), See attached abatement work summary from HERRON™.

Due to the historic value of this building and the structural vulnerability of its stone walls, the selected Contractor will be required to use a Farrow System for the plaster removal. The selected Contractor must be familiar with how to use this system and have access to the required equipment.

**CONTRACT LANGUAGE:** The successful bidder will be selected from the current list of **Asbestos Abatement and Deconstruction Services Contractors, SOQ # 6673-17, Bid Award August 24, 2017, Continuing Services.**

The insurance requirements are specified in each Contractors original Continuing Services contract and will remain in place for any Project awarded. Current Insurance Certificates must be on file with the Parks and Open Space Department prior to any work relating to this Project commencing.

**W-9 REQUIREMENT:**

Please provide a copy of your business's W-9 with your proposal.

**PRE-BID INFORMATION:**

**A Mandatory Pre-Bid** meeting is scheduled for **10:00 a.m., Tuesday, March 27, 2018 at the Tumbleson House located at 31271 S. St. Vrain Road, Lyons, CO 80540.** A representative from your company must be in attendance at the meeting. **Proposals from companies not represented at the Mandatory Pre-Bid meeting will not be accepted.**

**ATTACHMENTS:**

The following documents are part of this RFP:

1. Attachment A: Tumbleson House Asbestos Abatement SOW
2. Attachment B: Parks and Open Space Rules and Regulations



**BOULDER COUNTY INSURANCE REQUIREMENTS:**

General Liability	\$1,000,000 Each Occurrence \$2,000,000 General Aggregate \$2,000,000 Products Completed Operations Aggregate 3 years Products/Completed Operations
Automobile Liability	\$1,000,000 Each Accident *Including Hired & Non-Owned Auto
Worker's Compensation and Employer's Liability	Statutory limits
Professional Liability or Errors and Omissions	\$1,000,000 Per Loss \$1,000,000 Aggregate Coverage maintained or extended discovery period for 2 years
Pollution Liability	\$1,000,000 Per Loss \$1,000,000 Aggregate Coverage maintained or extended discovery period for 3 years

Note that the above insurance amounts are the minimum required for this project. Proof of current insurance must be provided with your proposal in the form of a sample certificate or your proposal will be deemed non-responsive. If you require a waiver of insurance requirements (e.g. Workers' Compensation and sole proprietorships) you may request one in your response, with an explanation.

New certificates will be requested if the contract process takes more than 30 days after an award.

**WRITTEN INQUIRIES:**

**All inquiries** regarding this RFP shall be submitted, in writing, via email, to **Don Burd** at [dburd@bouldercounty.org](mailto:dburd@bouldercounty.org) and **Melissa Weber** at [mweber@bouldercounty.org](mailto:mweber@bouldercounty.org) identified as **Tumbleson Abatement** in the subject line, on or before **2:00 p.m. on Thursday, March 29, 2018**. A response from the Project Manager to all inquiries shall be sent via fax or email to all vendors no later than **2:00 p.m. on Thursday April 5, 2018**.

**SUBMITTAL INSTRUCTIONS:**

Submittals are due in the Parks and Open Space office or the email box (preferred) listed above, on or before **2:00 p.m. Mountain Time on Tuesday, April 10, 2018**.

Your response can be submitted in the following ways. Please note that email responses to this solicitation are preferred, but are limited to a maximum of 25MB capacity. NO ZIP FILES ALLOWED. Electronic Submittals must be received in the e-mail box listed below. Submittals sent to any other box will NOT be forwarded or accepted. This e-mail box is only accessed on the due date of your questions or proposals. Please use the Delivery Receipt option to verify receipt of your email. It is the sole responsibility of the proposer to ensure their documents are received before the deadline specified above. Boulder County does not accept responsibility under any circumstance for delayed or failed email or mailed submittals.

Email to: **Don Burd** at [dburd@bouldercounty.org](mailto:dburd@bouldercounty.org) and **Melissa Weber** at [mweber@bouldercounty.org](mailto:mweber@bouldercounty.org) identified as **Tumbleson Abatement**.

-OR-

Deliver to: **One (1)** copy of your submittal must be submitted in a sealed envelope, clearly marked as **Tumbleson Abatement**, to the Parks and Open Space Department, 5201 St. Vrain Road, Longmont, CO 80503, Attn: **Don Burd**. Office hours are Monday through Friday, 8:00 a.m. to 4:30 p.m.

All RFPs must be received and time and date recorded by authorized county staff by the above due date and time. Sole responsibility rests with the Offeror to see that their RFP response is received on time at the stated location(s). Any responses received after due date and time will be returned to the offeror.

The Board of County Commissioners reserves the right to reject any and all responses, to waive any informalities or irregularities therein, and to accept the proposal that, in the opinion of the Board, is in the best interest of the Board and of the County of Boulder, State of Colorado.

**Americans with Disabilities Act (ADA)**: If you need special services provided for under the Americans with Disabilities Act, contact the ADA Coordinator or the Human Resources office at (303) 441-3525 at least 48 hours before the scheduled event.

## TERMS AND CONDITIONS

1. Proposers are expected to examine the drawing, specifications, schedule of delivery, and all instructions. Failure to do so will be at the bidder's risk.
2. Each bidder shall furnish the information required in the Request for Proposals.
3. The Contract/Purchase Order will be awarded to that responsible bidder whose submittal, conforming to the Request for Proposals, will be most advantageous to the County of Boulder, price and other factors considered.
4. The County of Boulder reserves the right to reject any or all proposals and to waive informalities and minor irregularities in bids received, and to accept any portion of or all items proposed if deemed in the best interest of the County of Boulder to do so.
5. No submittal shall be withdrawn for a period of thirty (30) days subsequent to the opening of bids without the consent of the County Purchasing Agent or delegated representative.
6. A signed purchase order or contract furnished to the successful bidder results in a binding contract without further action by either party.
7. Late or unsigned proposals will not be accepted or considered. It is the responsibility of proposers to insure that the proposal arrives at the Administrative Services Front Desk or appropriate email box prior to the time indicated in the "Request for Proposals."
8. The proposed price shall be exclusive of any Federal or State taxes from which the County of Boulder is exempt by law.
9. Any interpretation, correction or change of the RFP documents will be made by Addendum. Interpretations, corrections and changes of the RFP documents made in any other manner will not be binding, and proposer shall not rely upon such interpretations, corrections and changes. The County's Representative will not be responsible for oral clarification.
10. Confidential/Proprietary Information: Proposals submitted in response to this "Request for Proposals" and any resulting contract are subject to the provisions of the Colorado Public (Open) Records Act, 24-72-201 et.seq., C.R.S., as amended. Any restrictions on the use or inspection of material contained within the proposal and any resulting contract shall be clearly stated in the proposal itself. Confidential/proprietary information must be readily identified, marked and separated/packaged from the rest of the proposal. **Co-mingling of confidential/proprietary and other information is NOT acceptable. Neither a proposal, in its entirety, nor bid price information will be considered confidential/proprietary. Any information that will be included in any resulting contract cannot be considered confidential.**
11. Boulder County promotes the purchase/leasing of energy efficient, materials efficient and reduced toxic level products where availability, quality and budget constraints allow. Bidders are expected whenever possible to provide products that earn the ENERGY STAR and meet the ENERGY STAR specifications for energy efficiency with power management features enabled. Bidders are encouraged to offer products and equipment with post-consumer recycled-content materials. Products should be packaged and delivered with a minimum amount of recycled packaging that adequately protects the product, but is not excessive.
12. Pursuant to Colorado law (House Bill 1292), in any bidding process for public works in which a bid is received from a non-resident bidder who is from a state that provides a percentage bidding preference, a comparable percentage disadvantage shall be applied to the bid of that bidder. Bidders may obtain additional information from the Department of Personnel's website: <http://www.colorado.gov/dpa/>.

**RFP # 2018-18**  
**ASBESTOS ABATEMENT SERVICES FOR THE**  
**TUMBLESON HOUSE AT HALL RANCH**

**SPECIFICATIONS:**

Boulder County is requesting asbestos abatement services for the Tumbleson House located on the Hall Ranch Open Space property. The purpose of the abatement is to provide a contaminant free environment for workers to stabilize the foundation and structure of this historic building. The overall strength of the foundation and walls are showing signs of failure. Stabilization measures must be taken to preserve the building and prevent further damage to the structure. The asbestos found in the building creates a challenge for rehabilitating this structure. To ensure an efficient and timely abatement process, Boulder County has contracted HERRON™ Enterprises USA, Inc., to prepare an asbestos abatement work plan which is attached for reference to this proposal (see Attachment A).

Below are summary examples that highlight important items in the full abatement scope of work plan.

**ABATEMENT PHASES:**

Because it is unclear how the structure of the building will respond to the abatement process, the work will be completed in phases. A phase will consist of the complete abatement of one (1) room or area as specified in the attached scope of work document provided by HERRON™ Enterprises.

After the abatement of an area is complete, a Structural Engineer from Atkinson-Noland & Associates, Inc. will assess the integrity of the building to verify no new damage has occurred. Work on the next phase shall not begin until the engineer provides written approval. The selected abatement Contractor will be required to work closely with both HERRON™ Enterprises USA, Inc., and Atkinson-Noland & Associates, Inc., to ensure all phases of the project are completed correctly.

**METHOD OF ABATEMENT:**

To help protect the historical value of the building and cause as little structural disturbance as possible, the contractor will be required to use the Farrow System to remove plaster from stone walls. The contractor must be familiar with this system and have access to the necessary equipment.

During the abatement of each area, crack monitors installed over the major wall cracks must be checked and recorded twice (2) daily to ensure that the work being performed is not causing any additional structural damage or creating danger for possible collapse of the structure. If the crack monitors indicate any changes to the existing foundation cracks, work must cease until the Structural Engineer can assess the building.

All ACM dust, debris and/or unknown substances suspected of contamination must be removed from the work area and disposed of in accordance with all local, state, and federal government regulations.

**AMMENITIES:**

The following items will be provided by Boulder County:

1. Jobsite electrical power
2. A roll off dumpster will be available on the lawn to the south side of the building.

The following items will be the selected Contractors responsibility:

1. All water needs
2. Restroom facilities

3. Fire extinguishers which must be located in convenient and effective locations. No less than one (1) extinguisher per floor, as there is no active fire control system in the building,

TIMELINE AND HOURS:

All work must begin within 7 days after the Notice to Proceed has been given in writing, to the selected Contractor, and completed by or before December 31, 2018.

The daily schedule for abatement is Monday through Friday 7:30 A.M. until 4:00 P.M. Overtime, Weekend, and Holiday work is not authorized without prior written consent from the County.

OPEN SPACE REGULATIONS:

Because the Tumbleson House is located on Boulder County Open Space, all rules and regulations of Boulder County Parks and Open Space must be adhered to at all times (see Attachment B).

**RFP # 2018-18  
ASBESTOS ABATEMENT SERVICES FOR THE  
TUMBLESON HOUSE AT HALL RANCH**

**BID TAB:**

<u>Item Number</u>	<u>Item Description</u>	<u>Cost</u>
1.	Site Prep	\$ _____
2.	Abatement	\$ _____

**BID TOTAL \$ \_\_\_\_\_**

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
Name of person and title submitting BID (PLEASE PRINT)

\_\_\_\_\_  
Signature of Bidder

**RFP # 2018-18  
 ASBESTOS ABATEMENT SERVICES FOR THE  
 TUMBLESON HOUSE AT HALL RANCH**

**SIGNATURE PAGE:**

**Failure to complete, sign and return this signature page with your proposal may be cause for rejection.**

Contact Information	Response
Company Name including DBA	
List Type of Organization (Corporation, Partnership, etc.)	
Name, Title and Email Address of Person Authorized to Contract with Boulder County	
Name, Title and Email Address of Person Submitting Bid	
Company Address	
Company Phone Number	
Company Website	
Company Fax Number	

**By signing below I certify that:**

- I am authorized to bid on my company's behalf.
- I am not currently an employee of Boulder County.
- None of my employees or agents is currently an employee of Boulder County.
- I am not related to any Boulder County employee or Elected Official.
- (Sole Proprietorships Only) I am not a Public Employees' Retirement Association (PERA) retiree.

\_\_\_\_\_  
**Signature of Person Authorized to Bid on  
 Company's Behalf**

\_\_\_\_\_  
**Date**

Note: If you cannot certify the above statements, please explain in a statement of explanation.



**HERRON™** Enterprises USA, Inc.

Hazardous Materials\* Mold\* Asbestos\* Lead Paint  
Environmental Services\* Industrial Hygienists

Phone (303) 763 9639

Fax (303) 763 9686

E-Mail [Lennie.Herron@comcast.net](mailto:Lennie.Herron@comcast.net)

Website [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

# ATTACHMENT A



## BOULDER COUNTY

**TUMBLESON HOUSE AT HALL RANCH OPEN SPACE  
BOULDER COUNTY, CO**

**ASBESTOS ABATEMENT SUMMARY OF WORK**

**DATE OF REPORT: FEBRUARY 15, 2018**

**HERRON™ PROJECT NO. 0421178**



February 15, 2018

This Asbestos Abatement Summary of Work has been contracted to and developed by HERRON™ Enterprises USA, Inc. (HERRON™) for the use of the Client(s). HERRON™ has specifically prepared this Asbestos Abatement Summary of Work in compliance with the submitted requirements, in conjunction with and approval of the Project Administrator, as defined for:

**HERRON™ Project No.: 0421178****Job No.: TBN****Location: Tumbleson House at Hall Ranch Open Space, Boulder County, CO****Dates of Service: TBN, 2018****Services Requested: Environmental Consultation/Asbestos Abatement Summary of Work (Contract Item #2)**

*Owner Representative/Project  
Administrator*

*Boulder County  
5201 S. Vrain Rd.  
Longmont, CO 80503  
Phone: 970-264-8555  
Don Burd  
([DBurd@bouldercounty.org](mailto:DBurd@bouldercounty.org))  
c/o: Don Burd*

*Asbestos/LBP Project Manager*

*HERRON™ Enterprises USA, Inc.  
7261 W. Hampden Ave., Lakewood,  
CO 80227-5305  
(303) 763 9639 / Fax (303) 763 9686  
E-Mail: [Billie-Lusk@comcast.net](mailto:Billie-Lusk@comcast.net)  
Billie J. Herron-Lusk, Designer*

*Contractor*

*TBN*

*prepared by Designer*

*HERRON™ Enterprises USA, Inc.  
7261 W. Hampden Ave., Lakewood, CO 80227-5305  
(303) 763 9639 / Fax (303) 763 9686  
E-Mail: [Billie-Lusk@comcast.net](mailto:Billie-Lusk@comcast.net)  
Billie J. Herron-Lusk, Designer*

This Asbestos Abatement Summary of Work is developed for the use of the Client(s) at the aforementioned location and specific project, and is not intended for use at any other location or project. Use of this Asbestos Abatement Summary of Work by other than the intended Client(s) and/or their authorized Representatives, and/or unauthorized reproduction without the express written permission of an officer of HERRON™, is strictly prohibited (excluding included forms for project use).

The intent of the solicitation/contract documents issued by or for the Owner is to include all items necessary for the proper execution and completion of the work to include the safety and protection of any persons exposed to the work area.

Contractors bidding on work at the project are expected to be thoroughly familiar with and to know what hazards may be present in the work they are bidding and to include in their bids all measures required to ensure the protection and safety of their own personnel, their subcontractors or consultants as well as the safety of Owner employees, consultants, and others members of the public that may be in or around their work area.

As in any awarded contract, the Contractor shall provide all necessary materials, equipment, clothing, signage, devices, training, etc. to ensure the protection and safety of all persons from all hazards in and around their work area(s), which will at a minimum comply with local, state, and federal regulations, and any applicable standards.

The Project Administrator, Asbestos Project Manager, and/or Designer retain the rights to waive any formalities contained herein, which may be in the best interest of the Client, with Client authorization.

**Prepared by:**

**HERRON™ Enterprises USA, Inc.**  
7261 W. Hampden Ave., Lakewood, CO 80227-5305  
(303) 763 9639 / Fax (303) 763 9686  
[www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)  
E-Mail: [Billie-Lusk@comcast.net](mailto:Billie-Lusk@comcast.net)



**Billie J. Herron-Lusk, Designer**  
Designer No. 2650

**Contractor:**

*TBN*

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**SUMMARY OF WORK - ASBESTOS ABATEMENT**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Summary of Work Sections, apply to this Section.
- B. HERRON™ received the Project Manual Design Development Report (drawings only) identified as NA, dated NA.
- C. Any changes to the completed Construction Documents should be forwarded to HERRON™ to confirm any changes in areas which would have an effect on the Review, Asbestos Building Inspection, and Assessment.

**1.2 WORK COVERED BY CONTRACT DOCUMENTS**

- A. The Project consists of

**1. Project Location:**

**HERRON™ Project No.: 0421178**  
**Job No.: TBN**  
**Location: Tumbleson House at Hall Ranch Open Space, Boulder County, CO**  
**Dates of Service: TBN, 2018**  
**Services Requested: Environmental Consultation/Asbestos Abatement Summary of Work (Contract Item #2)**

**1. Owner Representative/Project Administrator:**

**Boulder County**  
**5201 S. Vrain Rd.**  
**Longmont, CO 80503**  
**Phone: 970-264-8555**  
**Don Burd ([DBurd@bouldercounty.org](mailto:DBurd@bouldercounty.org))**  
**c/o: Don Burd**

**2. Asbestos/LBP Project Manager:**

**HERRON™ Enterprises USA, Inc.**  
**7261 W. Hampden Ave., Lakewood, CO 80227-5305**  
**(303) 763 9639 / Fax (303) 763 9686**  
**E-Mail: [Billie-Lusk@comcast.net](mailto:Billie-Lusk@comcast.net)**  
**Billie J. Herron-Lusk, Designer**

**2. Designer/Air Monitoring Specialist:**

**HERRON™ Enterprises USA, Inc.**  
**7261 W. Hampden Ave., Lakewood, CO 80227-5305**  
**(303) 763 9639 / Fax (303) 763 9686**  
**E-Mail: [Billie-Lusk@comcast.net](mailto:Billie-Lusk@comcast.net)**  
**Billie J. Herron-Lusk, Designer**

- B. Contract Documents dated **September 28, 2017** were prepared for the Project by HERRON™ Enterprises USA, Inc.'s Certified Project Designer/Certified Management Planner, in conjunction with the Owner/Client.

C. Addenda: All Addenda issued.

D. Should the Work consist of Asbestos removal, the Owner may elect to utilize this Asbestos Abatement Summary of Work, requiring that the removal process be in accordance with local, state, and/or federal regulations, including but not limited to all of the requirements of AQCC Regulation 8 (State), 29 CFR 1926.1101 (OSHA), 40 CFR Part 61 EPA (NESHAP), and this Asbestos Abatement Summary of Work:

1. In accordance with local, state, and/or federal regulations, during the course of the Renovations should materials be discovered which were not previously presented as Asbestos Containing Materials, or should the Renovation Scope of Work expand beyond that as defined in Section – Summary of Work - Asbestos Abatement, Appendix A, Schedule of Asbestos-Containing Materials, assessments/diagrams, the Contractor(s) are required to cease with operations which may disturb friable ACM, or make non-friable ACM friable, until such a time that these ACM materials are removed.

2. As the Architectural Plans may not necessarily indicate the Asbestos Scope of Work which may be affected by the Renovation Scope of Work, the Asbestos Scope of Work, as approved by the Owner is located in Section – Summary of Work - Asbestos Abatement, Appendix A, Schedule of Asbestos-Containing Materials at the end of this section.

E. The Work will be constructed under a single prime contract, through the Contractor.

### 1.3 WORK UNDER OTHER CONTRACTS

A. Separate Contract(s): The Owner may award a separate contract(s) for performance of certain construction operations at the site. Those operations may be conducted simultaneously with work under this Contract. The separate contract(s) may include the following:

1. Contract: A separate contract has been awarded to: HERRON™ Enterprises USA, Inc. to assist with the Asbestos Abatement Summary of Work, and for Air Monitoring, including but not limited to Section - Air Monitoring - Test Laboratory Services.

B. Cooperate fully with separate contractors so that work under those contracts may be carried out smoothly, without interfering with or delaying work under this Contract.

### 1.4 FUTURE WORK

A. Future Contract(s): The Owner may award a separate contract(s) for additional work to be performed at the site following Substantial Completion. Completion of that work may depend on successful completion of preparatory work under this Contract. The separate Contract(s) for future work may include the following:

1. Contract: A separate contract may be awarded to: a separate Asbestos Abatement Contractor for work discovered which is not part of the original Scope of Work.

### 1.5 WORK SEQUENCE

A. The Work will be conducted in phases:

1. Phase: Work of the phases shall be substantially complete, ready for reconstruction prior to that phase of the Contract, as indicated in the Contract, and in accordance with the following Project Schedule:

2. All Work Area(s), Asbestos Abatement, Contractor is to mobilize and commence on **TBD, 2018**, and shall be substantially completed and demobilized on or before **TBD, 2018**, with actual Asbestos Abatement not to exceed **12.0 normal working days**.

3. Actual Asbestos Abatement Schedule: 7:30 A.M. till 4:00 P.M. (overtime, weekend and holiday work is not authorized under the base bid).
4. As there is a preference from the Owner within the phasing of the Asbestos Abatement, the Contractor shall include phasing of the Work Areas in the Plan of Action.
5. Phased abatement is required as indicated to facilitate safe methods of removal and confirmation by a Structural Engineer that the removal of the Plaster from the Stone Substrate will not cause the building to collapse.
  - a. Upon the successful completion of each work area the structural engineer will visually inspect the building for evidence of structural integrity. Pre-abatement visual inspections and active abatement will not begin until this inspection has been performed.
  - b. A surface mounted gauge will be visually observed twice daily to determine if the existing cracks within the masonry are being impacted by the abatement.
6. Asbestos Abatement: due to multiple Work Areas coinciding with Owner activities, the Contractor can anticipate changes in the scheduling and multiple mobilizations during the project. As these changes are anticipated, they will be without change to the Contract Sum.
7. **The project does not have add alternates.**
8. **The project does not have unit prices.**
9. Bids will not be accepted if Bidder did not sign in to the mandatory pre-bid conference.

## 1.6 ASBESTOS-CONTAINING MATERIALS

- A. The Work of this contract involves activities that will disturb asbestos-containing materials (ACM) or presumed asbestos-containing materials (PACM). The location and type of ACM known to be present at the worksite is set forth in the drawings and/or the Section - Summary of Work - Asbestos Abatement, Appendix A, Schedule of Asbestos Containing Materials at the end of this section.
- B. Asbestos and Non-Asbestos Locations, approximate quantities, and approximate areas affected have been offered as an informational tool, and are estimates observed at the time of assessments and development of this document. Quantity determinations are the responsibility of the Contractor, and therefore, it is recommended that field verification be made by the Contractor, prior to Bid Submittal. The Contractor is advised that ‘all’ quantities are estimates, whether indicated as Units or as Linear or Square Feet, and that the Contractor is to base their Bid Response on Contractor quantification ‘within the Work Area’:
  - a. The quantities indicated are an ‘informational tool’ only. The Contractor is advised that;
    - i. Measurements are based on inspection observation, and Owner submitted plans;
      1. Square feet based on the ‘floor’ square footage for calculation purposes;
        - a. The quantity determinations are the responsibility of the Contractor.
- C. The General Contractor may remove Non-Asbestos-Containing Materials and/or Trace ( $\leq 1.0\%$ ) ACM materials and substrates, without disturbance of Regulated Asbestos-Containing Materials (RACM) which are not intended to be affected, having been trained in accordance with 29 CFR 1926.1101 minimum requirements in order to conduct these activities. Should it be anticipated that ‘any’ disturbance may occur, or should the General Contractor discover ‘any’ disturbed suspect ACM Materials through the course of the project, the General Contractor is to cease with operations in that area and contact the Asbestos Project Manager/Designer for instruction in compliance with local, state, federal regulations, and Specification Sections where applicable.

D. In accordance with AQCC Regulation 8 (State), the Maximum Allowable Asbestos Level (MAAL) may not be exceeded, at any time. HERRON™ has previously determined that the various materials within the Building are not Asbestos Materials, however, may contain Traces of Asbestos. This document serves as a Hazard Communication that should either the Abatement Contractor or other Contractors not comply with local, state, and/or federal regulations and these Summary of Work, i.e., wet methods, engineering controls, etc. during any Non-Asbestos Demolition activities, that the MAAL could be exceeded. Should this occur, the area, areas, and or Building in its entirety could be considered contaminated, and a Major Spill Response may be responded to at the expense of the responsible Contractor(s), in accordance with these Summary of Work.

## 1.7 ASBESTOS HEALTH RISK

A. The disturbance or dislocation of ACM may cause asbestos fibers to be released into the building's atmosphere, thereby creating a potential health risk to workers and building occupants. Apprise all workers, supervisory personnel, subcontractors and consultants who will be at the job site of the seriousness of the risk and of proper work procedures which must be followed.

B. Where in the performance of the work, workers, supervisory personnel, subcontractors, or consultants may encounter, disturb, or otherwise function in the immediate vicinity of any identified ACM, take appropriate continuous measures as necessary to protect all building occupants from the risk of exposure to airborne asbestos. Such measures shall include the procedures and methods described herein, and compliance with regulations of applicable federal, state and local agencies.

## 1.8 CONTRACTOR USE OF PREMISES

A. General: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

1. Owner Occupancy: Allow for Owner occupancy and use by the public.

2. Driveways and Entrances: Keep driveways and entrances serving the premises clear and available to the Owner, the Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

B. Use of the Existing Building: Maintain the existing building in a weather tight condition throughout the construction period. Repair damage caused by construction operations. Take all precautions necessary to protect the building and its occupants during the construction period.

1. Smoking: Smoking or open fires will not be permitted within the building enclosure or on the premises.

2. Toilet Rooms: Except for toilet rooms designated for use by the Contractor's personnel, use of existing toilets within the building, by the Contractor's personnel, will not be permitted.

## 1.9 OCCUPANCY REQUIREMENTS

A. Owner Occupancy: The Owner will not occupy the existing building during the entire construction period. Cooperate with the Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with the Owner's operations:

1. The Asbestos Project Manager/Designer will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied prior to Owner occupancy.

**1.10 AIR MONITORING BY THE OWNER**

A. The Owner will employ and pay for the services of an independent Air Monitoring Specialist to perform the following inspections, tests and other services. Services shall be performed in accordance with requirements of governing authorities and with specified standards.

1. Contractor shall cooperate with the Air Monitoring Specialist personnel and shall furnish tools, sample of materials, design mixes, equipment and assistance as requested.
2. Contractor shall provide and maintain, for the sole use of the Air Monitoring Specialist, adequate facilities for the safe storage on the project site during all operations that involve the work of the Air Monitoring Specialist.
3. Contractor shall notify the Air Monitoring Specialist sufficiently in advance of operations to allow for completion of initial tests and proper assignment of inspection personnel, as directed by the Summary of Work.
4. Contractor shall notify the Air Monitoring Specialist sufficiently in advance of cancellation of required testing operations. The Contractor shall assume responsibility for costs incurred due to the failure to provide such notice.
5. Transmission Electron Microscopy (TEM) – An action shall be considered complete if the volume of air drawn for the average of the five samples collected within the abatement work area is equal to or greater than 1,199 L of air for a 25-mm filter, and the concentration of asbestos as analyzed by the TEM method in 40 C.F.R. Part 763 Appendix A to Subpart E (EPA 1995), for the average of the five air samples does not exceed the filter background level of 70 s/mm<sup>2</sup>, as defined in that Appendix A (where applicable).
6. Phase Contrast Microscopy (PCM) – The action shall be considered complete when the results of samples collected in the abatement work area and analyzed by PCM using the NIOSH Method 7400 entitled "Fibers" published in the NIOSH Manual of Analytical Methods, 3rd Edition, Second Supplement, August 1987, show that the concentration of fibers for each of the five samples is less than or equal to a limit of quantification for PCM (0.01 fibers per cubic centimeter, 0.01 f/cm<sup>3</sup>, 10,000 f/m<sup>3</sup>) (where applicable).

B. Affect on Contract Sum:

1. Complete corrective work with no change in the Contract Sum (adjustment may be in the form of a deduction) if high airborne fiber counts were caused by Contractor's activities, as follows:
  - a. for any and all Test Laboratory Services and Consultant Services, additional PCM and/or TEM confirmation analysis, per Work Area which do not meet regulatory criteria, and are determined to be caused by Contractor's activities.
  - b. for any and all costs incurred by the Owner, Occupants, Owner Employees, Work under other Contracts, etc., per Work Area which do not meet regulatory criteria.
2. The Contract Sum and schedule may be adjusted for additional work (adjustment may be made in the form of an addition) caused by high airborne fiber counts beyond the Contractor's control, as follows:
  - a. for additional work caused by high airborne fiber counts beyond the Contractor's control, as determined by the Project Administrator, Asbestos Project Manager, Designer and Air Monitoring Specialist.



### 1.11 ADDITIONAL TESTING

- A. The Contractor may conduct his own air monitoring and laboratory testing. If he elects to do this the cost of such air monitoring and laboratory testing shall be at no additional cost to the Owner, and will be in compliance with all local, state and/or federal regulations. AQCC Regulation 8 requires that an Air Monitoring Specialist, independent of the Abatement Contractor, obtain all required air monitoring samples, i.e., final clearance air monitoring, negative air exhaust inside of building, and/or MAAL air monitoring. As described, 'any' air monitoring performed in conjunction with or adjacent to an Abatement Project is considered MAAL air monitoring. Should such air monitoring be requested, prior authorization from the Asbestos Project Manager shall be made, and the results shall be furnished to the Owner, Project Administrator, Asbestos Project Manager, Designer, and Air Monitoring Specialist within 24 hours.

### 1.12 STOP WORK

- A. If the Owner, Project Administrator, Asbestos Project Manager, Designer or Air Monitoring Specialist presents a written stop work order, immediately and automatically conform to that stop work order, while maintaining temporary enclosures and pressure differential. Do not recommence abatement work until authorized in writing by Owner/Project Administrator/Asbestos Project Manager/Designer.
- B. Immediately initiate the following actions: After being presented with a stop work order immediately:
1. Cease all asbestos removal activities, or any other activities that disturbs ACM.
  2. Repair any fallen, ripped or otherwise failed work area isolation measures.
  3. Maintain in operation all work area isolation measures including those required by regulation.
  4. Maintain all worker protections including those required by regulation.
  5. Fog the air in the work area with a mist of amended water to reduce airborne fiber levels.
- C. Do not recommence work until authorized in writing by the Owner/Project Administrator/Asbestos Project Manager/Designer.

### 1.13 PERSONAL MONITORING

- A. The Owner will not be performing air monitoring to meet Contractor's OSHA requirements for personnel sampling or any other purpose. The Contractor will conduct his own air monitoring and laboratory testing. The cost of such air monitoring and laboratory testing shall be at no additional cost to the Owner, and shall be in compliance with all local, state and/or federal regulations, and shall be performed by qualified personnel. Daily written reports shall be posted, and furnished to the Asbestos Project Manager/Designer prior to the commencement of the next shift.

### 1.14 MISCELLANEOUS PROVISIONS

- A. The following information/direction is submitted on behalf of the Owner:
1. Contractor will refer to the Abatement Contractor by reference.
  2. Permits:
    - a. This project **will** require a permit under AQCC Regulation 8.
  3. The project **will not** require a regulatory "Asbestos Project Manager". This is the entity described as the Project Manager in accordance with local, state, and/or federal regulations, including but not limited to AQCC Regulation 8. Contractor is to obtain the waiver form from the Owner and submit with permit application.

4. Colorado Regulation No. 8, Part B, requires that project managers be used to monitor asbestos abatement projects in which the amount of friable asbestos containing material exceeds 1000 linear feet or 3000 square feet. This requirement may be waived if the contractor performing the abatement has a history of compliance with Regulation No. 8. Should the Contractor have two or more compliance determinations with a finding of guilty in the preceding two years, or should the Contractor not obtain the waiver from the Owner prior to filing the permit application, the Owner will provide the regulatory Project Manager however, the cost of consulting fees will be deducted from the Contractor contract amount.
  5. Contractor will be required to forward ‘all’ permit applications, waiver forms, and/or requests for ‘any’ variances to the Designer for written response indicating that the submittal is returned for unrestricted use, prior to submittal to regulatory agencies.
- B. The following items are not to be damaged, and are to be salvaged and returned to the Owner:
1. As directed by the Owner.
    - a. Window casings and frames. Mark location for re-installation;
    - b. Door casings and frames. Mark location for re-installation.
- C. The following items are not to be damaged, and are to remain in place:
1. As directed by the Owner.
  2. ‘All’ Non-ACM Finish Materials.
  3. ‘All’ mechanical, plumbing, electrical, telecom systems, hangers, lighting, cables, wiring, speakers, and their components, which have not been specified as being removed, demolished, and/or disposed of.
  4. Contractor is to protect ‘all’ Walls, Ceilings, and Finished Flooring (Client does not want any staining on finished areas), etc. from ‘any’ damage, i.e., tape, spray glue, etc.
- D. The following items are to be demolished and disposed of as ACM waste:
1. ‘All’ Asbestos Containing Material(s) and Debris.
- E. The following items are to be demolished and disposed of as Non-ACM waste:
1. As directed by the Owner.
- F. The following general items are to be observed as directed by the Owner:
1. All Asbestos response actions will be performed as required and in accordance with AQCC Regulation 8, and 29 CFR 1926.1101, and work areas will be decontaminated as submitted by Contractor in Project Design (Plan of Action):
    - a. Within Enclosure Area(s)
      - i. Relative Pressure in Work Area:
        1. Relative Pressure in Work Area: the Contractor will continuously maintain ‘all’ work areas at an air pressure that is lower than that in any surrounding space in the building, or at any location in the immediate proximity outside of the building envelope. This pressure differential when measured across any physical or critical barrier must equal or exceed a static pressure of

- a. -0.02 should a modified full enclosure be installed (unless otherwise indicated within approved variance requests) inches of water, with the use of ‘negative air machines’, recorded by manometers with strip charts.
  - b. demonstration of air flow should a secondary enclosure be installed, with the use of ‘negative air machines’, smoke tubes, recorded by Supervisor in daily logs, observed by the AMS.
2. Contractor is to exhaust the Negative Air through a secured location in the work area, ensuring that the location remains secured until conclusion of the project. Access will be made by Owner prior to mobilization.
2. Fire Control System **will not** remain active during the project. The Contractor will be required to install and maintain temporary fire-protection facilities of the types needed to protect against reasonably predictable and controllable fire losses, if required dependent on the protection of the system. Comply with NFPA 10 "Standard for Portable Fire Extinguishers" and NFPA 241 "Standard for Safeguarding Construction, Alterations, and Demolition Operations":
  - a. The local fire department will be notified, prior to the start of the work.
  - b. Locate fire extinguishers where convenient and effective for their intended purpose, but not less than one extinguisher on each floor at or near each usable stairwell.
  - c. Store combustible materials in containers in fire-safe locations.
  - d. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire-protection facilities, stairways, and other access routes for fighting fires.
  - e. Prohibit smoking within any building, structure, other enclosures or in hazardous fire-exposure areas.
3. Other areas of the building will remain unoccupied during the project.
4. Security – as determined by the Owner.
5. Smoking – as determined by the Owner.
6. Site Incident Prevention Program(s) are required to be posted.
7. Contractor shall install:
  - a. Black Poly around the Decontamination Units and Load Out Units with Construction Signs (where required).
  - b. Black Poly at occupied areas with Construction Signs (where required).
  - c. And secure a Hard Barrier at Door/Window opening for Exhaust.
  - d. Adequate lighting within the work area.
8. Staging:
  - a. Staging for Roll off will be available on the lawn on the South Side of the Building.
    - i. Contractor will repair damage to lawn using materials provided by the Owner and conforming to the attached Reclamation document.
  - b. All asbestos containing waste material must be inspected by the Asbestos/Lead office prior to the removal from the project.
  - c. Landfill must have prior approval from the Asbestos/Lead Manager.

- d. Use of the Owner's existing toilet facilities will not be permitted. Contractor shall provide self-contained, single-occupant toilet units of the chemical, aerated recirculation, or combustion type. Provide units properly vented and fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material. The Contractor will be required to provide an adequate number of Units, for both male and female employees of the Contractor, and Air Monitoring Specialist. Units will be staged in the gravel lot NW of Building.
- e. House is a historic building. The intention is to stabilize the masonry to ensure safe access for future public use.
- f. Contractor will provide a brief description of removal methods that will minimize damage to the stone substrate.
  - i. Contractor will be required to use a removal technology similar to the Farrow System which employs heat and low pressures to align the custom formulated glass blast media in a precision engineered turbo nozzle. Particles are fired at the surface at low velocity like a hail of darts. On contact, they shatter into thousands of sharp “missiles” which force their way BETWEEN surface and coating. Each particle does more than four times the work of other medias; resulting in faster, better, and more efficient removal of the coating. This system is approved by Colorado Department of Public Health and Environment. It is used to remove material such as CMU block filler, fireproofing, acoustical overspray, texture on CMU or brick, and paint on wood, concrete, brick, etc. The end product will result in a clean and undamaged substrate.
- g. Major Spill Requirements –
  - i. Contractor will be responsible for any required CDPHE variances or authorizations regarding work practices for major spill response actions.

#### 1. III.T. ASBESTOS SPILL RESPONSE

- a. The following procedures apply to all areas of public access, except school buildings, in which there has been a release of asbestos fibers due to a breach of the containment barrier on an abatement project, or due to any cause other than abatement of asbestos. For fiber releases in schools, see section IV. (School Requirements).
- b. III.T.1. Major Asbestos Spills
- c. In the event of an asbestos spill involving greater than the trigger levels, the building owner or contractor shall:
  - i. III.T.1.a. Restrict access to the area and post warning signs to prevent entry to the area by persons other than those necessary to respond to the incident.
  - ii. III.T.1.b. Shut off or temporarily modify the air handling system to prevent the distribution of asbestos fibers to other areas.
  - iii. III.T.1.c. Immediately contact the Division by telephone, submit a notification in compliance with subsection III.E. (Notifications) and, if in an area of public access, apply for a permit in accordance with subsection III.G. (Permits).
  - iv. III.T.1.d. Be exempted from the requirements to have a certified Supervisor on-site at all times, until such time as the immediate danger has passed. Any cleanup or asbestos abatement that must occur after the immediate danger has passed shall be supervised by a person certified by the Division.
  - v. III.T.1.e. Using certified Supervisors and certified Workers in accordance with section II. (Certification Requirements) of this Regulation, seal all

- openings between the contaminated and uncontaminated areas and establish negative air pressure within the contaminated area in accordance with paragraph III.J. (Air Cleaning and Negative Pressure Requirements). This is to be accomplished using polyethylene sheeting to cover areas such as doorways, windows, elevator openings, corridor entrances, grills, drains, grates, diffusers and skylights.
- vi. III.T.1.f. HEPA vacuum or steam clean all carpets, drapes, upholstery, and other non-clothing fabrics in the contaminated area, or discard these materials.
  - vii. III.T.1.g. Launder or discard contaminated clothing in accordance with subsection III.R.
- d. (Waste Handling)
- i. III.T.1.h. HEPA vacuum or wet clean all surfaces in the contaminated area.
  - ii. III.T.1.i. Discard all materials in accordance with subsection III.R. (Waste Handling).
  - iii. III.T.1.j. Following completion of subparagraph III.T.1.a. through III.T.1.i. above, comply with air monitoring requirements as described in subsection III.P. (Clearing Abatement Projects); air samples shall be collected aggressively as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), except that the air stream of the leaf blower shall not be directed at any friable ACM that remains in the area.
  - iv. III.T.1.k. Comply with any other measures deemed necessary by the Division to protect public health.

9. Power Requirements:

- a. The Contractor **will** be allowed to use “house power”. The Owner will provide a location and connection point of the Contractor. The Contractor is responsible for coordination with the Owner (72 hour notice).
- b. Locate GFCI's exterior to Work Area so that circuits are protected prior to entry to Work Area. Provide circuit breaker type ground fault circuit interrupters (GFCI) equipped with test button and reset switch for circuits to be used for any purpose in work area, decontamination units, exterior, or as otherwise required by national electrical code, OSHA or other authority. Locate in panel exterior to Work Area.
- c. Contractor shall supply extensions from the electrical supply for Owner's use while conducting daily air monitoring, visual inspections, and final clearance air monitoring as follows:
  - Two in each work area (during abatement).
  - One at clean side of each Decontamination Unit/Waste Load Out.
  - One at clean side of each Critical Barrier.
  - One at each exhaust location for HEPA filtered fan units.
  - One outside of the Building(s).
  - Ten inside work area (or as otherwise directed for final clearance to accommodate pumps and fans).

10. Water Requirements:

- a. **Water provided by Contractor.** No water is available on site.
- b. Water Hoses: Provide heavy-duty, abrasion-resistant, flexible hoses in diameters and lengths necessary to adequately serve temporary facilities, and with a pressure rating greater than the maximum pressure of the water distribution system. Provide adjustable shutoff nozzles at hose discharge.

- c. Provide water into each work area and to each Decontamination Unit. Provide fittings as required to allow for connection to existing wall hydrants or spouts, as well as temporary water heating equipment, branch piping, showers, shut-off nozzles and equipment, as follows:
  - i. Located adjacent to Work Areas to be determined at Preconstruction meeting.
- d. Contractor **will not** filter waste water to building sanitary sewer system. Contractor **will** filter waste water in accordance with local, state, and federal regulations and specifications, and may dispose of filtered water through sanitary sewer system, off site (not storm water system).

G. Submittal Processing:

1. The Contractor(s) will be required to forward all submittals within two (2) weeks of the Notice to Proceed. To avoid the need to delay work under this contract as a result of the time required to process submittals, allow sufficient time for submittal review, including time for resubmittals.
2. Allow 2 weeks for initial review. Allow additional time if the Asbestos Project Manager/Designer must delay processing to permit coordination with subsequent submittals.
3. If an intermediate submittal is necessary, process the same as the initial submittal.
4. Allow 2 weeks for reprocessing each submittal.
5. No extension of Contract Time will be authorized because of failure to transmit submittals to the Asbestos Project Manager/Designer sufficiently in advance of the Work to permit processing.
6. Pre-Abatement Submittal Processing: Contractor will be required to forward the following items to the Owner and the Designer, prior to mobilization, and in accordance with Owner Specifications and Contract:
  - a. Project Design (1,000 LF, or 3,000 SF), or Plan of Action describing Contractor's Work Practices.
  - b. Project Schedule.
  - c. Project Directory.
  - d. Notifications, and Notices (Police and Fire Departments, where required).
  - e. Permits.
  - f. GAC License.
  - g. Historic Airborne Fiber Data (NEA).
  - h. AHERA Accreditation: for each worker.
  - i. State and Local License: for each worker.
  - j. Certificate Worker Acknowledgment: for each worker.
  - k. Report from Medical Examination: of each worker.
  - l. Report from Respirator Fit Test Examination: of each worker.
  - m. Name and address of landfill.
  - n. Material Safety Data Sheets (MSDS).

The Contractor will prepare a detailed plan of the procedures proposed for use in complying with the requirements of this Summary of Work. Include in the plan the location and layout of decontamination areas, the sequencing of asbestos work, the interface of trades involved in the performance of work, methods to be used to assure the safety of building occupants and visitors to the site, disposal plan including location of approved disposal site, and a detailed description of the methods to be employed to control pollution. Expand upon the use of portable HEPA ventilation system, closing out of the building's HVAC system, method of removal to prohibit visible emissions, and packaging of removed asbestos debris. Additionally, the Plan of Action is to include all of the requirements of "Project Design" in accordance with AQCC Regulation 8, Part B, "...means the preparation of plans, specifications, project procedures, containment design/placement,

descriptions of engineering controls, and shop drawings for an asbestos abatement project or response action. It shall include an accurate and detailed scope of work, quantities of material to be removed, removal methods, and air exchange calculations. Drawings shall include locations of ACM to be abated, location of the decontamination unit, waste load out, negative air units, air intake and exhaust, and emergency exits when applicable. Prior to the start of any asbestos abatement involving 1,000 linear feet on pipes, or 3,000 square feet on other surfaces, a written project design shall be developed by a project designer certified under these regulations. A signed copy of the project design shall be available on site at all times during the abatement activities for review by inspectors, the Project Manager and Air Monitoring Specialist...”, Owner, Project Administrator, and Designer.

7. During and Post-Abatement Submittal Processing: Contractor will be required to forward the following items to the Owner and the Designer, daily during abatement, immediately on job completion, and in accordance with Owner Specifications and Contract:

- a. Daily Logs.
- b. Entry/Exit Logs.
- c. Pressure Differential Monitoring Results (if applicable).
- d. Copies of manifests and disposal site receipts.
- e. Any Special Reports.

**PART 2 - PRODUCTS (NOT APPLICABLE)**

**PART 3 - EXECUTION (NOT APPLICABLE)**

**END OF SECTION**

**APPENDIX A. SCHEDULE OF ASBESTOS-CONTAINING MATERIALS**

**HERRON™ Project No.: 0421178**  
**Job No.: TBN**  
**Location: Tumbleson House at Hall Ranch Open Space, Boulder County, CO**  
**Dates of Service: TBN, 2018**  
**Services Requested: Environmental Consultation/Asbestos Abatement Summary of Work (Contract Item #2)**

A. Refer to attached additional Owner Submittal for specific analysis (if applicable). Specific analysis for Asbestos Containing Materials is available through the Asbestos Project Manager. To review this information contact the Asbestos Project Manager for arrangements.

1. Specific AHERA RATINGS have been applied for the type of Asbestos Containing Materials from the following table:

AHERA RATINGS			
Rating	Surfacing Material	TSI	Miscellaneous Material
1		Damaged or Significantly Damaged	
2	Damaged		
3	Significantly Damaged		
4			Damaged or Significantly Damaged
5	Good Condition with Potential for Damage	Good Condition with Potential for Damage	Good Condition with Potential for Damage
6	Good Condition with Potential for Significant Damage	Good Condition with Potential for Significant Damage	Good Condition with Potential for Significant Damage
7	Good Condition with Low Potential	Good Condition with Low Potential	Good Condition with Low Potential
<b>Asbestos Forms</b>			
C = Chrysotile			
Cr = Crocidolite			
A = Amosite			
TA = Tremolite-Actinolite			

B. Scope of Work Areas are defined as:

1. Gross Removal within Full-Enclosure Area(s) (Requires all elements of local, state, and federal regulations, including but not limited to AQCC Regulation 8, 29 CFR 1926.1101, etc.)
2. Gross Removal within Mini/Secondary-Enclosure Area(s)
3. Glove Bag Removal within Mini/Secondary-Enclosure Area(s)
4. Component Removal within Mini/Secondary-Enclosure Area(s)
5. Gross Removal within Mini/Secondary-Enclosure Area(s) (Floor Tile/Mastic, AQCC Regulation 8, Appendix B)
6. O&M, all activities defined within these Asbestos Abatement Summary of Work, including but not limited to patching (and wrapping unprotected insulation), repairing, cleaning, labeling, etc., within Regulation Area(s)



C. Base Bid Work Areas have been defined as follows, and are indicated as Appendix A., Base Bid:

**Total Estimated Quantities of Asbestos Materials Scheduled for Abatement –**

**Rodent Feces – 1,592.25 ft<sup>2</sup>**

**Miscellaneous Material = 20 ft<sup>2</sup>**

**Surfacing Material = 2,982 ft<sup>2</sup>**

Base Scope of Work - Remove **(CDPHE Permit required – Contractor will be responsible for any required variance request applications)** the following materials;

Miscellaneous Material = 20 ft<sup>2</sup>

Surfacing Material = 2,982 ft<sup>2</sup>

Work Area:		#1			
Sample No.	Homogeneous Material Description	<sup>1</sup> Approximate Quantity	<sup>2</sup> AHERA Rating	Asbestos Laboratory Results	Layer/ Physical Description
	<p>Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall</p> <p>Quantification:</p> <p>1<sup>st</sup> Floor Living Room 7X2’ Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft<sup>2</sup></p> <p>2<sup>nd</sup> Floor Closet Loose Sheet Flooring on Wood Substrate 10 ft<sup>2</sup></p> <p>Test Area(s) 1<sup>st</sup> Floor Two (2) Perimeter Wall(s) Perform test area of removal of Asbestos Plaster on Stone, approximately 4X4’ for Engineer determination of acceptable removal methods 32 ft<sup>2</sup></p> <p>1<sup>st</sup> and 2<sup>nd</sup> Floors Decontamination Floor Surface Area of 1<sup>st</sup> and 2<sup>nd</sup> Floor Levels – 1,592.25 ft<sup>2</sup></p> <p>1<sup>st</sup> and 2<sup>nd</sup> Floors Decontamination will include the Cleanup and Decontamination of Rodent Feces – 1,592.25 ft<sup>2</sup></p> <p>To remove remaining stubborn droppings, apply a dissolving solution with water and let the mixture soak into the droppings for at least 15 minutes; droppings will generally wipe easily away with a brush and water (use products that efficiently breaks down droppings, reduces solids, and eliminates odors);</p> <p>Follow with a clean water rinse; After area is clear of droppings, apply a disinfectant/sanitizer or other hospital grade virucide/germicide to kill any remaining bacteria;</p>	1,616.25 ft <sup>2</sup>	3	>1.0%	Plaster and Sheet Flooring

Work Area:		#1			
Sample No.	Homogeneous Material Description	<sup>1</sup> Approximate Quantity	<sup>2</sup> AHERA Rating	Asbestos Laboratory Results	Layer/ Physical Description
	Use non-toxic, environmentally safe, non-flammable, and bio degradable products; Perform final post-abatement final visual inspection(s) and final clearance air monitoring; On successful completion of the Major Spill Response the 2 <sup>nd</sup> Floor will be Isolated from the remainder of the House as no further asbestos work exists.				
<b>Assessment:</b>		Significantly Damaged (AHERA Rating: 3)			
<b>Area Affected:</b>		Throughout Area			
<b>Accessibility:</b>		Accessible			
<b>To Building Occupants?</b>		Yes			
<b>Recommendation:</b>		Abatement			
<b>Scope of Work:</b>		Decontaminate existing Asbestos-Containing Material Contamination of entire work area(s) within Enclosure(s) (as required and in accordance with AQCC Regulation 8), as submitted by Contractor in Plan of Action –  PCM Clearance			

Work Area:		#2			
Sample No.	Homogeneous Material Description	<sup>1</sup> Approximate Quantity	<sup>2</sup> AHERA Rating	Asbestos Laboratory Results	Layer/ Physical Description
	Abatement – Gross Removal and decontamination of Asbestos Plaster Wall(s) on Stone  Quantification:  1st Floor Root Cellar – 322 ft <sup>2</sup>  Demolition of Wood Shelving in 1 <sup>st</sup> Floor Root Cellar (embedded in Plaster) – 11.5X4' X 3 sets	322 ft <sup>2</sup>	3	>1.0%	Plaster
<b>Assessment:</b>		Significantly Damaged (AHERA Rating: 3)			
<b>Area Affected:</b>		Throughout Area			
<b>Accessibility:</b>		Accessible			
<b>To Building Occupants?</b>		Yes			
<b>Recommendation:</b>		Abatement			
<b>Scope of Work:</b>		Abate all existing Asbestos-Containing Materials by Gross Removal within Enclosure(s) (as required and in accordance with AQCC Regulation 8), and Decontaminate entire work area(s) as submitted by Contractor in Plan of Action –  PCM Clearance			

Work Area:		#3			
Sample No.	Homogeneous Material Description	<sup>1</sup> Approximate Quantity	<sup>2</sup> AHERA Rating	Asbestos Laboratory Results	Layer/ Physical Description
	Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone  Quantification:  1st Floor Kitchen and Bedroom 2 – 1,048 ft <sup>2</sup>  Demolition of Wood Closet in 1 <sup>st</sup> Floor Bedroom 2 (embedded in Plaster) – 1X4’ X8’ high	1,048 ft <sup>2</sup>	3	>1.0%	Plaster
<b>Assessment:</b>		Significantly Damaged (AHERA Rating: 3)			
<b>Area Affected:</b>		Throughout Area			
<b>Accessibility:</b>		Accessible			
<b>To Building Occupants?</b>		Yes			
<b>Recommendation:</b>		Abatement			
<b>Scope of Work:</b>		Abate all existing Asbestos-Containing Materials by Gross Removal within Enclosure(s) (as required and in accordance with AQCC Regulation 8), and Decontaminate entire work area(s) as submitted by Contractor in Plan of Action –  PCM Clearance			

Work Area:		#4			
Sample No.	Homogeneous Material Description	<sup>1</sup> Approximate Quantity	<sup>2</sup> AHERA Rating	Asbestos Laboratory Results	Layer/ Physical Description
	Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone  Quantification:  1st Floor Living Room, Bedroom 1, and Stairwell – 1,612 ft <sup>2</sup>	1,612 ft <sup>2</sup>	3	>1.0%	Plaster and Drywall
<b>Assessment:</b>		Significantly Damaged (AHERA Rating: 3)			
<b>Area Affected:</b>		Throughout Area			
<b>Accessibility:</b>		Accessible			
<b>To Building Occupants?</b>		Yes			
<b>Recommendation:</b>		Abatement			
<b>Scope of Work:</b>		Abate all existing Asbestos-Containing Materials by Gross Removal within Enclosure(s) (as required and in accordance with AQCC Regulation 8), and Decontaminate entire work area(s) as submitted by Contractor in Plan of Action –  PCM Clearance			

<b>Work Area:</b>		#5			
Sample No.	Homogeneous Material Description	<sup>1</sup> Approximate Quantity	<sup>2</sup> AHERA Rating	Asbestos Laboratory Results	Layer/ Physical Description
	Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s)  Quantification:  Exterior, South Alcove Roofing, Debris, and Associated 2” of Soil – 10 ft <sup>2</sup>  Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3’ from foundation.	10 ft <sup>2</sup>	6	>1.0%	Roof Debris
<b>Assessment:</b>	Good Condition with Potential for Significant Damage (AHERA Rating: 6)				
<b>Area Affected:</b>	Throughout Area				
<b>Accessibility:</b>	Accessible				
<b>To Building Occupants?</b>	Yes				
<b>Recommendation:</b>	Abatement				
<b>Scope of Work:</b>	Abate all existing Asbestos-Containing Materials by Gross Bag Removal within Regulated Area (as required and in accordance with AQCC Regulation 8), and Decontaminate entire work area(s) as submitted by Contractor in Plan of Action				

**LEAD HAZARDS**

Lead Hazard Disposal Determination by Toxicity Characteristic Leachate Procedure (TCLP).

Local, state and/or federal regulations, including but not limited to (EPA) 40 CFR 261 and associated amendments (EPA Regulations for Identifying Hazardous Waste), (EPA) SW-846, (EPA Test Methods for Evaluating Solid Waste), etc. require defining individual wastestreams/populations, sample building selections, sampling strategies, sampling methodologies, analyses, etc. in order to determine the TCLP Lead concentration.

Materials which were sampled, composited, and determined to be below the action level of 5.0 mg/l Lead (per attached analyses and custody sheets) by Lead by Flame AA, SW846 1311/3050A/7420, for the wastestreams/populations of the property:

**is BRL (below reporting limit) mg/l, which is below the action level of 5.0 mg/l of Lead for the Composition of the Plaster, Drywall, and Wood Base Board (Waste Stream),** for purposes of renovation (as specifically indicated).

In order to comply with local, state, and/or federal regulations, the following wastestreams/populations should be removed and disposed of as a ‘hazardous’ waste during an interior demolition if the composite wastestreams/populations meet or exceed the action level of 5.0 mg/l Lead:

None detected.

**As the wastestreams/populations has been determined by proper sampling and analysis by ICP (TCLP) to be below the Lead action level of (5.0 mg/l), then this wastestreams/populations may be removed and disposed of as a ‘friable asbestos-containing waste material’.**

Note: Contractor to use OSHA safe work practices in accordance with 29 CFR 1926.62.

- D. Alternates: Alternate Bid Work Areas have been defined as follows, and are indicated as Appendix A., Alternate Bid:
1. Additive Alternates
    - a. Not applicable
  2. Deductive Alternates
    - a. Not applicable
- E. Unit Prices: Unit Price Bid Work Areas have been defined as follows, and are indicated as Appendix A., Unit Price Bid:
1. Additive Unit Prices (Lump Sum):
    - a. Not applicable
  2. Deductive Unit Prices (Lump Sum):
    - a. Not applicable
- F. Areas reviewed and assessed, but not within Summary of Work, have been defined as follows, and are indicated as Appendix A., No Work or Removed from Summary of Work:
1. 'Any' confirmed or suspect ACM inside or outside of the current work area(s) which is not within the Summary of Work which at this time is not directly affected by the renovation or demolition.
  2. During a normal inspection, and more specifically when non-destructive sampling techniques are employed, it is not within the scope of the inspection to remove surface materials to inspect the structures and/or materials which may be under the surface, i.e., within or under concealed areas such as under carpet, under sub-floors, within chases, walls, crawlspaces, tunnels, etc., to remove suspect Asbestos Containing Material(s), to move and/or sample electrical wiring which has not been 'locked out', etc. All said areas are to be assumed as containing >1.0% Asbestos, until such a time that these areas are made accessible, and/or rendered safe so that sampling can be performed.
  3. HERRON<sup>™</sup> recommends extreme caution during a renovation or demolition of these areas in the event that an area which was not suspect, visible, accessible and/or specified during the inspection, is discovered to contain or is suspected of containing an Asbestos Containing Material (ACM). Under local, state and/or federal regulations, should such an event occur, the Client and or Contractor is required to cease operations which may effect this (these) material(s) until an inspection is concluded and a determination is made by an AHERA and State Certified Asbestos Building Inspector.
  4. Disturbance of these areas could create a potential health hazard.
- G. Suspect materials which were not within the Scope of Work at the time of the inspection were:
1. 'Any' EPA Suspect Material, not visible or accessible. This includes any material not accessible in Chases, Crawlspaces, Voids, etc. not specifically mentioned in this Summary of Work.



20170725\_111313



20170725\_104756



20170725\_104800



20170725\_104804



20170725\_105032



20170725\_105035



20170725\_105037



20170725\_105041



20170725\_105046



20170725\_105055



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20170725\_105421



20170725\_105424



20170725\_105606



20170725\_105613



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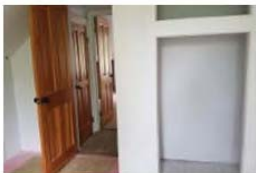
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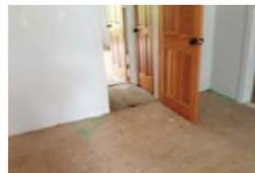
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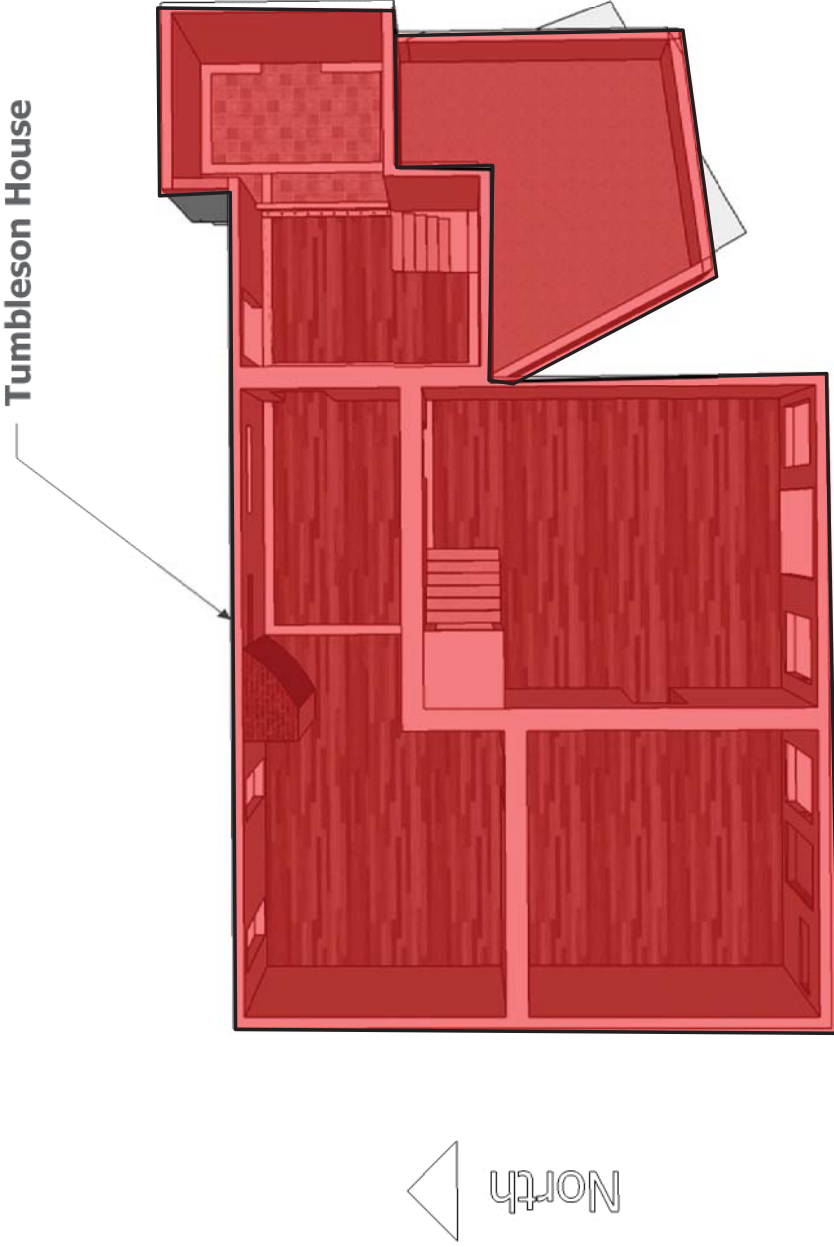
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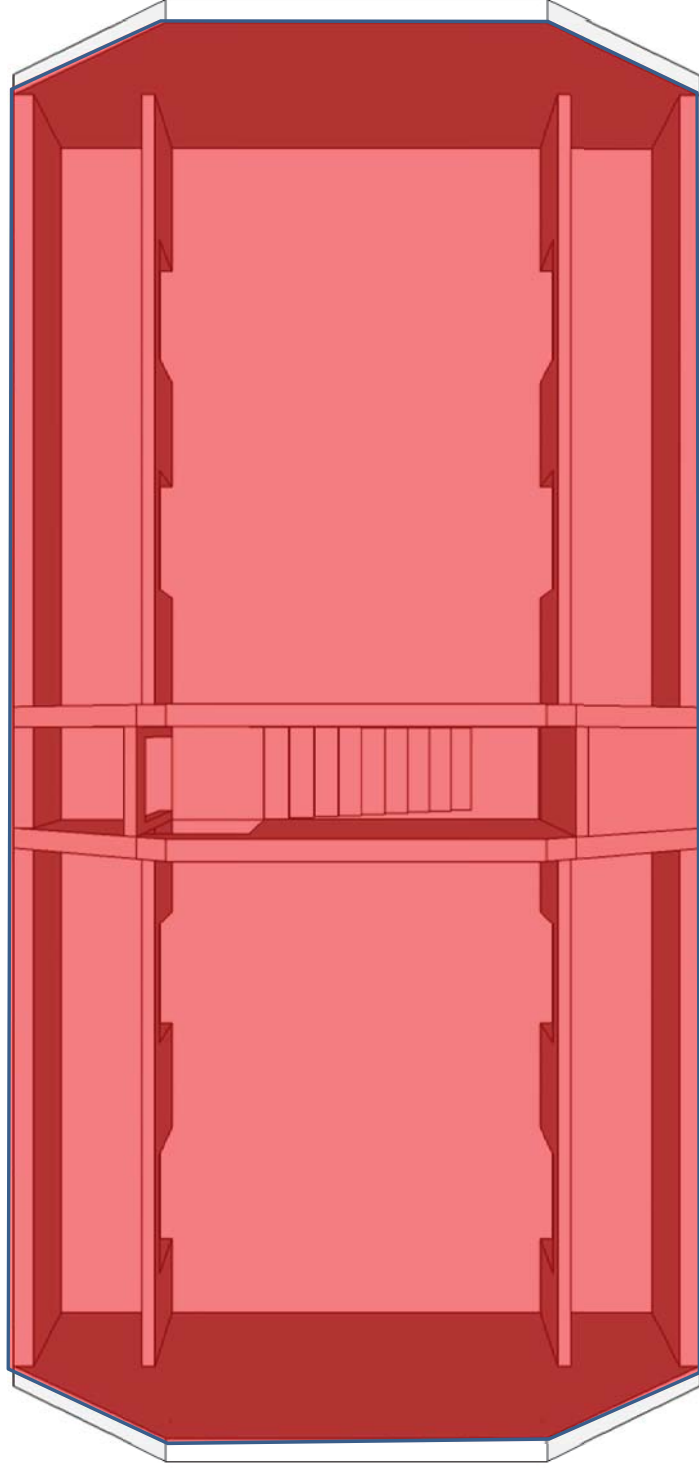


**Tumbleson House**



1<sup>st</sup> Floor Level

■ WA#1, Asbestos Containing Materials (>1.0% Asbestos), Rodent Feces  
Note: Plan(s) copied by permission, not to scale. Shaded area indicates approximate Work Area.



2<sup>nd</sup> Floor Level

WA#1, Asbestos Containing Materials (>1.0% Asbestos), Rodent Feces  
Note: Plan(s) copied by permission, not to scale. Shaded area indicates approximate Work Area.

# Tumbleson House



- WA#2, Asbestos Containing Materials (>1.0% Asbestos)
- WA#3, Asbestos Containing Materials (>1.0% Asbestos)
- WA#4, Asbestos Containing Materials (>1.0% Asbestos)
- WA#5, Asbestos Containing Materials (>1.0% Asbestos)

Note: Plan(s) copied by permission, not to scale. Shaded area indicates approximate Work Area.

**TEMPORARY PRESSURE DIFFERENTIAL AND AIR CIRCULATION SYSTEM**

- A. HEPA Filters: Provide units whose final filter is the HEPA type with the filter media (folded into closely pleated panels) completely sealed on all edges with a structurally rigid frame.
1. Provide 'new' HEPA filters (or Sealed Units) that are individually tested and certified by the manufacturer to have an efficiency of not less than 99.97 percent when challenged with 0.3 um dioctylphthalate (DOP) particles when tested in accordance with Military Standard Number 282 and Army Instruction Manual 136-300-175A. Provide filters that bear a UL586 label to indicate ability to perform under specified conditions.
  2. 'New' Pre-filters, which protect the final filter by removing the larger particles, are required to prolong the operating life of the HEPA filter.
- B. Accomplish the pressure differential by exhausting a sufficient number of HEPA filtered fan units from the work area. The number of units required will depend on machine characteristics, the seal at barriers, and required air circulation. The number of units will increase with increased make-up air or leaks into the Work Area. Determine the number of units required for pressure isolation.
- C. Vent HEPA filtered fan units to outside of building unless authorized in writing by the Asbestos Project Manager/Designer.

**MINI/SECONDARY-ENCLOSURES AND GLOVEBAGS**

- A. Work of this section consists of preparing a Regulated Area for work for which there is no negative exposure assessment or that involves drilling, cutting, abrading, sanding, chipping, breaking, or sawing of thermal system insulation or surfacing material.

**GLOVE BAGS**

- A. Glovebag: Remove ACM inside a glove bag according to local, state, and/or federal regulations, including but not limited to AQCC Regulation 8 and OSHA 29 CFR 1926.1101.

**MINI/SECONDARY-ENCLOSURES**

- A. A mini enclosure is a small walk-in enclosure which accommodates no more than two persons, and a secondary enclosure will comply with mini enclosure requirements and will accommodate a larger scale project. Provide a fabricated or job made enclosure constructed of 6 mil (0.15 mm) plastic or equivalent. Place the enclosure under negative pressure by means of a HEPA filtered vacuum or similar HEPA filtered ventilation unit.

1. Temporary Pressure Differential & Air Circulation System: HEPA filtered vacuum cleaner with vacuum in space outside Mini/Secondary-Enclosure may be used for compliance. Provide a minimum of 8 air changes per hour in the Work Room.
  2. All bags are to be transported through the building in clean sealed containers that have never been in an asbestos Work Area, Mini-Enclosure or decontamination unit.
- B. Provide a remote personnel decontamination unit for worker decontamination.
- C. Sequence of Work: Before beginning work of this sub-section complete the following:
1. Isolation of area.
  2. Construction of a personnel decontamination unit.

D. Work Room: Construct Work Room in the same manner as a Primary Barrier fabricated from 6 mil (0.15 mm) sheet plastic. Arrange so that Primary Barrier provides both a Critical and Primary Barrier. Line walls and floor of Work Room with a continuous Secondary Barrier.

E. Change Room: Provide an approximately 3 feet by 3 feet (0.9 m x 0.9 m) Change Room, with additional space as required for storage, attached to each Work Room. Fabricate Change Room from 6 mil (0.15 mm) sheet plastic in the same manner as a Primary Barrier. Locate so that access to Work Area is through Change Room.

H. Signage: At entry to Change Room post ) manufactured caution sign displaying the following legend with letter sizes and styles of a visibility required by 29 CFR 1926:

I. Mini/Secondary-Enclosure Decontamination: At completion of all work decontaminate the Work and Changing Rooms.

### **FULL-ENCLOSURES**

A. A full enclosure is a walk-in enclosure in accordance with local, state, and/or federal regulations, including but not limited to the stringency of AQCC Regulation 8, 29 CFR 1926.1101 (OSHA), and this Asbestos Abatement Summary of Work.

B. Relative Pressure in Work Area: Continuously maintain the work area at an air pressure that is lower than that in any surrounding space in the building, or at any location in the immediate proximity outside of the building envelope. This pressure differential when measured across any physical or critical barrier must equal or exceed a static pressure of:

1. 0.02 inches (0.50 mm ) of water.

2. If at any time the pressure differential when measured across any physical or critical barrier does not equal or exceed a static pressure of 0.02 inches (0.50 mm) of water, immediately and automatically conform to stop work order as described, while maintaining temporary enclosures and pressure differential. Make immediate correction to work area until such a time that the static pressure of 0.02 inches (0.50 mm) of water is maintained. Do not recommence abatement work until authorized in writing by Owner/Project Administrator/Asbestos Project Manager/Designer.

### **WORKER PROTECTION - ASBESTOS ABATEMENT**

A. AHERA Accreditation: All workers are to be accredited as Abatement Workers as required by the EPA Model Accreditation Plan (MAP) asbestos abatement worker training (40 CFR Part 763, Subpart E, Appendix C).

B. State and Local License: All workers are to be trained, certified and accredited as required by state or local code or regulation, including but not limited to AQCC Regulation 8, Part B.

C. Training - Class I: Train in accordance with 29 CFR 1926.1101. Provide training for all workers who will perform Class I operations that is the equivalent in curriculum, training method and length to the EPA Model Accreditation Plan (MAP) asbestos abatement worker training (40 CFR Part 763, Subpart E, Appendix C).

D. Training - Class II Intact (Non-Friable): Provide training for workers who will be performing Class II work involving only the removal and/or disturbance of one generic category of building material, such as roofing materials, flooring materials, siding materials or cement asbestos panels; which includes as a minimum the specific work practices and engineering controls which specifically relate to that category. Provide a course that includes "hands-on" training and takes at least 8 hours. Provide training that includes the elements set forth in 29 CFR 1926.1101(k) and the Compliance Directive CPL 2-2.63.

E. Training - Class II Non-Intact (Friable): Provide training for workers who will be performing Class II work on materials that are friable, or will become friable during the work that is the equivalent in curriculum, training method and length to the EPA Interim Final Model Accreditation Plan (MAP) asbestos abatement worker training (40 CFR Part 763, Subpart E, Appendix C).

### RESPIRATORY PROTECTION

A. Instruct and train each worker involved in asbestos abatement or maintenance and repair of friable asbestos-containing materials (ACM) in proper respiratory use and require that each worker always wear a respirator, properly fitted on the face in the Work Area from the start of any operation which may cause airborne asbestos fibers until the Work Area is completely decontaminated. Use respiratory protection appropriate for the fiber level encountered in the work place or as required for other toxic or oxygen-deficient situations encountered.

B. Respiratory Protection Program: Comply with ANSI Z88.2 "Practices for Respiratory Protection" and OSHA 29 CFR 1910.139.

C. Require that respirators be used in the following circumstances:

1. During all Class I asbestos jobs.
2. During all Class II work where the ACM is not removed in a substantially intact state,
3. During all Class II and III work which is not performed using wet methods.
4. During all Class II and III asbestos jobs where the employer does not produce a "negative exposure assessment".
5. During all Class III jobs where TSI or surfacing ACM or PACM is being disturbed.
6. During all Class IV work performed within regulated areas where employees performing other work are required to wear respirators.
7. During all work where employees are exposed above the OSHA PEL (TWA, or excursion limit).
8. In emergencies. During emergencies where the airborne asbestos fiber concentration is not known, a self-contained breathing apparatus (SCBA) must be used.

D. Require that respiratory protection be used at all times that there is any possibility of disturbance of ACM whether intentional or accidental.

E. Require that a respirator be worn by anyone in a Work Area at all times, regardless of activity, during a period that starts with any operation which could cause airborne fibers until the area has been cleared for re-occupancy.

F. Regardless of Airborne Fiber Levels: Require that the minimum level of respiratory protection used be half-face air-purifying respirators with high efficiency filters.

G. Do not allow the use of single-use, disposable, or quarter-face respirators for any purpose.

**SPECIFIED PERMISSIBLE EXPOSURE LIMITS (SPEL)**

A. Specified Permissible Exposure Limits (SPEL): Ensure that no worker is exposed to an airborne concentration of asbestos in excess of the Time-Weighted Average (TWA) limit, and Excursion Limit (EL) set forth below.

1. Time Weighted Average (TWA) limit - Concentration of airborne asbestos fibers to which any worker may be exposed as an eight (8) hour time-weighted average (TWA) shall not exceed the following.

a. 0.1 fibers per cubic centimeter

2. Excursion Limit (EL) - Concentration of airborne asbestos fibers to which any worker may be exposed as averaged over a sampling period of thirty (30) minutes shall not exceed the following.

a. 1.0 fibers per cubic centimeter

**CONTRACT CLOSEOUT - ADMINISTRATIVE**

A. The Contractor shall file a written notice with the Project Administrator that the work in the opinion of the Contractor, is complete under the terms of the contract.

B. The Project Administrator may complete a Closing-out Checklist and Contract Close-out forms, and forward them to the Contractor.

C. The Contractor will complete and date all items indicated to be completed on the Closing-out Checklist and Contract Close-out forms. When all items are completed, the Contractor will sign both forms and forward them to the Project Administrator along with a letter stating that all punch list items are complete.

D. The Project Administrator issues a Notice of Acceptance.

**CONTRACT CLOSEOUT - ASBESTOS ABATEMENT**

A. Preliminary Procedures: Before requesting final inspection for certification of final acceptance and final payment, complete the following. List exceptions in the request.

1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include insurance certificates for products and completed operations where required.

2. Submit an updated final statement, accounting for final additional changes to the Contract Sum.

3. Submit a certified copy of the Asbestos Project Manager's/Designer's final inspection list of items to be completed or corrected, endorsed and dated by the Asbestos Project Manager/Designer. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance and shall be endorsed and dated by the Asbestos Project Manager/Designer.

4. Submit evidence of final, continuing insurance coverage complying with insurance requirements.

B. Reinspection Procedure: The Asbestos Project Manager/Designer will reinspect the Work upon receipt of notice that the Work, including inspection list items from earlier inspections, has been completed, except for items whose completion is delayed under circumstances acceptable to the Asbestos Project Manager/Designer.

1. Upon completion of reinspection, the Asbestos Project Manager/Designer will prepare a certificate of final acceptance. If the Work is incomplete, the Asbestos Project Manager/Designer will advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.

2. If necessary, reinspection will be repeated.

**PROJECT DECONTAMINATION**

A. Work includes the decontamination of air in the Work Area which has been, or may have been, contaminated by the elevated airborne asbestos fiber levels generated during abatement activities, or which may previously have had elevated fiber levels due to friable asbestos-containing materials (ACM) in the space.

B. All Air Samples will be taken using aggressive sampling techniques.

1. In each Work Area after completion of all cleaning work, a minimum number of samples in accordance with AQCC Regulation 8 will be taken and analyzed.

2. Release Criteria: Decontamination of the work site is complete when every Work Area sample is at or below the MAAL ( $\leq 0.01$  f/cc, PCM). If any sample is above the MAAL, then the decontamination is incomplete and recleaning is required.

C. Before Start of Work submit the following to the Asbestos Project Manager/Designer for review. Do not begin work until these submittals are returned with the Asbestos Project Manager's/Designer's action stamp indicating that the submittal has been "Received - Not Reviewed."

1. Material Safety Data Sheet: Submit Material Safety Data Sheets, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for the following:

a. "Lock-Back," sealer.

D. Visual inspection: Perform visual inspections of the work area along with the Project Manager/Designer/Air Monitoring Specialist on completion of the decontamination process (where required, and at the discretion of the Project Manager/Designer).

1. Contractor will provide an adequate notification, in writing, to and mutually agreeable with the Asbestos Project Manager/Designer/Air Monitoring Specialist of any requests for Visual Inspection(s), or Final Cleaning Visual Inspection(s).

2. Follow inspection procedures in EPA Purple Book;

3. Follow inspection procedures in the American Society for Testing and Material (ASTM) standard for visual inspections, ASTM E1368, and;

4. Follow inspection procedures in AQCC Regulation 8 standard for visual inspections, requirement for visual inspections, Section III.C.7.a., Clearing Abatement Projects.

E. Affect on Contract Sum:

1. Complete corrective work with no change in the Contract Sum (adjustment may be in the form of a deduction) if Project Decontamination does not meet the Asbestos Abatement Summary of Work criteria, as follows:

a. for any and all Test Laboratory Services and Consultant Services, any additional PCM, TEM, and/or PLM confirmation analysis, etc., per Work Area, which do not meet the Asbestos Abatement Summary of Work criteria.

b. for any and all costs incurred by the Owner, Occupants, Owner Employees, Work under other Contracts, etc., per Work Area which do not meet the Asbestos Abatement Summary of Work criteria, and are determined to be caused by Contractor's activities.



### VISUAL INSPECTION(S)

A. Before Active Abatement begins, Complete Pre-Abatement Visual Inspection to confirm that the Contractor has properly prepared and has visually inspected the Work Area (all posting of permits and certifications, installation and proper operation or implementation of all work practices, decontamination units, waste load out areas, pre-cleaning of surfaces, manometers, disposal containers, integrity of enclosures, water, surfactants, equipment, materials, protective clothing, respiratory protection, etc.) and that the Asbestos Abatement Contractor is ready to proceed with active abatement. When the area is ready, complete the certification at the end of this section. Pre-Abatement Visual Inspection is not complete until confirmed in writing, on the certification, by Project Administrator.

B. After Final Cleaning Perform a Complete Final Visual Inspection of the entire Work Area including: all surfaces, ceiling, walls, floor, decontamination unit, all plastic sheeting, seals over ventilation openings, doorways, windows, and other openings; look for debris from any source, residue on surfaces, dust or other matter. During visual inspection sweep entire work area including walls, ceilings, ledges, floors, and other surfaces in the room with exhaust from forced air equipment (leaf blower with approximately 1 horsepower electric motor or equivalent). If any debris, residue, dust or other matter is found repeat final cleaning and continue decontamination procedure from that point. When the area is visually clean, and if after sweeping of all surfaces with leaf blower, no debris, residue, dust or other material is found, complete the certification at the end of this section. Final Visual inspection is not complete until confirmed in writing, on the certification, by Project Administrator.

C. Affect on Contract Sum:

1. Complete corrective work with no change in the Contract Sum (adjustment may be in the form of a deduction) if Pre-Abatement Visual Inspection and/or Final Visual Inspection does not meet the Asbestos Abatement Summary of Work criteria, as follows:

a. for any and all Test Laboratory Services and Consultant Services, any additional PCM, TEM, and/or PLM confirmation analysis, etc., per Work Area, which do not meet the Asbestos Abatement Summary of Work criteria.

b. for any and all costs incurred by the Owner, Occupants, Owner Employees, Work under other Contracts, etc., per Work Area which do not meet the Asbestos Abatement Summary of Work criteria, and are determined to be caused by Contractor's activities.

### CERTIFICATE(S) OF VISUAL INSPECTION(S)

A. "Certificate of Pre-Abatement Visual Inspection(s)" is to be completed by the Contractor and certified by the Project Administrator, Asbestos Project Manager, Designer, and Air Monitoring Specialist. Submit completed Certificate with Application for Final Payment. Final payment will not be made until this Certification is executed.

B. "Certificate of Visual Inspection(s)" is to be completed by the Contractor and certified by the Project Administrator, Asbestos Project Manager, Designer, and Air Monitoring Specialist. Submit completed Certificate with Application for Final Payment. Final payment will not be made until this Certification is executed.

### SUBSTANTIAL COMPLETION OF ABATEMENT WORK

A. Asbestos Abatement Work is Substantially Complete upon meeting Final Clearance Air Monitoring criteria including submission of:

1. Certificate of Visual Inspection(s)
2. Receipts Documenting proper disposal.
3. Punch list detailing repairs to be made and incomplete items.

## REMOVAL OF ASBESTOS-CONTAINING MATERIALS

A. Thoroughly wet to satisfaction of Asbestos Project Manager/Designer ACM to be removed prior to stripping and/or tooling to reduce fiber dispersal into the air. Accomplish wetting by a fine spray (mist) of amended water or removal encapsulant. Saturate material sufficiently to wet to the substrate without causing excess dripping. Allow time for amended water or removal encapsulant to penetrate material thoroughly. If amended water is used, spray material repeatedly during the work process to maintain a continuously wet condition. If a removal encapsulant is used, apply in strict accordance with manufacturer's written instructions. Perforate outer covering of any installation which has been painted and/or jacketed in order to allow penetration of amended water or removal encapsulant, or use injection equipment to wet material under the covering. Where necessary, carefully strip away while simultaneously spraying amended water or removal encapsulant on the installation to minimize dispersal of asbestos fibers into the air.

1. Mist work area continuously with amended water whenever necessary to reduce airborne fiber levels.
2. Remove saturated ACM in small sections from all areas. Do not allow material to dry out. As it is removed, simultaneously pack material while still wet into disposal bags. Twist neck of bags, bend over and seal with minimum three wraps of duct tape. Clean outside and move to Wash Down Station adjacent to Material Decontamination Unit.
3. Evacuate air from disposal bags with a HEPA filtered vacuum cleaner before sealing.

## DISTURBANCE OF ACM DURING O&M WORK

A. This work is repair or maintenance work that may disturb ACM, but where the OSHA PEL is not exceeded and release of ACM, dust and debris is confined to the immediate location of the disturbance. In the OSHA construction standard (29 CFR 1926.1101), it is Class III work on TSI or Surfacing ACM with a negative exposure assessment, Class IV work activities to clean up waste and debris containing ACM and PACM, or Class IV work without a negative exposure assessment. Class III asbestos work includes repair and maintenance operations, where ACM, including thermal system insulation and surfacing material, is likely to be disturbed. If the quantity of material disturbed exceeds the capacity of one 60 inch x 60 inch glovebag or waste bag or is more than 25 linear feet or 20 square feet, the activity is Class I or II and exceeds the limitation of the work practices in this Asbestos Abatement Summary of Work.

1. Personal Air Samples: Perform work in a manner that maintains airborne fiber levels below the 0.1 f/cc and that results in a negative exposure assessment as defined by OSHA in 29 CFR 1926.1101.
2. Area Samples: Area sampling will be performed in a manner that maintains airborne fiber levels in the vicinity of the work below the 0.01 f/cc as measured by phase contrast microscopy (PCM) using the NIOSH 7400 or OSHA reference method.

B. Should any of the above levels be exceeded in sampling by either the Owner or Contractor, immediately cease asbestos abatement activities until the fault is corrected. Do not recommence work until authorized by the Asbestos Project Manager/Designer.

C. Air monitoring by Owner: The Owner's may perform air monitoring to verify that work is being performed in a manner that meets the exposure goals set forth in this Asbestos Abatement Summary of Work.

D. Air monitoring required by OSHA is work of the Contractor.

E. Affect on Contract Sum:

1. Complete corrective work with no change in the Contract Sum (adjustment may be in the form of a deduction) if Disturbance of ACM During O&M Work occurs which does not meet the Asbestos Abatement Summary of Work criteria, as follows:

- a. for any and all Test Laboratory Services and Consultant Services, any additional PCM, TEM, and/or PLM confirmation analysis, per Work Area, which do not meet the Asbestos Abatement Summary of Work criteria.
- b. for any and all costs incurred by the Owner, Occupants, Owner Employees, Work under other Contracts, etc., per Work Area which do not meet the Asbestos Abatement Summary of Work criteria, and are determined to be caused by Contractor's activities.

#### **DISPOSAL OF REGULATED ASBESTOS-CONTAINING MATERIAL**

- A. All waste is to be hauled by a waste hauler with all required licenses from all state and local authority with jurisdiction.
- B. Liquid waste: Mix all liquid asbestos-containing waste or asbestos contaminated waste with a bladeable material so that it forms a bladeable (non-liquid) form, and have the concurrence of the landfill operator prior to disposal.
- C. Load all adequately wetted Regulated Asbestos-Containing Material in disposal bags or leak-tight containers. All materials are to be contained in one of the following
  1. Two 6 mil (0.15 mm) disposal bags or
  2. Two 6 mil (0.15 mm) disposal bags and a fiberboard drum or steel drum
- D. Protect interior of truck or dumpster with Critical and Primary Barriers.
- E. Carefully load containerized waste in fully enclosed dumpsters, trucks or other appropriate vehicles for transport. Exercise care before and during transport, to insure that no unauthorized persons have access to the material.
- F. Warning Signs: During loading and unloading mark dumpsters, receptacles and vehicles with a sign complying with requirements of the EPA NESHAP regulation (40 CFR Part 61).
- G. Do not store containerized materials outside of the Work Area. Take containers from the Work Area directly to a sealed truck or dumpster.
- H. Do not transport disposal bagged materials on open trucks. Label drums with same warning labels as bags. Uncontaminated drums may be reused. Treat drums that have been contaminated as Regulated Asbestos-Containing Material and dispose of in accordance with this Asbestos Abatement Summary of Work.
- I. Advise the landfill operator, at least ten days in advance of transport, of the quantity of material to be delivered.
- J. At disposal site unload containerized waste:
  1. At the disposal site, sealed plastic bags may be carefully unloaded from the truck. If bags are broken or damaged, return to work site for rebagging. Clean entire truck and contents.
  2. The Owner will only accept landfill of asbestos-containing materials at EPA approved landfills.
- K. Retain receipts from landfill or processor for materials disposed of.
- L. At completion of hauling and disposal of each load submit copy of waste manifest, chain of custody form, and landfill receipt to Asbestos Project Manager/Designer.

**STOP WORK ORDER**

Building	Work Area/Containment	Material(s)	Quantity(ies)	Type of Containment (Full/Mini/ Regulated Area)

**Stop Work Order**

In accordance with local, state and/or federal regulations, and/or the Asbestos Abatement Summary of Work, the Asbestos Abatement Contractor is hereby ordered to stop work in the aforementioned Work Area. The Asbestos Abatement Contractor is to immediately and automatically conform to this stop work order, while maintaining temporary enclosures and pressure differential. The Asbestos Abatement Contractor is to immediately initiate all of the actions as described in Asbestos Abatement Summary of Work after being presented with a stop work order, as well as any other actions, as deemed necessary by the Owner, Project Administrator, Asbestos Project Manager, and/or Designer, etc. Do not recommence abatement work until authorized in writing by Owner/Project Administrator/Asbestos Project Manager/Designer.

**Stop Work Order Cause**

Stop Work Order was issued due to:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Stop Work Order Issued By**

Signature	Date/Time	Certification No.	Printed Name	Title

**Stop Work Order Acknowledged By Asbestos Abatement Contractor**

Signature	Date/Time	Certification No.	Printed Name	Title

**Recommence Work Order**

The Stop Work Order Cause was corrected by means of:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

and therefore, the Asbestos Abatement Contractor may recommence work in accordance with local, state, and/or federal regulations, and Asbestos Abatement Summary of Work.

**Recommence Work Order Issued By**

Designer Signature	Date/Time	Certification No.	Printed Name	Title

Asbestos Project Manager Signature	Date/Time	Certification No.	Printed Name	Title

Project Administrator Signature	Date/Time	Certification No.	Printed Name	Title

**Recommence Work Order Acknowledged By Asbestos Abatement Contractor**

Signature	Date/Time	Certification No.	Printed Name	Title

**CERTIFICATE OF WORKER'S ACKNOWLEDGMENT**

Project Name	Date	Project Address	Contractor's Name

**WORKING WITH ASBESTOS CAN BE DANGEROUS. INHALING ASBESTOS FIBERS HAS BEEN LINKED WITH VARIOUS TYPES OF CANCER. IF YOU SMOKE AND INHALE ASBESTOS FIBERS THE CHANCE THAT YOU WILL DEVELOP LUNG CANCER IS GREATER THAN THAT OF THE NON-SMOKING PUBLIC.**

Your employer's contract with the Owner for the above project requires that: You be supplied with the proper respirator and be trained in its use. You be trained in safe work practices and in the use of the equipment found on the job. You receive a medical examination. These things are to have been done at no cost to you.

**RESPIRATORY PROTECTION:** You must have been trained in the proper use of respirators, and informed of the type respirator to be used on the above referenced project. You must be given a copy of the written respiratory protection manual issued by your employer. You must be equipped at no cost with the respirator to be used on the above project.

**TRAINING COURSE:** You must have been trained at a course the equivalent in curriculum and training method to the 16-hour Operations and Maintenance course developed by EPA for maintenance and custodial workers who conduct activities that will result in the disturbance of ACM. [40 CFR 763.92(a)(2)]. This course must have included "hands-on" training in the use of respiratory protection and work practices and shall take at least 16 hours.

**MEDICAL EXAMINATION:** You must have had a medical examination within the past 12 months at no cost to you. This examination must have included: health history, pulmonary function tests and may have included an evaluation of a chest x-ray.

By signing this document you are acknowledging only that the Owner of the building you are about to work in has advised you of your rights to training and protection relative to your employer.

Signature	Certification No.	Printed Name	Witness

**INITIAL EXPOSURE ASSESSMENT (PREVIOUS EXPERIENCE)**

Project No.	Project Name	Date	Facility	Work Area(s)	Reference Job	Description of Work
<b>Asbestos Containing Materials</b>				<b>Asbestos/Type Percentage</b>		
Task	Personal High	Monitoring Low	Level Average	Respirator Worn	Comments	
Prep / Set up						
Removal of Surface Trt						
Removal of TSI						
Removal of Misc Mat.						
Bag Out						
Clean Up						
Other						
Experience Level of Work Force						
Project No.	Project Name	Date	Facility	Work Area(s)	Reference Job	Description of Work
<b>Asbestos Containing Materials</b>				<b>Asbestos/Type Percentage</b>		
Task	Personal High	Monitoring Low	Level Average	Respirator Worn	Comments	
Prep / Set up						
Removal of Surface Trt						
Removal of TSI						
Removal of Misc Mat.						
Bag Out						
Clean Up						
Other						
Experience Level of Work Force						
Signature	Certification No.	Printed Name			Witness	

**INITIAL EXPOSURE ASSESSMENT (ANTICIPATION)**

Expected Conditions of this Job			
Asbestos Containing Materials		Asbestos/Type Percentage	
Task	Anticipated Level (f/cc)	Respirator Worn	Comments
Prep / Set up			
Removal of Surface Trt			
Removal of TSI			
Removal of Misc Mat.			
Bag Out			
Clean Up			
Other			
Experience Level of Work Force			
Signature	Certification No.	Printed Name	Witness

**CERTIFICATION OF VISUAL INSPECTION(S)**

Building	Work Area/Containment	Material(s)	Quantity(ies)	Full/Mini/ Regulated Area

**Asbestos Abatement Contractor Certification**

In accordance with local, state, federal regulations, and the Asbestos Abatement Summary of Work, the Asbestos Abatement Contractor hereby certifies that he or she has visually inspected the Work Area (all surfaces including pipes, beams, ledges, walls, ceiling and floor, Decontamination Unit(s), sheet plastic, etc.) and has found no dust, debris or residue.

Asbestos Abatement Contractor Signature	Date/Time	Certification No.	Printed Name	Title	Pass	Fail
Final Visual Inspection						

**Air Monitoring Specialist/Asbestos Project Manager Certification**

The Air Monitoring Specialist/Asbestos Project Manager hereby certifies that he or she has accompanied the Asbestos Abatement Contractor on this visual inspection and verifies that these visual inspection(s), as indicated, have been thorough where visible/accessible, and to the best of his or her knowledge and belief, the Asbestos Abatement Contractor's Certification above, as indicated and where applicable, is a true and honest one.

Air Monitoring Specialist/Asbestos Project Manager Signature	Date/Time	Certification No.	Printed Name	Title	Pass	Fail
Final Visual Inspection						

**Comments:**

**Designer/Project Administrator Certification**

The Designer/Project Administrator hereby certifies that he or she has reviewed the Asbestos Abatement Contractor, Air Monitoring Specialist/Asbestos Project Manager Certification on completion of this final visual inspection and believes that this final visual inspection has been thorough where visible/accessible, and to the best of his or her knowledge and belief, the Asbestos Abatement Contractor's and Air Monitoring Specialist's/Asbestos Project Manager's Certification's above are true and honest ones.

Designer Signature	Date/Time	Certification No.	Printed Name	Title
Project Administrator Signature	Date/Time	Certification No.	Printed Name	Title



**CERTIFICATION OF PRE-ABATEMENT VISUAL INSPECTION(S)**

Building	Work Area/Containment	Material(s)	Quantity(ies)	Full/Mini/ Regulated Area

**Asbestos Abatement Contractor Certification**

In accordance with local, state, federal regulations, and the Asbestos Abatement Summary of Work, the Asbestos Abatement Contractor hereby certifies that he or she has properly prepared and has visually inspected the Work Area (all posting of permits and certifications, installation and proper operation or implementation of all work practices, decontamination units, waste load out areas, pre-cleaning of surfaces, manometers, disposal containers, integrity of enclosures, water, surfactants, equipment, materials, protective clothing, respiratory protection, etc.) and that the Asbestos Abatement Contractor is ready to proceed with active abatement.

Asbestos Abatement Contractor Signature	Date/Time	Certification No.	Printed Name	Title	Pass/Fail
<b>Final</b>					

**Air Monitoring Specialist/Asbestos Project Manager Certification**

The Air Monitoring Specialist/Asbestos Project Manager hereby certifies that he or she has accompanied the Asbestos Abatement Contractor on this visual inspection and verifies that this visual inspection has been thorough where visible/accessible, and to the best of his or her knowledge and belief, the Asbestos Abatement Contractor's Certification above is a true and honest one.

Air Monitoring Specialist/Asbestos Project Manager Signature	Date/Time	Certification No.	Printed Name	Title	Pass/Fail
<b>Final</b>					

**Comments:**

**Designer/Project Administrator Certification**

The Designer/Project Administrator hereby certifies that he or she has reviewed the Asbestos Abatement Contractor, Air Monitoring Specialist/Asbestos Project Manager Certification on completion of this final visual inspection and believes that this final visual inspection has been thorough where visible/accessible, and to the best of his or her knowledge and belief, the Asbestos Abatement Contractor's and Air Monitoring Specialist's/Asbestos Project Manager's Certification's above are true and honest ones.

Designer Signature	Date/Time	Certification No.	Printed Name	Title
Project Administrator Signature	Date/Time	Certification No.	Printed Name	Title



Colorado Department  
of Public Health  
and Environment

## ASBESTOS CONSULTING FIRM

This certifies that

**Herron Enterprises USA, Inc.**

Registration No.: ACF - 14976

has met the registration requirements of 25-7-507, C.R.S. and the Air Quality Control Commission Regulation No. 8, Part B, and is hereby authorized to perform asbestos consulting activities as required under Regulation No 8, Part B, in the state of Colorado.

Issued: January 22, 2018

Expires: January 30, 2019



Authorized APCD Representative

SEAL



1775 West 55<sup>th</sup> Avenue  
Denver, CO 80221  
303.410.4941  
trainingchc.com



### Certificate of Completion

presented to

Billie Herron-Lusk

2650

*in recognition of satisfactory completion of an EPA Approved Asbestos Hazard Emergency Response Act refresher course of instruction under Section 206 of the Toxic Substance Control Act (TSCA) and Colorado Regulation No. 8 entitled*

### AHERA Project Designer Training

Course Date September 21, 2017  
Certificate No. R17-1677-APD-CO  
No. of Hours 8  
Expiration Date September 21, 2018

Certification not valid without watermark

Mike Benedetto - Instructor

Danaya Benedetto- Training Program Manager

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Colorado Department  
of Public Health  
and Environment

## ASBESTOS CERTIFICATION\*

This certifies that

**Billie J. Herron-Lusk**

**Certification No.: 2650**

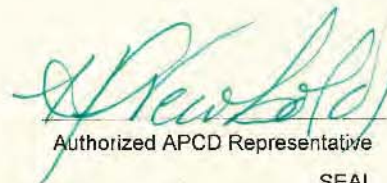
has met the requirements of 25-7-507, C.R.S. and Air Quality Control  
Commission Regulation No. 8, Part B, and is hereby certified by the  
state of Colorado in the following discipline:

**Project Designer\***

**Issued: October 26, 2017**

**Expires: November 27, 2018**

*\* This certificate is valid only with the possession of a  
current Division-approved training course certification  
in the discipline specified above.*

  
Authorized APCD Representative

SEAL



August 23, 2017

**Laboratory Code:** RES  
**Subcontract Number:** NA  
**Laboratory Report:** RES 387399-1  
**Project # / PO #:** 0421178  
**Project Description:** None Given

Herron Enterprises USA Inc.  
7261 W. Hampden Ave.  
Lakewood CO 80227

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the American Industrial Hygiene Association, Lab ID 101533 - Accreditation Certificate #480. The laboratory is currently proficient in both IHPAT & ELPAT programs respectively.

Reservoirs has analyzed the following sample(s) using Atomic Absorption Spectroscopy (AAS) / Atomic Emission Spectroscopy - Mass Spectrometry (ICP-MS) per your request. Reported sample results were not blank corrected. The analysis has been completed in general accordance with the appropriate methodology as stated in the analysis table. Results have been sent to your office.

**RES 387399-1** is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those authorized by the client. The results described in this report only apply to the samples analyzed. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you should have any questions about this report, please feel free to call me at 303-964-1986.

Sincerely,

A handwritten signature in blue ink that reads "Jeanne Spencer".

Jeanne Spencer  
President

## RESERVOIRS ENVIRONMENTAL, INC.

**5801 Logan St., Suite 100  
Denver CO 80216**

**TABLE ANALYSIS: LEAD VIA TCLP EXTRACTION**

RES Job Number: **RES 387399-1**  
 Client: **Herron Enterprises USA Inc.**  
 Client Project Number / P.O.: **0421178**  
 Client Project Description: **None Given**  
 Date Samples Received: **August 16, 2017**  
 Analysis Type: **USEPA SW846 1311 / 3010A / AA (7420)**  
 Turnaround: **10 Day**  
 Date Samples Analyzed: **August 22, 2017**

Client ID Number	Lab ID Number	Reporting Limit (mg/L)	LEAD CONCENTRATION (mg/L)
<b>081517-1A, 081517-2A, 081517-3A</b>	EM 1921814, 1921815 &	0.0050	BRL

**\* Unless otherwise noted all quality control samples performed within specifications established by the laboratory.**



David E. Monagle

Analyst / Data QA: \_\_\_\_\_

BRL = Below Reporting Limit

Due Date: 08/30/17  
 Due Time: \_\_\_\_\_



**REILAB Reservoirs Environmental, Inc.**  
 5801 Logan St. Denver, CO 80216 • Ph: 303 964-1986 • Fax: 303-477-4275 • Toll Free: 866 RES-ENV  
 Pager : 303-609-2098

RES 387399

INVOICE TO: (IF DIFFERENT) **CONTACT INFORMATION ...**

Company: <b>HERRON Enterprises USA, Inc.</b>	Company: <b>Same</b>
Address: <b>7261 W. Hampden Ave. Lakewood, CO 80227</b>	Address: _____
Project Number and/or P.O. #: <u>0421178</u>	Project Number and/or P.O. #: _____
Project Description/Location: _____	Project Description/Location: _____
Contact: _____	Contact: _____
Phone: <b>(303) 763-9639</b>	Phone: _____
Fax: _____	Fax: _____
Cell/pager: _____	Cell/pager: _____
Final Data Deliverable Email Address: <b>HERRON-Enterprises@comcast.net</b>	Final Data Deliverable Email Address: _____

Client sample ID number (Sample ID's must be unique)	REQUESTED ANALYSIS		VALID MATRIX CODES		LAB NOTES:								
	PLM - Short report, Long report, Point Count	TEM - AHERA Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-vec, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable		METALS - Analyte(s) RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - METH	MICROBIOLOGY	SAMPLER'S INITIALS OR OTHER NOTES	Sample Volume (L) / Area	Matrix Code	Date Collected mm/dd/yy	Time Collected hh/mm a/p
1													192184 S ce
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													

Number of samples received: 3 (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: <u>[Signature]</u>	Date/Time: <u>08/30/17</u>	Carrier: <u>hand</u>	Sealed	Intact
Received By: <u>[Signature]</u>	Date/Time: <u>9:30 am 8/30/17</u>	Carrier: <u>hand</u>	Yes / No	Yes / No
Results: _____	Date _____	Time _____	Temp. (F°) _____	On Ice _____
Contact: _____	Phone _____	Email _____	Fax _____	Time _____
Contact: _____	Phone _____	Email _____	Fax _____	Time _____

ATTACHMENT B  
RESOLUTION NO. 2016-25

A RESOLUTION CONCERNING RULES AND REGULATIONS FOR BOULDER COUNTY PARKS AND OPEN SPACE AREAS (Superseding Resolution No. 2011-59).

WHEREAS the Board of County Commissioners (“Board”) is empowered by § 29-7-101(2), C.R.S. and § 30-15-401, C.R.S., as amended, to adopt rules and regulations pertaining to Boulder County Parks and Open Space areas; and

WHEREAS, Boulder County, through the Board, has elected to adopt such Rules and Regulations; and

WHEREAS, these Rules and Regulations are for the sole purpose of managing and protecting property which Boulder County owns, leases or otherwise manages as Parks and Open Space areas and will be enforced in accordance with established resources and operating procedures; and

WHEREAS, enactment of these Rules and Regulations constitutes neither a waiver of governmental immunity pursuant to §§ 24-10-101, et seq., C.R.S., as amended, nor the assumption of any duties of care to any person.

NOW, THEREFORE, BE IT RESOLVED that the prior Resolutions listed above concerning Rules and Regulations governing County Parks and Open Space areas are superseded by the following:

**1. Resource Protection**

- (a) It shall be unlawful for any unauthorized person to remove, move, destroy, mutilate, collect or deface any natural or man-made object within any County Parks and Open Space area, including, but not limited to: trees, down timber or branches, shrubbery, plants, flowers, rocks, fences, signs, kiosks, restrooms, tables, benches, cultural resources and trash containers.
- (b) It shall be unlawful to install or replace rock bolts, plant vegetation of any type or any other type of landscape material, or establish or construct trails or other facilities for public or private use without the written permission from the Director of the Boulder County Parks and Open Space Department (“Director”).

**2. Wildlife**

- (a) It shall be unlawful for any person to feed, hunt, pursue, trap, molest, disturb, or kill any wildlife, or for any person to allow any domestic animal to do the same, at any time within any County Parks and Open Space area, except where and when such activities are permitted by action of the Board or by written permission from the Director and except as provided for in Rule 3 below. This provision shall not apply to any county, state or federal government personnel authorized by the Board to carry out a wildlife management program through law or County-approved rules and regulations.
- (b) It shall be unlawful for any unauthorized person to relocate or release any animal within County Parks and Open Space areas.



### 3. Fishing Regulations

Fishing is permitted in accordance with the Colorado Wildlife Commission's land and water regulations, except in Open Space areas designated and posted with special County Parks and Open Space regulations. Ice fishing is prohibited on all County Parks and Open Space areas, unless the area is specifically posted to allow ice fishing. It shall be unlawful to violate special fishing regulations posted within any County Parks and Open Space area. Rules and Regulations, fees and special permit requirements shall be determined by the Board and posted at affected County Parks and Open Space areas. The Board and the Director may modify these regulations or create new ones when deemed necessary for repairs, wildlife, vegetation and/or public safety concerns. The Director, within two days of modifying or creating any regulations under this Paragraph, sends notification to the Board of such action. The Board may, at a regularly scheduled business meeting, rescind or modify the decision by the Director. Only that portion of any decision by the Director that is specifically approved by the Board shall continue to be effective.

Unless otherwise posted or provided in these rules and regulations, float tubes, as defined under the boating regulations below, shall be permitted in conjunction with fishing wherever fishing is permitted within County Parks and Open Space areas.

It shall be unlawful to use seines, cast nets, and/or live traps on any body of water within County Parks or Open Space areas.

#### (a) Walden Ponds Wildlife Habitat:

- i. Fishing in Wally Toevs Pond shall be limited to senior citizens (age 64 and over) and their companions aged 15 years or younger and anglers with disabilities and their companions.
- ii. it shall be unlawful to exceed the posted creel limit.
- iii. All other ponds at Walden Ponds Wildlife Habitat are designated as catch and release fishing for largemouth and smallmouth bass. At these ponds anglers must use terminal tackle, such as flies and lures. Creel limits for all species other than largemouth and smallmouth bass must adhere to Colorado Parks and Wildlife Commission regulations.
- iv. Fishing is prohibited on Cottonwood Marsh Lake.
- v. All vessels and float tubes are prohibited.

#### (b) Cattail Ponds at the Boulder County Fairgrounds:

- i. All vessels and float tubes are prohibited.
- ii. Fishing is limited to people under 16 years of age.

#### (c) Lagerman Reservoir:

- i. Vessels at Lagerman Reservoir are limited to non-motorized vessels and motorized vessels with electric motors or gasoline motors of 7.5 horsepower or less.

- ii. Vessels are restricted to wakeless speeds (less than five miles per hour).
- iii. All largemouth and smallmouth bass possessed must be 15 inches or greater in length. All tiger muskie possessed must be 36 inches or greater in length and the creel limit is one. The creel limits for all species shall adhere to the Colorado Wildlife Commission regulations (creel limit for largemouth and smallmouth bass is 5 each).

(d) Stearns Lake at Carolyn Holmberg Preserve/Rock Creek Farm:

- i. All largemouth and smallmouth bass possessed must be 15 inches or greater in length. All tiger muskie possessed must be 36 inches or greater in length and the creel limit shall be one. The creel limits for all species shall adhere to the Colorado Wildlife Commission regulations (creel limit for largemouth and smallmouth bass is 5 each).
- ii. All vessels and float tubes are prohibited.

(e) Pella Crossing:

- i. All Ponds at Pella Crossing are designated as catch and release fishing for largemouth and smallmouth bass. Anglers must use terminal tackle, such as flies and lures. Creel limits for all species other than largemouth and smallmouth bass must adhere to the Colorado Wildlife Commission regulations.
- ii. Fishing is prohibited on Webster Pond.
- iii. Non-motorized, portable vessels are allowed on Sunset, Heron, Dragonfly, Poplar and Clearwater Lakes. Such use is allowed only for the purpose of fishing.

(f) Twin Lakes:

- i. All vessels and float tubes are prohibited.

(h) Mud Lake:

- i. All vessels and float tubes are prohibited.

#### **4. Projectiles, Weapons and Explosives**

It shall be unlawful to carry or discharge on or into any County Parks and Open Space area, firearms (concealed or otherwise), projectile weapons or explosives of any kind including but not limited to fireworks, BB guns, pellet guns, rockets, air guns, paint ball guns, blow guns, crossbows, longbows and slingshots, except as expressly mandated by Article 12 of Title 18 of the Colorado Revised Statutes, as amended; peace officers on official duty and County Park Rangers engaged in official wildlife management operations are excepted, as are residential tenants of the County within their living quarters and events under lease at the Boulder County Fairgrounds. Exceptions may be permitted only with written permission from the Board or the Director.

#### **5. Domestic Animals/Livestock**

(a) Any dog or other domestic animal within a County Parks and Open Space area shall be restrained by a leash, cord, rope or chain and under physical control of a person, except as otherwise provided for in this paragraph or posted with approval from the Board. Any owner/keeper accompanying a dog in an off-leash area must have the ability to restrain his or her dog when requested by POS staff.

- (b) It shall be unlawful for any owner/keeper to allow his or her domestic animals within a County Parks and Open Space area to engage in disorderly conduct or any activity which interferes with the health, safety or welfare of users, livestock, other domestic animals or neighbors in the area, or which creates a nuisance, including unwanted physical contact or threatening behavior, with any user, domestic animal or livestock.
- (c) The Director may adopt dog restrictions on specific trails, parks or open space areas that require any person who brings a dog into a County Parks and Open Space area to pick up, carry out, and dispose of that dog's excrement.
- (d) Dogs may be prohibited on specific County Parks and Open Space areas by action of the Board.
- (e) Horses must be under the physical control of a person at all County Parks and Open Space areas except at the exhibitor and spectator areas at the Boulder County Fairgrounds and those permitted under a written grazing lease from Boulder County.
- (f) Domestic animals or livestock may be tied by a lead or rope sufficient to restrain the animals, but shall neither be left tied and unattended, nor tied in any manner which damages vegetation or structures, or which interferes with or disturbs the public's use of established trails, picnic areas or campsites.
- (g) All feed provided to livestock while on County Parks and Open Space trails and trailheads must be free of weeds and weed seeds. Livestock grazing is allowed only by lease or written permission from the Director or the Board.
- (h) Exceptions to this Rule are permitted for the use of a dog as a service animal so long as such use is in all respects in compliance with the regulations in 28 CFR § 35.136. A service animal must be individually trained to do work or perform tasks for the benefit of its handler's disability. Provision of emotional support, well-being, comfort, or companionship do not qualify as "work" or "tasks" which may be provided by a service animal.
- (i) It shall be unlawful to confine any animal in a motor vehicle in such a manner that places in a life or health threatening situation by exposure to a prolonged period of extreme heat or cold, without proper ventilation, or other protection from such heat or cold.

## **6. Camping**

Camping is not permitted on County Parks and Open Space areas except in designated areas at the Boulder County Fairgrounds.

## **7. Fire**

- (a) Campfires are unlawful. Charcoal fires may be built only in established picnic and camping areas, and then only in grills and fireplaces provided by the Department or in personal grills or stoves. All charcoal fires must be built in a safe manner and attended at all times. All charcoal fires must be properly extinguished and left in the provided grills. Exceptions may be granted

only with written permission from the Board or the Director.

- (b) Fires may be prohibited entirely by order of the Board, the Boulder County Sheriff or the Director by the posting of special notices or public notification through the press.

## **8. Bicycles**

No person shall ride a bicycle or unicycle within any County Parks and Open Space area except on trails where such use is designated and at the Boulder County Fairgrounds. Unless otherwise stated the definition of bicycle shall include: all human powered wheeled vehicles. Strollers and wheelchairs are exempted from this definition.

## **9. Vehicles**

- (a) No person shall operate a motor vehicle, including a car, truck, motorcycle, minibike, snowmobile, four-wheel drive or other recreational vehicle, within any County Parks and Open Space area, unless the area is specifically designated and posted to permit the operation of such vehicle in that area. County and emergency vehicles on official business are excepted from this Rule. For exceptions related to disabled access refer to Rule 9(b).
- (b) Individuals with mobility disabilities are permitted to use wheelchairs and/or manually- powered mobility aids on any trail open to pedestrian use so long as they are used in a manner that is safe for the user. Individuals with mobility disabilities may use other power-driven mobility devices (“OPDMDs”) on all trails open for pedestrian use unless a particular trail has been designated as being unsafe for use by OPDMDs based upon the assessment factors found in 28 CFR § 35.137(b)(2). A current list of trails that have been designated as being unsafe for use of OPDMDs shall be kept on the Boulder County Parks and Open Space web site. County personnel who have been granted authority for enforcement of these Rules and Regulations pursuant to Rule 28 shall have the discretion to temporarily designate additional trail segments or other facilities on County Parks and Open Space areas as inappropriate for use of certain classes of OPDMDs based upon current conditions that may affect the safety of the OPDMD user or other members of the public and/or harm to the immediate environment or natural or cultural resources, such as weather, trail conditions, and volume of pedestrian traffic. Use of OPDMDs within any Parks and Open Space area must be in a safe manner and is at the risk of the user. OPDMDs may not be used off trail in any Parks and Open Space area.
- (c) Vehicles must be parked only in designated areas, and/or in compliance with all posted parking signs.
- (d) Vehicles may not be left parked and unattended at any time from sunset to sunrise except with permission from the Director.
- (e) Only persons with a disability may park in spaces designated for persons with disabilities. A license plate or placard obtained pursuant to § 42-3-121, C.R.S, as amended, or otherwise authorized by § 42-4-1208 (4), C.R.S., as amended, shall be displayed at all times while vehicle is parked in such a space.
- (f) It shall be unlawful to park in a manner that impedes the safe flow of traffic.

## **10. Advertising and Signs Prohibited**

Posting of signs, advertisements and flyers or placement of brochures on Boulder County Parks and Open Space areas or on vehicles within parking facilities is prohibited without permission from the Department.

## **11. Swimming and Skating**

It shall be unlawful to swim, dive, ice skate, walk on ice, use any floatation device not designed for fishing, in or on any lake, pond or stream within any County Parks and Open Space area, unless the area is specifically posted to allow such activity.

## **12. Littering/Dumping**

- (a) It shall be unlawful to deposit or dispose of trash, garbage, rubbish, litter, debris, or other objects within any park or open space area, except that which is generated by legal activities conducted within the County Parks and Open Space area. Trash and debris legally generated within any County Parks and Open Space area must be removed or deposited in a designated trash receptacle.
- (b) It shall be unlawful to clean vehicles / livestock trailers out onto Boulder County Parks and Open Space areas, including the Boulder County Fairgrounds.
- (c) Under no circumstance may hazardous materials be deposited within County Parks and Open Space areas.

## **13. Glass Containers**

It shall be unlawful for any person to carry or possess, outside of an enclosed vehicle, any glass bottle or other glass container within any County Parks and Open Space area, except as might be required for prescribed medical treatment or for food preparation in the concession areas or campground at the Boulder County Fairgrounds. Exceptions are also made for specific events under lease at the Boulder County Fairgrounds. Further exceptions are permitted only by obtaining written permission from the Director or the Board.

## **14. Smoking**

Smoking is prohibited within any County Parks and Open Space area.

## **15. Marijuana**

It shall be unlawful to consume marijuana or any marijuana derivative within any County Parks and Open Space area.

## **16. Alcoholic Beverages**

It shall be unlawful to consume, possess or serve alcoholic beverages, except for fermented malt beverages containing not more than 3.2% alcohol by weight, within any County Parks and Open Space area, except that qualified non-profit organizations contracting for use of facilities at the Boulder County Fairgrounds and desiring to serve alcoholic beverages may apply for a Special Events Permit issued through the Board. Vendors at the Boulder County Farmers' Market may

conduct tastings at the Fairgrounds without a Special Events Permit if in compliance with the Fairgrounds Policy Manual and the lease from Boulder County to the Farmers' Market. Alcoholic beverages may be prohibited on specific County Parks and Open Space areas by action of the Board.

### **17. Hours**

County Parks and Open Space areas shall be open for daytime use only, between the hours of sunrise and sunset, with the exception of the trail corridors for the Longmont-to-Boulder (Lobo) Lobo Trail, Coalton Trail, Coal Creek Trail, Rock Creek Trail, Meadowlark Trail, and Mayhoffer-Singletree Trail, which trail corridors and neighborhood connecting spurs shall be open 24 hours per day. Further exceptions are permitted only by obtaining written permission from the Director or the Board.

### **18. Research Projects**

All research projects to be conducted within any park or open space area must be reviewed and written authorization granted in advance from the Department.

### **19. Commercial Activity**

It shall be unlawful for any person, acting individually or on behalf of a business or organization, to use any County Parks and Open Space area for any commercial purpose (such as races or events; filming movies or commercials; guiding service; equipment demonstrations; riding activities of a commercial horse stable, riding school, or livery). Individuals engaging in still camera photography are exempt as are nonprofit tax exempt entities.

### **20. Special Use Permits**

Special use permits are required for any group of 25 or more. Requests must include the group affiliation, dates and time of use, trails or areas to be used and other details of the use. If, in the opinion of the Board or the Director, the activity will cause significant impact to the natural environment or will require significant Departmental resources, the County may prescribe a fee that includes the costs expected to be incurred by the Department, or deny permission for the activity.

### **21. Disorderly Conduct**

It shall be unlawful for any person to engage in disorderly conduct or any activity within a County Park and Open Space area which interferes with the health, safety and welfare of users or neighbors in the area, or which creates a nuisance (including amplified sound). Exception from the ban on amplified sound is made for leased events at the Boulder County Fairgrounds.

### **22. Trail Use**

- (a) It shall be unlawful for any trail user to fail to yield to other trail users in the manner defined herein or as otherwise posted at trailheads. The appropriate order for yielding the trail right-of-way is as follows: All users yield to equestrians, bicyclists yield to pedestrians, and bicyclists headed downhill yield to bicyclists headed uphill. Yielding the right-of way requires slowing down to a safe speed, being prepared to stop, establishing communication, and passing safely.
- (b) The Board may, by resolution, adopt use restrictions on specific trails or park or open space areas when such restrictions are necessary for resource protection or safety related issues.

Such restrictions shall be posted at the trailheads.

### **23. Closures**

- (a) County Parks and Open Space areas being managed for agricultural purposes, whether by the Department or a lessee, are closed to the public unless trails and other related facilities are otherwise designated by the Board. It shall be unlawful for any unauthorized person to enter such closed areas.
- (b) The Department may close County Parks and Open Space areas to the public and/or to certain animals as necessary or desirable due to wildlife, vegetation, management review, contractual agreement, public safety concerns and/or other resource protection needs. The Director may designate an area closed, temporarily, for a period not to exceed two weeks, and within 2 business days of making such a decision, shall send notification of the closure to the Board, who may designate such closures as temporary, permanent or indefinite. The Board may also designate an area as closed temporarily, permanently, or for an indefinite period of time. The Board may, at a regularly scheduled business meeting, rescind or modify the decision by the Director. It shall be unlawful for any unauthorized person to enter areas that are closed. All closures, whether temporary, permanent, or indefinite, and whether by the Board or by the Director, shall be designated.
- (c) Operators of remote-controlled gliders may apply to the Director or the Board for permission to retrieve gliders that may land on the Lindsay Open Space Property.

### **24. Other Prohibited Activities**

- (a) Other prohibited activities include: polluting land, water or air, golfing, hangliding, paragliding, parapenting, parachuting, parasailing, the use of remote-controlled land, water or air-borne devices, mountain skateboards, mountain ski-bikes, off-road roller blades, and similar devices unless the activity is permitted in a lease at the Boulder County Fairgrounds.
- (b) Except for emergency landings, it shall be unlawful to take off, operate, or land with any motorized or non-motorized aircraft within park and open space areas; aircraft includes but is not limited to: airplanes, helicopters, ultralights, gliders/sailplanes, unmanned aircraft systems (i.e. drones) and hot-air balloons except as permitted by current Boulder County Parks and Open Space policies for unmanned aircraft systems or the conditions of a lease at the Boulder County Fairgrounds.
- (c) Special regulations may apply to buildings open to the public on County Parks and Open Space areas. These regulations shall be approved by the Board. Such regulations will be posted on site.

### **25. Regulatory Signs**

It shall be unlawful to violate any official rule or regulation posted on a sign.

### **26. Fairgrounds Campground**

It shall be unlawful to violate the following rules and regulations for the Boulder County Fairgrounds.

- (a) Length of stay at the campground is not to exceed a total of fourteen days within a given calendar year. Site must be occupied during stay. Extensions are permitted only by obtaining written permission from the Fairgrounds Manager.
- (b) Checkout time for those staying at the campground is 10:00 a.m. the morning following a paid night's stay.
- (c) Quiet hours at the campground will be between the hours of 9:00 p.m. and 6:00 a.m.
- (d) Discharge of gray or black water from motor homes, campers or trailers is permitted only at the designated dumpsite.
- (e) Permits for camping in designated areas must be kept current or secured in advance from the Fairgrounds staff or onsite paystation. Payment for that day must be received by 10:00 am or within one hour after arrival to the campground.
- (f) Livestock in the campground is prohibited.
- (g) Within the exhibitor and spectator areas at the Boulder County Fairgrounds, livestock must be penned or tied in the barn areas or otherwise under the physical control of a person. Livestock is defined as: "farm animals, raised for human use or profit (cattle, horses, goats, hogs, sheep, etc.)".
- (h) Campground restrooms and showers may be used by registered campers only.
- (i) It shall be unlawful to violate any rule or regulation contained in the Boulder County Fairgrounds Manual. Violations may result in a fine and/or expulsion from the campground.

## **27. Boating**

- (a) Boating is only permitted on waterways which are owned and/or managed as Boulder County Parks and Open Space areas if the waterway is specifically posted to allow boating and if in compliance with Article 13 of Title 33, C.R.S., as amended.
  - i. "Vessel" means every description of watercraft used or capable of being used as a means of transportation for persons and property on the water, other than single-chambered air-inflated devices, float tubes, or seaplanes.
  - ii. "Float tubes" means a single person inflatable watercraft designed for fishing and in which a fisherman is submerged below the water level. If the fisherman sits above the surface of the water, the watercraft shall be considered a vessel and is subject to the rules and regulations related to boating.
  - iii. "Portable vessels" means non-motorized car top boats that can be lifted onto and taken from the top of a passenger vehicle such as kayaks, stand-up paddleboards, surfboards, and canoes.



- (b) Any vessel powered by the wind such as sailboats and sailboards are specifically prohibited on all Boulder County Parks and Open Space waters
- (c) Motorized vessels are prohibited on all Boulder County Parks and Open Space waters, with the exception of Lagerman Reservoir, which allows motorized vessels with electric or gasoline powered motors of 8 horsepower or less. Any motorized vessel with a motor larger than 8 horsepower shall have that motor's propeller lifted out of the water at all times.

### **28. Interference**

It shall be unlawful to interfere or attempt to interfere with any Boulder County Park Ranger or other Open Space employee who is acting in the performance of his or her duties on Open Space lands or waters or to give false or misleading information with the intent to mislead said person in the performance of his or her duties.

### **29. Exceptions to the Rules and Regulations**

Exceptions to these Rules and Regulations as amended, re-enacted, or re-adopted, may be granted by the Board or the Director for activities that involve the management of County Parks and Open Space areas, provided these activities are undertaken or overseen by Department staff.

### **30. Enforcement**

Pursuant to §§ 29-7-101(2) and (3) and § 30-15-401, C.R.S. et seq., as amended, it is the duty of the Boulder County Sheriff and the Sheriff's deputies to enforce any and all of the Rules and Regulations adopted for County Parks and Open Space areas. To the extent that the Board may find it desirable to vest specific enforcement authority in designated County personnel, those individuals so vested shall also have the authority and responsibility to enforce regulations adopted for County Parks and Open Space areas. Any person who violates any of these Rules and Regulations may be expelled from County Parks and Open Space areas.

### **31. Interpretation of Rules and Regulations**

- (a). It is hereby declared to be the legislative intent that the provisions of this Resolution shall be separable, in accordance with the provisions set forth as follows: If any provision of this Resolution is ruled to be invalid by any court of competent jurisdiction:
  - i. The effect of such judgment shall be limited to that specific provision or provisions which are expressly stated in the judgment to be invalid; and
  - ii. Such judgment shall not affect, impair or nullify the validity of application of this Resolution as a whole or any other part thereof, but the rest of this Resolution shall continue in full force and effect.
- (b) The enactment of this Resolution or any amendment thereto shall not be construed as abating any action now pending under or by virtue of prior provisions, or discontinuing, abating, modifying or altering any penalty accruing or about to accrue, or as affecting the liability of any person, or as waiving any right of the County under any provision existing prior to the adoption of this Resolution, or as vacating or annulling any rights obtained by any person by lawful action of the County except as shall be expressly provided for in this Resolution.

### **32. Penalties**

Violation of any Rule or Regulation above shall be a Class 2 Petty Offense as provided for in § 29-7-101(2) and § 30-15-402, C.R.S., as amended, and punishable by fine or as otherwise provided by law.

- (a) Any person having the authority and responsibility to enforce these Rules and Regulations and having knowledge of any violation of the Rules and Regulations stated herein may issue a Citation or Summons and Complaint to the violator or, as set forth in Rule 32(b) herein, to a vehicle, stating the nature of the violation with sufficient particularity to give notice of said charge to the violator.
  
- (b) Any person having the authority and responsibility to enforce the Rules and Regulations for County Park and Open Space areas and having knowledge of any violation of the Rules and Regulations stated herein may use the Penalty Assessment Procedure defined under § 16-2-201 C.R.S., as amended, by issuing the violator a penalty assessment notice and releasing the violator upon its terms or, as the law allows, by taking the violator before a county court judge. The penalty assessment notice shall be a Summons and Complaint and shall contain the identification of the offender, the specification of the offense, and the applicable fine. As provided in § 16-2-201(1.5), C.R.S., as amended, a penalty assessment notice may be placed on an unattended vehicle that is parked in apparent violation of any County regulation. A penalty assessment notice placed on a vehicle shall contain the license plate number and state of registration of the vehicle in lieu of the identification of the offender.
  
- (c) When the Penalty Assessment Procedure is used, the following schedule of fines shall be used with exception for parking and weapons, hunting and fire related violations as noted below:
  - Regulations assessments:
    - First Offense \$75
    - Second Offense \$150
    - Third Offense \$300
    - Subsequent Offenses \$300 or maximum allowable by law
  - Weapons, hunting, interference, and fire related assessments:
    - First offense \$300
    - Subsequent Offenses \$300 or the maximum allowable by law
  - Closures, disorderly conduct, resource protection and vehicles 9(a):
    - First Offense \$150
    - Subsequent Offenses \$300 or the maximum allowable by law
  - Parking assessments for violation of 9(c):
    - First Offense \$25
    - Second Offense \$50
    - Third Offense \$75
    - Fourth Offense \$100
    - Subsequent Offenses \$300 or maximum allowable by law
  - Parking assessments for violation of 9 (d): \$50
  - Parking assessments for violation of 9 (e): \$100

The Department shall make available for inspection to the public, a current copy of the existing rules and regulations relating to County Parks and Open Space areas.

BE IT further RESOLVED that any prior resolutions setting forth Rules and Regulations for County Parks and Open Space areas, which are inconsistent herewith, are hereby expressly repealed.

A motion to adopt this Resolution was made by Commissioner **Domenico**  
seconded by Commissioner **Gardner** and adopted by a **3 - 0** vote.


ADOPTED this **15** day of **March**, 2016


BOARD OF COUNTY COMMISSIONERS OF  
BOULDER COUNTY



ATTEST:

  
Cheryl G. Lacey  
Clerk to the Board

  
Elise Jones, Chair

  
Cindy Domenico, Vice-Chair

  
Deb Gardner, Commissioner

## Destiny M. Herron

---

**From:** Destiny M. Herron <HERRONAdmin@comcast.net> on behalf of Billie-Lusk@comcast.net  
**Sent:** Tuesday, May 22, 2018 8:08 AM  
**To:** 'Michael Lohr'; 'Carol Beam'; 'Brian Bertin'  
**Cc:** 'Allen Gallogly'; 'David W. Starks'; 'L. P. (Lennie) Herron'; 'Christy Herron'; 'Billie J. Herron'; Destiny M. Herron  
**Subject:** 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
**Attachments:** 0421178, Tumbleson House, Pre-Submittal Checklist, Boulder County, Michael Lohr, 05.16.18.pdf

### Designer Response

Field Clarification –

1. As renovation direction may change on a daily basis, Designer Responses are given as field directives with client authorization, as they occur which may or may not be commented on outside of daily reports. Any daily report comments are considered incorporated to the Field Clarifications/Addenda (Summary of Work/Project Design), without further Designer response –
  - a. Information through May 16, 2018:
    - 1) Contractor Submittals. In accordance with the specifications;
      1. Completed the submittal review of all submittals received through 01/29/18. Remaining Submittal Review Comments will be forwarded under a separate cover.
      2. Submittals received to date;
        - a. RECEIVED Through 05/16/18 –
          - 1) Two (2) email(s) of submittal(s);
      3. Attached: 0421178, Tumbleson House, Pre-Submittal Checklist, Boulder County, Michael Lohr, 05.16.18
    - 2) Should Employee Certification expire and not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.
    - 3) The GAC is to include the Designer on “any” modifications to the permit. Any schedule changes are considered incorporated to the Field Clarification without further Designer response.
2. Note:
  - a. Refer to Project Memo(s).
  - b. All observations stated in this report are based on facts and circumstances as they existed during the time of the observations, and during the time period of this report preparation and as available within the limits of the mutually agreed upon Scope of Work, budget, and schedule. The observations in this report is not intended to be exhaustive in scope, and is considered an ongoing working document. HERRON™ reserves the right to modify the contents of this document, as necessary.
  - c. As agreed, daily conversations are occurring, and daily reports will be on site for employee review. Hard copy will not be mailed as this correspondence constitutes delivery of the specified documents.
  - d. Refer to Project Definitions below.

Please advise within an RFI if you have any questions.

Thanks in advance,

Billie J. Herron

Project Manager  
HERRON™ Enterprises USA, Inc.  
7261 W. Hampden Ave., Lakewood, CO 80227-5305  
(303) 763 9639 / Fax (303) 763 9686  
Cell: (720) 339-6226  
Email: [Billie-Lusk@comcast.net](mailto:Billie-Lusk@comcast.net)  
Website: [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

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## Asbestos

1. In regards to the results, Regulation 29 CFR 1910, 1926 –

[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=standards&p\\_id=9995](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9995)  
[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_id=10862&p\\_table=standards](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=10862&p_table=standards)

A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL). In accordance with 29 CFR 1926, 1926.1101; 1926.1101(c)(1); 1926.1101(f)(1) Standard Interpretation Correct manner to interpret air sample measurements of an employee's asbestos exposure when the samples are overloaded [01/17/2006]  
[http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=INTERPRETATIONS&p\\_id=2529](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=2529)  
5;

*'...While monitoring an employee's exposure to an airborne contaminant, such as asbestos, occasionally samples are lost, damaged, overloaded, or are otherwise unusable. Analytical laboratories report such samples as "VOID," with a note of explanation. An overloaded asbestos air sample is one in which non-asbestos dust obscures some or all of the fibers on the filter and therefore makes it impossible to accurately determine the concentration of asbestos in the laboratory's microscopic analysis. Such samples should not be counted by an employer in TWA calculations of employee exposure. The use of a "zero" exposure result for such samples is inappropriate; it will underestimate the employee's true exposure. An employer has the responsibility to "accurately" determine his employee's exposure to asbestos... '.*

### 1926.1101(b) Definitions

Employee exposure means that exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

### 1926.1101(c)(2) Excursion limit

The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

### 1926.1101(c) Permissible exposure limits (PELS)

#### 1926.1101(c)(1)

Time-weighted average limit (TWA). The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air as an eight (8) hour time-weighted average (TWA), as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

#### 1926.1101(c)(2)

Excursion limit. The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

#### 1926.1101(g)(2)(v)

Wherever the feasible engineering and work practice controls described above are not sufficient to reduce employee exposure to or below the permissible exposure limit and/or excursion limit prescribed in paragraph (c) of this section, the employer shall use them to reduce employee exposure to the lowest levels attainable by these controls and shall supplement them by the use of respiratory protection that complies with the requirements of paragraph (h) of this section.

2. In regards to the results, AQCC Regulation No. 8 –

III.U.2. The Maximum Allowable Asbestos Level (MAAL)

III.U.2.a. PCM - If PCM is used as the method of analysis the standard is 0.01 fibers per cubic centimeter of air (f/cc), which is equivalent to 10,000 fibers per cubic meter of air (f/m<sup>3</sup>).

III.U.2.b. TEM - Where TEM is used as the method of analysis, the standard is 70 structures/millimeter<sup>2</sup> (s/mm<sup>2</sup>).

3. Laboratory certificates not included with this correspondence have not been received, will follow under a separate cover.
4. Legend: .8 $\mu$ , 25mm MCE Filter Cassettes, Amb = Ambient, IWA = Inside Work Area, OWA = Outside Work Area, CR = Clean/Change Room, LO = Loadout, NAM = Negative Air Exhaust, Ex = Excursion, Per = Personnel, VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read, BDL = Below Detection Limit



**HERRON™** Enterprises USA, Inc.

Hazardous Materials\* Mold\* Asbestos\* Lead Paint  
Environmental Services\* Industrial Hygienists

Phone (303) 763 9639

Fax (303) 763 9686

E-Mail Lennie.Herron@comcast.net

Website www.HERRON-Enterprises.com

7261 W. Hampden Ave., Lakewood, Colorado 80227-5303

**PROJECT MEMO**

May 16, 2018

To: Boulder County / Michael Lohr

**HERRON™ Project No.: 0421178**  
**Location: Tumbleson House at Hall Ranch Open Space, Boulder County, CO**  
**Date(s) of Submittal Receipt: 05/14/18 (1); 05/15/18 (1) – 2 Submittals**  
**Date(s) of Submittal Response: May 16, 2018**  
**Services Requested: Environmental Consultation/Asbestos Services**

**PRE ABATEMENT REVIEW - SUBMITTALS - ASBESTOS ABATEMENT**

The following is a listing of the submittals required. This is a listing of the principal submittals required for the work. This listing is not necessarily complete, nor does the listing reflect the significance of each submittal requirement. The listing is included only for the convenience of users of the Contract Documents. It is the sole responsibility of the Contractor to ensure that all submittal requirements throughout these Specifications as they pertain to this project are submitted.

SUBMITTAL CHECKLIST			Comments (✓ = Meets Requirements) ( X = Does Not Meet Requirements)	Initials
Project Design (1,000 LF, or 3,000 SF), or Plan of Action describing Contractor's Work Practices			X – Not Received	BL
Project Schedule			✓	BL
Project Directory			✓	BL
Notifications, and Notices (Police Department)			✓	BL
Notifications, and Notices (Fire Department)			✓	BL
Permits			✓	BL
GAC License			✓	BL
Historic Airborne Fiber Data (NEA)			X – Not Received	BL
AHERA Accreditation: for each worker.			*✓	BL
State and Local License: for each worker.			*✓	BL
Certificate Worker Acknowledgment: for each worker.			X – Not Received	BL
Report from Medical Examination: of each worker.			*✓	BL
Report from Respirator Fit Test Examination: of each worker.			*✓	BL
Name and address of landfill.			✓	BL
Material Safety Data Sheets (MSDS).			✓	BL
Signature	Date/Time	Certification No.	Printed Name	Title
	05/16//18 @ 1:29 PM	2650	Billie J. Herron-Lusk	Project Manager

\*At the time of review. Should Employee Certification expire and not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.

The Contractor needs to complete and forward any remaining or incomplete submittals for review.

Should you have any questions, please feel free to contact the Project Manager of HERRON™ Enterprises USA, Inc.

Thanks in advance.

# GAC License





## Project Directory

**David W. Starks** - Oak Environmental, LLC

[dstarks@oakenvironmental.net](mailto:dstarks@oakenvironmental.net)

Cell: 720-472-2349

**Allen Gallogly** – Oak Environmental

[agallogly@oakenvironmental.net](mailto:agallogly@oakenvironmental.net)

Cell: 720 219-8356

**Barry Shook** – Boulder County Parks and Open Space

[bshook@bouldercounty.org](mailto:bshook@bouldercounty.org)

303 678-6183

**Michael Lohr** – *Parks Contact overseeing the Contract*

Phone Cell: 970.481.1349

email: [mlohr@bouldercounty.org](mailto:mlohr@bouldercounty.org)

**Brian Bertin** - *Temporary Supervisor in Don's Absence*

Phone Cell: 303.579.1663

email: [bbertin@bouldercounty.org](mailto:bbertin@bouldercounty.org)

**Carol Beam** - *Cultural Resource Specialist*

Phone Office: 303.678.6272

email: [cbeam@bouldercounty.org](mailto:cbeam@bouldercounty.org)

( Please keep Carol informed with updates and invoice totals )

**Melissa Weber** – *Contracts Coordinator (any contract or legal related questions)*

Phone Office: 303.678.6272

Email: [mweber@bouldercounty.org](mailto:mweber@bouldercounty.org)

**Denny Morris** – *Resident Caretaker at Hall Ranch*

Phone: 303.325.4345

[dmorris@bouldercounty.org](mailto:dmorris@bouldercounty.org)

**David Woodham** – *Structural Engineer with Atkinson-Noland*

Office: 303.444.3620

Cell: 303.434.0165

Email: [dwoodham@ana-usa.com](mailto:dwoodham@ana-usa.com)

**Billie Herron** – *Project Coordinator at Herron Industries*





Phone Cell: (720) 339-6226

Phone Office: (303) 763 9639

Email: [billie-lusk@comcast.net](mailto:billie-lusk@comcast.net)

## Project Schedule

### Tumbleson House Abatement

		Name	Duration	Start	Finish
1		Submittals	0.5 days?	5/7/18 9:00 AM	5/7/18 2:00 PM
3		Site Mobilization	1 day?	5/17/18 8:00 AM	5/17/18 5:00 PM
4		<b>Major Spill and Droppings Cleanup</b>	<b>4.5 days?</b>	<b>5/17/18 8:00 AM</b>	<b>5/23/18 1:00 PM</b>
5		Clean-up (Major Spill)	3 days?	5/17/18 8:00 AM	5/21/18 5:00 PM
6		Clean up of droppings	3 days?	5/17/18 8:00 AM	5/21/18 5:00 PM
7		Bag Second Floor VCT	0.5 days?	5/22/18 8:00 AM	5/22/18 1:00 PM
8		Apply disinfectant	1 day?	5/22/18 1:00 PM	5/23/18 1:00 PM
9		<b>Test Areas</b>	<b>5 days?</b>	<b>5/23/18 8:00 AM</b>	<b>5/29/18 5:00 PM</b>
10		Setup Containment First Floor	2 days?	5/23/18 8:00 AM	5/24/18 5:00 PM
11		Abate Test Areas	2 days?	5/25/18 8:00 AM	5/28/18 5:00 PM
12		Inspection of Test Areas (structural)	1 day?	5/29/18 8:00 AM	5/29/18 5:00 PM
13		<b>Asbestos Abatement (Cellar)</b>	<b>3.5 days?</b>	<b>5/23/18 1:00 PM</b>	<b>5/28/18 5:00 PM</b>
14		Set-Up for Abatement (Cellar)	1 day?	5/23/18 1:00 PM	5/24/18 1:00 PM
15		Abatement of cellar	2 days	5/24/18 1:00 PM	5/28/18 1:00 PM
16		PCM Clearance of Cellar	0.5 days?	5/28/18 1:00 PM	5/28/18 5:00 PM
17		<b>Asbestos Abatement (1st. Floor)</b>	<b>11.5 days?</b>	<b>5/30/18 8:00 AM</b>	<b>6/14/18 1:00 PM</b>
18		Abatement of 1st Floor	10 days?	5/30/18 8:00 AM	6/12/18 5:00 PM
19		PCM Clearance	0.5 days?	6/13/18 8:00 AM	6/13/18 1:00 PM
20		Teardown of Containments	1 day?	6/13/18 1:00 PM	6/14/18 1:00 PM
21		Clean-up of roofing around perimeter o...	3 days?	5/29/18 8:00 AM	5/31/18 5:00 PM
22		Demobilization	1 day?	6/14/18 1:00 PM	6/15/18 1:00 PM

# ASBESTOS ABATEMENT NOTIFICATION and PERMIT APPLICATION FORM

FEE MUST ACCOMPANY THIS FORM. INCOMPLETE APPLICATIONS WILL BE RETURNED.



**Colorado Department  
of Public Health  
and Environment**

Submit form to:  
Permit Coordinator  
Colorado Dept. of Public Health  
and Environment  
APCD-IE-B1  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
Phone: 303-692-3100  
Fax: 303-782-0278  
asbestos@state.co.us

Single Family Residential Dwelling (SFRD) > 50 LF or 32 SF or a 55-gal. drum, but ≤ 260 LF or 160 SF or a 55-gallon drum	Public and Commercial Building, School, and Single-Family Residential Dwelling: > 260 LF or 160 SF or a 55-gallon drum
[ code 200 ] <input type="checkbox"/> \$0	[ code 100 ] <input type="checkbox"/> \$0
[ code 205 ] <input type="checkbox"/> \$60	[ code 105 ] <input type="checkbox"/> \$80
[ code 210 ] <input type="checkbox"/> \$60	[ code 110 ] <input type="checkbox"/> \$80
[ code 230 ] <input type="checkbox"/> \$180	[ code 130/232 ] <input checked="" type="checkbox"/> \$400
[ code 290 ] <input type="checkbox"/> \$300	[ code 190/292 ] <input type="checkbox"/> \$800
[ code 265 ] <input type="checkbox"/> \$420	[ code 165/267 ] <input type="checkbox"/> \$1200
[ code 180/280 ] <input type="checkbox"/> \$55	[ code 177 ] <input type="checkbox"/> \$80

Abatement Contractor	Abatement Site	Building Owner	Disposal Site
Company Name Oak Environmental  Street Address P.O. Box 1747  City Commerce City  Telephone # (720) 504-9973 Project Supervisor Felipe Hernandez	Building Name Tumbleson House Specify location in the building where work will take place (e.g. floor, room, wing, etc.) main floor, basement, 2 <sup>nd</sup> level closet  Street Address 31271 S. St Vrain Drive  City Lyons County Boulder Zip code 80540  Building Contact Barry Shook Cell Phone # (303) 678-6183	Owner Name Boulder County Parks and Open Space  Contact Barry Shook  Street Address 2025 14 <sup>th</sup> St  City Boulder State CO Zip code 80302  Telephone # (303) 678-6183 Fax # (303) 678-6180	Landfill Name Denver Arapahoe Disposal Site (DADS)  Street Address 3500 S. Gun Club Road  City Aurora State CO Zip code 80018
Project Personnel	Project Information		
CO Project Mgr. Name  Cell Phone # ( ) CO Project Designer Name  Cell Phone # ( ) Consulting Firm Name Herron Enterprises  A.M.S. Name Billie Herron-Lusk CO A.M.S. Cert # 2650	Start Date 5/17/18 End Date 6/1/18  Start Time 8:00 AM End Time 4:30 PM  Check the day(s) of operation: Su <input type="checkbox"/> M <input type="checkbox"/> Tu <input type="checkbox"/> W <input type="checkbox"/> Th <input type="checkbox"/> F <input type="checkbox"/> Sa <input type="checkbox"/> Type of ACM: TSI, Texture, VAT, etc. Plaster, VCT  Emergency? Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Square Feet / Type 55 gal. Drums  Linear Feet / Type 2,982 SF of Plaster 16 SF of VCT		
CDPHE Use Only			
CO Project Designer # Registration # 14976		Approved by: Form of Payment & # PM req'd? Y N W	
A.M.S. Name Billie Herron-Lusk CO A.M.S. Cert # 2650		Permit # Record # Date Issued:	

Please describe below the work practices and procedures to be employed in conducting the abatement of asbestos. **BE SPECIFIC.** Indicate type(s) of ACBM to be abated (e.g. VAT, ceiling tile, TSI, etc.). Use another page if necessary.

This project will include the proper removal and disposal of approximately 2,982 SF of plaster located on the walls and ceiling on the main level and west wall located in the cellar as well as approximately 16 SF of VCT located on the 2<sup>nd</sup> level bedroom closet. The plaster will be removed using a low pressure surface blasting system with water connections within a full containment. The full containment will employ negative air pressure greater than 0.03WC, fully functional decontamination unit, two chamber waste loadout and wetting methods utilizing an airless sprayer and amended water. The floor tile will be removed intact and not rendered friable within a secondary containment utilizing hand tool only removal (razor scrapers, 5 in 1 tool). The secondary containment will employ negative air flow, two chamber waste loadout and wetting methods using an airless sprayer and amended water. All work procedures will be in accordance with Colorado Regulations 8 Part B.



## Asbestos Permit/Notice Application Form Information and Instructions:

1. There is a 10 working-day advance notification requirement for permit applications. Day 1 is the 1<sup>st</sup> business day following the postmark or hand-delivery date. (Working Day means Monday through Friday and including holidays that falls on any of the days Monday through Friday.)
2. If you wish to request a deviation from Colorado Regulation No. 8, Part B, a Variance Request Form must be completed and submitted to the Division with a \$50 review fee. Variances must be submitted on the Division's form to be accepted.
3. Please be specific on the types of materials to be abated and the work practices to be used.
4. All spaces must be filled in on the permit. If the information is not applicable, please write N/A. Incomplete information may result in a delay in processing the application, which may delay your project.
5. In the "Abatement Site" box, we must have a building contact telephone number on the permit application before it can be processed. This must be someone other than the GAC or its employee who can provide the Division access to the site if the GAC is not on site.
6. If there needs to be modifications to the notice after the application has been submitted, notify the Asbestos Unit by fax at 303-782-0278 or e-mail at [asbestos@state.co.us](mailto:asbestos@state.co.us) before the end of the next regular state business day following the modification. Project modifications include changes in scope of work, AMS, supervisor, the scheduled work dates or scheduled work times. Please use the Permit/Notice Modification Form.
7. Supporting digital photographs or documentation may be e-mailed to: [asbestos@state.co.us](mailto:asbestos@state.co.us)
8. Prior to the start of any asbestos abatement in an area of public access of a non-school building, in which the amount of asbestos-containing material to be abated exceeds 1,000 linear feet on pipes or 3,000 square feet on other surfaces, a Project Designer certified under Regulation No. 8, Part B, shall develop a written project design.
9. Prior to the start of any asbestos abatement in a school building in which the amount of friable asbestos-containing material to be abated exceeds 3 linear feet on pipes or 3 square feet on other surfaces, a written project design shall be developed by a Project Designer certified under these regulations, in accordance with paragraph IV.G.7 of Regulation No. 8, Part B.
10. A Project Manager is required on all projects where the amounts of friable asbestos-containing materials to be abated exceed 1,000 linear feet and/or 3,000 square feet. The Project Manager requirement may be waived; please see section III.B.6 of the CAQCC's Regulation No. 8, Part B, for more information.
11. All provisions of laws and ordinances governing this type of work shall be complied with whether specified herein or not. Abatement permits or approval notices appearing to give authority to violate or override the provisions of any other laws or ordinances shall be invalid. Furthermore, abatement permits or approval notices issued in error or based upon incorrect information supplied to the Division shall also be invalid.



Colorado Department  
of Public Health  
and Environment

# ASBESTOS/DEMOLITION NOTIFICATION and PERMIT MODIFICATION FORM

Submit form to:  
Permit Coordinator  
Colorado Dept. of Public Health  
and Environment  
APCD-IE-B1  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
Phone: 303-692-3100  
Fax: 303-782-0278  
asbestos@state.co.us

Name of Facility: Tumbleson House	Facility Location: 31271 S. St Vrain Drive, Lyons, CO 80540		
GAC/Consultant: Oak Environmental, LLC	Phone # (720) 472-2349	Fax #	
E-mail Address: dstarks@oakenvironmental.net		Permit Number (if already issued): N/A	

**Please check the appropriate box(s) in A, B and C, as applicable:**

- A. Upgrade to:  30-day permit     90-day permit     1-year permit
- B.  Request to cancel above notice/permit. (All but \$80 of the application fee will be returned. If you paid by check or money order, a state of Colorado Warrant will be mailed to the company appearing in the contractor box on the application. If you paid by credit card, a credit will be issued to the same account used to pay for the original application fee.)
- C. Change in:
- Supervisor: \_\_\_\_\_ Certification # \_\_\_\_\_
- A.M.S.: \_\_\_\_\_ Certification # \_\_\_\_\_
- Project Manager: \_\_\_\_\_ Certification # \_\_\_\_\_
- Start Date: \_\_\_\_\_  End Date: \_\_\_\_\_
- Work Times: \_\_\_\_\_  Disposal Site: \_\_\_\_\_  County: \_\_\_\_\_
- Additional Scope of work (include type of ACM, quantity, location in or on facility and work practices):

Section III.T.1 Major Spill Response. New information informing us that the unoccupied residence will be treated as a major spill prior to any abatement removal. The residence will be HEPA vacuumed, treated with rodent feces disinfectant and properly wet wiped. Once the response has been addressed, the containment will be cleared by an AMS per Section III.P

I certify that I am the person authorized to sign this modification on behalf of the General Abatement Contractor and that all statements made in this modification are, to the best of my knowledge, correct and complete. (Note: Making false statements on this application constitutes second-degree perjury as defined by 18-8-503 C.R.S., and is punishable by law.)

<i>David Starks</i>	5/14/2018
<b>Authorized Representative Signature</b>	<b>Date</b>
David Starks	Project Manager
<b>Printed Name</b>	<b>Position or Title</b>

**THIS BOX IS FOR CDPHE USE ONLY:**

Postmark or Hand Delivery Date:	Approved By:	Code:
Form of Payment & #:	Permit #:	Record #:      Date Issued:

## **Worker License, Training, Fit Test and Medical**

See Attached Link

## **Landfill Information**

All Asbestos waste will be taken to the Denver Arapahoe Disposal Site (DADS)

## **Safety Data Sheets are Attached**

See Attached Link



**HERRON™** Enterprises USA, Inc.  
 Hazardous Materials\***Mold\***Asbestos\*Lead Paint  
 Environmental Services\*Industrial Hygienists

Phone (303) 763 9639  
 Fax (303) 763 9686  
 E-Mail [Lennie.Herron@comcast.net](mailto:Lennie.Herron@comcast.net)  
 Website [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)  
 7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

**PROJECT/LOCATION:** 0421178, RFP#6648-17- Tumbleson House at Hall Ranch Open Space Asbestos Consulting

**Services / Boulder County**

CONTRACTOR Employees	On-site Today?	AHERA Worker Expiration	State Worker Expiration	AHERA Supervisor Expiration	State Supervisor Expiration	Physical Expiration	Fit Test Expiration	Copy of All Certifications on Site?	State ID Card Displayed On-Site?	Certificate of Worker's Acknowledgement	DATE REPORT NO	05/16/18	
												State ID Card Received by HERRON?	*Authorized Employee in Work Area(s) at This Job Site Today?
Alma Mosqueda/#12109		03/03/19	04/27/19	NA	NA	04/16/19	02/20/19	*	*	*		*	Yes
Carlos Vandehorst/#22241		07/01/18	07/15/18	NA	NA	07/14/18	12/26/18	*	*	*		*	Yes
David Starks/#15640		NA	NA	08/25/18	09/18/18	02/02/19	05/09/19	*	*	*		*	Yes
Dylan Gallogly/#24196		NA	NA	12/22/18	01/04/19	01/08/19	01/09/19	*	*	*		*	Yes
Felipe Hernandez/#16523		03/17/19	04/19/19	NA	NA	04/14/19	04/20/19	*	*	*		*	Yes
Hector Salgado/#		03/03/19	06/29/18	NA	NA	04/24/19	04/03/19	*	*	*		*	Yes

6 0  
 Expired

Expired and/or Update Not Received:  
 \*Should Employee not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.  
 Legend of Documents not received by HERRON: 1, AHERA Certification, 2, State Certification, 3, Physical, 4, Fit Test, 5, Certificate of Worker's Acknowledgement.  
 Effectively, this document is published daily to include Employees which have signed in.



Colorado Department  
of Public Health and  
Environment



Worker



Asbestos Certification

Alma  
Mosqueda

Expires: 4/27/2019 Cert. #: 12109  
Date Issued: 4/25/2018

# INTERNATIONAL



Environmental and Safety Training L.L.C.  
720 Billings Street Unit F  
Aurora, Colorado 80011  
Phone # (720) 859-3134  
Fax # (720) 859-0660

*CERTIFIES THAT*

**ALMA MOSQUEDA**

Has successfully completed  
The **EPA- APPROVED AHERA ANNUAL ASBESTOS REFRESHER**  
**COURSE** for **WORKER**

And passed the requirements examination in that discipline

This course is **EPA-Approved** under Section 206 of the  
**Toxic Substance Control Act (TSCA)**

Course Date 03/03/2018

No. Hours 8

Certificate No. CO030318-01AWR

Expires 03/03/2019

This course meets the  
requirements of  
AQCC Reg. #8 Part B



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Training Director

Midtown Occupational Health Services  
2420 W. 26<sup>th</sup> Ave. Ste. 200-D Denver, CO 80211  
Phone: (303) 831-9393 Fax: (303) 831-6335  
OSHA Asbestos Certification

Applicants Name Alma Mosqueda

The above individual was seen by me on 4/16/18 in accordance to 29 CFR 1926.1101(Asbestos Certification) and 29CFR1910.134 (Respirator Certification). The following was preformed:

1.  Completion and review of the standardized medical questionnaire and work history with special emphasis directed to the pulmonary, cardiovascular, and gastrointestinal systems per Appendix D in 1926.1101
2.  Reviewed the employer's description of this individual's duties as they relate to asbestos exposure, the anticipated exposure level, and the personal protective and respiratory equipment to be utilized by this individual.
3.  Review of information from previous medical examinations, if available.
4.  A physical examination with emphasis upon the pulmonary, cardiovascular, and gastrointestinal systems, including a pulmonary function test of forced vital capacity (FVC) and forced expiratory volume at one second (FEV-1).
5.  Determined that a chest roentgenogram was  was not  required as part of this examination. (note: according to CFR 1926.1101 (M)(2)(ii)(C) it is at the discretion of the physician whether or not a chest X-ray is required)
6.  Reviewed OSHA's Medical Evaluation Questionnaire in Appendix C Part A Section 2 in accordance with 29CFR 1910.134 and have determined that this individual may  may not  use a respiratory device while performing his/her required duties.
7.  The employee has been instructed to report any difficulties in using the respirators or any change of physical status to their supervisor or physician.
8.  In accordance with OSHA requirements, I have fully explained the results of the medical examination and laboratory tests to the above named patient.
9.  In accordance with OSHA I have informed this individual of the health risks involved with smoking, of the synergistic relationship between cigarette smoking and asbestos exposure in producing lung cancer, and that cessation of smoking will reduce the risk of lung cancer.

Midtown Occupational Health Services  
2420 W. 26<sup>th</sup> Ave. Ste. 200-D Denver, CO 80211  
Phone: (303) 831-9393 Fax: (303) 831-6335  
OSHA Asbestos Certification

There is no detected medical condition which would place this employee at an increased risk of material health impairment from exposure to asbestos, and there are no recommended limitations on the employee concerning the use of personal protective equipment or respirator.

There is a detected medical condition(s) which places this employee at an increased risk. See comments below for limitations:

Comments/ Limitations Mild obstruction on PFT. Discussed in pt. - 0  
issue, similar PFT to 2016. No restrictions needed at this  
time

Matthew Edwards

Examining Provider

4/15/18

Date

Matthew Edwards, PA.-C  
Midtown Occupational  
Health Services, P.C.  
2490 W. 26th Ave., Bldg. A, Suite 300  
Denver, CO 80211  
303-831-9393

MOHS ASBESTOS CERTIFICATION



RESPIRATOR FIT TEST RECORD

Employee Name: Alma Delia Masqueda Employee No. \_\_\_\_\_

Respirator Type: Full face and half face <sup>NORTH</sup> Model: 7700 Size: M

Testing Agent: Irritant Smoke

Use a particulate filter unless otherwise indicated. Note other cartridge used when necessary.

RESULTS

Exercise	Fit	Taste Detected
Normal Breathing	✓	
Deep Breathing	✓	
Turning Head Side to Side	✓	
Nodding Head Up and Down	✓	
Talking	✓	
Bending Over	✓	
Normal Breathing	✓	

Prior to being fit tested this person was observed clean shaven.

Tested by: Felipe Hernandez

Date Tested: 2/20/2018

I have been instructed in and understand the proper fitting, use and care of the above named respirator. I understand that this equipment is not to be used in oxygen deficient or immediately dangerous to life and health (IDLH) atmospheres and is not to be used for other than the uses specified by the manufacturer. To my knowledge, I have no medical problems to prevent me from using this equipment.

Alma Masqueda  
Employee Signature

02-20-2018  
Date

NOTES: \_\_\_\_\_

Colorado Department  
of Public Health and  
Environment

Worker

Asbestos Certification

Earl A  
Vandergrist

Expires: 7/15/2018 Cert. #: 22241

Date Issued: 7/13/2017

# INTERNATIONAL



Environmental and Safety Training L.L.C.

720 Billings Street Unit F

Aurora, Colorado 80011

Phone # (720) 859-3134

Fax # (720) 859-0660

*CERTIFIES THAT*

**CARLOS VANDERHORST**

Has successfully completed

**The EPA- APPROVED AHERA ANNUAL ASBESTOS REFRESHER**

**COURSE for WORKER**

And passed the requirements examination in that discipline

This course is EPA-Approved under Section 206 of the  
**Toxic Substance Control Act (TSCA)**

Course Date      07/01/2017  
No. Hours        8  
Certificate No.   CO070117-04AWR  
Expires            07/01/2018

This course meets  
the requirements of  
AQCC Reg. #8



Training Director

Midtown Occupational Health Services  
2490 W. 26<sup>th</sup> Ave. Ste. 300-A Denver, CO 80211  
Phone: (303) 831-9393 Fax: (303) 831-6335  
OSHA Asbestos Certification

Applicants Name CARLOS VANDERHORST

The above individual was seen by me on 7-14-17 in accordance to 29 CFR 1926.1101 (Asbestos Certification) and 29 CFR 1910.134 (Respirator Certification). The following was performed:

1.  Completion and review of the standardized medical questionnaire and work history with special emphasis directed to the pulmonary, cardiovascular, and gastrointestinal systems per Appendix D in 1926.1101
2.  Reviewed the employer's description of this individual's duties as they relate to asbestos exposure, the anticipated exposure level, and the personal protective and respiratory equipment to be utilized by this individual.
3.  Review of information from previous medical examinations, if available.
4.  A physical examination with emphasis upon the pulmonary, cardiovascular, and gastrointestinal systems, including a pulmonary function test of forced vital capacity (FVC) and forced expiratory volume at one second (FEV-1).
5.  Determined that a chest roentgenogram was  was not  required as part of this examination. (note: according to CFR 1926.1101 (M)(2)(ii)(C) it is at the discretion of the physician whether or not a chest X-ray is required)
6.  Reviewed OSHA's Medical Evaluation Questionnaire in Appendix C Part A Section 2 in accordance with 29 CFR 1910.134 and have determined that this individual may  may not  use a respiratory device while performing his/her required duties.
7.  The employee has been instructed to report any difficulties in using the respirators or any change of physical status to their supervisor or physician.
8.  In accordance with OSHA requirements, I have fully explained the results of the medical examination and laboratory tests to the above named patient.
9.  In accordance with OSHA I have informed this individual of the health risks involved with smoking, of the synergistic relationship between cigarette smoking and asbestos exposure in producing lung cancer, and that cessation of smoking will reduce the risk of lung cancer.



Midtown Occupational Health Services  
2490 W. 26<sup>th</sup> Ave. Ste. 300-A Denver, CO 80211  
Phone: (303) 831-9393 Fax: (303) 831-6335

**OSHA Asbestos Certification**

There is no detected medical condition which would place this employee at an increased risk of material health impairment from exposure to asbestos, and there are no recommended limitations on the employee concerning the use of personal protective equipment or respirator.

There is a detected medical condition(s) which places this employee at an increased risk. See comments below for limitations:

Comments/ Limitations

*Quit smoking - discussed*

Examining Provider

*J. Raschbacher*  
J. RASCHBACHER, M.D.

*7-24-17*  
Date

J. Raschbacher, M.D.  
Midtown Occupational  
Health Services, P.C.  
2490 W. 26th Ave, Bldg. A, Suite 300  
Denver, CO 80211  
303-831-9393

RESPIRATOR FIT TEST

APPENDIX A - NORTH

EMPLOYEES WORKING UNDER THIS RESPIRATOR PROGRAM MUST ACKNOWLEDGE BY SIGNING THIS FORM. THEY HAVE BEEN FIT TESTED AND HAVE BEEN TRAINED FOR THE PROPER USE AND CARE OF THEIR RESPIRATOR. THEY HAVE READ AND UNDERSTAND THE COMPANY'S WRITTEN RESPIRATOR PROGRAM MANUAL.

CARLOS VANDERHORST

EMPLOYEE NAME PRINTED OR TYPED

12/26/17

DATE OF FIT TEST

Felipe Hernandez

FIT TEST CONDUCTOR

RESPIRATOR:

1. MANUFACTURER: NORTH

2. MODEL: 7700-30M

3. SIZE: MEDIUM

4. APPROVAL NUMBER: LC-95A-3692

IRRITANT SMOKE

[Signature]  
Employee Signature



# INTERNATIONAL

Environmental and Safety Training LLC

720 Billings Street Unit F

Aurora, Colorado 80011

Phone # (720) 859-3134

Fax # (720) 859-0660



*CERTIFIES THAT*

**DAVID STARKS**

Has successfully completed  
The **EPA- APPROVED AHERA ANNUAL ASBESTOS REFRESHER**  
**COURSE** for **CONTRACTOR/SUPERVISOR**  
And passed the requirements examination in that discipline

This course is **EPA-Approved** under Section 206 of the  
**Toxic Substance Control Act (TSCA)**

Course Date 08/25/2017

No. Hours 8

Certificate No. CO082517-03ASR

Expires 08/25/2018

This course meets  
the requirements of  
AQCC Reg. #8



Invalid without raised seal

A handwritten signature in black ink, appearing to read 'F. C. ...'.

Training Director

Midtown Occupational Health Services  
2490 W. 26<sup>th</sup> Ave. Ste. 300-A Denver, CO 80211  
Phone: (303) 831-9393 Fax: (303) 831-6335

OSHA Asbestos Certification

Applicants Name David Starks

The above individual was seen by me on 2-2-18 in accordance to 29 CFR 1926.1101(Asbestos Certification) and 29CFR1910.134 (Respirator Certification). The following was performed:

1.  Completion and review of the standardized medical questionnaire and work history with special emphasis directed to the pulmonary, cardiovascular, and gastrointestinal systems per Appendix D in 1926.1101
2.  Reviewed the employer's description of this individual's duties as they relate to asbestos exposure, the anticipated exposure level, and the personal protective and respiratory equipment to be utilized by this individual.
3.  Review of information from previous medical examinations, if available.
4.  A physical examination with emphasis upon the pulmonary, cardiovascular, and gastrointestinal systems, including a pulmonary function test of forced vital capacity (FVC) and forced expiratory volume at one second (FEV-1).
5.  Determined that a chest roentgenogram was  was not  required as part of this examination. (note: according to CFR 1926.1101 (M)(2)(ii)(C) it is at the discretion of the physician whether or not a chest X-ray is required)
6.  Reviewed OSHA's Medical Evaluation Questionnaire in Appendix C Part A Section 2 in accordance with 29CFR 1910.134 and have determined that this individual may  may not  use a respiratory device while performing his/her required duties.
7.  The employee has been instructed to report any difficulties in using the respirators or any change of physical status to their supervisor or physician.
8.  In accordance with OSHA requirements, I have fully explained the results of the medical examination and laboratory tests to the above named patient.
9.  In accordance with OSHA I have informed this individual of the health risks involved with smoking, of the synergistic relationship between cigarette smoking and asbestos exposure in producing lung cancer, and that cessation of smoking will reduce the risk of lung cancer.

**Midtown Occupational Health Services**  
2490 W. 26<sup>th</sup> Ave. Ste. 300-A Denver, CO 80211  
Phone: (303) 831-9393 Fax: (303) 831-6335  
**OSHA Asbestos Certification**

There is no detected medical condition which would place this employee at an increased risk of material health impairment from exposure to asbestos, and there are no recommended limitations on the employee concerning the use of personal protective equipment or respirator.

There is a detected medical condition(s) which places this employee at an increased risk. See comments below for limitations:

Comments/ Limitations \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

  
Examining Provider

02/02/18  
Date

Richard Kraus M.S., PA.-C  
Midtown Occupational  
Health Services, P.C.  
2490 W. 26th Ave., Bldg. A, Suite 300  
Denver, CO 80211  
303-831-9393

CERTIFICATE OF COMPLETION  
AERIAL AND FORKLIFT SAFETY COURSE

DAVID STARKS.

The above person has completed the TRAIN THE TRAINER course in the safety and functioning of Aerial and Forklift Class VII, and has demonstrated an understanding of proper usage and safety procedure

Expires: 5-21-18

Safety Instructor [Signature]



### RESPIRATOR FIT TEST RECORD

Employee Name: David Starks Employee No. \_\_\_\_\_

Respirator Type: North Model: 7700 Size: 26 M

Testing Agent:  
*Use a particulate filter unless otherwise indicated. Note other cartridge used when necessary.*

#### RESULTS

Exercise	Fit	Taste Detected
Normal Breathing	✓	
Deep Breathing	✓	
Turning Head Side to Side	✓	
Nodding Head Up and Down	✓	
Talking	✓	
Bending Over	✓	
Normal Breathing	✓	

*Prior to being fit tested this person was observed clean shaven.*

Tested by:  Date Tested: 5-9-18

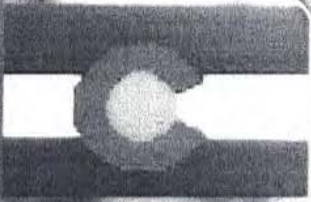
I have been instructed in and understand the proper fitting, use and care of the above named respirator. I understand that this equipment is not to be used in oxygen deficient or immediately dangerous to life and health (IDLH) atmospheres and is not to be used for other than the uses specified by the manufacturer. To my knowledge, I have no medical problems to prevent me from using this equipment.

 Date 5-9-18

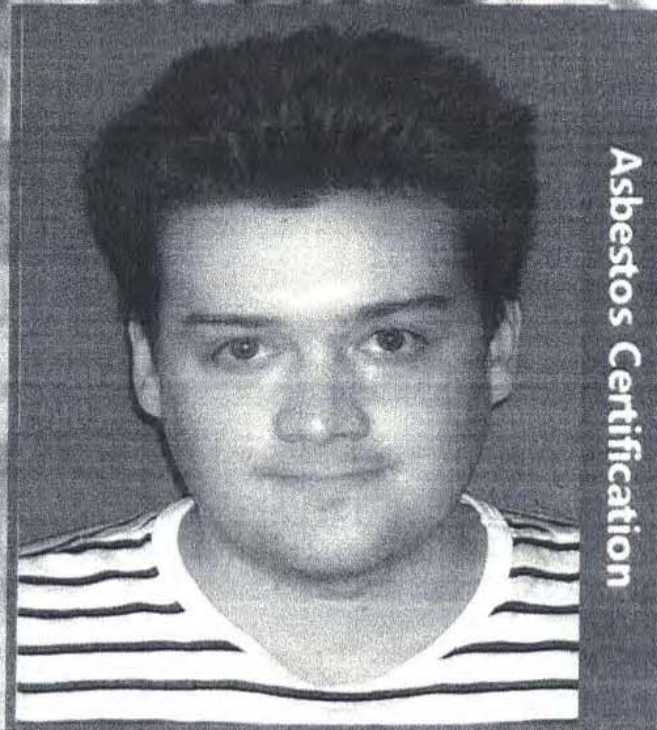
NOTES: \_\_\_\_\_



Colorado Department  
of Public Health and  
Environment



Supervisor



Asbestos Certification

Dylan  
Gallogly

Expires: 1/4/2019 Cert. #: 24196

Date Issued: 1/4/2018

# INTERNATIONAL

Environmental and Safety Training LLC

720 Billings Street Unit F

Aurora, Colorado 80011

Phone # (720) 859-3134

Fax # (720) 859-0660



*CERTIFIES THAT*

**DYLAN T. GALLOGLY**

Has successfully completed  
The **EPA- APPROVED AHERA ASBESTOS COURSE** for  
**CONTRACTOR/SUPERVISOR**  
And passed the requirements examination in that discipline

This course is **EPA-Approved** under Section 206 of the  
**Toxic Substance Control Act (TSCA)**

Course Date 12/18/2017 - 12/22/2017

No. Hours 40

Certificate No. CO122217-04ACSI

Expires 12/22/2018

This course meets  
the requirements of  
AQCC Reg. #8



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A handwritten signature in cursive script, likely belonging to the Training Director.

Training Director

**Midtown Occupational Health Services**  
2420 W. 26<sup>th</sup> Ave. Ste. 200-D Denver, CO 80211  
Phone: (303) 831-9393 Fax: (303) 831-6335  
**OSHA Asbestos Certification**

Applicants Name Dylan Gallagher

The above individual was seen by me on JAN 08 2018 in accordance to 29 CFR 1926.1101(Asbestos Certification) and 29CFR1910.134 (Respirator Certification). The following was preformed:

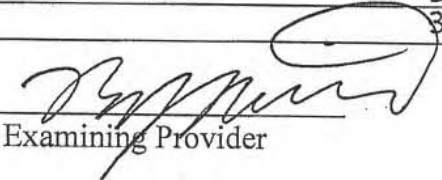
1.  Completion and review of the standardized medical questionnaire and work history with special emphasis directed to the pulmonary, cardiovascular, and gastrointestinal systems per Appendix D in 1926.1101
2.  Reviewed the employer's description of this individual's duties as they relate to asbestos exposure, the anticipated exposure level, and the personal protective and respiratory equipment to be utilized by this individual.
3.  Review of information from previous medical examinations, if available.
4.  A physical examination with emphasis upon the pulmonary, cardiovascular, and gastrointestinal systems, including a pulmonary function test of forced vital capacity (FVC) and forced expiratory volume at one second (FEV-1).
5.  Determined that a chest roentgenogram was  was not  required as part of this examination. (note: according to CFR 1926.1101 (M)(2)(ii)(C) it is at the discretion of the physician whether or not a chest X-ray is required)
6.  Reviewed OSHA's Medical Evaluation Questionnaire in Appendix C Part A Section 2 in accordance with 29CFR 1910.134 and have determined that this individual may  may not  use a respiratory device while performing his/her required duties.
7.  The employee has been instructed to report any difficulties in using the respirators or any change of physical status to their supervisor or physician.
8.  In accordance with OSHA requirements, I have fully explained the results of the medical examination and laboratory tests to the above named patient.
9.  In accordance with OSHA I have informed this individual of the health risks involved with smoking, of the synergistic relationship between cigarette smoking and asbestos exposure in producing lung cancer, and that cessation of smoking will reduce the risk of lung cancer.

**Midtown Occupational Health Services**  
2420 W. 26<sup>th</sup> Ave. Ste. 200-D Denver, CO 80211  
Phone: (303) 831-9393 Fax: (303) 831-6335  
**OSHA Asbestos Certification**

There is no detected medical condition which would place this employee at an increased risk of material health impairment from exposure to asbestos, and there are no recommended limitations on the employee concerning the use of personal protective equipment or respirator.

There is a detected medical condition(s) which places this employee at an increased risk. See comments below for limitations:

Comments/ Limitations \_\_\_\_\_  
\_\_\_\_\_ Braden J. Reiter, D.O.  
\_\_\_\_\_ Midtown Occupational  
\_\_\_\_\_ Health Services, P.C.  
\_\_\_\_\_ 2490 W. 26th Ave., Bldg. A, Suite 300  
\_\_\_\_\_ Denver, CO 80211  
\_\_\_\_\_ 303-831-9393

  
Examining Provider

1/8/18  
Date

RESPIRATOR FIT TEST RECORD

Employee Name: Aylan Gallegos Employee No. \_\_\_\_\_

Respirator Type: North Model: 7700 Size: H

Testing Agent: Irritant Smoke

Use a particulate filter unless otherwise indicated. Note other cartridge used when necessary.

RESULTS

Exercise	Fit	Taste Detected
Normal Breathing	✓	
Deep Breathing	✓	
Turning Head Side to Side	✓	
Nodding Head Up and Down	✓	
Talking	✓	
Bending Over	✓	
Normal Breathing	✓	

Prior to being fit tested this person was observed clean shaven.

Tested by: Felipe Hernandez Date Tested: 01/9/2018

I have been instructed in and understand the proper fitting, use and care of the above named respirator. I understand that this equipment is not to be used in oxygen deficient or immediately dangerous to life and health (IDLH) atmospheres and is not to be used for other than the uses specified by the manufacturer. To my knowledge, I have no medical problems to prevent me from using this equipment.

Aylan Gallegos  
Employee Signature

1/9/2018  
Date

NOTES: \_\_\_\_\_  
\_\_\_\_\_



### RESPIRATOR FIT TEST RECORD

Employee Name: Dylan Gallogly Employee No. \_\_\_\_\_

Respirator Type: North Model: 7700 Size: HL

Testing Agent: Irritant Smoke

Use a particulate filter unless otherwise indicated. Note other cartridge used when necessary.

#### RESULTS

Exercise	Fit	Taste Detected
Normal Breathing	✓	
Deep Breathing	✓	
Turning Head Side to Side	✓	
Nodding Head Up and Down	✓	
Talking	✓	
Bending Over	✓	
Normal Breathing	✓	

Prior to being fit tested this person was observed clean shaven.

Tested by: Felipe Hernandez Date Tested: 01/9/2018

I have been instructed in and understand the proper fitting, use and care of the above named respirator. I understand that this equipment is not to be used in oxygen deficient or immediately dangerous to life and health (IDLH) atmospheres and is not to be used for other than the uses specified by the manufacturer. To my knowledge, I have no medical problems to prevent me from using this equipment.

Dylan Gallogly Employee Signature Date 1/9/2018

NOTES: \_\_\_\_\_

Colorado Department  
of Public Health and  
Environment



Supervisor



Asbestos Certification

Felipe  
Hernandez

Expires: 4/19/2019 Cert. #: 16523

Date Issued: 4-16-2018

# INTERNATIONAL



Environmental and Safety Training LLC  
720 Billings Street Unit F  
Aurora, Colorado 80011  
Phone # (720) 859-3134  
Fax # (720) 859-0660

*CERTIFIES THAT*

## FELIPE HERNANDEZ

Has successfully completed  
The **EPA- APPROVED AHERA ANNUAL ASBESTOS REFRESHER**  
**COURSE** for **CONTRACTOR/SUPERVISOR**  
And passed the requirements examination in that discipline

This course is **EPA-Approved** under Section 206 of the  
**Toxic Substance Control Act (TSCA)**

Course Date      03/17/2018  
No. Hours         8  
Certificate No.    CO031718-03ASR  
Expires            03/17/2019

This course meets the  
requirements of  
AQCC Reg. #8 Part B



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Training Director



CERTIFICATE OF COMPLETION  
FORKLIFT SAFETY COURSE

The above person has completed the TRAIN THE OPERATOR  
course in the safety and functioning of Aerial and Forklift Class  
57 and has demonstrated an understanding of proper usage and  
safety procedure

Expires: 9/13/19  
Safety Instructor: [Signature]



CERTIFICATE OF COMPLETION  
BOOMLIFT SCISSORLIFT SAFETY COURSE

The above person has completed the TRAIN THE OPERATOR  
course in the safety and functioning of Aerial Boomlift and  
Scissorlift and has demonstrated an understanding of proper  
usage and safety procedure

Expires: 9/13/19  
Safety Instructor: [Signature]



Midtown Occupational Health Services  
2420 W. 26<sup>th</sup> Ave. Ste. 200-D Denver, CO 80211  
Phone: (303) 831-9393 Fax: (303) 831-6335

OSHA Asbestos Certification

Applicants Name Felipe Hernandez

The above individual was seen by me on 4-14-18 in accordance to 29 CFR 1926.1101(Asbestos Certification) and 29CFR1910.134 (Respirator Certification). The following was performed:

1.  Completion and review of the standardized medical questionnaire and history with special emphasis directed to the pulmonary, cardiovascular, and gastrointestinal systems per Appendix D in 1926.1101
2.  Reviewed the employer's description of this individual's duties as they relate to asbestos exposure, the anticipated asbestos exposure level, and the personal protective and respiratory equipment to be utilized by this individual.
3.  Review of information from previous medical examinations, if available.
4.  A physical examination with emphasis upon the pulmonary, cardiovascular, and gastrointestinal systems, including a pulmonary function test of forced vital capacity (FVC) and forced expiratory volume at one second (FEV-1).
5.  Determined that a chest roentgenogram was  was not  required as part of this examination. (note: according to CFR 1926.1101 (M)(2)(ii)(C) it is at the discretion of the physician whether or not a chest X-ray is required)
6.  Reviewed OSHA's Medical Evaluation Questionnaire in Appendix C Part A Section 2 in accordance with 29CFR 1910.134 and have determined that this individual may  may not  use a respiratory device while performing his/her required duties.
7.  The employee has been instructed to report any difficulties in using the respirators or any change of physical status to their supervisor or physician.
8.  In accordance with OSHA requirements, I have fully explained the results of the medical examination and laboratory tests to the above named patient.
9.  In accordance with OSHA I have informed this individual of the health risks involved with smoking, of the synergistic relationship between cigarette smoking and asbestos exposure in producing lung cancer, and that cessation of smoking will reduce the risk of lung cancer.

Midtown Occupational Health Services  
2420 W. 26<sup>th</sup> Ave. Ste. 200-D Denver, CO 80211  
Phone: (303) 831-9393 Fax: (303) 831-6335  
**OSHA Asbestos Certification**

       There is no detected medical condition which would place this employee at an increased risk of material health impairment from exposure to asbestos, and there are no recommended limitations on the employee concerning the use of personal protective equipment or respirator.

       There is a detected medical condition(s) which places this employee at an increased risk.  
SEE COMMENTS BELOW FOR LIMITATIONS.

Comments/ Limitations \_\_\_\_\_

Lloyd Thurston, D.O.  
Midtown Occupational  
Health Services, P.C.  
2420 W 26th Ave., Bldg. A, Suite 300  
Denver, CO 80211  
303-831-9393

Lloyd Thurston  
Examining Provider

4/14/2018  
Date



### RESPIRATOR FIT TEST RECORD

Employee Name: FELIPE HERNANDEZ Employee No. \_\_\_\_\_

Respirator Type: NORTH Model: 7700 Size: LG

Testing Agent:

*Use a particulate filter unless otherwise indicated. Note other cartridge used when necessary.*

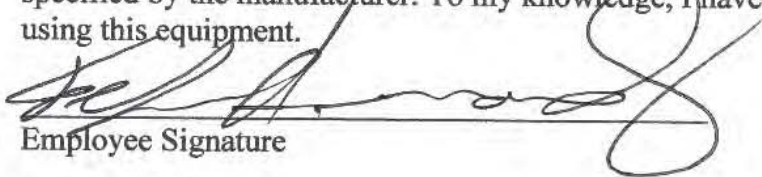
#### RESULTS

Exercise	Fit	Taste Detected
Normal Breathing	✓	
Deep Breathing	✓	
Turning Head Side to Side	✓	
Nodding Head Up and Down	✓	
Talking	✓	
Bending Over	✓	
Normal Breathing	✓	

*Prior to being fit tested this person was observed clean shaven.*

Tested by: DAVID STARKS Date Tested: 4-20-18

I have been instructed in and understand the proper fitting, use and care of the above named respirator. I understand that this equipment is not to be used in oxygen deficient or immediately dangerous to life and health (IDLH) atmospheres and is not to be used for other than the uses specified by the manufacturer. To my knowledge, I have no medical problems to prevent me from using this equipment.

  
Employee Signature

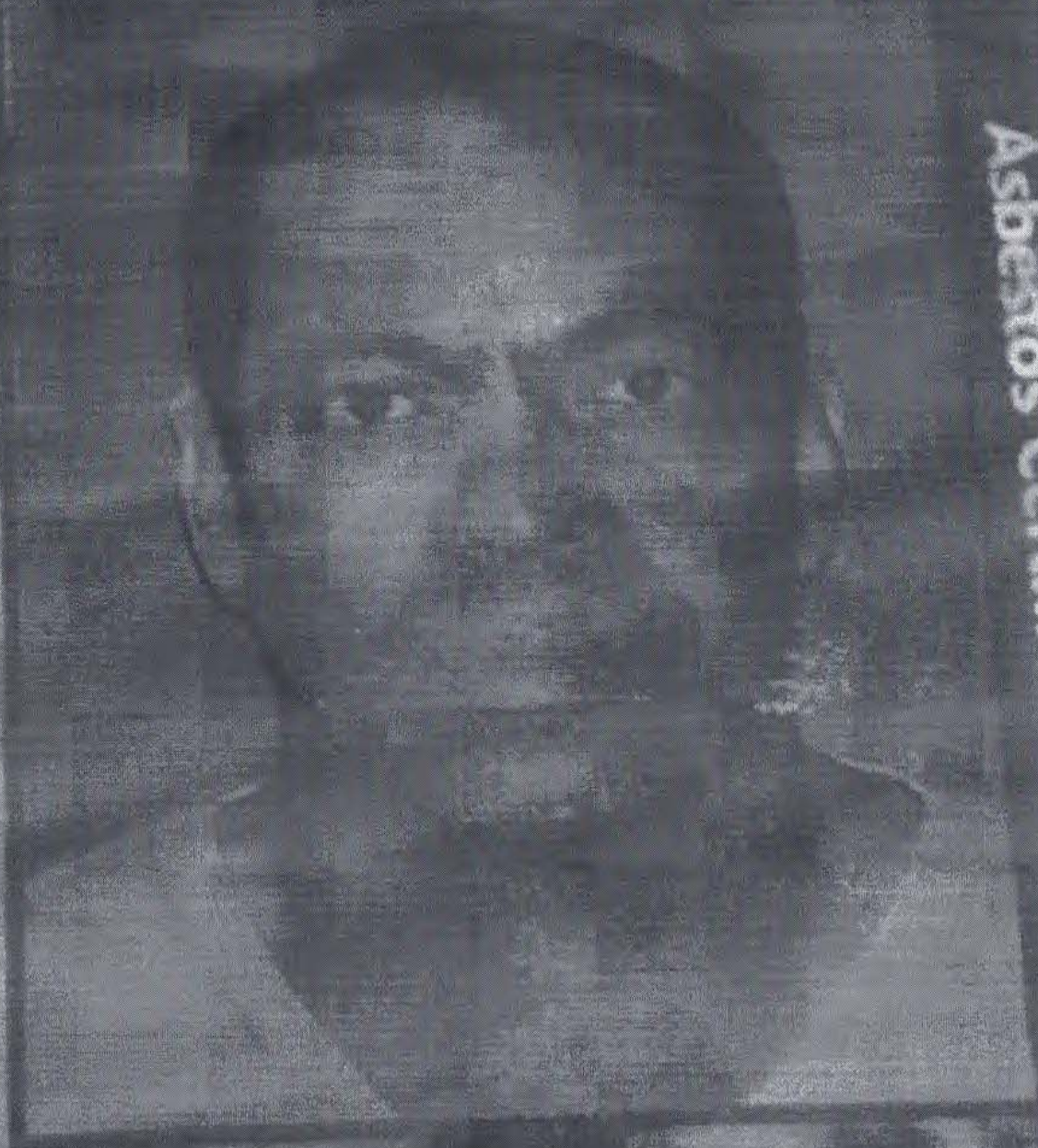
4/20/2018  
Date

NOTES: \_\_\_\_\_  
\_\_\_\_\_

Environment

Worker

Asbestos Certification



Hector  
Salgado

Expires: 6/29/2018 Cert. #: 209

# INTERNATIONAL



Environmental and Safety Training L.L.C.  
720 Billings Street Unit F  
Aurora, Colorado 80011  
Phone # (720) 859-3134  
Fax # (720) 859-0660

*CERTIFIES THAT*

## HECTOR SALGADO

Has successfully completed  
The **EPA- APPROVED AHERA ANNUAL ASBESTOS REFRESHER**  
**COURSE** for **WORKER**

And passed the requirements examination in that discipline

This course is **EPA-Approved** under Section 206 of the  
**Toxic Substance Control Act (TSCA)**

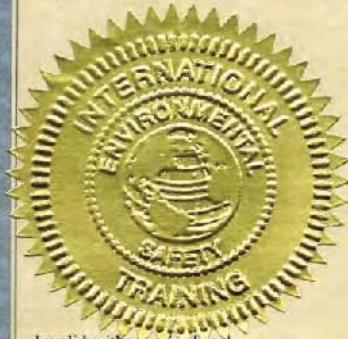
Course Date 03/03/2018

No. Hours 8

Certificate No. CO030318-08AWR

Expires 03/03/2019

This course meets the  
requirements of  
AQCC Reg. #8 Part B



Invalid without raised seal

Training Director

**Midtown Occupational Health Services**  
**2420 W. 26<sup>th</sup> Ave. Ste. 200-D Denver, CO 80211**  
**Phone: (303) 831-9393 Fax: (303) 831-6335**  
**OSHA Asbestos Certification**

Applicants Name Hector Salgado

The above individual was seen by me on 4/24/18 in accordance to 29 CFR 1926.1101(Asbestos Certification) and 29CFR1910.134 (Respirator Certification). The following was preformed:

1.  Completion and review of the standardized medical questionnaire and work history with special emphasis directed to the pulmonary, cardiovascular, and gastrointestinal systems per Appendix D in 1926.1101
2.  Reviewed the employer's description of this individual's duties as they relate to asbestos exposure, the anticipated exposure level, and the personal protective and respiratory equipment to be utilized by this individual.
3. NA  Review of information from previous medical examinations, if available.
4.  A physical examination with emphasis upon the pulmonary, cardiovascular, and gastrointestinal systems, including a pulmonary function test of forced vital capacity (FVC) and forced expiratory volume at one second (FEV-1).
5.  Determined that a chest roentgenogram was  was not  required as part of this examination. (note: according to CFR 1926.1101 (M)(2)(ii)(C) it is at the discretion of the physician whether or not a chest X-ray is required)
6.  Reviewed OSHA's Medical Evaluation Questionnaire in Appendix C Part A Section 2 in accordance with 29CFR 1910.134 and have determined that this individual may  may not  use a respiratory device while performing his/her required duties.
7.  The employee has been instructed to report any difficulties in using the respirators or any change of physical status to their supervisor or physician.
8.  In accordance with OSHA requirements, I have fully explained the results of the medical examination and laboratory tests to the above named patient.
9.  In accordance with OSHA I have informed this individual of the health risks involved with smoking, of the synergistic relationship between cigarette smoking and asbestos exposure in producing lung cancer, and that cessation of smoking will reduce the risk of lung cancer.

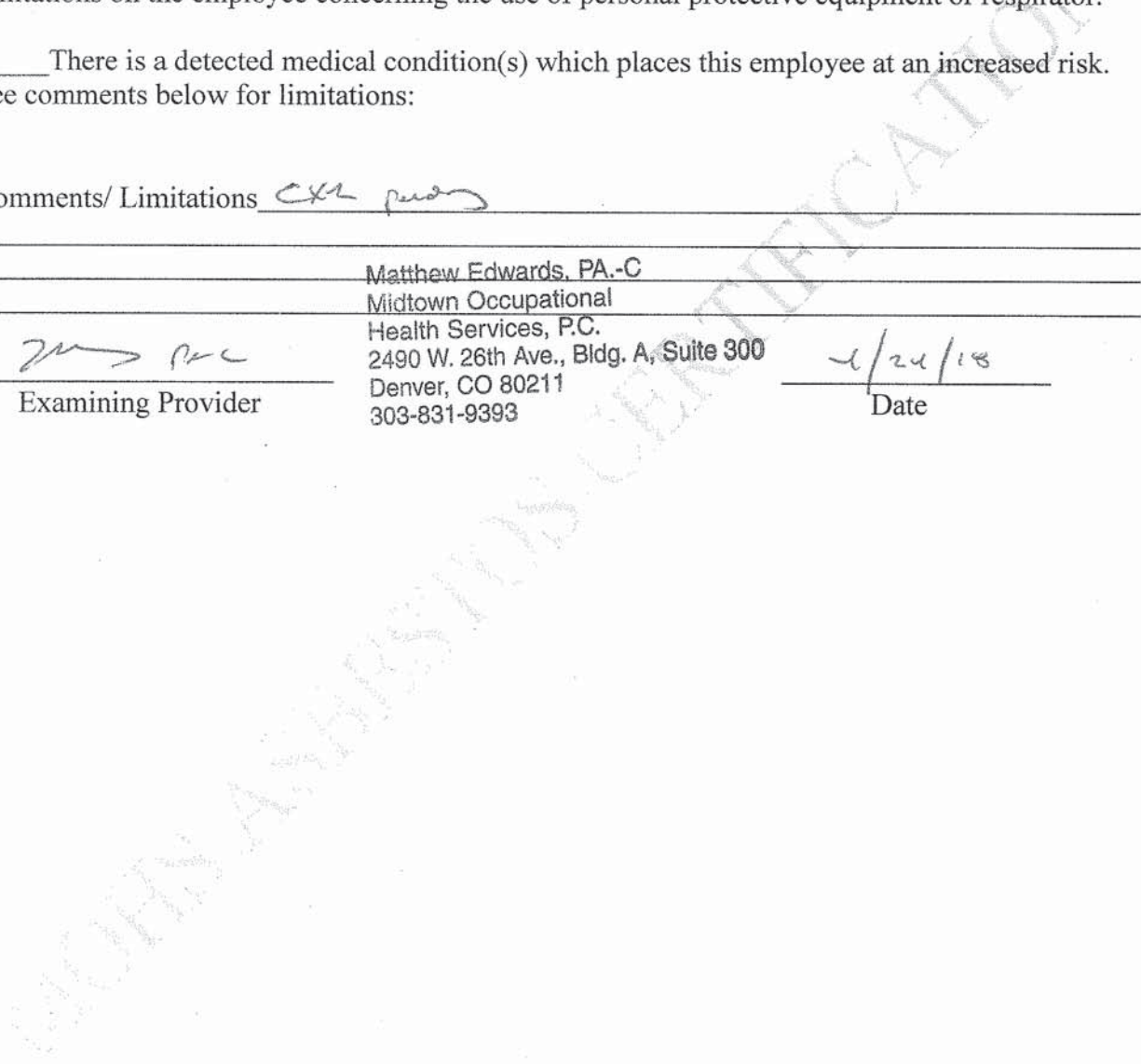
**Midtown Occupational Health Services**  
**2420 W. 26<sup>th</sup> Ave. Ste. 200-D Denver, CO 80211**  
**Phone: (303) 831-9393 Fax: (303) 831-6335**  
**OSHA Asbestos Certification**

  ✓   There is no detected medical condition which would place this employee at an increased risk of material health impairment from exposure to asbestos, and there are no recommended limitations on the employee concerning the use of personal protective equipment or respirator.

       There is a detected medical condition(s) which places this employee at an increased risk. See comments below for limitations:

Comments/ Limitations   CXR pending  

	Matthew Edwards, PA.-C	
	Midtown Occupational	
	Health Services, P.C.	
	2490 W. 26th Ave., Bldg. A, Suite 300	
	Denver, CO 80211	
	303-831-9393	
<u>  Matthew Edwards  </u>		
Examining Provider		Date







RESPIRATOR FIT TEST RECORD

Employee Name: HECTOR SALGADO Employee No. \_\_\_\_\_

Respirator Type: NORTH Model: 7700 Size: M

Testing Agent: Use a particulate filter unless otherwise indicated. Note other cartridge used when necessary.

RESULTS

Table with 3 columns: Exercise, Fit, Taste Detected. Rows include Normal Breathing, Deep Breathing, Turning Head Side to Side, Nodding Head Up and Down, Talking, Bending Over, Normal Breathing.

Prior to being fit tested this person was observed clean shaven.

Tested by: Felipe Hernandez Date Tested: 4/3/2018

I have been instructed in and understand the proper fitting, use and care of the above named respirator. I understand that this equipment is not to be used in oxygen deficient or immediately dangerous to life and health (IDLH) atmospheres and is not to be used for other than the uses specified by the manufacturer. To my knowledge, I have no medical problems to prevent me from using this equipment.

Employee Signature [Handwritten Signature]

Date 4/3/2018

NOTES: \_\_\_\_\_

# ABC FiberSpray

## Asbestos Encapsulant/Sealant

### Product Description

6410-White

ABC FiberSpray is a convenient means for applying Fiberlock Technologies' time proven ABC Asbestos Binding Compound asbestos encapsulant. ABC FiberSpray dispenses encapsulant from a unique 8 ounce "airless-spray" can. This CFC-free "airless-spray" technology minimizes asbestos fiber release, and permits application of encapsulant in any position, even upside down (ideal for use inside glove bags). The ABC encapsulant inside each can was found to meet U.S. Environmental Protection Agency (EPA) test requirements performed at Battelle Laboratories Under Government Contract# 68-03-2552-T2005. Encapsulation of small, hard-to-access areas can be accomplished quickly and easily, without the need for bulky spray equipment.

### Application Information

#### APPLICATION INFORMATION

**ENCAPSULATION:** Use ABC FiberSpray to effectively encapsulate small areas of asbestos containing material (ACM).

**GLOVEBAG USE:** Place ABC FiberSpray in the pouch within the glovebag. Apply ABC FiberSpray to seal the friable pipe insulation ends after the insulation has been removed. Use ABC FiberSpray to "lockdown" residual microscopic fibers to the substrate.

**BULK SAMPLE REPAIR:** Apply ABC FiberSpray to friable areas after bulk samples have been removed from the ACM or suspected ACM.

#### PREPARATION

Shake well before spraying. If nozzle orifice is clogged, remove the dried film from the cap or replace with an extra nozzle (provided upon request).

#### APPLICATION

Apply ABC FiberSpray by spraying the surface from a distance of 8 to 12 inches.

#### CLEANUP

Clean the nozzle with warm soapy water before the coating dries.

#### PRECAUTIONS

Store in a dry place at temperatures between 40°F (4.5°C) and 90°F (32°C).

Approved respirators must be used to prevent inhalation of asbestos fibers that may be present in the air. Protective clothing should be worn. Tools and drippings should be cleaned immediately with clean, soapy water before the coating dries. Careful consideration should be given to all Environmental Protection Agency (EPA), OSHA and state regulations in effect at

the time of application of ABC FiberSpray. The EPA, through the Office of Pesticides and Toxic Substances has issued reports headed "Guidance for Controlling Friable Asbestos-Containing Materials in Buildings," EPA 560/5 85-024, June 1985, and "Managing Asbestos in Place, A Building Owner's Guide to Operations and Maintenance Programs for Asbestos Containing Materials," 20T-2003, July 1990, containing the proper data, cautions, and procedures for asbestos control. Copies are available from the Environmental Assistance Division, TS-799, TSCA Assistance Information Service, U.S. EPA, 401 M Street SW, Washington, DC 20460, (202) 554-1404. Keep from freezing. Do not store at temperatures above 100°F. These suggestions and data are based on information we believe to be reliable. They are offered in good faith, but without guarantee, as conditions and methods of use of this product are beyond our control. Neither Fiberlock Technologies, Inc., nor our agents shall be responsible for the use or results of use of this product or any procedures or apparatus mentioned. We recommend that the prospective user determine the suitability of ABC FiberSpray for each specific project and for the health and safety of personnel working in the area.

### Properties

#### Product Specifications

<b>Solids by Weight ± 2%:</b>	51.4%
<b>Solids by Volume ± 2%:</b>	44.0%
<b>Viscosity at 70°F:</b>	60-75 Kreb units
<b>Specular Gloss:</b>	82° ± 5 @ 60°
<b>Flash Point:</b>	Non-combustible
<b>Shelf Life:</b>	36 Months Min. (Original Sealed Containers)
<b>Calculated VOC:</b>	64 grams/liter

#### Coverage

<b>Individual Can:</b>	35-40 ft <sup>2</sup> /can
------------------------	----------------------------

#### Drying Times (@ 70 - 77°F , 50% R.H.)

<b>To Touch:</b>	1 hour
<b>To Recoat:</b>	4 hours
<b>Minimum Application Temp.</b>	50°F (10°C)

#### Available Package Sizes

<b>8 Ounce Cans, 12 Cans Per Case</b>	
<b>Weight Per Gallon ± .5 lbs:</b>	9.6 lbs/gal

#### Product Testing

<b>Fire Rating:</b>	ASTM E84 Class A
<b>Flame Spread:</b>	10
<b>Fuel Contribution:</b>	10
<b>Smoke Density:</b>	5
<b>Test Facility:</b>	Southwest Research Institute

## Application Information

### CAUTION!

#### KEEP OUT OF REACH OF CHILDREN.

Do not take internally. Close container after each use.

Keep from freezing

Store between 40°F (4.5°C) and 90°F (32°C)

24 hour Emergency "CHEM-TEL" - 800.255.3924

## For Technical Information call 800.342.3755

These suggestions and data are based on information we believe to be reliable. They are offered in good faith, but without guarantee, as conditions and methods of use of this product are beyond our control. Neither ICP Construction, Inc., nor its agents shall be responsible for the use or results of use of this product or any injury, loss or damage, direct or consequential. We recommend that the prospective user determine the suitability of this product for each specific project and for the health and safety of personnel working in the area.

*ABC FiberSpray, the ABC FiberSpray Logo and other marks in this literature are trademarks of ICP Construction, Inc.*

150 Dascomb Rd

• Andover, MA 01810

• [www.fiberlock.com](http://www.fiberlock.com)

• 800.342.3755



# SAFETY DATA SHEET

Issuing Date May 21, 2015

Revision Date New

Revision Number 0

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

### Product identifier

**Product Name** Clorox® Control Bleach Packs™ – Regular Scent

### Other means of identification

**Synonyms** None

### Recommended use of the chemical and restrictions on use

**Recommended Use** Laundry and household bleach

**Uses advised against** No information available

### Details of the supplier of the safety data sheet

**Supplier Name** The Clorox Company  
**Supplier Address** 1221 Broadway  
Oakland, CA 94612

**Supplier Phone Number** 510-271-7000

### Emergency telephone number

**Emergency Phone Numbers** For Medical Emergencies call: 1-800-446-1014  
For Transportation Emergencies, call Chemtrec: 1-800-424-9300

**2. HAZARDS IDENTIFICATION**


**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1

**GHS Label elements, including precautionary statements**

**Emergency Overview**

<b>Signal word</b>	<b>Danger</b>	
<b>Hazard Statements</b> Harmful if swallowed Causes skin irritation Causes serious eye damage		
		
<b>Appearance</b> White granulate in a rhombus-shaped pack	<b>Physical State</b> Granular solid	<b>Odor</b> Bleach

**Precautionary Statements - Prevention**

Wash hands and any exposed skin thoroughly after handling.  
Do not eat, drink, or smoke when using this product.  
Wear protective gloves and eye protection such as safety glasses.

**Precautionary Statements - Response**

If swallowed: Call a poison control center or doctor if you feel unwell.  
Rinse mouth.  
If on skin: Wash with plenty of water.  
Specific treatment (see supplemental first aid instructions on this label).  
If skin irritation occurs: Get medical advice/attention.  
Take off contaminated clothing and wash it before reuse.  
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Immediately call a poison center or doctor.

**Precautionary Statements - Storage**

None

**Precautionary Statements - Disposal**

Dispose of contents in accordance with all applicable federal, state, and local regulations.

**Hazards not otherwise classified (HNOC)**

Not applicable.

**Unknown Toxicity**

1.5% of the mixture consists of ingredient(s) of unknown toxicity

**Other information**

Toxic to aquatic life with long lasting effects.

**Interactions with Other Chemicals**

Reacts with other household chemicals such as acid toilet bowl cleaners, rust removers, acids, vinegar, and ammonia-containing products to produce hazardous gases, such as chlorine and other chlorinated compounds.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%	Trade Secret
Sodium chloride	7647-14-5	50 - 70	*
Sodium dichloroisocyanurate dihydrate	51580-86-0	20 - 40	*
Sodium carbonate	497-19-8	10 - 30	*

\*The exact percentage (concentration) of composition has been withheld as a trade secret

### 4. FIRST AID MEASURES

**First aid measures**

<b>General Advice</b>	Show this safety data sheet to the doctor in attendance.
<b>Eye Contact</b>	Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
<b>Skin Contact</b>	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. If irritation persists, call a doctor.
<b>Inhalation</b>	Move to fresh air. If breathing is affected, call a doctor.
<b>Ingestion</b>	Have person sip a glassful of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person. Call a poison control center or doctor immediately for treatment advice.

**Most important symptoms and effects, both acute and delayed**

<b>Most Important Symptoms and Effects</b>	Burning of eyes.
--	------------------

**Indication of any immediate medical attention and special treatment needed**

<b>Notes to Physician</b>	Treat symptomatically. Probable mucosal damage may contraindicate the use of gastric lavage.
---------------------------	--

## 5. FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

### Unsuitable extinguishing media

CAUTION: Use of water spray when fighting fire may be inefficient.

### Specific Hazards Arising from the Chemical

No information available.

### Hazardous Combustion Products

Carbon oxides.

### Explosion Data

**Sensitivity to Mechanical Impact** No.

**Sensitivity to Static Discharge** No.

### Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

#### **Personal Precautions**

Avoid contact with eyes, skin, and clothing. Ensure adequate ventilation. Use personal protective equipment as required. For spills of multiple products, responders should evaluate the MSDSs of the products for incompatibility with sodium dichloroisocyanurate. Breathing protection should be worn in enclosed and/or poorly-ventilated areas until hazard assessment is complete.

#### **Other Information**

Refer to protective measures listed in Sections 7 and 8.

### Environmental Precautions

#### **Environmental Precautions**

Refer to protective measures listed in Sections 7 and 8.

### Methods and material for containment and cleaning up

#### **Methods for Containment**

Prevent further leakage or spillage if safe to do so.

#### **Methods for cleaning up**

Containerize. Vacuum sweep broken packs, if possible, to avoid generating airborne dust. Wash residual down to sanitary sewer. Contact the sanitary treatment facility in advance to assure ability to process washed-down material.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Do not breathe dust. Avoid generation of dust. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

### Conditions for safe storage, including any incompatibilities

**Storage** Keep containers tightly closed in a dry, cool, and well-ventilated place. Keep out of the reach of children.

**Incompatible Products** Acid toilet bowl cleaners, rust removers, acids, vinegar, and ammonia-containing products.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

**Exposure Guidelines** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

### Appropriate engineering controls

**Engineering Measures** Showers  
Eyewash stations  
Ventilation systems

### Individual protection measures, such as personal protective equipment

**Eye/Face Protection** If splashes are likely to occur: Wear safety glasses with side shields (or goggles). None required for consumer use.

**Skin and Body Protection** Wear protective gloves and protective clothing.

**Respiratory Protection** No protective equipment is needed under normal use conditions. If irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Avoid contact with skin, eyes, or clothing. Do not eat, drink, or smoke when using this product.



**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Physical and Chemical Properties**

<b>Physical State</b>	Granular solid	<b>Odor</b>	Bleach
<b>Appearance</b>	Granulate in a rhombus-shaped pack	<b>Odor Threshold</b>	No information available
<b>Color</b>	White		

<u>Property</u>	<u>Values</u>	<u>Remarks</u>	<u>Method</u>
<b>pH</b>	9 - 10.5 (solution)	None known	
<b>Melting / freezing point</b>	No data available	None known	
<b>Boiling point / boiling range</b>	No data available	None known	
<b>Flash Point</b>	No data available	None known	
<b>Evaporation Rate</b>	No data available	None known	
<b>Flammability (solid, gas)</b>	No data available	None known	
<b>Flammability Limit in Air</b>			
<b>Upper flammability limit</b>	No data available	None known	
<b>Lower flammability limit</b>	No data available	None known	
<b>Vapor pressure</b>	No data available	None known	
<b>Vapor density</b>	No data available	None known	
<b>Specific Gravity</b>	No data available	None known	
<b>Water Solubility</b>	Soluble in water	None known	
<b>Solubility in other solvents</b>	No data available	None known	
<b>Partition coefficient: n-octanol/water</b>	No data available	None known	
<b>Autoignition temperature</b>	No data available	None known	
<b>Decomposition temperature</b>	No data available	None known	
<b>Kinematic viscosity</b>	No data available	None known	
<b>Dynamic viscosity</b>	No data available	None known	
<b>Explosive properties</b>	No data available		
<b>Oxidizing Properties</b>	No data available		

**Other Information**

<b>Softening Point</b>	No data available
<b>VOC Content (%)</b>	No data available
<b>Particle Size</b>	No data available
<b>Particle Size Distribution</b>	No data available

## 10. STABILITY AND REACTIVITY

### Reactivity

Reacts with other household chemicals such as acid toilet bowl cleaners, rust removers, acids, vinegar, and ammonia-containing products to produce hazardous gases, such as chlorine and other chlorinated compounds.

### Chemical stability

Stable under recommended storage conditions.

### Possibility of Hazardous Reactions

None under normal processing.

### Hazardous Polymerization

Hazardous polymerization does not occur.

### Conditions to avoid

Excessive heat.

### Incompatible materials

Acid toilet bowl cleaners, rust removers, acids, vinegar, ammonia-containing products, and readily-oxidizable materials.

### Hazardous Decomposition Products

Carbon oxides.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

<b>Inhalation</b>	May cause irritation of respiratory tract.
<b>Eye Contact</b>	Corrosive. May cause severe damage to eyes.
<b>Skin Contact</b>	May cause irritation.
<b>Ingestion</b>	Ingestion may cause irritation to mucous membranes, gastrointestinal irritation, nausea, vomiting, and diarrhea.

#### Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Sodium chloride 7647-14-5	3 g/kg (Rat)	-	> 42 g/m <sup>3</sup> (Rat, 1 h)
Sodium dichloroisocyanurate 2893-78-9	735 mg/kg (Rat)	> 5000 mg/kg (Rat) > 2000 mg/kg (Rabbit)	> 50 mg/L (Rat, 1h)
Sodium carbonate 497-19-8	4090 mg/kg ( Rat )	-	2300 mg/m <sup>3</sup> (Rat, 2 h)

### Information on toxicological effects

**Symptoms** May cause redness and tearing of the eyes. May cause burns to eyes.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Sensitization</b>	No information available.
<b>Mutagenic Effects</b>	No information available.
<b>Carcinogenicity</b>	Contains no ingredient listed as a carcinogen.
<b>Reproductive Toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Chronic Toxicity</b>	No known effect based on information supplied.
<b>Target Organ Effects</b>	Eyes. Respiratory system.
<b>Aspiration Hazard</b>	No information available.

**Numerical measures of toxicity Product Information**

The following values are calculated based on chapter 3.1 of the GHS document  
 No information available.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

Toxic to aquatic life with long lasting effects.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Sodium carbonate 497-19-8	120h EC50: = 242 mg/L (Nitzschia)	96h LC50: = 300 mg/L (Lepomis macrochirus) 96h LC50: 310 - 1220 mg/L (Pimephales promelas)		48h EC50: = 265 mg/L

**Persistence and Degradability**

No information available.

**Bioaccumulation**

No information available

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS**

**Disposal methods**

Dispose of in accordance with all applicable federal, state, and local regulations.

**Contaminated Packaging**

Do not reuse empty containers. Dispose of in accordance with all applicable federal, state, and local regulations.

**14. TRANSPORT INFORMATION**

**DOT** Not restricted.

**TDG** Not restricted for road or rail.

**ICAO** Not restricted, as per Special Provision A197, Environmentally Hazardous Substance exception.

**IATA** Not restricted, as per Special Provision A197, Environmentally Hazardous Substance exception.

**IMDG/IMO** Not restricted, as per IMDG Code 2.10.2.7, Marine Pollutant exception.

**15. REGULATORY INFORMATION**

**Chemical Inventories**

**TSCA** All components of this product are either on the TSCA 8(b) Inventory or otherwise exempt from listing.

**DSL** All components are on the DSL or NDSL.

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**US Federal Regulations**

**SARA 313**  
 Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals that are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**

<b>Acute Health Hazard</b>	Yes
<b>Chronic Health Hazard</b>	No
<b>Fire Hazard</b>	No
<b>Sudden release of pressure hazard</b>	No
<b>Reactive Hazard</b>	No

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

**US State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Sodium dichloroisocyanurate dihydrate 51580-86-0		X	X		

**International Regulations**

Canada  
**WHMIS Hazard Class**  
 E - Corrosive material



**16. OTHER INFORMATION**

<b>NFPA</b>	<b>Health Hazards</b> 3	<b>Flammability</b> 0	<b>Instability</b> 0	<b>Physical and Chemical Hazards - Personal Protection</b> X
<b>HMIS</b>	<b>Health Hazards</b> 3	<b>Flammability</b> 0	<b>Physical Hazard</b> 0	

**Prepared By** Product Stewardship  
 23 British American Blvd.  
 Latham, NY 12110  
 1-800-572-6501

**Revision Date** May 21, 2015

**Revision Note** New

**Reference** 1210045/211371.001

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**

## HydroBoost

### Advanced Peroxide Cleaner Additive

#### Product Description

8313

HydroBoost is specifically designed to magnify the cleaning and stain removing power of Advanced Peroxide Cleaner (APC). Ideal for situations that demand extreme cleaning and powerful stain removal, HydroBoost works by instantly increasing the oxidation potential of Fiberlock's Advanced Peroxide Cleaner.

When added to Advanced Peroxide Cleaner Fiberlock's HydroBoost will further:

- Lift and remove deeply embedded dirt and debris
- Remove tough stains caused by mold and mildew
- Reduce labor costs

#### Application Information

##### DIRECTIONS FOR USE

**USER MUST READ AND UNDERSTAND ALL INSTRUCTIONS AND PRECAUTIONS OUTLINED ON THIS LABEL AND THE CORRESPONDING SDS. FOR PROFESSIONAL USE ONLY.**

**ADDITIVE FOR USE WITH FIBERLOCK'S ADVANCED PEROXIDE CLEANER (#8314) ONLY. DO NOT MIX WITH ANY OTHER PRODUCT.**

Note: The HydroBoost mixture should be used within 20-30 minutes to achieve the full effect of the product. Application to the substrate within 5-10 minutes is ideal. Plan your work accordingly so that you can apply all mixed product as quickly as possible. Do not return unused product to original container.

Add Hydroboost to Advanced Peroxide Cleaner at the following dilution ratio:

Minimum: 10:1 (12.8 oz./gallon)

*1 Quart of Hydroboost to 2.5 Gallons of APC*

Maximum: 8:1 (16 oz./gallon)

*1 Quart of Hydroboost to 2 Gallons of APC*

Mix contents thoroughly and apply within 30 minutes of mixing. Apply with a standard pump or hand trigger sprayer. Follow applications guidelines listed on the Advanced Peroxide Cleaner label for detailed application information.

##### STORAGE

Store securely closed and upright in original container. Avoid shipping or storing below freezing or above 100°F. If product freezes, thaw at room temperature and shake gently to remix components. Store in locked area inaccessible to children.

##### PRECAUTIONS

Store in a dry place at temperatures between 40°F (4.5°C) and 90°F (32°C). Always take care to avoid skin and eye contact by using protective measures such as nitrile rubber gloves (or equivalent) and safety glasses. Avoid breathing spray mists.

HydroBoost is a high pH additive formulated to boost the performance of the Advanced Peroxide Cleaner. Do not use this product on any surface that could be damaged by a high pH alkaline cleaner. Always test substrate in an inconspicuous area to determine if the solution will adversely affect the target material. This product is not intended for use on aluminum, magnesium, zinc or other soft metals as pitting and etching can occur. Will degloss painted surfaces. Do not use on fine or finished woods as APC Booster can affect the finish of the wood. Do not use on glass. Protect floors and surrounding surfaces from contact. Promptly clean off any overspray or dripping from floors.

#### Properties

##### Product Specifications

Active Ingredient:	Sodium Metasilicate
Color:	Translucent Red
Odor:	Mild
Foaming:	High Foaming
Flash Point:	Non-combustible
pH:	13-14
Shelf Life:	3 Years Min.

(Original Sealed Containers)

##### Coverage (when mixed with Advanced Peroxide Cleaner)

500-1200 ft<sup>2</sup>/gal

*Coverage rates are approximate and depend on how heavily the Advanced Peroxide Cleaner is applied to the substrate.*

##### Available Package Sizes

1 quart containers / 12 per case

#### KEEP OUT OF REACH OF CHILDREN. FOR PROFESSIONAL USE ONLY.

Store between 40°F (4.5°C) and 90°F (32°C)  
24 hour Emergency call "CHEM-TEL"  
1-800-255-3924

#### ADDITIVE FOR USE WITH FIBERLOCK'S ADVANCED PEROXIDE CLEANER ONLY. DO NOT MIX WITH ANY OTHER PRODUCT.

Do not take internally. Close container after each use. Keep from freezing. Properly dispose of all waste and unused product in accordance with Local, State and Federal regulations.

## Application Information

### Fiberlock Products and CPVC Compatibility

Manufacturers of chlorinated polyvinyl chloride ("CPVC") pipe believe that it can be sensitive to or incompatible with chemicals found in many commonly used household and industrial cleaning products, coatings, adhesives and other compounds, and that those chemicals can cause stress cracks or pipe failure. Fiberlock recommends that users always check pipe for markings that indicate the type of material it is made of and that users contact the pipe manufacturer directly before applying any Fiberlock products to CPVC pipe.

## For Technical Information call 800.342.3755

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*HydroBoost, the HydroBoost Logo and other marks in this literature are trademarks of ICP Construction, Inc.*

150 Dascomb Rd • Andover, MA 01810 • [www.fiberlock.com](http://www.fiberlock.com) • 800.342.3755

## IAQ 6000

### Mold Resistant Coating\*

#### Product Description

8360-White

IAQ 6000 is a white, tintable mold resistant coating for professional use, that contains a fungistatic agent to resist mold growth on the dry coating surface. IAQ 6000 is a durable, flexible, and permeable 100% acrylic water based coating. IAQ 6000 has been tested by independent and certified laboratories to prove resistance to mold growth on the surface of the coating, and has successfully passed both ASTM G-21 and ASTM D-3273 mold resistance testing with the highest scores possible. IAQ 6000 is recommended for use on wood, plaster, wallboard, sheetrock, concrete, masonry block, primed metal and galvanized metal. IAQ 6000 can also be used on new structural materials during building construction.

\*Resists mold growth on the dry coating surface.

#### Application Information

##### SURFACE PREPARATION

Warning! If you scrape, sand, or remove old paint from any surface, you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a NIOSH approved respirator to control lead exposure. Carefully clean up with a wet mop or HEPA vacuum. Before you start, find out how to protect yourself and your family by contacting the U.S. EPA/Lead Information Hotline at 1-800-424-LEAD (5323) or log on to [www.epa.gov/lead](http://www.epa.gov/lead).

Surfaces to be coated must be free of dust, mildew, mold, dirt, grease, loose paint, oil, glue size, calcimine, wax, soap and other surface contamination. Clean mold stained surfaces with Advanced Peroxide Cleaner, or use an EPA registered antimicrobial disinfectant cleaner such as IAQ 2000, IAQ 2500, ShockWave or ShockWaveRTU.

Patch irregularities with vinyl patching paste or an appropriate patching compound. IAQ 6000 is self-priming over bare sheetrock, composition board, ceiling tile and concrete.

WALLBOARD, SHEETROCK, GYPSUM BOARD- Joint cement should be sanded smooth, but avoid abrading the paper.

FERROUS METAL- Clean, then prime with IAQ 4000 rust inhibiting direct-to-metal primer.

WOOD- Seal knots and stains with IAQ 5000 stain-blocking primer.

MASONRY BLOCK- Apply one coat of IAQ 3000 block filler if a denser surface is desired.

##### APPLICATION TOOLS

Apply IAQ 6000 with brush, roller or airless spray equipment.

Brush: Synthetic, nylon or polyester bristle  
 Roller: Synthetic fiber 3/8" nap or longer  
 Spray Settings  
 Pressure: 2000-3000 P.S.I.  
 Tips: .019 to .021 tips

##### TINTING

IAQ 6000 may be tinted to any off-white or pastel based color. Add up to 2 oz. of universal colorant per gallon. Start with 50% of the tinting formula and adjust as necessary.

##### PRODUCT APPLICATION

IAQ 6000 is supplied ready to use, but can be thinned sparingly with water (up to 1/2 pint water per gallon) for proper application consistency if necessary. Apply IAQ 6000 generously and uniformly by brush, roller, or airless spray. Apply one coat of IAQ 6000 and ensure that the finished surface is properly sealed. To ensure that the finished surface is properly sealed, two-coats may be required on some porous surfaces.

##### COVERAGE

Smooth Surfaces- 250-400 sq. ft. per gallon  
 Porous Surfaces- 150-300 sq. ft. per gallon

##### DRYING TIME @ 70°F 50% R.H.

To Touch - 1 Hour  
 Recoat - 4 Hours

##### CLEANUP

Clean tools and drippings with warm soapy water before Fiberlock IAQ 6000 dries. Dispose of all waste according to all existing local, state and federal regulations.

#### Properties

##### Product Specifications

Solids by Weight ± 2%:	54.6%
Solids by Volume ± 2%:	39.6%
Viscosity at 70°F:	90-95 Krebs Units
Specular Gloss:	6° ± 1 @ 60°
Flash Point:	Non-combustible
Shelf Life:	36 Months Min. (Original Sealed Container)
Calculated VOC:	65 grams/liter

##### Coverage

Smooth Surfaces:	250-400 ft <sup>2</sup> /gal
Porous Surfaces:	150-300 ft <sup>2</sup> /gal

##### Drying Times (@ 70 - 77°F , 50% R.H.)

To Touch:	1 hour
To Recoat:	4 hours
Minimum Application Temp:	50° (10°C)

##### Available Package Sizes

5 Gallon Containers	
Weight Per Gallon ± .5 lbs:	11.1 lbs/gal

##### Product Testing

Water Vapor Permeance:	3.7 perms
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## Application Information

### PRECAUTIONS

Store in a dry place at temperatures between 40°F (4.5°C) and 90°F. (32°C). Stir thoroughly. Do not mix with any other coatings, solvents or colors in oil. The IAQ 6000 coating is resistant to mold only on the surface of the coating. No mold resistance claim is made other than to the coating itself. The use of this product does not protect users or others against food-borne or disease-causing bacteria, viruses, germs or other disease-causing organisms. Do not apply when air or surface temperature is below 50°F, or when drying conditions are poor or when surfaces are above a 15% moisture level content. Use adequate ventilation during application. When applying with a sprayer, wear a NIOSH approved respirator with any R, P, N or HE filter. For interior use only.

### CAUTION!

#### KEEP OUT OF REACH OF CHILDREN.

Do not take internally. Close container after each use.

Keep from freezing.

Store between 40°F (4.5°C) and 90°F. (32°C)

24 hour Emergency "CHEM-TEL" - 800.255.3924

### Fiberlock Products and CPVC Compatibility

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To Touch - 1 Hour  
 Recoat - 4 Hours

##### CLEANUP

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#### Properties

##### Product Specifications

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Solids by Volume ± 2%:	39.6%
Viscosity at 70°F:	90-95 Krebs Units
Specular Gloss:	6° ± 1 @ 60°
Flash Point:	Non-combustible
Shelf Life:	36 Months Min. (Original Sealed Container)
Calculated VOC:	65 grams/liter

##### Coverage

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Minimum Application Temp:	50° (10°C)

##### Available Package Sizes

5 Gallon Containers	
Weight Per Gallon ± .5 lbs:	11.1 lbs/gal

##### Product Testing

Water Vapor Permeance:	3.7 perms
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## Application Information

### PRECAUTIONS

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# Inline Safeguard Odorless Mastic Remover (VOC Compliant) Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 11/02/2015

Supersedes: All previous versions

Version: 1.1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Product name : Inline Safeguard Odorless Mastic Remover  
Product form : Mixture

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Mastic adhesive removal

### 1.3. Details of the supplier of the safety data sheet

Inline Distributing Company  
14093 Balboa Blvd  
Sylmar, CA 91342  
Phone: (818) 768-3333  
Toll-free: (800) 795-0933  
[www.inlineco.com](http://www.inlineco.com)

### 1.4. Emergency telephone number

Emergency number : 1-866-359-5661

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification (GHS-US)

Flammable Liquid Category 4	H227
Aspiration Toxicity Category 1	H304
Skin Irritation Category 2	H315
Eye Irritation Category 2	H319

### 2.2. Label elements

#### GHS-US labeling

Hazard pictograms (GHS-US) :



GHS08

GHS07

Signal word (GHS-US) :

**Danger**

Hazard statements (GHS-US) :

H227 - Combustible liquid  
H315 - Causes skin irritation  
H319 - Causes serious eye irritation

Precautionary statements (GHS-US) :

H304 - May be fatal if swallowed and enters airways  
P210 - Keep away from heat, open flames, sparks. - No smoking  
P264 - Wash hands thoroughly after handling.  
P280 - Wear eye protection, protective clothing, protective gloves  
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.  
P332+P313 - If skin irritation occurs: Get medical advice/attention.  
P362 - Take off contaminated clothing and wash before reuse.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.  
P337+P313 - If eye irritation persists: Get medical advice/attention.  
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
P331 - If swallowed, do NOT induce vomiting  
P370+P378 - In case of fire: Use dry chemical, foam, CO2 for extinction  
P403+P235 - Store in a well-ventilated place. Keep cool  
P405 - Store locked up  
P501 - Dispose of contents/container to licensed waste handling facility

### 2.3. Other hazards

No additional information available

# Inline Safeguard Odorless Mastic Remover (VOC Compliant)

## Safety Data Sheet

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### 2.4. Unknown acute toxicity (GHS-US)

No data available

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Not applicable

### 3.2. Mixture

Name	Product identifier	%
Petroleum distillates, hydrotreated light	(CAS No) 64742-47-8	Proprietary*
2-(2-butoxyethoxy)ethanol	(CAS No) 112-34-5	Proprietary*
Surfactant	(CAS No) Proprietary*	Proprietary*

\*The specific chemical identity and exact percentage of composition has been withheld as a trade secret

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
- First-aid measures after skin contact : IF ON SKIN: Immediately rinse with plenty of soap and water (for at least 15 minutes). If skin irritation occurs, get medical advice/attention.
- First-aid measures after eye contact : IF IN EYES: Rinse immediately and thoroughly, pulling the eyelids well away from the eye (15 minutes minimum). Remove contact lenses, if present and easy to do so. Continue rinsing. If eye irritation occurs, get medical advice/attention.
- First-aid measures after ingestion : IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting. Obtain emergency medical attention.

### 4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries : May be fatal if swallowed and enters airways.
- Symptoms/injuries after inhalation : Inhalation in high concentrations may cause irritation of the mucous membranes. Solvent vapors are hazardous and may cause nausea, sickness and headaches. Aspiration of this material into the lungs may cause chemical pneumonia or death.
- Symptoms/injuries after skin contact : Contact during a long period may cause light irritation.
- Symptoms/injuries after eye contact : Direct contact with the eyes is likely to be irritating.
- Symptoms/injuries after ingestion : Acute ingestion causes CNS depression, oropharyngeal and gastric pain and vomiting.
- Chronic symptoms : No data available.

### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Dry chemical. Carbon dioxide. Foam.

### 5.2. Special hazards arising from the substance or mixture

- Fire hazard : This material is an NFPA IIIA combustible liquid.
- Explosion hazard : Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.
- Reactivity : No dangerous reactions known under normal conditions of use.

### 5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Do not dispose of fire-fighting water in the environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Evacuate area. Keep upwind. Ventilate area. Spill should be handled by trained clean-up crews properly equipped with respiratory equipment and full chemical protective gear (see Section 8).

# Inline Safeguard Odorless Mastic Remover (VOC Compliant)

## Safety Data Sheet

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### 6.1.1. For non-emergency personnel

Protective equipment : Wear Protective equipment as described in Section 8.  
Emergency procedures : Evacuate unnecessary personnel.

### 6.1.2. For emergency responders

Protective equipment : Wear suitable protective clothing, gloves and eye or face protection. Approved supplied-air respirator, in case of emergency.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Foam may be used to suppress vapors.  
Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Place in a suitable container for disposal in accordance with the waste regulations (see Section 13).

### 6.4. Reference to other sections

No additional information available

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Do not handle until all safety precautions have been read and understood. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Do not breathe mists. Keep away from sources of ignition - No smoking.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Heat sources. Keep container closed when not in use.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Petroleum distillates, hydrotreated light (64742-47-8)	
Remark (ACGIH)	OELs not established
Remark (US OSHA)	OELs not established

2-(2-butoxyethoxy)ethanol (112-34-5)	
Remark (ACGIH)	TWA - 10 ppm
Remark (US OSHA)	OELs not established

Surfactant (Proprietary*)	
Remark (ACGIH)	OELs not established
Remark (US OSHA)	OELs not established

### 8.2. Exposure controls

Appropriate engineering controls : Ensure adequate ventilation, especially in confined areas.  
Personal protective equipment : Gloves. Protective clothing. Protective goggles. Respiratory protection of the dependent type.



Hand protection : Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Gloves should be classified under Standard EN 374 or ASTM F1296. Suggested glove materials are: Natural rubber ("latex"), Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl.

# Inline Safeguard Odorless Mastic Remover (VOC Compliant)

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Eye protection	: Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles.
Skin and body protection	: Wear suitable protective clothing.
Respiratory protection	: An approved organic vapor respirator/supplied air or self-contained breathing apparatus must be used when vapor concentration exceeds applicable exposure limits.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear
Color	: None to amber
Odor	: Mild solvent odor
Odor Threshold	: No data available
pH	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 184 - 194 °C (363-381 °F)
Flash point	: 77 °C (170 °F) Note: Minimum. Method: PMCC
Self ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: < 0.1 mm Hg @ 68 °F
Relative vapor density at 20 °C	: Heavier than air.
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosive limits	: No data available

#### 9.2. Other information

VOC content	: < 15 g/l
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\*When determining VOC content in accordance with the requirements set forth by the Ozone Transport Commission (OTC), effective 01-01-2009

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

No dangerous reactions known under normal conditions of use.

#### 10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

#### 10.3. Possibility of hazardous reactions

None known.

#### 10.4. Conditions to avoid

Sparks. Heat. Open flame.

#### 10.5. Incompatible materials

Avoid contact with : Oxidizing agent.

#### 10.6. Hazardous decomposition products

Thermal decomposition generates : Carbon oxides (CO, CO<sub>2</sub>).

# Inline Safeguard Odorless Mastic Remover (VOC Compliant)

## Safety Data Sheet

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### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity : Not classified

Petroleum distillates, hydrotreated light (64742-47-8)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat (mg/l)	> 5.2 mg/l/4h

2-(2-butoxyethoxy)ethanol (112-34-5)	
LD50 oral rat	> 4500 mg/kg
LD50 dermal rabbit	> 2500 mg/kg

Surfactant (Proprietary*)	
LD50 oral rat	> 1300 mg/kg
LD50 dermal rabbit	> 2 g/kg

Skin corrosion/irritation : Skin Irritant Category 2

Serious eye damage/irritation : Eye Irritant Category 2

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : May be fatal if swallowed and enters airways.

Symptoms/injuries after inhalation : Inhalation in high concentrations may cause irritation of the mucous membranes. Solvent vapors are hazardous and may cause nausea, sickness and headaches. Aspiration of this material into the lungs may cause chemical pneumonia or death.

Symptoms/injuries after skin contact : Contact may cause irritation.

Symptoms/injuries after eye contact : Direct contact with the eyes is likely to be irritating.

Symptoms/injuries after ingestion : Acute ingestion causes CNS depression, oropharyngeal and gastric pain and vomiting.

Chronic symptoms : No data available.

### SECTION 12: Ecological information

#### 12.1. Toxicity

No additional information available

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

No additional information available

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Other adverse effects

No additional information available



# Inline Safeguard Odorless Mastic Remover (VOC Compliant)

## Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

- Waste treatment methods : Do not discharge to public wastewater systems without permit of pollution control authorities. No discharge to surface waters is allowed without an NPDES permit.
- Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Do not allow the product to be released into the environment.

### SECTION 14: Transport information

- In accordance with DOT
- Transport document description : Cleaning Compound
- Department of Transportation (DOT) Hazard Classes : Not Regulated – Product does not sustain combustion
- Other information : Not regulated in pkg. of less than 119 gal.

#### Transport by sea

No additional information available

#### Air transport

No additional information available

In accordance with ADR / RID / IMDG / IATA / ADN

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

##### Inline Safeguard Odorless Mastic Remover (VOC Compliant)

All chemical substances in this product are listed in the EPA (Environmental Protection Agency) TSCA (Toxic Substances Control Act) Inventory

SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Fire hazard
-------------------------------------	--

##### Petroleum distillates, hydrotreated light (64742-47-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

##### 2-(2-butoxyethoxy)ethanol (112-34-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

##### Surfactant (Proprietary\*)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### 15.2. International regulations

##### CANADA

##### Petroleum distillates, hydrotreated light (64742-47-8)

Listed on the Canadian DSL (Domestic Substances List) inventory.

##### 2-(2-butoxyethoxy)ethanol (112-34-5)

Listed on the Canadian DSL (Domestic Substances List) inventory.

##### Surfactant (Proprietary\*)

Listed on the Canadian DSL (Domestic Substances List) inventory.

No additional information available

#### 15.2.2. National regulations

##### Petroleum distillates, hydrotreated light (64742-47-8)

Listed on Inventory of Existing Chemical Substances (IECSC)  
Listed on the AICS (the Australian Inventory of Chemical Substances)  
Listed on the Japanese ENCS (Existing & New Chemicals Substances) inventory.  
Listed on the Korean ECL (Existing Chemical List) inventory.

# Inline Safeguard Odorless Mastic Remover (VOC Compliant)

## Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 2-(2-butoxyethoxy)ethanol (112-34-5)

Listed on Inventory of Existing Chemical Substances (IECSC)  
Listed on the AICS (the Australian Inventory of Chemical Substances)  
Listed on the Japanese ENCS (Existing & New Chemicals Substances) inventory.  
Listed on the Korean ECL (Existing Chemical List) inventory.  
Listed on the Philippines CCS (Chemicals & Chemical Substances) inventory.

### Surfactant (Proprietary\*)

Listed on Inventory of Existing Chemical Substances (IECSC)  
Listed on the AICS (the Australian Inventory of Chemical Substances)  
Listed on the Japanese ENCS (Existing & New Chemicals Substances) inventory.  
Listed on the Korean ECL (Existing Chemical List) inventory.  
Listed on the Philippines CCS (Chemicals & Chemical Substances) inventory.

### 15.3. US State regulations

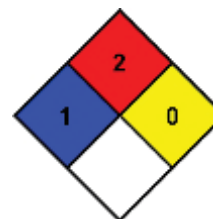
#### California Proposition 65

This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm

## SECTION 16: Other information

Indication of changes : Revision 1.1 - 02 November 2015  
Other information : Author. KAD

NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.  
NFPA fire hazard : 2 - Must be moderately heated or exposed to relatively high temperature before ignition can occur.  
NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



### HMIS III Rating

Health : 1  
Flammability : 2  
Physical : 0  
Personal Protection :

The information in this document is believed to be correct as of the date issued. However, no warranty of merchantability, fitness for any particular purpose, or any other warranty is expressed or is to be implied regarding the accuracy or completeness of this information, the results to be obtained from the use of this product or the hazards related to its use. This information and product are furnished on the condition that the person receiving them shall make his own determination as to the suitability of the product for his particular purpose and on the condition that he assume the risk of his use thereof.

# SAFETY DATA SHEET

## SECTION 1 - IDENTIFICATION

**PRODUCT CLASS:** AEROSOL ADHESIVE **PRODUCT CODE NUMBER:** INSS10  
**DATE:** 06/22/17  
**HAZARDOUS MATERIAL DESCRIPTION:** CONSUMER COMMODITY ORM-D  
**PRODUCT NAME:** **INLINE SUPER SPRAY GLUE – LOW VOC**  
**MANUFACTURED FOR:** **INLINE DISTRIBUTING**  
**ADDRESS:** **14093 BALBOA BLVD**  
**SYLMAR, CA 91342**  
**INFORMATION NUMBER:** **800-795-0933**  
**EMERGENCY PHONE NUMBER:** **CHEM TREC**  
**1-800-424-9300**  
**RECOMMENDED USE:** INDUSTRIAL STRENGTH MULTI-PURPOSE SPRAY ADHESIVE

## SECTION 2 – HAZARD (S) IDENTIFICATION

H. M. I. S.	
HEALTH	2
REACTIVITY	0
FLAMMABILITY	4
THESE RATINGS SHOULD BE USED ONLY AS PART OF A FULLY IMPLEMENTED HMIS SYSTEM	



### EFFECTS OF OVEREXPOSURE:

**PRIMARY ROUTES OF ENTRY:** SKIN CONTACT. EYE CONTACT. ABSORPTION. INHALATION.

**INHALATION:** CAN CAUSE IRRITATION TO THE NOSE AND THROAT. HIGH CONCENTRATIONS MAY CAUSE HEADACHES , DIZZINESS, NAUSEA, AND CONFUSION.

**EYE:** MAY CAUSE EYE IRRITATION

**SKIN:** MAY CAUSE TRANSIENT SKIN IRRITATION

**INGESTION:** MAY CAUSE GASTROINTESTINAL IRRITATION.

**OTHER:** REPORTS HAVE ASSOCIATED PROLONGED AND REPEATED OCCUPATIONAL OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE. INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.

## SECTION 3 – Composition / Information on Ingredients

INGREDIENT	CAS NO	OSHA PEL	TWA TLV	STEL	SARA 313	WT % (OPTIONAL)
ACETONE	67-64-1	1000	500	1000		PROPRIETARY
PROPANE	74-98-6	1000	1000	ASPHYXIAE		PROPRIETARY
HEXANE	110-54-3	500	500	1000	X	PROPRIETARY
ISOBUTANE	75-28-5	N/A	800	N/A		PROPRIETARY

The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

**SECTION 4 - FIRST-AID PROCEDURES**

**SWALLOWING:** IF SWALLOWED DO NOT INDUCE VOMITING. CALL POISON CONTROL CENTER, HOSPITAL EMERGENCY ROOM OR PHYSICIAN IMMEDIATELY.

**INHALATION:** REMOVE TO FRESH AIR IMMEDIATELY. IF BREATHING HAS STOPPED GIVE ARTIFICIAL RESPIRATION. KEEP WARM AND QUIET. GET MEDICAL ATTENTION.

**EYE:** FLUSH WITH LARGE AMOUNTS OF WATER, LIFTING UPPER AND LOWER LIDS OCCASIONALLY. CONTINUE FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION.

**SKIN:** REMOVE CONTAMINATED CLOTHING. WASH AFFECTED AREA WITH SOAP AND WATER. GET MEDICAL ATTENTION IF IRRITATION PERSISTS.

**SECTION 5 – FIRE FIGHTING MEASURES**

**FLASH POINT AND METHOD:** -40 F TCC

**FLAMMABLE LIMITS:** 1.8 LEL  
12.0 UEL

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** AEROSOL CANS MAY RUPTURE WHEN HEATED

**EXTINGUISHING MEDIA:** USE WATER FOG, DRY CHEMICAL, FOAM OR CARBON DIOXIDE

**SPECIAL FIRE FIGHTING PROCEDURES:** HEATING OF CONTENTS ABOVE 130 F MAY CAUSE CANS TO BURST.

**SECTION 6 – ACCIDENTAL RELEASE MEASURES**

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:** ELIMINATE ALL SOURCES OF IGNITION. PERMIT ONLY PROPERLY PROTECTED WORKERS IN THE AREA WITH SKIN/EYE PROTECTION AND SELF CONTAINED BREATHING GEAR. ABSORB SMALL SPILLS WITH INERT ABSORBENT MATERIAL. CONTAIN SPILLED LIQUID TO PREVENT CONTAMINATION OF SOIL, AND SURFACE WATER OR GROUND WATER. CONTACT STATE, LOCAL AND FEDERAL AGENCIES TO ENSURE COMPLIANCE WITH CURRENT REGULATIONS.

**SECTION 7 – HANDLING AND STORAGE**

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:** STORE CANS IN A COOL, DRY AND WELL VENTILATED AREA AWAY FROM ALL IGNITION SOURCES. NO SMOKING. PROLONGED EXPOSURE OF CANS TO ELEVATED TEMPERATURES MAY CAUSE CANS TO RUPTURE OR BURST. DO NOT SPRAY ON AN OPEN FLAME OR OTHER IGNITION SOURCE. DO NOT PIERCE OR BURN EVEN AFTER USE. AVOID RELEASE TO THE ENVIRONMENT. USE PERSONAL PROTECTIVE EQUIPMENT AS REQUIRED.

**SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION**

**RESPIRATION PROTECTION:** IF THE TLV'S LISTED IN SECTION II ARE EXCEEDED USE A PROPERLY FITTED NIOSH/MSHA APPROVED RESPIRATOR

**VENTILATION:** LOCAL AND MECHANICAL VENTILATION ARE RECOMMENDED TO KEEP ANY HAZARDOUS INGREDIENTS LISTED IN SECTION II BELOW THE LOWEST EXPOSURE LIMIT.

**HAND PROTECTION:** RESISTANT PLASTIC OR RUBBER RECOMMENDED.

**EYE PROTECTION:** WEAR SAFETY CHEMICAL SPLASH GOGGLES.

**OTHER PROTECTIVE EQUIPMENT:** NOT LIKELY TO BE NEEDED.

**SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES**

<b>BOILING POINT</b>	-40 F TO 160 F	<b>SPECIFIC GRAVITY</b>	0.6
<b>VAPOR PRESSURE PSIG @ 70F</b>	70 APPROX	<b>MELTING POINT</b>	N.A.
<b>VAPOR DENSITY</b>	2.5		

**APPEARANCE AND ODOR:** CLEAR LIGHT AMBER SOLUTION

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**SECTION 10 – STABILITY AND REACTIVITY**

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**STABILITY:** STABLE

**CONDITIONS TO AVOID:** STORING IN HIGH TEMPERATURES OR EXPOSING TO OPEN FLAMES

**INCOMPATIBILITY (CONDITIONS TO AVOID):** NONE

**HAZARDOUS DECOMPOSITION PRODUCTS:** CARBON MONOXIDE AND CARBON DIOXIDE.

**HAZARDOUS POLYMERIZATION:** NONE

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**SECTION 11 – TOXICOLOGICAL INFORMATION**

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**INHALATION:** INTENTIONAL CONCENTRATION AND INHALATION MAY BE HARMFUL OR FATAL

**SKIN CONTACT:** MILD SKIN IRRITATION: SIGN/SYMPTOMS MAY INCLUDE REDNESS, SWELLING, ITCHING AND DRYNESS

**EYE CONTACT:** MODERATE EYE IRRITATION: SIGNS/SYMPTOMS MAY INCLUDE REDNESS, SWELLING, PAIN, TEARING AND BLURRED OR HAZY VISION

**INGESTION:** GASTROINTESTINAL IRRITATION: SIGNS/SYMPTOMS MAY INCLUDE ABDOMINAL PAIN, STOMACH UPSET, NAUSEA, VOMITING AND DIARRHEA

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**SECTION 12 – ECOLOGICAL INFORMATION**

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PLEASE CONTACT THE ADDRESS OR PHONE NUMBER LISTED ON THE FRONT PAGE OF THE SDS FOR MORE INFORMATION

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**SECTION 13 – DISPOSAL CONSIDERATIONS**

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DISPOSE OF CONTENTS / CONTAINER IN ACCORDANCE WITH THE LOCAL / REGIONAL REGULATIONS

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**SECTION 14 – TRANSPORT INFORMATION**

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TRANSPORTATION WILL BE HANDLED ACCORDING TO DEPARTMENT OF TRANSPORTATION GUIDELINES

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**SECTION 15 – REGULATORY INFORMATION**

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CONTACT CHEM TECH INC. FOR ADDITIONAL INFORMATION

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**SECTION 16 – OTHER INFORMATION**

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**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:** STORE CANS IN A COOL, DRY AND WELL VENTILATED AREA AWAY FROM ALL IGNITION SOURCES. PROLONGED EXPOSURE OF CANS TO ELEVATED TEMPERATURES MAY CAUSE CANS TO RUPTURE OR BURST.

THE FOREGOING DATA HAS BEEN COMPILED FROM SOURCES WE BELIEVE TO BE ACCURATE. NO WARRANTY, EXPRESS OR IMPLIED, IS INTENDED. THIS INFORMATION IS OFFERED SOLELY FOR YOUR CONSIDERATION AND INTERPRETATION.

# SAFETY DATA SHEET



## 1. Identification

**Product identifier** LOCK-DOWN PRIMER

**Other means of identification**

**Product Code** Polyurethane primer

**Recommended use** Not available.

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer**

**Company name** GAF  
1 Campus Drive  
Parsippany, NJ 07054 USA

**Telephone** 1-800-766-3411

**Emergency phone number** CHEMTREC [DAY OR NIGHT] 1-800-424-9300  
Within USA and CANADA 1-800-424-9300

**Outside USA and Canada:** 1 703-741-5970

## 2. Hazard(s) identification

<b>Physical hazards</b>	Flammable liquids	Category 1
<b>Health hazards</b>	Acute toxicity, dermal	Category 4
	Acute toxicity, inhalation	Category 1
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Sensitization, respiratory	Category 1
	Sensitization, skin	Category 1
	Carcinogenicity	Category 2
	Reproductive toxicity	Category 2
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, repeated exposure	Category 1
<b>Environmental hazards</b>	Hazardous to the aquatic environment, acute hazard	Category 2
	Hazardous to the aquatic environment, long-term hazard	Category 2
<b>OSHA defined hazards</b>	Not classified.	

### Label elements



**Signal word**

Danger

**Hazard statement**

Extremely flammable liquid and vapor. Harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Fatal if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. Suspected of causing cancer. Suspected of damaging fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure. Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

## Precautionary statement

### Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Wear respiratory protection.

### Response

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Specific treatment is urgent (see this label). If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media to extinguish. Collect spillage.

### Storage

Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.

### Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

### Hazard(s) not otherwise classified (HNOC)

None known.

## 3. Composition/information on ingredients

### Mixtures

Chemical name	Common name and synonyms	CAS number	%
XYLENE		1330-20-7	20 to <30
ALUMINUM		7429-90-5	10 to <20
4,4'-Diphenylmethane diisocyanate		101-68-8	5 to <10
ETHYLBENZENE		100-41-4	5 to <10
Hydrotreated heavy naphtha		64742-48-9	5 to <10
Polymethylene polyphenyl polyisocyanate		9016-87-9	5 to <10
DIISOCYANATE (MDI)		26447-40-5	1 to <5
Other components below reportable levels			30 to <40

## 4. First-aid measures

### Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician or poison control center immediately.

### Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. Get medical advice/attention if you feel unwell. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.

### Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

### Ingestion

Rinse mouth. Get medical advice/attention if you feel unwell.

### Most important symptoms/effects, acute and delayed

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Difficulty in breathing. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects.

### Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

<b>General information</b>	Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.
<b>5. Fire-fighting measures</b>	
<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Dry sand. Carbon dioxide (CO2).
<b>Unsuitable extinguishing media</b>	Water. Do not use water jet as an extinguisher, as this will spread the fire. Carbon dioxide (CO2).
<b>Specific hazards arising from the chemical</b>	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	Extremely flammable liquid and vapor.
<b>6. Accidental release measures</b>	
<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe vapors or spray mist. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
<b>Methods and materials for containment and cleaning up</b>	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material.  Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent product from entering drains. Following product recovery, flush area with water.  Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.  Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
<b>Environmental precautions</b>	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.
<b>7. Handling and storage</b>	
<b>Precautions for safe handling</b>	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe vapors or spray mist. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Wash contaminated clothing before reuse. Observe good industrial hygiene practices.
<b>Conditions for safe storage, including any incompatibilities</b>	Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).



## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
4,4'-Diphenylmethane diisocyanate (CAS 101-68-8)	Ceiling	0.2 mg/m <sup>3</sup>	
ALUMINUM (CAS 7429-90-5)	PEL	0.02 ppm 5 mg/m <sup>3</sup>	Respirable dust.
ETHYLBENZENE (CAS 100-41-4)	PEL	15 mg/m <sup>3</sup> 435 mg/m <sup>3</sup>	Total dust.
Hydrotreated heavy naphtha (CAS 64742-48-9)	PEL	100 ppm 400 mg/m <sup>3</sup>	
Polymethylene polyphenyl polyisocyanate (CAS 9016-87-9)	Ceiling	100 ppm 0.2 mg/m <sup>3</sup>	
XYLENE (CAS 1330-20-7)	PEL	0.02 ppm 435 mg/m <sup>3</sup> 100 ppm	

#### US. ACGIH Threshold Limit Values

Components	Type	Value	Form
4,4'-Diphenylmethane diisocyanate (CAS 101-68-8)	TWA	0.005 ppm	
ALUMINUM (CAS 7429-90-5)	TWA	1 mg/m <sup>3</sup>	Respirable fraction.
ETHYLBENZENE (CAS 100-41-4)	TWA	20 ppm	
Polymethylene polyphenyl polyisocyanate (CAS 9016-87-9)	TWA	0.005 ppm	
XYLENE (CAS 1330-20-7)	STEL TWA	150 ppm 100 ppm	

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
4,4'-Diphenylmethane diisocyanate (CAS 101-68-8)	Ceiling	0.2 mg/m <sup>3</sup>	
ALUMINUM (CAS 7429-90-5)	TWA	0.02 ppm 0.05 mg/m <sup>3</sup> 0.005 ppm 5 mg/m <sup>3</sup>	Respirable.
ETHYLBENZENE (CAS 100-41-4)	STEL	5 mg/m <sup>3</sup> 10 mg/m <sup>3</sup> 545 mg/m <sup>3</sup>	Welding fume or pyrophoric powder. Total
Hydrotreated heavy naphtha (CAS 64742-48-9)	TWA	125 ppm 435 mg/m <sup>3</sup> 100 ppm 400 mg/m <sup>3</sup>	
Polymethylene polyphenyl polyisocyanate (CAS 9016-87-9)	Ceiling	100 ppm 0.2 mg/m <sup>3</sup>	

**US. NIOSH: Pocket Guide to Chemical Hazards**

Components	Type	Value	Form
	TWA	0.02 ppm 0.05 mg/m3 0.005 ppm	

**Biological limit values**

**ACGIH Biological Exposure Indices**

Components	Value	Determinant	Specimen	Sampling Time
ETHYLBENZENE (CAS 100-41-4)	0.15 g/g	Sum of mandelic acid and phenylglyoxylic acid	Creatinine in urine	*
XYLENE (CAS 1330-20-7)	1.5 g/g	Methylhippuric acids	Creatinine in urine	*

\* - For sampling details, please see the source document.

**Appropriate engineering controls**

Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

**Individual protection measures, such as personal protective equipment**

- Eye/face protection** Wear safety glasses with side shields (or goggles).
- Skin protection**
- Hand protection** Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.
- Other** Wear appropriate chemical resistant clothing.
- Respiratory protection** Wear positive pressure self-contained breathing apparatus (SCBA).
- Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations**

When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

**9. Physical and chemical properties**

**Appearance**

- Physical state** Liquid.
- Form** Liquid.
- Color** Not available.

**Odor** Not available.

**Odor threshold** Not available.

**pH** Not available.

**Melting point/freezing point** Not available.

**Initial boiling point and boiling range** Not available.

**Flash point** Not available.

**Evaporation rate** Not available.

**Flammability (solid, gas)** Not applicable.

**Upper/lower flammability or explosive limits**

- Flammability limit - lower (%)** Not available.
- Flammability limit - upper (%)** Not available.
- Explosive limit - lower (%)** Not available.

<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Not available.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Density</b>	8.37 lbs/gal
<b>Percent volatile</b>	40.28
<b>Specific gravity</b>	1
<b>VOC</b>	3.369729 lbs/gal Material 403.782478 g/l Regulatory 403.782586 g/l Material 3.3697281 lbs/gal Regulatory

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
<b>Incompatible materials</b>	Strong acids. Acids. Strong oxidizing agents. Halogens. Alcohols.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Fatal if inhaled. May cause damage to organs through prolonged or repeated exposure by inhalation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
<b>Skin contact</b>	Harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction.
<b>Eye contact</b>	Causes serious eye irritation.
<b>Ingestion</b>	Expected to be a low ingestion hazard.

**Symptoms related to the physical, chemical and toxicological characteristics** Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Difficulty in breathing. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

### Information on toxicological effects

**Acute toxicity** Fatal if inhaled. Harmful in contact with skin. May cause an allergic skin reaction. May cause respiratory irritation.

Components	Species	Test Results
4,4'-Diphenylmethane diisocyanate (CAS 101-68-8)		
<b>Acute</b>		
<b>Inhalation</b>		
LC50	Rat	0.369 mg/l, 4 Hours
ETHYLBENZENE (CAS 100-41-4)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rabbit	17800 mg/kg

Components	Species	Test Results
<b>Oral</b>		
LD50	Rat	3500 mg/kg
Hydrotreated heavy naphtha (CAS64742-48-9)		
<b>Acute</b>		
<b>Inhalation</b>		
LC50	Rat	61 mg/l, 4 Hours
<b>Oral</b>		
LD50	Rat	> 25 ml/kg
Polymethylene polyphenyl polyisocyanate (CAS9016-87-9)		
<b>Acute</b>		
<b>Inhalation</b>		
LC50	Rat	0.369 mg/l, 4 Hours
XYLENE (CAS 1330-20-7)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rabbit	> 43 g/kg
<b>Inhalation</b>		
LC50	Mouse	3907 mg/l, 6 Hours
	Rat	6350 mg/l, 4 Hours
<b>Oral</b>		
LD50	Mouse	1590 mg/kg
	Rat	3523 - 8600 mg/kg

\* Estimates for product may be based on additional component data not shown.

<b>Skin corrosion/irritation</b>	Causes skin irritation.
<b>Serious eye damage/eye irritation</b>	Causes serious eye irritation.
<b>Respiratory or skin sensitization</b>	
<b>Respiratory sensitization</b>	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
<b>Skin sensitization</b>	May cause an allergic skin reaction.
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
<b>Carcinogenicity</b>	Suspected of causing cancer.
<b>IARC Monographs. Overall Evaluation of Carcinogenicity</b>	
4,4'-Diphenylmethane diisocyanate (CAS 101-68-8)	3 Not classifiable as to carcinogenicity to humans.
DIISOCYANATE (MDI) (CAS 26447-40-5)	3 Not classifiable as to carcinogenicity to humans.
ETHYLBENZENE (CAS 100-41-4)	2B Possibly carcinogenic to humans.
Polymethylene polyphenyl polyisocyanate (CAS 9016-87-9)	3 Not classifiable as to carcinogenicity to humans.
XYLENE (CAS 1330-20-7)	3 Not classifiable as to carcinogenicity to humans.
<b>OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)</b>	
Not listed.	
<b>Reproductive toxicity</b>	Components in this product have been shown to cause birth defects and reproductive disorders in laboratory animals. Suspected of damaging fertility or the unborn child.
<b>Specific target organ toxicity - single exposure</b>	May cause respiratory irritation.
<b>Specific target organ toxicity - repeated exposure</b>	Causes damage to organs through prolonged or repeated exposure.
<b>Aspiration hazard</b>	Not an aspiration hazard.
<b>Chronic effects</b>	Causes damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

## 12. Ecological information

**Ecotoxicity** Toxic to aquatic life with long lasting effects.

Components		Species	Test Results
ALUMINUM (CAS 7429-90-5)			
<b>Aquatic</b>			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	0.16 mg/l, 96 hours
ETHYLBENZENE (CAS 100-41-4)			
<b>Aquatic</b>			
Crustacea	EC50	Water flea (Daphnia magna)	1.37 - 4.4 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	7.5 - 11 mg/l, 96 hours
Hydrotreated heavy naphtha (CAS64742-48-9)			
<b>Aquatic</b>			
Crustacea	EC50	Water flea (Daphnia pulex)	2.7 - 5.1 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	8.8 mg/l, 96 hours
			8.8 mg/l, 96 hours
XYLENE (CAS 1330-20-7)			
<b>Aquatic</b>			
Fish	LC50	Bluegill (Lepomis macrochirus)	7.711 - 9.591 mg/l, 96 hours

\* Estimates for product may be based on additional component data not shown.

**Persistence and degradability** No data is available on the degradability of this product.

### Bioaccumulative potential

#### Partition coefficient n-octanol / water (log Kow)

ETHYLBENZENE	3.15
XYLENE	3.12 - 3.2

**Mobility in soil** No data available.

**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## 13. Disposal considerations

**Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations** Dispose in accordance with all applicable regulations.

**Hazardous waste code** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging** Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. Transport information

### DOT

<b>UN number</b>	UN1263
<b>UN proper shipping name</b>	Paint
<b>Transport hazard class(es)</b>	
<b>Class</b>	3
<b>Subsidiary risk</b>	-
<b>Packing group</b>	III
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

**IATA**

**UN number** UN1263  
**UN proper shipping name** Paint  
**Transport hazard class(es)**  
**Class** 3  
**Subsidiary risk** -  
**Packing group** III  
**Environmental hazards** No.  
**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.  
**Other information**  
**Passenger and cargo aircraft** Forbidden.  
**Cargo aircraft only** Forbidden.

**IMDG**

**UN number** UN1263  
**UN proper shipping name** Paint  
**Transport hazard class(es)**  
**Class** 3  
**Subsidiary risk** III  
**Packing group**  
**Environmental hazards** No.  
**Marine pollutant** Not available.

**EmS**

**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not established.

**DOT**



**IATA; IMDG**



**15. Regulatory information**

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.  
All components are on the U.S. EPA TSCA Inventory List.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**TSCA Chemical Action Plans, Chemicals of Concern**

4,4'-Diphenylmethane diisocyanate (CAS 101-68-8)

Methylene Diphenyl Diisocyanate (MDI) And Related Compounds  
Action Plan [RIN 2070-ZA15]

DIISOCYANATE (MDI) (CAS 26447-40-5)

Methylene Diphenyl Diisocyanate (MDI) And Related Compounds  
Action Plan [RIN 2070-ZA15]

Polymethylene polyphenyl polyisocyanate (CAS  
9016-87-9)

Methylene Diphenyl Diisocyanate (MDI) And Related Compounds  
Action Plan [RIN 2070-ZA15]

**CERCLA Hazardous Substance List (40 CFR 302.4)**

4,4'-Diphenylmethane diisocyanate (CAS 101-68-8)

Listed.

ETHYLBENZENE (CAS 100-41-4)

Listed.

Polymethylene polyphenyl polyisocyanate (CAS  
9016-87-9)

Listed.

XYLENE (CAS 1330-20-7)

Listed.

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories**

Immediate Hazard - Yes

Delayed Hazard - Yes

Fire Hazard - Yes

Pressure Hazard - No

Reactivity Hazard - No

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous  
chemical**

No

**SARA 313 (TRI reporting)**

Chemical name	CAS number	% by wt.
XYLENE	1330-20-7	20 to <30
ALUMINUM	7429-90-5	10 to <20
4,4'-Diphenylmethane diisocyanate	101-68-8	5 to <10
ETHYLBENZENE	100-41-4	5 to <10
Polymethylene polyphenyl polyisocyanate	9016-87-9	5 to <10

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

4,4'-Diphenylmethane diisocyanate (CAS 101-68-8)

ETHYLBENZENE (CAS 100-41-4)

Polymethylene polyphenyl polyisocyanate (CAS 9016-87-9)

XYLENE (CAS 1330-20-7)

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act  
(SDWA)**

Not regulated.

**US state regulations**

**US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

**US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

4,4'-Diphenylmethane diisocyanate (CAS 101-68-8)

ALUMINUM (CAS 7429-90-5)

DIISOCYANATE (MDI) (CAS 26447-40-5)

ETHYLBENZENE (CAS 100-41-4)

Hydrotreated heavy naphtha (CAS 64742-48-9)

Polymethylene polyphenyl polyisocyanate (CAS 9016-87-9)

XYLENE (CAS 1330-20-7)

**US. Massachusetts RTK - Substance List**

4,4'-Diphenylmethane diisocyanate (CAS 101-68-8)

ALUMINUM (CAS 7429-90-5)

ETHYLBENZENE (CAS 100-41-4)

Hydrotreated heavy naphtha (CAS 64742-48-9)

Polymethylene polyphenyl polyisocyanate (CAS 9016-87-9)

XYLENE (CAS 1330-20-7)

### US. New Jersey Worker and Community Right-to-Know Act

4,4'-Diphenylmethane diisocyanate (CAS 101-68-8)  
ALUMINUM (CAS 7429-90-5)  
DIISOCYANATE (MDI) (CAS 26447-40-5)  
ETHYLBENZENE (CAS 100-41-4)  
Hydrotreated heavy naphtha (CAS 64742-48-9)  
Polymethylene polyphenyl polyisocyanate (CAS 9016-87-9)  
XYLENE (CAS 1330-20-7)

### US. Pennsylvania Worker and Community Right-to-Know Law

4,4'-Diphenylmethane diisocyanate (CAS 101-68-8)  
ALUMINUM (CAS 7429-90-5)  
ETHYLBENZENE (CAS 100-41-4)  
Hydrotreated heavy naphtha (CAS 64742-48-9)  
Polymethylene polyphenyl polyisocyanate (CAS 9016-87-9)  
XYLENE (CAS 1330-20-7)

### US. Rhode Island RTK

4,4'-Diphenylmethane diisocyanate (CAS 101-68-8)  
ALUMINUM (CAS 7429-90-5)  
ETHYLBENZENE (CAS 100-41-4)  
Polymethylene polyphenyl polyisocyanate (CAS 9016-87-9)  
XYLENE (CAS 1330-20-7)

### US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

#### US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

ETHYLBENZENE (CAS 100-41-4) Listed: June 11, 2004

### International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

### 16. Other information, including date of preparation or last revision

Issue date	05-21-2015
Revision date	05-15-2017
Version #	03
HMIS® ratings	Health: 4* Flammability: 4 Physical hazard: 0
NFPA ratings	Health: 4 Flammability: 4 Instability: 0



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**Revision Information**

Change to Packing Group.



## Safety Data Sheet

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<b>Issue Date:</b>	03/31/17	<b>Supersedes Date:</b>	04/07/16

### SECTION 1: Identification

#### 1.1. Product identifier

3M(TM) Super 77(TM) Multipurpose Adhesive (Aerosol)

#### Product Identification Numbers

62-4977-2924-4, 62-4977-2928-5, 62-4977-4730-3, 62-4977-4922-6, 62-4977-4923-4, 62-4977-4925-9, 62-4977-4929-1, 62-4977-4930-9, 62-4977-4935-8

#### 1.2. Recommended use and restrictions on use

##### Recommended use

Adhesive aerosol, General Purpose Aerosol adhesive

#### 1.3. Supplier's details

<b>MANUFACTURER:</b>	3M
<b>DIVISION:</b>	Industrial Adhesives and Tapes Division
<b>ADDRESS:</b>	3M Center, St. Paul, MN 55144-1000, USA
<b>Telephone:</b>	1-888-3M HELPS (1-888-364-3577)

#### 1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

### SECTION 2: Hazard identification

#### 2.1. Hazard classification

Flammable Aerosol: Category 1.  
 Gas Under Pressure: Liquefied gas.  
 Serious Eye Damage/Irritation: Category 2A.  
 Reproductive Toxicity: Category 2.  
 Simple Asphyxiant.  
 Specific Target Organ Toxicity (single exposure): Category 1.  
 Specific Target Organ Toxicity (single exposure): Category 3.

#### 2.2. Label elements

##### Signal word

Danger

**Symbols**

Flame | Gas cylinder | Exclamation mark | Health Hazard |

**Pictograms****Hazard Statements**

Extremely flammable aerosol.

Contains gas under pressure; may explode if heated.

Causes serious eye irritation.

May cause drowsiness or dizziness.

Suspected of damaging fertility or the unborn child.

May displace oxygen and cause rapid suffocation.

Causes damage to organs:  
cardiovascular system |**Precautionary Statements****General:**

Keep out of reach of children.

**Prevention:**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Do not spray on an open flame or other ignition source.

Pressurized container: Do not pierce or burn, even after use.

Do not breathe dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

Wear protective gloves and eye/face protection.

Do not eat, drink or smoke when using this product.

Wash thoroughly after handling.

**Response:**

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

If eye irritation persists: Get medical advice/attention.

IF exposed or concerned: Get medical advice/attention.

Specific treatment (see Notes to Physician on this label).

**Storage:**

Protect from sunlight. Do not expose to temperatures exceeding 50C/122F.

Keep container tightly closed.

Store locked up in a well-ventilated place.

**Disposal:**

Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

**Notes to Physician:**

Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

**2.3. Hazards not otherwise classified**

Intentional misuse by deliberately concentrating and inhaling contents can be harmful or fatal.

**SECTION 3: Composition/information on ingredients**

Ingredient	C.A.S. No.	% by Wt
Acetone	67-64-1	20 - 30 Trade Secret *
Non-volatile components (N.J.T.S. Registry No. 04499600-6433P)	Trade Secret*	20 - 30 Trade Secret *
Propane	74-98-6	15 - 25 Trade Secret *
Cyclohexane	110-82-7	10 - 20 Trade Secret *
Petroleum distillates	64742-49-0	10 - 20 Trade Secret *
Hexane	110-54-3	< 0.5 Trade Secret *

\*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

**Inhalation:**

Remove person to fresh air. Get medical attention.

**Skin Contact:**

Wash with soap and water. If signs/symptoms develop, get medical attention.

**Eye Contact:**

Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

**If Swallowed:**

Rinse mouth. If you feel unwell, get medical attention.

**4.2. Most important symptoms and effects, both acute and delayed**

See Section 11.1. Information on toxicological effects.

**4.3. Indication of any immediate medical attention and special treatment required**

Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

**SECTION 5: Fire-fighting measures**

**5.1. Suitable extinguishing media**

Use a fire fighting agent suitable for the surrounding fire.

**5.2. Special hazards arising from the substance or mixture**

Closed containers exposed to heat from fire may build pressure and explode.

**Hazardous Decomposition or By-Products**

Substance

Aldehydes

Condition

During Combustion

Carbon monoxide  
Carbon dioxide

During Combustion  
During Combustion

**5.3. Special protective actions for fire-fighters**

Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

**SECTION 6: Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

**6.2. Environmental precautions**

Avoid release to the environment.

**6.3. Methods and material for containment and cleaning up**

If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available. Contain spill. Cover spill area with a fire-extinguishing foam. An appropriate aqueous film forming foam (AFFF) is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (gloves, respirators, etc.) as required.

**7.2. Conditions for safe storage including any incompatibilities**

Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. Store away from heat. Store away from acids. Store away from oxidizing agents.

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

**Occupational exposure limits**

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
------------	------------	--------	------------	---------------------

Hexane	110-54-3	ACGIH	TWA:50 ppm	SKIN
Hexane	110-54-3	OSHA	TWA:1800 mg/m3(500 ppm)	
Cyclohexane	110-82-7	ACGIH	TWA:100 ppm	
Cyclohexane	110-82-7	OSHA	TWA:1050 mg/m3(300 ppm)	
Acetone	67-64-1	ACGIH	TWA:250 ppm;STEL:500 ppm	A4: Not class. as human carcin
Acetone	67-64-1	OSHA	TWA:2400 mg/m3(1000 ppm)	
Propane	74-98-6	ACGIH	Limit value not established:	
Propane	74-98-6	OSHA	TWA:1800 mg/m3(1000 ppm)	

ACGIH : American Conference of Governmental Industrial Hygienists  
 AIHA : American Industrial Hygiene Association  
 CMRG : Chemical Manufacturer's Recommended Guidelines  
 OSHA : United States Department of Labor - Occupational Safety and Health Administration  
 TWA: Time-Weighted-Average  
 STEL: Short Term Exposure Limit  
 CEIL: Ceiling

**8.2. Exposure controls**

**8.2.1. Engineering controls**

Do not remain in area where available oxygen may be reduced. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

**8.2.2. Personal protective equipment (PPE)**

**Eye/face protection**

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:  
 Indirect Vented Goggles

**Skin/hand protection**

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.  
 Gloves made from the following material(s) are recommended: Butyl Rubber  
 Nitrile Rubber

**Respiratory protection**

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:  
 Half facepiece or full facepiece supplied-air respirator

For questions about suitability for a specific application, consult with your respirator manufacturer.

**SECTION 9: Physical and chemical properties**

**9.1. Information on basic physical and chemical properties**

**General Physical Form:** Liquid aerosol  
**Specific Physical Form:** Aerosol  
**Odor, Color, Grade:** Clear, sweet, fruity odor

Odor threshold	No Data Available
pH	No Data Available
Melting point	No Data Available
Boiling Point	Not Applicable
Flash Point	-42.00 °F [Test Method: Tagliabue Closed Cup]
Evaporation rate	1.9 [Ref Std: ETHER=1]
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	No Data Available
Flammable Limits(UEL)	No Data Available
Vapor Density	2.97 [Ref Std: AIR=1]
Density	0.726 g/ml
Specific Gravity	0.726 [Ref Std: WATER=1]
Solubility in Water	Nil
Solubility- non-water	No Data Available
Partition coefficient: n-octanol/ water	No Data Available
Autoignition temperature	No Data Available
Decomposition temperature	Not Applicable
Viscosity	Not Applicable
Hazardous Air Pollutants	<=0.4 % weight [Test Method: Calculated]
VOC Less H2O & Exempt Solvents	<=51 % [Test Method: calculated SCAQMD rule 443.1]
Solids Content	>=22.4 %

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

### 10.2. Chemical stability

Stable.

### 10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

### 10.4. Conditions to avoid

Heat

### 10.5. Incompatible materials

Strong oxidizing agents

### 10.6. Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

## SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

**11.1. Information on Toxicological effects**

**Signs and Symptoms of Exposure**

**Based on test data and/or information on the components, this material may produce the following health effects:**

**Inhalation:**

Intentional concentration and inhalation may be harmful or fatal.

Simple Asphyxiation: Signs/symptoms may include increased heart rate, rapid respirations, drowsiness, headache, incoordination, altered judgement, nausea, vomiting, lethargy, seizures, coma, and may be fatal.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

**Skin Contact:**

Dermal Defatting: Signs/symptoms may include localized redness, itching, drying and cracking of skin.

**Eye Contact:**

Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

**Ingestion:**

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

**Additional Health Effects:**

**Single exposure may cause target organ effects:**

Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Single exposure, above recommended guidelines, may cause:

Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

**Reproductive/Developmental Toxicity:**

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

**Toxicological Data**

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

**Acute Toxicity**

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Inhalation-Vapor(4 hr)		No data available; calculated ATE >50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Propane	Inhalation-Gas (4 hours)	Rat	LC50 > 200,000 ppm



Acetone	Dermal	Rabbit	LD50 > 15,688 mg/kg
Acetone	Inhalation-Vapor (4 hours)	Rat	LC50 76 mg/l
Acetone	Ingestion	Rat	LD50 5,800 mg/kg
Cyclohexane	Dermal	Rat	LD50 > 2,000 mg/kg
Cyclohexane	Inhalation-Vapor (4 hours)	Rat	LC50 > 32.9 mg/l
Cyclohexane	Ingestion	Rat	LD50 6,200 mg/kg
Petroleum distillates	Dermal	Rabbit	LD50 > 3,160 mg/kg
Petroleum distillates	Inhalation-Vapor (4 hours)	Rat	LC50 > 14.7 mg/l
Petroleum distillates	Ingestion	Rat	LD50 > 5,000 mg/kg
Non-volatile components (N.J.T.S. Registry No. 04499600-6433P)	Dermal		LD50 estimated to be > 5,000 mg/kg
Non-volatile components (N.J.T.S. Registry No. 04499600-6433P)	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Hexane	Dermal	Rabbit	LD50 > 2,000 mg/kg
Hexane	Inhalation-Vapor (4 hours)	Rat	LC50 170 mg/l
Hexane	Ingestion	Rat	LD50 > 28,700 mg/kg

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

Name	Species	Value
Propane	Rabbit	Minimal irritation
Acetone	Mouse	Minimal irritation
Cyclohexane	Rabbit	Mild irritant
Petroleum distillates	Rabbit	Irritant
Non-volatile components (N.J.T.S. Registry No. 04499600-6433P)	Professional judgement	Minimal irritation
Hexane	Human and animal	Mild irritant

**Serious Eye Damage/Irritation**

Name	Species	Value
Propane	Rabbit	Mild irritant
Acetone	Rabbit	Severe irritant
Cyclohexane	Rabbit	Mild irritant
Petroleum distillates	Rabbit	Mild irritant
Hexane	Rabbit	Mild irritant

**Skin Sensitization**

Name	Species	Value
Petroleum distillates	Guinea pig	Not sensitizing
Hexane	Human	Not sensitizing

**Respiratory Sensitization**

For the component/components, either no data are currently available or the data are not sufficient for classification.

**Germ Cell Mutagenicity**

Name	Route	Value
Propane	In Vitro	Not mutagenic

Acetone	In vivo	Not mutagenic
Acetone	In Vitro	Some positive data exist, but the data are not sufficient for classification
Cyclohexane	In Vitro	Not mutagenic
Cyclohexane	In vivo	Some positive data exist, but the data are not sufficient for classification
Petroleum distillates	In Vitro	Not mutagenic
Hexane	In Vitro	Not mutagenic
Hexane	In vivo	Not mutagenic

**Carcinogenicity**

Name	Route	Species	Value
Acetone	Not Specified	Multiple animal species	Not carcinogenic
Petroleum distillates	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification
Hexane	Dermal	Mouse	Not carcinogenic
Hexane	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification

**Reproductive Toxicity**

**Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test Result	Exposure Duration
Acetone	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,700 mg/kg/day	13 weeks
Acetone	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 5.2 mg/l	during organogenesis
Cyclohexane	Inhalation	Not toxic to female reproduction	Rat	NOAEL 24 mg/l	2 generation
Cyclohexane	Inhalation	Not toxic to male reproduction	Rat	NOAEL 24 mg/l	2 generation
Cyclohexane	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 6.9 mg/l	2 generation
Hexane	Ingestion	Not toxic to development	Mouse	NOAEL 2,200 mg/kg/day	during organogenesis
Hexane	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 0.7 mg/l	during gestation
Hexane	Ingestion	Toxic to male reproduction	Rat	NOAEL 1,140 mg/kg/day	90 days
Hexane	Inhalation	Toxic to male reproduction	Rat	LOAEL 3.52 mg/l	28 days

**Target Organ(s)**

**Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Propane	Inhalation	cardiac sensitization	Causes damage to organs	Human	NOAEL Not available	
Propane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Propane	Inhalation	respiratory irritation	All data are negative	Human	NOAEL Not available	
Acetone	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Acetone	Inhalation	respiratory irritation	Some positive data exist, but the	Human	NOAEL Not	

			data are not sufficient for classification		available	
Acetone	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 1.19 mg/l	6 hours
Acetone	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL Not available	
Acetone	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
Cyclohexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Cyclohexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
Cyclohexane	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Petroleum distillates	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Petroleum distillates	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Petroleum distillates	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Hexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	not available
Hexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL Not available	8 hours
Hexane	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 24.6 mg/l	8 hours

**Specific Target Organ Toxicity - repeated exposure**

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Acetone	Dermal	eyes	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL Not available	3 weeks
Acetone	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 3 mg/l	6 weeks
Acetone	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 1.19 mg/l	6 days
Acetone	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL 119 mg/l	not available
Acetone	Inhalation	heart   liver	All data are negative	Rat	NOAEL 45 mg/l	8 weeks
Acetone	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 900 mg/kg/day	13 weeks
Acetone	Ingestion	heart	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 200 mg/kg/day	13 weeks
Acetone	Ingestion	liver	Some positive data exist, but the data are not sufficient for	Mouse	NOAEL 3,896	14 days

			classification		mg/kg/day	
Acetone	Ingestion	eyes	All data are negative	Rat	NOAEL 3,400 mg/kg/day	13 weeks
Acetone	Ingestion	respiratory system	All data are negative	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	muscles	All data are negative	Rat	NOAEL 2,500 mg/kg	13 weeks
Acetone	Ingestion	skin   bone, teeth, nails, and/or hair	All data are negative	Mouse	NOAEL 11,298 mg/kg/day	13 weeks
Cyclohexane	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 24 mg/l	90 days
Cyclohexane	Inhalation	auditory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.7 mg/l	90 days
Cyclohexane	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL 2.7 mg/l	10 weeks
Cyclohexane	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 24 mg/l	14 weeks
Cyclohexane	Inhalation	peripheral nervous system	All data are negative	Rat	NOAEL 8.6 mg/l	30 weeks
Hexane	Inhalation	peripheral nervous system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
Hexane	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Mouse	LOAEL 1.76 mg/l	13 weeks
Hexane	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	6 months
Hexane	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 1.76 mg/l	6 months
Hexane	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 35.2 mg/l	13 weeks
Hexane	Inhalation	auditory system   immune system   eyes	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Hexane	Inhalation	heart   skin   endocrine system	All data are negative	Rat	NOAEL 1.76 mg/l	6 months
Hexane	Ingestion	peripheral nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,140 mg/kg/day	90 days
Hexane	Ingestion	endocrine system   hematopoietic system   liver   immune system   kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	13 weeks

**Aspiration Hazard**

Name	Value
Cyclohexane	Aspiration hazard
Petroleum distillates	Aspiration hazard
Hexane	Aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

**SECTION 12: Ecological information**

### Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

### Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of waste product in a permitted industrial waste facility. Facility must be capable of handling aerosol cans.

EPA Hazardous Waste Number (RCRA): D001 (Ignitable)

## SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

## SECTION 15: Regulatory information

### 15.1. US Federal Regulations

Contact 3M for more information.

#### 311/312 Hazard Categories:

Fire Hazard - Yes    Pressure Hazard - Yes    Reactivity Hazard - No    Immediate Hazard - Yes    Delayed Hazard - Yes

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

<u>Ingredient</u>	<u>C.A.S. No</u>	<u>% by Wt</u>
Cyclohexane	110-82-7	Trade Secret 10 - 20

### 15.2. State Regulations

Contact 3M for more information.

### 15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

### 15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

## SECTION 16: Other information

**NFPA Hazard Classification**

**Health:** 2 **Flammability:** 4 **Instability:** 0 **Special Hazards:** None  
**Aerosol Storage Code:** 3

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

**HMIS Hazard Classification**

**Health:** \*2 **Flammability:** 4 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® IV) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® IV ratings are to be used with a fully implemented HMIS® IV program. HMIS® is a registered mark of the American Coatings Association (ACA).

<b>Document Group:</b>	16-3472-4	<b>Version Number:</b>	39.00
<b>Issue Date:</b>	03/31/17	<b>Supercedes Date:</b>	04/07/16

**Reason for Reissue**

Conversion to GHS format SDS.

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## TECHNICAL DATA

# POLYFLEX<sup>®</sup> 133

## Single Coated Polyethylene Tape

### DESCRIPTION

**Polyflex 133** is a polyethylene film, single coated with a rubber pressure sensitive adhesive.

### APPLICATIONS

- Polyethylene splicing
- Surface protection
- Industrial assembly applications

### PRODUCT BENEFITS

- Low-residue aggressive adhesive
- Bonds well to most surfaces over a wide temperature range
- Excellent low temperature bonding
- Serrated edge facilitates easy tearing

### TECHNICAL PROPERTIES

<b>Total Thickness</b> (not including liner)	7.5 mils (.190mm)
<b>Adhesive Thickness</b> (rubber)	3.0 mils (.076mm)

### ADHESIVE TEST DATA

<b>Peel Adhesion</b> (PSTC 1 Mod.)	<u>Oz./Inch</u>	<u>(N/25mm)</u>
Initial to S.S. (20 min. @ RT)	60	17
<b>Backing Adhesion</b> (PSTC 1 Mod.)		
Initial to Backing Substrate (20 min. @ RT)	35	9.6

<b>Tensile Strength</b> (ASTM D-1000)	<u>lbs./Inch</u>	<u>(N/25mm)</u>
	24	105
<b>Elongation</b> (ASTM D-1000)	70%	

<b>Operating Temperature Range</b>	32°F to 160°F (0°C to 70°C)
------------------------------------	-----------------------------

(800) 801-0323 > [www.scapana.com](http://www.scapana.com) > [appsupport@scapana.com](mailto:appsupport@scapana.com)

The information given and the recommendations made herein are based on our research and are believed to be accurate but no guarantee of their accuracy is made. In every case we urge and recommend that purchasers, before using any product in full scale production, make their own tests to determine to their own satisfaction whether the product is of acceptable quality and is suitable for their particular purposes under their own operating conditions. The products discussed herein are sold without any warranty as to merchantability of fitness for a particular purpose or any other warranty, expressed or implied. No representative of ours has any authority to waive or change the foregoing provisions but, subject to such provisions, our engineers are available to assist purchasers in adapting our products to their needs and to the circumstances prevailing in their business. Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

## RECOMMENDATIONS

### *Application to Surface:*

*Unwind adhesive film or tape and apply the adhesive side to the mounting surface. Apply firm pressure. Recommended application temperature to achieve best results is 65° F (18° C) or above. Proper bonding may not occur unless adhesive and surface material are both at 65° F (18° C) or above.*

*NOTE: 1. When applying pressure sensitive adhesive films to any surface, be sure that the surface is free from oil or other surface contaminants such as powder, dust, or release agents. Adhesive performance should be carefully checked when used on substrates containing plasticizers.*

*2. Shelf life is one year from date of shipment when stored in a cool dry place below 76° F (24°C). Rolls should be stored on end.*

*Polyflex is a registered trademark of Scapa North America.*



# Inline Safeguard Low Odor Mastic Remover

## Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 11/02/2015

Supersedes: All previous versions

Version: 1.1

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product name : Inline Safeguard Low Odor Mastic Remover

Product form : Mixture

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Mastic adhesive removal

#### 1.3. Details of the supplier of the safety data sheet

Inline Distributing Company

14093 Balboa Blvd

Sylmar, CA 91342

Phone: (818) 768-3333

Toll-free: (800) 795-0933

[www.inlineco.com](http://www.inlineco.com)

#### 1.4. Emergency telephone number

Emergency number : 1-866-359-5661

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification (GHS-US)

Flammable Liquid Category 4 H227

Aspiration Toxicity Category 1 H304

Skin Irritation Category 2 H315

Eye Irritation Category 2 H319

Acute Toxicity - Inhalation Category 4 H332

Specific Target Organ Toxicity (Single Exposure) [Narcotic effects] Category 3 H336

#### 2.2. Label elements

##### GHS-US labeling

Hazard pictograms (GHS-US) :



GHS08

GHS07

Signal word (GHS-US) :

**Danger**

Hazard statements (GHS-US) :

H227 - Combustible liquid

H332 - Harmful if inhaled

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H336 - May cause drowsiness and dizziness

H304 - May be fatal if swallowed and enters airways

Precautionary statements (GHS-US) :

P210 - Keep away from heat, open flames, sparks. - No smoking

P261 - Avoid breathing vapors

P271 - Use only outdoors or in a well-ventilated area

P264 - Wash hands thoroughly after handling.

P280 - Wear eye protection, protective clothing, protective gloves

P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P312 - Call a POISON CENTER or doctor/physician if you feel unwell

P302+P352 - IF ON SKIN: Wash with plenty of soap and water.

P332+P313 - If skin irritation occurs: Get medical advice/attention.

P362 - Take off contaminated clothing and wash before reuse.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.

P337+P313 - If eye irritation persists: Get medical advice/attention.

P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

P331 - If swallowed, do NOT induce vomiting

# Inline Safeguard Low Odor Mastic Remover

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P370+P378 - In case of fire: Use dry chemical, foam, CO2 for extinction  
P403+P235 - Store in a well-ventilated place. Keep cool  
P405 - Store locked up  
P501 - Dispose of contents/container to licensed waste handling facility

### 2.3. Other hazards

No additional information available

### 2.4. Unknown acute toxicity (GHS-US)

No data available

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Not applicable

### 3.2. Mixture

Name	Product identifier	%
Petroleum distillates, hydrotreated light	(CAS No) 64742-47-8	Proprietary*
2-(2-butoxyethoxy)ethanol	(CAS No) 112-34-5	Proprietary*
Surfactant	(CAS No) Proprietary*	Proprietary*

\*The specific chemical identity and exact percentage of composition has been withheld as a trade secret

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
- First-aid measures after skin contact : IF ON SKIN: Immediately rinse with plenty of soap and water (for at least 15 minutes). If skin irritation occurs, get medical advice/attention.
- First-aid measures after eye contact : IF IN EYES: Rinse immediately and thoroughly, pulling the eyelids well away from the eye (15 minutes minimum). Remove contact lenses, if present and easy to do so. Continue rinsing. If eye irritation occurs, get medical advice/attention.
- First-aid measures after ingestion : IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting. Obtain emergency medical attention.

### 4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries : May be fatal if swallowed and enters airways.
- Symptoms/injuries after inhalation : Inhalation in high concentrations may cause irritation of the mucous membranes. Solvent vapors are hazardous and may cause nausea, sickness and headaches. Aspiration of this material into the lungs may cause chemical pneumonia or death.
- Symptoms/injuries after skin contact : Contact during a long period may cause light irritation.
- Symptoms/injuries after eye contact : Direct contact with the eyes is likely to be irritating.
- Symptoms/injuries after ingestion : Acute ingestion causes CNS depression, oropharyngeal and gastric pain and vomiting.
- Chronic symptoms : No data available.

### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

- Suitable extinguishing media : Dry chemical. Carbon dioxide. Foam.

### 5.2. Special hazards arising from the substance or mixture

- Fire hazard : This material is an NFPA IIIA combustible liquid.
- Explosion hazard : Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.
- Reactivity : No dangerous reactions known under normal conditions of use.

### 5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Do not dispose of fire-fighting water in the environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

# Inline Safeguard Low Odor Mastic Remover

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Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Evacuate area. Keep upwind. Ventilate area. Spill should be handled by trained clean-up crews properly equipped with respiratory equipment and full chemical protective gear (see Section 8).

##### 6.1.1. For non-emergency personnel

Protective equipment : Wear Protective equipment as described in Section 8.  
Emergency procedures : Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

Protective equipment : Wear suitable protective clothing, gloves and eye or face protection. Approved supplied-air respirator, in case of emergency.

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Foam may be used to suppress vapors.  
Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Place in a suitable container for disposal in accordance with the waste regulations (see Section 13).

#### 6.4. Reference to other sections

No additional information available

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Do not handle until all safety precautions have been read and understood. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Do not breathe mists. Keep away from sources of ignition - No smoking.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Heat sources. Keep container closed when not in use.

#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

Petroleum distillates, hydrotreated light (64742-47-8)	
Remark (ACGIH)	OELs not established
Remark (US OSHA)	OELs not established

2-(2-butoxyethoxy)ethanol (112-34-5)	
Remark (ACGIH)	TWA - 10 ppm
Remark (US OSHA)	OELs not established

Surfactant (Proprietary*)	
Remark (ACGIH)	OELs not established
Remark (US OSHA)	OELs not established

#### 8.2. Exposure controls

Appropriate engineering controls : Ensure adequate ventilation, especially in confined areas.

# Inline Safeguard Low Odor Mastic Remover

## Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Personal protective equipment : Gloves. Protective clothing. Protective goggles. Respiratory protection of the dependent type.



Hand protection : Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Gloves should be classified under Standard EN 374 or ASTM F1296. Suggested glove materials are: Natural rubber ("latex"), Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl.

Eye protection : Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : An approved organic vapor respirator/supplied air or self-contained breathing apparatus must be used when vapor concentration exceeds applicable exposure limits.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear
Color	: None to amber
Odor	: Mild solvent odor
Odor Threshold	: No data available
pH	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 192 - 212 °C (376-412 °F)
Flash point	: 63 °C (145 °F) Note: Minimum. Method: PMCC
Self ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: < 0.5 mm Hg @ 68 °F
Relative vapor density at 20 °C	: Heavier than air.
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosive limits	: No data available

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

No dangerous reactions known under normal conditions of use.

#### 10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

#### 10.3. Possibility of hazardous reactions

None known.

#### 10.4. Conditions to avoid

Sparks. Heat. Open flame.

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### 10.5. Incompatible materials

Avoid contact with : Oxidizing agent.

### 10.6. Hazardous decomposition products

Thermal decomposition generates : Carbon oxides (CO, CO2).

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Inhalation Category 4

Petroleum distillates, hydrotreated light (64742-47-8)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat (mg/l)	> 5.2 mg/l/4h

2-(2-butoxyethoxy)ethanol (112-34-5)	
LD50 oral rat	> 4500 mg/kg
LD50 dermal rabbit	> 2500 mg/kg

Surfactant (Proprietary*)	
LD50 oral rat	> 1300 mg/kg
LD50 dermal rabbit	> 2 g/kg

Skin corrosion/irritation : Skin Irritant Category 2

Serious eye damage/irritation : Eye Irritant Category 2

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Inhalation may cause drowsiness and dizziness

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : May be fatal if swallowed and enters airways.

Symptoms/injuries after inhalation : Inhalation in high concentrations may cause irritation of the mucous membranes. Solvent vapors are hazardous and may cause nausea, sickness and headaches. Aspiration of this material into the lungs may cause chemical pneumonia or death.

Symptoms/injuries after skin contact : Contact may cause irritation.

Symptoms/injuries after eye contact : Direct contact with the eyes is likely to be irritating.

Symptoms/injuries after ingestion : Acute ingestion causes CNS depression, oropharyngeal and gastric pain and vomiting.

Chronic symptoms : No data available.

## SECTION 12: Ecological information

### 12.1. Toxicity

No additional information available

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

No additional information available

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### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods : Do not discharge to public wastewater systems without permit of pollution control authorities. No discharge to surface waters is allowed without an NPDES permit.

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Do not allow the product to be released into the environment.

## SECTION 14: Transport information

In accordance with DOT

Transport document description : Cleaning Compound

Department of Transportation (DOT) Hazard Classes : Not Regulated – Product does not sustain combustion

Other information : Not regulated in pkg. of less than 119 gal.

### Transport by sea

No additional information available

### Air transport

No additional information available

In accordance with ADR / RID / IMDG / IATA / ADN

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### Inline Safeguard Low Odor Mastic Remover

All chemical substances in this product are listed in the EPA (Environmental Protection Agency) TSCA (Toxic Substances Control Act) Inventory

SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Fire hazard
-------------------------------------	--

#### Petroleum distillates, hydrotreated light (64742-47-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### 2-(2-butoxyethoxy)ethanol (112-34-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### Surfactant (Proprietary\*)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

### 15.2. International regulations

#### CANADA

#### Petroleum distillates, hydrotreated light (64742-47-8)

Listed on the Canadian DSL (Domestic Substances List) inventory.

#### 2-(2-butoxyethoxy)ethanol (112-34-5)

Listed on the Canadian DSL (Domestic Substances List) inventory.

#### Surfactant (Proprietary\*)

Listed on the Canadian DSL (Domestic Substances List) inventory.

No additional information available

### 15.2.2. National regulations

#### Petroleum distillates, hydrotreated light (64742-47-8)

Listed on Inventory of Existing Chemical Substances (IECSC)  
Listed on the AICS (the Australian Inventory of Chemical Substances)  
Listed on the Japanese ENCS (Existing & New Chemicals Substances) inventory.  
Listed on the Korean ECL (Existing Chemical List) inventory.

# Inline Safeguard Low Odor Mastic Remover

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### 2-(2-butoxyethoxy)ethanol (112-34-5)

Listed on Inventory of Existing Chemical Substances (IECSC)  
Listed on the AICS (the Australian Inventory of Chemical Substances)  
Listed on the Japanese ENCS (Existing & New Chemicals Substances) inventory.  
Listed on the Korean ECL (Existing Chemical List) inventory.  
Listed on the Philippines CCS (Chemicals & Chemical Substances) inventory.

### Surfactant (Proprietary\*)

Listed on Inventory of Existing Chemical Substances (IECSC)  
Listed on the AICS (the Australian Inventory of Chemical Substances)  
Listed on the Japanese ENCS (Existing & New Chemicals Substances) inventory.  
Listed on the Korean ECL (Existing Chemical List) inventory.  
Listed on the Philippines CCS (Chemicals & Chemical Substances) inventory.

### 15.3. US State regulations

#### California Proposition 65

This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm

### SECTION 16: Other information

Indication of changes : Revision 1.1 - 02 November 2015  
Other information : Author. KAD

NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.  
NFPA fire hazard : 2 - Must be moderately heated or exposed to relatively high temperature before ignition can occur.  
NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



#### HMIS III Rating

Health : 1  
Flammability : 2  
Physical : 0  
Personal Protection :

The information in this document is believed to be correct as of the date issued. However, no warranty of merchantability, fitness for any particular purpose, or any other warranty is expressed or is to be implied regarding the accuracy or completeness of this information, the results to be obtained from the use of this product or the hazards related to its use. This information and product are furnished on the condition that the person receiving them shall make his own determination as to the suitability of the product for his particular purpose and on the condition that he assume the risk of his use thereof.

ISSUE DATE: 5/28/2015

**I PRODUCT AND COMPANY IDENTIFICATION****GHS PRODUCT IDENTIFIER:**

TRADE NAME; SAFEGUARD WETTING AGENT

**OTHER MEANS OF IDENTIFICATION:****RECOMMENDED USE OF THE CHEMICAL AND RESTRICTIONS ON USE:**

RECOMMENDED USE: WETTING AGENT FOR AMENDED WATER

**SUPPLIER'S DETAILS:**

INLINE DISTRIBUTING CO.  
14093 BALBOA BLVD.  
SYLMAR, CA 91342  
24HR. (818)769-3333

(24HR) EMERGENCY NUMBER: CHEM-TREC (800)424-9300

**II HAZARD IDENTIFICATION****GHS CLASSIFICATION:**

GHS CLASSIFICATION SCALE: (1=SEVERE HAZARD, 4=SLIGHT HAZARD)

**PHYSICAL HAZARDS:**

None listed in GHS

**HEALTH HAZARDS:**

SERIOUS EYE DAMAGE/ IRRITATION

CATEGORY 2

**LABEL ELEMENTS:****SIGNAL WORD: WARNING****HAZARD STATEMENTS:**

Causes serious eye irritation



**HAZARD SYMBOLS:****PRECAUTIONARY STATEMENTS:**

Keep out of reach of children  
 Wash thoroughly after handling.  
 Wear protective gloves/protective clothing/eye protection/face protection

**PRECAUTIONARY STATEMENTS (RESPONSE):**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

**PRECAUTIONARY STATEMENTS (STORAGE)**

Keep out of reach of children

**PRECAUTIONARY STATEMENTS (DISPOSAL):**

No precautions listed in ghs.

**OTHER HAZARDS:**

Repeated or prolonged exposure can cause skin dryness or cracking.

**III COMPOSITION/INFORMATION ON INGREDIENTS**

INGREDIENT IDENTITY	CAS NUMBER	PERCENTAGE
ETHOXYLATED, NONYLPHENOL	127087-87-0	PROPRIETARY

REMAINING INGREDIENTS ARE NOT REPORTABLE UNDER OSHA/SDS GUIDELINES. THE EXACT PERCENTAGES OF SOME INGREDIENTS HAVE BEEN WITHHELD AS (CBI) CONFIDENTIAL BUSINESS INFORMATION TRADE SECRET.

**IV FIRST AID MEASURES**

INGESTION: If swallowed, wash out mouth with water. Do not induce vomiting unless told to do so by a doctor or professional healthcare provider. If spontaneous vomiting occurs, keep head below hips to prevent aspiration of liquid into the lung. Never give anything by mouth to an unconscious person.

**SKIN CONTACT:** In case of accidental skin contact, remove contaminated clothing. Wash with soap and plenty of water for 15 minutes. Wash contaminated clothing before reuse. If irritation occurs get medical advice.

**INHALATION:** No irritation expected; however if irritation occurs, move individual away from exposure and into fresh air. If breathing is irregular or stopped, administer artificial respiration. In case of shortness of breath, give oxygen. Call a physician immediately.

**EYE CONTACT:** If in eyes, rinse cautiously with water for several minutes. Remove contact lenses if easy to do. Continue rinsing. If eye irritation persists, get medical attention/advice.

### **Most Important Symptoms and Effects, Acute and Delayed**

**INGESTION:** Symptoms may include diarrhea, gastric pain, and vomiting.

**SKIN CONTACT:** Not expected; however symptoms may include redness, dryness and cracking of skin.

**INHALATION:** Not expected; however symptoms could include irritation of respiratory tract.

**EYE CONTACT:** Symptoms may include stinging, tearing, redness and blurred vision.

### **Indication of immediate medical attention and special treatment needed, if necessary.**

Treat Symptomatically.

## **V FIRE FIGHTING MEASURES**

**Suitable extinguishing media:** Use fire extinguishers suitable for surrounding fire.

**Unsuitable extinguishing media-** Not flammable

**Specific hazards arising from the chemical:** In a fire or if heated, a pressure increase can occur and the container may burst.

**Hazardous thermal decomposition products:** carbon monoxide and CO<sub>2</sub>, possibly ammonia, irritating gases

**Special protective actions for fire-fighters:** Keep product containers and surrounding areas cool with water spray. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters:** Fire fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## **VI ACCIDENTAL RELEASE MEASURES**

### **Personal precautions, protective equipment and emergency procedures:**

**For non-emergency personnel:** No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Avoid breathing mists. Put on appropriate personal protective equipment. Wear appropriate respirator when ventilation is inadequate.

**For emergency responders:** If specialized clothing is required to deal with the spillage, take note of information in section 8 for further information. See also information in non-emergency personnel above.

**Environmental precautions:** Avoid dispersal of spilled material with waterways, drains and sewers. See section 12 for additional ecological information.

### **Methods and materials for containment and cleaning up.**

**Small spill:** Stop leak if without risk. Move containers from the spill area. Absorb with an inert dry material such as diatomaceous earth or vermiculite and place in an appropriate waste disposal container. Mop any remaining residues with soap and water and dispose of wastes via a licensed waste disposal contractor according to federal, state and local regulations.

**Large spill:** Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, drains, water courses and confined areas. Wash spillages into an effluent treatment plant or absorb with an inert dry material such as diatomaceous earth or vermiculite and place in a appropriate waste disposal containers. Mop any remaining residues with soap and water and dispose of wastes via a licensed waste disposal contractor according to federal, state and local regulations.

## **VII HANDLING AND STORAGE**

### **Precautions for Safe Handling:**

**Safe Handling Advice:** Utilize appropriate personal protective equipment when handling product. Do not swallow. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mists. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container and tightly closed when not in use. Wash face, hands and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection and face protection during use. Emptied containers can contain product residues and require handling with all safety precautions in mind listed on this sds. Do not reuse container and dispose of in accordance with federal, state and local regulations.

**Advice on general occupational hygiene:** Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also section 8 for additional hygiene information.

### **Conditions for safe storage including any incompatibilities:**

Store in original container in a dry, cool and well ventilated area away from strong oxidizing agents (see section 10) and food and drink. Keep container tightly closed when not in use and away from children. Do not store in unlabeled containers. Do not freeze.

**VIII EXPOSURE CONTROLS/PERSONAL PROTECTION**

<u>Control Parameters</u>	<u>Occupational Exposure Limits</u>		
<u>Ingredient Identity</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>NIOSH IDLH</u>

None listed for materials above .1% De minimis levels.

**Appropriate Engineering Controls**

**Engineering Controls:** Use only with adequate ventilation. General room ventilation is required. Local mechanical ventilation may be necessary if working with this product in enclosed areas and/or at elevated temperatures. Maintain adequate ventilation. Avoid creating dust or mist. Do not use in closed or confined spaces.

**Individual protection measures, such as personal protective equipment. (PPE)**

**Eye/Face Protection:** Wear approved tightly sealed safety glasses. Wear additional eye protection such as chemical safety goggles and/or face shield when the possibility exists for eye contact with splashing or spraying liquid, or airborne material.

**Skin & Body Protection:** Wear chemical resistant, impervious gloves at all times when handling chemical products. Check during use that gloves and aprons are still retaining their impervious properties, as the time for breakthrough can change from different manufacturers and chemical mixtures cannot always be accurately measured. Appropriate footwear and suitable protective clothing should be worn for the degree and risk of exposure.

**Respiratory Protection:** If workplace exposure limits of product or any component is exceeded, utilize proper respiratory protection program guidelines (see OSHA 1910.134 and American National Standard ANSI Z88.2) Use a properly fitted, NIOSH/MSHA air-purifying or air-fed respirator with organic vapor cartridge and dust/mist filter in compliance with the above mentioned standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**IX PHYSICAL AND CHEMICAL PROPERTIES**

Appearance: blue liquid

Odor: near odorless

Odor threshold: not available

pH: neutral zone

Melting Point/Freezing Point: N.D.

Initial Boiling Point/Range: not applicable

Flash Pt: not flammable

Evaporation Rate: N.D. (butyl acetate=1)

Lower explosive limits: not applicable

Upper explosive limits: not applicable

Vapor Pressure: N.D.

Vapor Density: N.D. (air=1)

Relative Density: .998

Solubility in water: Soluble

Partition coefficient: not applicable

Auto ignition temp: not applicable

Decomposition Temp: not available

Viscosity: pourable liquid, water thin viscosity

**X STABILITY AND REACTIVITY**

Reactivity: No data available

Chemical Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: No data available

Conditions to Avoid: elevated temperatures

Incompatible Materials: Oxidizing materials

Hazardous Decomposition Products: Carbon monoxide and Carbon Dioxide,

**XI TOXICOLOGICAL INFORMATION**

**Acute toxicity: not classified,**

**Skin corrosion irritation: not classified,**

**Serious Eye damage: classified, category 2, causes serious eye irritation**

**Sensitization: Not classified,**

**Mutagenicity: Not classified,**

**Carcinogenicity: Not classified**

**Reproductive Toxicity: No data available**

**Teratogenicity: No data Available**

**Specific target Organ Toxicity (single exposure)**

**Not classified**

**Specific target Organ Toxicity (repeated exposure):**

<u>Name</u>	<u>category</u>	<u>route of exposure</u>	<u>target organs</u>
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**Not classified**

**Aspiration Hazard:**

**No Data**

**Information on the likely routes of exposure:**

**Ingestion:** May be harmful if swallowed.

**Inhalation:** Not likely; however, do not breathe vapors or mists of this or any chemical product.

**Skin:** Not likely; however, wash skin with soap and water for 15 minutes.

**Eye:** Causes serious eye irritation

**Symptoms related to the physical, chemical and toxicological characteristics**

**Ingestion:** See section iv, most important symptoms and effects, acute and delayed.

**Inhalation:** See section iv, most important symptoms and effects, acute and delayed.

**Skin:** See section iv, most important symptoms and effects, acute and delayed.

**Eye:** See section iv, most important symptoms and effects, acute and delayed.

**Delayed and immediate effects and also chronic effects from short and long term exposure.**

General: Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis

Carcinogenicity: no known significant effects or critical hazards. Not classifiable.

**Numerical measures of Toxicity**

Not Available

**XII ECOLOGICAL INFORMATION****Toxicity:**

No data

**Bioaccumulation Potential:**

Expected to be readily biodegradable

**Mobility in Soil:**

Not expected to absorb on soil

**Other adverse Effects:**

No known significant effects or critical hazards

**XIII DISPOSAL CONSIDERATIONS**

Dispose in accordance with applicable federal, state and local regulations.

**XIV TRANSPORT INFORMATION**

**DOT:** NOT REGULATED  
**IATA:** NOT REGULATED  
**IMDG:** NOT REGULATED

**XV REGULATORY INFORMATION**

**U.S. FEDERAL REGULATIONS:** All ingredients are listed or exempted with TSCA.

SARA 302/304: No products were found.

SARA 311/312: No products found

SARA 313: No products found

California Prop 65: No products found

**XVI OTHER INFORMATION**

HMIS/NFPA RATING: HEALTH (1) FIRE (0) REACTIVITY (0)  
4=EXTREME, 3=HIGH, 2=MODERATE, 1=SLIGHT, 0=INSIGNIFICANT

**NOTICE TO READER:**

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. The information on this sds was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its correctness. Users are advised to confirm in advance of need, that information is current, applicable and suited to the circumstances of use. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the sds. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed.



SAFETY DATA SHEET  
 Date Revised: 1/20/2016  
 Revision Number: 00

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## Section 1 - Product and Company Identification

### Identification of the substance preparation

Product Code: **"Weather-All" brand polyethylene film**  
 Product Description: **Various sizes and thicknesses**

### Use of the substance / preparation

Film to be used for its original intent as determined by the customer.

### Company Identification

TRM Manufacturing  
 375 TRM Circle  
 Corona, CA 92879  
 Telephone: (951) 256-8555  
 Fax: (951) 256-6575

### Emergency Telephone

(951) 256-8555 x384

## Section 2 - Hazards Identification

### Classification of the Product

CLP Not Classified  
 DSD/DPD Not Classified

### Label Elements

As per OSHA HCS 2012, no label element(s) required  
 Risk Phrases: No Risk Phrase required

### Hazard Statements

This product, in original form, does not pose any adverse health effects under normal handling and storage conditions.

Improper handling or storage of this product may cause combustible dust.

According to Regulation (EC) No. 1272/2008 (CLP) and according to European Directive 1999/45/EC, this material is not considered dangerous.

In Canada, the product mentioned above is not considered hazardous under the Workplace Hazardous Materials Information System (WHMIS)

Product can present a choking hazard if ingested





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### Section 3 - Composition / Information on Ingredients

#### Substances

This material does not meet the criteria of a substance in accordance with (EC) No 1272/2008

Composition/Ingredients		
Component	Identifiers (CAS#)	%
Proprietary Blend Component 1	Proprietary	30 - 50
Proprietary Blend Component 2	Proprietary	30 - 50
Proprietary Blend Component 3	Proprietary	5 - 25

### Section 4 - First Aid Measures

Inhalation: Move person to fresh air. If irritation persists, seek medical attention

Skin Contact: For thermal burns, flush or submerge effected area in cold water to dissipate heat. Cover with clean bandage(s) and seek medical attention. Do not peel material from skin.

Eye Contact: Wash immediately with plenty of water for 15 minutes. If irritation persists, seek medical attention.

Ingestion: If product is swalled, do not induce vomiting. Seek medical attention.

### Section 5 - Firefighting Measures

Suitable Extinguishing Media: Foam, carbon dioxide, dry chemical and water fog

Special Exposure Hazards: In its present form, this product offers no unusual fire and explosion hazards. However, dust created from this product can be an explosion hazard.

Hazardous Combustion Products: Carbon dioxide, carbon monoxide, formaldehyde, acetaldehyde and other possible toxic combustion products.

Advice for Firefighters: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.



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### Section 6 - Accidental Release Measures

Personal Precautions: Do not walk through spilled material as this may be a slip hazard.

Emergency Procedures: Avoid unnecessary personnel and equipment traffic in the spill area

Environmental Precautions: Do not allow entry into drains, water courses, soil or sewers

### Section 7 - Handling and Storage

Handling: No special requirements for handling of the above product

Storage: Store in a cool, dry, ventilated area. Do not store with any incompatible materials such as wet chemicals.

### Section 8 - Exposure Controls / Personal Protection

Engineering Controls: Use product in a well ventilated area. Keep product away from heat sources greater than 180 degrees Fahrenheit.

Engineering Controls: None required when product is used as per its intended use.

Personal Protective Equipment:

Respiratory - None required under normal intended use of product. If product is subject to conditions that create a dust, use an N95 dust mask.

Eye Protection - Safety glasses with side shields or goggles is recommended.

Hand Protection - None required under normal intended use of this product.

Body Protection - None required under normal intended use of this product.

Hygiene Measures - Always wash hands after handling product and before eating, drinking or using tobacco products.

Environmental Exposure - Follow best practice for site management and disposal of waste.



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### Section 9 - Physical and Chemical Properties

Material Description	
Physical Form	Flat sheeting
Odor	No Significant Oder
Appearance	Various colors
General Properties	
Boiling Point	Not Tested
Decomposition Temperature	573° F (Estimated)
Specific Gravity / Density	0.910 - 0.925
Viscosity	Not Tested
Oxidizing Properties	Not an Oxidizer
Melting Point	248° F
pH	Not Tested
Water Solubility	Not Tested
Explosive Properties	Not Explosive
Volatility	
Vapor Pressure	Not Tested
Evaporation Rate	Not Tested
Vapor Density	Not Tested
Flammability	
Flash Point	650° F
LEL	Not Tested
Flammability (Solid, Gas)	Not Flammable
UEL	Not Tested
Autoignition	Not Tested
Environmental	
Octano / Water Partition Coefficient	Not Tested



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### Section 10 - Stability and Reactivity

Reactivity: No dangerous reaction known under conditions of normal use

Chemical Stability: Stable under normal conditions of use and storage

Possibility of Hazzardous Reactions: Hazardous polymerization not indicated

Conditions to Avoid: Do not store or expose product to heat, flame, strong oxidizing agents, acids or bases. Minimize dust generation and accumulation.

Incompatible Materials: Strong oxidizing agents, flourine.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, hydrocarbons and other possible toxic substances can be generated during thermal decomposition and combustion.

### Section 11 - Tocixological Information

Acute Oral Toxicity	Not Tested
Acute Inhalation Toxicity	Not Tested
Acute Dermal Toxicity	Not Tested
Skin Irritation	Not Tested
Eye Irritation	Not Tested
Skin Sensitization	Not Tested
Chronic Toxicity	Not Tested

### Section 12 - Ecological Information

Ecotoxicity	No Data Available
Persistence and Degradability	No Data Available
Bioaccumulative Potential	No Data Available
Mobility in Soil	No Data Available

### Section 13 - Disposal Considerations

This product should be disposed in accordance with all local, regional, national and international regulations.



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### Section 14 - Transport Information

	UN Number	UN Proper Shipping Name	Transport Hazard Class(es)	Packing Group	Environmental Hazards
DOT	NDA	Not Regulated	NDA	NDA	NDA
TDG	NDA	Not Regulated	NDA	NDA	NDA
IMO/IMDG	NDA	Not Regulated	NDA	NDA	NDA
IATA/ICAO	NDA	Not Regulated	NDA	NDA	NDA

\*NDA = No Data Available

This product is not classified as a Dangerous Good under transport regulations.

### Section 15 - Regulatory Information

#### Safety, Health and Environmental Regulations/Legislation Specific for the Product:

- SARA Hazard Classifications • None
- Inventories • These products comply with the following inventories:  
 Australia AICS      Canada DSL/NDSL  
 Japan ENCS              China  
 EU EINECS/ELNICS      Korea KECL  
 New Zealand              Philippines PICCS  
 USA TSCA
- California Prop 65 • In compliance, no reportable substances
- CERCLA                      In the event of a spill, the end user should verify whether reporting is required under local, state, and/or federal regulations
- CONEG • There products are in compliance with the Heavy Metals requirements of the Coalition of Northeastern Governors and California Toxics in Packaging Prevention Act (AB2021)
- Ozone Depleting Substances • In compliance with 40 CFR 82, no reportable substances
- RCRA • In the form delivered by TRM Manufacturing, the product is not considered as hazardous waste and are not subject to reporting under the Resource Conservation and Recovery Act.



SAFETY DATA SHEET  
 Date Revised: 1/20/2016  
 Revision Number: 00

375 TRM Circle • Corona, Ca 92879 • (951) 256-8555

### Section 16 - Other Information

#### HMIS Ratings:

Health	1
Flammability	1
Physical Hazard	0

#### Disclaimer / Statement of Liability

It is your responsibility to determine that our product is safe, lawful and technically suitable for your intended uses. This Safety Data Sheet cannot cover all possible situations which the user may experience during use. Each aspect of the user's operation should be examined to determine if, or where, additional precautions may be necessary. All health and safety information contained in this Safety Data Sheet should be provided to employees and/or customers. TRM Manufacturing must rely on the user to use this information to develop appropriate work practice guidelines and employee instructional programs specific to the user's operation.

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The information in this sheet is valid for cited regulations published as of the date this document was prepared, as shown herein. Updates may be prepared as the regulations are amended or pending revised information about the product. It is the customer's responsibility to seek updated regulatory information on any specific product.

**Section 1: IDENTIFICATION****Product Name:** Simple Green® Industrial Cleaner & Degreaser**Additional Names:****Manufacturer's Part Number:** \*Please refer to Section 16**Recommended Use:** Cleaner & Degreaser for water tolerant surfaces.**Restrictions on Use:** Do not use on non-rinsable surfaces.**Company:** Sunshine Makers, Inc.  
15922 Pacific Coast Highway  
Huntington Beach, CA 92649 USA**Telephone:** 800-228-0709 • 562-795-6000 *Mon – Fri, 8am – 5pm PST***Fax:** 562-592-3830**Email:** [info@simplegreen.com](mailto:info@simplegreen.com)**Emergency Phone:** Chem-Tel 24-Hour Emergency Service: 800-255-3924**Section 2: HAZARDS IDENTIFICATION****This product is not classified as hazardous under 2012 OSHA Hazard Communication Standards (29 CFR 1910.1200).**OSHA HCS 2012Label Elements**Signal Word:** None**Hazard Symbol(s)/Pictogram(s):** None required**Hazard Statements:** None**Precautionary Statements:** None**Hazards Not Otherwise Classified (HNOC):** None**Other Information:** None Known**Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**

<u>Ingredient</u>	<u>CAS Number</u>	<u>Percent Range</u>
Water	7732-18-5	> 84.8%*
Ethoxylated Alcohol	68439-46-3	< 5%*
Sodium Citrate	68-04-2	< 5%*
Tetrasodium <i>N,N</i> -bis(carboxymethyl)-L-glutamate	51981-21-6	< 1%*
Sodium Carbonate	497-19-8	< 1%*
Citric Acid	77-92-9	< 1%*
Isothiazolinone mixture	55965-84-9	< 0.2%*
Fragrance	Proprietary Mixture	< 1%*
Colorant	Proprietary Mixture	< 1%*

\*specific percentages of composition are being withheld as a trade secret

**Section 4: FIRST-AID MEASURES****Inhalation:** Not expected to cause respiratory irritation. If adverse effect occurs, move to fresh air.**Skin Contact:** Not expected to cause skin irritation. If adverse effect occurs, rinse skin with water.**Eye Contact:** Not expected to cause eye irritation. If adverse effect occurs, flush eyes with water.**Ingestion:** May cause upset stomach. Drink plenty of water to dilute. See section 11.**Most Important Symptoms/Effects, Acute and Delayed:** None known.**Indication of Immediate Medical Attention and Special Treatment Needed, if necessary:** Treat symptomatically

**Section 5: FIRE-FIGHTING MEASURES**

**Suitable & Unsuitable Extinguishing Media:** Use Dry chemical, CO<sub>2</sub>, water spray or “alcohol” foam. Avoid high volume jet water.  
**Specific Hazards Arising from Chemical:** In event of fire, fire created carbon oxides may be formed.  
**Special Protective Actions for Fire-Fighters:** Wear positive pressure self-contained breathing apparatus; Wear full protective clothing.

*This product is non-flammable. See Section 9 for Physical Properties.*

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Personal Precautions, Protective Equipment and Emergency Procedures:** *For non-emergency and emergency personnel:* See section 8 – personal protection. Avoid eye contact. Safety goggles suggested.

**Environmental Precautions:** Do not allow into open waterways and ground water systems.

**Methods and Materials for Containment and Clean Up:** Dike or soak up with inert absorbent material. See section 13 for disposal considerations.

**Section 7: HANDLING AND STORAGE**

**Precautions for Safe Handling:** Ensure adequate ventilation. Keep out of reach of children. Keep away from heat, sparks, open flame and direct sunlight. Do not pierce any part of the container. Do not mix or contaminate with any other chemical. Do not eat, drink or smoke while using this product.

**Conditions for Safe Storage including Incompatibilities:** Keep container tightly closed. Keep in cool dry area. Avoid prolonged exposure to sunlight. Do not store at temperatures above 109°F (42.7°C). If separation occurs, mix the product for reconstitution.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Limit Values:** No components listed with TWA or STEL values under OSHA or ACGIH.

**Appropriate Engineering Controls:** Showers, eyewash stations, ventilation systems

**Individual Protection Measures / Personal Protective Equipment (PPE)**

**Eye Contact:** Use protective glasses or safety goggles if splashing or spray-back is likely.  
**Respiratory:** Use in well ventilated areas or local exhaust ventilations when cleaning small spaces.  
**Skin Contact:** Use protective gloves (any material) when used for prolonged periods or dermally sensitive.  
**General Hygiene Considerations:** Wash thoroughly after handling and before eating or drinking.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Green Liquid	<b>Partition Coefficient: n-octanol/water:</b>	Not determined
<b>Odor:</b>	Added sassafras odor	<b>Autoignition Temperature:</b>	Non-flammable
<b>Odor Threshold:</b>	Not determined	<b>Decomposition Temperature:</b>	109°F
<b>pH ASTM D-1293:</b>	8.5 – 9.5	<b>Viscosity:</b>	Like water
<b>Freezing Point ASTM D-1177:</b>	0-3.33°C (32-38°F)	<b>Specific Gravity ASTM D-891:</b>	1.01 – 1.03
<b>Boiling Point &amp; Range ASTM D-1120:</b>	101°C (213.8°F)	<b>VOCs:</b>	<i>**Water &amp; fragrance exemption in calculation</i>
<b>Flash Point ASTM D-93:</b>	> 212°F	SCAQMD 304-91 / EPA 24:	0 g/L 0 lb/gal 0%
<b>Evaporation Rate ASTM D-1901:</b>	½ Butyl Acetate @ 25°C	CARB Method 310**:	2.5 g/L 0.021 lb/gal 0.25%
<b>Flammability (solid, gas):</b>	Not applicable	SCAQMD Method 313:	Not tested
<b>Upper/Lower Flammability or Explosive Limits:</b>	Not applicable	<b>VOC Composite Partial Pressure:</b>	Not determined
<b>Vapor Pressure ASTM D-323:</b>	0.60 PSI @77°F, 2.05 PSI @100°F	<b>Relative Density ASTM D-4017:</b>	8.34 – 8.42 lb/gal
<b>Vapor Density:</b>	Not determined	<b>Solubility:</b>	100% in water



**Section 10: STABILITY AND REACTIVITY**

<b>Reactivity:</b>	Non-reactive.
<b>Chemical Stability:</b>	Stable under normal conditions 70°F (21°C) and 14.7 psig (760 mmHg).
<b>Possibility of Hazardous Reactions:</b>	None known.
<b>Conditions to Avoid:</b>	Excessive heat or cold.
<b>Incompatible Materials:</b>	Do not mix with oxidizers, acids, bathroom cleaners, or disinfecting agents.
<b>Hazardous Decomposition Products:</b>	Normal products of combustion - CO, CO <sub>2</sub> .

**Section 11: TOXICOLOGICAL INFORMATION**

<b>Likely Routes of Exposure:</b>	Inhalation -	Overexposure may cause headache.
	Skin Contact -	Not expected to cause irritation, repeated contact may cause dry skin.
	Eye Contact -	Not expected to cause irritation.
	Ingestion -	May cause upset stomach.

*Symptoms related to the physical, chemical and toxicological characteristics:* no symptoms expected under typical use conditions.

*Delayed and immediate effects and or chronic effects from short term exposure:* no symptoms expected under typical use conditions.

*Delayed and immediate effects and or chronic effects from long term exposure:* headache, dry skin, or skin irritation may occur.

*Interactive effects:* Not known.

Numerical Measures of Toxicity

<b>Acute Toxicity:</b>	Oral LD <sub>50</sub> (rat)	> 5 g/kg body weight
	Dermal LD <sub>50</sub> (rabbit)	> 5 g/kg body weight

*Calculated via OSHA HCS 2012 / Globally Harmonized System of Classification and Labelling of Chemicals*

<b>Skin Corrosion/Irritation:</b>	Non-irritant per Dermal Irritation® assay modeling. No animal testing performed.
<b>Eye Damage/Irritation:</b>	Minimal irritant per Ocular Irritation® assay modeling. No animal testing performed.
<b>Germ Cell Mutagenicity:</b>	Mixture does not classify under this category.
<b>Carcinogenicity:</b>	No ingredients trigger or classify under this category under NTP, IARC or OSHA.
<b>Reproductive Toxicity:</b>	Mixture does not classify under this category.
<b>STOT-Single Exposure:</b>	Mixture does not classify under this category.
<b>STOT-Repeated Exposure:</b>	Mixture does not classify under this category.
<b>Aspiration Hazard:</b>	Mixture does not classify under this category.

**Section 12: ECOLOGICAL INFORMATION**

<b>Ecotoxicity:</b>	Volume of ingredients used does not trigger toxicity classifications under the Globally Harmonized System of Classification and Labelling of Chemicals.
<b>Aquatic:</b>	Aquatic Toxicity - Low, based on OECD 201, 202, 203 + Microtox: EC <sub>50</sub> & IC <sub>50</sub> ≥100 mg/L. Volume of ingredients used does not trigger toxicity classifications under the Globally Harmonized System of Classification and Labelling of Chemicals.
<b>Terrestrial:</b>	Not tested on finished formulation.
<b>Persistence and Degradability:</b>	Readily Biodegradable per OCED 301D, Closed Bottle Test
<b>Bioaccumulative Potential:</b>	No data available.
<b>Mobility in Soil:</b>	No data available.
<b>Other Adverse Effects:</b>	No data available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Unused or Used Liquid:** May be considered hazardous in your area depending on usage and tonnage of disposal – check with local, regional, and or national regulations for appropriate methods of disposal.

**Empty Containers:** May be offered for recycling.

Never dispose of used degreasing rinsates into lakes, streams, and open bodies of water or storm drains.

**Section 14: TRANSPORT INFORMATION**

**U.N. Number:** Not applicable **U.N. Proper Shipping Name:** Cleaning Compound, Liquid NOI  
**Transport Hazard Class(es):** Not applicable **NMFC Number:** 48580-3  
**Packing Group:** Not applicable **Class:** 55  
**Environmental Hazards:** Marine Pollutant - NO  
**Transport in Bulk (according to Annex II of MARPOL 73/78 and IBC Code):** Unknown.  
**Special precautions which user needs to be aware of/comply with, in connection with transport or conveyance either within or outside their premises:** None known.  
**U.S. (DOT) / Canadian TDG:** Not Regulated for shipping. **ICAO/ IATA:** Not classified as Hazardous  
**IMO / IDMG:** Not classified as Hazardous **ADR/RID:** Not classified as Hazardous

**Section 15: REGULATORY INFORMATION**

**All components are listed on:** TSCA and DSL Inventory.  
**SARA Title III:** Sections 311/312 Hazard Categories – Not applicable.  
 Sections 313 Superfunds Amendments and Reauthorizations Act of 1986 – Not applicable.  
 Sections 302 – Not applicable.  
**Clean Air Act (CAA):** Not applicable  
**Clean Water Act (CWA):** Not applicable  
**State Right To Know Lists:** No ingredients listed  
**California Proposition 65:** No ingredients listed

**Texas ESL:**

Ethoxylated Alcohol	68439-46-3	60 µg/m³ long term	600 µg/m³ short term
Sodium Citrate	68-04-2	5 µg/m³ long term	50 µg/m³ short term
Sodium Carbonate	497-19-8	5 µg/m³ long term	50 µg/m³ short term
Citric Acid	77-92-9	10 µg/m³ long term	100 µg/m³ short term

**Section 16: OTHER INFORMATION**

Size	UPC	Size	UPC
22 oz. Trigger	043318130229	2.5 Gallon	043318000041
24 oz. Trigger	043318000034	5 Gallon	043318000010
32 oz.	043318130328	55 Gallon	043318000027
1 Gallon	043318000003	15 Gallon	043318000225
1 Gallon w/ Dilution Bottle	043318001253	260 Gallon	043318130663
1 Gallon w/ Dilution Bottle	043318480416	275 Gallon	043318000102
1 Gallon w/ Dilution Bottle	043318000003		

USA items listed only. Not all items listed. USA items may not be valid for international sale.

**NFPA:**

Health – None  
 Flammability – Non-flammable  
 Stability – Stable  
 Special - None



**Acronyms**

NTP	National Toxicology Program	IARC	International Agency for Research on Cancer
OSHA	Occupational Safety and Health Administration	CPSC	Consumer Product Safety Commission
TSCA	Toxic Substances Control Act	DSL	Domestic Substances List

**Prepared / Revised By:** Sunshine Makers, Inc., Regulatory Department.

**This SDS has been revised in the following sections:** Section 16 – corrected UPC

**DISCLAIMER:** The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

# ShockWave™

## Disinfectant/Sanitizer/Cleaner/Fungicide

### Product Description

8310/8311

ShockWave is an EPA registered disinfectant, sanitizer and cleaner designed specifically for mold remediation contractors. ShockWave is designed to meet all your disinfecting, sanitizing, cleaning, and de-odorizing needs. ShockWave is strong enough to be used in a hospital or medical environment, and has been specifically formulated to be used on both porous and non-porous materials. ShockWave is a powerful concentrated quaternary ammonium chloride blend that yields up to 64 gallons of usable product from every gallon of concentrate. ShockWave has over 130 organism kill claims including *Aspergillus niger*, *Penicillium spinulosum*, *E. coli*, *Salmonella*, HIV, Hepatitis-B, Herpes, Poliovirus, and many other pathogenic and environmental microbial organisms.

### Application Information

#### DIRECTIONS

**WATER DAMAGE RESTORATION:** This product is particularly suitable for use in water damage restoration situations to sanitize against odor causing bacteria on the following porous and semi-porous materials: carpets, carpet cushion, subfloors, drywall, trim and frame lumber, tackless strip and paneling. Using solutions recommended, saturate affected materials with enough product to remain wet for at least 10 minutes.

**SEWER BACKUP & RIVER FLOODING:** During mitigation procedures, dilute 2-4 ounces of the product per gallon of water allowing for the diluting effect of absorbed water within saturated materials. Remove gross filth or heavy soil along with non-salvageable materials. Saturate all affected areas with a sprayer using a coarse spray tip, before and after cleaning and extraction.

**Disinfection:** Add two ounces of ShockWave per gallon of water. Remove gross filth or heavy soil. For heavily soiled areas, a pre-cleaning step is required. Apply solution with a cloth, mop, sponge, or hand pump trigger sprayer such that all surfaces remain wet for 10 minutes. Let air dry. Prepare a fresh solution for each use. ShockWave is effective in hard water up to 300 ppm hardness (calculated as CaCo<sub>3</sub>) and in the presence of organic soil (5% blood serum).

**Fungicide:** At 2 oz. per gallon, ShockWave is effective against the pathogenic fungi, *Trichophyton mentagrophytes* in 5% organic soil. Contact time - 10 minutes.

**Virucidal:** When used on inanimate, hard, non-porous, environmental surfaces at 2 ounces per gallon of water for a 10 minute contact time (5% organic soil), except for

Poliovirus type 1 (strain): which requires a 20 minute contact time (5% organic soil) and HIV-1 which requires only a 30 second contact time.

**Cleaning and Deodorization:** ShockWave deodorizes garbage storage areas, empty garbage bins and cans, toilet bowls and any other odor-causing areas. Mix 2 ounces per gallon of water and apply solution to surfaces. Be sure to thoroughly wet surfaces, allow to air dry.

#### CAUTION!

#### KEEP OUT OF REACH OF CHILDREN.

Do not take internally.

Close container after each use.

Keep from freezing.

Store in a dry place at temperatures between 40°F (4.5°C) and 90°F (32°C).

24 hour Emergency "CHEM-TEL" -  
800.255.3924

#### FIRST AID

**Skin:** Remove contaminated clothing. Flush affected areas with large quantities of water. Seek medical attention if irritation persists.

**Eyes:** Flush with large quantities of water, holding eyelids open. Seek medical attention.

**Inhalation:** Remove victim to fresh air and monitor. Seek medical attention if symptoms persist.

**Ingestion:** Give large quantities of water. Seek medical attention immediately.

### Properties

#### Product Specifications

<b>Active Ingredient:</b>	Quaternary Ammonium Chloride
<b>Color:</b>	Clear Blue
<b>Odor:</b>	Fresh Linen
<b>Foam:</b>	0
<b>Flash Point:</b>	>200°F
<b>pH:</b>	11.7
<b>Shelf Life:</b>	36 Months Min. (Original Sealed Container)

#### Testing

<b>EPA Registration Number:</b>	61178-1-73884
<b>EPA Est. Number:</b>	8325-PA-01

#### Available Package Sizes

10 oz. bottles (24/case)
1 gallon containers (4/case)

ShockWaveRTU contributes toward satisfying IEQ Credit 3.3 under LEED-EB by complying with "California Code of Regulations maximum allowable VOC levels for disinfectants".

## Application Information

### Fiberlock Products and CPVC Compatibility

Manufacturers of chlorinated polyvinyl chloride ("CPVC") pipe believe that it can be sensitive to or incompatible with chemicals found in many commonly used household and industrial cleaning products, coatings, adhesives and other compounds, and that those chemicals can cause stress cracks or pipe failure. Fiberlock recommends that users always check pipe for markings that indicate the type of material it is made of and that users contact the pipe manufacturer directly before applying any Fiberlock products to CPVC pipe.

## For Technical Information call 800.342.3755

These suggestions and data are based on information we believe to be reliable. They are offered in good faith, but without guarantee, as conditions and methods of use of this product are beyond our control. Neither Fiberlock Technologies, Inc., nor its agents shall be responsible for the use or results of use of this product or any injury, loss or damage, direct or consequential. We recommend that the prospective user determine the suitability of this product for each specific project and for the health and safety of personnel working in the area.

*ShockWave™, the ShockWave™ Logo and other marks in this literature are trademarks of Fiberlock Technologies, Inc.*

**Fiberlock Technologies, Inc. • 150 Dascomb Rd • Andover, MA 01810 • [www.fiberlock.com](http://www.fiberlock.com) • 800.342.3755**

# MATERIAL SAFETY DATA SHEET

## SECTION I - PRODUCT INFORMATION

PRODUCT NAME : #130, #230, and #430 SERIES TAPES

CHEMICAL NAME & SYNONYMS: PRESSURE SENSITIVE TAPE

MATERIAL USE: GENERAL PURPOSE ADHESIVE TAPE

MANUFACTURER: Scapa North America  
609 Barnet Boulevard  
Renfrew, Ontario  
Canada K7V 0A9  
Tel: (613) 432-8545

EMERGENCY PHONE (24 HR.): (613) 432-9850

WHMIS CLASSIFICATION: Exempt, not a controlled product.

TDG CLASSIFICATION: Exempt, not regulated.

## SECTION II - INGREDIENTS OF PRODUCT

BACKING: Low density polyethylene, coloured .

ADHESIVE: Synthetic rubber and resins, clear .

## SECTION III - PHYSICAL DATA

PHYSICAL STATE: Solid.

ODOUR AND APPEARANCE: Rubber-like.

ODOUR THRESHOLD: No data available.

PAGE 1 of 4

SPECIFIC GRAVITY:	920-960 kg/m <sup>3</sup> (57-60 lb./ft <sup>3</sup> )
VAPOUR PRESSURE:	Not applicable, nonvolatile material.
VAPOUR DENSITY:	Not applicable, nonvolatile material.
EVAPORATION RATE:	Not applicable, nonvolatile material.
BOILING POINT:	Not applicable, solid material.
MELTING POINT:	105-140 °C (221-284 °F)
pH:	Not applicable, insoluble.
COEFFICIENT OF OIL/WATER DISTRIBUTION:	Insoluble in both oil and water.

#### SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:	Not applicable.
AUTOIGNITION TEMPERATURE:	310-410 °C (590-770 °F)
FLAMMABLE LIMITS:	Nonvolatile material.
FIRE EXTINGUISHING SUBSTANCES:	Water spray, foam or dry chemical using manufacturer's recommended application techniques.
HAZARDOUS COMBUSTION PRODUCTS:	Carbon dioxide, carbon monoxide, aldehydes and small amounts of other vapours may be produced.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	None.

#### SECTION V - REACTIVITY DATA

STABILITY:	Stable.
INCOMPATIBILITY:	None.
HAZARDOUS DECOMPOSITION PRODUCTS:	At temperatures over 250 °C (482 °F) carbon monoxide, carbon dioxide, aldehydes and small amounts of other organic vapours may be produced. Carbon monoxide formation is enhanced under conditions of oxygen starvation.

## SECTION VI - HEALTH HAZARD INFORMATION

### EFFECTS OF ACUTE AND CHRONIC EXPOSURE :

INHALATION:	None - solid material.
INGESTION:	Should not be ingested under normal use.
EYES:	Not applicable.
SKIN:	Not generally suitable for skin application. Consult manufacturer for details.

### TOXICITY DATA:

CARCINOGENICITY:	Not carcinogenic by inhalation or ingestion.
REPRODUCTIVE EFFECTS:	No reported effects.
TERATOGENIC EFFECTS:	No reported effects.
MUTAGENIC EFFECTS:	No reported effects.
SYNERGISTIC EFFECTS:	No reported effects.
LD 50/ LC 50 DATA:	No test data available for routes of inhalation or ingestion.

## SECTION VII - FIRST AID PROCEDURES

INHALATION:	Not applicable.
INGESTION:	If ingested, consult a physician if pain or discomfort occurs.
EYES:	Not applicable.
SKIN:	Wash contaminated skin with mild soap and water. Individuals experiencing skin sensitivity should obtain medical advice.

## SECTION VIII - SPILL AND WASTE DISPOSAL PROCEDURES

SPILL:	Not applicable.
WASTE DISPOSAL:	Incinerate or bury in approved landfill site in accordance with federal, provincial, state and municipal regulations. Be aware of combustion products which may be produced during incineration.

## SECTION IX - PREVENTATIVE MEASURES

ENGINEERING CONTROLS:	Not applicable.
RESPIRATORY PROTECTION:	Not required under normal use.
EYE PROTECTION:	Not required under normal use.
PROTECTIVE GLOVES/CLOTHING:	Gloves or other forms of skin protection should be worn by individuals who experience skin sensitivity.
STORAGE REQUIREMENTS:	Store in a cool area away from ignition sources.

**DATE OF ISSUE: November 25, 2011**

**SUPERSEDES: May 11, 2010**

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**\* \* \* E N D \* \* \***



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**From:** Destiny M. Herron <HERRONAdmin@comcast.net>  
**Sent:** Wednesday, May 23, 2018 12:50 PM  
**To:** 'Michael Lohr'; 'Carol Beam'; 'Brian Bertin'  
**Cc:** 'Allen Gallogly'; 'David W. Starks'; 'L. P. (Lennie) Herron'; 'Christy Herron'; 'Billie J. Herron'; Destiny M. Herron  
**Subject:** 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
**Attachments:** 0421178.1, Daily Report, 05.17.18.pdf

## Project Update

In regards to the end of the shift:  
05/17/18 (Thursday)

1. Notifications –
  - a. Issues during the shift –
    - 1) No issues
2. Containment observation: Yes
  - a. In accordance with the Specifications and Regulations –

Current Work Area –

WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall

1st Floor Living Room, 7X2' Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft<sup>2</sup>

2nd Floor Closet, Loose Sheet Flooring on Wood Substrate - 10 ft<sup>2</sup>

1. Apply negative air to meet a criteria of -0.03”
  - a. Results within local, state, and/or federal regulations

Awaiting Work Area(s) –

WA#1 - Enclosure Area(s)

Test Area(s) 1st Floor Two (2) Perimeter Wall(s), Perform test area of removal of Asbestos Plaster on Stone, approximately 4X4' for Engineer determination of acceptable removal methods - 32 ft<sup>2</sup>

1st and 2nd Floors Decontamination, Floor Surface Area of 1st and 2nd Floor Levels – 1,592.25 ft<sup>2</sup>

1st and 2nd Floors Decontamination will include the Cleanup and Decontamination of Rodent Feces – 1,592.25 ft<sup>2</sup>

On successful completion of the Major Spill Response the 2nd Floor will be Isolated from the remainder of the House as no further asbestos work exists.

1. Apply negative air to meet a criteria of -0.03”
  - a. Awaiting Setup

Awaiting Work Area(s) –

WA#2 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster Wall(s) on Stone

1st Floor Root Cellar – 322 ft<sup>2</sup>

Demolition of Wood Shelving in 1st Floor Root Cellar (embedded in Plaster) – 11.5X4' X 3 sets

1. Apply negative air to meet a criteria of -0.03”

a. Awaiting Setup

Awaiting Work Area(s) –

WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone

1st Floor Kitchen and Bedroom 2 - 1,048 ft<sup>2</sup>

Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high

1. Apply negative air to meet a criteria of -0.03"

- a. Awaiting Setup

Awaiting Work Area(s) –

WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

1st Floor Living Room, Bedroom 1, and Stairwell – 1,612 ft<sup>2</sup>

1. Apply negative air to meet a criteria of -0.03"

- a. Awaiting Setup

Awaiting Work Area(s) –

WA#5 - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s)

Exterior, South Alcove Roofing, Debris, and Associated 2" of Soil – 10 ft<sup>2</sup>

Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3' from foundation.

1. Regulated Area(s)

- a. Awaiting Setup

3. Structure Crack Monitoring –

- a. Surface mounted gauges will be visually observed twice daily after arrival of the first visit of the Engineer to determine if the existing cracks within the masonry are being impacted by the abatement

4. Asbestos Air Monitoring –

- a. Pre-abatement monitoring with the following preliminary results –

- 1) WA#1, Pre-abatement Visual Containment Inspection – Passed

- b. During-abatement monitoring with the following preliminary results –

- 1) WA#1
    - 2) IWA – 0.007 f/cc
    - 3) OWA, Clean Room
    - 4) OWA, Negative Air Exhausted Outside of the Building
    - 5) OWA, Ambient, Outside of Building

1. These environmental samples, on completion of final analysis, Outside Work Area sample(s) have not exceeded the Maximum Allowable Asbestos Level (MAAL) by Phase Contrast Microscopy (PCM), or Transmission Electron Microscopy (TEM), where applicable.

- c. OSHA Compliance monitoring with the following preliminary results –

- 1) WA#1
    - 2) Excursion – BDL f/cc
    - 3) Personal, Multi-sample 8 Hour TWA – 0.0041 f/cc
      1. These environmental samples, on completion of final analysis, have not exceeded the EL (Excursion Level) or the PEL (Permissible Exposure Level) by Phase Contrast Microscopy (PCM), where applicable.
      2. Samples which were reported as CBR were not included in the multi-sample TWA result.
      3. Sampling flow rates should be lowered to avoid CBR results.

4. *A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL) –*
5. Should a CBR sample have occurred, the Contractor is advised to review engineering controls, negative pressure, air flow, wet methods, etc.
  - d. Post-abatement monitoring with the following preliminary results –
    - 1) Awaiting Completion
5. Daily Contractor Submittals Received (sign in sheets, daily logs, entry/exit logs, special reports) –
  - a. 05/17/18 – not received – submit
  - b. 05/17/18 – mobilization 05/17/18 7:30 AM MST
    - 1) Contractor Project Directory –
      1. Note: Should Employee not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.
6. Work Areas completed –
  - a. Awaiting Completion
7. Punch list items completed –
  - a. Awaiting Completion
8. Notes:
  - a. Refer to Project Memo(s).
  - b. All observations stated in this report are based on facts and circumstances as they existed during the time of the observations, and during the time period of this report preparation and as available within the limits of the mutually agreed upon Scope of Work, budget, and schedule. The observations in this report is not intended to be exhaustive in scope, and is considered an ongoing working document. HERRON™ reserves the right to modify the contents of this document, as necessary.
  - c. As agreed, daily conversations are occurring, and daily reports will be on site for employee review. Hard copy will not be mailed as this correspondence constitutes delivery of the specified documents.
  - d. Refer to Project Definitions below.

Please advise within an RFI if you have any questions.

Thanks in advance,

Destiny M. Herron  
 Administrative Assistant  
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Project Definitions:

Asbestos

1. In regards to the results, Regulation 29 CFR 1910, 1926 –
  - [https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=standards&p\\_id=9995](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9995)
  - [https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_id=10862&p\\_table=standards](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=10862&p_table=standards)
 A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and

the Permissible Exposure Limit (PEL). In accordance with 29 CFR 1926, 1926.1101; 1926.1101(c)(1); 1926.1101(f)(1) Standard Interpretation Correct manner to interpret air sample measurements of an employee's asbestos exposure when the samples are overloaded [01/17/2006] [http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=INTERPRETATIONS&p\\_id=25295](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=25295);

*'...While monitoring an employee's exposure to an airborne contaminant, such as asbestos, occasionally samples are lost, damaged, overloaded, or are otherwise unusable. Analytical laboratories report such samples as "VOID," with a note of explanation. An overloaded asbestos air sample is one in which non-asbestos dust obscures some or all of the fibers on the filter and therefore makes it impossible to accurately determine the concentration of asbestos in the laboratory's microscopic analysis. Such samples should not be counted by an employer in TWA calculations of employee exposure. The use of a "zero" exposure result for such samples is inappropriate; it will underestimate the employee's true exposure. An employer has the responsibility to "accurately" determine his employee's exposure to asbestos...'*

#### 1926.1101(b) Definitions

Employee exposure means that exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

#### 1926.1101(c)(2) Excursion limit

The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

#### 1926.1101(c) Permissible exposure limits (PELS)

##### 1926.1101(c)(1)

Time-weighted average limit (TWA). The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air as an eight (8) hour time-weighted average (TWA), as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

##### 1926.1101(c)(2)

Excursion limit. The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

##### 1926.1101(g)(2)(v)

Wherever the feasible engineering and work practice controls described above are not sufficient to reduce employee exposure to or below the permissible exposure limit and/or excursion limit prescribed in paragraph (c) of this section, the employer shall use them to reduce employee exposure to the lowest levels attainable by these controls and shall supplement them by the use of respiratory protection that complies with the requirements of paragraph (h) of this section.

#### 2. In regards to the results, AQCC Regulation No. 8 –

<http://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=7206&fileName=5> CCR 1001-10

##### III.U.2. The Maximum Allowable Asbestos Level (MAAL)

III.U.2.a. PCM - If PCM is used as the method of analysis the standard is 0.01 fibers per cubic centimeter of air (f/cc), which is equivalent to 10,000 fibers per cubic meter of air (f/m<sup>3</sup>).

III.U.2.b. TEM - Where TEM is used as the method of analysis, the standard is 70 structures/millimeter<sup>2</sup> (s/mm<sup>2</sup>).

#### 3. Laboratory certificates not included with this correspondence have not been received, will follow under a separate cover.

#### 4. Legend: .8μ, 25mm MCE Filter Cassettes, Amb = Ambient, IWA = Inside Work Area, OWA = Outside Work Area, CR = Clean/Change Room, LO = Loadout, NAM = Negative Air Exhaust, Ex = Excursion, Per = Personnel, VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read, BDL = Below Detection Limit



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**ASBESTOS SERVICES**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/17-18/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.1  
 Date of Report: 05/18/18

**SUMMARY OF WORK**

Per Client request, and under the guidelines defined, HERRON™ Enterprises USA, Inc. has concluded the Environmental Consultation/Asbestos Service for friable and/or non-friable Asbestos Containing Material(s) at the aforementioned property.

Our Environmental Consultation/Asbestos Service report may include a Limited Asbestos Building Inspection, descriptions of Bulk, Dust, and/or Air Monitoring samples, their locations and analyses data, which have been obtained and analyses performed in accordance with local, state, and/or federal regulations.

For Calculation purposes of samples obtained by HERRON™, all results are expressed basis actual sampling duration, with courtesy 8 hours time weighted average calculations, based on the actual sampling duration. For Calculation purposes of samples submitted to HERRON™, all results are expressed basis actual sampling duration, as submitted by the Client. HERRON™ implies no warranty to the accuracy of the information or the samples submitted by the Client. In order to make exact determinations, the employer should calculate exact times based on containment sign-in/out sheets for TWA's, in accordance with current OSHA regulations.

All Miscellaneous Provisions, Terms and Conditions apply to all services provided as indicated in HERRON™ current Terms of Services.

Information and data which has been generated as a result of this Environmental Consultation/Asbestos Service will remain confidential and will not be released to any party without prior written authorization from Client(s) (refer to authorized distribution).

We appreciate the confidence which has been demonstrated by your continued patronage, and look forward to assisting you and your group should you have future needs of Environmental Consultation/Asbestos Services.

Sincerely,

Billie J. Herron-Lusk  
Project Manager  
HERRON™ Enterprises USA, Inc.



**FIELD REPORT & OBSERVATIONS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/17-18/18  
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 HERRON™ Project No.: 0421178.1  
 Date of Report: 05/18/18

DATE	TIME	SUMMARY OF EVENTS
------	------	-------------------

05/17/18	----	<p>Requested to perform Baseline (MAAL/OSHA) Air Monitoring, Pre-Abatement Visual Containment(s) Inspection(s), Removal (MAAL/OSHA) Air Monitoring, Final Visual Containment(s) Inspection(s), Final Clearance (MAAL/OSHA) Air Monitoring, and OSHA Compliance Air Monitoring for Gross removal of</p> <p><b>WA#1</b> - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall</p> <p><b>1st Floor Living Room</b>, 7X2' Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft2</p> <p><b>2nd Floor Closet</b> Loose Sheet Flooring on Wood Substrate - 10 ft2</p> <p><b>Test Area(s) 1st Floor Two (2) Perimeter Wall(s)</b> Perform test area of removal of Asbestos Plaster on Stone, approximately 4X4' for Engineer determination of acceptable removal methods - 32 ft2</p> <p><b>1st and 2nd Floors Decontamination</b> Floor Surface Area of 1st and 2nd Floor Levels – 1,592.25 ft2 1st and 2nd Floors Decontamination will include the Cleanup and Decontamination of Rodent Feces – 1,592.25 ft2 On successful completion of the Major Spill Response the 2nd Floor will be Isolated from the remainder of the House as no further asbestos work exists.</p> <p><b>WA#2</b> - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster Wall(s) on Stone</p> <p><b>1st Floor Root Cellar</b> – 322 ft2 Demolition of Wood Shelving in 1st Floor Root Cellar (embedded in Plaster) – 11.5X4' X 3 sets</p> <p><b>WA#3</b> - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone</p> <p><b>1st Floor Kitchen and Bedroom 2</b> - 1,048 ft2 Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high</p> <p><b>WA#4</b> - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone</p> <p><b>1st Floor Living Room, Bedroom 1, and Stairwell</b> – 1,612 ft2</p> <p><b>WA#5</b> - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s)</p> <p><b>Exterior, South Alcove</b> Roofing, Debris, and Associated 2" of Soil – 10 ft2 Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3' from foundation.</p>
05/17/18	*	Commenced (MAAL/OSHA) Air Monitoring
	*	Completed (MAAL/OSHA) Air Monitoring



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**FIELD REPORT & OBSERVATIONS**

Client: Boulder County  
Client Contact: Michael Lohr  
Order No.: SOQ #6673-17  
Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 /  
Boulder County  
Date of Assignment: 05/17-18/18  
Assignment: Environmental Consultation/Asbestos Services  
HERRON™ Project No.: 0421178.1  
Date of Report: 05/18/18

DATE	TIME	SUMMARY OF EVENTS
	*	Completed (MAAL/OSHA) Air Monitoring PCM analysis-All Work Area samples below AQCC MAAL, <=0.01 f/cc/OSHA 1926.1101, EL <1.0 f/cc, PEL <0.10 f/cc, where regulated, unless otherwise noted as follows: NA
	*	Advised results
05/18/18	*	Field documentation completed and report distributed (refer to distribution)

Note: \*Refer to daily project memo for complete details of events.



**ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/17-18/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.1  
 Date of Report: 05/18/18

SAMPLE NO. AND DESC.	PUMP NO	TIME					FLOW RATE			FIBER				
		ON HR	MIN	OFF HR	MIN	TOT MIN	(LPM) ON	(LPM) OFF	VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	DENSITY (F/MM2)	LOD (F/CC)

051718-1 Removal,	505	13	5	15	10	125	5.00	5.00	625	M	9.0	100	11.465	0.004	0.007
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):				0.0018	

(MAAL) Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

IWA

051718-2 Removal,	505	13	5	15	10	125	5.00	5.00	625	M	4.0	100	5.096	0.004	BDL
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):				0.0008	

(MAAL) Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

OWA

051718-3 Removal,	505	13	5	15	10	125	5.00	5.00	625	M	5.5	100	7.006	0.004	0.004
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):				0.0011	

(MAAL) Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

OWA, Clean Room

051718-5 Removal,	201	13	5	15	10	125	5.00	5.00	625	VL	2.0	100	2.548	0.004	BDL
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):				0.0004	

(MAAL) Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

OWA, Negative air exhausted outside of Building

051718-4 Removal,	505	13	5	15	10	125	5.00	5.00	625	VL	1.0	100	1.274	0.004	BDL
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):				0.0002	

(MAAL) Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

OWA, Ambient





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## ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/17-18/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.1  
 Date of Report: 05/18/18

SAMPLE NO. AND DESC.	PUMP NO	TIME				FLOW RATE			VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	FIBER		
		ON HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	DENSITY (F/MM2)	LOD (F/CC)					FIBERS (F/CC)		

051718-B1	Blank									VL	0.0	100			
051718-B2	Blank									VL	0.0	100	DATA:		BL

Note: .8μ, 25mm MCE Filter Cassettes - Note: IWA = Inside Work Area, OWA = Outside Work Area, BDL = Below Detection Limit - Note: VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read - Note: Proficiency Analytical Testing (PAT) Program



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## ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS

Client: Boulder County  
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 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/17-18/18  
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 HERRON™ Project No.: 0421178.1  
 Date of Report: 05/18/18

SAMPLE NO. AND DESC.	PUMP NO	TIME					FLOW RATE			VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	FIBER	
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	DENSITY (F/MM2)					LOD (F/CC)	FIBERS (F/CC)
051718-P1	701	14	0	14	30	30	2.00	2.00	60	M	4.0	100	5.096	0.045	BDL
OSHA Compliance		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc):			0.0020	

Air Monitoring Samples,

Excursion Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

Hector Salgado/#20974

051718-P2	701	14	30	15	30	60	2.00	2.00	120	M	10.0	100	12.739	0.022	0.041
OSHA Compliance		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc):			0.0051	
Air Monitoring Samples,											(Multiple Sample 8 Hr. TWA, f/cc):			0.0072	

Personal Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

Hector Salgado/#20974

051718-B1	Blank										VL	0.0	100		
051718-B2	Blank										VL	0.0	100	DATA:	BL

Note: .8µ, 25mm MCE Filter Cassettes - Note: IWA = Inside Work Area, OWA = Outside Work Area, BDL = Below Detection Limit - Note: VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read - Note: Proficiency Analytical Testing (PAT) Program



**FLOOR PLANS/SITE PHOTOGRAPHS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/17-18/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.1  
 Date of Report: 05/18/18

**Photo Log**



20180517\_083652



20180517\_084043



20180517\_084050



20180517\_083624



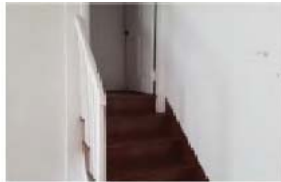
20180517\_083637



20180517\_083642



20180517\_152602



20180517\_152608



20180517\_152617



20180517\_152625



20180517\_152628



20180517\_152633



20180517\_152656



20180517\_152702



20180517\_152711



20180517\_152545



20180517\_152549



20180517\_152553



20180517\_152555



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## FLOOR PLANS/SITE PHOTOGRAPHS

Client: Boulder County  
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 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/17-18/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.1  
 Date of Report: 05/18/18

### Photo Log



20180517\_155035



20180517\_155347



20180517\_133149



20180517\_133153



20180517\_133157



20180517\_133201



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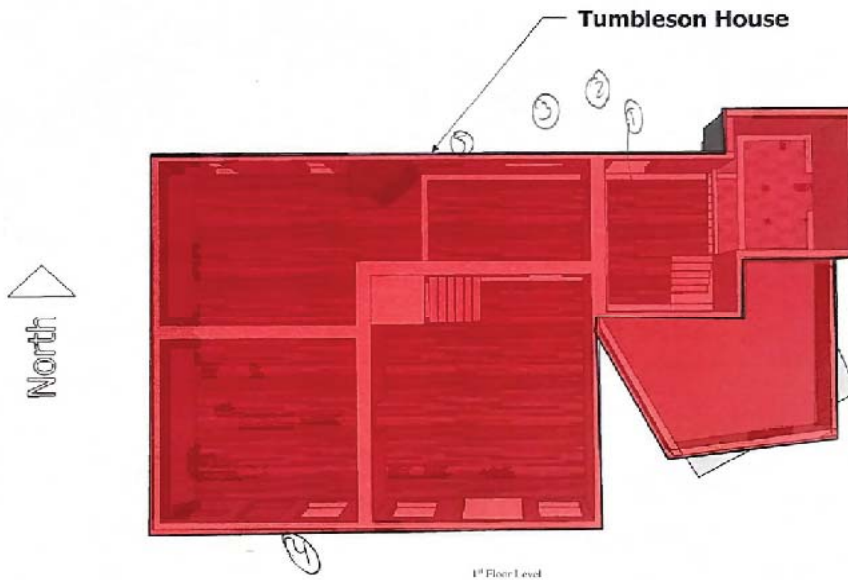
## FLOOR PLANS/SITE PHOTOGRAPHS

Client: Boulder County  
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 Date of Report: 05/18/18

### (MAAL/OSHA) Air Monitoring

HERRON™ Enterprises USA, Inc.

Tumbleson House at Hall Ranch Open Space  
Boulder County, CO



■ WAMI, Asbestos Containing Materials (≥ 1.0% Asbestos), Radon Fees  
Note: Plan(s) copied by permission, not to scale. Shaded area indicates approximate Work Area.

HERRON™ Project No. 0421178  
Asbestos Abatement Summary of Work

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Attachment A

Page 26 of 48  
February 15, 2018



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Hazardous Materials\* Mold\* Asbestos\* Lead Paint  
Environmental Services\* Industrial Hygienists

Phone (303) 763 9639

Fax (303) 763 9686

E-Mail [Lennie.Herron@comcast.net](mailto:Lennie.Herron@comcast.net)

Website [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

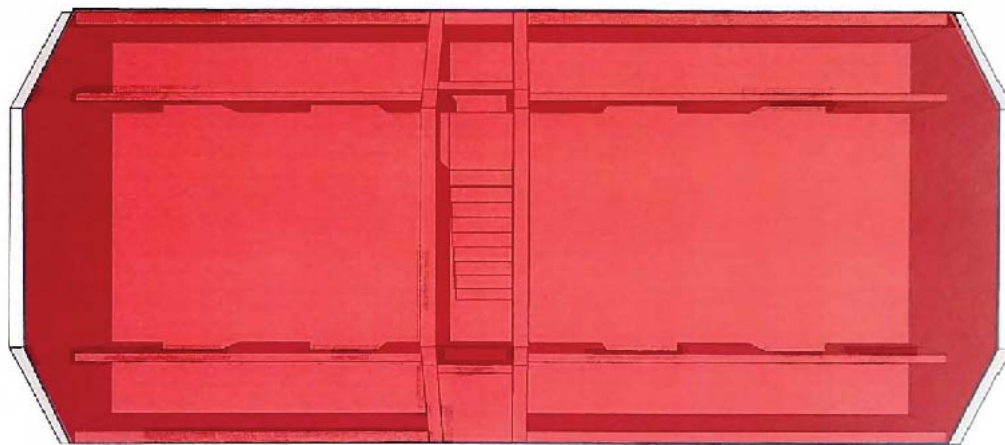
## FLOOR PLANS/SITE PHOTOGRAPHS

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/17-18/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.1  
 Date of Report: 05/18/18

### (MAAL/OSHA) Air Monitoring

HERRON™ Enterprises USA, Inc.

Tumbleson House at Hall Ranch Open Space  
Boulder County, CO



2nd Floor Level

■ WALL, Asbestos Containing Materials (>1.0% Asbestos), Rodent Feces  
Note: Plans copied by permission, not to scale. Shaded area indicates approximate Work Area.

HERRON™ Project No. 0421178  
Asbestos Abatement Summary of Work

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Attachment 1.A

Page 27 of 45  
February 15, 2018



## AQCC REG. NO. 8 ASBESTOS ABATEMENT INSPECTION FORM COMPLIANCE CHECKLIST AND INFORMATION

Colorado Dept. of Public Health  
and Environment  
APCD-IE-B1  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
Phone: 303-692-3100  
Fax: 303-782-0278

Project(s) Address: <b><u>Tumbleson House at Hall Ranch Open Space, Boulder County, CO</u></b>		Project(s) Permit #: TBD	
Project(s) start date: May 17, 2018		Project(s) completion date: June 04, 2018	
Inspector(s): LP (Lennie) Herron/#2572 (AMS/PM - ___) Billie J. Herron/#2650 (AMS/PM - <u>X</u> ) Jamie L. Herron-Carson/#2649 (AMS/PM - ___) Sherri K. Herron/#8728 (AMS/PM - ___) Michael W. Herron, Sr./#13788 (AMS/PM - ___)		Inspection Date: May 17, 2018	
Current Abatement Phase:	<input checked="" type="checkbox"/> Pre	<input checked="" type="checkbox"/> Active	<input type="checkbox"/> Post
More than one phase/project?		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Comments:			

**Types(s) and total quantity of ACM removed/to be removed\* as reported by the abatement contractor:**

Pipe Insulation*:	Fireproofing:	Spray-on:
Ceiling Tile:	Boiler Insulation:	VAT:
Transite:	<b>Other (describe):</b> <ul style="list-style-type: none"> <li>Rodent Feces – 1,592.25 ft<sup>2</sup></li> <li>Miscellaneous Material = 20 ft<sup>2</sup></li> <li>Surfacing Material = 2,982 ft<sup>2</sup></li> </ul>	

\*Pipe insulation is reported in lineal feet, all other materials including ductwork are reported in square footage regardless of the thickness of the ACM. If reporting in 55-gallon drums, note square footage or linear footage area to be removed.

**List of ALL abatement workers in containment today:**

#	NAME	SSN OR REC. #	AHERA / STATE / PHYSICAL / FIT TEST
1	SEE ATTACHED		/ / /
<b>COMMENTS:</b>			

**Note: Responses to the Description of Citation is indicated by the anticipation of the day, with the default as X = OK / Vio. / N/A. Should the response differ, cross-out will appear and appropriate response indicated.**

**PART I – SECTION A - OUTSIDE WORK AREA(S) – CERTIFICATION AND PERMIT/NOTIFICATION REQUIREMENTS, ETC.**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
16	II.A.2	All training certs./documents on site - with <b>photo IDs</b> ?	X		
26	II.J	Project Manager - credentials ok (certified as PD, completed AMS training, HS diploma, 1 yr. Experience, independent)?			X
29	III.B.1.a & III.B.4	On-site supervisor state certified?	X		
29	III.B.1.b & III.B.4	All workers on site trained/certified?	X		
30	III.B.5	Air Monitoring Spec. trained and certified? Note - this requirement may apply during pre-and active abatement phases, e.g. monitoring NAM exhaust inside a building or checking for the "MAAL".	X		
30	III.B.6	Project Manager required (>1,000 LF/>3000SF of friable) Note: Not required in schools.			X
30	III.C.1	Project Design required (>1,000 LF/>3000SF in P&C) (>3 LF/>3SF in Schools)	X		
31	III.C.4	Project Design on the site and signed?	X		
31	III.E.1	No false, inaccurate, or misleading information?	X		
33	III.F	If a variance has been granted for any work practice(s); <b>are the conditions of this variance being followed?</b>			X
34	III.G	Permit Valid (i.e. start/stop dates)?	X		
35	III.G.4	ORIGINAL permit posted at work site?	X		
36	III.G.8	Permit signed by Project Manager?			X

**COMMENTS ON PART I – SECTION A:**


**PART I – SECTION B – OUTSIDE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
37	III.J.1.a	Negative Air Machines (NAMs) operating continuously?	X		
37 & 52	III.J.1.d & III.U.1.b.i	NAMs monitored if exhausted inside the building?	X		
37	III.J.3	-0.02" H <sub>2</sub> O or better on Manometer?	X		
37	III.J.3	Continuous printout on Manometer?	X		
37	III.J.4	Smoke tubes present?	X		
37	III.J.4	Air flow - outside to inside ok?	X		
38	III.K.1	All chambers separated by airlocks?	X		
38	III.K.1	Decon Unit - 3 stages?	X		
38	III.K.1	Self-closing flaps/doors? (Z flaps are preferable, but not required)	X		
38	III.K.1.a	Clean room - adequately sized?	X		
38	III.K.1.b	Shower - hot and cold water at the tap?	X		
38	III.K.1.b	Shower – leakage anywhere but the supply connection?	X		
38	III.K.1.b	Shower - wastewater filtered to 5 microns or less, sanitary sewer discharge?	X		
38	III.K.1.b	Shower and Clean room - ACM debris present?	X		
39	III.K.2	Entry and exit procedures ok?	X		
41	III.N.2	View port present (at minimum 12"x12")?	X		
41	III.N.3	Waste load out separate from Decon?	X		
41	III.N.3	Waste load out - 2 stages?	X		

**COMMENTS ON PART I – SECTION B:**




**PART II – INSIDE THE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
36	III.I	Critical barriers - 1 layer 6 mil?	X		
36	III.J.1.b	Air cleaning equipment - HEPA filters properly installed, equipment operating, maintained adequately, etc.?	X		
37	III.J.2	Adequate equipment in place to ensure 4 air changes per hour?	X		
38	III.K.1.c	6 mil disposal bag present in Dirty Room?	X		
39	III.K.2.b	Disposable clothing worn by workers?	X		
39	III.L	Pre-cleaning - criticals and decon, HEPA vacs, wet cleaning, proper disposal?	X		
39	III.L.1	Movable objects cleaned before removal from the work area?	X		
39	III.M	Fixed objects - 1 layer 6 mil?	X		
40	III.N.1.a	Floors - 2 separate layers 6 mil?	X		
40	III.N.1.a, b, & c	No seams present (wall/floor, wall/ceiling, 12" overlap)?	X		
40	III.N.1.b	Walls - 2 separate layers 4 mil?	X		
40	III.N.1.c	Ceilings - 1 layer 4 mil?	X		
41	III.O.1.a.i.(A)	Amended water being used (surfactants) before ACM is removed?	X		
41	III.O.1.a.i.(A)	Are the surfactants a commercial product designed specifically for ACM removal?	X		
41	III.O.1.a.i.(A)	Material adequately wet and/or kept wet until bagged for disposal?	X		
42	III.O.1.a.i.(B)	Airless sprayers used for applying amended water or encapsulant?	X		
42	III.O.1.a.iii	All contaminated surfaces wet-wiped prior to disassembly of containment barriers?	X		

**COMMENTS ON PART II:**

**PART III – SECTION A –SPECIAL PROJECTS, RESILIENT FLOOR TILE**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
31	III.E.1	Notice posted at the worksite?			X
46	III.R.	Waste handled as nonfriable waste?			X
114	Appendix B	Appendix B, Amended water being used?			X
114	Appendix B	Appendix B, Hand tools only?			X
48	III.S.1	Appendix B, Proper handling and packaging of tiles/adhesives?			X
48	III.S.1	Voluntarily using splashguards, critical, negative air, and decon?			X
48	III.S.1.c	Is the material being rendered friable?			X

**COMMENTS ON PART III, SECTION A:**

**REFER TO APPLICATION OF STANDARD APPROVED VARIANCE #1 REMOVAL OF FLOOR MASTIC USING A MECHANICAL BUFFER ISSUED: MARCH 4, 2014**

**PART III – SECTION B –SPECIAL PROJECTS, SHEET VINYL FLOORING**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
34	III.E.1	Notice/Permit posted at the worksite?			X
46	III.R.	Waste handled as friable waste?			X
48	III.S.1.c	Is the material being rendered friable?			X
48	III.S.1.d.	Worker(s)/Supervisor(s) trained according to Appendix C?			X
48	III.S.2	Appendix B, Amended water being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Hand tools only being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Proper handling and packaging of sheet flooring being used by only App. C trained workers?			X
107	Appendix B	Appendix B, Proper wetting at the delaminating nip point being used by only App. C trained workers?			X
48	III.S.2	Voluntarily using splashguards, critical, negative air, and decon?			X

**COMMENTS ON PART III, SECTION B:**


**PART III – SECTION C –SPECIAL PROJECTS, NONFRIABLE ACM**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
49	III.S.4.a.	ACM adequately wet?			X
49	III.S.4.b.	Hand removal methods being used?			X
49	III.S.4.c.	Minimal breakage and disturbance?			X
49	III.S.4.d.	Material properly disposed of as nonfriable waste?			X

**COMMENTS ON PART III, SECTION C:**


**PART IV – SPECIAL REMOVAL METHODS, GLOVEBAGS AND FACILITY COMPONENT REMOVAL**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
53	III.V.1	Glove bags - proper usage (useable without causing fiber release)?			X
53	III.V.1.a	Glove bags - properly sealed to the area, no bottom seam?			X
53	III.V.1.b	Glove bags - pipes cooler than 150°F?			X
53	III.V.1.c	Glove bags used only once?			X
53	III.V.1.d.i	Glove bags - secondary containment(s) in place if removal > 3LF/SF?			X
54	III.V.1.d.ii	Glove bags - smoke tested prior to use?			X
54	III.V.1.d.iv	Glove bags - material in bags adequately wet?			X
54	III.V.1.d.vi	Glove bags - "rough" edges encapsulated?			X
54	III.V.1.d.vii	Glove bags - evacuated with HEPA vac prior to removing the bag?			X
54	III.V.2	Facility component removal - w/o containment, material well adhered to surface?			X
54	III.V.2.a	Facility component removal - adequately wet and wrapped in 6 mil poly prior to removal from the work area?			X

**COMMENTS ON PART IV:**


**PART V – MAJOR SPILLS**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
50	III.T.1.	Spill properly characterized (air sampling, tape sampling, microvac sampling)?	X		
50	III.T.1.a.	Area immediately sealed off?	X		
50	III.T.1.b	Air handling system shut down or modified to prevent further disturbance?	X		
50	III.T.1.c.	Division properly notified by phone and requirement(s) of subsection III.E. fulfilled?	X		
50	III.T.1.e.	Area sealed off and negative pressure established in accordance with III.J.	X		
50	III.T.1.e.	Certified personnel in accordance with section II performing work?	X		
50	III.T.1.j	Final clearance air monitoring performed in accordance with subsection III.P.	X		

**COMMENTS ON PART IV:**

**NOTE: WORK AREA #1 ONLY**


**PART VI – WASTE HANDLING REQUIREMENTS (WASTE STORAGE AREA)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
47	III.R.1	6 mil or greater bags?	X		
46	III.R.2.a	Containers - material adequately wet in bags?	X		
46	III.R.2.a	No breakage, rupture or leakage?	X		
47	III.R.2.b	Proper warning labels on bags?	X		
47	III.R.2.d	Visible emissions – anywhere on job site?	X		
47	III.R.2.f	All waste water filtered to 5 microns AND discharged to a <b>sanitary sewer</b> ?	X		
47	III.R.3	Are ACWM bags labeled with generator labels in accordance with 40 CFR 61.150?	X		
47	III.R.3	Are appropriate waste shipment records being maintained (40 CFR 61.150)?	X		
47	III.R.3	Transport to a proper disposal site?	X		
47	III.R.3	Waste storage vehicles placard during loading/storage at job site?	X		

**COMMENTS ON PART V:**


**PART VII – POST ACTIVE ABATEMENT REQUIREMENTS**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
19	II.D.	Is the AMS properly trained and certified? (Note: this requirement also pertains to “background air sampling” and sampling conducted near NAM exhausts if the NAMs are exhausted inside a building, i.e. sampling for the MAAL.)	X		
43	III.P	Is the AMS performing the final clearance procedures completely independent of the asbestos contractor?	X		
44	III.P.1	Work area reduced to only critical barriers in place?			X
44	III.P.3.a.i	Aggressive sampling conducted pursuant to 40 CFR 763 Appendix A?			X
44	III.P.3.a.i	Has all dust and debris been removed from the work area, including areas behind the critical barriers?			X
45	III.P.3.b.ii	TEM air sampling - 1,199 liters of air drawn (25 mm cassette) and average of the required 5 samples is below 70 structures/mm <sup>2</sup> ?* Note: Required for schools if the project is >160 SF/260 LF.			X
45	III.P.3.b.iii	PCM air sampling – Sufficient amount of air drawn so the LOD is <0.01f/cc (25mm cassette) and each sample of 5 required samples is below 0.01 f/cc?*	X		
		Note: Required for school is the project is >3 SF/>3LF but <160 SF/<260 LF.			
45	III.P.3.c.i	TEMs - lab properly accredited (by NIST)?			X
46	III.P.3.c.ii	PCMs - lab successfully participating in AIHA PAT program?	X		
46	III.P.3.c.ii	Satellite Labs - directly under the control of properly accredited “parent” lab pursuant to subclause III.P.3.c.i?	X		
46	III.P.3.c.ii	Satellite labs - proper procedures (NIOSH 7400 method) followed, and is the analyst properly trained pursuant to Section III.P.3.c.ii?	X		
53	III.U.3.b	MAAL, sample(s) outside containment >0.01 f/cc PCM?	X		
52 & 53	III.U.2.b & III.U.3.a	MAAL, if yes to above, re-analyzed TEM within 24 hours and/or area treated as a spill?			X
27	II.L.	Everyone performing consulting firm activities registered with CDPH&E?	X		

**\*There are two possible exceptions to these rules, see page 46 for details\***

**COMMENTS ON PART VI:**


**COMMENTS, GENERAL:**




**HERRON™** Enterprises USA, Inc.  
 Hazardous Materials\* Mold\* Asbestos\* Lead Paint  
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 7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

**PROJECT/LOCATION:** 0421178, RFP#6648-17- Tumbleson House at Hall Ranch Open Space Asbestos Consulting  
 Services / Boulder County

CONTRACTOR Employees	On-site Today?	AHERA Worker Expiration	State Worker Expiration	AHERA Supervisor Expiration	State Supervisor Expiration	Physical Expiration	Fit Test Expiration	Copy of All Certifications on Site?	State ID Card Displayed On-Site?	Certificate of Workers Acknowledgement	Copy of All Certifications and State ID Card Received by HERRON?	*Authorized Employee in Work Area(s) at This Job Site Today?	DATE
													REPORT NO
Alma Mosqueda/#12109		03/03/19	04/27/19	NA	NA	04/16/19	02/20/19	*	*	*	*	Yes	05/17/18
Carlos Vandehorst/#22241	Yes	07/01/18	07/15/18	NA	NA	07/14/18	12/26/18	*	*	*	*	Yes	0421178. 1
David Starks/#15640		NA	NA	08/25/18	09/18/18	02/02/19	05/09/19	*	*	*	*	Yes	
Dylan Gallogly/#24196		NA	NA	12/22/18	01/04/19	01/08/19	01/09/19	*	*	*	*	Yes	
Felipe Hernandez/#16523	Yes	03/17/19	04/19/19	NA	NA	04/14/19	04/20/19	*	*	*	*	Yes	
Hector Salgado/#20974	Yes	03/03/19	06/29/18	NA	NA	04/24/19	04/03/19	*	*	*	*	Yes	
Allen Gallogly/#	Yes	NA	NA	NA	NA	NA	NA	*	*	*	*	Yes	

7 4  
 Expired

Expired and/or Update Not Received:  
 \*Should Employee not be within regulatory compliance or specifications. Employee is prohibited from work within a Regulated Area.  
 Legend of Documents not received by HERRON: 1. AHERA Certification, 2. State Certification, 3. Physical, 4. Fit Test, 5. Certificate of Worker's Acknowledgement.  
 Effectively, this document is published daily to include Employees which have signed in.

## ON-SITE DAILY SIGN-IN SHEET

Date: 5/17/2018  
 Project Name: Funbreston House  
 Job #: 18-026  
 Supervisor: Felipe Hernandez

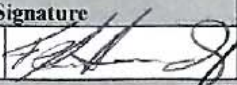
Name	Time In	Lunch Out	Lunch In	Time Out	Total Hours
Felipe Hernandez	9:02				
Carlos Vanderhorst	9:00				
Allen Gallun	9:02				
Hector Salgado	9:00				
Daily Total:					

**CERTIFICATION OF PRE-ABATEMENT VISUAL INSPECTION(S)**

Building	Work Area/Containment	Material(s)	Quantity(ies)	Full/Mini/Regulated Area
Tumb/00A	WA#1	SEE SPEC	SEE SPEC	Major Spill


**Asbestos Abatement Contractor Certification**

In accordance with local, state, federal regulations, and the Asbestos Abatement Summary of Work, the Asbestos Abatement Contractor hereby certifies that he or she has properly prepared and has visually inspected the Work Area (all posting of permits and certifications, installation and proper operation or implementation of all work practices, decontamination units, waste load out areas, pre-cleaning of surfaces, manometers, disposal containers, integrity of enclosures, water, surfactants, equipment, materials, protective clothing, respiratory protection, etc.) and that the Asbestos Abatement Contractor is ready to proceed with active abatement.

Asbestos Abatement Contractor Signature	Date/Time	Certification No.	Printed Name	Title	Pass/Fail
Final 	5/17/2018	16523	FELIPE HERNANDEZ	SUP.	<input checked="" type="checkbox"/>

**Air Monitoring Specialist/Asbestos Project Manager Certification**

The Air Monitoring Specialist/Asbestos Project Manager hereby certifies that he or she has accompanied the Asbestos Abatement Contractor on this visual inspection and verifies that this visual inspection has been thorough where visible/accessible, and to the best of his or her knowledge and belief, the Asbestos Abatement Contractor's Certification above is a true and honest one.

Air Monitoring Specialist/Asbestos Project Manager Signature	Date/Time	Certification No.	Printed Name	Title	Pass/Fail
Final 	05/17/2018	2650	BILLIE CWIK	AAOS	<input checked="" type="checkbox"/>

**Comments:**

**Designer/Project Administrator Certification**

The Designer/Project Administrator hereby certifies that he or she has reviewed the Asbestos Abatement Contractor, Air Monitoring Specialist/Asbestos Project Manager Certification on completion of this final visual inspection and believes that this final visual inspection has been thorough where visible/accessible, and to the best of his or her knowledge and belief, the Asbestos Abatement Contractor's and Air Monitoring Specialist's/Asbestos Project Manager's Certification's above are true and honest ones.

Designer Signature	Date/Time	Certification No.	Printed Name	Title
Project Administrator Signature	Date/Time	Certification No.	Printed Name	Title

**CERTIFICATE OF WORKER'S ACKNOWLEDGMENT**

Project Name	Date	Project Address	Contractor's Name
Tumbleson House		31271 S. St. Vrain Drive Lyons CO	Oak Environmental

**WORKING WITH ASBESTOS CAN BE DANGEROUS. INHALING ASBESTOS FIBERS HAS BEEN LINKED WITH VARIOUS TYPES OF CANCER. IF YOU SMOKE AND INHALE ASBESTOS FIBERS THE CHANCE THAT YOU WILL DEVELOP LUNG CANCER IS GREATER THAN THAT OF THE NON-SMOKING PUBLIC.**



Your employer's contract with the Owner for the above project requires that: You be supplied with the proper respirator and be trained in its use. You be trained in safe work practices and in the use of the equipment found on the job. You receive a medical examination. These things are to have been done at no cost to you.

**RESPIRATORY PROTECTION:** You must have been trained in the proper use of respirators, and informed of the type respirator to be used on the above referenced project. You must be given a copy of the written respiratory protection manual issued by your employer. You must be equipped at no cost with the respirator to be used on the above project.

**TRAINING COURSE:** You must have been trained at a course the equivalent in curriculum and training method to the 16-hour Operations and Maintenance course developed by EPA for maintenance and custodial workers who conduct activities that will result in the disturbance of ACM. [40 CFR 763.92(a)(2)]. This course must have included "hands-on" training in the use of respiratory protection and work practices and shall take at least 16 hours.

**MEDICAL EXAMINATION:** You must have had a medical examination within the past 12 months at no cost to you. This examination must have included: health history, pulmonary function tests and may have included an evaluation of a chest x-ray.

By signing this document you are acknowledging only that the Owner of the building you are about to work in has advised you of your rights to training and protection relative to your employer.

Signature	Certification No.	Printed Name	Witness
	16523	Felipe Hernandez	



**CERTIFICATE OF WORKER'S ACKNOWLEDGMENT**

Project Name	Date	Project Address	Contractor's Name
Tumbleson House		31271 S. St. Vrain Drive Lyons CO	Oak Environmental

**WORKING WITH ASBESTOS CAN BE DANGEROUS. INHALING ASBESTOS FIBERS HAS BEEN LINKED WITH VARIOUS TYPES OF CANCER. IF YOU SMOKE AND INHALE ASBESTOS FIBERS THE CHANCE THAT YOU WILL DEVELOP LUNG CANCER IS GREATER THAN THAT OF THE NON-SMOKING PUBLIC.**

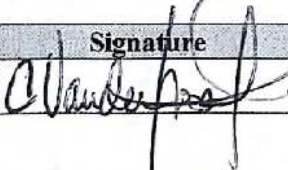
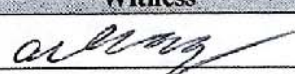
Your employer's contract with the Owner for the above project requires that: You be supplied with the proper respirator and be trained in its use. You be trained in safe work practices and in the use of the equipment found on the job. You receive a medical examination. These things are to have been done at no cost to you.

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By signing this document you are acknowledging only that the Owner of the building you are about to work in has advised you of your rights to training and protection relative to your employer.

Signature	Certification No.	Printed Name	Witness
	22241	CARLOS VANDERFORST	

**CERTIFICATE OF WORKER'S ACKNOWLEDGMENT**

Project Name	Date	Project Address	Contractor's Name
Tumbleson House		31271 S. St. Vrain Drive Lyons CO	Oak Environmental

**WORKING WITH ASBESTOS CAN BE DANGEROUS. INHALING ASBESTOS FIBERS HAS BEEN LINKED WITH VARIOUS TYPES OF CANCER. IF YOU SMOKE AND INHALE ASBESTOS FIBERS THE CHANCE THAT YOU WILL DEVELOP LUNG CANCER IS GREATER THAN THAT OF THE NON-SMOKING PUBLIC.**

Your employer's contract with the Owner for the above project requires that: You be supplied with the proper respirator and be trained in its use. You be trained in safe work practices and in the use of the equipment found on the job. You receive a medical examination. These things are to have been done at no cost to you.

**RESPIRATORY PROTECTION:** You must have been trained in the proper use of respirators, and informed of the type respirator to be used on the above referenced project. You must be given a copy of the written respiratory protection manual issued by your employer. You must be equipped at no cost with the respirator to be used on the above project.

**TRAINING COURSE:** You must have been trained at a course the equivalent in curriculum and training method to the 16-hour Operations and Maintenance course developed by EPA for maintenance and custodial workers who conduct activities that will result in the disturbance of ACM. [40 CFR 763.92(a)(2)]. This course must have included "hands-on" training in the use of respiratory protection and work practices and shall take at least 16 hours.

**MEDICAL EXAMINATION:** You must have had a medical examination within the past 12 months at no cost to you. This examination must have included: health history, pulmonary function tests and may have included an evaluation of a chest x-ray.

By signing this document you are acknowledging only that the Owner of the building you are about to work in has advised you of your rights to training and protection relative to your employer.

Signature	Certification No.	Printed Name	Witness
<i>Allen Gallegos</i>	21476	Allen Gallegos	Felipe Hernandez

**CERTIFICATE OF WORKER'S ACKNOWLEDGMENT**

Project Name	Date	Project Address	Contractor's Name
Tumbleson House		31271 S. St. Vrain Drive Lyons CO	Oak Environmental

**WORKING WITH ASBESTOS CAN BE DANGEROUS. INHALING ASBESTOS FIBERS HAS BEEN LINKED WITH VARIOUS TYPES OF CANCER. IF YOU SMOKE AND INHALE ASBESTOS FIBERS THE CHANCE THAT YOU WILL DEVELOP LUNG CANCER IS GREATER THAN THAT OF THE NON-SMOKING PUBLIC.**

Your employer's contract with the Owner for the above project requires that: You be supplied with the proper respirator and be trained in its use. You be trained in safe work practices and in the use of the equipment found on the job. You receive a medical examination. These things are to have been done at no cost to you.

**RESPIRATORY PROTECTION:** You must have been trained in the proper use of respirators, and informed of the type respirator to be used on the above referenced project. You must be given a copy of the written respiratory protection manual issued by your employer. You must be equipped at no cost with the respirator to be used on the above project.

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Signature	Certification No.	Printed Name	Witness
	20974	Hector Salazar	

**CERTIFICATE OF WORKER'S ACKNOWLEDGMENT**

Project Name	Date	Project Address	Contractor's Name
Tumbleson House		31271 S. St. Vrain Drive Lyons CO	Oak Environmental

**WORKING WITH ASBESTOS CAN BE DANGEROUS. INHALING ASBESTOS FIBERS HAS BEEN LINKED WITH VARIOUS TYPES OF CANCER. IF YOU SMOKE AND INHALE ASBESTOS FIBERS THE CHANCE THAT YOU WILL DEVELOP LUNG CANCER IS GREATER THAN THAT OF THE NON-SMOKING PUBLIC.**

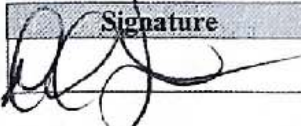
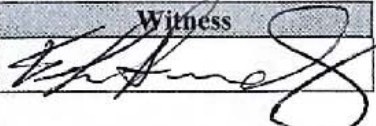
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**RESPIRATORY PROTECTION:** You must have been trained in the proper use of respirators, and informed of the type respirator to be used on the above referenced project. You must be given a copy of the written respiratory protection manual issued by your employer. You must be equipped at no cost with the respirator to be used on the above project.

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By signing this document you are acknowledging only that the Owner of the building you are about to work in has advised you of your rights to training and protection relative to your employer.

Signature	Certification No.	Printed Name	Witness
	15640	DAVID STARKS	

---

**From:** Destiny M. Herron <HERRONAdmin@comcast.net> on behalf of Billie-Lusk@comcast.net  
**Sent:** Tuesday, May 29, 2018 5:35 PM  
**To:** 'Allen Gallogly'; 'David W. Starks'  
**Cc:** 'Barry Schook'; 'Carol Beam'; 'Michael Lohr'; 'Brian Bertin'; 'Billie J. Herron'; 'Christy Herron'; 'L. P. (Lennie) Herron'; Destiny M. Herron  
**Subject:** 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
**Attachments:** Permit Application.pdf; Variance Request, 05.25.28.pdf

## Designer Response

### Return Response Required/~~Not Required~~

Field Clarification;

1. As renovation direction may change on a daily basis, Designer Responses are given as field directives with client authorization, as they occur which may or may not be commented on outside of daily reports. Any daily report comments are considered incorporated to the Field Clarifications/Addenda (Summary of Work/Project Design), without further Designer response –
  - a. Information through May 29, 2018:
    - 1) Revised Work Methods;
      1. WA#3 and WA#4, Asbestos Abatement, Contractor will combine work areas to one single containment.
      2. Boulder County has sampled the base coat(s) and determined the mortar-like material is negative for asbestos;
      3. Boulder County structural engineer has determined that the removal of the base coat(s) mortar-like material may cause structural issues therefore, instructed this material should be left in place (awaiting letter to forward to CDPHE);
      4. Contractor submitted variance request (attached) to CDPHE to remove the finish coat(s) only. Although the removal methods are those included in the original permit application (attached), CDPHE has responded implementing several additional requirements;
      5. After discussions between Owner, Designer (Lennie Herron) and Contractor (David Starks, Allen Gallogly), proceeded with conference call to CDPHE to discuss the use hand methods to remove the finish coat(s) from the base coat(s) mortar-like material, and how will the change in methods change the CDPHE requirements. Message left with CDPHE's Sam Kloser (Permit Coordinator), CDPHE's Curtis Burns not available for a few days. Not included in the variance request is the discussion of bulk sampling of the base coat(s) mortar-like material as part of the final clearance, if required.
    - 2) Deduct Services #1 Scope of Work
      1. Deduct Materials determined as directed by the renovation
        - a. WA#2, Asbestos Plaster Wall(s) on Stone;
          - 1) Deduct Material – 1<sup>st</sup> Floor Root Cellar
            1. 322 ft<sup>2</sup>
      - 3) Change of Material
        1. Change of material type as directed by the renovation
          - a. WA#3, Asbestos Plaster and Lathe Ceiling(s) and Wall(s);
            - 1) Change Material – 1sr Floor Kitchen
              1. Shall read Asbestos Drywall Ceiling(s) and Wall(s)

- 4) Pricing agreements between Owner and Contractor.
- 5) This is not a notice to proceed with any changes to the Contract. The Client will make notification to the Contractor, where required.
- 6) Should Employee Certification expire and not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.
- 7) The GAC is to include the Designer on “any” modifications to the permit. Any schedule changes are considered incorporated to the Field Clarification without further Designer response.
- 8) All designs, site visits, observations, visual inspections, and air monitoring will be performed by;
  1. HERRON™ Enterprises USA, Inc./ACF-14976 (01/30/19)
  2. Billie J. Herron-Lusk/Project Manager, Industrial Hygienist Technician, Certified Asbestos Designer, Inspector, AMS/2650 (11/27/18), (720) 499-6626

2. Note:

- a. Refer to Project Memo(s).
- b. All observations stated in this report are based on facts and circumstances as they existed during the time of the observations, and during the time period of this report preparation and as available within the limits of the mutually agreed upon Scope of Work, budget, and schedule. The observations in this report is not intended to be exhaustive in scope, and is considered an ongoing working document. HERRON™ reserves the right to modify the contents of this document, as necessary.
- c. As agreed, daily conversations are occurring, and daily reports will be on site for employee review. Hard copy will not be mailed as this correspondence constitutes delivery of the specified documents.
- d. Refer to Project Definitions below.

Please advise within an RFI if you have any questions.

Thanks in advance,

Billie J. Herron  
 Project Manager  
 HERRON™ Enterprises USA, Inc.  
 7261 W. Hampden Ave., Lakewood, CO 80227-5305  
 (303) 763 9639 / Fax (303) 763 9686  
 Cell: (720) 339-6226  
 Email: [Billie-Lusk@comcast.net](mailto:Billie-Lusk@comcast.net)  
 Website: [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

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Asbestos

1. In regards to the results, Regulation 29 CFR 1910, 1926 –

[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=standards&p\\_id=9995](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9995)  
[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_id=10862&p\\_table=standards](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=10862&p_table=standards)

A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL). In accordance with 29 CFR 1926, 1926.1101; 1926.1101(c)(1); 1926.1101(f)(1) Standard Interpretation Correct manner to interpret air sample measurements of an employee's asbestos exposure when the samples are overloaded [01/17/2006]  
[http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=INTERPRETATIONS&p\\_id=25295](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=25295);

*'...While monitoring an employee's exposure to an airborne contaminant, such as asbestos, occasionally samples are lost, damaged, overloaded, or are otherwise unusable. Analytical laboratories report such samples as "VOID," with a note of explanation. An overloaded asbestos air sample is one in which non-asbestos dust obscures some or all of the fibers on the filter and therefore makes it impossible to accurately determine the concentration of asbestos in the laboratory's microscopic analysis. Such samples should not be counted by an employer in TWA calculations of employee exposure. The use of a "zero" exposure result for such samples is inappropriate; it will underestimate the employee's true exposure. An employer has the responsibility to "accurately" determine his employee's exposure to asbestos... '.*

1926.1101(b) Definitions

Employee exposure means that exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

1926.1101(c)(2) Excursion limit

The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(c) Permissible exposure limits (PELS)

1926.1101(c)(1)

Time-weighted average limit (TWA). The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air as an eight (8) hour time-weighted average (TWA), as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(c)(2)

Excursion limit. The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(g)(2)(v)

Wherever the feasible engineering and work practice controls described above are not sufficient to reduce employee exposure to or below the permissible exposure limit and/or excursion limit prescribed in paragraph (c) of this section, the employer shall use them to reduce employee exposure to the lowest levels attainable by these controls and shall supplement them by the use of respiratory protection that complies with the requirements of paragraph (h) of this section.

2. In regards to the results, AQCC Regulation No. 8 –

<http://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=7206&fileName=5> CCR 1001-10

III.U.2. The Maximum Allowable Asbestos Level (MAAL)

III.U.2.a. PCM - If PCM is used as the method of analysis the standard is 0.01 fibers per cubic centimeter of air (f/cc), which is equivalent to 10,000 fibers per cubic meter of air (f/m<sup>3</sup>).

III.U.2.b. TEM - Where TEM is used as the method of analysis, the standard is 70 structures/millimeter<sup>2</sup> (s/mm<sup>2</sup>).

3. Laboratory certificates not included with this correspondence have not been received, will follow under a separate cover.

4. Legend: .8μ, 25mm MCE Filter Cassettes, Amb = Ambient, IWA = Inside Work Area, OWA = Outside Work Area, CR = Clean/Change Room, LO = Loadout, NAM = Negative Air Exhaust, Ex = Excursion, Per = Personnel, VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read, BDL = Below Detection Limit

# ASBESTOS ABATEMENT NOTIFICATION and PERMIT APPLICATION FORM

FEE MUST ACCOMPANY THIS FORM. INCOMPLETE APPLICATIONS WILL BE RETURNED.



**Colorado Department  
of Public Health  
and Environment**

Submit form to:  
Permit Coordinator  
Colorado Dept. of Public Health  
and Environment  
APCD-IE-B1  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
Phone: 303-692-3100  
Fax: 303-782-0278  
asbestos@state.co.us

Single Family Residential Dwelling (SFRD) > 50 LF or 32 SF or a 55-gal. drum, but ≤ 260 LF or 160 SF or a 55-gallon drum	Public and Commercial Building, School, and Single-Family Residential Dwelling: > 260 LF or 160 SF or a 55-gallon drum
[ code 200 ] <input type="checkbox"/> \$0	[ code 100 ] <input type="checkbox"/> \$0
[ code 205 ] <input type="checkbox"/> \$60	[ code 105 ] <input type="checkbox"/> \$80
[ code 210 ] <input type="checkbox"/> \$60	[ code 110 ] <input type="checkbox"/> \$80
[ code 230 ] <input type="checkbox"/> \$180	[ code 130/232 ] <input checked="" type="checkbox"/> \$400
[ code 290 ] <input type="checkbox"/> \$300	[ code 190/292 ] <input type="checkbox"/> \$800
[ code 265 ] <input type="checkbox"/> \$420	[ code 165/267 ] <input type="checkbox"/> \$1200
[ code 180/280 ] <input type="checkbox"/> \$55	[ code 177 ] <input type="checkbox"/> \$80

Abatement Contractor	Abatement Site	Building Owner	Disposal Site
Company Name Oak Environmental  Street Address P.O. Box 1747  City Commerce City  Telephone # (720) 504-9973 Project Supervisor Felipe Hernandez  State CO  Zip code 80037  Fax # ( ) ( ) ( ) ( ) ( ) ( )  CO. Cert # 16523	Building Name Tumbleson House Specify location in the building where work will take place (e.g. floor, room, wing, etc.) main floor, basement, 2 <sup>nd</sup> level closet  Street Address 31271 S. St Vrain Drive  City Lyons County Boulder Zip code 80540  Building Contact Barry Shook Cell Phone # (303) 678-6183	Owner Name Boulder County Parks and Open Space  Contact Barry Shook  Street Address 2025 14 <sup>th</sup> St  City Boulder State CO Zip code 80302  Telephone # (303) 678-6183 Fax # (303) 678-6180	Landfill Name Denver Arapahoe Disposal Site (DADS)  Street Address 3500 S. Gun Club Road  City Aurora State CO Zip code 80018
Project Personnel	Project Information	CDPHE Use Only	
CO Project Mgr. Name  Cell Phone # ( ) ( ) ( ) ( ) ( ) ( ) CO Project Designer Name  Cell Phone # ( ) ( ) ( ) ( ) ( ) ( ) CO Project Designer #  Consulting Firm Name Herron Enterprises  A.M.S. Name Billie Herron-Lusk CO A.M.S. Cert # 2650	Start Date 5/17/18 End Date 6/1/18  Start Time 8:00 AM End Time PM 4:30 PM  Check the day(s) of operation: Su <input type="checkbox"/> M <input type="checkbox"/> Tu <input type="checkbox"/> W <input type="checkbox"/> Th <input type="checkbox"/> F <input type="checkbox"/> Sa <input type="checkbox"/> Type of ACM: TSI, Texture, VAT, etc. Plaster, VCT  Emergency? Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Square Feet / Type 55 gal. Drums  Linear Feet / Type 2,982 SF of Plaster 16 SF of VCT	Postmark or Delivery date Approved by:  Form of Payment & # PM req'd? Y N W Permit # Record # Date Issued:	

Please describe below the work practices and procedures to be employed in conducting the abatement of asbestos. **BE SPECIFIC.** Indicate type(s) of ACBM to be abated (e.g. VAT, ceiling tile, TSI, etc.). Use another page if necessary.

This project will include the proper removal and disposal of approximately 2,982 SF of plaster located on the walls and ceiling on the main level and west wall located in the cellar as well as approximately 16 SF of VCT located on the 2<sup>nd</sup> level bedroom closet. The plaster will be removed using a low pressure surface blasting system with water connections within a full containment. The full containment will employ negative air pressure greater than 0.03WC, fully functional decontamination unit, two chamber waste loadout and wetting methods utilizing an airless sprayer and amended water. The floor tile will be removed intact and not rendered friable within a secondary containment utilizing hand tool only removal (razor scrapers, 5 in 1 tool). The secondary containment will employ negative air flow, two chamber waste loadout and wetting methods using an airless sprayer and amended water. All work procedures will be in accordance with Colorado Regulations 8 Part B.





Colorado Department  
of Public Health  
and Environment

# Regulation No. 8, Part B Variance Request Form

Submit form to:  
Permit Coordinator  
Colorado Dept. of Public Health  
and Environment  
APCD-IE-B1  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
Phone: 303-692-3100  
Fax: 303-782-0278  
asbestos@state.co.us

Please submit a \$50 review fee for each Variance Request Form submitted.  
The fee must accompany the Variance Request Form at the time of submission.  
**The fee will not be refunded if the variance request is denied or withdrawn.**

Name of Facility: Tumbleson House	Facility Location: 31271 S. St Vrain Drive, Lyons, CO 80540		
GAC/Consultant submitting request: Oak Environmental, LLC	Phone # (720) 472-2349	Fax # ( )	
E-mail Address: dstarks@oakenvironmental.net	Permit Number (if already issued): 18BO 2912A		

**For the above referenced location(s) we are requesting a variance from the requirements of the following Section(s) of Regulation No. 8, Part B: PLEASE CITE THE SPECIFIC SECTION NUMBERS.**

Section(s)	Title(s) (if any)	Page(s)
III.O.1.a	Controlling Airborne Fiber Release/Emissions	44

Describe your proposed alternative procedures for this particular project. Explain in detail why you believe this section of the regulation is "not practical and feasible" for this project; **OR** explain in detail how the "proposed alternative procedures will provide equivalent control of asbestos". Provide photographs, diagrams, and/or independent reports to substantiate your statement. Supportive digital photographs may be e-mailed to [asbestos@state.co.us](mailto:asbestos@state.co.us)

Oak Environmental will be utilizing an IBIX-HiPro60 low dust emission surface blasting system to remove skim coating on approximately 2,250 SF of walls. The system comes readily attached with water connections, but in addition an airless sprayer with amended water will be used at the point of contact for added dust suppression. All work procedures will be performed within a full containment. The floors will be seam free with 1 layer of 10 mil reinforced polyethylene sheeting on top of the 2 layers of 6 mil polyethylene sheeting. The containment will employ negative pressure greater than 0.04WC, two chamber waste loadout and aggressive air sampling upon completion. OSHA samples will be collected daily and submitted to the division for review. The division will be given a 24 hour notice prior to using the blaster. Added conditions will include the collection of daily TEM samples located at the decontamination unit and waste loadout and also submitted to the division for review. All work will be in accordance with Colorado Regulation 8 Part B.

I, the undersigned, hereby certify that the information contained in this request is true and understand that deliberately providing false or misleading information may result in the suspension or revocation of my certification in addition to the imposition of civil and/or criminal penalties:

Signature:	Print Name: David Starks	Date: 5/25/18
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**CDPH&E use only**



Colorado Department  
of Public Health  
and Environment

# ASBESTOS/DEMOLITION NOTIFICATION and PERMIT MODIFICATION FORM

Submit form to:  
Permit Coordinator  
Colorado Dept. of Public Health  
and Environment  
APCD-IE-B1  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
Phone: 303-692-3100  
Fax: 303-782-0278  
asbestos@state.co.us

Name of Facility: Tumbleson House		Facility Location: 31271 S. St Vrain Drive, Lyons, CO 80540	
GAC/Consultant: Oak Environmental, LLC		Phone # (720) 472-2349	Fax #
E-mail Address: dstarks@oakenvironmental.net		Permit Number (if already issued): 18BO2912A	

Please check the appropriate box(s) in A, B and C, as applicable:

- A. Upgrade to:  30-day permit     90-day permit     1-year permit
- B.  Request to cancel above notice/permit. (All but \$80 of the application fee will be returned. If you paid by check or money order, a state of Colorado Warrant will be mailed to the company appearing in the contractor box on the application. If you paid by credit card, a credit will be issued to the same account used to pay for the original application fee.)
- C. Change in:
- Supervisor: \_\_\_\_\_ Certification # \_\_\_\_\_
- A.M.S.: \_\_\_\_\_ Certification # \_\_\_\_\_
- Project Manager: \_\_\_\_\_ Certification # \_\_\_\_\_
- Start Date: \_\_\_\_\_  End Date: \_\_\_\_\_
- Work Times: \_\_\_\_\_  Disposal Site: \_\_\_\_\_  County: \_\_\_\_\_
- Additional Scope of work (include type of ACM, quantity, location in or on facility and work practices):

Plaster materials in the basement of approximately 350 SF will be excluded from the scope of work due to the results of non-detect materials collected and sampled. In addition to the scope of work, approximately 330 SF of asbestos containing drywall located on the main level will be removed within the full containment utilizing hand tool (hammers and flat bars). It has also been determined that the ceiling of approximately 712 SF contains plaster on lathe which will be removed within the full containment with hand tools (hammers and flat bars) while the walls of approximately 2,250 SF containing asbestos skim coat will still be removed utilizing the low- pressure surface blasting system with water connections. (See Attached Variance). The non-asbestos containing mortar behind the skim coat will remain. All work procedures will be in accordance with Colorado Regulation s 8 Part B.

I certify that I am the person authorized to sign this modification on behalf of the General Abatement Contractor and that all statements made in this modification are, to the best of my knowledge, correct and complete. (Note: Making false statements on this application constitutes second-degree perjury as defined by 18-8-503 C.R.S., and is punishable by law.)

David Starks 5/25/2018  
Authorized Representative Signature Date

David Starks Project Manager  
Printed Name Position or Title

THIS BOX IS FOR CDPHE USE ONLY:

Postmark or Hand Delivery Date:	Approved By:	Code:
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**From:** LP (Lennie) Herron <Lennie.Herron@comcast.net>  
**Sent:** Tuesday, May 29, 2018 5:44 PM  
**To:** Sam Kloser; Curtis Burns  
**Cc:** David W. Starks; Allen Gallogly; 'Billie J. Herron'; 'Christy Herron'; 'Destiny M. Herron'  
**Subject:** 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
**Attachments:** Permit Application.pdf; Variance Request, 05.25.28.pdf

Sam Kloser, Curtis Burns,

After discussions with the Owner Boulder County, attempted a conference call with David Starks, leaving Sam Kloser a message 2:04 PM (Curtis Burns message, out for a few days) to discuss the variance request.

Oak Environmental has re-evaluated the methods to remove the finish coat(s) from the mortar-like material, and will use hand methods as opposed to using a low pressure surface blasting system with water connections.

Please give us a call as soon as possible to further discuss (720) 339-5792.

Thanks in advance,

L.P. (Lennie) Herron, Industrial Hygienist  
President & CEO  
HERRON™ Enterprises USA, Inc.  
7261 W. Hampden Ave., Lakewood, CO 80227-5305  
Cell (720) 339-5792  
(303) 763-9639 / Fax (303) 763-9686  
Email: [Lennie.Herron@comcast.net](mailto:Lennie.Herron@comcast.net)  
Website: [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

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# ASBESTOS ABATEMENT NOTIFICATION and PERMIT APPLICATION FORM

FEE MUST ACCOMPANY THIS FORM. INCOMPLETE APPLICATIONS WILL BE RETURNED.



**Colorado Department  
of Public Health  
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Submit form to:  
Permit Coordinator  
Colorado Dept. of Public Health  
and Environment  
APCD-IE-B1  
4300 Cherry Creek Drive South  
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Phone: 303-692-3100  
Fax: 303-782-0278  
asbestos@state.co.us

Single Family Residential Dwelling (SFRD) > 50 LF or 32 SF or a 55-gal. drum, but ≤ 260 LF or 160 SF or a 55-gallon drum	Public and Commercial Building, School, and Single-Family Residential Dwelling: > 260 LF or 160 SF or a 55-gallon drum
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[ code 265 ] <input type="checkbox"/> \$420	[ code 165/267 ] <input type="checkbox"/> \$1200
[ code 180/280 ] <input type="checkbox"/> \$55	[ code 177 ] <input type="checkbox"/> \$80

Abatement Contractor	Abatement Site	Building Owner	Disposal Site
Company Name Oak Environmental  Street Address P.O. Box 1747  City Commerce City  Telephone # (720) 504-9973 Project Supervisor Felipe Hernandez  State CO  Zip code 80037  Fax # ( ) ( ) ( ) ( ) ( ) ( )  CO. Cert. # 16523	Building Name Tumbleson House Specify location in the building where work will take place (e.g. floor, room, wing, etc.) main floor, basement, 2 <sup>nd</sup> level closet  Street Address 31271 S. St Vrain Drive  City Lyons County Boulder Zip code 80540  Building Contact Barry Shook Cell Phone # (303) 678-6183	Owner Name Boulder County Parks and Open Space  Contact Barry Shook  Street Address 2025 14 <sup>th</sup> St  City Boulder State CO Zip code 80302  Telephone # (303) 678-6183 Fax # (303) 678-6180	Landfill Name Denver Arapahoe Disposal Site (DADS)  Street Address 3500 S. Gun Club Road  City Aurora State CO Zip code 80018
Project Personnel	Project Information	CDPHE Use Only	
CO Project Mgr. Name  Cell Phone # ( ) ( ) ( ) ( ) ( ) ( ) CO Project Designer Name  Cell Phone # ( ) ( ) ( ) ( ) ( ) ( ) CO Project Designer #  Consulting Firm Name Herron Enterprises  A.M.S. Name Billie Herron-Lusk CO A.M.S. Cert # 2650	Start Date 5/17/18 End Date 6/1/18  Start Time 8:00 AM End Time PM 4:30 PM  Check the day(s) of operation: Su <input type="checkbox"/> M <input type="checkbox"/> Tu <input type="checkbox"/> W <input type="checkbox"/> Th <input type="checkbox"/> F <input type="checkbox"/> Sa <input type="checkbox"/> Type of ACM: TSI, Texture, VAT, etc. Plaster, VCT  Emergency? Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Square Feet / Type 55 gal. Drums  Linear Feet / Type 2,982 SF of Plaster 16 SF of VCT	Postmark or Delivery date Approved by:  Form of Payment & # PM req'd? Y N W  Permit # Record # Date Issued:	

Please describe below the work practices and procedures to be employed in conducting the abatement of asbestos. **BE SPECIFIC.** Indicate type(s) of ACBM to be abated (e.g. VAT, ceiling tile, TSI, etc.). Use another page if necessary.

This project will include the proper removal and disposal of approximately 2,982 SF of plaster located on the walls and ceiling on the main level and west wall located in the cellar as well as approximately 16 SF of VCT located on the 2<sup>nd</sup> level bedroom closet. The plaster will be removed using a low pressure surface blasting system with water connections within a full containment. The full containment will employ negative air pressure greater than 0.03WC, fully functional decontamination unit, two chamber waste loadout and wetting methods utilizing an airless sprayer and amended water. The floor tile will be removed intact and not rendered friable within a secondary containment utilizing hand tool only removal (razor scrapers, 5 in 1 tool). The secondary containment will employ negative air flow, two chamber waste loadout and wetting methods using an airless sprayer and amended water. All work procedures will be in accordance with Colorado Regulations 8 Part B.



Colorado Department  
of Public Health  
and Environment

# Regulation No. 8, Part B Variance Request Form

Submit form to:  
Permit Coordinator  
Colorado Dept. of Public Health  
and Environment  
APCD-IE-B1  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
Phone: 303-692-3100  
Fax: 303-782-0278  
asbestos@state.co.us

Please submit a \$50 review fee for each Variance Request Form submitted.  
The fee must accompany the Variance Request Form at the time of submission.  
**The fee will not be refunded if the variance request is denied or withdrawn.**

Name of Facility: Tumbleson House	Facility Location: 31271 S. St Vrain Drive, Lyons, CO 80540		
GAC/Consultant submitting request: Oak Environmental, LLC	Phone # (720) 472-2349	Fax # ( )	
E-mail Address: dstarks@oakenvironmental.net	Permit Number (if already issued): 18BO 2912A		

**For the above referenced location(s) we are requesting a variance from the requirements of the following Section(s) of Regulation No. 8, Part B: PLEASE CITE THE SPECIFIC SECTION NUMBERS.**

Section(s)	Title(s) (if any)	Page(s)
III.O.1.a	Controlling Airborne Fiber Release/Emissions	44

Describe your proposed alternative procedures for this particular project. Explain in detail why you believe this section of the regulation is "not practical and feasible" for this project; **OR** explain in detail how the "proposed alternative procedures will provide equivalent control of asbestos". Provide photographs, diagrams, and/or independent reports to substantiate your statement. Supportive digital photographs may be e-mailed to [asbestos@state.co.us](mailto:asbestos@state.co.us)

Oak Environmental will be utilizing an IBIX-HiPro60 low dust emission surface blasting system to remove skim coating on approximately 2,250 SF of walls. The system comes readily attached with water connections, but in addition an airless sprayer with amended water will be used at the point of contact for added dust suppression. All work procedures will be performed within a full containment. The floors will be seam free with 1 layer of 10 mil reinforced polyethylene sheeting on top of the 2 layers of 6 mil polyethylene sheeting. The containment will employ negative pressure greater than 0.04WC, two chamber waste loadout and aggressive air sampling upon completion. OSHA samples will be collected daily and submitted to the division for review. The division will be given a 24 hour notice prior to using the blaster. Added conditions will include the collection of daily TEM samples located at the decontamination unit and waste loadout and also submitted to the division for review. All work will be in accordance with Colorado Regulation 8 Part B.

I, the undersigned, hereby certify that the information contained in this request is true and understand that deliberately providing false or misleading information may result in the suspension or revocation of my certification in addition to the imposition of civil and/or criminal penalties:

Signature:	Print Name: David Starks	Date: 5/25/18
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**CDPH&E use only**



Colorado Department  
of Public Health  
and Environment

# ASBESTOS/DEMOLITION NOTIFICATION and PERMIT MODIFICATION FORM

Submit form to:  
Permit Coordinator  
Colorado Dept. of Public Health  
and Environment  
APCD-IE-B1  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
Phone: 303-692-3100  
Fax: 303-782-0278  
asbestos@state.co.us

Name of Facility: Tumbleson House		Facility Location: 31271 S. St Vrain Drive, Lyons, CO 80540	
GAC/Consultant: Oak Environmental, LLC		Phone # (720) 472-2349	Fax #
E-mail Address: dstarks@oakenvironmental.net		Permit Number (if already issued): 18BO2912A	

**Please check the appropriate box(s) in A, B and C, as applicable:**

- A. Upgrade to:  30-day permit     90-day permit     1-year permit
- B.  Request to cancel above notice/permit. (All but \$80 of the application fee will be returned. If you paid by check or money order, a state of Colorado Warrant will be mailed to the company appearing in the contractor box on the application. If you paid by credit card, a credit will be issued to the same account used to pay for the original application fee.)
- C. Change in:
- Supervisor: \_\_\_\_\_ Certification # \_\_\_\_\_
- A.M.S.: \_\_\_\_\_ Certification # \_\_\_\_\_
- Project Manager: \_\_\_\_\_ Certification # \_\_\_\_\_
- Start Date: \_\_\_\_\_  End Date: \_\_\_\_\_
- Work Times: \_\_\_\_\_  Disposal Site: \_\_\_\_\_  County: \_\_\_\_\_
- Additional Scope of work (include type of ACM, quantity, location in or on facility and work practices):

Plaster materials in the basement of approximately 350 SF will be excluded from the scope of work due to the results of non-detect materials collected and sampled. In addition to the scope of work, approximately 330 SF of asbestos containing drywall located on the main level will be removed within the full containment utilizing hand tool (hammers and flat bars). It has also been determined that the ceiling of approximately 712 SF contains plaster on lathe which will be removed within the full containment with hand tools (hammers and flat bars) while the walls of approximately 2,250 SF containing asbestos skim coat will still be removed utilizing the low- pressure surface blasting system with water connections. (See Attached Variance). The non-asbestos containing mortar behind the skim coat will remain. All work procedures will be in accordance with Colorado Regulation s 8 Part B.

I certify that I am the person authorized to sign this modification on behalf of the General Abatement Contractor and that all statements made in this modification are, to the best of my knowledge, correct and complete. (Note: Making false statements on this application constitutes second-degree perjury as defined by 18-8-503 C.R.S., and is punishable by law.)

David Starks 5/25/2018  
Authorized Representative Signature Date

David Starks Project Manager  
Printed Name Position or Title

**THIS BOX IS FOR CDPHE USE ONLY:**

Postmark or Hand Delivery Date:	Approved By:	Code:
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**From:** LP (Lennie) Herron <Lennie.Herron@comcast.net>  
**Sent:** Wednesday, May 30, 2018 6:11 AM  
**To:** 'Asbestos Group (cdphe.asbestos@state.co.us)'  
**Subject:** FW: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
**Attachments:** Permit Application.pdf; Variance Request, 05.25.28.pdf

Thanks in advance,

L.P. (Lennie) Herron, Industrial Hygienist  
President & CEO  
HERRON™ Enterprises USA, Inc.  
7261 W. Hampden Ave., Lakewood, CO 80227-5305  
Cell (720) 339-5792  
(303) 763-9639 / Fax (303) 763-9686  
Email: [Lennie.Herron@comcast.net](mailto:Lennie.Herron@comcast.net)  
Website: [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

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**From:** LP (Lennie) Herron [mailto:Lennie.Herron@comcast.net]  
**Sent:** Tuesday, May 29, 2018 5:44 PM  
**To:** Sam Kloser <sam.kloser@state.co.us>; Curtis Burns <curtis.burns@state.co.us>  
**Cc:** David W. Starks <dstarks@oakenvironmental.net>; Allen Gallogly <agallogly@oakenvironmental.net>; 'Billie J. Herron' <Billie-Lusk@comcast.net>; 'Christy Herron' <Christy.Herron@comcast.net>; 'Destiny M. Herron' <HERRONAdmin@comcast.net>  
**Subject:** 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County

Sam Kloser, Curtis Burns,

After discussions with the Owner Boulder County, attempted a conference call with David Starks, leaving Sam Kloser a message 2:04 PM (Curtis Burns message, out for a few days) to discuss the variance request.

Oak Environmental has re-evaluated the methods to remove the finish coat(s) from the mortar-like material, and will use hand methods as opposed to using a low pressure surface blasting system with water connections.

Please give us a call as soon as possible to further discuss (720) 339-5792.

Thanks in advance,

L.P. (Lennie) Herron, Industrial Hygienist  
President & CEO  
HERRON™ Enterprises USA, Inc.  
7261 W. Hampden Ave., Lakewood, CO 80227-5305  
Cell (720) 339-5792  
(303) 763-9639 / Fax (303) 763-9686  
Email: [Lennie.Herron@comcast.net](mailto:Lennie.Herron@comcast.net)  
Website: [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)





# ASBESTOS ABATEMENT NOTIFICATION and PERMIT APPLICATION FORM

FEE MUST ACCOMPANY THIS FORM. INCOMPLETE APPLICATIONS WILL BE RETURNED.



**Colorado Department  
of Public Health  
and Environment**

Submit form to:  
Permit Coordinator  
Colorado Dept. of Public Health  
and Environment  
APCD-IE-B1  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
Phone: 303-692-3100  
Fax: 303-782-0278  
asbestos@state.co.us

Single Family Residential Dwelling (SFRD) > 50 LF or 32 SF or a 55-gal. drum, but ≤ 260 LF or 160 SF or a 55-gallon drum	Public and Commercial Building, School, and Single-Family Residential Dwelling: > 260 LF or 160 SF or a 55-gallon drum
[ code 200 ] <input type="checkbox"/> \$0	[ code 100 ] <input type="checkbox"/> \$0
[ code 205 ] <input type="checkbox"/> \$60	[ code 105 ] <input type="checkbox"/> \$80
[ code 210 ] <input type="checkbox"/> \$60	[ code 110 ] <input type="checkbox"/> \$80
[ code 230 ] <input type="checkbox"/> \$180	[ code 130/232 ] <input checked="" type="checkbox"/> \$400
[ code 290 ] <input type="checkbox"/> \$300	[ code 190/292 ] <input type="checkbox"/> \$800
[ code 265 ] <input type="checkbox"/> \$420	[ code 165/267 ] <input type="checkbox"/> \$1200
[ code 180/280 ] <input type="checkbox"/> \$55	[ code 177 ] <input type="checkbox"/> \$80

Abatement Contractor	Abatement Site	Building Owner	Disposal Site
Company Name Oak Environmental  Street Address P.O. Box 1747  City Commerce City  Telephone # (720) 504-9973 Project Supervisor Felipe Hernandez  State CO  Zip code 80037  Fax # ( ) ( ) ( )  CO. Cert # 16523	Building Name Tumbleson House Specify location in the building where work will take place (e.g. floor, room, wing, etc.) main floor, basement, 2 <sup>nd</sup> level closet  Street Address 31271 S. St Vrain Drive  City Lyons County Boulder Zip code 80540  Building Contact Barry Shook Cell Phone # (303) 678-6183	Owner Name Boulder County Parks and Open Space  Contact Barry Shook  Street Address 2025 14 <sup>th</sup> St  City Boulder State CO Zip code 80302  Telephone # (303) 678-6183 Fax # (303) 678-6180	Landfill Name Denver Arapahoe Disposal Site (DADS)  Street Address 3500 S. Gun Club Road  City Aurora State CO Zip code 80018  <b>CDPHE Use Only</b> Approved by:  Postmark or Delivery date  Form of Payment & # PM req'd? Y N W  Permit # Record # Date Issued:
Project Information			
CO Project Mgr. Name  CO Project Designer #  CO Project Designer Name  Cell Phone # ( ) ( ) ( )  CO Project Designer #  Consulting Firm Name Herron Enterprises  A.M.S. Name Billie Herron-Lusk  Cell Phone # (720) 339-6226  Registration # 14976  CO A.M.S. Cert # 2650	Start Date 5/17/18  End Date 6/1/18  Start Time 8:00 AM  End Time PM 4:30 PM  Check the day(s) of operation: Su M Tu W Th F Sa <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Type of ACM: TSI, Texture, VAT, etc. Plaster, VCT  Emergency? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>  Square Feet / Type 55 gal. Drums  2,982 SF of Plaster 16 SF of VCT		

Please describe below the work practices and procedures to be employed in conducting the abatement of asbestos. **BE SPECIFIC.** Indicate type(s) of ACBM to be abated (e.g. VAT, ceiling tile, TSI, etc.). Use another page if necessary.

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Colorado Department  
of Public Health  
and Environment

# Regulation No. 8, Part B Variance Request Form

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and Environment  
APCD-IE-B1  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
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Fax: 303-782-0278  
asbestos@state.co.us

Please submit a \$50 review fee for each Variance Request Form submitted.  
The fee must accompany the Variance Request Form at the time of submission.  
**The fee will not be refunded if the variance request is denied or withdrawn.**

Name of Facility: Tumbleson House	Facility Location: 31271 S. St Vrain Drive, Lyons, CO 80540		
GAC/Consultant submitting request: Oak Environmental, LLC	Phone # (720) 472-2349	Fax # ( )	
E-mail Address: dstarks@oakenvironmental.net		Permit Number (if already issued): 18BO 2912A	

**For the above referenced location(s) we are requesting a variance from the requirements of the following Section(s) of Regulation No. 8, Part B: PLEASE CITE THE SPECIFIC SECTION NUMBERS.**

Section(s)	Title(s) (if any)	Page(s)
III.O.1.a	Controlling Airborne Fiber Release/Emissions	44

Describe your proposed alternative procedures for this particular project. Explain in detail why you believe this section of the regulation is "not practical and feasible" for this project; **OR** explain in detail how the "proposed alternative procedures will provide equivalent control of asbestos". Provide photographs, diagrams, and/or independent reports to substantiate your statement. Supportive digital photographs may be e-mailed to [asbestos@state.co.us](mailto:asbestos@state.co.us)

Oak Environmental will be utilizing an IBIX-HiPro60 low dust emission surface blasting system to remove skim coating on approximately 2,250 SF of walls. The system comes readily attached with water connections, but in addition an airless sprayer with amended water will be used at the point of contact for added dust suppression. All work procedures will be performed within a full containment. The floors will be seam free with 1 layer of 10 mil reinforced polyethylene sheeting on top of the 2 layers of 6 mil polyethylene sheeting. The containment will employ negative pressure greater than 0.04WC, two chamber waste loadout and aggressive air sampling upon completion. OSHA samples will be collected daily and submitted to the division for review. The division will be given a 24 hour notice prior to using the blaster. Added conditions will include the collection of daily TEM samples located at the decontamination unit and waste loadout and also submitted to the division for review. All work will be in accordance with Colorado Regulation 8 Part B.

I, the undersigned, hereby certify that the information contained in this request is true and understand that deliberately providing false or misleading information may result in the suspension or revocation of my certification in addition to the imposition of civil and/or criminal penalties:

Signature:	Print Name: David Starks	Date: 5/25/18
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**CDPH&E use only**



Colorado Department  
of Public Health  
and Environment

# ASBESTOS/DEMOLITION NOTIFICATION and PERMIT MODIFICATION FORM

Submit form to:  
Permit Coordinator  
Colorado Dept. of Public Health  
and Environment  
APCD-IE-B1  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
Phone: 303-692-3100  
Fax: 303-782-0278  
asbestos@state.co.us

Name of Facility: Tumbleson House	Facility Location: 31271 S. St Vrain Drive, Lyons, CO 80540		
GAC/Consultant: Oak Environmental, LLC	Phone # (720) 472-2349	Fax #	
E-mail Address: dstarks@oakenvironmental.net		Permit Number (if already issued): 18BO2912A	

**Please check the appropriate box(s) in A, B and C, as applicable:**

- A. Upgrade to:  30-day permit     90-day permit     1-year permit
- B.  Request to cancel above notice/permit. (All but \$80 of the application fee will be returned. If you paid by check or money order, a state of Colorado Warrant will be mailed to the company appearing in the contractor box on the application. If you paid by credit card, a credit will be issued to the same account used to pay for the original application fee.)
- C. Change in:
- Supervisor: \_\_\_\_\_ Certification # \_\_\_\_\_
- A.M.S.: \_\_\_\_\_ Certification # \_\_\_\_\_
- Project Manager: \_\_\_\_\_ Certification # \_\_\_\_\_
- Start Date: \_\_\_\_\_  End Date: \_\_\_\_\_
- Work Times: \_\_\_\_\_  Disposal Site: \_\_\_\_\_  County: \_\_\_\_\_
- Additional Scope of work (include type of ACM, quantity, location in or on facility and work practices):

Plaster materials in the basement of approximately 350 SF will be excluded from the scope of work due to the results of non-detect materials collected and sampled. In addition to the scope of work, approximately 330 SF of asbestos containing drywall located on the main level will be removed within the full containment utilizing hand tool (hammers and flat bars). It has also been determined that the ceiling of approximately 712 SF contains plaster on lathe which will be removed within the full containment with hand tools (hammers and flat bars) while the walls of approximately 2,250 SF containing asbestos skim coat will still be removed utilizing the low- pressure surface blasting system with water connections. (See Attached Variance). The non-asbestos containing mortar behind the skim coat will remain. All work procedures will be in accordance with Colorado Regulation s 8 Part B.

I certify that I am the person authorized to sign this modification on behalf of the General Abatement Contractor and that all statements made in this modification are, to the best of my knowledge, correct and complete. (Note: Making false statements on this application constitutes second-degree perjury as defined by 18-8-503 C.R.S., and is punishable by law.)

David Starks 5/25/2018  
Authorized Representative Signature Date

David Starks Project Manager  
Printed Name Position or Title

**THIS BOX IS FOR CDPHE USE ONLY:**

Postmark or Hand Delivery Date:	Approved By:	Code:
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**From:** Destiny M. Herron <HERRONAdmin@comcast.net>  
**Sent:** Wednesday, May 30, 2018 7:26 AM  
**To:** 'Michael Lohr'; 'Carol Beam'; 'Brian Bertin'  
**Cc:** 'Allen Gallogly'; 'David W. Starks'; 'L. P. (Lennie) Herron'; 'Christy M. Herron'; 'Billie J. Herron'; Destiny M. Herron  
**Subject:** 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
**Attachments:** 0421178.2, Daily Report, 05.18.18.pdf

## Project Update

In regards to the end of the shift:  
05/18/18 (Friday)

1. Notifications –
  - a. Issues during the shift –
    - 1) No issues
2. Containment observation: Yes
  - a. In accordance with the Specifications and Regulations –

Current Work Area –

- WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall  
1st Floor Living Room, 7X2' Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft<sup>2</sup>  
2nd Floor Closet, Loose Sheet Flooring on Wood Substrate - 10 ft<sup>2</sup>
  1. Apply negative air to meet a criteria of -0.03”
    - a. Results within local, state, and/or federal regulations

Awaiting Work Area(s) –

- WA#1 - Enclosure Area(s)  
Test Area(s) 1st Floor Two (2) Perimeter Wall(s), Perform test area of removal of Asbestos Plaster on Stone, approximately 4X4' for Engineer determination of acceptable removal methods - 32 ft<sup>2</sup>  
1st and 2nd Floors Decontamination, Floor Surface Area of 1st and 2nd Floor Levels – 1,592.25 ft<sup>2</sup>  
1st and 2nd Floors Decontamination will include the Cleanup and Decontamination of Rodent Feces – 1,592.25 ft<sup>2</sup>  
On successful completion of the Major Spill Response the 2nd Floor will be Isolated from the remainder of the House as no further asbestos work exists.
  1. Apply negative air to meet a criteria of -0.03”
    - a. Awaiting Setup

Awaiting Work Area(s) –

- WA#2 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster Wall(s) on Stone  
1st Floor Root Cellar – 322 ft<sup>2</sup>  
Demolition of Wood Shelving in 1st Floor Root Cellar (embedded in Plaster) – 11.5X4' X 3 sets
  1. Apply negative air to meet a criteria of -0.03”

a. Awaiting Setup

Awaiting Work Area(s) –

WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone

1st Floor Kitchen and Bedroom 2 - 1,048 ft<sup>2</sup>

Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high

1. Apply negative air to meet a criteria of -0.03"

a. Awaiting Setup

Awaiting Work Area(s) –

WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

1st Floor Living Room, Bedroom 1, and Stairwell – 1,612 ft<sup>2</sup>

1. Apply negative air to meet a criteria of -0.03"

a. Awaiting Setup

Awaiting Work Area(s) –

WA#5 - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s)

Exterior, South Alcove Roofing, Debris, and Associated 2" of Soil – 10 ft<sup>2</sup>

Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3' from foundation.

1. Regulated Area(s)

a. Awaiting Setup

3. Structure Crack Monitoring –

- a. Surface mounted gauges will be visually observed twice daily after arrival of the first visit of the Engineer to determine if the existing cracks within the masonry are being impacted by the abatement

4. Asbestos Air Monitoring –

- a. During-abatement monitoring with the following preliminary results –

- 1) WA#1
- 2) IWA – 0.009 f/cc
- 3) OWA, Clean Room
- 4) OWA, Negative Air Exhausted Outside of the Building
- 5) OWA, Ambient, Outside of Building

1. These environmental samples, on completion of final analysis, Outside Work Area sample(s) have not exceeded the Maximum Allowable Asbestos Level (MAAL) by Phase Contrast Microscopy (PCM), or Transmission Electron Microscopy (TEM), where applicable.

- b. OSHA Compliance monitoring with the following preliminary results –

- 1) WA#1
- 2) Excursion – 0.074 f/cc
- 3) Personal, Multi-sample 8 Hour TWA – 0.0133 f/cc
  1. These environmental samples, on completion of final analysis, have not exceeded the EL (Excursion Level) or the PEL (Permissible Exposure Level) by Phase Contrast Microscopy (PCM), where applicable.
  2. Samples which were reported as CBR were not included in the multi-sample TWA result.
  3. Sampling flow rates should be lowered to avoid CBR results.
  4. A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL) –
  5. Should a CBR sample have occurred, the Contractor is advised to review engineering controls, negative pressure, air flow, wet methods, etc.

- c. Post-abatement monitoring with the following preliminary results –
  - 1) Awaiting Completion
- 5. Daily Contractor Submittals Received (sign in sheets, daily logs, entry/exit logs, special reports) –
  - a. 05/18/18 – not received – submit
  - b. 05/17/18 – not received – submit
  - c. 05/17/18 – mobilization 05/17/18 7:30 AM MST
    - 1) Contractor Project Directory –
      - 1. Note: Should Employee not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.
- 6. Work Areas completed –
  - a. Awaiting Completion
- 7. Punch list items completed –
  - a. Awaiting Completion
- 8. Notes:
  - a. Refer to Project Memo(s).
  - b. All observations stated in this report are based on facts and circumstances as they existed during the time of the observations, and during the time period of this report preparation and as available within the limits of the mutually agreed upon Scope of Work, budget, and schedule. The observations in this report is not intended to be exhaustive in scope, and is considered an ongoing working document. HERRON™ reserves the right to modify the contents of this document, as necessary.
  - c. As agreed, daily conversations are occurring, and daily reports will be on site for employee review. Hard copy will not be mailed as this correspondence constitutes delivery of the specified documents.
  - d. Refer to Project Definitions below.

Please advise within an RFI if you have any questions.

Thanks in advance,

Destiny M. Herron  
 Administrative Assistant  
 HERRON™ Enterprises USA, Inc.  
 7261 W. Hampden Ave., Lakewood, CO 80227-5305  
 (303) 763-9639 / Fax (303) 763-9686  
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Project Definitions:

Asbestos

- 1. In regards to the results, Regulation 29 CFR 1910, 1926 –
  - [https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=standards&p\\_id=9995](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9995)
  - [https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_id=10862&p\\_table=standards](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=10862&p_table=standards)
 A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL). In accordance with 29 CFR 1926, 1926.1101; 1926.1101(c)(1); 1926.1101(f)(1) Standard Interpretation Correct manner to interpret air sample measurements of an employee's asbestos exposure when the samples are overloaded [01/17/2006]

*'...While monitoring an employee's exposure to an airborne contaminant, such as asbestos, occasionally samples are lost, damaged, overloaded, or are otherwise unusable. Analytical laboratories report such samples as "VOID," with a note of explanation. An overloaded asbestos air sample is one in which non-asbestos dust obscures some or all of the fibers on the filter and therefore makes it impossible to accurately determine the concentration of asbestos in the laboratory's microscopic analysis. Such samples should not be counted by an employer in TWA calculations of employee exposure. The use of a "zero" exposure result for such samples is inappropriate; it will underestimate the employee's true exposure. An employer has the responsibility to "accurately" determine his employee's exposure to asbestos... '.*

1926.1101(b) Definitions

Employee exposure means that exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

1926.1101(c)(2) Excursion limit

The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(c) Permissible exposure limits (PELS)

1926.1101(c)(1)

Time-weighted average limit (TWA). The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air as an eight (8) hour time-weighted average (TWA), as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(c)(2)

Excursion limit. The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(g)(2)(v)

Wherever the feasible engineering and work practice controls described above are not sufficient to reduce employee exposure to or below the permissible exposure limit and/or excursion limit prescribed in paragraph (c) of this section, the employer shall use them to reduce employee exposure to the lowest levels attainable by these controls and shall supplement them by the use of respiratory protection that complies with the requirements of paragraph (h) of this section.

2. In regards to the results, AQCC Regulation No. 8 –

<http://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=7206&fileName=5> CCR 1001-10

III.U.2. The Maximum Allowable Asbestos Level (MAAL)

III.U.2.a. PCM - If PCM is used as the method of analysis the standard is 0.01 fibers per cubic centimeter of air (f/cc), which is equivalent to 10,000 fibers per cubic meter of air (f/m<sup>3</sup>).

III.U.2.b. TEM - Where TEM is used as the method of analysis, the standard is 70 structures/millimeter<sup>2</sup> (s/mm<sup>2</sup>).

3. Laboratory certificates not included with this correspondence have not been received, will follow under a separate cover.

4. Legend: .8μ, 25mm MCE Filter Cassettes, Amb = Ambient, IWA = Inside Work Area, OWA = Outside Work Area, CR = Clean/Change Room, LO = Loadout, NAM = Negative Air Exhaust, Ex = Excursion, Per = Personnel, VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read, BDL = Below Detection Limit



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### ASBESTOS SERVICES

Client: Boulder County  
Client Contact: Michael Lohr  
Order No.: SOQ #6673-17  
Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
Date of Assignment: 05/18-21/18  
Assignment: Environmental Consultation/Asbestos Services  
HERRON™ Project No.: 0421178.2  
Date of Report: 05/21/18

### SUMMARY OF WORK

Per Client request, and under the guidelines defined, HERRON™ Enterprises USA, Inc. has concluded the Environmental Consultation/Asbestos Service for friable and/or non-friable Asbestos Containing Material(s) at the aforementioned property.

Our Environmental Consultation/Asbestos Service report may include a Limited Asbestos Building Inspection, descriptions of Bulk, Dust, and/or Air Monitoring samples, their locations and analyses data, which have been obtained and analyses performed in accordance with local, state, and/or federal regulations.

For Calculation purposes of samples obtained by HERRON™, all results are expressed basis actual sampling duration, with courtesy 8 hours time weighted average calculations, based on the actual sampling duration. For Calculation purposes of samples submitted to HERRON™, all results are expressed basis actual sampling duration, as submitted by the Client. HERRON™ implies no warranty to the accuracy of the information or the samples submitted by the Client. In order to make exact determinations, the employer should calculate exact times based on containment sign-in/out sheets for TWA's, in accordance with current OSHA regulations.

All Miscellaneous Provisions, Terms and Conditions apply to all services provided as indicated in HERRON™ current Terms of Services.

Information and data which has been generated as a result of this Environmental Consultation/Asbestos Service will remain confidential and will not be released to any party without prior written authorization from Client(s) (refer to authorized distribution).

We appreciate the confidence which has been demonstrated by your continued patronage, and look forward to assisting you and your group should you have future needs of Environmental Consultation/Asbestos Services.

Sincerely,

Billie J. Herron-Lusk  
Project Manager  
HERRON™ Enterprises USA, Inc.





**FIELD REPORT & OBSERVATIONS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/18-21/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.2  
 Date of Report: 05/21/18

**DATE TIME SUMMARY OF EVENTS**

05/17/18	----	<p>Requested to perform Baseline (MAAL/OSHA) Air Monitoring, Pre-Abatement Visual Containment(s) Inspection(s), Removal (MAAL/OSHA) Air Monitoring, Final Visual Containment(s) Inspection(s), Final Clearance (MAAL/OSHA) Air Monitoring, and OSHA Compliance Air Monitoring for Gross removal of</p> <p><b>WA#1</b> - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall</p> <p><b>1st Floor Living Room</b>, 7X2' Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft2</p> <p><b>2nd Floor Closet</b> Loose Sheet Flooring on Wood Substrate - 10 ft2</p> <p><b>Test Area(s) 1st Floor Two (2) Perimeter Wall(s)</b> Perform test area of removal of Asbestos Plaster on Stone, approximately 4X4' for Engineer determination of acceptable removal methods - 32 ft2</p> <p><b>1st and 2nd Floors Decontamination</b> Floor Surface Area of 1st and 2nd Floor Levels – 1,592.25 ft2 1st and 2nd Floors Decontamination will include the Cleanup and Decontamination of Rodent Feces – 1,592.25 ft2 On successful completion of the Major Spill Response the 2nd Floor will be Isolated from the remainder of the House as no further asbestos work exists.</p> <p><b>WA#2</b> - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster Wall(s) on Stone</p> <p><b>1st Floor Root Cellar</b> – 322 ft2 Demolition of Wood Shelving in 1st Floor Root Cellar (embedded in Plaster) – 11.5X4' X 3 sets</p> <p><b>WA#3</b> - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone</p> <p><b>1st Floor Kitchen and Bedroom 2</b> - 1,048 ft2 Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high</p> <p><b>WA#4</b> - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone</p> <p><b>1st Floor Living Room, Bedroom 1, and Stairwell</b> – 1,612 ft2</p> <p><b>WA#5</b> - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s)</p> <p><b>Exterior, South Alcove</b> Roofing, Debris, and Associated 2" of Soil – 10 ft2 Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3' from foundation.</p> <p>05/18/18      *      Commenced (MAAL/OSHA) Air Monitoring                        *      Completed (MAAL/OSHA) Air Monitoring</p>
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**FIELD REPORT & OBSERVATIONS**

Client: Boulder County  
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Boulder County  
Date of Assignment: 05/18-21/18  
Assignment: Environmental Consultation/Asbestos Services  
HERRON™ Project No.: 0421178.2  
Date of Report: 05/21/18

DATE	TIME	SUMMARY OF EVENTS
	*	Completed (MAAL/OSHA) Air Monitoring PCM analysis-All Work Area samples below AQCC MAAL, <=0.01 f/cc/OSHA 1926.1101, EL <1.0 f/cc, PEL <0.10 f/cc, where regulated, unless otherwise noted as follows: NA
	*	Advised results
05/21/18	*	Field documentation completed and report distributed (refer to distribution)

Note: \*Refer to daily project memo for complete details of events.



**ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/18-21/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.2  
 Date of Report: 05/21/18

SAMPLE NO. AND DESC.	PUMP NO.	TIME					FLOW RATE			VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	FIBER		
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	DENSITY (F/MM2)					LOD (F/CC)	FIBERS (F/CC)	
051818-1	505	7	35	12	35	300	3.50	3.50	1050	M	19.0	100	24.204	0.003	0.009	
Removal,		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc):			0.0055		

(MAAL) Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

IWA

051818-2	505	7	35	12	35	300	3.50	3.50	1050	M	12.0	100	15.287	0.003	0.006
Removal,		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc):			0.0035	

(MAAL) Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

OWA

051818-3	505	7	35	12	35	300	3.50	3.50	1050	M	14.0	100	17.834	0.003	0.007
Removal,		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc):			0.0041	

(MAAL) Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

OWA, Clean Room

051818-5	201	7	35	12	35	300	3.50	3.50	1050	VL	6.0	100	7.643	0.003	0.003
Removal,		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc):			0.0018	

(MAAL) Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

OWA, Negative air exhausted outside of Building

051818-4	505	7	35	12	35	300	3.50	3.50	1050	VL	4.0	100	5.096	0.003	BDL
Removal,		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc):			0.0012	

(MAAL) Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

OWA, Ambient



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## ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS

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 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 /  
 Boulder County  
 Date of Assignment: 05/18-21/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.2  
 Date of Report: 05/21/18

SAMPLE NO. AND DESC.	PUMP NO.	TIME				FLOW RATE			FIBER				
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	DENSITY (F/MM2)

051818-B1	Blank									VL	0.0	100			
051818-B2	Blank									VL	0.0	100	DATA:	BL	

Note: .8µ, 25mm MCE Filter Cassettes - Note: IWA = Inside Work Area, OWA = Outside Work Area, BDL = Below Detection Limit - Note: VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read - Note: Proficiency Analytical Testing (PAT) Program



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 HERRON™ Project No.: 0421178.2  
 Date of Report: 05/21/18

SAMPLE NO. AND DESC.	PUMP NO	TIME					FLOW RATE			VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	FIBER		
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	DENSITY (F/MM2)					LOD (F/CC)	FIBERS (F/CC)	
051818-P1	701	8	0	8	30	30	2.00	2.00	60	M	9.0	100	11.465	0.045	0.074	
OSHA Compliance		0	0	0	0	0	0.00	0.00	(Calculated 8 Hr. TWA, f/cc):				0.0046			

Air Monitoring Samples,

Excursion Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

Carlos Vanderhorst/#2224

051818-P2	701	8	30	12	30	240	2.00	2.00	480	M	17.0	100	21.656	0.006	0.017
OSHA Compliance		0	0	0	0	0	0.00	0.00	(Calculated 8 Hr. TWA, f/cc):				0.0087		
Air Monitoring Samples,					(Multiple Sample 8 Hr. TWA, f/cc):				0.0133						

Personal Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

Carlos Vanderhorst/#2224

051818-B1	Blank										VL	0.0	100		
051818-B2	Blank										VL	0.0	100	DATA:	BL

Note: .8μ, 25mm MCE Filter Cassettes - Note: IWA = Inside Work Area, OWA = Outside Work Area, BDL = Below Detection Limit - Note: VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read - Note: Proficiency Analytical Testing (PAT) Program



**FLOOR PLANS/SITE PHOTOGRAPHS**

Client: Boulder County  
 Client Contact: Michael Lohr  
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 Date of Assignment: 05/18-21/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.2  
 Date of Report: 05/21/18

**Photo Log**



20180518\_082525



20180518\_082536



20180518\_082554



20180518\_082603



20180518\_082611



20180518\_082624



20180518\_082639



20180518\_082650



20180518\_082707



20180518\_074405



20180518\_074409



20180518\_081255



20180518\_081307



20180518\_082455



20180518\_082508



20180518\_082510



**FLOOR PLANS/SITE PHOTOGRAPHS**

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**Photo Log**



20180518\_123133



20180518\_123147



20180518\_123149



20180518\_123151



20180518\_123208



20180518\_123213



20180518\_123220



20180518\_123227



20180518\_123236



20180518\_123242



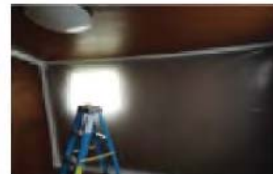
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20180518\_122725



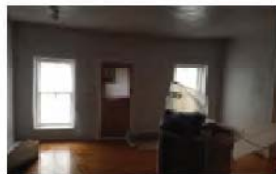
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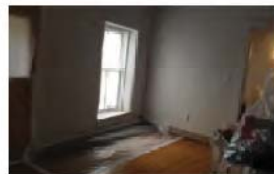
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20180518\_123017



20180518\_123045



20180518\_123052



20180518\_123055



20180518\_123113



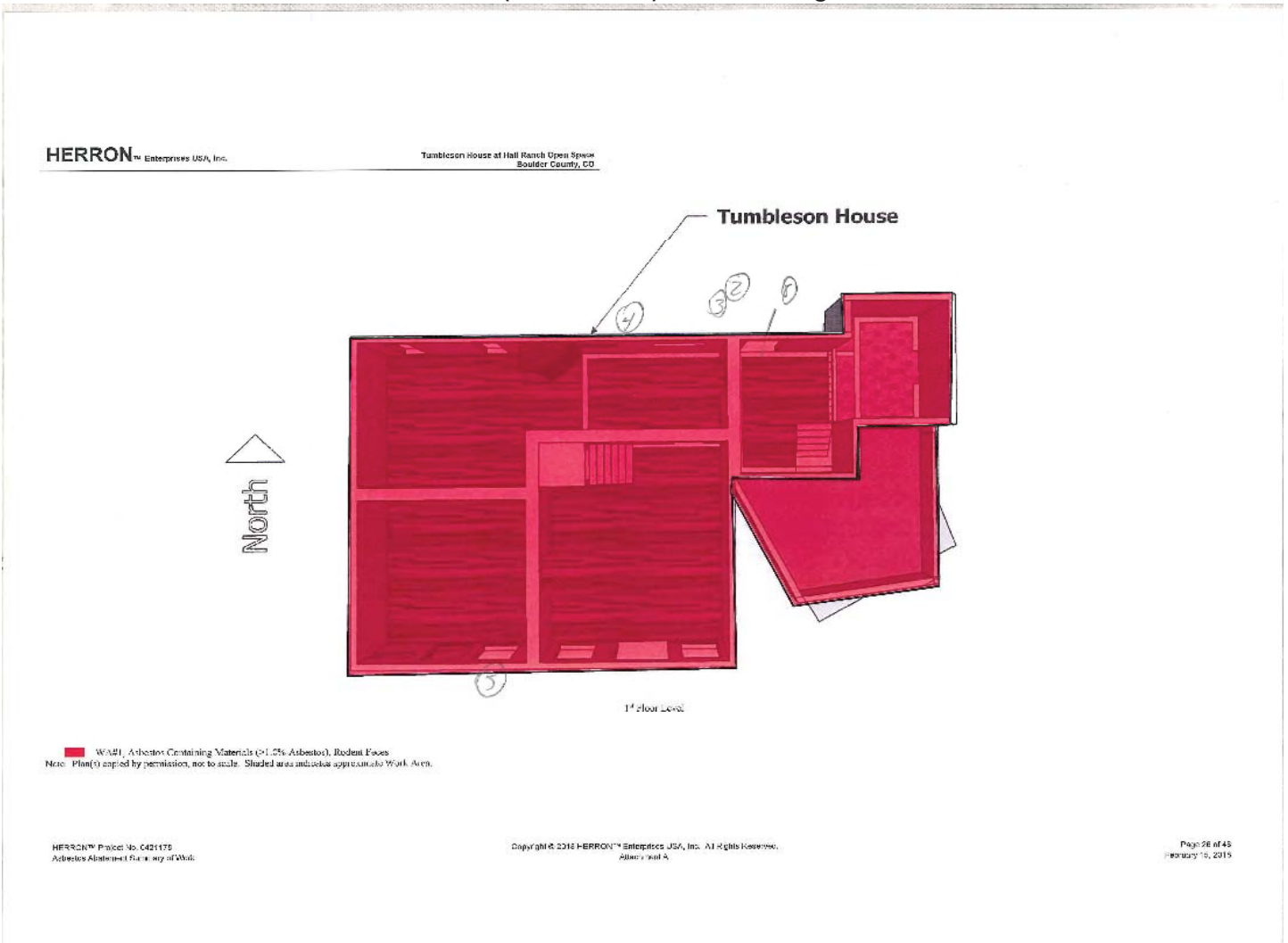
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**FLOOR PLANS/SITE PHOTOGRAPHS**

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**(MAAL/OSHA) Air Monitoring**







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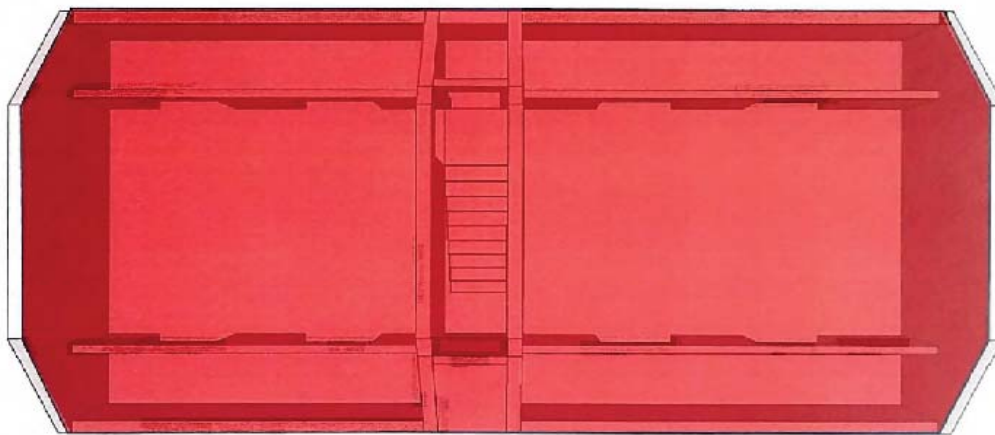
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**(MAAL/OSHA) Air Monitoring**

HERRON™ Enterprises USA, Inc.

Tumbleson House at Hall Ranch Open Space  
Boulder County, CO



2<sup>nd</sup> Floor Level

■ Wall, Asbestos Containing Materials (P-1, D5 Adhesives), Radial Pipes  
Note: Planes copied by permission, not to scale. Shaded area indicates approximate Work Area.

HERRON™ Project No. 0421178  
Asbestos Abatement Summary of Work

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JLH/MLA

Page 27 of 48  
February 15, 2018



## AQCC REG. NO. 8 ASBESTOS ABATEMENT INSPECTION FORM COMPLIANCE CHECKLIST AND INFORMATION

Colorado Dept. of Public Health  
and Environment  
APCD-IE-B1  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
Phone: 303-692-3100  
Fax: 303-782-0278

Project(s) Address: <b><u>Tumbleson House at Hall Ranch Open Space, Boulder County, CO</u></b>		Project(s) Permit #: 18BO2912A	
Project(s) start date: May 17, 2018		Project(s) completion date: June 04, 2018	
Inspector(s): LP (Lennie) Herron/#2572 (AMS/PM - ___) Billie J. Herron/#2650 (AMS/PM - <u>X</u> ) Jamie L. Herron-Carson/#2649 (AMS/PM - ___) Sherri K. Herron/#8728 (AMS/PM - ___) Michael W. Herron, Sr./#13788 (AMS/PM - ___)		Inspection Date: 05/18/18	
Current Abatement Phase:	<input type="checkbox"/> Pre	<input checked="" type="checkbox"/> Active	<input type="checkbox"/> Post
More than one phase/project?		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Comments:			

**Types(s) and total quantity of ACM removed/to be removed\* as reported by the abatement contractor:**

Pipe Insulation*:	Fireproofing:	Spray-on:
Ceiling Tile:	Boiler Insulation:	VAT:
Transite:	<b>Other (describe):</b> <ul style="list-style-type: none"> <li>Rodent Feces – 1,592.25 ft<sup>2</sup></li> <li>Miscellaneous Material = 20 ft<sup>2</sup></li> <li>Surfacing Material = 2,982 ft<sup>2</sup></li> </ul>	

\*Pipe insulation is reported in lineal feet, all other materials including ductwork are reported in square footage regardless of the thickness of the ACM. If reporting in 55-gallon drums, note square footage or linear footage area to be removed.

**List of ALL abatement workers in containment today:**

#	NAME	SSN OR REC. #	AHERA / STATE / PHYSICAL / FIT TEST
1	SEE ATTACHED		/ / /
<b>COMMENTS:</b>			

**Note: Responses to the Description of Citation is indicated by the anticipation of the day, with the default as X = OK / Vio. / N/A. Should the response differ, cross-out will appear and appropriate response indicated.**

**PART I – SECTION A - OUTSIDE WORK AREA(S) – CERTIFICATION AND PERMIT/NOTIFICATION REQUIREMENTS, ETC.**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
16	II.A.2	All training certs./documents on site - with <b>photo IDs</b> ?	X		
26	II.J	Project Manager - credentials ok (certified as PD, completed AMS training, HS diploma, 1 yr. Experience, independent)?			X
29	III.B.1.a & III.B.4	On-site supervisor state certified?	X		
29	III.B.1.b & III.B.4	All workers on site trained/certified?	X		
30	III.B.5	Air Monitoring Spec. trained and certified? Note - this requirement may apply during pre-and active abatement phases, e.g. monitoring NAM exhaust inside a building or checking for the "MAAL".	X		
30	III.B.6	Project Manager required (>1,000 LF/>3000SF of friable) Note: Not required in schools.			X
30	III.C.1	Project Design required (>1,000 LF/>3000SF in P&C) (>3 LF/>3SF in Schools)	X		
31	III.C.4	Project Design on the site and signed?	X		
31	III.E.1	No false, inaccurate, or misleading information?	X		
33	III.F	If a variance has been granted for any work practice(s); <b>are the conditions of this variance being followed?</b>			X
34	III.G	Permit Valid (i.e. start/stop dates)?	X		
35	III.G.4	ORIGINAL permit posted at work site?	X		
36	III.G.8	Permit signed by Project Manager?			X

**COMMENTS ON PART I – SECTION A:**

**PART I – SECTION B – OUTSIDE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
37	III.J.1.a	Negative Air Machines (NAMs) operating continuously?	X		
37 & 52	III.J.1.d & III.U.1.b.i	NAMs monitored if exhausted inside the building?	X		
37	III.J.3	-0.02" H <sub>2</sub> O or better on Manometer?		X	
37	III.J.3	Continuous printout on Manometer?	X		
37	III.J.4	Smoke tubes present?	X		
37	III.J.4	Air flow - outside to inside ok?	X		
38	III.K.1	All chambers separated by airlocks?	X		
38	III.K.1	Decon Unit - 3 stages?	X		
38	III.K.1	Self-closing flaps/doors? (Z flaps are preferable, but not required)	X		
38	III.K.1.a	Clean room - adequately sized?	X		
38	III.K.1.b	Shower - hot and cold water at the tap?	X		
38	III.K.1.b	Shower – leakage anywhere but the supply connection?	X		
38	III.K.1.b	Shower - wastewater filtered to 5 microns or less, sanitary sewer discharge?	X		
38	III.K.1.b	Shower and Clean room - ACM debris present?	X		
39	III.K.2	Entry and exit procedures ok?	X		
41	III.N.2	View port present (at minimum 12"x12")?	X		
41	III.N.3	Waste load out separate from Decon?	X		
41	III.N.3	Waste load out - 2 stages?	X		

**COMMENTS ON PART I – SECTION B: PRESSURE DIFFERENTIAL STILL BEING ADDRESSED VIA INSTALLATION OF CRITICAL BARRIERS AND ADDITIONAL NEGATIVE AIR MACHINES**

**PART II – INSIDE THE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
36	III.I	Critical barriers - 1 layer 6 mil?	X		
36	III.J.1.b	Air cleaning equipment - HEPA filters properly installed, equipment operating, maintained adequately, etc.?	X		
37	III.J.2	Adequate equipment in place to ensure 4 air changes per hour?	X		
38	III.K.1.c	6 mil disposal bag present in Dirty Room?	X		
39	III.K.2.b	Disposable clothing worn by workers?	X		
39	III.L	Pre-cleaning - criticals and decon, HEPA vacs, wet cleaning, proper disposal?	X		
39	III.L.1	Movable objects cleaned before removal from the work area?	X		
39	III.M	Fixed objects - 1 layer 6 mil?	X		
40	III.N.1.a	Floors - 2 separate layers 6 mil?	X		
40	III.N.1.a, b, & c	No seams present (wall/floor, wall/ceiling, 12" overlap)?	X		
40	III.N.1.b	Walls - 2 separate layers 4 mil?	X		
40	III.N.1.c	Ceilings - 1 layer 4 mil?	X		
41	III.O.1.a.i.(A)	Amended water being used (surfactants) before ACM is removed?	X		
41	III.O.1.a.i.(A)	Are the surfactants a commercial product designed specifically for ACM removal?	X		
41	III.O.1.a.i.(A)	Material adequately wet and/or kept wet until bagged for disposal?	X		
42	III.O.1.a.i.(B)	Airless sprayers used for applying amended water or encapsulant?	X		
42	III.O.1.a.iii	All contaminated surfaces wet-wiped prior to disassembly of containment barriers?	X		

**COMMENTS ON PART II:**

**PART III – SECTION A –SPECIAL PROJECTS, RESILIENT FLOOR TILE**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
31	III.E.1	Notice posted at the worksite?			X
46	III.R.	Waste handled as nonfriable waste?			X
114	Appendix B	Appendix B, Amended water being used?			X
114	Appendix B	Appendix B, Hand tools only?			X
48	III.S.1	Appendix B, Proper handling and packaging of tiles/adhesives?			X
48	III.S.1	Voluntarily using splashguards, critical, negative air, and decon?			X
48	III.S.1.c	Is the material being rendered friable?			X

**COMMENTS ON PART III, SECTION A:**

**REFER TO APPLICATION OF STANDARD APPROVED VARIANCE #1 REMOVAL OF FLOOR MASTIC USING A MECHANICAL BUFFER ISSUED: MARCH 4, 2014**

**PART III – SECTION B –SPECIAL PROJECTS, SHEET VINYL FLOORING**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
34	III.E.1	Notice/Permit posted at the worksite?			X
46	III.R.	Waste handled as friable waste?			X
48	III.S.1.c	Is the material being rendered friable?			X
48	III.S.1.d.	Worker(s)/Supervisor(s) trained according to Appendix C?			X
48	III.S.2	Appendix B, Amended water being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Hand tools only being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Proper handling and packaging of sheet flooring being used by only App. C trained workers?			X
107	Appendix B	Appendix B, Proper wetting at the delaminating nip point being used by only App. C trained workers?			X
48	III.S.2	Voluntarily using splashguards, critical, negative air, and decon?			X

**COMMENTS ON PART III, SECTION B:**


**PART III – SECTION C –SPECIAL PROJECTS, NONFRIABLE ACM**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
49	III.S.4.a.	ACM adequately wet?			X
49	III.S.4.b.	Hand removal methods being used?			X
49	III.S.4.c.	Minimal breakage and disturbance?			X
49	III.S.4.d.	Material properly disposed of as nonfriable waste?			X

**COMMENTS ON PART III, SECTION C:**


**PART IV – SPECIAL REMOVAL METHODS, GLOVEBAGS AND FACILITY COMPONENT REMOVAL**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
53	III.V.1	Glove bags - proper usage (useable without causing fiber release)?			X
53	III.V.1.a	Glove bags - properly sealed to the area, no bottom seam?			X
53	III.V.1.b	Glove bags - pipes cooler than 150°F?			X
53	III.V.1.c	Glove bags used only once?			X
53	III.V.1.d.i	Glove bags - secondary containment(s) in place if removal > 3LF/SF?			X
54	III.V.1.d.ii	Glove bags - smoke tested prior to use?			X
54	III.V.1.d.iv	Glove bags - material in bags adequately wet?			X
54	III.V.1.d.vi	Glove bags - "rough" edges encapsulated?			X
54	III.V.1.d.vii	Glove bags - evacuated with HEPA vac prior to removing the bag?			X
54	III.V.2	Facility component removal - w/o containment, material well adhered to surface?			X
54	III.V.2.a	Facility component removal - adequately wet and wrapped in 6 mil poly prior to removal from the work area?			X

**COMMENTS ON PART IV:**


**PART V – MAJOR SPILLS**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
50	III.T.1.	Spill properly characterized (air sampling, tape sampling, microvac sampling)?	X		
50	III.T.1.a.	Area immediately sealed off?	X		
50	III.T.1.b	Air handling system shut down or modified to prevent further disturbance?	X		
50	III.T.1.c.	Division properly notified by phone and requirement(s) of subsection III.E. fulfilled?	X		
50	III.T.1.e.	Area sealed off and negative pressure established in accordance with III.J.	X		
50	III.T.1.e.	Certified personnel in accordance with section II performing work?	X		
50	III.T.1.j	Final clearance air monitoring performed in accordance with subsection III.P.	X		

**COMMENTS ON PART IV:**

**NOTE: WORK AREA #1 ONLY**


**PART VI – WASTE HANDLING REQUIREMENTS (WASTE STORAGE AREA)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
47	III.R.1	6 mil or greater bags?	X		
46	III.R.2.a	Containers - material adequately wet in bags?	X		
46	III.R.2.a	No breakage, rupture or leakage?	X		
47	III.R.2.b	Proper warning labels on bags?	X		
47	III.R.2.d	Visible emissions – anywhere on job site?	X		
47	III.R.2.f	All waste water filtered to 5 microns AND discharged to a <b>sanitary sewer</b> ?	X		
47	III.R.3	Are ACWM bags labeled with generator labels in accordance with 40 CFR 61.150?	X		
47	III.R.3	Are appropriate waste shipment records being maintained (40 CFR 61.150)?	X		
47	III.R.3	Transport to a proper disposal site?	X		
47	III.R.3	Waste storage vehicles placard during loading/storage at job site?	X		

**COMMENTS ON PART V:**


**PART VII – POST ACTIVE ABATEMENT REQUIREMENTS**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
19	II.D.	Is the AMS properly trained and certified? (Note: this requirement also pertains to “background air sampling” and sampling conducted near NAM exhausts if the NAMs are exhausted inside a building, i.e. sampling for the MAAL.)	X		
43	III.P	Is the AMS performing the final clearance procedures completely independent of the asbestos contractor?	X		
44	III.P.1	Work area reduced to only critical barriers in place?			X
44	III.P.3.a.i	Aggressive sampling conducted pursuant to 40 CFR 763 Appendix A?			X
44	III.P.3.a.i	Has all dust and debris been removed from the work area, including areas behind the critical barriers?			X
45	III.P.3.b.ii	TEM air sampling - 1,199 liters of air drawn (25 mm cassette) and average of the required 5 samples is below 70 structures/mm <sup>2</sup> ?* Note: Required for schools if the project is >160 SF/260 LF.			X
45	III.P.3.b.iii	PCM air sampling – Sufficient amount of air drawn so the LOD is <0.01f/cc (25mm cassette) and each sample of 5 required samples is below 0.01 f/cc?* Note: Required for school is the project is >3 SF/>3LF but <160 SF/<260 LF.			X
45	III.P.3.c.i	TEMs - lab properly accredited (by NIST)?			X
46	III.P.3.c.ii	PCMs - lab successfully participating in AIHA PAT program?	X		
46	III.P.3.c.ii	Satellite Labs - directly under the control of properly accredited “parent” lab pursuant to subclause III.P.3.c.i?	X		
46	III.P.3.c.ii	Satellite labs - proper procedures (NIOSH 7400 method) followed, and is the analyst properly trained pursuant to Section III.P.3.c.ii?	X		
53	III.U.3.b	MAAL, sample(s) outside containment >0.01 f/cc PCM?			X
52 & 53	III.U.2.b & III.U.3.a	MAAL, if yes to above, re-analyzed TEM within 24 hours and/or area treated as a spill?			X
27	II.L.	Everyone performing consulting firm activities registered with CDPH&E?	X		

**\*There are two possible exceptions to these rules, see page 46 for details\***

**COMMENTS ON PART VI:**

**COMMENTS, GENERAL:**



**HERRON™** Enterprises USA, Inc.  
 Hazardous Materials\* Mold\* Asbestos\* Lead Paint  
 Environmental Services\* Industrial Hygienists

Phone (303) 763 9639  
 Fax (303) 763 9686  
 E-Mail [Lennie.Herron@comcast.net](mailto:Lennie.Herron@comcast.net)  
 Website [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)  
 7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

**PROJECT/LOCATION: 0421178, RFP#6648-17- Tumbleson House at Hall Ranch Open Space Asbestos Consulting Services / Boulder County**

DATE REPORT NO	PROJECT/LOCATION: 0421178, RFP#6648-17- Tumbleson House at Hall Ranch Open Space Asbestos Consulting Services / Boulder County										05/18/18 0421178. 2	
	On-site Today?	AHERA Worker Expiration	State Worker Expiration	AHERA Supervisor Expiration	State Supervisor Expiration	Physical Expiration	Fit Test Expiration	Copy of All Certifications on Site?	State ID Card Displayed On-Site?	Certificate of Workers Acknowledgement	Copy of All Certifications and State ID Card Received by HERRON?	*Authorized Employee in Work Area(s) at This Job Site Today?
										*	*	Yes
	Yes	03/03/19	04/27/19	NA	NA	04/16/19	02/20/19	*	*	*	*	Yes
		07/01/18	07/15/18	NA	NA	07/14/18	12/26/18	*	*	*	*	Yes
		NA	NA	08/25/18	09/18/18	02/02/19	05/09/19	*	*	*	*	Yes
		NA	NA	12/22/18	01/04/19	01/08/19	01/09/19	*	*	*	*	Yes
	Yes	03/17/19	04/19/19	NA	NA	04/14/19	04/20/19	*	*	*	*	Yes
	Yes	03/03/19	06/29/18	NA	NA	04/24/19	04/03/19	*	*	*	*	Yes
	Yes	04/30/19	03/16/19	NA	NA	01/18/19	05/19/19	*	*	*	*	Yes
	Yes	07/29/18	09/21/19	NA	NA	05/17/19	12/18/18	*	*	*	*	Yes
	Yes	02/03/19	05/24/18	NA	NA	06/01/18	06/01/18	*	*	*	*	No

**CONTRACTOR  
Employees**

9 6

Expired

Expired and/or Update Not Received:

\*Should Employee not be within regulatory compliance or specifications. Employee is prohibited from work within a Regulated Area.  
 Legend of Documents not received by HERRON: 1. AHERA Certification, 2. State Certification, 3. Physical, 4. Fit Test, 5. Certificate of Worker's Acknowledgement.  
 Effectively, this document is published daily to include Employees which have signed in.



## ON-SITE DAILY SIGN-IN SHEET

Date: 5/18/2018  
 Project Name: temple ston house.  
 Job #: 18-026  
 Supervisor: Felipe Hernandez.

Name	Time In	Lunch Out	Lunch In	Time Out	Total Hours
Felipe Hernandez.	8:30				
Hector Salgado	8:30				
Carlos VANDERFORST	8:30				
Adriana Jacobi	8:30				
JUAN VELOZ	8:30				
Allen Gully	8:20				
Daily Total:					

---

**Subject:** FW: Permit - 31271 S. St Vrain Drive, Lyon, CO

**From:** Allen Gallogly [<mailto:agallogly@oakenvironmental.net>]

**Sent:** Wednesday, May 16, 2018 4:53 PM

**To:** Billie Herron <[billie-lusk@comcast.net](mailto:billie-lusk@comcast.net)>

**Subject:** Fwd: Permit - 31271 S. St Vrain Drive, Lyon, CO

Sent from my iPhone

Begin forwarded message:

**From:** "Asbestos - CDPHE, cdphe" <[cdphe.asbestos@state.co.us](mailto:cdphe.asbestos@state.co.us)>

**Date:** May 16, 2018 at 4:29:10 PM MDT

**To:** Allen Gallogly <[agallogly@oakenvironmental.net](mailto:agallogly@oakenvironmental.net)>

**Subject: Re: FW: Permit - 31271 S. St Vrain Drive, Lyon, CO**

Good afternoon Mr. Gallogly,

I've received your voicemail, but technical problems have arisen on the state end of the permitting system. Our database is inaccessible right now so we cannot issue you a permit.

However, your job IS approved. In light of the technical fault we're having, consider this a one-time dispensation to begin work without a permit posted.

This email serves as your authorization to begin work.

Please check back tomorrow to get an official binding permit, as this written release is only valid through 5/17/18.

Thank you,  
-Trevor Strosnider

**Permit Coordinator**

Asbestos Unit

Indoor Environment Program

Colorado Department of Public Health and Environment

P [303-692-3100](tel:303-692-3100) | F [303-782-0278](tel:303-782-0278)

4300 Cherry Creek Drive South, Denver, CO 80246-1530

[cdphe.asbestos@state.co.us](mailto:cdphe.asbestos@state.co.us) | [www.colorado.gov/cdphe/asbestos](http://www.colorado.gov/cdphe/asbestos)



**COLORADO**  
Air Pollution Control Division  
Department of Public Health & Environment



As of January 1, 2017, the Indoor Environment Program will not accept incomplete forms for certification, abatement or demolition. Any application with missing information may result in longer processing times or the application may be returned to you which will restart the required notification period. Please note that all submissions must be completed using forms supplied by the Division. If you need assistance, please refer to: <https://www.colorado.gov/pacific/cdphe/asbestos-forms> or <https://www.colorado.gov/pacific/cdphe/certification-and-lead-abatement-forms> or contact the Indoor Environment Program at [303-692-3100](tel:303-692-3100).

On Wed, May 16, 2018 at 3:28 PM, Allen Gallogly <[agallogly@oakenvironmental.net](mailto:agallogly@oakenvironmental.net)> wrote:

Could you please send me a copy of the permit. I would like to start tomorrow but do not have the approved copy.

Thanks and have a great day.

Allen Gallogly

Oak Environmental, LLC

[agallogly@oakenvironmental.net](mailto:agallogly@oakenvironmental.net)

(720) 219- 8356 Cell

(720) 504-9973 Office



---

**From:** David Starks <[dstarks@oakenvironmental.net](mailto:dstarks@oakenvironmental.net)>

**Sent:** Monday, May 14, 2018 5:04 PM

**To:** Allen Gallogly <[agallogly@oakenvironmental.net](mailto:agallogly@oakenvironmental.net)>

**Subject:** Fwd: Permit Modification - [31271 S. St Vrain Drive, Lyon, CO](#)

FYI

David Starks

Oak Environmental, LLC

Begin forwarded message:

**From:** "Asbestos - CDPHE, cdphe" <[cdphe.asbestos@state.co.us](mailto:cdphe.asbestos@state.co.us)>  
**Date:** May 14, 2018 at 4:32:47 PM MDT  
**To:** David Starks <[dstarks@oakenvironmental.net](mailto:dstarks@oakenvironmental.net)>  
**Subject:** Re: Permit Modification - [31271 S. St Vrain Drive, Lyon, CO](#)

David,

Received and Approved.

Jeff Wolfe

**Permit Coordinator**

Asbestos Unit

Indoor Environment Program

Colorado Department of Public Health and Environment

P 303-692-3100 | F 303-782-0278  
[4300 Cherry Creek Drive South, Denver, CO 80246-1530](#)  
[cdphe.asbestos@state.co.us](mailto:cdphe.asbestos@state.co.us) | [www.colorado.gov/cdphe/asbestos](http://www.colorado.gov/cdphe/asbestos)



As of January 1, 2017, the Indoor Environment Program will not accept incomplete forms for certification, abatement or demolition. Any application with missing information may result in longer processing times or the application may be returned to you which will restart the required notification period. Please note that all submissions must be completed using forms supplied by the Division. If you need assistance, please refer to: <https://www.colorado.gov/pacific/cdphe/asbestos-forms> or <https://www.colorado.gov/pacific/cdphe/certification-and-lead-abatement-forms> or contact the Indoor Environment Program at [303-692-3100](tel:303-692-3100).

On Mon, May 14, 2018 at 3:14 PM, David Starks  
<[dstarks@oakenvironmental.net](mailto:dstarks@oakenvironmental.net)> wrote:

CDPHE Coordinator,

Please find attached our permit modification for project address [31271 S. St Vrain Drive, Lyons, CO](#)

Please contact me with any questions.

Thank you,

David W. Starks

Oak Environmental, LLC

[dstarks@oakenvironmental.net](mailto:dstarks@oakenvironmental.net)

Office: 720-504-9973

Cell: 720-472-2349



## **ASBESTOS ABATEMENT PERMIT**

This permit is granted subject to Colorado Air Quality Control Commission Regulation No. 8, Part B, adopted December 21, 2007, and effective January 30, 2008, the Colorado Air Pollution Prevention and Control Act (25-7-101 or 25-7-501 et seq., C.R.S.) and the following provisions. It is only for the purpose of allowing asbestos abatement.

### **ADDITIONAL PERMIT PROVISIONS:**

By performing work under this permit the abatement contractor agrees that the Division may revoke or suspend this permit should the Division find that the contractor:

- has violated or has aided and abetted in the violation of 25-7-101 or 25-7-501 et seq., C.R.S. or Regulation No. 8, Part B, or an order of the Division or Commission,
- has failed to meet any permit and notification requirement or failed to correct any violations cited by the Division during any inspection within a reasonable period of time, as may be determined by the Division,
- has used misrepresentation or fraud in obtaining this permit, or,
- has committed any act or omission which does not meet generally accepted standards of the practice of asbestos abatement.

As a contractor, you may be subject to other licenses and permits, depending on the requirements of the county and municipality in which the work is being performed. The Colorado Department of Public Health and Environment, Air Pollution Control Division strongly suggests that you check with county and municipal authorities in order to determine any other local building/permitting requirements that must be met.

### **THE ORIGINAL PERMIT MUST BE POSTED ON SITE AT ALL TIMES.**

*Immediately notify the Asbestos/IAQ Unit of project modifications by fax (number above) or e-mail (address above) and the appropriate county health department by fax. Project modifications include changes in the scope of work or the scheduled work dates, etc.*

This asbestos abatement permit is valid beginning 5/17/2018 through 11:59 PM on 6/15/2018.  
The actual scheduled work dates are from 5/17/2018 through 6/1/2018.

Approval issued on: 5/14/2018

Record number: 137538

**Notice Number: 18BO2912A**

Variance: None

Comments: None

For the location specified below:

**Tumbleson House**  
**Main floor, basement, 2nd level closet**  
**31271 S. St. Vrain Dr.**  
**Lyons**  
**Boulder County**

Fee paid: \$400.00

Check number: CC 5879

Project Supervisor:

**Felipe Hernandez**

Cerification No.: 16523

Project AMS:

**Billie J. Herron-Lusk**

Cerification No.: 2650

Project Manager:

This permit has been issued to:

**Oak Environmental, LLC**  
**PO Box 1747**  
**Commerce City, CO 80037**

# **COPY**

Issued by: SK



# INTERNATIONAL



Environmental and Safety Training L.L.C.  
720 Billings Street Unit F  
Aurora, Colorado 80011  
Phone # (720) 859-3134  
Fax # (720) 859-0660



*CERTIFIES THAT*

**JUAN VELOZ**

Has successfully completed  
The **EPA- APPROVED AHERA ANNUAL ASBESTOS REFRESHER**  
**COURSE for WORKER**

And passed the requirements examination in that discipline

This course is **EPA-Approved** under Section 206 of the  
**Toxic Substance Control Act (TSCA)**

Course Date 07/29/2017  
No. Hours 8  
Certificate No. CO072917-06AWR  
Expires 07/29/2018

This course meets  
the requirements of  
AQCC Reg. #8



Invalid without raised seal

Training Director

Midtown Occupational Health Services  
2420 W. 26<sup>th</sup> Ave. Ste. 200-D Denver, CO 80211  
Phone: (303) 831-9393 Fax: (303) 831-6335

**OSHA Asbestos Certification**

Applicants Name Juan Veloz

The above individual was seen by me on 5-17-18 in accordance to 29 CFR 1926.1101(Asbestos Certification) and 29CFR1910.134 (Respirator Certification). The following was performed:

1.  Completion and review of the standardized medical questionnaire and work history with special emphasis directed to the pulmonary, cardiovascular, and gastrointestinal systems per Appendix D in 1926.1101
2.  Reviewed the employer's description of this individual's duties as they relate to asbestos exposure, the anticipated exposure level, and the personal protective and respiratory equipment to be utilized by this individual.
3.  Review of information from previous medical examinations, if available.
4.  A physical examination with emphasis upon the pulmonary, cardiovascular, and gastrointestinal systems, including a pulmonary function test of forced vital capacity (FVC) and forced expiratory volume at one second (FEV-1).
5.  Determined that a chest roentgenogram was  was not  required as part of this examination. (note: according to CFR 1926.1101 (M)(2)(ii)(C) it is at the discretion of the physician whether or not a chest X-ray is required)
6.  Reviewed OSHA's Medical Evaluation Questionnaire in Appendix C Part A Section 2 in accordance with 29CFR 1910.134 and have determined that this individual may  may not  use a respiratory device while performing his/her required duties.
7.  The employee has been instructed to report any difficulties in using the respirators or any change of physical status to their supervisor or physician.
8.  In accordance with OSHA requirements, I have fully explained the results of the medical examination and laboratory tests to the above named patient.
9.  In accordance with OSHA I have informed this individual of the health risks involved with smoking, of the synergistic relationship between cigarette smoking and asbestos exposure in producing lung cancer, and that cessation of smoking will reduce the risk of lung cancer.



**Midtown Occupational Health Services**  
2420 W. 26<sup>th</sup> Ave. Ste. 200-D Denver, CO 80211  
Phone: (303) 831-9393 Fax: (303) 831-6335  
**OSHA Asbestos Certification**

There is no detected medical condition which would place this employee at an increased risk of material health impairment from exposure to asbestos, and there are no recommended limitations on the employee concerning the use of personal protective equipment or respirator.

There is a detected medical condition(s) which places this employee at an increased risk. See comments below for limitations:

Comments/ Limitations \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

*Richard Kraus M.S., PA.-C*  
Examining Provider

05 - 17 - 2018  
Date

Richard Kraus M.S., PA.-C  
Midtown Occupational  
Health Services, P.C.  
2490 W. 26th Ave., Bldg. A, Suite 300  
Denver, CO 80211  
303-831-9393

# RESPIRATORY FIT TESTING RECORD

**KRONOS STAFFING**

**PERSONAL INFORMATION**

NAME: Veloz Juan SS# or ID#: 10999  
 (LASTNAME) (FIRSTNAME)

Signature: [Signature] AGE: 50  MALE  FEMALE

BEARD	YES	<input checked="" type="radio"/> NO
MUSTACHE	YES	<input checked="" type="radio"/> NO
SIDEBURNS	YES	<input checked="" type="radio"/> NO
DENTURES	YES	<input checked="" type="radio"/> NO
CONTACT LENSES	YES	<input checked="" type="radio"/> NO
GLASSES	YES	<input checked="" type="radio"/> NO
FACIAL SCARS	YES	<input checked="" type="radio"/> NO
OTHER	YES	<input checked="" type="radio"/> NO

OTHER INFORMATION: \_\_\_\_\_

**DO NOT FILL OUT BELOW THIS LINE TO BE COMPLETED BY INSTRUCTOR**

TESTING AGENT USED IRRITANT SMOKE: YES OTHER: \_\_\_\_\_

NORMAL BREATHING	<input checked="" type="radio"/> PASS	FAIL
DEEP BREATHING	<input checked="" type="radio"/> PASS	FAIL
HEAD SIDE TO SIDE	<input checked="" type="radio"/> PASS	FAIL
HEAD UP AND DOWN	<input checked="" type="radio"/> PASS	FAIL
TALKING	<input checked="" type="radio"/> PASS	FAIL
GRIMACE	<input checked="" type="radio"/> PASS	FAIL
BENDING OVER	<input checked="" type="radio"/> PASS	FAIL

DATE: 12-18-17

FACE PIECE	HALF FACE	FULL FACE	SIZE	FIT FACTOR
MANUFACTURER				
MANUFACTURER	<u>L</u>	<u>L</u>	<u>L</u>	<u>L</u>
TEST TYPE				
TEST TYPE				

EMPLOYEE STATEMENT OF MEDICAL CONDITION COMPLETED?  YES  NO  
 PHYSICIAN'S REPORT OF MEDICAL EVALUATION REQUIRED? YES  NO

COMMENTS: Any one

EXAMINER'S NAME: **ROBERTO PADILLA**

Colorado Department  
of Public Health and  
Environment



Worker

Asbestos Certification



Adriana  
Jacobi

Expires 5/21/2018 0012893

# INTERNATIONAL

Environmental and Safety Training LLC

720 Billings Street Unit F

Aurora, Colorado 80011

Phone # (720) 859-3134

Fax # (720) 859-0660



*CERTIFIES THAT*

**ADRIANA JACOBI URIBE**

Has successfully completed

The **EPA-APPROVED AHERA ANNUAL ASBESTOS REFRESHER**

**COURSE** for **CONTRACTOR/SUPERVISOR**

And passed the requirements examination in that discipline

This course is **EPA-Approved** under Section 206 of the  
**Toxic Substance Control Act (TSCA)**

Course Date 02/03/2018

No. Hours 8

Certificate No. CO020318-01ASR

Expires 02/03/2019

This course meets  
the requirements of  
AQCC Reg. #8



Invalid without raised seal

A handwritten signature in dark ink, appearing to read 'F. Cuevas'.

Training Director

RESPIRATOR FIT TEST

APPENDIX A - NORTH

EMPLOYEES WORKING UNDER THIS RESPIRATOR PROGRAM MUST ACKNOWLEDGE BY SIGNING THIS FORM. THEY HAVE BEEN FIT TESTED AND HAVE BEEN TRAINED FOR THE PROPER USE AND CARE OF THEIR RESPIRATOR. THEY HAVE READ AND UNDERSTAND THE COMPANY'S WRITTEN RESPIRATOR PROGRAM MANUAL.

ADRIANA JACOBI  
EMPLOYEE NAME PRINTED OR TYPED

06-01-2017  
DATE OF FIT TEST

Felice Hernandez  
FIT TEST CONDUCTOR

RESPIRATOR:

1. MANUFACTURER: NORTH FACE

2. MODEL: 770030L

3. SIZE: M

4. APPROVAL NUMBER: FC-SHA-4300

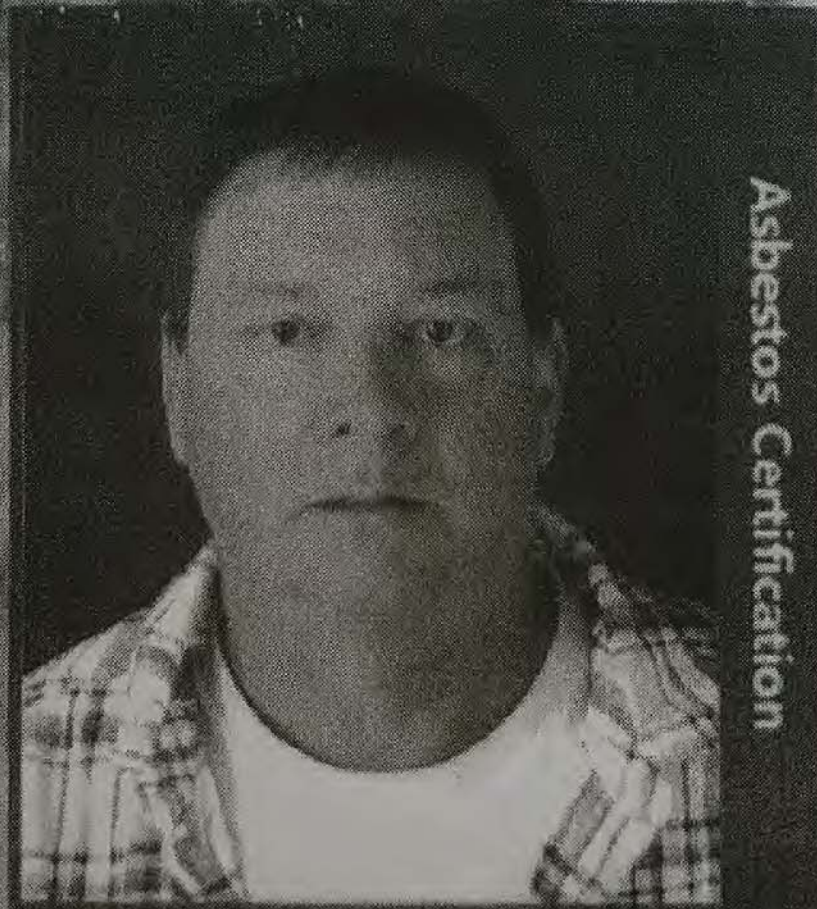
IRRITANT SMOKE X

\_\_\_\_\_  
Employee Signature

Colorado Department  
of Public Health and  
Environment



Worker



Asbestos Certification

Allen  
Galleon

Expires: 4/30/2019 Cert. #: 21476

Date Issued: 4/30/2018

# INTERNATIONAL



Environmental and Safety Training L.L.C.  
720 Billings Street Unit F  
Aurora, Colorado 80011  
Phone # (720) 859-3134  
Fax # (720) 859-0660

*CERTIFIES THAT*

**ALLEN GALLOGLY**

Has successfully completed  
The **EPA- APPROVED AHERA ANNUAL ASBESTOS REFRESHER**  
**COURSE for WORKER**  
And passed the requirements examination in that discipline

This course is **EPA-Approved** under Section 206 of the  
**Toxic Substance Control Act (TSCA)**

Course Date 03/16/2018

No. Hours 8

Certificate No. CO031618-01AWR

Expires 03/16/2019

This course meets the  
requirements of  
AQCC Reg. #8 Part B



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Training Director

Midtown Occupational Health Services  
2490 W. 26<sup>th</sup> Ave. Ste. 300-A Denver, CO 80211  
Phone: (303) 831-9393 Fax: (303) 831-6335

OSHA Asbestos Certification

Applicants Name Allen Geology

The above individual was seen by me on 1/8/18 in accordance to 29 CFR 1926.1101(Asbestos Certification) and 29CFR1910.134 (Respirator Certification). The following was preformed:

1.  Completion and review of the standardized medical questionnaire and work history with special emphasis directed to the pulmonary, cardiovascular, and gastrointestinal systems per Appendix D in 1926.1101
2.  Reviewed the employer's description of this individual's duties as they relate to asbestos exposure, the anticipated exposure level, and the personal protective and respiratory equipment to be utilized by this individual.
3. N/A Review of information from previous medical examinations, if available.
4.  A physical examination with emphasis upon the pulmonary, cardiovascular, and gastrointestinal systems, including a pulmonary function test of forced vital capacity (FVC) and forced expiratory volume at one second (FEV-1).
5.  Determined that a chest roentgenogram was  was not  required as part of this examination. (note: according to CFR 1926.1101 (M)(2)(ii)(C) it is at the discretion of the physician whether or not a chest X-ray is required)
6.  Reviewed OSHA's Medical Evaluation Questionnaire in Appendix C Part A Section 2 in accordance with 29CFR 1910.134 and have determined that this individual may  may not  use a respiratory device while performing his/her required duties.
7.  The employee has been instructed to report any difficulties in using the respirators or any change of physical status to their supervisor or physician.
8.  In accordance with OSHA requirements, I have fully explained the results of the medical examination and laboratory tests to the above named patient.
9.  In accordance with OSHA I have informed this individual of the health risks involved with smoking, of the synergistic relationship between cigarette smoking and asbestos exposure in producing lung cancer, and that cessation of smoking will reduce the risk of lung cancer.



Midtown Occupational Health Services  
2490 W. 26<sup>th</sup> Ave. Ste. 300-A Denver, CO 80211  
Phone: (303) 831-9393 Fax: (303) 831-6335  
OSHA Asbestos Certification

There is no detected medical condition which would place this employee at an increased risk of material health impairment from exposure to asbestos, and there are no recommended limitations on the employee concerning the use of personal protective equipment or respirator.

There is a detected medical condition(s) which places this employee at an increased risk. See comments below for limitations:

Comments/ Limitations Needs chest x-ray to be OSHA compliant  
asbestos exam.  
May use respirator without restrictions

Matthew Edwards

Examining Provider

5/8/18

Date

Matthew Edwards, PA.-C  
Midtown Occupational  
Health Services, P.C.  
2490 W. 26th Ave., Bldg. A, Suite 300  
Denver, CO 80211  
303-831-9393



### RESPIRATOR FIT TEST RECORD

Employee Name: Allen Gallogly Employee No. \_\_\_\_\_

Respirator Type: North Model: 7700 Size: LG

Testing Agent:

*Use a particulate filter unless otherwise indicated. Note other cartridge used when necessary.*

#### RESULTS

Exercise	Fit	Taste Detected
Normal Breathing	✓	
Deep Breathing	✓	
Turning Head Side to Side	✓	
Nodding Head Up and Down	✓	
Talking	✓	
Bending Over	✓	
Normal Breathing	✓	

*Prior to being fit tested this person was observed clean shaven.*

Tested by: [Signature] Date Tested: 5-9-18

I have been instructed in and understand the proper fitting, use and care of the above named respirator. I understand that this equipment is not to be used in oxygen deficient or immediately dangerous to life and health (IDLH) atmospheres and is not to be used for other than the uses specified by the manufacturer. To my knowledge, I have no medical problems to prevent me from using this equipment.

[Signature] 5-9-18  
Employee Signature Date

NOTES: [Signature]

---

**From:** Destiny M. Herron <HERRONAdmin@comcast.net>  
**Sent:** Wednesday, May 30, 2018 7:28 AM  
**To:** 'Michael Lohr'; 'Carol Beam'; 'Brian Bertin'  
**Cc:** 'Allen Gallogly'; 'David W. Starks'; 'L. P. (Lennie) Herron'; 'Christy M. Herron'; 'Billie J. Herron'; Destiny M. Herron  
**Subject:** 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
**Attachments:** 0421178.3, Daily Report, 05.21.18.pdf

## Project Update

In regards to the end of the shift:  
05/21/18 (Monday)

1. Notifications –
  - a. Issues during the shift –
    - 1) No issues
2. Containment observation: Yes
  - a. In accordance with the Specifications and Regulations –

Current Work Area –

WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall  
1st Floor Living Room, 7X2' Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft<sup>2</sup>

2nd Floor Closet, Loose Sheet Flooring on Wood Substrate - 10 ft<sup>2</sup>

1. Apply negative air to meet a criteria of -0.03”
  - a. Results within local, state, and/or federal regulations

WA#5 - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s)

Exterior, South Alcove Roofing, Debris, and Associated 2” of Soil – 10 ft<sup>2</sup>

Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3' from foundation.

1. Regulated Area(s)
  - a. Results within local, state, and/or federal regulations

Awaiting Work Area(s) –

WA#1 - Enclosure Area(s)

Test Area(s) 1st Floor Two (2) Perimeter Wall(s), Perform test area of removal of Asbestos Plaster on Stone, approximately 4X4' for Engineer determination of acceptable removal methods - 32 ft<sup>2</sup>  
1st and 2nd Floors Decontamination, Floor Surface Area of 1st and 2nd Floor Levels – 1,592.25 ft<sup>2</sup>

1st and 2nd Floors Decontamination will include the Cleanup and Decontamination of Rodent Feces – 1,592.25 ft<sup>2</sup>

On successful completion of the Major Spill Response the 2nd Floor will be Isolated from the remainder of the House as no further asbestos work exists.

1. Apply negative air to meet a criteria of -0.03”

a. Awaiting Setup

Awaiting Work Area(s) –

WA#2 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster Wall(s) on Stone

1st Floor Root Cellar – 322 ft<sup>2</sup>

Demolition of Wood Shelving in 1st Floor Root Cellar (embedded in Plaster) – 11.5X4' X 3 sets

1. Apply negative air to meet a criteria of -0.03”

a. Awaiting Setup

Awaiting Work Area(s) –

WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone

1st Floor Kitchen and Bedroom 2 - 1,048 ft<sup>2</sup>

Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high

1. Apply negative air to meet a criteria of -0.03”

a. Awaiting Setup

Awaiting Work Area(s) –

WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

1st Floor Living Room, Bedroom 1, and Stairwell – 1,612 ft<sup>2</sup>

1. Apply negative air to meet a criteria of -0.03”

a. Awaiting Setup

3. Structure Crack Monitoring –

- a. Surface mounted gauges will be visually observed twice daily after arrival of the first visit of the Engineer to determine if the existing cracks within the masonry are being impacted by the abatement

4. Asbestos Air Monitoring –

- a. Pre-abatement monitoring with the following preliminary results –

- 1) WA#5, Pre-abatement Visual Containment Inspection – Passed

- b. During-abatement monitoring with the following preliminary results –

- 1) WA#5, During-abatement Visual Containment Inspection – Passed
- 2) WA#1
- 3) IWA – 0.006 f/cc
- 4) OWA, Clean Room
- 5) OWA, Negative Air Exhausted Outside of the Building
- 6) OWA, Ambient, Outside of Building

1. These environmental samples, on completion of final analysis, Outside Work Area sample(s) have not exceeded the Maximum Allowable Asbestos Level (MAAL) by Phase Contrast Microscopy (PCM), or Transmission Electron Microscopy (TEM), where applicable.

- c. OSHA Compliance monitoring with the following preliminary results –

- 1) WA#1
- 2) Excursion – BDL f/cc
- 3) Personal, Multi-sample 8 Hour TWA – 0.0066 f/cc
- 4) WA#5
- 5) Excursion – BDL f/cc
- 6) Personal, Multi-sample 8 Hour TWA – 0.0061 f/cc

1. These environmental samples, on completion of final analysis, have not exceeded the EL (Excursion Level) or the PEL (Permissible Exposure Level) by Phase Contrast Microscopy (PCM), where applicable.
2. Samples which were reported as CBR were not included in the multi-sample TWA result.

3. Sampling flow rates should be lowered to avoid CBR results.
  4. A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL) –
  5. Should a CBR sample have occurred, the Contractor is advised to review engineering controls, negative pressure, air flow, wet methods, etc.
- d. Post-abatement monitoring with the following preliminary results –
    - 1) WA#5
    - 2) Final Visual Containment Inspection – Passed
5. Daily Contractor Submittals Received (sign in sheets, daily logs, entry/exit logs, special reports) –
    - a. 05/21/18 – not received – submit
    - b. 05/18/18 – not received – submit
    - c. 05/17/18 – not received – submit
    - d. 05/17/18 – mobilization 05/17/18 7:30 AM MST
      - 1) Contractor Project Directory –
        1. Note: Should Employee not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.
6. Work Areas completed –
    - a. WA#5 - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s) (Visual Passed 05/21/18)  
Exterior, South Alcove Roofing, Debris, and Associated 2” of Soil – 10 ft2  
Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3’ from foundation.
7. Punch list items completed –
    - a. Awaiting Completion
8. Notes:
    - a. Refer to Project Memo(s).
    - b. All observations stated in this report are based on facts and circumstances as they existed during the time of the observations, and during the time period of this report preparation and as available within the limits of the mutually agreed upon Scope of Work, budget, and schedule. The observations in this report is not intended to be exhaustive in scope, and is considered an ongoing working document. HERRON™ reserves the right to modify the contents of this document, as necessary.
    - c. As agreed, daily conversations are occurring, and daily reports will be on site for employee review. Hard copy will not be mailed as this correspondence constitutes delivery of the specified documents.
    - d. Refer to Project Definitions below.

Please advise within an RFI if you have any questions.

Thanks in advance,

Destiny M. Herron  
 Administrative Assistant  
 HERRON™ Enterprises USA, Inc.  
 7261 W. Hampden Ave., Lakewood, CO 80227-5305  
 (303) 763-9639 / Fax (303) 763-9686  
 Email: [HERRONAdmin@comcast.net](mailto:HERRONAdmin@comcast.net)  
 Website: [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

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Project Definitions:

1. In regards to the results, Regulation 29 CFR 1910, 1926 –

[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=standards&p\\_id=9995](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9995)  
[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_id=10862&p\\_table=standards](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=10862&p_table=standards)

A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL). In accordance with 29 CFR 1926, 1926.1101; 1926.1101(c)(1); 1926.1101(f)(1) Standard Interpretation Correct manner to interpret air sample measurements of an employee's asbestos exposure when the samples are overloaded [01/17/2006] [http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=INTERPRETATIONS&p\\_id=25295](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=25295);

*'...While monitoring an employee's exposure to an airborne contaminant, such as asbestos, occasionally samples are lost, damaged, overloaded, or are otherwise unusable. Analytical laboratories report such samples as "VOID," with a note of explanation. An overloaded asbestos air sample is one in which non-asbestos dust obscures some or all of the fibers on the filter and therefore makes it impossible to accurately determine the concentration of asbestos in the laboratory's microscopic analysis. Such samples should not be counted by an employer in TWA calculations of employee exposure. The use of a "zero" exposure result for such samples is inappropriate; it will underestimate the employee's true exposure. An employer has the responsibility to "accurately" determine his employee's exposure to asbestos... '.*

#### 1926.1101(b) Definitions

Employee exposure means that exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

#### 1926.1101(c)(2) Excursion limit

The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

#### 1926.1101(c) Permissible exposure limits (PELS)

##### 1926.1101(c)(1)

Time-weighted average limit (TWA). The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air as an eight (8) hour time-weighted average (TWA), as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

##### 1926.1101(c)(2)

Excursion limit. The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

##### 1926.1101(g)(2)(v)

Wherever the feasible engineering and work practice controls described above are not sufficient to reduce employee exposure to or below the permissible exposure limit and/or excursion limit prescribed in paragraph (c) of this section, the employer shall use them to reduce employee exposure to the lowest levels attainable by these controls and shall supplement them by the use of respiratory protection that complies with the requirements of paragraph (h) of this section.

2. In regards to the results, AQCC Regulation No. 8 –

<http://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=7206&fileName=5> CCR 1001-10 III.U.2. The Maximum Allowable Asbestos Level (MAAL)

III.U.2.a. PCM - If PCM is used as the method of analysis the standard is 0.01 fibers per cubic centimeter of air (f/cc), which is equivalent to 10,000 fibers per cubic meter of air (f/m<sup>3</sup>).

III.U.2.b. TEM - Where TEM is used as the method of analysis, the standard is 70 structures/millimeter<sup>2</sup> (s/mm<sup>2</sup>).

3. Laboratory certificates not included with this correspondence have not been received, will follow under a separate cover.

4. Legend: .8 $\mu$ , 25mm MCE Filter Cassettes, Amb = Ambient, IWA = Inside Work Area, OWA = Outside Work Area, CR = Clean/Change Room, LO = Loadout, NAM = Negative Air Exhaust, Ex = Excursion, Per = Personnel, VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read, BDL = Below Detection Limit



# HERRON™ Enterprises USA, Inc.

Hazardous Materials\* Mold\* Asbestos\* Lead Paint  
Environmental Services\* Industrial Hygienists

Phone (303) 763 9639

Fax (303) 763 9686

E-Mail [Lennie.Herron@comcast.net](mailto:Lennie.Herron@comcast.net)

Website [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

## ASBESTOS SERVICES

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/21-22/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.3  
 Date of Report: 05/22/18

## SUMMARY OF WORK

Per Client request, and under the guidelines defined, HERRON™ Enterprises USA, Inc. has concluded the Environmental Consultation/Asbestos Service for friable and/or non-friable Asbestos Containing Material(s) at the aforementioned property.

Our Environmental Consultation/Asbestos Service report may include a Limited Asbestos Building Inspection, descriptions of Bulk, Dust, and/or Air Monitoring samples, their locations and analyses data, which have been obtained and analyses performed in accordance with local, state, and/or federal regulations.

For Calculation purposes of samples obtained by HERRON™, all results are expressed basis actual sampling duration, with courtesy 8 hours time weighted average calculations, based on the actual sampling duration. For Calculation purposes of samples submitted to HERRON™, all results are expressed basis actual sampling duration, as submitted by the Client. HERRON™ implies no warranty to the accuracy of the information or the samples submitted by the Client. In order to make exact determinations, the employer should calculate exact times based on containment sign-in/out sheets for TWA's, in accordance with current OSHA regulations.

All Miscellaneous Provisions, Terms and Conditions apply to all services provided as indicated in HERRON™ current Terms of Services.

Information and data which has been generated as a result of this Environmental Consultation/Asbestos Service will remain confidential and will not be released to any party without prior written authorization from Client(s) (refer to authorized distribution).

We appreciate the confidence which has been demonstrated by your continued patronage, and look forward to assisting you and your group should you have future needs of Environmental Consultation/Asbestos Services.

Sincerely,

Billie J. Herron-Lusk  
Project Manager  
HERRON™ Enterprises USA, Inc.





**FIELD REPORT & OBSERVATIONS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/21-22/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.3  
 Date of Report: 05/22/18

**DATE TIME SUMMARY OF EVENTS**

DATE	TIME	SUMMARY OF EVENTS
05/17/18	----	<p>Requested to perform Baseline (MAAL/OSHA) Air Monitoring, Pre-Abatement Visual Containment(s) Inspection(s), Removal (MAAL/OSHA) Air Monitoring, Final Visual Containment(s) Inspection(s), Final Clearance (MAAL/OSHA) Air Monitoring, and OSHA Compliance Air Monitoring for Gross removal of</p> <p><b>WA#1</b> - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall</p> <p><b>1st Floor Living Room</b>, 7X2' Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft2</p> <p><b>2nd Floor Closet</b> Loose Sheet Flooring on Wood Substrate - 10 ft2</p> <p><b>Test Area(s) 1st Floor Two (2) Perimeter Wall(s)</b> Perform test area of removal of Asbestos Plaster on Stone, approximately 4X4' for Engineer determination of acceptable removal methods - 32 ft2</p> <p><b>1st and 2nd Floors Decontamination</b> Floor Surface Area of 1st and 2nd Floor Levels – 1,592.25 ft2 1st and 2nd Floors Decontamination will include the Cleanup and Decontamination of Rodent Feces – 1,592.25 ft2 On successful completion of the Major Spill Response the 2nd Floor will be Isolated from the remainder of the House as no further asbestos work exists.</p> <p><b>WA#2</b> - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster Wall(s) on Stone</p> <p><b>1st Floor Root Cellar</b> – 322 ft2 Demolition of Wood Shelving in 1st Floor Root Cellar (embedded in Plaster) – 11.5X4' X 3 sets</p> <p><b>WA#3</b> - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone</p> <p><b>1st Floor Kitchen and Bedroom 2</b> - 1,048 ft2 Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high</p> <p><b>WA#4</b> - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone</p> <p><b>1st Floor Living Room, Bedroom 1, and Stairwell</b> – 1,612 ft2</p> <p><b>WA#5</b> - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s)</p> <p><b>Exterior, South Alcove</b> Roofing, Debris, and Associated 2" of Soil – 10 ft2 Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3' from foundation.</p>
05/21/18	*	Commenced (MAAL/OSHA) Air Monitoring
	*	Completed (MAAL/OSHA) Air Monitoring



**HERRON**™ Enterprises USA, Inc.

Hazardous Materials\* Mold\* Asbestos\* Lead Paint  
Environmental Services\* Industrial Hygienists

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**FIELD REPORT & OBSERVATIONS**

Client: Boulder County  
Client Contact: Michael Lohr  
Order No.: SOQ #6673-17  
Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 /  
Boulder County  
Date of Assignment: 05/21-22/18  
Assignment: Environmental Consultation/Asbestos Services  
HERRON™ Project No.: 0421178.3  
Date of Report: 05/22/18

DATE	TIME	SUMMARY OF EVENTS
	*	Completed (MAAL/OSHA) Air Monitoring PCM analysis-All Work Area samples below AQCC MAAL, <=0.01 f/cc/OSHA 1926.1101, EL <1.0 f/cc, PEL <0.10 f/cc, where regulated, unless otherwise noted as follows: NA
	*	Advised results
05/22/18	*	Field documentation completed and report distributed (refer to distribution)

Note: \*Refer to daily project memo for complete details of events.



**ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/21-22/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.3  
 Date of Report: 05/22/18

SAMPLE NO. AND DESC.	PUMP NO.	TIME					FLOW RATE			FIBER					
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	DENSITY (F/MM2)	LOD (F/CC)	FIBERS (F/CC)
052118-1 Removal,	505	7	40	14	40	420	3.00	3.00	1260	M	15.0	100	19.108	0.002	0.006
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0051		

(MAAL) Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

IWA

052118-2 Removal,	505	7	40	14	40	420	3.00	3.00	1260	L	12.0	100	15.287	0.002	0.005
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0041		

(MAAL) Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

OWA

052118-3 Removal,	505	7	40	14	40	420	3.00	3.00	1260	L	14.0	100	17.834	0.002	0.005
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0048		

(MAAL) Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

OWA, Clean Room

052118-5 Removal,	201	7	40	14	40	420	3.00	3.00	1260	VL	2.0	100	2.548	0.002	BDL
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0007		

(MAAL) Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

OWA, Negative air exhausted outside of Building

052118-4 Removal,	505	7	40	14	40	420	3.00	3.00	1260	VL	5.0	100	6.369	0.002	BDL
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0017		

(MAAL) Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

OWA, Ambient



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7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

## ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/21-22/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.3  
 Date of Report: 05/22/18

SAMPLE NO. AND DESC.	PUMP NO.	TIME				FLOW RATE			FIBER						
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	DENSITY (F/MM2)	LOD (F/CC)	FIBERS (F/CC)
052118-B1	Blank									VL	0.0	100			
052118-B2	Blank									VL	0.0	100	DATA:	BL	

Note: .8µ, 25mm MCE Filter Cassettes - Note: IWA = Inside Work Area, OWA = Outside Work Area, BDL = Below Detection Limit - Note: VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read - Note: Proficiency Analytical Testing (PAT) Program



**ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/21-22/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.3  
 Date of Report: 05/22/18

SAMPLE NO. AND DESC.	PUMP NO	TIME					FLOW RATE			FIBER					
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	DENSITY (F/MM2)	LOD (F/CC)	FIBERS (F/CC)
052118-P1	701	8	0	8	30	30	2.00	2.00	60	VL	4.0	100	5.096	0.045	BDL
OSHA Compliance		0	0	0	0	0	0.00	0.00	(Calculated 8 Hr. TWA, f/cc):			0.0020			

Air Monitoring Samples,

Excursion Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

Juan Veloz/#10999

052118-P2	701	8	30	14	0	330	2.00	2.00	660	L	9.0	100	11.465	0.004	0.007
OSHA Compliance		0	0	0	0	0	0.00	0.00	(Calculated 8 Hr. TWA, f/cc):			0.0046			
Air Monitoring Samples,		(Multiple Sample 8 Hr. TWA, f/cc):			0.0066										

Personal Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

Juan Veloz/#10999

052118-P3	701	14	0	14	30	30	2.00	2.00	60	VL	1.0	100	1.274	0.045	BDL
OSHA Compliance		0	0	0	0	0	0.00	0.00	(Calculated 8 Hr. TWA, f/cc):			0.0005			

Air Monitoring Samples,

Excursion Air Monitoring, WA#5 - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s) (Refer to Summary of Events Detail Page)

Juan Veloz/#10999

052118-P4	701	14	30	14	55	25	2.00	2.00	50	VL	3.0	100	3.822	0.054	BDL
OSHA Compliance		0	0	0	0	0	0.00	0.00	(Calculated 8 Hr. TWA, f/cc):			0.0015			
Air Monitoring Samples,		(Multiple Sample 8 Hr. TWA, f/cc):			0.0061										

Personal Air Monitoring, WA#5 - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s) (Refer to Summary of Events Detail Page)

Juan Veloz/#10999

052118-B1	Blank									VL	0.0	100			
052118-B2	Blank									VL	0.0	100	DATA:	BL	

Note: .8µ, 25mm MCE Filter Cassettes - Note: IWA = Inside Work Area, OWA = Outside Work Area, BDL = Below Detection Limit - Note: VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read - Note: Proficiency Analytical Testing (PAT) Program



**FLOOR PLANS/SITE PHOTOGRAPHS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/21-22/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.3  
 Date of Report: 05/22/18

**Photo Log**



20180521\_080820



20180521\_080837



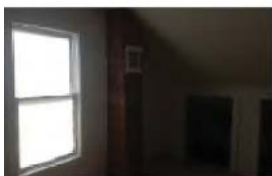
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20180521\_081026



20180521\_081232



20180521\_081235



20180521\_081245



20180521\_074956



20180521\_075016



20180521\_075031



20180521\_080745



20180521\_080759



20180521\_080808



**FLOOR PLANS/SITE PHOTOGRAPHS**

Client: Boulder County  
 Client Contact: Michael Lohr  
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 Date of Assignment: 05/21-22/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.3  
 Date of Report: 05/22/18

**Photo Log**



20180521\_141954



20180521\_142118



20180521\_142246



20180521\_142249



20180521\_142253



20180521\_142257



20180521\_142259



20180521\_142308



20180521\_145302



20180521\_141835



20180521\_141836



20180521\_141838



20180521\_141844



20180521\_141852



20180521\_141901



20180521\_141908



20180521\_141912



20180521\_141920



20180521\_141925



20180521\_141936



20180521\_141939



20180521\_141952



# HERRON™ Enterprises USA, Inc.

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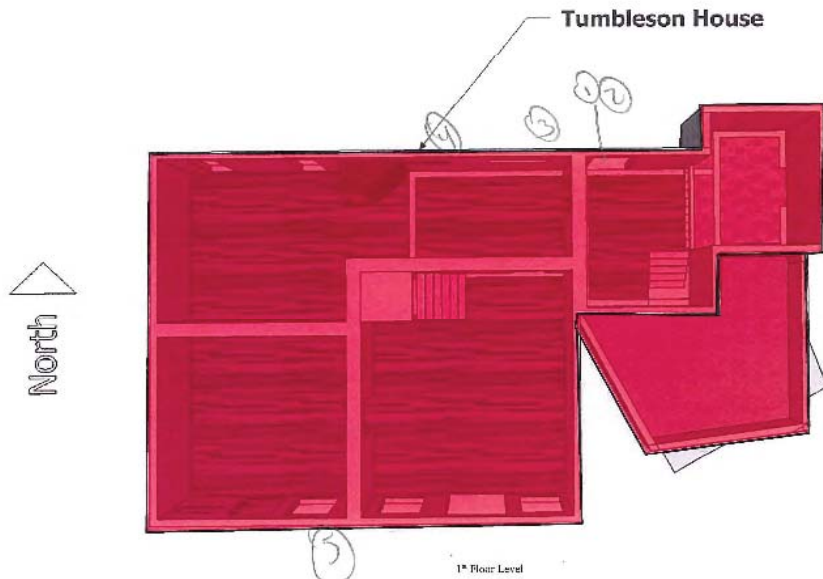
## FLOOR PLANS/SITE PHOTOGRAPHS

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/21-22/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.3  
 Date of Report: 05/22/18

### (MAAL/OSHA) Air Monitoring

HERRON™ Enterprises USA, Inc.

Tumbleson House at Hall Ranch Open Space  
Boulder County, CO



■ WAI-1, Asbestos Containing Materials (>1.0% Asbestos), Rotted, or Peas  
Note: Photo copied by permission, not to scale. Shaded area indicates approximate Work Area.

HERRON™ Project No. 0421178  
Asbestos Abatement and Sampling of Work

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Aurora, CO

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February 16, 2018





**HERRON**™ Enterprises USA, Inc.

Hazardous Materials\* Mold\* Asbestos\* Lead Paint  
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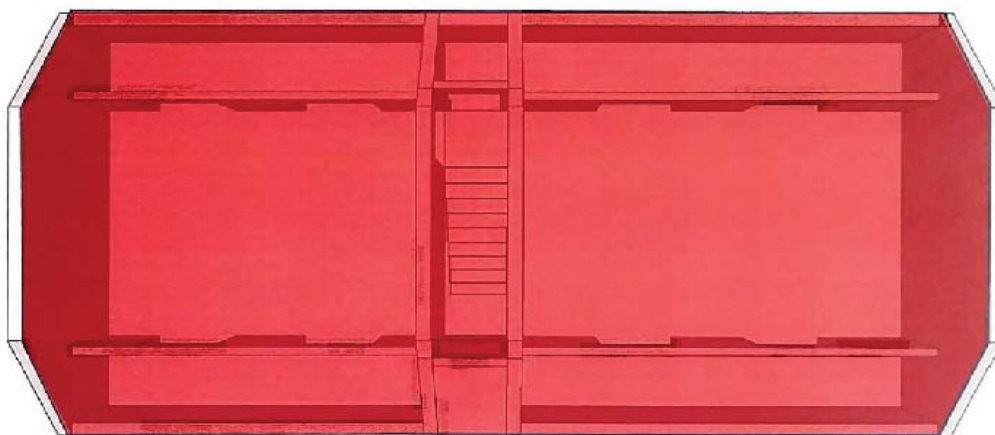
**FLOOR PLANS/SITE PHOTOGRAPHS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/21-22/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.3  
 Date of Report: 05/22/18

**(MAAL/OSHA) Air Monitoring**

HERRON™ Enterprises USA, Inc.

Tumbleson House at Hall Ranch Open Space  
Boulder County, CO



2<sup>nd</sup> Floor Level

■ Wall, Asbestos Containing Materials (P-1, D-5 Adhesives), Radon Pools  
Note: Planes copied by permission, not to scale. Shaded area indicates approximate Work Area.

HERRON™ Project No. 0421178  
Asbestos Abatement Summary of Work

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JLH/ML/A

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February 15, 2018



## AQCC REG. NO. 8 ASBESTOS ABATEMENT INSPECTION FORM COMPLIANCE CHECKLIST AND INFORMATION

Colorado Dept. of Public Health  
and Environment  
APCD-IE-B1  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
Phone: 303-692-3100  
Fax: 303-782-0278

Project(s) Address: <b><u>Tumbleson House at Hall Ranch Open Space, Boulder County, CO</u></b>		Project(s) Permit #: 18BO2912A	
Project(s) start date: May 17, 2018		Project(s) completion date: June 04, 2018	
Inspector(s): LP (Lennie) Herron/#2572 (AMS/PM - ___) Billie J. Herron/#2650 (AMS/PM - <u>X</u> ) Jamie L. Herron-Carson/#2649 (AMS/PM - ___) Sherri K. Herron/#8728 (AMS/PM - ___) Michael W. Herron, Sr./#13788 (AMS/PM - ___)		Inspection Date: 05/21/18	
Current Abatement Phase:	<input type="checkbox"/> Pre	<input checked="" type="checkbox"/> Active	<input type="checkbox"/> Post
More than one phase/project?		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Comments:			

**Types(s) and total quantity of ACM removed/to be removed\* as reported by the abatement contractor:**

Pipe Insulation*:	Fireproofing:	Spray-on:
Ceiling Tile:	Boiler Insulation:	VAT:
Transite:	<b>Other (describe):</b> <ul style="list-style-type: none"> <li>Rodent Feces – 1,592.25 ft<sup>2</sup></li> <li>Miscellaneous Material = 20 ft<sup>2</sup></li> <li>Surfacing Material = 2,982 ft<sup>2</sup></li> </ul>	

\*Pipe insulation is reported in lineal feet, all other materials including ductwork are reported in square footage regardless of the thickness of the ACM. If reporting in 55-gallon drums, note square footage or linear footage area to be removed.

List of ALL abatement workers in containment today:

#	NAME	SSN OR REC. #	AHERA / STATE / PHYSICAL / FIT TEST
1	SEE ATTACHED		/ / /
<b>COMMENTS:</b>			

**Note: Responses to the Description of Citation is indicated by the anticipation of the day, with the default as X = OK / Vio. / N/A. Should the response differ, cross-out will appear and appropriate response indicated.**

**PART I – SECTION A - OUTSIDE WORK AREA(S) – CERTIFICATION AND PERMIT/NOTIFICATION REQUIREMENTS, ETC.**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
16	II.A.2	All training certs./documents on site - with <b>photo IDs</b> ?	X		
26	II.J	Project Manager - credentials ok (certified as PD, completed AMS training, HS diploma, 1 yr. Experience, independent)?			X
29	III.B.1.a & III.B.4	On-site supervisor state certified?	X		
29	III.B.1.b & III.B.4	All workers on site trained/certified?	X		
30	III.B.5	Air Monitoring Spec. trained and certified? Note - this requirement may apply during pre-and active abatement phases, e.g. monitoring NAM exhaust inside a building or checking for the "MAAL".	X		
30	III.B.6	Project Manager required (>1,000 LF/>3000SF of friable) Note: Not required in schools.			X
30	III.C.1	Project Design required (>1,000 LF/>3000SF in P&C) (>3 LF/>3SF in Schools)	X		
31	III.C.4	Project Design on the site and signed?	X		
31	III.E.1	No false, inaccurate, or misleading information?	X		
33	III.F	If a variance has been granted for any work practice(s); <b>are the conditions of this variance being followed?</b>			X
34	III.G	Permit Valid (i.e. start/stop dates)?	X		
35	III.G.4	ORIGINAL permit posted at work site?	X		
36	III.G.8	Permit signed by Project Manager?			X

**COMMENTS ON PART I – SECTION A:**


**PART I – SECTION B – OUTSIDE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
37	III.J.1.a	Negative Air Machines (NAMs) operating continuously?	X		
37 & 52	III.J.1.d & III.U.1.b.i	NAMs monitored if exhausted inside the building?	X		
37	III.J.3	-0.02" H <sub>2</sub> O or better on Manometer?		X	
37	III.J.3	Continuous printout on Manometer?	X		
37	III.J.4	Smoke tubes present?	X		
37	III.J.4	Air flow - outside to inside ok?	X		
38	III.K.1	All chambers separated by airlocks?	X		
38	III.K.1	Decon Unit - 3 stages?	X		
38	III.K.1	Self-closing flaps/doors? (Z flaps are preferable, but not required)	X		
38	III.K.1.a	Clean room - adequately sized?	X		
38	III.K.1.b	Shower - hot and cold water at the tap?	X		
38	III.K.1.b	Shower – leakage anywhere but the supply connection?	X		
38	III.K.1.b	Shower - wastewater filtered to 5 microns or less, sanitary sewer discharge?	X		
38	III.K.1.b	Shower and Clean room - ACM debris present?	X		
39	III.K.2	Entry and exit procedures ok?	X		
41	III.N.2	View port present (at minimum 12"x12")?	X		
41	III.N.3	Waste load out separate from Decon?	X		
41	III.N.3	Waste load out - 2 stages?	X		

**COMMENTS ON PART I – SECTION B:** PRESSURE DIFFERENTIAL STILL BEING ADDRESSED VIA INSTALLATION OF CRITICAL BARRIERS AND ADDITIONAL NEGATIVE AIR MACHINES – CORRECTED BY ADDING A 4<sup>TH</sup> NEGATIVE AIR MACHINE AND SEALING EXTERIOR PENETRATIONS AT THE ROOF LINE.

**PART II – INSIDE THE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
36	III.I	Critical barriers - 1 layer 6 mil?	X		
36	III.J.1.b	Air cleaning equipment - HEPA filters properly installed, equipment operating, maintained adequately, etc.?	X		
37	III.J.2	Adequate equipment in place to ensure 4 air changes per hour?	X		
38	III.K.1.c	6 mil disposal bag present in Dirty Room?	X		
39	III.K.2.b	Disposable clothing worn by workers?	X		
39	III.L	Pre-cleaning - criticals and decon, HEPA vacs, wet cleaning, proper disposal?	X		
39	III.L.1	Movable objects cleaned before removal from the work area?	X		
39	III.M	Fixed objects - 1 layer 6 mil?	X		
40	III.N.1.a	Floors - 2 separate layers 6 mil?	X		
40	III.N.1.a, b, & c	No seams present (wall/floor, wall/ceiling, 12" overlap)?	X		
40	III.N.1.b	Walls - 2 separate layers 4 mil?	X		
40	III.N.1.c	Ceilings - 1 layer 4 mil?	X		
41	III.O.1.a.i.(A)	Amended water being used (surfactants) before ACM is removed?	X		
41	III.O.1.a.i.(A)	Are the surfactants a commercial product designed specifically for ACM removal?	X		
41	III.O.1.a.i.(A)	Material adequately wet and/or kept wet until bagged for disposal?	X		
42	III.O.1.a.i.(B)	Airless sprayers used for applying amended water or encapsulant?	X		
42	III.O.1.a.iii	All contaminated surfaces wet-wiped prior to disassembly of containment barriers?	X		

**COMMENTS ON PART II:**

**PART III – SECTION A –SPECIAL PROJECTS, RESILIENT FLOOR TILE**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
31	III.E.1	Notice posted at the worksite?			X
46	III.R.	Waste handled as nonfriable waste?			X
114	Appendix B	Appendix B, Amended water being used?			X
114	Appendix B	Appendix B, Hand tools only?			X
48	III.S.1	Appendix B, Proper handling and packaging of tiles/adhesives?			X
48	III.S.1	Voluntarily using splashguards, critical, negative air, and decon?			X
48	III.S.1.c	Is the material being rendered friable?			X

**COMMENTS ON PART III, SECTION A:**

**PART III – SECTION B –SPECIAL PROJECTS, SHEET VINYL FLOORING**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
34	III.E.1	Notice/Permit posted at the worksite?			X
46	III.R.	Waste handled as friable waste?			X
48	III.S.1.c	Is the material being rendered friable?			X
48	III.S.1.d.	Worker(s)/Supervisor(s) trained according to Appendix C?			X
48	III.S.2	Appendix B, Amended water being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Hand tools only being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Proper handling and packaging of sheet flooring being used by only App. C trained workers?			X
107	Appendix B	Appendix B, Proper wetting at the delaminating nip point being used by only App. C trained workers?			X
48	III.S.2	Voluntarily using splashguards, critical, negative air, and decon?			X

**COMMENTS ON PART III, SECTION B:**


**PART III – SECTION C –SPECIAL PROJECTS, NONFRIABLE ACM**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
49	III.S.4.a.	ACM adequately wet?			X
49	III.S.4.b.	Hand removal methods being used?			X
49	III.S.4.c.	Minimal breakage and disturbance?			X
49	III.S.4.d.	Material properly disposed of as nonfriable waste?			X

**COMMENTS ON PART III, SECTION C:**


**PART IV – SPECIAL REMOVAL METHODS, GLOVEBAGS AND FACILITY COMPONENT REMOVAL**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
53	III.V.1	Glove bags - proper usage (useable without causing fiber release)?			X
53	III.V.1.a	Glove bags - properly sealed to the area, no bottom seam?			X
53	III.V.1.b	Glove bags - pipes cooler than 150°F?			X
53	III.V.1.c	Glove bags used only once?			X
53	III.V.1.d.i	Glove bags - secondary containment(s) in place if removal > 3LF/SF?			X
54	III.V.1.d.ii	Glove bags - smoke tested prior to use?			X
54	III.V.1.d.iv	Glove bags - material in bags adequately wet?			X
54	III.V.1.d.vi	Glove bags - "rough" edges encapsulated?			X
54	III.V.1.d.vii	Glove bags - evacuated with HEPA vac prior to removing the bag?			X
54	III.V.2	Facility component removal - w/o containment, material well adhered to surface?			X
54	III.V.2.a	Facility component removal - adequately wet and wrapped in 6 mil poly prior to removal from the work area?			X

**COMMENTS ON PART IV:**


**PART V – MAJOR SPILLS**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
50	III.T.1.	Spill properly characterized (air sampling, tape sampling, microvac sampling)?	X		
50	III.T.1.a.	Area immediately sealed off?	X		
50	III.T.1.b	Air handling system shut down or modified to prevent further disturbance?	X		
50	III.T.1.c.	Division properly notified by phone and requirement(s) of subsection III.E. fulfilled?	X		
50	III.T.1.e.	Area sealed off and negative pressure established in accordance with III.J.	X		
50	III.T.1.e.	Certified personnel in accordance with section II performing work?	X		
50	III.T.1.j	Final clearance air monitoring performed in accordance with subsection III.P.	X		

**COMMENTS ON PART IV:**

**NOTE: WORK AREA #1 ONLY**


**PART VI – WASTE HANDLING REQUIREMENTS (WASTE STORAGE AREA)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
47	III.R.1	6 mil or greater bags?	X		
46	III.R.2.a	Containers - material adequately wet in bags?	X		
46	III.R.2.a	No breakage, rupture or leakage?	X		
47	III.R.2.b	Proper warning labels on bags?	X		
47	III.R.2.d	Visible emissions – anywhere on job site?	X		
47	III.R.2.f	All waste water filtered to 5 microns AND discharged to a <b>sanitary sewer</b> ?	X		
47	III.R.3	Are ACWM bags labeled with generator labels in accordance with 40 CFR 61.150?	X		
47	III.R.3	Are appropriate waste shipment records being maintained (40 CFR 61.150)?	X		
47	III.R.3	Transport to a proper disposal site?	X		
47	III.R.3	Waste storage vehicles placard during loading/storage at job site?	X		

**COMMENTS ON PART V:**






**HERRON™** Enterprises USA, Inc.  
 Hazardous Materials\* Mold\* Asbestos\* Lead Paint  
 Environmental Services\* Industrial Hygienists

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 E-Mail [Lennie.Herron@comcast.net](mailto:Lennie.Herron@comcast.net)  
 Website [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)  
 7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

**PROJECT/LOCATION:** 0421178, RFP#6648-17- Tumbleson House at Hall Ranch Open Space Asbestos Consulting  
 Services / Boulder County

PROJECT/LOCATION: 0421178, RFP#6648-17- Tumbleson House at Hall Ranch Open Space Asbestos Consulting Services / Boulder County											DATE	05/21/18
CONTRACTOR Employees											REPORT NO	0421178. 3
On-site Today?	AHERA Worker Expiration	State Worker Expiration	AHERA Supervisor Expiration	State Supervisor Expiration	Physical Expiration	Fit Test Expiration	Copy of All Certifications on Site?	State ID Card Displayed On-Site?	Certificate of Workers Acknowledgement	Copy of All Certifications and State ID Card Received by HERRON?	* Authorized Employee in Work Area(s) at This Job Site Today?	
	03/03/19	04/27/19	NA	NA	04/16/19	02/20/19	*	*	*	*	Yes	
Yes	07/01/18	07/15/18	NA	NA	07/14/18	12/26/18	*	*	*	*	Yes	
	NA	NA	08/25/18	09/18/18	02/02/19	05/09/19	*	*	*	*	Yes	
	NA	NA	12/22/18	01/04/19	01/08/19	01/09/19	*	*	*	*	Yes	
Yes	03/17/19	04/19/19	NA	NA	04/14/19	04/20/19	*	*	*	*	Yes	
	03/03/19	06/29/18	NA	NA	04/24/19	04/03/19	*	*	*	*	Yes	
Yes	04/30/19	03/16/19	NA	NA	01/18/19	05/19/19	*	*	*	*	Yes	
Yes	07/29/18	09/21/19	NA	NA	05/17/19	12/18/18	*	*	*	*	Yes	
	02/03/19	05/24/18	NA	NA	06/01/18		*	*	*	*	No	

9 4  
 Expired

Expired and/or Update Not Received:  
 \*Should Employee not be within regulatory compliance or specifications. Employee is prohibited from work within a Regulated Area.  
 Legend of Documents not received by HERRON: 1, AHERA Certification, 2, State Certification, 3, Physical, 4, Fit Test, 5, Certificate of Worker's Acknowledgement.  
 Effectively, this document is published daily to include Employees which have signed in.



## ON-SITE DAILY SIGN-IN SHEET

Date: 5/21/2018  
 Project Name: tumbleson House  
 Job #: 18-026  
 Supervisor: Felipe Hernandez

Name	Time In	Lunch Out	Lunch In	Time Out	Total Hours
Felipe Hernandez	7:30	12:00	12:30	4:30	
CARLOS VANDERFORST	7:30	12:00	12:30	4:30	
JUAN VELOZ	7:30	12:00	12:30	4:30	
Allen Golley	7:30	—	—	4:30	
<b>Daily Total:</b>					

**CERTIFICATION OF VISUAL INSPECTION(S)**

Building	Work Area/Containment	Material(s)	Quantity(ies)	Full/Mini/Regulated Area
Tumbleson	WAA#5	roof debris	5 sq <sup>2</sup>	regulated

**Asbestos Abatement Contractor Certification**

In accordance with local, state, federal regulations, and the Asbestos Abatement Summary of Work, the Asbestos Abatement Contractor hereby certifies that he or she has visually inspected the Work Area (all surfaces including pipes, beams, ledges, walls, ceiling and floor, Decontamination Unit(s), sheet plastic, etc.) and has found no dust, debris or residue.

Asbestos Abatement Contractor Signature	Date/Time	Certification No.	Printed Name	Title	Pass	Fail
<i>[Signature]</i>	5/21/18	16523	Felipe Hernandez	SUP.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Air Monitoring Specialist/Asbestos Project Manager Certification**

The Air Monitoring Specialist/Asbestos Project Manager hereby certifies that he or she has accompanied the Asbestos Abatement Contractor on this visual inspection and verifies that these visual inspection(s), as indicated, have been thorough where visible/accessible, and to the best of his or her knowledge and belief, the Asbestos Abatement Contractor's Certification above, as indicated and where applicable, is a true and honest one.

Air Monitoring Specialist/Asbestos Project Manager Signature	Date/Time	Certification No.	Printed Name	Title	Pass	Fail
<i>[Signature]</i>	05/21/18 1455	2650	Billie Lutz	AMS	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Comments:**

**Designer/Project Administrator Certification**

The Designer/Project Administrator hereby certifies that he or she has reviewed the Asbestos Abatement Contractor, Air Monitoring Specialist/Asbestos Project Manager Certification on completion of this final visual inspection and believes that this final visual inspection has been thorough where visible/accessible, and to the best of his or her knowledge and belief, the Asbestos Abatement Contractor's and Air Monitoring Specialist's/Asbestos Project Manager's Certification's above are true and honest ones.

Designer Signature	Date/Time	Certification No.	Printed Name	Title
Project Administrator Signature	Date/Time	Certification No.	Printed Name	Title

---

**From:** Destiny M. Herron <HERRONAdmin@comcast.net>  
**Sent:** Wednesday, May 30, 2018 7:30 AM  
**To:** 'Michael Lohr'; 'Carol Beam'; 'Brian Bertin'  
**Cc:** 'Allen Gallogly'; 'David W. Starks'; 'L. P. (Lennie) Herron'; 'Christy M. Herron'; 'Billie J. Herron'; Destiny M. Herron  
**Subject:** 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
**Attachments:** 0421178.4, Daily Report, 05.22.18.pdf

## Project Update

In regards to the end of the shift:  
05/22/18 (Tuesday)

1. Notifications –
  - a. Issues during the shift –
    - 1) No issues
2. Containment observation: Yes
  - a. In accordance with the Specifications and Regulations –

Current Work Area –

- WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall  
1st Floor Living Room, 7X2' Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft<sup>2</sup>  
2nd Floor Closet, Loose Sheet Flooring on Wood Substrate - 10 ft<sup>2</sup>
  1. Apply negative air to meet a criteria of -0.03”
    - a. Results within local, state, and/or federal regulations

Awaiting Work Area(s) –

- WA#1 - Enclosure Area(s)  
Test Area(s) 1st Floor Two (2) Perimeter Wall(s), Perform test area of removal of Asbestos Plaster on Stone, approximately 4X4' for Engineer determination of acceptable removal methods - 32 ft<sup>2</sup>  
1st and 2nd Floors Decontamination, Floor Surface Area of 1st and 2nd Floor Levels – 1,592.25 ft<sup>2</sup>  
1st and 2nd Floors Decontamination will include the Cleanup and Decontamination of Rodent Feces – 1,592.25 ft<sup>2</sup>  
On successful completion of the Major Spill Response the 2nd Floor will be Isolated from the remainder of the House as no further asbestos work exists.
  1. Apply negative air to meet a criteria of -0.03”
    - a. Awaiting Setup

Awaiting Work Area(s) –

- WA#2 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster Wall(s) on Stone  
1st Floor Root Cellar – 322 ft<sup>2</sup>  
Demolition of Wood Shelving in 1st Floor Root Cellar (embedded in Plaster) – 11.5X4' X 3 sets
  1. Apply negative air to meet a criteria of -0.03”

a. Awaiting Setup

Awaiting Work Area(s) –

WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone

1st Floor Kitchen and Bedroom 2 - 1,048 ft<sup>2</sup>

Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high

1. Apply negative air to meet a criteria of -0.03”

a. Awaiting Setup

Awaiting Work Area(s) –

WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

1st Floor Living Room, Bedroom 1, and Stairwell – 1,612 ft<sup>2</sup>

1. Apply negative air to meet a criteria of -0.03”

a. Awaiting Setup

3. Structure Crack Monitoring –

- a. Surface mounted gauges will be visually observed twice daily after arrival of the first visit of the Engineer to determine if the existing cracks within the masonry are being impacted by the abatement

4. Asbestos Air Monitoring –

- a. During-abatement monitoring with the following preliminary results –

- 1) WA#1
- 2) IWA – 0.006 f/cc
- 3) OWA, Clean Room
- 4) OWA, Negative Air Exhausted Outside of the Building
- 5) OWA, Ambient, Outside of Building

1. These environmental samples, on completion of final analysis, Outside Work Area sample(s) have not exceeded the Maximum Allowable Asbestos Level (MAAL) by Phase Contrast Microscopy (PCM), or Transmission Electron Microscopy (TEM), where applicable.

- b. OSHA Compliance monitoring with the following preliminary results –

- 1) WA#1
- 2) Excursion – 0.098 f/cc
- 3) Personal, Multi-sample 8 Hour TWA – 0.0184 f/cc
  1. These environmental samples, on completion of final analysis, have not exceeded the EL (Excursion Level) or the PEL (Permissible Exposure Level) by Phase Contrast Microscopy (PCM), where applicable.
  2. Samples which were reported as CBR were not included in the multi-sample TWA result.
  3. Sampling flow rates should be lowered to avoid CBR results.
  4. A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL) –
  5. Should a CBR sample have occurred, the Contractor is advised to review engineering controls, negative pressure, air flow, wet methods, etc.

- c. Post-abatement monitoring with the following preliminary results –

- 1) WA#1
- 2) Final Visual Containment Inspection – Passed
- 3) Inside Work Area, 5 Sample PCM Clearance – Passed
  1. In accordance with the Owner requirements and within the regulations, each of the air samples cannot not exceed the filter background level of 0.01 f/cc (PCM) therefore, the final clearances passed (as indicated). These environmental samples, on completion of

final analysis, have not exceeded the Maximum Allowable Asbestos Level (MAAL) by Phase Contrast Microscopy (PCM).

2. Contractor may proceed with tear down of successfully cleared Work Area, during which, post-abatement visual inspection will occur.
  
5. Daily Contractor Submittals Received (sign in sheets, daily logs, entry/exit logs, special reports) –
  - a. 05/22/18 – not received – submit
  - b. 05/21/18 – not received – submit
  - c. 05/18/18 – not received – submit
  - d. 05/17/18 – not received – submit
  - e. 05/17/18 – mobilization 05/17/18 7:30 AM MST
    - 1) Contractor Project Directory –
      1. Note: Should Employee not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.
  
6. Work Areas completed –
  - a. WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (PCM Clearance Passed 05/22/18)  
1st Floor Living Room, 7X2’ Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft<sup>2</sup>  
2nd Floor Closet, Loose Sheet Flooring on Wood Substrate - 10 ft<sup>2</sup>
  - b. WA#5 - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s) (Visual Passed 05/21/18)  
Exterior, South Alcove Roofing, Debris, and Associated 2” of Soil – 10 ft<sup>2</sup>  
Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3’ from foundation.
  
7. Punch list items completed –
  - a. Awaiting Completion
  
8. Notes:
  - a. Refer to Project Memo(s).
  - b. All observations stated in this report are based on facts and circumstances as they existed during the time of the observations, and during the time period of this report preparation and as available within the limits of the mutually agreed upon Scope of Work, budget, and schedule. The observations in this report is not intended to be exhaustive in scope, and is considered an ongoing working document. HERRON™ reserves the right to modify the contents of this document, as necessary.
  - c. As agreed, daily conversations are occurring, and daily reports will be on site for employee review. Hard copy will not be mailed as this correspondence constitutes delivery of the specified documents.
  - d. Refer to Project Definitions below.

Please advise within an RFI if you have any questions.

Thanks in advance,

Destiny M. Herron  
Administrative Assistant  
HERRON™ Enterprises USA, Inc.  
7261 W. Hampden Ave., Lakewood, CO 80227-5305  
(303) 763-9639 / Fax (303) 763-9686  
Email: [HERRONAdmin@comcast.net](mailto:HERRONAdmin@comcast.net)  
Website: [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

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## Project Definitions:

### Asbestos

1. In regards to the results, Regulation 29 CFR 1910, 1926 –

[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=standards&p\\_id=9995](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9995)

[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_id=10862&p\\_table=standards](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=10862&p_table=standards)

A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL). In accordance with 29 CFR 1926, 1926.1101; 1926.1101(c)(1); 1926.1101(f)(1) Standard Interpretation Correct manner to interpret air sample measurements of an employee's asbestos exposure when the samples are overloaded [01/17/2006] [http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=INTERPRETATIONS&p\\_id=25295](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=25295);

*'...While monitoring an employee's exposure to an airborne contaminant, such as asbestos, occasionally samples are lost, damaged, overloaded, or are otherwise unusable. Analytical laboratories report such samples as "VOID," with a note of explanation. An overloaded asbestos air sample is one in which non-asbestos dust obscures some or all of the fibers on the filter and therefore makes it impossible to accurately determine the concentration of asbestos in the laboratory's microscopic analysis. Such samples should not be counted by an employer in TWA calculations of employee exposure. The use of a "zero" exposure result for such samples is inappropriate; it will underestimate the employee's true exposure. An employer has the responsibility to "accurately" determine his employee's exposure to asbestos...'*

#### 1926.1101(b) Definitions

Employee exposure means that exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

#### 1926.1101(c)(2) Excursion limit

The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

#### 1926.1101(c) Permissible exposure limits (PELS)

##### 1926.1101(c)(1)

Time-weighted average limit (TWA). The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air as an eight (8) hour time-weighted average (TWA), as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

##### 1926.1101(c)(2)

Excursion limit. The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

##### 1926.1101(g)(2)(v)

Wherever the feasible engineering and work practice controls described above are not sufficient to reduce employee exposure to or below the permissible exposure limit and/or excursion limit prescribed in paragraph (c) of this section, the employer shall use them to reduce employee exposure to the lowest levels attainable by these controls and shall supplement them by the use of respiratory protection that complies with the requirements of paragraph (h) of this section.

2. In regards to the results, AQCC Regulation No. 8 –

<http://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=7206&fileName=5> CCR 1001-10

#### III.U.2. The Maximum Allowable Asbestos Level (MAAL)

III.U.2.a. PCM - If PCM is used as the method of analysis the standard is 0.01 fibers per cubic centimeter of air (f/cc), which is equivalent to 10,000 fibers per cubic meter of air (f/m<sup>3</sup>).

III.U.2.b. TEM - Where TEM is used as the method of analysis, the standard is 70 structures/millimeter<sup>2</sup> (s/mm<sup>2</sup>).

3. Laboratory certificates not included with this correspondence have not been received, will follow under a separate cover.

4. Legend: .8 $\mu$ , 25mm MCE Filter Cassettes, Amb = Ambient, IWA = Inside Work Area, OWA = Outside Work Area, CR = Clean/Change Room, LO = Loadout, NAM = Negative Air Exhaust, Ex = Excursion, Per = Personnel, VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read, BDL = Below Detection Limit



# HERRON™ Enterprises USA, Inc.

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7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

## ASBESTOS SERVICES

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/22-23/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.4  
 Date of Report: 05/23/18

## SUMMARY OF WORK

Per Client request, and under the guidelines defined, HERRON™ Enterprises USA, Inc. has concluded the Environmental Consultation/Asbestos Service for friable and/or non-friable Asbestos Containing Material(s) at the aforementioned property.

Our Environmental Consultation/Asbestos Service report may include a Limited Asbestos Building Inspection, descriptions of Bulk, Dust, and/or Air Monitoring samples, their locations and analyses data, which have been obtained and analyses performed in accordance with local, state, and/or federal regulations.

For Calculation purposes of samples obtained by HERRON™, all results are expressed basis actual sampling duration, with courtesy 8 hours time weighted average calculations, based on the actual sampling duration. For Calculation purposes of samples submitted to HERRON™, all results are expressed basis actual sampling duration, as submitted by the Client. HERRON™ implies no warranty to the accuracy of the information or the samples submitted by the Client. In order to make exact determinations, the employer should calculate exact times based on containment sign-in/out sheets for TWA's, in accordance with current OSHA regulations.

All Miscellaneous Provisions, Terms and Conditions apply to all services provided as indicated in HERRON™ current Terms of Services.

Information and data which has been generated as a result of this Environmental Consultation/Asbestos Service will remain confidential and will not be released to any party without prior written authorization from Client(s) (refer to authorized distribution).

We appreciate the confidence which has been demonstrated by your continued patronage, and look forward to assisting you and your group should you have future needs of Environmental Consultation/Asbestos Services.

Sincerely,

Billie J. Herron-Lusk  
Project Manager  
HERRON™ Enterprises USA, Inc.





**FIELD REPORT & OBSERVATIONS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/22-23/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.4  
 Date of Report: 05/23/18

**DATE TIME SUMMARY OF EVENTS**

DATE	TIME	SUMMARY OF EVENTS
05/17/18	----	<p>Requested to perform Baseline (MAAL/OSHA) Air Monitoring, Pre-Abatement Visual Containment(s) Inspection(s), Removal (MAAL/OSHA) Air Monitoring, Final Visual Containment(s) Inspection(s), Final Clearance (MAAL/OSHA) Air Monitoring, and OSHA Compliance Air Monitoring for Gross removal of</p> <p><b>WA#1</b> - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall</p> <p><b>1st Floor Living Room</b>, 7X2' Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft2</p> <p><b>2nd Floor Closet</b> Loose Sheet Flooring on Wood Substrate - 10 ft2</p> <p><b>Test Area(s) 1st Floor Two (2) Perimeter Wall(s)</b> Perform test area of removal of Asbestos Plaster on Stone, approximately 4X4' for Engineer determination of acceptable removal methods - 32 ft2</p> <p><b>1st and 2nd Floors Decontamination</b> Floor Surface Area of 1st and 2nd Floor Levels – 1,592.25 ft2 1st and 2nd Floors Decontamination will include the Cleanup and Decontamination of Rodent Feces – 1,592.25 ft2 On successful completion of the Major Spill Response the 2nd Floor will be Isolated from the remainder of the House as no further asbestos work exists.</p> <p><b>WA#2</b> - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster Wall(s) on Stone</p> <p><b>1st Floor Root Cellar</b> – 322 ft2 Demolition of Wood Shelving in 1st Floor Root Cellar (embedded in Plaster) – 11.5X4' X 3 sets</p> <p><b>WA#3</b> - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone</p> <p><b>1st Floor Kitchen and Bedroom 2</b> - 1,048 ft2 Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high</p> <p><b>WA#4</b> - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone</p> <p><b>1st Floor Living Room, Bedroom 1, and Stairwell</b> – 1,612 ft2</p> <p><b>WA#5</b> - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s)</p> <p><b>Exterior, South Alcove</b> Roofing, Debris, and Associated 2" of Soil – 10 ft2 Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3' from foundation.</p>
05/22/18	*	Commenced (MAAL/OSHA) Air Monitoring
	*	Completed (MAAL/OSHA) Air Monitoring



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**FIELD REPORT & OBSERVATIONS**

Client: Boulder County  
Client Contact: Michael Lohr  
Order No.: SOQ #6673-17  
Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 /  
Boulder County  
Date of Assignment: 05/22-23/18  
Assignment: Environmental Consultation/Asbestos Services  
HERRON™ Project No.: 0421178.4  
Date of Report: 05/23/18

DATE	TIME	SUMMARY OF EVENTS
	*	Completed (MAAL/OSHA) Air Monitoring PCM analysis-All Work Area samples below AQCC MAAL, <=0.01 f/cc/OSHA 1926.1101, EL <1.0 f/cc, PEL <0.10 f/cc, where regulated, unless otherwise noted as follows: NA
	*	Advised results
05/23/18	*	Field documentation completed and report distributed (refer to distribution)

Note: \*Refer to daily project memo for complete details of events.



**ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/22-23/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.4  
 Date of Report: 05/23/18

SAMPLE NO. AND DESC.	PUMP NO.	TIME					FLOW RATE			VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	FIBER		
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	DENSITY (F/MM2)					LOD (F/CC)	FIBERS (F/CC)	
052218-1 Removal,	505	7	40	15	40	480	3.00	3.00	1440	M	17.0	100	21.656	0.002	0.006	
		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc): 0.0058					

(MAAL) Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

IWA

052218-2 Removal,	505	7	40	15	40	480	3.00	3.00	1440	M	10.0	100	12.739	0.002	0.003
		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc): 0.0034				

(MAAL) Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

OWA

052218-3 Removal,	505	7	40	15	40	480	3.00	3.00	1440	M	8.0	100	10.191	0.002	0.003
		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc): 0.0027				

(MAAL) Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

OWA, Clean Room

052218-5 Removal,	201	7	40	15	40	480	3.00	3.00	1440	L	1.0	100	1.274	0.002	BDL
		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc): 0.0003				

(MAAL) Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

OWA, Negative air exhausted outside of Building

052218-4 Removal,	505	7	40	15	40	480	3.00	3.00	1440	L	4.0	100	5.096	0.002	BDL
		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc): 0.0014				

(MAAL) Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

OWA, Ambient



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## ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/22-23/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.4  
 Date of Report: 05/23/18

SAMPLE NO. AND DESC.	PUMP NO.	TIME				FLOW RATE			FIBER						
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	DENSITY (F/MM2)	LOD (F/CC)	FIBERS (F/CC)
052218-B1	Blank									VL	0.0	100			
052218-B2	Blank									VL	0.0	100	DATA:	BL	

Note: .8µ, 25mm MCE Filter Cassettes - Note: IWA = Inside Work Area, OWA = Outside Work Area, BDL = Below Detection Limit - Note: VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read - Note: Proficiency Analytical Testing (PAT) Program



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SAMPLE NO. AND DESC.	PUMP NO.	TIME					FLOW RATE			VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	FIBER		
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	DENSITY (F/MM2)					LOD (F/CC)	FIBERS (F/CC)	
052218-6	505	18	0	19	33	93	14.00	14.00	1302	M	12.0	100	15.287	0.002	0.005	
Final Clearance,		0	0	0	0	0	0.00	0.00								

(MAAL) Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

IWA, 2nd Floor, Sample 1 of 5

052218-7	505	18	0	19	33	93	14.00	14.00	1302	M	14.0	100	17.834	0.002	0.005
Final Clearance,		0	0	0	0	0	0.00	0.00							

(MAAL) Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

IWA, 2nd Floor, Sample 2 of 5

052218-8	505	18	0	19	33	93	14.00	14.00	1302	M	15.5	100	19.745	0.002	0.006
Final Clearance,		0	0	0	0	0	0.00	0.00							

(MAAL) Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

IWA, 1st Floor, Sample 3 of 5

052218-9	505	18	0	19	33	93	14.00	14.00	1302	M	10.0	100	12.739	0.002	0.004
Final Clearance,		0	0	0	0	0	0.00	0.00							

(MAAL) Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

IWA, 1st Floor, Sample 4 of 5

052218-10	505	18	0	19	33	93	14.00	14.00	1302	M	9.5	100	12.102	0.002	0.004
Final Clearance,		0	0	0	0	0	0.00	0.00							

(MAAL) Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

IWA, 1st Floor, Sample 5 of 5

052218-B1	Blank										0.0	100			
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 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.4  
 Date of Report: 05/23/18

SAMPLE NO. AND DESC.	PUMP NO.	TIME			FLOW RATE			FIBER							
		ON HR	MIN	OFF HR	MIN	TOT MIN	(LPM) ON	(LPM) OFF	VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	DENSITY (F/MM2)	LOD (F/CC)	FIBERS (F/CC)
052218-B2	Blank									0.0	100	DATA:	BL		

Note: .8µ, 25mm MCE Filter Cassettes - Note: IWA = Inside Work Area, OWA = Outside Work Area, BDL = Below Detection Limit - Note: VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read - Note: Proficiency Analytical Testing (PAT) Program



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 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.4  
 Date of Report: 05/23/18

SAMPLE NO. AND DESC.	PUMP NO	TIME					FLOW RATE			VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	FIBER		
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	DENSITY (F/MM2)					LOD (F/CC)	FIBERS (F/CC)	
052218-P1	701	8	0	8	30	30	2.00	2.00	60	H	12.0	100	15.287	0.045	0.098	
OSHA Compliance		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc): 0.0061					

Air Monitoring Samples,

Excursion Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

Felipe Hernandez/#16523

052218-P2	701	8	30	17	30	540	2.00	2.00	1080	M	24.0	100	30.573	0.002	0.011
OSHA Compliance		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc): 0.0123				
Air Monitoring Samples,											(Multiple Sample 8 Hr. TWA, f/cc): 0.0184				

Personal Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

Felipe Hernandez/#16523

052218-B1	Blank										VL	0.0	100		
052118-B2	Blank										VL	0.0	100	DATA:	BL

Note: .8μ, 25mm MCE Filter Cassettes - Note: IWA = Inside Work Area, OWA = Outside Work Area, BDL = Below Detection Limit - Note: VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read - Note: Proficiency Analytical Testing (PAT) Program



**FLOOR PLANS/SITE PHOTOGRAPHS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/22-23/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.4  
 Date of Report: 05/23/18

**Photo Log**



20180522\_082101



20180522\_082107



20180522\_082108



20180522\_082114(0)



20180522\_082114



20180522\_082141



20180522\_075944



20180522\_075956



20180522\_080005



20180522\_080011



20180522\_080025



20180522\_080234



20180522\_080237



20180522\_082048



20180522\_082049



20180522\_082057



20180522\_082059





**FLOOR PLANS/SITE PHOTOGRAPHS**

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**Photo Log**



20180522\_082204



20180522\_082209



20180522\_082212



20180522\_082220



20180522\_082238



20180522\_102831



20180522\_104353



20180522\_082147



20180522\_082156



20180522\_082159



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 HERRON™ Project No.: 0421178.4  
 Date of Report: 05/23/18

**Photo Log**



20180522\_173314



20180522\_173315



20180522\_173321



20180522\_173725



20180522\_173731



20180522\_173734



20180522\_173736



20180522\_173742



20180522\_173748



20180522\_173756



20180522\_172214



20180522\_172319



20180522\_172321



20180522\_172323



20180522\_172338



20180522\_172345



20180522\_172349



20180522\_172351



20180522\_172357



20180522\_172413



**FLOOR PLANS/SITE PHOTOGRAPHS**

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**Photo Log**



20180522\_174129



20180522\_174837



20180522\_174845



20180522\_174848



20180522\_180002



20180522\_180013



20180522\_180028



20180522\_180035



20180522\_173759



20180522\_173801



20180522\_173839



20180522\_173840



20180522\_174007



20180522\_174009



20180522\_174101



20180522\_174104



20180522\_174108



20180522\_174111



20180522\_174117



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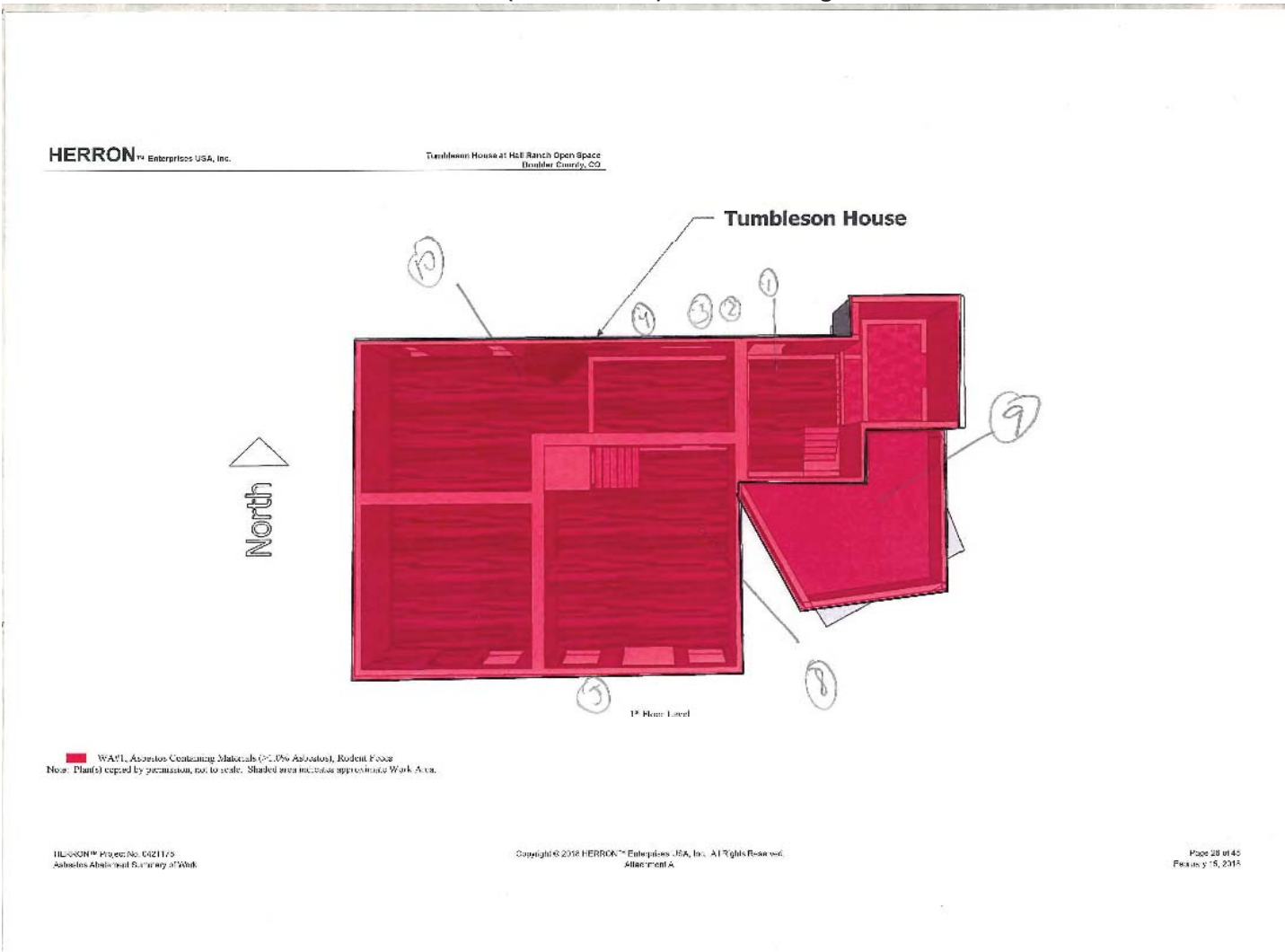
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### (MAAL/OSHA) Air Monitoring





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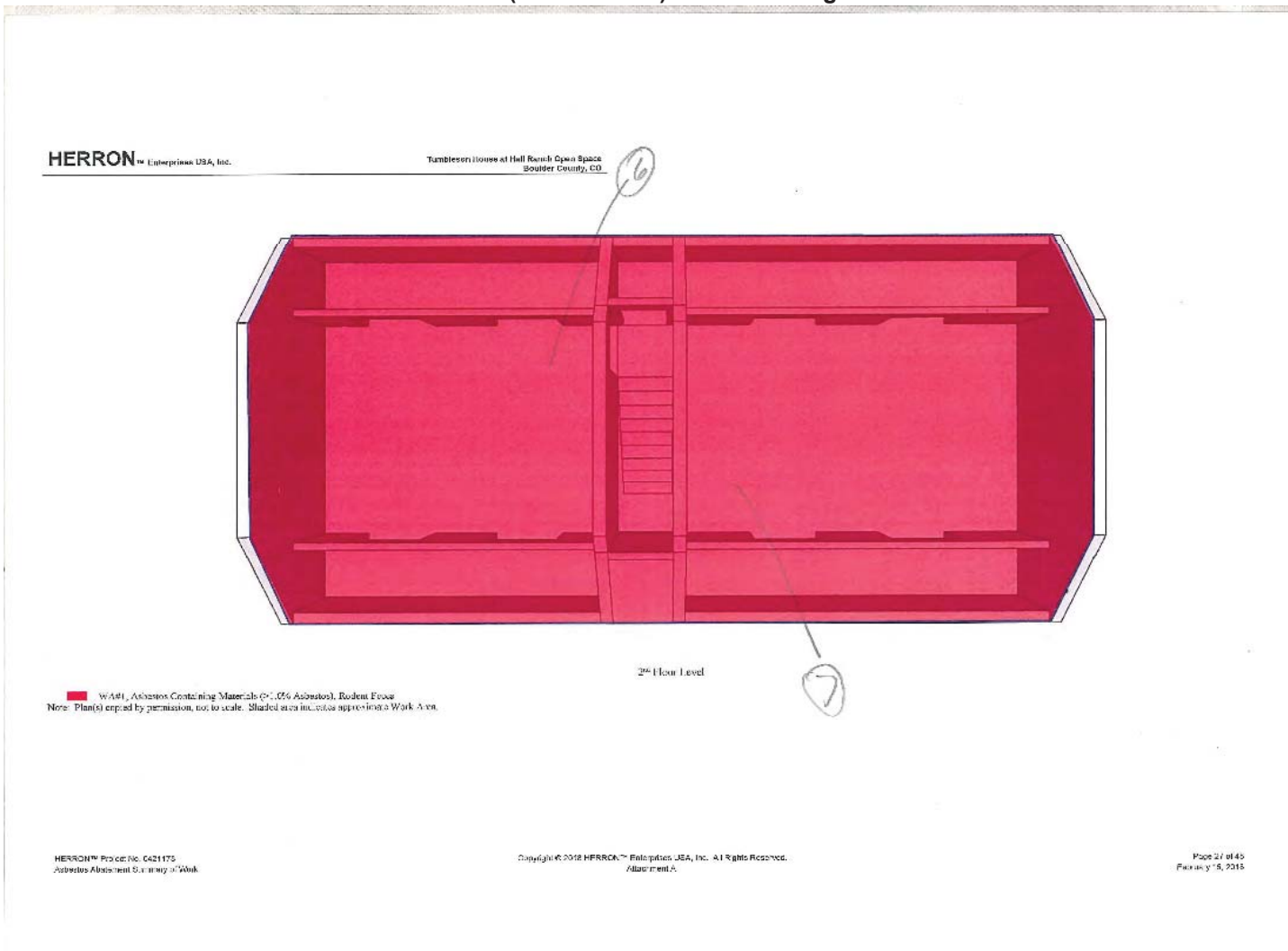
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### (MAAL/OSHA) Air Monitoring





## AQCC REG. NO. 8 ASBESTOS ABATEMENT INSPECTION FORM COMPLIANCE CHECKLIST AND INFORMATION

Colorado Dept. of Public Health  
and Environment  
APCD-IE-B1  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
Phone: 303-692-3100  
Fax: 303-782-0278

Project(s) Address: <b><u>Tumbleson House at Hall Ranch Open Space, Boulder County, CO</u></b>		Project(s) Permit #: 18BO2912A	
Project(s) start date: May 17, 2018		Project(s) completion date: June 04, 2018	
Inspector(s): LP (Lennie) Herron/#2572 (AMS/PM - ___) Billie J. Herron/#2650 (AMS/PM - <u>X</u> ) Jamie L. Herron-Carson/#2649 (AMS/PM - ___) Sherri K. Herron/#8728 (AMS/PM - ___) Michael W. Herron, Sr./#13788 (AMS/PM - ___)		Inspection Date: 05/22/18	
Current Abatement Phase:	Pre <input type="checkbox"/>	X Active <input checked="" type="checkbox"/>	Post <input type="checkbox"/> More than one phase/project? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>
Comments:			

**Types(s) and total quantity of ACM removed/to be removed\* as reported by the abatement contractor:**

Pipe Insulation*:	Fireproofing:	Spray-on:
Ceiling Tile:	Boiler Insulation:	VAT:
Transite:	<b>Other (describe):</b> <ul style="list-style-type: none"> <li>Rodent Feces – 1,592.25 ft<sup>2</sup></li> <li>Miscellaneous Material = 20 ft<sup>2</sup></li> <li>Surfacing Material = 2,982 ft<sup>2</sup></li> </ul>	

\*Pipe insulation is reported in lineal feet, all other materials including ductwork are reported in square footage regardless of the thickness of the ACM. If reporting in 55-gallon drums, note square footage or linear footage area to be removed.

**List of ALL abatement workers in containment today:**

#	NAME	SSN OR REC. #	AHERA / STATE / PHYSICAL / FIT TEST
1	SEE ATTACHED		/ / /
<b>COMMENTS:</b>			

**Note: Responses to the Description of Citation is indicated by the anticipation of the day, with the default as X = OK / Vio. / N/A. Should the response differ, cross-out will appear and appropriate response indicated.**

**PART I – SECTION A - OUTSIDE WORK AREA(S) – CERTIFICATION AND PERMIT/NOTIFICATION REQUIREMENTS, ETC.**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
16	II.A.2	All training certs./documents on site - with <b>photo IDs</b> ?	X		
26	II.J	Project Manager - credentials ok (certified as PD, completed AMS training, HS diploma, 1 yr. Experience, independent)?			X
29	III.B.1.a & III.B.4	On-site supervisor state certified?	X		
29	III.B.1.b & III.B.4	All workers on site trained/certified?	X		
30	III.B.5	Air Monitoring Spec. trained and certified? Note - this requirement may apply during pre-and active abatement phases, e.g. monitoring NAM exhaust inside a building or checking for the "MAAL".	X		
30	III.B.6	Project Manager required (>1,000 LF/>3000SF of friable) Note: Not required in schools.			X
30	III.C.1	Project Design required (>1,000 LF/>3000SF in P&C) (>3 LF/>3SF in Schools)	X		
31	III.C.4	Project Design on the site and signed?	X		
31	III.E.1	No false, inaccurate, or misleading information?	X		
33	III.F	If a variance has been granted for any work practice(s); <b>are the conditions of this variance being followed?</b>			X
34	III.G	Permit Valid (i.e. start/stop dates)?	X		
35	III.G.4	ORIGINAL permit posted at work site?	X		
36	III.G.8	Permit signed by Project Manager?			X

**COMMENTS ON PART I – SECTION A:**

**PART I – SECTION B – OUTSIDE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
37	III.J.1.a	Negative Air Machines (NAMs) operating continuously?	X		
37 & 52	III.J.1.d & III.U.1.b.i	NAMs monitored if exhausted inside the building?	X		
37	III.J.3	-0.02" H <sub>2</sub> O or better on Manometer?		X	
37	III.J.3	Continuous printout on Manometer?	X		
37	III.J.4	Smoke tubes present?	X		
37	III.J.4	Air flow - outside to inside ok?	X		
38	III.K.1	All chambers separated by airlocks?	X		
38	III.K.1	Decon Unit - 3 stages?	X		
38	III.K.1	Self-closing flaps/doors? (Z flaps are preferable, but not required)	X		
38	III.K.1.a	Clean room - adequately sized?	X		
38	III.K.1.b	Shower - hot and cold water at the tap?	X		
38	III.K.1.b	Shower – leakage anywhere but the supply connection?	X		
38	III.K.1.b	Shower - wastewater filtered to 5 microns or less, sanitary sewer discharge?	X		
38	III.K.1.b	Shower and Clean room - ACM debris present?	X		
39	III.K.2	Entry and exit procedures ok?	X		
41	III.N.2	View port present (at minimum 12"x12")?	X		
41	III.N.3	Waste load out separate from Decon?	X		
41	III.N.3	Waste load out - 2 stages?	X		

**COMMENTS ON PART I – SECTION B:** PRESSURE DIFFERENTIAL STILL BEING ADDRESSED VIA INSTALLATION OF CRITICAL BARRIERS AND ADDITIONAL NEGATIVE AIR MACHINES – CORRECTED BY ADDING A 4<sup>TH</sup> NEGATIVE AIR MACHINE AND SEALING EXTERIOR PENETRATIONS AT THE ROOF LINE.

**PART II – INSIDE THE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
36	III.I	Critical barriers - 1 layer 6 mil?	X		
36	III.J.1.b	Air cleaning equipment - HEPA filters properly installed, equipment operating, maintained adequately, etc.?	X		
37	III.J.2	Adequate equipment in place to ensure 4 air changes per hour?	X		
38	III.K.1.c	6 mil disposal bag present in Dirty Room?	X		
39	III.K.2.b	Disposable clothing worn by workers?	X		
39	III.L	Pre-cleaning - criticals and decon, HEPA vacs, wet cleaning, proper disposal?	X		
39	III.L.1	Movable objects cleaned before removal from the work area?	X		
39	III.M	Fixed objects - 1 layer 6 mil?	X		
40	III.N.1.a	Floors - 2 separate layers 6 mil?	X		
40	III.N.1.a, b, & c	No seams present (wall/floor, wall/ceiling, 12" overlap)?	X		
40	III.N.1.b	Walls - 2 separate layers 4 mil?	X		
40	III.N.1.c	Ceilings - 1 layer 4 mil?	X		
41	III.O.1.a.i.(A)	Amended water being used (surfactants) before ACM is removed?	X		
41	III.O.1.a.i.(A)	Are the surfactants a commercial product designed specifically for ACM removal?	X		
41	III.O.1.a.i.(A)	Material adequately wet and/or kept wet until bagged for disposal?	X		
42	III.O.1.a.i.(B)	Airless sprayers used for applying amended water or encapsulant?	X		
42	III.O.1.a.iii	All contaminated surfaces wet-wiped prior to disassembly of containment barriers?	X		

**COMMENTS ON PART II:**

**PART III – SECTION A –SPECIAL PROJECTS, RESILIENT FLOOR TILE**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
31	III.E.1	Notice posted at the worksite?			X
46	III.R.	Waste handled as nonfriable waste?			X
114	Appendix B	Appendix B, Amended water being used?			X
114	Appendix B	Appendix B, Hand tools only?			X
48	III.S.1	Appendix B, Proper handling and packaging of tiles/adhesives?			X
48	III.S.1	Voluntarily using splashguards, critical, negative air, and decon?			X
48	III.S.1.c	Is the material being rendered friable?			X

**COMMENTS ON PART III, SECTION A:**



**PART III – SECTION B –SPECIAL PROJECTS, SHEET VINYL FLOORING**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
34	III.E.1	Notice/Permit posted at the worksite?			X
46	III.R.	Waste handled as friable waste?			X
48	III.S.1.c	Is the material being rendered friable?			X
48	III.S.1.d.	Worker(s)/Supervisor(s) trained according to Appendix C?			X
48	III.S.2	Appendix B, Amended water being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Hand tools only being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Proper handling and packaging of sheet flooring being used by only App. C trained workers?			X
107	Appendix B	Appendix B, Proper wetting at the delaminating nip point being used by only App. C trained workers?			X
48	III.S.2	Voluntarily using splashguards, critical, negative air, and decon?			X

**COMMENTS ON PART III, SECTION B:**


**PART III – SECTION C –SPECIAL PROJECTS, NONFRIABLE ACM**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
49	III.S.4.a.	ACM adequately wet?			X
49	III.S.4.b.	Hand removal methods being used?			X
49	III.S.4.c.	Minimal breakage and disturbance?			X
49	III.S.4.d.	Material properly disposed of as nonfriable waste?			X

**COMMENTS ON PART III, SECTION C:**


**PART IV – SPECIAL REMOVAL METHODS, GLOVEBAGS AND FACILITY COMPONENT REMOVAL**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
53	III.V.1	Glove bags - proper usage (useable without causing fiber release)?			X
53	III.V.1.a	Glove bags - properly sealed to the area, no bottom seam?			X
53	III.V.1.b	Glove bags - pipes cooler than 150°F?			X
53	III.V.1.c	Glove bags used only once?			X
53	III.V.1.d.i	Glove bags - secondary containment(s) in place if removal > 3LF/SF?			X
54	III.V.1.d.ii	Glove bags - smoke tested prior to use?			X
54	III.V.1.d.iv	Glove bags - material in bags adequately wet?			X
54	III.V.1.d.vi	Glove bags - "rough" edges encapsulated?			X
54	III.V.1.d.vii	Glove bags - evacuated with HEPA vac prior to removing the bag?			X
54	III.V.2	Facility component removal - w/o containment, material well adhered to surface?			X
54	III.V.2.a	Facility component removal - adequately wet and wrapped in 6 mil poly prior to removal from the work area?			X

**COMMENTS ON PART IV:**


**PART V – MAJOR SPILLS**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
50	III.T.1.	Spill properly characterized (air sampling, tape sampling, microvac sampling)?	X		
50	III.T.1.a.	Area immediately sealed off?	X		
50	III.T.1.b	Air handling system shut down or modified to prevent further disturbance?	X		
50	III.T.1.c.	Division properly notified by phone and requirement(s) of subsection III.E. fulfilled?	X		
50	III.T.1.e.	Area sealed off and negative pressure established in accordance with III.J.	X		
50	III.T.1.e.	Certified personnel in accordance with section II performing work?	X		
50	III.T.1.j	Final clearance air monitoring performed in accordance with subsection III.P.	X		

**COMMENTS ON PART IV:**

**NOTE: WORK AREA #1 ONLY – COMPLETE 05/22/18**


**PART VI – WASTE HANDLING REQUIREMENTS (WASTE STORAGE AREA)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
47	III.R.1	6 mil or greater bags?	X		
46	III.R.2.a	Containers - material adequately wet in bags?	X		
46	III.R.2.a	No breakage, rupture or leakage?	X		
47	III.R.2.b	Proper warning labels on bags?	X		
47	III.R.2.d	Visible emissions – anywhere on job site?	X		
47	III.R.2.f	All waste water filtered to 5 microns AND discharged to a <b>sanitary sewer</b> ?	X		
47	III.R.3	Are ACWM bags labeled with generator labels in accordance with 40 CFR 61.150?	X		
47	III.R.3	Are appropriate waste shipment records being maintained (40 CFR 61.150)?	X		
47	III.R.3	Transport to a proper disposal site?	X		
47	III.R.3	Waste storage vehicles placard during loading/storage at job site?	X		

**COMMENTS ON PART V:**


### PART VII – POST ACTIVE ABATEMENT REQUIREMENTS

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
19	II.D.	Is the AMS properly trained and certified? (Note: this requirement also pertains to "background air sampling" and sampling conducted near NAM exhausts if the NAMs are exhausted inside a building, i.e. sampling for the MAAL.)	X		
43	III.P	Is the AMS performing the final clearance procedures completely independent of the asbestos contractor?	X		
44	III.P.1	Work area reduced to only critical barriers in place?	X		
44	III.P.3.a.i	Aggressive sampling conducted pursuant to 40 CFR 763 Appendix A?	X		
44	III.P.3.a.i	Has all dust and debris been removed from the work area, including areas behind the critical barriers?	X		
45	III.P.3.b.ii	TEM air sampling - 1,199 liters of air drawn (25 mm cassette) and average of the required 5 samples is below 70 structures/mm <sup>2</sup> ?* Note: Required for schools if the project is >160 SF/260 LF.			X
45	III.P.3.b.iii	PCM air sampling – Sufficient amount of air drawn so the LOD is <0.01f/cc (25mm cassette) and each sample of 5 required samples is below 0.01 f/cc?* Note: Required for school is the project is >3 SF/>3LF but <160 SF/<260 LF.	X		
45	III.P.3.c.i	TEMs - lab properly accredited (by NIST)?			X
46	III.P.3.c.ii	PCMs - lab successfully participating in AIHA PAT program?	X		
46	III.P.3.c.ii	Satellite Labs - directly under the control of properly accredited "parent" lab pursuant to subclause III.P.3.c.i?	X		
46	III.P.3.c.ii	Satellite labs - proper procedures (NIOSH 7400 method) followed, and is the analyst properly trained pursuant to Section III.P.3.c.ii?	X		
53	III.U.3.b	MAAL, sample(s) outside containment >0.01 f/cc PCM?	X		
52 & 53	III.U.2.b & III.U.3.a	MAAL, if yes to above, re-analyzed TEM within 24 hours and/or area treated as a spill?			X
27	II.L.	Everyone performing consulting firm activities registered with CDPH&E?	X		

**\*There are two possible exceptions to these rules, see page 46 for details\***

**COMMENTS ON PART VI:**


**COMMENTS, GENERAL:**




**HERRON™** Enterprises USA, Inc.  
 Hazardous Materials\* Mold\* Asbestos\* Lead Paint  
 Environmental Services\* Industrial Hygienists

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 7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

**PROJECT/LOCATION: 0421178, RFP#6648-17- Tumbleson House at Hall Ranch Open Space Asbestos Consulting Services / Boulder County**

CONTRACTOR Employees	On-site Today?	AHERA Worker Expiration	State Worker Expiration	AHERA Supervisor Expiration	State Supervisor Expiration	Physical Expiration	Fit Test Expiration	Copy of All Certifications on Site?	State ID Card Displayed On-Site?	Certificate of Workers Acknowledgement	DATE REPORT NO	05/22/18	
												Copy of All Certifications and HERRON?	* Authorized Employee in Work Area(s) at This Job Site Today?
Alma Mosqueda/#12109		03/03/19	04/27/19	NA	NA	04/16/19	02/20/19	*	*	*			
Carlos Vandehorst/#22241	Yes	07/01/18	07/15/18	NA	NA	07/14/18	12/26/18	*	*	*			
David Starks/#15640		NA	NA	08/25/18	09/18/18	02/02/19	05/09/19	*	*	*			
Dylan Gallogly/#24196		NA	NA	12/22/18	01/04/19	01/08/19	01/09/19	*	*	*			
Felipe Hernandez/#16523	Yes	03/17/19	04/19/19	NA	NA	04/14/19	04/20/19	*	*	*			
Hector Salgado/#20974	Yes	03/03/19	06/29/18	NA	NA	04/24/19	04/03/19	*	*	*			
Allen Gallogly/#21476		04/30/19	03/16/19	NA	NA	01/18/19	05/19/19	*	*	*			
Juan Veloz/#10999		07/29/18	09/21/19	NA	NA	05/17/19	12/18/18	*	*	*			
Adriana Jacobi-Urribe/#12893		02/03/19	05/24/18	NA	NA	06/01/18	06/01/18	*	*	*			No

9 3  
 Expired

Expired and/or Update Not Received:  
 \*Should Employee not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.  
 Legend of Documents not received by HERRON: 1, AHERA Certification, 2, State Certification, 3, Physical, 4, Fit Test, 5, Certificate of Worker's Acknowledgement.  
 Effectively, this document is published daily to include Employees which have signed in.

## ON-SITE DAILY SIGN-IN SHEET

Date: 05/22/2018

Project Name: tumbleson House.

Job #: 18-026

Supervisor: Felipe Hernandez

Name	Time In	Lunch Out	Lunch In	Time Out	Total Hours
Felipe Hernandez	7:30				
Carlos Vanderhorst	7:30				
Hector S. Lopez	7:30				
Daily Total:					

**CERTIFICATION OF VISUAL INSPECTION(S)**

Building	Work Area/Containment	Material(s)	Quantity(ies)	Full/Mini/Regulated Area
Tumb/1/01	WA#1	see spec	see spec	major spill

**Asbestos Abatement Contractor Certification**

In accordance with local, state, federal regulations, and the Asbestos Abatement Summary of Work, the Asbestos Abatement Contractor hereby certifies that he or she has visually inspected the Work Area (all surfaces including pipes, beams, ledges, walls, ceiling and floor, Decontamination Unit(s), sheet plastic, etc.) and has found no dust, debris or residue.

Asbestos Abatement Contractor Signature	Date/Time	Certification No.	Printed Name	Title	Pass	Fail
	5/22/17	16523	Felipe Hernandez	Self	✓	

**Air Monitoring Specialist/Asbestos Project Manager Certification**

The Air Monitoring Specialist/Asbestos Project Manager hereby certifies that he or she has accompanied the Asbestos Abatement Contractor on this visual inspection and verifies that these visual inspection(s), as indicated, have been thorough where visible/accessible, and to the best of his or her knowledge and belief, the Asbestos Abatement Contractor's Certification above, as indicated and where applicable, is a true and honest one.

Air Monitoring Specialist/Asbestos Project Manager Signature	Date/Time	Certification No.	Printed Name	Title	Pass	Fail
	05/22/2017 17:50	2650	B. Nic Lull	PM	✓	

**Comments:**

**Designer/Project Administrator Certification**

The Designer/Project Administrator hereby certifies that he or she has reviewed the Asbestos Abatement Contractor, Air Monitoring Specialist/Asbestos Project Manager Certification on completion of this final visual inspection and believes that this final visual inspection has been thorough where visible/accessible, and to the best of his or her knowledge and belief, the Asbestos Abatement Contractor's and Air Monitoring Specialist's/Asbestos Project Manager's Certification's above are true and honest ones.

Designer Signature	Date/Time	Certification No.	Printed Name	Title
Project Administrator Signature	Date/Time	Certification No.	Printed Name	Title

---

**From:** Destiny M. Herron <HERRONAdmin@comcast.net>  
**Sent:** Wednesday, May 30, 2018 7:32 AM  
**To:** 'Michael Lohr'; 'Carol Beam'; 'Brian Bertin'  
**Cc:** 'Allen Gallogly'; 'David W. Starks'; 'L. P. (Lennie) Herron'; 'Christy M. Herron'; 'Billie J. Herron'; Destiny M. Herron  
**Subject:** 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
**Attachments:** 0421178.5, Daily Report, 05.23.18.pdf

## Project Update

In regards to the end of the shift:  
05/23/18 (Wednesday)

1. Notifications –
  - a. Issues during the shift –
    - 1) No issues
2. Containment observation: Yes
  - a. In accordance with the Specifications and Regulations –

Current Work Area –

WA#2 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster Wall(s) on Stone

1st Floor Root Cellar – 322 ft<sup>2</sup>

Demolition of Wood Shelving in 1st Floor Root Cellar (embedded in Plaster) – 11.5X4' X 3 sets

1. Apply negative air to meet a criteria of -0.03”
  - a. Results within local, state, and/or federal regulations

Awaiting Work Area(s) –

WA#1 - Enclosure Area(s)

Test Area(s) 1st Floor Two (2) Perimeter Wall(s), Perform test area of removal of Asbestos Plaster on Stone, approximately 4X4' for Engineer determination of acceptable removal methods - 32 ft<sup>2</sup>

1st and 2nd Floors Decontamination, Floor Surface Area of 1st and 2nd Floor Levels – 1,592.25 ft<sup>2</sup>

1st and 2nd Floors Decontamination will include the Cleanup and Decontamination of Rodent Feces – 1,592.25 ft<sup>2</sup>

On successful completion of the Major Spill Response the 2nd Floor will be Isolated from the remainder of the House as no further asbestos work exists.

1. Apply negative air to meet a criteria of -0.03”
  - a. Awaiting Setup

Awaiting Work Area(s) –

WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone

1st Floor Kitchen and Bedroom 2 - 1,048 ft<sup>2</sup>

Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high

1. Apply negative air to meet a criteria of -0.03”
  - a. Awaiting Setup

Awaiting Work Area(s) –

WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone  
1st Floor Living Room, Bedroom 1, and Stairwell – 1,612 ft2

1. Apply negative air to meet a criteria of -0.03”
  - a. Awaiting Setup

3. Structure Crack Monitoring –

- a. Surface mounted gauges will be visually observed twice daily after arrival of the first visit of the Engineer to determine if the existing cracks within the masonry are being impacted by the abatement
  - 1) PM
    1. W1 – West Side, North End – 1.0 mm
    2. W2 – West Side, South End – 1.0 mm
    3. S1 – South Side, East End – 0.5 mm
    4. E1 – East Side, Center – 1.0 mm

4. Asbestos Air Monitoring –

- a. Pre-abatement monitoring with the following preliminary results –
  - 1) WA#2
  - 2) Awaiting Setup

5. Daily Contractor Submittals Received (sign in sheets, daily logs, entry/exit logs, special reports) –

- a. 05/23/18 – not received – submit
- b. 05/22/18 – not received – submit
- c. 05/21/18 – not received – submit
- d. 05/18/18 – not received – submit
- e. 05/17/18 – not received – submit
- f. 05/17/18 – mobilization 05/17/18 7:30 AM MST
  - 1) Contractor Project Directory –
    1. Note: Should Employee not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.

6. Work Areas completed –

- a. WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (PCM Clearance Passed 05/22/18)  
1st Floor Living Room, 7X2’ Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft2  
2nd Floor Closet, Loose Sheet Flooring on Wood Substrate - 10 ft2
- b. WA#5 - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s) (Visual Passed 05/21/18)  
Exterior, South Alcove Roofing, Debris, and Associated 2” of Soil – 10 ft2  
Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3’ from foundation.

7. Punch list items completed –

- a. Awaiting Completion

8. Notes:

- a. Refer to Project Memo(s).
- b. All observations stated in this report are based on facts and circumstances as they existed during the time of the observations, and during the time period of this report preparation and as available within the limits of the mutually agreed upon Scope of Work, budget, and schedule. The observations in this report is not intended to be exhaustive in scope, and is considered an ongoing working document. HERRON™ reserves the right to modify the contents of this document, as necessary.
- c. As agreed, daily conversations are occurring, and daily reports will be on site for employee review. Hard copy will not be mailed as this correspondence constitutes delivery of the specified documents.



- d. Refer to Project Definitions below.

Please advise within an RFI if you have any questions.

Thanks in advance,

Destiny M. Herron  
Administrative Assistant  
HERRON™ Enterprises USA, Inc.  
7261 W. Hampden Ave., Lakewood, CO 80227-5305  
(303) 763-9639 / Fax (303) 763-9686  
Email: [HERRONAdmin@comcast.net](mailto:HERRONAdmin@comcast.net)  
Website: [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

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Project Definitions:

Asbestos

1. In regards to the results, Regulation 29 CFR 1910, 1926 –

[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=standards&p\\_id=9995](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9995)  
[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_id=10862&p\\_table=standards](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=10862&p_table=standards)

A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL). In accordance with 29 CFR 1926, 1926.1101; 1926.1101(c)(1); 1926.1101(f)(1) Standard Interpretation Correct manner to interpret air sample measurements of an employee's asbestos exposure when the samples are overloaded [01/17/2006] [http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=INTERPRETATIONS&p\\_id=25295](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=25295);

*'...While monitoring an employee's exposure to an airborne contaminant, such as asbestos, occasionally samples are lost, damaged, overloaded, or are otherwise unusable. Analytical laboratories report such samples as "VOID," with a note of explanation. An overloaded asbestos air sample is one in which non-asbestos dust obscures some or all of the fibers on the filter and therefore makes it impossible to accurately determine the concentration of asbestos in the laboratory's microscopic analysis. Such samples should not be counted by an employer in TWA calculations of employee exposure. The use of a "zero" exposure result for such samples is inappropriate; it will underestimate the employee's true exposure. An employer has the responsibility to "accurately" determine his employee's exposure to asbestos... '.*

1926.1101(b) Definitions

Employee exposure means that exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

1926.1101(c)(2) Excursion limit

The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(c) Permissible exposure limits (PELS)

1926.1101(c)(1)

Time-weighted average limit (TWA). The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air as an eight (8) hour time-weighted average (TWA), as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(c)(2)

Excursion limit. The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of

thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(g)(2)(v)

Wherever the feasible engineering and work practice controls described above are not sufficient to reduce employee exposure to or below the permissible exposure limit and/or excursion limit prescribed in paragraph (c) of this section, the employer shall use them to reduce employee exposure to the lowest levels attainable by these controls and shall supplement them by the use of respiratory protection that complies with the requirements of paragraph (h) of this section.

2. In regards to the results, AQCC Regulation No. 8 –  
<http://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=7206&fileName=5> CCR 1001-10  
III.U.2. The Maximum Allowable Asbestos Level (MAAL)  
III.U.2.a. PCM - If PCM is used as the method of analysis the standard is 0.01 fibers per cubic centimeter of air (f/cc), which is equivalent to 10,000 fibers per cubic meter of air (f/m<sup>3</sup>).  
III.U.2.b. TEM - Where TEM is used as the method of analysis, the standard is 70 structures/millimeter<sup>2</sup> (s/mm<sup>2</sup>).
3. Laboratory certificates not included with this correspondence have not been received, will follow under a separate cover.
4. Legend: .8μ, 25mm MCE Filter Cassettes, Amb = Ambient, IWA = Inside Work Area, OWA = Outside Work Area, CR = Clean/Change Room, LO = Loadout, NAM = Negative Air Exhaust, Ex = Excursion, Per = Personnel, VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read, BDL = Below Detection Limit



**HERRON™** Enterprises USA, Inc.

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7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

## ASBESTOS SERVICES

Client: Boulder County  
Client Contact: Michael Lohr  
Order No.: SOQ #6673-17  
Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
Date of Assignment: 05/23-24/18  
Assignment: Environmental Consultation/Asbestos Services  
HERRON™ Project No.: 0421178.5  
Date of Report: 05/24/18

## SUMMARY OF WORK

Per Client request, and under the guidelines defined, HERRON™ Enterprises USA, Inc. has concluded the Environmental Consultation/Asbestos Service for friable and/or non-friable Asbestos Containing Material(s) at the aforementioned property.

Our Environmental Consultation/Asbestos Service report may include a Limited Asbestos Building Inspection, descriptions of Bulk, Dust, and/or Air Monitoring samples, their locations and analyses data, which have been obtained and analyses performed in accordance with local, state, and/or federal regulations.

For Calculation purposes of samples obtained by HERRON™, all results are expressed basis actual sampling duration, with courtesy 8 hours time weighted average calculations, based on the actual sampling duration. For Calculation purposes of samples submitted to HERRON™, all results are expressed basis actual sampling duration, as submitted by the Client. HERRON™ implies no warranty to the accuracy of the information or the samples submitted by the Client. In order to make exact determinations, the employer should calculate exact times based on containment sign-in/out sheets for TWA's, in accordance with current OSHA regulations.

All Miscellaneous Provisions, Terms and Conditions apply to all services provided as indicated in HERRON™ current Terms of Services.

Information and data which has been generated as a result of this Environmental Consultation/Asbestos Service will remain confidential and will not be released to any party without prior written authorization from Client(s) (refer to authorized distribution).

We appreciate the confidence which has been demonstrated by your continued patronage, and look forward to assisting you and your group should you have future needs of Environmental Consultation/Asbestos Services.

Sincerely,

Billie J. Herron-Lusk  
Project Manager  
HERRON™ Enterprises USA, Inc.



**FIELD REPORT & OBSERVATIONS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/23-24/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.5  
 Date of Report: 05/24/18

DATE	TIME	SUMMARY OF EVENTS
------	------	-------------------

05/17/18	----	<p>Requested to perform Baseline (MAAL/OSHA) Air Monitoring, Pre-Abatement Visual Containment(s) Inspection(s), Removal (MAAL/OSHA) Air Monitoring, Final Visual Containment(s) Inspection(s), Final Clearance (MAAL/OSHA) Air Monitoring, and OSHA Compliance Air Monitoring for Gross removal of</p> <p><b>WA#1</b> - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall</p> <p><b>1st Floor Living Room</b>, 7X2' Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft2</p> <p><b>2nd Floor Closet</b> Loose Sheet Flooring on Wood Substrate - 10 ft2</p> <p><b>Test Area(s) 1st Floor Two (2) Perimeter Wall(s)</b> Perform test area of removal of Asbestos Plaster on Stone, approximately 4X4' for Engineer determination of acceptable removal methods - 32 ft2</p> <p><b>1st and 2nd Floors Decontamination</b> Floor Surface Area of 1st and 2nd Floor Levels – 1,592.25 ft2 1st and 2nd Floors Decontamination will include the Cleanup and Decontamination of Rodent Feces – 1,592.25 ft2 On successful completion of the Major Spill Response the 2nd Floor will be Isolated from the remainder of the House as no further asbestos work exists.</p> <p><b>WA#2</b> - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster Wall(s) on Stone</p> <p><b>1st Floor Root Cellar</b> – 322 ft2 Demolition of Wood Shelving in 1st Floor Root Cellar (embedded in Plaster) – 11.5X4' X 3 sets</p> <p><b>WA#3</b> - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone</p> <p><b>1st Floor Kitchen and Bedroom 2</b> - 1,048 ft2 Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high</p> <p><b>WA#4</b> - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone</p> <p><b>1st Floor Living Room, Bedroom 1, and Stairwell</b> – 1,612 ft2</p> <p><b>WA#5</b> - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s)</p> <p><b>Exterior, South Alcove</b> Roofing, Debris, and Associated 2" of Soil – 10 ft2 Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3' from foundation.</p>
05/23/18	*	Commenced (MAAL/OSHA) Air Monitoring
	*	Completed (MAAL/OSHA) Air Monitoring
	*	Completed (MAAL/OSHA) Air Monitoring PCM analysis-All Work Area samples below AQCC MAAL, <=0.01 f/cc/OSHA 1926.1101, EL <1.0 f/cc, PEL <0.10 f/cc, where regulated, unless otherwise noted as follows: NA



**HERRON**™ Enterprises USA, Inc.

Hazardous Materials\*Mold\*Asbestos\*Lead Paint  
Environmental Services\*Industrial Hygienists

Phone (303) 763 9639

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E-Mail [Lennie.Herron@comcast.net](mailto:Lennie.Herron@comcast.net)

Website [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

**FIELD REPORT & OBSERVATIONS**

Client: Boulder County  
Client Contact: Michael Lohr  
Order No.: SOQ #6673-17  
Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 /  
Boulder County  
Date of Assignment: 05/23-24/18  
Assignment: Environmental Consultation/Asbestos Services  
HERRON™ Project No.: 0421178.5  
Date of Report: 05/24/18

DATE	TIME	SUMMARY OF EVENTS
	*	Advised results
05/24/18	*	Field documentation completed and report distributed (refer to distribution)

Note: \*Refer to daily project memo for complete details of events.



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Website [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

## FLOOR PLANS/SITE PHOTOGRAPHS

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/23-24/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.5  
 Date of Report: 05/24/18

### Photo Log



20180523\_084658



20180523\_084651



20180523\_084653



20180523\_084655



20180523\_142008



20180523\_142025



20180523\_142041



20180523\_142409



20180523\_142418



20180523\_142420



20180523\_141918



20180523\_141921



20180523\_141924



20180523\_141925



20180523\_141930



20180523\_142001



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**FLOOR PLANS/SITE PHOTOGRAPHS**

Client: Boulder County  
Client Contact: Michael Lohr  
Order No.: SOQ #6673-17  
Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
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**Photo Log**





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**FLOOR PLANS/SITE PHOTOGRAPHS**

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**Photo Log**

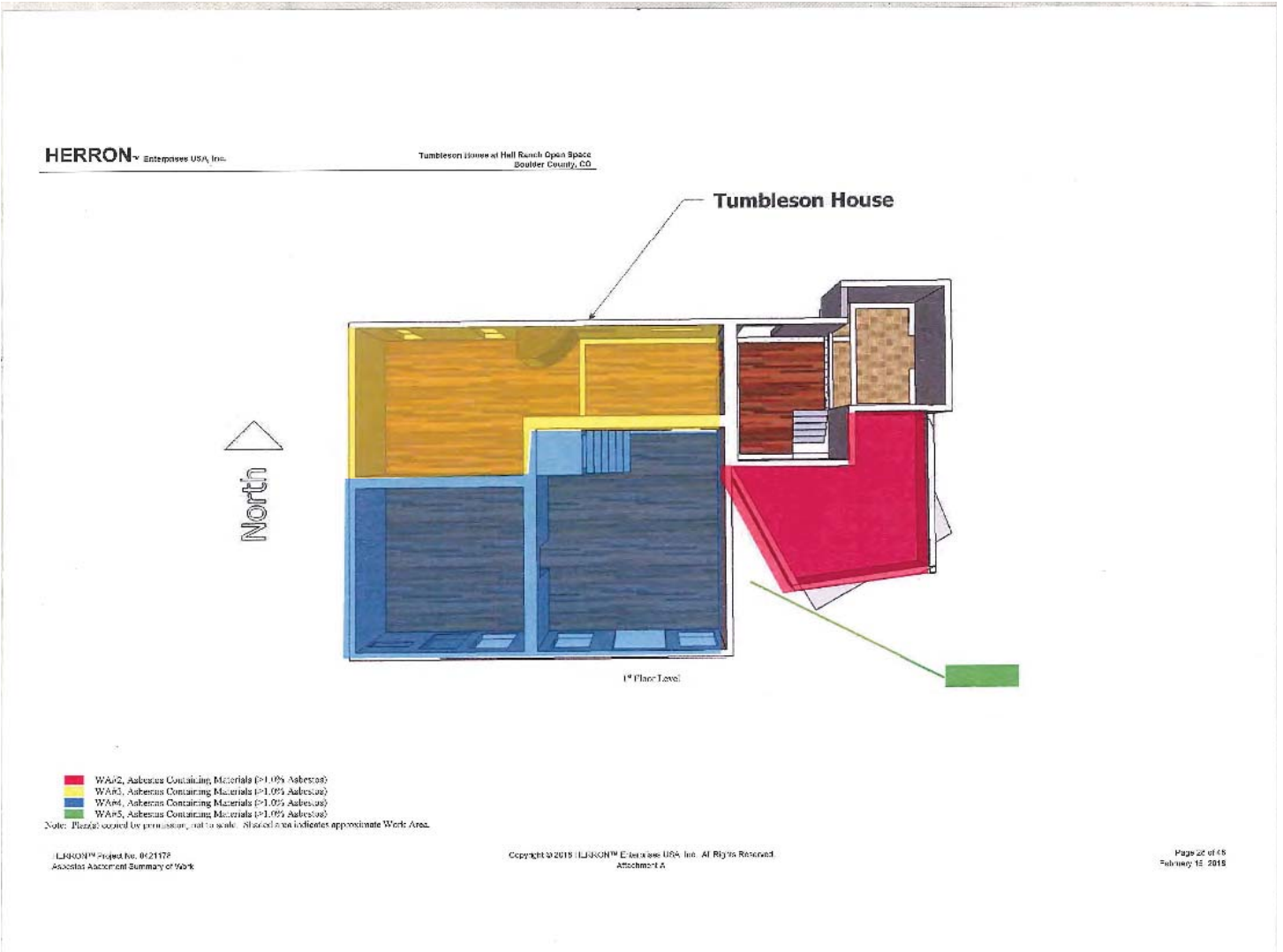




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 HERRON™ Project No.: 0421178.5  
 Date of Report: 05/24/18

**(MAAL/OSHA) Air Monitoring**





## AQCC REG. NO. 8 ASBESTOS ABATEMENT INSPECTION FORM COMPLIANCE CHECKLIST AND INFORMATION

Colorado Dept. of Public Health  
and Environment  
APCD-IE-B1  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
Phone: 303-692-3100  
Fax: 303-782-0278

Project(s) Address: <b><u>Tumbleson House at Hall Ranch Open Space, Boulder County, CO</u></b>		Project(s) Permit #: 18BO2912A	
Project(s) start date: May 17, 2018		Project(s) completion date: June 04, 2018	
Inspector(s): LP (Lennie) Herron/#2572 (AMS/PM - ___) Billie J. Herron/#2650 (AMS/PM - <u>X</u> ) Jamie L. Herron-Carson/#2649 (AMS/PM - ___) Sherri K. Herron/#8728 (AMS/PM - ___) Michael W. Herron, Sr./#13788 (AMS/PM - ___)		Inspection Date: 05/23/18	
Current Abatement Phase:	<input checked="" type="checkbox"/> Pre	<input type="checkbox"/> Active	<input type="checkbox"/> Post
More than one phase/project?		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Comments:			

**Types(s) and total quantity of ACM removed/to be removed\* as reported by the abatement contractor:**

Pipe Insulation*:	Fireproofing:	Spray-on:
Ceiling Tile:	Boiler Insulation:	VAT:
Transite:	<b>Other (describe):</b> <ul style="list-style-type: none"> <li>Rodent Feces – 1,592.25 ft<sup>2</sup></li> <li>Miscellaneous Material = 20 ft<sup>2</sup></li> <li>Surfacing Material = 2,982 ft<sup>2</sup></li> </ul>	

\*Pipe insulation is reported in lineal feet, all other materials including ductwork are reported in square footage regardless of the thickness of the ACM. If reporting in 55-gallon drums, note square footage or linear footage area to be removed.

**List of ALL abatement workers in containment today:**

#	NAME	SSN OR REC. #	AHERA / STATE / PHYSICAL / FIT TEST
1	SEE ATTACHED		/ / /
<b>COMMENTS:</b>			

**Note: Responses to the Description of Citation is indicated by the anticipation of the day, with the default as X = OK / Vio. / N/A. Should the response differ, cross-out will appear and appropriate response indicated.**

**PART I – SECTION A - OUTSIDE WORK AREA(S) – CERTIFICATION AND PERMIT/NOTIFICATION REQUIREMENTS, ETC.**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
16	II.A.2	All training certs./documents on site - with <b>photo IDs</b> ?	X		
26	II.J	Project Manager - credentials ok (certified as PD, completed AMS training, HS diploma, 1 yr. Experience, independent)?			X
29	III.B.1.a & III.B.4	On-site supervisor state certified?	X		
29	III.B.1.b & III.B.4	All workers on site trained/certified?	X		
30	III.B.5	Air Monitoring Spec. trained and certified? Note - this requirement may apply during pre-and active abatement phases, e.g. monitoring NAM exhaust inside a building or checking for the "MAAL".	X		
30	III.B.6	Project Manager required (>1,000 LF/>3000SF of friable) Note: Not required in schools.			X
30	III.C.1	Project Design required (>1,000 LF/>3000SF in P&C) (>3 LF/>3SF in Schools)	X		
31	III.C.4	Project Design on the site and signed?	X		
31	III.E.1	No false, inaccurate, or misleading information?	X		
33	III.F	If a variance has been granted for any work practice(s); <b>are the conditions of this variance being followed?</b>			X
34	III.G	Permit Valid (i.e. start/stop dates)?	X		
35	III.G.4	ORIGINAL permit posted at work site?	X		
36	III.G.8	Permit signed by Project Manager?			X

**COMMENTS ON PART I – SECTION A:**

**PART I – SECTION B – OUTSIDE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
37	III.J.1.a	Negative Air Machines (NAMs) operating continuously?	X		
37 & 52	III.J.1.d & III.U.1.b.i	NAMs monitored if exhausted inside the building?	X		
37	III.J.3	-0.02" H <sub>2</sub> O or better on Manometer?		X	
37	III.J.3	Continuous printout on Manometer?	X		
37	III.J.4	Smoke tubes present?	X		
37	III.J.4	Air flow - outside to inside ok?	X		
38	III.K.1	All chambers separated by airlocks?	X		
38	III.K.1	Decon Unit - 3 stages?	X		
38	III.K.1	Self-closing flaps/doors? (Z flaps are preferable, but not required)	X		
38	III.K.1.a	Clean room - adequately sized?	X		
38	III.K.1.b	Shower - hot and cold water at the tap?	X		
38	III.K.1.b	Shower – leakage anywhere but the supply connection?	X		
38	III.K.1.b	Shower - wastewater filtered to 5 microns or less, sanitary sewer discharge?	X		
38	III.K.1.b	Shower and Clean room - ACM debris present?	X		
39	III.K.2	Entry and exit procedures ok?	X		
41	III.N.2	View port present (at minimum 12"x12")?	X		
41	III.N.3	Waste load out separate from Decon?	X		
41	III.N.3	Waste load out - 2 stages?	X		

**COMMENTS ON PART I – SECTION B:** PRESSURE DIFFERENTIAL STILL BEING ADDRESSED VIA INSTALLATION OF CRITICAL BARRIERS AND ADDITIONAL NEGATIVE AIR MACHINES – CORRECTED BY ADDING A 4<sup>TH</sup> NEGATIVE AIR MACHINE AND SEALING EXTERIOR PENETRATIONS AT THE ROOF LINE.

**PART II – INSIDE THE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
36	III.I	Critical barriers - 1 layer 6 mil?	X		
36	III.J.1.b	Air cleaning equipment - HEPA filters properly installed, equipment operating, maintained adequately, etc.?	X		
37	III.J.2	Adequate equipment in place to ensure 4 air changes per hour?	X		
38	III.K.1.c	6 mil disposal bag present in Dirty Room?	X		
39	III.K.2.b	Disposable clothing worn by workers?	X		
39	III.L	Pre-cleaning - criticals and decon, HEPA vacs, wet cleaning, proper disposal?	X		
39	III.L.1	Movable objects cleaned before removal from the work area?	X		
39	III.M	Fixed objects - 1 layer 6 mil?	X		
40	III.N.1.a	Floors - 2 separate layers 6 mil?	X		
40	III.N.1.a, b, & c	No seams present (wall/floor, wall/ceiling, 12" overlap)?	X		
40	III.N.1.b	Walls - 2 separate layers 4 mil?	X		
40	III.N.1.c	Ceilings - 1 layer 4 mil?	X		
41	III.O.1.a.i.(A)	Amended water being used (surfactants) before ACM is removed?	X		
41	III.O.1.a.i.(A)	Are the surfactants a commercial product designed specifically for ACM removal?	X		
41	III.O.1.a.i.(A)	Material adequately wet and/or kept wet until bagged for disposal?	X		
42	III.O.1.a.i.(B)	Airless sprayers used for applying amended water or encapsulant?	X		
42	III.O.1.a.iii	All contaminated surfaces wet-wiped prior to disassembly of containment barriers?	X		

**COMMENTS ON PART II:**

**PART III – SECTION A –SPECIAL PROJECTS, RESILIENT FLOOR TILE**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
31	III.E.1	Notice posted at the worksite?			X
46	III.R.	Waste handled as nonfriable waste?			X
114	Appendix B	Appendix B, Amended water being used?			X
114	Appendix B	Appendix B, Hand tools only?			X
48	III.S.1	Appendix B, Proper handling and packaging of tiles/adhesives?			X
48	III.S.1	Voluntarily using splashguards, critical, negative air, and decon?			X
48	III.S.1.c	Is the material being rendered friable?			X

**COMMENTS ON PART III, SECTION A:**

**PART III – SECTION B –SPECIAL PROJECTS, SHEET VINYL FLOORING**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
34	III.E.1	Notice/Permit posted at the worksite?			X
46	III.R.	Waste handled as friable waste?			X
48	III.S.1.c	Is the material being rendered friable?			X
48	III.S.1.d.	Worker(s)/Supervisor(s) trained according to Appendix C?			X
48	III.S.2	Appendix B, Amended water being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Hand tools only being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Proper handling and packaging of sheet flooring being used by only App. C trained workers?			X
107	Appendix B	Appendix B, Proper wetting at the delaminating nip point being used by only App. C trained workers?			X
48	III.S.2	Voluntarily using splashguards, critical, negative air, and decon?			X

**COMMENTS ON PART III, SECTION B:**


**PART III – SECTION C –SPECIAL PROJECTS, NONFRIABLE ACM**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
49	III.S.4.a.	ACM adequately wet?			X
49	III.S.4.b.	Hand removal methods being used?			X
49	III.S.4.c.	Minimal breakage and disturbance?			X
49	III.S.4.d.	Material properly disposed of as nonfriable waste?			X

**COMMENTS ON PART III, SECTION C:**


**PART IV – SPECIAL REMOVAL METHODS, GLOVEBAGS AND FACILITY COMPONENT REMOVAL**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
53	III.V.1	Glove bags - proper usage (useable without causing fiber release)?			X
53	III.V.1.a	Glove bags - properly sealed to the area, no bottom seam?			X
53	III.V.1.b	Glove bags - pipes cooler than 150°F?			X
53	III.V.1.c	Glove bags used only once?			X
53	III.V.1.d.i	Glove bags - secondary containment(s) in place if removal > 3LF/SF?			X
54	III.V.1.d.ii	Glove bags - smoke tested prior to use?			X
54	III.V.1.d.iv	Glove bags - material in bags adequately wet?			X
54	III.V.1.d.vi	Glove bags - "rough" edges encapsulated?			X
54	III.V.1.d.vii	Glove bags - evacuated with HEPA vac prior to removing the bag?			X
54	III.V.2	Facility component removal - w/o containment, material well adhered to surface?			X
54	III.V.2.a	Facility component removal - adequately wet and wrapped in 6 mil poly prior to removal from the work area?			X

**COMMENTS ON PART IV:**


### PART V – MAJOR SPILLS

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
50	III.T.1.	Spill properly characterized (air sampling, tape sampling, microvac sampling)?	X		
50	III.T.1.a.	Area immediately sealed off?	X		
50	III.T.1.b	Air handling system shut down or modified to prevent further disturbance?	X		
50	III.T.1.c.	Division properly notified by phone and requirement(s) of subsection III.E. fulfilled?	X		
50	III.T.1.e.	Area sealed off and negative pressure established in accordance with III.J.	X		
50	III.T.1.e.	Certified personnel in accordance with section II performing work?	X		
50	III.T.1.j	Final clearance air monitoring performed in accordance with subsection III.P.	X		

**COMMENTS ON PART IV:**

**NOTE: WORK AREA #1 ONLY – COMPLETE 05/22/18**


### PART VI – WASTE HANDLING REQUIREMENTS (WASTE STORAGE AREA)

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
47	III.R.1	6 mil or greater bags?	X		
46	III.R.2.a	Containers - material adequately wet in bags?	X		
46	III.R.2.a	No breakage, rupture or leakage?	X		
47	III.R.2.b	Proper warning labels on bags?	X		
47	III.R.2.d	Visible emissions – anywhere on job site?	X		
47	III.R.2.f	All waste water filtered to 5 microns AND discharged to a <b>sanitary sewer</b> ?	X		
47	III.R.3	Are ACWM bags labeled with generator labels in accordance with 40 CFR 61.150?	X		
47	III.R.3	Are appropriate waste shipment records being maintained (40 CFR 61.150)?	X		
47	III.R.3	Transport to a proper disposal site?	X		
47	III.R.3	Waste storage vehicles placard during loading/storage at job site?	X		

**COMMENTS ON PART V:**






---

**From:** sam.kloser@state.co.us on behalf of Asbestos - CDPHE, cdphe  
<cdphe.asbestos@state.co.us>  
**Sent:** Wednesday, May 30, 2018 10:39 AM  
**To:** LP (Lennie) Herron  
**Subject:** Re: FW: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County

Lennie,

The modification was approved. I am the only one here at the moment so I will not have time to call to discuss further. Feel free to send me an email if you like and I can get back to you that way.

Regards,

Sam

**Permit Coordinator**

Asbestos Unit  
Indoor Environment Program  
Colorado Department of Public Health and Environment  
P 303-692-3100 | F 303-782-0278  
4300 Cherry Creek Drive South, Denver, CO 80246-1530  
[cdphe.asbestos@state.co.us](mailto:cdphe.asbestos@state.co.us) | [www.colorado.gov/cdphe/asbestos](http://www.colorado.gov/cdphe/asbestos)



**COLORADO**  
**Air Pollution Control Division**  
Department of Public Health & Environment



As of January 1, 2017, the Indoor Environment Program will not accept incomplete forms for certification, abatement or demolition. Any application with missing information may result in longer processing times or the application may be returned to you which will restart the required notification period. Please note that all submissions must be completed using forms supplied by the Division. If you need assistance, please refer to: <https://www.colorado.gov/pacific/cdphe/asbestos-forms> or <https://www.colorado.gov/pacific/cdphe/certification-and-lead-abatement-forms> or contact the Indoor Environment Program at [303-692-3100](tel:303-692-3100).

On Wed, May 30, 2018 at 6:10 AM, LP (Lennie) Herron <[Lennie.Herron@comcast.net](mailto:Lennie.Herron@comcast.net)> wrote:

Thanks in advance,

L.P. (Lennie) Herron, Industrial Hygienist  
President & CEO  
HERRON™ Enterprises USA, Inc.

7261 W. Hampden Ave., Lakewood, CO 80227-5305  
Cell (720) 339-5792

(303) 763-9639 / Fax (303) 763-9686

Email: [Lennie.Herron@comcast.net](mailto:Lennie.Herron@comcast.net)

Website: [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

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---

**From:** LP (Lennie) Herron [mailto:[Lennie.Herron@comcast.net](mailto:Lennie.Herron@comcast.net)]  
**Sent:** Tuesday, May 29, 2018 5:44 PM  
**To:** Sam Kloser <[sam.kloser@state.co.us](mailto:sam.kloser@state.co.us)>; Curtis Burns <[curtis.burns@state.co.us](mailto:curtis.burns@state.co.us)>  
**Cc:** David W. Starks <[dstarks@oakenvironmental.net](mailto:dstarks@oakenvironmental.net)>; Allen Gallogly <[agallogly@oakenvironmental.net](mailto:agallogly@oakenvironmental.net)>; 'Billie J. Herron' <[Billie-Lusk@comcast.net](mailto:Billie-Lusk@comcast.net)>; 'Christy Herron' <[Christy.Herron@comcast.net](mailto:Christy.Herron@comcast.net)>; 'Destiny M. Herron' <[HERRONAdmin@comcast.net](mailto:HERRONAdmin@comcast.net)>  
**Subject:** 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County

Sam Kloser, Curtis Burns,

After discussions with the Owner Boulder County, attempted a conference call with David Starks, leaving Sam Kloser a message 2:04 PM (Curtis Burns message, out for a few days) to discuss the variance request.

Oak Environmental has re-evaluated the methods to remove the finish coat(s) from the mortar-like material, and will use hand methods as opposed to using a low pressure surface blasting system with water connections.

Please give us a call as soon as possible to further discuss (720) 339-5792.

Thanks in advance,

L.P. (Lennie) Herron, Industrial Hygienist  
President & CEO  
HERRON™ Enterprises USA, Inc.

7261 W. Hampden Ave., Lakewood, CO 80227-5305  
Cell (720) 339-5792

(303) 763-9639 / Fax (303) 763-9686

Email: [Lennie.Herron@comcast.net](mailto:Lennie.Herron@comcast.net)

Website: [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

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**From:** David Starks <dstarks@oakenvironmental.net>  
**Sent:** Wednesday, May 30, 2018 8:25 PM  
**To:** Lennie.Herron@comcast.net; Billie-Lusk@comcast.net; Allen Gallogly  
**Subject:** Fwd: Permit Modification for permit #18BO2912A

David Starks  
Oak Environmental, LLC

Begin forwarded message:

**From:** "Asbestos - CDPHE, cdphe" <[cdphe.asbestos@state.co.us](mailto:cdphe.asbestos@state.co.us)>  
**Date:** May 30, 2018 at 10:19:22 AM MDT  
**To:** David Starks <[dstarks@oakenvironmental.net](mailto:dstarks@oakenvironmental.net)>  
**Cc:** Allen Gallogly <[agallogly@oakenvironmental.net](mailto:agallogly@oakenvironmental.net)>  
**Subject:** Re: Permit Modification for permit #18BO2912A

Received and approved.

Thanks,

Sam

**Permit Coordinator**

Asbestos Unit  
Indoor Environment Program  
Colorado Department of Public Health and Environment  
P [303-692-3100](tel:303-692-3100) | F [303-782-0278](tel:303-782-0278)  
4300 Cherry Creek Drive South, Denver, CO 80246-1530  
[cdphe.asbestos@state.co.us](mailto:cdphe.asbestos@state.co.us) | [www.colorado.gov/cdphe/asbestos](http://www.colorado.gov/cdphe/asbestos)



**COLORADO**

**Air Pollution Control Division**

Department of Public Health & Environment



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On Tue, May 29, 2018 at 5:07 PM, David Starks <[dstarks@oakenvironmental.net](mailto:dstarks@oakenvironmental.net)> wrote:

CDPHE Coordinator/Sam,

Please find attached our permit modification for the Tumbleson House, project address 31271 S. St Vrain Drive, Lyons, CO.

Please contact me with any questions.

Thank you again,

David W. Starks

Oak Environmental, LLC

[dstarks@oakenvironmental.net](mailto:dstarks@oakenvironmental.net)

Office: 720-504-9973

Cell: 720-472-2349



---

**From:** David Starks <dstarks@oakenvironmental.net>  
**Sent:** Friday, June 1, 2018 9:59 AM  
**To:** Burns - CDPHE, Curtis; LP (Lennie) Herron  
**Cc:** Sam Kloser; Allen Gallogly; Billie J. Herron; Christy Herron; Destiny M. Herron  
**Subject:** RE: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County

Good morning Curtis,

I believe we have resolved this issue...

I have already submitted a modification changing the work practice to hand tool removal only.

Respectfully yours,

David W. Starks  
Oak Environmental, LLC  
[dstarks@oakenvironmental.net](mailto:dstarks@oakenvironmental.net)  
Office: 720-504-9973  
Cell: 720-472-2349



**From:** Burns - CDPHE, Curtis [mailto:curtis.burns@state.co.us]  
**Sent:** Friday, June 1, 2018 9:13 AM  
**To:** LP (Lennie) Herron <Lennie.Herron@comcast.net>  
**Cc:** Sam Kloser <sam.kloser@state.co.us>; David Starks <dstarks@oakenvironmental.net>; Allen Gallogly <agallogly@oakenvironmental.net>; Billie J. Herron <Billie-Lusk@comcast.net>; Christy Herron <Christy.Herron@comcast.net>; Destiny M. Herron <HERRONAdmin@comcast.net>  
**Subject:** Re: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County

Lennie,

I just left you a message, good luck on your state exams. Did we get this issue resolved or do we still need a conference call?

Best regards,

*Curtis Burns*

Field Operations Supervisor  
Indoor Environment Program  
P 303-692-3153 | F 303-782-0278  
4300 Cherry Creek Drive South, Denver, CO 80246-1530



**COLORADO**

**Air Pollution Control Division**

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On Tue, May 29, 2018 at 5:43 PM, LP (Lennie) Herron <[Lennie.Herron@comcast.net](mailto:Lennie.Herron@comcast.net)> wrote:

Sam Kloser, Curtis Burns,

After discussions with the Owner Boulder County, attempted a conference call with David Starks, leaving Sam Kloser a message 2:04 PM (Curtis Burns message, out for a few days) to discuss the variance request.

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Website: [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

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**From:** Burns - CDPHE, Curtis <curtis.burns@state.co.us>  
**Sent:** Friday, June 1, 2018 10:45 AM  
**To:** David Starks  
**Cc:** LP (Lennie) Herron; Sam Kloser; Allen Gallogly; Billie J. Herron; Christy Herron; Destiny M. Herron  
**Subject:** Re: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County

Thank you Dave.

*Curtis Burns*

Field Operations Supervisor  
Indoor Environment Program  
P 303-692-3153 | F 303-782-0278  
4300 Cherry Creek Drive South, Denver, CO 80246-1530  
[curtis.burns@state.co.us](mailto:curtis.burns@state.co.us) | [www.colorado.gov/cdphe/asbestos](http://www.colorado.gov/cdphe/asbestos)



**COLORADO**  
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I have already submitted a modification changing the work practice to hand tool removal only.

Respectfully yours,

David W. Starks

Oak Environmental, LLC

[dstarks@oakenvironmental.net](mailto:dstarks@oakenvironmental.net)

Office: 720-504-9973

Cell: 720-472-2349



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**Sent:** Friday, June 1, 2018 9:13 AM

**To:** LP (Lennie) Herron <[Lennie.Herron@comcast.net](mailto:Lennie.Herron@comcast.net)>

**Cc:** Sam Kloser <[sam.kloser@state.co.us](mailto:sam.kloser@state.co.us)>; David Starks <[dstarks@oakenvironmental.net](mailto:dstarks@oakenvironmental.net)>; Allen Gallogly <[agallogly@oakenvironmental.net](mailto:agallogly@oakenvironmental.net)>; Billie J. Herron <[Billie-Lusk@comcast.net](mailto:Billie-Lusk@comcast.net)>; Christy Herron <[Christy.Herron@comcast.net](mailto:Christy.Herron@comcast.net)>; Destiny M. Herron <[HERRONAdmin@comcast.net](mailto:HERRONAdmin@comcast.net)>

**Subject:** Re: 0421178, Tumbleson House at Hall Ranch, [31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County](#)

Lennie,

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*Curtis Burns*

Field Operations Supervisor

Indoor Environment Program

P 303-692-3153 | F 303-782-0278

[4300 Cherry Creek Drive South, Denver, CO 80246-1530](#)



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Thanks in advance,

L.P. (Lennie) Herron, Industrial Hygienist  
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[7261 W. Hampden Ave., Lakewood, CO](http://7261.W.Hampden.Ave.,Lakewood,CO) [80227-5305](tel:80227-5305)  
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Website: [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

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## Destiny M. Herron

---

**From:** Billie J. Herron <Billie-Lusk@comcast.net>  
**Sent:** Wednesday, June 6, 2018 10:54 AM  
**To:** 'Allen Gallogly'; 'David W. Starks'  
**Cc:** 'Barry Schook'; 'Carol Beam'; 'Michael Lohr'; 'Brian Bertin'; 'L. P. (Lennie) Herron'; 'Christy Herron'; 'Billie J. Herron'; 'Destiny M. Herron'  
**Subject:** 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
**Attachments:** 2018-5-31\_81837.pdf; 410210-1.pdf

### Designer Response

### Return Response Required/~~Not Required~~

#### Field Clarification;

1. As renovation direction may change on a daily basis, Designer Responses are given as field directives with client authorization, as they occur which may or may not be commented on outside of daily reports. Any daily report comments are considered incorporated to the Field Clarifications/Addenda (Summary of Work/Project Design), without further Designer response –
  - a. Information through June 05, 2018:
    - 1) Schedule;
      1. WA#3 and WA#4, Asbestos Abatement, Contractor will should be ready for final visual containment inspection and aggressive final clearance Monday 06/11/18;
      2. Boulder County has sampled the base coat(s) and determined the mortar-like material is negative for asbestos;
      3. Boulder County structural engineer has determined that the removal of the base coat(s) mortar-like material may cause structural issues therefore, instructed this material should be left in place (awaiting letter to forward to CDPHE);
      4. **Contractor needs advise whether a CDPHE approval is required to remove the finish coat(s) only. Please advise in writing, prior to scheduling the final visual containment inspection.**
    - 2) Should Employee Certification expire and not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.
    - 3) The GAC is to include the Designer on “any” modifications to the permit. Any schedule changes are considered incorporated to the Field Clarification without further Designer response.
    - 4) All designs, site visits, observations, visual inspections, and air monitoring will be performed by;
      1. HERRON™ Enterprises USA, Inc./ACF-14976 (01/30/19)
      2. Billie J. Herron-Lusk/Project Manager, Industrial Hygienist Technician, Certified Asbestos Designer, Inspector, AMS/2650 (11/27/18), (720) 339-6226
2. Note:
  - a. Refer to Project Memo(s).
  - b. All observations stated in this report are based on facts and circumstances as they existed during the time of the observations, and during the time period of this report preparation and as available within the limits of the mutually agreed upon Scope of Work, budget, and schedule. The observations in this report is not intended to be exhaustive in scope, and is considered an ongoing working document. HERRON™ reserves the right to modify the contents of this document, as necessary.

- c. As agreed, daily conversations are occurring, and daily reports will be on site for employee review. Hard copy will not be mailed as this correspondence constitutes delivery of the specified documents.
- d. Refer to Project Definitions below.

Please advise within an RFI if you have any questions.

Thanks in advance,

Billie J. Herron  
Project Manager  
HERRON™ Enterprises USA, Inc.  
7261 W. Hampden Ave., Lakewood, CO 80227-5305  
(303) 763 9639 / Fax (303) 763 9686  
Cell: (720) 339-6226  
Email: [Billie-Lusk@comcast.net](mailto:Billie-Lusk@comcast.net)  
Website: [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

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Asbestos

1. In regards to the results, Regulation 29 CFR 1910, 1926 –

[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=standards&p\\_id=9995](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9995)

[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_id=10862&p\\_table=standards](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=10862&p_table=standards)

A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL). In accordance with 29 CFR 1926, 1926.1101; 1926.1101(c)(1); 1926.1101(f)(1) Standard Interpretation Correct manner to interpret air sample measurements of an employee's asbestos exposure when the samples are overloaded [01/17/2006] [http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=INTERPRETATIONS&p\\_id=25295](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=25295);

*'...While monitoring an employee's exposure to an airborne contaminant, such as asbestos, occasionally samples are lost, damaged, overloaded, or are otherwise unusable. Analytical laboratories report such samples as "VOID," with a note of explanation. An overloaded asbestos air sample is one in which non-asbestos dust obscures some or all of the fibers on the filter and therefore makes it impossible to accurately determine the concentration of asbestos in the laboratory's microscopic analysis. Such samples should not be counted by an employer in TWA calculations of employee exposure. The use of a "zero" exposure result for such samples is inappropriate; it will underestimate the employee's true exposure. An employer has the responsibility to "accurately" determine his employee's exposure to asbestos... '.*

1926.1101(b) Definitions

Employee exposure means that exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

1926.1101(c)(2) Excursion limit

The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(c) Permissible exposure limits (PELS)

1926.1101(c)(1)

Time-weighted average limit (TWA). The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air as an eight (8) hour time-weighted average (TWA), as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(c)(2)

Excursion limit. The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of

thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(g)(2)(v)

Wherever the feasible engineering and work practice controls described above are not sufficient to reduce employee exposure to or below the permissible exposure limit and/or excursion limit prescribed in paragraph (c) of this section, the employer shall use them to reduce employee exposure to the lowest levels attainable by these controls and shall supplement them by the use of respiratory protection that complies with the requirements of paragraph (h) of this section.

2. In regards to the results, AQCC Regulation No. 8 –  
<http://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=7206&fileName=5> CCR 1001-10  
III.U.2. The Maximum Allowable Asbestos Level (MAAL)  
III.U.2.a. PCM - If PCM is used as the method of analysis the standard is 0.01 fibers per cubic centimeter of air (f/cc), which is equivalent to 10,000 fibers per cubic meter of air (f/m<sup>3</sup>).  
III.U.2.b. TEM - Where TEM is used as the method of analysis, the standard is 70 structures/millimeter<sup>2</sup> (s/mm<sup>2</sup>).
3. Laboratory certificates not included with this correspondence have not been received, will follow under a separate cover.
4. Legend: .8μ, 25mm MCE Filter Cassettes, Amb = Ambient, IWA = Inside Work Area, OWA = Outside Work Area, CR = Clean/Change Room, LO = Loadout, NAM = Negative Air Exhaust, Ex = Excursion, Per = Personnel, VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read, BDL = Below Detection Limit





Colorado Department  
of Public Health  
and Environment

# ASBESTOS/DEMOLITION NOTIFICATION and PERMIT MODIFICATION FORM

Submit form to:  
Permit Coordinator  
Colorado Dept. of Public Health  
and Environment  
APCD-IE-B1  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
Phone: 303-692-3100  
Fax: 303-782-0278  
asbestos@state.co.us

Name of Facility: Tumbleson House	Facility Location: 31271 S. St Vrain Drive, Lyons, CO 80540		
GAC/Consultant: Oak Environmental, LLC	Phone # (720) 472-2349	Fax #	
E-mail Address: dstarks@oakenvironmental.net		Permit Number (if already issued): 18BO2912A	

Please check the appropriate box(s) in A, B and C, as applicable:

- A. Upgrade to:  30-day permit     90-day permit     1-year permit
- B.  Request to cancel above notice/permit. (All but \$80 of the application fee will be returned. If you paid by check or money order, a state of Colorado Warrant will be mailed to the company appearing in the contractor box on the application. If you paid by credit card, a credit will be issued to the same account used to pay for the original application fee.)
- C. Change in:
- Supervisor: \_\_\_\_\_ Certification # \_\_\_\_\_
- A.M.S.: \_\_\_\_\_ Certification # \_\_\_\_\_
- Project Manager: \_\_\_\_\_ Certification # \_\_\_\_\_
- Start Date: \_\_\_\_\_  End Date: \_\_\_\_\_
- Work Times: \_\_\_\_\_  Disposal Site: \_\_\_\_\_  County: \_\_\_\_\_
- Additional Scope of work (include type of ACM, quantity, location in or on facility and work practices):

At the request of the client to avoid a change order to the contract, Oak Environmental will exclude 350 SF of non-asbestos containing materials from the basement scope and add 330 SF of already tested and known asbestos containing drywall located on the main level. Oak Environmental will also NOT be using the surface blasting system, but will instead use hand tool removal methods within the full containment. All work procedures will be in accordance with Colorado Regulation 8 Part B.

I certify that I am the person authorized to sign this modification on behalf of the General Abatement Contractor and that all statements made in this modification are, to the best of my knowledge, correct and complete. (Note: Making false statements on this application constitutes second-degree perjury as defined by 18-8-503 C.R.S., and is punishable by law.)

David Starks

5/29/2018

Authorized Representative Signature

Date

David Starks

Project Manager

Printed Name

Position or Title

**THIS BOX IS FOR CDPHE USE ONLY:**

Postmark or Hand Delivery Date:	Approved By:	Code:	
Form of Payment & #:	Permit #:	Record #:	Date Issued:

**David Starks**

---

**From:** sam.kloser@state.co.us on behalf of Asbestos - CDPHE, cdphe <cdphe.asbestos@state.co.us>  
**Sent:** Wednesday, May 30, 2018 10:19 AM  
**To:** David Starks  
**Cc:** Allen Gallogly  
**Subject:** Re: Permit Modification for permit #18BO2912A

Received and approved.

Thanks,

Sam

**Permit Coordinator**  
Asbestos Unit  
Indoor Environment Program  
Colorado Department of Public Health and Environment  
P 303-692-3100 | F 303-782-0278  
4300 Cherry Creek Drive South, Denver, CO 80246-1530  
[cdphe.asbestos@state.co.us](mailto:cdphe.asbestos@state.co.us) | [www.colorado.gov/cdphe/asbestos](http://www.colorado.gov/cdphe/asbestos)



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On Tue, May 29, 2018 at 5:07 PM, David Starks <[dstarks@oakenvironmental.net](mailto:dstarks@oakenvironmental.net)> wrote:

CDPHE Coordinator/Sam,

Please find attached our permit modification for the Tumbleson House, project address 31271 S. St Vrain Drive, Lyons, CO.

Please contact me with any questions.



June 5, 2018

**Subcontract Number:** NA  
**Laboratory Report:** RES 410210-1  
**Project # / P.O. #** P.O# 1644  
**Project Description:** Tumbleson House

Michael Lohr  
Boulder County Parks  
5201 St. Vrain Rd.  
Longmont CO 80503

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

**RES 410210-1** is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,



Brett S. Colbert for

Jeanne Spencer  
President

# RESERVOIRS ENVIRONMENTAL INC.

NVLAP Lab Code 101896-0

**TABLE: PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME**

RES Job Number: **RES 410210-1**  
 Client: **Boulder County Parks**  
 Client Project Number / P.O.: **P.O# 1644**  
 Client Project Description: **Tumbleson House**  
 Date Samples Received: **June 05, 2018**  
 Method: **EPA 600/R-93/116 - Short Report, Bulk**  
 Turnaround: **2 Hour**  
 Date Samples Analyzed: **June 05, 2018**

ND=None Detected  
 TR=Trace, <1% Visual Estimate  
 Trem/Act=Tremolite/Actinolite

Client Sample Number	Lab ID Number	L A Y E R	Physical Description	Sub Part (%)	Asbestos Content		Non-Fibrous Components (%)
					Mineral	Visual Estimate (%)	
HR-TH-MLR-W1	EM 2102142	A	Off white granular plaster	100	ND	Asbestos Fibrous Components (%)	100
HR-TH-MLR-W2	EM 2102143	A	Off white granular plaster	100	ND	Asbestos Fibrous Components (%)	100
HR-TH-SWR-W1	EM 2102144	A	Off white granular plaster	100	ND	Asbestos Fibrous Components (%)	100
HR-TH-SWR-W2	EM 2102145	A	Pink granular plaster	100	ND	Asbestos Fibrous Components (%)	100
HR-TH-SWR-W3	EM 2102146	A	Pink granular plaster	100	ND	Asbestos Fibrous Components (%)	100
HR-TH-NWR-W1	EM 2102147	A	Light pink granular plaster	100	ND	Asbestos Fibrous Components (%)	100
HR-TH-NWR-W2	EM 2102148	A	Light pink granular plaster	100	ND	Asbestos Fibrous Components (%)	100
HR-TH-K-CHIM PATCH	EM 2102149	A	White plaster	100	ND	Asbestos Fibrous Components (%)	100

TEM Analysis recommended for organically bound material (i.e. floor tile) if PLM results are <1%.

*Anita Grigg*  
 Anita Grigg  
*Michael Scales*  
 Michael Scales

Analyst / Data QA

Due Date: 10/5/18  
Due Time:



5001 Logan St. Denver, CO 80216 • Ph: 303-964-1986 • Fax 303-477-4275 • Toll Free 866-RES-ENV  
Pager: 303-509-2098

Job # **TUMBLESON**  
RES 410210

**INVOICE TO: (IF DIFFERENT)**

Company: <b>Boulder County Parks and Open Space</b>		Contact: <b>Michael Lohr</b>	
Address: <b>5201 St Vrain Rd. Longmont CO, 80503</b>		Phone: <b>970-481-1349</b>	
Project Number and/or P.O. #: <b>P.O.# 1644</b>		Fax:	
Project Description/Location: <b>TUMBLESON HOUSE</b>		Cell/pager:	
Final Data Deliverable Email Address: <b>mlahr@bouldercounty.org</b>		Cell/pager:	

PLEASE C.C. emails on attached sticky note

Client sample ID number (Sample ID's must be unique)	ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm		REQUESTED ANALYSIS		VALID MATRIX CODES		LAB NOTES:										
	PLM / PCM / TEM	RUSH (Same Day) / PRIORITY (Next Day) / STANDARD (Rush PCM = 2hr, TEM = 6hr.)	PLM - Short report, Long report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-vac, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable		METALS - Analyte(s) RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - METH	Salmonella +/- Listeria +/- Aerobic Plate Count +/- or Quantification E.coli +/- or Quantification Coliforms +/- or Quantification S.aureus +/- or Quantification Y & M +/- or Quantification Mold +/-, Identification, Quantification	SAMPLERS INITIALS OR OTHER NOTES	Sample Volume (L) / Area	Matrix Code	# Containers	Date Collected (mm/dd/yyyy)	Time Collected (hr/mm/arp)	EM Number (Laboratory Use Only)
1	HR-TH-MLR-W1		X														
2	" " W2		X														
3	HR-TH-SWR-W1		X														
4	" " W2		X														
5	" " W3		X														
6	HR-TH-NWR-W1		X														
7	HR-TH-NWR-W2		X														
8	HR-TH-K-CHIM PATCH		X														
9																	
10																	

Special Instructions: **\*\*Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.\*\***

Number of samples received: **8** (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: <b>Michael Lohr</b>	Date/Time: <b>6-5-18 12 PM</b>	Sample Condition: On Ice Sealed Intact
Laboratory Use Only	Date/Time: <b>10/5/18</b>	Temp. (F°) _____ Yes / No
Received By: <b>Michael Lohr</b>	Phone Email Fax	On Ice Sealed Intact
Results:	Phone Email Fax	Yes / No Yes / No
Contact	Date	Time
Contact	Date	Time

# Boulder County Parks & Open Space - Asbestos Sample ID Form

Please include w/ this form: floor plans w/ sample diagrams -- photographs of samples w/ ID tags -- Assessment of Friable/TSI materials

Property/Project: **Tumblesan** Date: **6-5-18**

Sample ID:	Description	Type (SM, TSI, M)	Friable? (Y/N)	Damage Assessment / Notes
HR-TH-MLB W1	Grey Plaster on Stone (From under top skim coat)	SM	Y	Severe damage
W2	" "	"	"	"
HR-TH-SWR-W1	" "	"	"	" "
W2	Brown Plaster	"	"	" "
W3	" "	"	"	" "
NWR-W1	" "	"	"	" "
W2	" "	"	"	" "
CHIM K PATCH	Previously Covered Patch of white compound on Chimney	"	"	" "

## Destiny M. Herron

---

**From:** Billie J. Herron <Billie-Lusk@comcast.net>  
**Sent:** Thursday, June 7, 2018 5:11 PM  
**To:** 'Michael Lohr'; 'Carol Beam'; 'Brian Bertin'; 'Barry Schook'; 'David Woodham'  
**Cc:** 'Allen Gallogly'; 'David W. Starks'; 'L. P. (Lennie) Herron'; 'Christy Herron'; 'Billie J. Herron'; 'Destiny M. Herron'  
**Subject:** 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
**Attachments:** Tumbleson House Abatement Recommended Change 5-25-18.pdf

Good afternoon,

Oak Environmental is in the process of coordinating with CDPHE the variance to leave the base coat(s) mortar-like material in place.

The attached engineer certification will be used in the variance request.

We are of the opinion that the mortar-like material will have to be encapsulated in order to receive the CDPHE approval. The material may not go airborne during the final clearance. Oak Environmental would use a clear encapsulant, which should lock the material in place.

Need your authorization to proceed.

Thanks in advance,

Billie J. Herron  
Project Manager  
HERRON™ Enterprises USA, Inc.  
7261 W. Hampden Ave., Lakewood, CO 80227-5305  
(303) 763 9639 / Fax (303) 763 9686  
Cell: (720) 339-6226  
Email: [Billie-Lusk@comcast.net](mailto:Billie-Lusk@comcast.net)  
Website: [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

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5/25/2018

Ms. Carol Beam  
Cultural Resource Specialist  
Boulder County Parks and Open Space  
5201 St. Vrain Road  
Longmont, CO 80503

Dear Ms. Beam:

I have been made aware of a changed condition regarding the plaster removal at the historic Tumbleson House near Lyons, Colorado. I spoke yesterday with Ms. Billie Herron, Project Manager with the company overseeing the ongoing asbestos abatement at the Tumbleson House. Ms. Herron informed me that the first layer of plaster (scratch coat), placed directly on the interior of the stone masonry walls, does not contain asbestos and asbestos is only in the finish plaster in the first approximately ¼ inch of the plaster on the walls. The difference in color between the two types of plasters is readily apparent.

Previously, the abatement contractor had been directed to remove all plaster to the interior surface of the stone masonry walls. It is my opinion that this practice is no longer necessary or desirable. First, this unnecessarily removes historic materials from the building that are not hazardous. Second, while the plaster is not a structural component of the stone masonry walls, it does serve to confine loose mortar and prevent further mortar loss from the walls.

I recommend the abatement procedures at the Tumbleson House be modified to abate only the plaster layers that contain asbestos.

Sincerely,

David B. Woodham, P.E.



---

**From:** Destiny M. Herron <HERRONAdmin@comcast.net>  
**Sent:** Friday, June 8, 2018 1:53 PM  
**To:** 'Michael Lohr'; 'Carol Beam'; 'Brian Bertin'  
**Cc:** 'Allen Gallogly'; 'David W. Starks'; 'L. P. (Lennie) Herron'; 'Christy M. Herron'; 'Billie J. Herron'; Destiny M. Herron  
**Subject:** 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
**Attachments:** 0421178.6, Daily Report, 05.24.18.pdf

## Project Update

In regards to the end of the shift:  
05/24/18 (Thursday)

1. Notifications –
  - a. Issues during the shift –
    - 1) No issues
  - b. Field Clarification
    - 1) Limited Asbestos Inspection –
      1. Various Materials
      2. During project, the Owner provided additional material inspections with the following results –
        - 1) Materials determined positive for Asbestos are
          1. Kitchen, drywall and compound SW corner  
T-K-SW1 EM 2094644  
A Pink/multi-colored paint 15 **ND** 0 100  
B Tan compound 15 **Chrysotile 3** 0 97  
C White compound w/ off white paint 20 **ND** 0 100  
D White/tan drywall 50 **ND** 45 55
          2. Kitchen, drywall and compound N wall near base trim  
T-K-N-W1 EM 2094642  
A Pink/multi-colored paint 10 **ND** 0 100  
B Tan compound 20 **Chrysotile 3** 0 97  
C White compound w/ light blue/multi-colored paint 25 **ND** 0 100  
D Tan/off white drywall 45 **ND** 45 55
        - 2) Materials determined negative for Asbestos are
          1. Root Cellar, plaster from E wall  
T-RC-EW-PLASTER EM 2094641  
A White plaster 5 **ND** 0 100  
B Tan granular plaster 95 **ND** 1 99
          2. Living Room, white patch of compound along crack  
T-LR-EW-Patch Wht EM 2094643  
A White compound 100 **ND** 0 100
          3. Living Room, pinkish patch that travels vertically up stone  
T-LR-EW-Patch PNK EM 2094645  
A Colorless adhesive 5 **ND** 0 100  
B Pink perlitic plaster 95 **ND** 0 100
          4. Living Room, plaster under the white skim coat  
TM-LR-EW-PLASTER EM 2094640  
A Colorless adhesive 10 **ND** 0 100  
B Off white granular plaster 90 **ND** 3 97
    - b. Laboratory Certificate – attached.
    - c. Required response action: Owner instruction;

- 1) WA#2, Asbestos Plaster Wall(s) on Stone, 1<sup>st</sup> Floor Root Cellar removed from scope of work as indicated in Field Clarification dated May 29, 2018.

<b>Boulder County Parks &amp; Open Space - Asbestos</b>			
Please include w/ this form: floor plans w/ sample diagrams -- photographs of samples w			
Property/Project: <u>Tumbleson House</u>			
Sample ID:	Description	Type (SM,TSI,M)	Friable (Y/N)
T-K-SW1	Drywall & compound - SW corner	SM	N
T-K-NW1	" " N. WALL Near BASE Trim	" "	" "
T-RC-EW PLASTER	Root Cellar plaster from E. WALL	SM	Y
T-LR-EW PATCHWHT	White patch of compound along crack	SM	Y
T-LR-EW PATCHPINK	Pinkish patch that travels vertically up stone	SM	Y
T-LR-EW PLASTER	PLASTER under the white skim coat	SM	Y

2. Containment observation: Yes
  - a. In accordance with the Specifications and Regulations –

Awaiting Work Area(s) –

WA#1 - Enclosure Area(s)

Test Area(s) 1st Floor Two (2) Perimeter Wall(s), Perform test area of removal of Asbestos Plaster on Stone, approximately 4X4' for Engineer determination of acceptable removal methods - 32 ft<sup>2</sup>  
 1st and 2nd Floors Decontamination, Floor Surface Area of 1st and 2nd Floor Levels – 1,592.25 ft<sup>2</sup>

1st and 2nd Floors Decontamination will include the Cleanup and Decontamination of Rodent Feces – 1,592.25 ft<sup>2</sup>

On successful completion of the Major Spill Response the 2nd Floor will be Isolated from the remainder of the House as no further asbestos work exists.

1. Apply negative air to meet a criteria of -0.03”
  - a. Awaiting Setup

Awaiting Work Area(s) –

WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone

1st Floor Kitchen and Bedroom 2 - 1,048 ft<sup>2</sup>

Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high

1. Apply negative air to meet a criteria of -0.03”
  - a. Awaiting Setup

Awaiting Work Area(s) –

WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

1st Floor Living Room, Bedroom 1, and Stairwell – 1,612 ft<sup>2</sup>

1. Apply negative air to meet a criteria of -0.03”
  - a. Awaiting Setup

3. Structure Crack Monitoring –

- a. Surface mounted gauges will be visually observed twice daily after arrival of the first visit of the Engineer to determine if the existing cracks within the masonry are being impacted by the abatement
  - 1) AM
    1. W1 – West Side, North End – 1.0 mm
    2. W2 – West Side, South End – 1.0 mm
    3. S1 – South Side, East End – 0.5 mm
    4. E1 – East Side, Center – 1.0 mm
  
4. Asbestos Air Monitoring –
  - a. Pre-abatement monitoring with the following preliminary results –
    - 1) WA#3, #4
    - 2) Awaiting Setup
  
5. Daily Contractor Submittals Received (sign in sheets, daily logs, entry/exit logs, special reports) –
  - a. 05/24/18 – not received – submit
  - b. 05/23/18 – not received – submit
  - c. 05/22/18 – not received – submit
  - d. 05/21/18 – not received – submit
  - e. 05/18/18 – not received – submit
  - f. 05/17/18 – not received – submit
  - g. 05/17/18 – mobilization 05/17/18 7:30 AM MST
    - 1) Contractor Project Directory –
      1. Note: Should Employee not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.
  
6. Work Areas completed –
  - a. WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (PCM Clearance Passed 05/22/18)
 

1st Floor Living Room, 7X2’ Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft<sup>2</sup>

2nd Floor Closet, Loose Sheet Flooring on Wood Substrate - 10 ft<sup>2</sup>
  - b. WA#5 - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s) (Visual Passed 05/21/18)
 

Exterior, South Alcove Roofing, Debris, and Associated 2” of Soil – 10 ft<sup>2</sup>

Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3’ from foundation.
  
7. Punch list items completed –
  - a. Awaiting Completion
  
8. Notes:
  - a. Refer to Project Memo(s).
  - b. All observations stated in this report are based on facts and circumstances as they existed during the time of the observations, and during the time period of this report preparation and as available within the limits of the mutually agreed upon Scope of Work, budget, and schedule. The observations in this report is not intended to be exhaustive in scope, and is considered an ongoing working document. HERRON™ reserves the right to modify the contents of this document, as necessary.
  - c. As agreed, daily conversations are occurring, and daily reports will be on site for employee review. Hard copy will not be mailed as this correspondence constitutes delivery of the specified documents.
  - d. Refer to Project Definitions below.

Please advise within an RFI if you have any questions.

Thanks in advance,

Destiny M. Herron  
Administrative Assistant  
HERRON™ Enterprises USA, Inc.  
7261 W. Hampden Ave., Lakewood, CO 80227-5305  
(303) 763-9639 / Fax (303) 763-9686  
Email: [HERRONAdmin@comcast.net](mailto:HERRONAdmin@comcast.net)  
Website: [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

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## Project Definitions:

### Asbestos

1. In regards to the results, Regulation 29 CFR 1910, 1926 –

[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=standards&p\\_id=9995](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9995)  
[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_id=10862&p\\_table=standards](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=10862&p_table=standards)

A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL). In accordance with 29 CFR 1926, 1926.1101; 1926.1101(c)(1); 1926.1101(f)(1) Standard Interpretation Correct manner to interpret air sample measurements of an employee's asbestos exposure when the samples are overloaded [01/17/2006]  
[http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=INTERPRETATIONS&p\\_id=2529](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=2529)  
5;

*'...While monitoring an employee's exposure to an airborne contaminant, such as asbestos, occasionally samples are lost, damaged, overloaded, or are otherwise unusable. Analytical laboratories report such samples as "VOID," with a note of explanation. An overloaded asbestos air sample is one in which non-asbestos dust obscures some or all of the fibers on the filter and therefore makes it impossible to accurately determine the concentration of asbestos in the laboratory's microscopic analysis. Such samples should not be counted by an employer in TWA calculations of employee exposure. The use of a "zero" exposure result for such samples is inappropriate; it will underestimate the employee's true exposure. An employer has the responsibility to "accurately" determine his employee's exposure to asbestos... '.*

#### 1926.1101(b) Definitions

Employee exposure means that exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

#### 1926.1101(c)(2) Excursion limit

The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

#### 1926.1101(c) Permissible exposure limits (PELS)

##### 1926.1101(c)(1)

Time-weighted average limit (TWA). The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air as an eight (8) hour time-weighted average (TWA), as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

##### 1926.1101(c)(2)

Excursion limit. The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

##### 1926.1101(g)(2)(v)

Wherever the feasible engineering and work practice controls described above are not sufficient to reduce employee exposure to or below the permissible exposure limit and/or excursion limit prescribed in paragraph (c) of this section, the employer shall use them to reduce employee exposure to the lowest

levels attainable by these controls and shall supplement them by the use of respiratory protection that complies with the requirements of paragraph (h) of this section.

2. In regards to the results, AQCC Regulation No. 8 –  
<http://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=7206&fileName=5> CCR 1001-10  
III.U.2. The Maximum Allowable Asbestos Level (MAAL)  
III.U.2.a. PCM - If PCM is used as the method of analysis the standard is 0.01 fibers per cubic centimeter of air (f/cc), which is equivalent to 10,000 fibers per cubic meter of air (f/m<sup>3</sup>).  
III.U.2.b. TEM - Where TEM is used as the method of analysis, the standard is 70 structures/millimeter<sup>2</sup> (s/mm<sup>2</sup>).
3. Laboratory certificates not included with this correspondence have not been received, will follow under a separate cover.
4. Legend: .8μ, 25mm MCE Filter Cassettes, Amb = Ambient, IWA = Inside Work Area, OWA = Outside Work Area, CR = Clean/Change Room, LO = Loadout, NAM = Negative Air Exhaust, Ex = Excursion, Per = Personnel, VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read, BDL = Below Detection Limit



**HERRON**™ Enterprises USA, Inc.

Hazardous Materials\* Mold\* Asbestos\* Lead Paint  
Environmental Services\* Industrial Hygienists

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E-Mail [Lennie.Herron@comcast.net](mailto:Lennie.Herron@comcast.net)

Website [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

**ASBESTOS SERVICES**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/25-29/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.7  
 Date of Report: 05/29/18

**SUMMARY OF WORK**

Per Client request, and under the guidelines defined, HERRON™ Enterprises USA, Inc. has concluded the Environmental Consultation/Asbestos Service for friable and/or non-friable Asbestos Containing Material(s) at the aforementioned property.

Our Environmental Consultation/Asbestos Service report may include a Limited Asbestos Building Inspection, descriptions of Bulk, Dust, and/or Air Monitoring samples, their locations and analyses data, which have been obtained and analyses performed in accordance with local, state, and/or federal regulations.

For Calculation purposes of samples obtained by HERRON™, all results are expressed basis actual sampling duration, with courtesy 8 hours time weighted average calculations, based on the actual sampling duration. For Calculation purposes of samples submitted to HERRON™, all results are expressed basis actual sampling duration, as submitted by the Client. HERRON™ implies no warranty to the accuracy of the information or the samples submitted by the Client. In order to make exact determinations, the employer should calculate exact times based on containment sign-in/out sheets for TWA's, in accordance with current OSHA regulations.

All Miscellaneous Provisions, Terms and Conditions apply to all services provided as indicated in HERRON™ current Terms of Services.

Information and data which has been generated as a result of this Environmental Consultation/Asbestos Service will remain confidential and will not be released to any party without prior written authorization from Client(s) (refer to authorized distribution).

We appreciate the confidence which has been demonstrated by your continued patronage, and look forward to assisting you and your group should you have future needs of Environmental Consultation/Asbestos Services.

Sincerely,

Billie J. Herron-Lusk  
Project Manager  
HERRON™ Enterprises USA, Inc.



**FIELD REPORT & OBSERVATIONS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/25-29/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.7  
 Date of Report: 05/29/18

DATE	TIME	SUMMARY OF EVENTS
------	------	-------------------

05/17/18	----	<p>Requested to perform Baseline (MAAL/OSHA) Air Monitoring, Pre-Abatement Visual Containment(s) Inspection(s), Removal (MAAL/OSHA) Air Monitoring, Final Visual Containment(s) Inspection(s), Final Clearance (MAAL/OSHA) Air Monitoring, and OSHA Compliance Air Monitoring for Gross removal of</p> <p><b>WA#1</b> - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall</p> <p><b>1st Floor Living Room</b>, 7X2' Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft2</p> <p><b>2nd Floor Closet</b> Loose Sheet Flooring on Wood Substrate - 10 ft2</p> <p><b>Test Area(s) 1st Floor Two (2) Perimeter Wall(s)</b> Perform test area of removal of Asbestos Plaster on Stone, approximately 4X4' for Engineer determination of acceptable removal methods - 32 ft2</p> <p><b>1st and 2nd Floors Decontamination</b> Floor Surface Area of 1st and 2nd Floor Levels – 1,592.25 ft2 1st and 2nd Floors Decontamination will include the Cleanup and Decontamination of Rodent Feces – 1,592.25 ft2 On successful completion of the Major Spill Response the 2nd Floor will be Isolated from the remainder of the House as no further asbestos work exists.</p> <p><b>WA#2</b> - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster Wall(s) on Stone</p> <p><b>1st Floor Root Cellar</b> – 322 ft2 Demolition of Wood Shelving in 1st Floor Root Cellar (embedded in Plaster) – 11.5X4' X 3 sets</p> <p><b>WA#3</b> - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone</p> <p><b>1st Floor Kitchen and Bedroom 2</b> - 1,048 ft2 Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high</p> <p><b>WA#4</b> - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone</p> <p><b>1st Floor Living Room, Bedroom 1, and Stairwell</b> – 1,612 ft2</p> <p><b>WA#5</b> - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s)</p> <p><b>Exterior, South Alcove</b> Roofing, Debris, and Associated 2" of Soil – 10 ft2 Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3' from foundation.</p>
----------	------	--

05/25/18	*	Commenced (MAAL/OSHA) Air Monitoring
	*	Completed (MAAL/OSHA) Air Monitoring



**HERRON**™ Enterprises USA, Inc.

Hazardous Materials\*Mold\*Asbestos\*Lead Paint  
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Website [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

**FIELD REPORT & OBSERVATIONS**

Client: Boulder County  
Client Contact: Michael Lohr  
Order No.: SOQ #6673-17  
Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 /  
Boulder County  
Date of Assignment: 05/25-29/18  
Assignment: Environmental Consultation/Asbestos Services  
HERRON™ Project No.: 0421178.7  
Date of Report: 05/29/18

DATE	TIME	SUMMARY OF EVENTS
	*	Completed (MAAL/OSHA) Air Monitoring PCM analysis-All Work Area samples below AQCC MAAL, <=0.01 f/cc/OSHA 1926.1101, EL <1.0 f/cc, PEL <0.10 f/cc, where regulated, unless otherwise noted as follows: NA
	*	Advised results
05/29/18	*	Field documentation completed and report distributed (refer to distribution)

Note: \*Refer to daily project memo for complete details of events.





# HERRON™ Enterprises USA, Inc.

Hazardous Materials\* Mold\* Asbestos\* Lead Paint  
Environmental Services\* Industrial Hygienists

Phone (303) 763 9639

Fax (303) 763 9686

E-Mail [Lennie.Herron@comcast.net](mailto:Lennie.Herron@comcast.net)

Website [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

## FLOOR PLANS/SITE PHOTOGRAPHS

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/25-29/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.7  
 Date of Report: 05/29/18

### Photo Log



20180525\_075715



20180525\_075728



20180525\_075732



20180525\_075745



20180525\_080437



20180525\_080447



20180525\_080502



20180525\_080508



20180524\_144246



20180525\_075537



20180525\_075630



20180525\_075636



20180525\_075638



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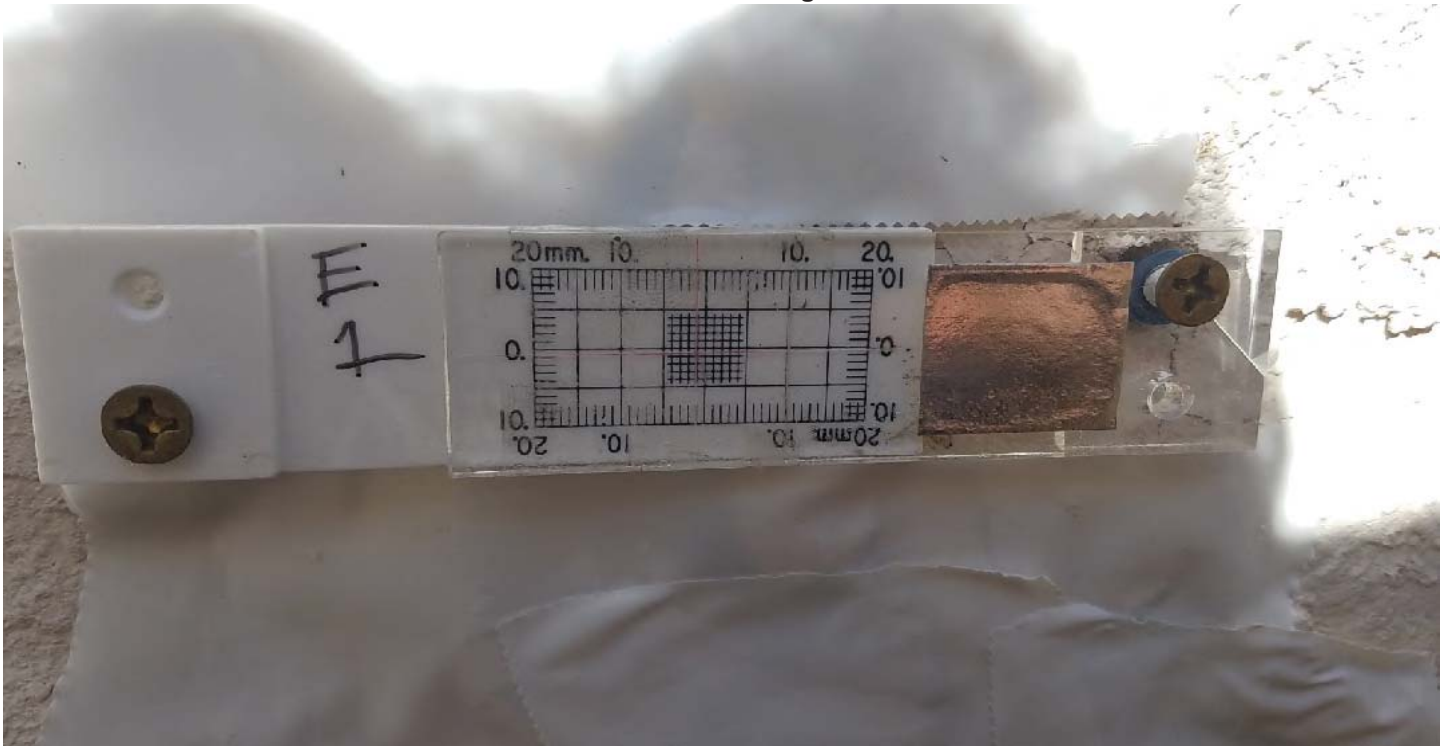
Website [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

**FLOOR PLANS/SITE PHOTOGRAPHS**

Client:	Boulder County
Client Contact:	Michael Lohr
Order No.:	SOQ #6673-17
Job Location:	0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County
Date of Assignment:	05/25-29/18
Assignment:	Environmental Consultation/Asbestos Services
HERRON™ Project No.:	0421178.7
Date of Report:	05/29/18

**Photo Log**

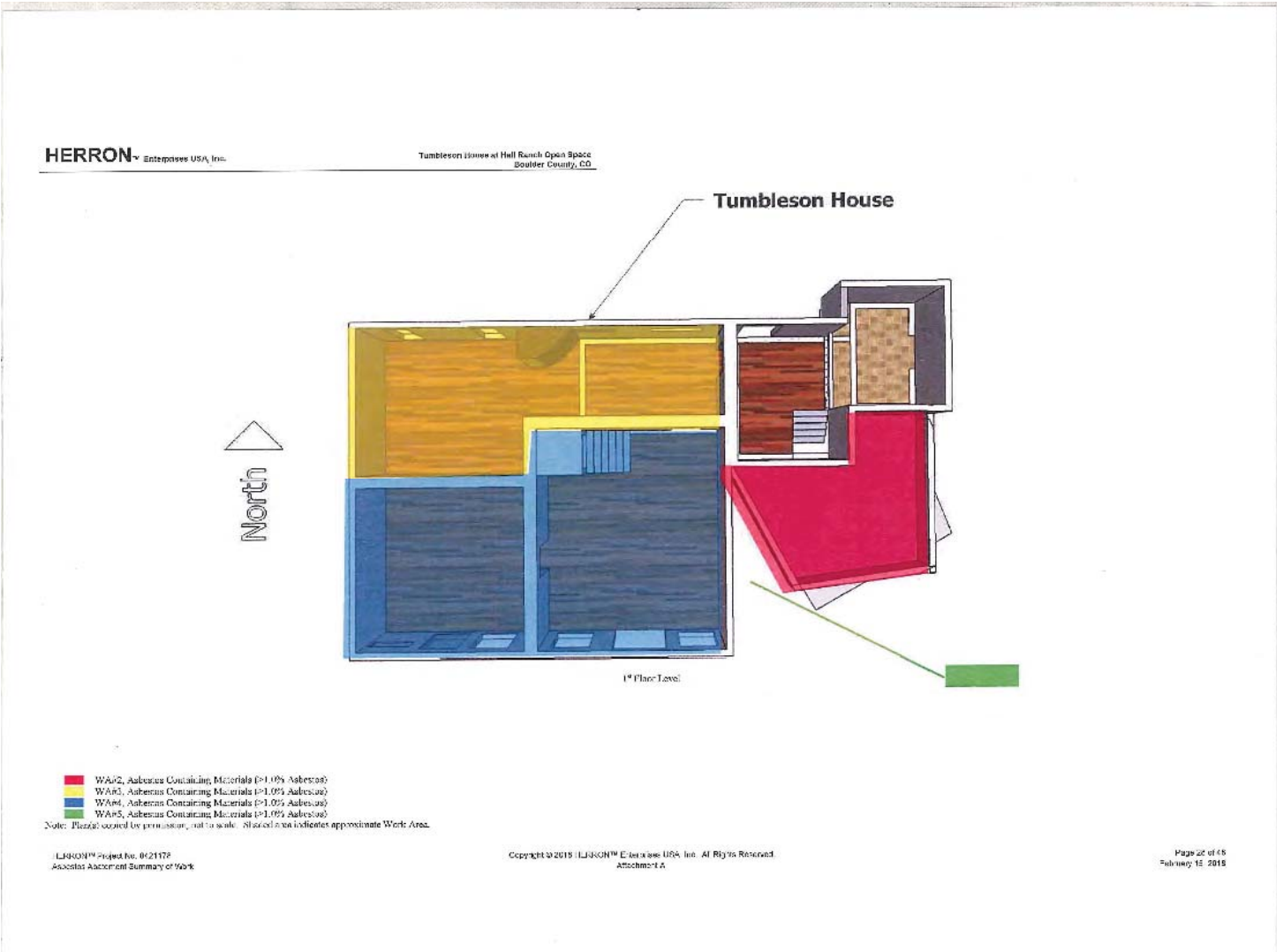




**FLOOR PLANS/SITE PHOTOGRAPHS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/25-29/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.7  
 Date of Report: 05/29/18

**(MAAL/OSHA) Air Monitoring**





# AQCC REG. NO. 8 ASBESTOS ABATEMENT INSPECTION FORM COMPLIANCE CHECKLIST AND INFORMATION

Colorado Dept. of Public Health  
and Environment  
APCD-IE-B1  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
Phone: 303-692-3100  
Fax: 303-782-0278

Project(s) Address: <b><u>Tumbleson House at Hall Ranch Open Space, Boulder County, CO</u></b>		Project(s) Permit #: 18BO2912A	
Project(s) start date: May 17, 2018		Project(s) completion date: June 04, 2018	
Inspector(s): LP (Lennie) Herron/#2572 (AMS/PM - ___) Billie J. Herron/#2650 (AMS/PM - <u>X</u> ) Jamie L. Herron-Carson/#2649 (AMS/PM - ___) Sherri K. Herron/#8728 (AMS/PM - ___) Michael W. Herron, Sr./#13788 (AMS/PM - ___)		Inspection Date: 05/24/18	
Current Abatement Phase:	<input checked="" type="checkbox"/> Pre	<input type="checkbox"/> Active	<input type="checkbox"/> Post
More than one phase/project?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments:			

**Types(s) and total quantity of ACM removed/to be removed\* as reported by the abatement contractor:**

Pipe Insulation*:	Fireproofing:	Spray-on:
Ceiling Tile:	Boiler Insulation:	VAT:
Transite:	<b>Other (describe):</b> <ul style="list-style-type: none"> <li>Rodent Feces – 1,592.25 ft<sup>2</sup></li> <li>Miscellaneous Material = 20 ft<sup>2</sup></li> <li>Surfacing Material = 2,982 ft<sup>2</sup></li> </ul>	

\*Pipe insulation is reported in lineal feet, all other materials including ductwork are reported in square footage regardless of the thickness of the ACM. If reporting in 55-gallon drums, note square footage or linear footage area to be removed.

**List of ALL abatement workers in containment today:**

#	NAME	SSN OR REC. #	AHERA / STATE / PHYSICAL / FIT TEST
1	SEE ATTACHED		/ / /

<b>COMMENTS:</b>

**Note: Responses to the Description of Citation is indicated by the anticipation of the day, with the default as X = OK / Vio. / N/A. Should the response differ, cross-out will appear and appropriate response indicated.**

**PART I – SECTION A - OUTSIDE WORK AREA(S) – CERTIFICATION AND PERMIT/NOTIFICATION REQUIREMENTS, ETC.**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
16	II.A.2	All training certs./documents on site - with <b>photo IDs</b> ?	X		
26	II.J	Project Manager - credentials ok (certified as PD, completed AMS training, HS diploma, 1 yr. Experience, independent)?			X
29	III.B.1.a & III.B.4	On-site supervisor state certified?	X		
29	III.B.1.b & III.B.4	All workers on site trained/certified?	X		
30	III.B.5	Air Monitoring Spec. trained and certified? Note - this requirement may apply during pre-and active abatement phases, e.g. monitoring NAM exhaust inside a building or checking for the "MAAL".	X		
30	III.B.6	Project Manager required (>1,000 LF/>3000SF of friable) Note: Not required in schools.			X
30	III.C.1	Project Design required (>1,000 LF/>3000SF in P&C) (>3 LF/>3SF in Schools)	X		
31	III.C.4	Project Design on the site and signed?	X		
31	III.E.1	No false, inaccurate, or misleading information?	X		
33	III.F	If a variance has been granted for any work practice(s); <b>are the conditions of this variance being followed?</b>			X
34	III.G	Permit Valid (i.e. start/stop dates)?	X		
35	III.G.4	ORIGINAL permit posted at work site?	X		
36	III.G.8	Permit signed by Project Manager?			X

**COMMENTS ON PART I – SECTION A:**


**PART I – SECTION B – OUTSIDE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
37	III.J.1.a	Negative Air Machines (NAMs) operating continuously?	X		
37 & 52	III.J.1.d & III.U.1.b.i	NAMs monitored if exhausted inside the building?	X		
37	III.J.3	-0.02" H <sub>2</sub> O or better on Manometer?		X	
37	III.J.3	Continuous printout on Manometer?	X		
37	III.J.4	Smoke tubes present?	X		
37	III.J.4	Air flow - outside to inside ok?	X		
38	III.K.1	All chambers separated by airlocks?	X		
38	III.K.1	Decon Unit - 3 stages?	X		
38	III.K.1	Self-closing flaps/doors? (Z flaps are preferable, but not required)	X		
38	III.K.1.a	Clean room - adequately sized?	X		
38	III.K.1.b	Shower - hot and cold water at the tap?	X		
38	III.K.1.b	Shower – leakage anywhere but the supply connection?	X		
38	III.K.1.b	Shower - wastewater filtered to 5 microns or less, sanitary sewer discharge?	X		
38	III.K.1.b	Shower and Clean room - ACM debris present?	X		
39	III.K.2	Entry and exit procedures ok?	X		
41	III.N.2	View port present (at minimum 12"x12")?	X		
41	III.N.3	Waste load out separate from Decon?	X		
41	III.N.3	Waste load out - 2 stages?	X		

**COMMENTS ON PART I – SECTION B:** PRESSURE DIFFERENTIAL STILL BEING ADDRESSED VIA INSTALLATION OF CRITICAL BARRIERS AND ADDITIONAL NEGATIVE AIR MACHINES – CORRECTED BY ADDING A 4<sup>TH</sup> NEGATIVE AIR MACHINE AND SEALING EXTERIOR PENETRATIONS AT THE ROOF LINE.



**PART II – INSIDE THE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
36	III.I	Critical barriers - 1 layer 6 mil?	X		
36	III.J.1.b	Air cleaning equipment - HEPA filters properly installed, equipment operating, maintained adequately, etc.?	X		
37	III.J.2	Adequate equipment in place to ensure 4 air changes per hour?	X		
38	III.K.1.c	6 mil disposal bag present in Dirty Room?	X		
39	III.K.2.b	Disposable clothing worn by workers?	X		
39	III.L	Pre-cleaning - criticals and decon, HEPA vacs, wet cleaning, proper disposal?	X		
39	III.L.1	Movable objects cleaned before removal from the work area?	X		
39	III.M	Fixed objects - 1 layer 6 mil?	X		
40	III.N.1.a	Floors - 2 separate layers 6 mil?	X		
40	III.N.1.a, b, & c	No seams present (wall/floor, wall/ceiling, 12" overlap)?	X		
40	III.N.1.b	Walls - 2 separate layers 4 mil?	X		
40	III.N.1.c	Ceilings - 1 layer 4 mil?	X		
41	III.O.1.a.i.(A)	Amended water being used (surfactants) before ACM is removed?	X		
41	III.O.1.a.i.(A)	Are the surfactants a commercial product designed specifically for ACM removal?	X		
41	III.O.1.a.i.(A)	Material adequately wet and/or kept wet until bagged for disposal?	X		
42	III.O.1.a.i.(B)	Airless sprayers used for applying amended water or encapsulant?	X		
42	III.O.1.a.iii	All contaminated surfaces wet-wiped prior to disassembly of containment barriers?	X		

**COMMENTS ON PART II:**

**PART III – SECTION A –SPECIAL PROJECTS, RESILIENT FLOOR TILE**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
31	III.E.1	Notice posted at the worksite?			X
46	III.R.	Waste handled as nonfriable waste?			X
114	Appendix B	Appendix B, Amended water being used?			X
114	Appendix B	Appendix B, Hand tools only?			X
48	III.S.1	Appendix B, Proper handling and packaging of tiles/adhesives?			X
48	III.S.1	Voluntarily using splashguards, critical, negative air, and decon?			X
48	III.S.1.c	Is the material being rendered friable?			X

**COMMENTS ON PART III, SECTION A:**

**PART III – SECTION B –SPECIAL PROJECTS, SHEET VINYL FLOORING**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
34	III.E.1	Notice/Permit posted at the worksite?			X
46	III.R.	Waste handled as friable waste?			X
48	III.S.1.c	Is the material being rendered friable?			X
48	III.S.1.d.	Worker(s)/Supervisor(s) trained according to Appendix C?			X
48	III.S.2	Appendix B, Amended water being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Hand tools only being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Proper handling and packaging of sheet flooring being used by only App. C trained workers?			X
107	Appendix B	Appendix B, Proper wetting at the delaminating nip point being used by only App. C trained workers?			X
48	III.S.2	Voluntarily using splashguards, critical, negative air, and decon?			X

**COMMENTS ON PART III, SECTION B:**


**PART III – SECTION C –SPECIAL PROJECTS, NONFRIABLE ACM**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
49	III.S.4.a.	ACM adequately wet?			X
49	III.S.4.b.	Hand removal methods being used?			X
49	III.S.4.c.	Minimal breakage and disturbance?			X
49	III.S.4.d.	Material properly disposed of as nonfriable waste?			X

**COMMENTS ON PART III, SECTION C:**


**PART IV – SPECIAL REMOVAL METHODS, GLOVEBAGS AND FACILITY COMPONENT REMOVAL**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
53	III.V.1	Glove bags - proper usage (useable without causing fiber release)?			X
53	III.V.1.a	Glove bags - properly sealed to the area, no bottom seam?			X
53	III.V.1.b	Glove bags - pipes cooler than 150°F?			X
53	III.V.1.c	Glove bags used only once?			X
53	III.V.1.d.i	Glove bags - secondary containment(s) in place if removal > 3LF/SF?			X
54	III.V.1.d.ii	Glove bags - smoke tested prior to use?			X
54	III.V.1.d.iv	Glove bags - material in bags adequately wet?			X
54	III.V.1.d.vi	Glove bags - "rough" edges encapsulated?			X
54	III.V.1.d.vii	Glove bags - evacuated with HEPA vac prior to removing the bag?			X
54	III.V.2	Facility component removal - w/o containment, material well adhered to surface?			X
54	III.V.2.a	Facility component removal - adequately wet and wrapped in 6 mil poly prior to removal from the work area?			X

**COMMENTS ON PART IV:**


**PART V – MAJOR SPILLS**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
50	III.T.1.	Spill properly characterized (air sampling, tape sampling, microvac sampling)?	X		
50	III.T.1.a.	Area immediately sealed off?	X		
50	III.T.1.b	Air handling system shut down or modified to prevent further disturbance?	X		
50	III.T.1.c.	Division properly notified by phone and requirement(s) of subsection III.E. fulfilled?	X		
50	III.T.1.e.	Area sealed off and negative pressure established in accordance with III.J.	X		
50	III.T.1.e.	Certified personnel in accordance with section II performing work?	X		
50	III.T.1.j	Final clearance air monitoring performed in accordance with subsection III.P.	X		

**COMMENTS ON PART IV:**

**NOTE: WORK AREA #1 ONLY – COMPLETE 05/22/18**


**PART VI – WASTE HANDLING REQUIREMENTS (WASTE STORAGE AREA)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
47	III.R.1	6 mil or greater bags?	X		
46	III.R.2.a	Containers - material adequately wet in bags?	X		
46	III.R.2.a	No breakage, rupture or leakage?	X		
47	III.R.2.b	Proper warning labels on bags?	X		
47	III.R.2.d	Visible emissions – anywhere on job site?	X		
47	III.R.2.f	All waste water filtered to 5 microns AND discharged to a <b>sanitary sewer</b> ?	X		
47	III.R.3	Are ACWM bags labeled with generator labels in accordance with 40 CFR 61.150?	X		
47	III.R.3	Are appropriate waste shipment records being maintained (40 CFR 61.150)?	X		
47	III.R.3	Transport to a proper disposal site?	X		
47	III.R.3	Waste storage vehicles placard during loading/storage at job site?	X		

**COMMENTS ON PART V:**


**PART VII – POST ACTIVE ABATEMENT REQUIREMENTS**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
19	II.D.	Is the AMS properly trained and certified? (Note: this requirement also pertains to "background air sampling" and sampling conducted near NAM exhausts if the NAMs are exhausted inside a building, i.e. sampling for the MAAL.)	X		
43	III.P	Is the AMS performing the final clearance procedures completely independent of the asbestos contractor?	X		
44	III.P.1	Work area reduced to only critical barriers in place?	X		
44	III.P.3.a.i	Aggressive sampling conducted pursuant to 40 CFR 763 Appendix A?	X		
44	III.P.3.a.i	Has all dust and debris been removed from the work area, including areas behind the critical barriers?	X		
45	III.P.3.b.ii	TEM air sampling - 1,199 liters of air drawn (25 mm cassette) and average of the required 5 samples is below 70 structures/mm <sup>2</sup> ?* Note: Required for schools if the project is >160 SF/260 LF.			X
45	III.P.3.b.iii	PCM air sampling – Sufficient amount of air drawn so the LOD is <0.01f/cc (25mm cassette) and each sample of 5 required samples is below 0.01 f/cc?* Note: Required for school is the project is >3 SF/>3LF but <160 SF/<260 LF.	X		
45	III.P.3.c.i	TEMs - lab properly accredited (by NIST)?			X
46	III.P.3.c.ii	PCMs - lab successfully participating in AIHA PAT program?	X		
46	III.P.3.c.ii	Satellite Labs - directly under the control of properly accredited "parent" lab pursuant to subclause III.P.3.c.i?	X		
46	III.P.3.c.ii	Satellite labs - proper procedures (NIOSH 7400 method) followed, and is the analyst properly trained pursuant to Section III.P.3.c.ii?	X		
53	III.U.3.b	MAAL, sample(s) outside containment >0.01 f/cc PCM?	X		
52 & 53	III.U.2.b & III.U.3.a	MAAL, if yes to above, re-analyzed TEM within 24 hours and/or area treated as a spill?			X
27	II.L.	Everyone performing consulting firm activities registered with CDPH&E?	X		

**\*There are two possible exceptions to these rules, see page 46 for details\***

**COMMENTS ON PART VI:**


**COMMENTS, GENERAL:**




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 Website [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)  
 7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

**PROJECT/LOCATION: 0421178, RFP#6648-17- Tumbleson House at Hall Ranch Open Space Asbestos Consulting Services / Boulder County**

CONTRACTOR Employees	On-Site Today?	AHERA Worker Expiration	State Worker Expiration	AHERA Supervisor Expiration	State Supervisor Expiration	Physical Expiration	Fit Test Expiration	Copy of All Certifications on Site?	State ID Card Displayed On-Site?	Certificate of Workers Acknowledgement	DATE REPORT NO	05/24/18	
												0421178. 6	* Authorized Employee in Work Area(s) at This Job Site Today?
Alma Mosqueda/#12109		03/03/19	04/27/19	NA	NA	04/16/19	02/20/19	*	*	*		*	Yes
Carlos Vandehorst/#22241	Yes	07/01/18	07/15/18	NA	NA	07/14/18	12/26/18	*	*	*		*	Yes
David Starks/#15640		NA	NA	08/25/18	09/18/18	02/02/19	05/09/19	*	*	*		*	Yes
Dylan Gallogly/#24196		NA	NA	12/22/18	01/04/19	01/08/19	01/09/19	*	*	*		*	Yes
Felipe Hernandez/#16523	Yes	03/17/19	04/19/19	NA	NA	04/14/19	04/20/19	*	*	*		*	Yes
Hector Salgado/#20974		03/03/19	06/29/18	NA	NA	04/24/19	04/03/19	*	*	*		*	Yes
Allen Gallogly/#21476	Yes	04/30/19	03/16/19	NA	NA	01/18/19	05/19/19	*	*	*		*	Yes
Juan Veloz/#10999	Yes	07/29/18	09/21/19	NA	NA	05/17/19	12/18/18	*	*	*		*	Yes
Adriana Jacobi-Uribe/#12893		02/03/19	05/24/18	NA	NA	06/01/18	06/01/18	*	*	*		*	No

9 4  
 Expired

Expired and/or Update Not Received:  
 \*Should Employee not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.  
 Legend of Documents not received by HERRON: 1, AHERA Certification, 2, State Certification, 3, Physical, 4, Fit Test, 5, Certificate of Worker's Acknowledgement.  
 Effectively, this document is published daily to include Employees which have signed in.

**ON-SITE DAILY SIGN-IN SHEET**

Date: 5/24/2018  
 Project Name: TUMBLESON HOUSE.  
 Job #: 18-026  
 Supervisor: Felipe Hernandez.

Name	Time In	Lunch Out	Lunch In	Time Out	Total Hours
Felipe Hernandez.	7:30	12:00	12:30	4:30	8
CARLOS VANBERHORST	7:30	12:00	12:30	4:20	8
JUAN VELOZ	7:30	12:00	12:30	4:20	8
Allen Gellosy	7:30	<del>12:00</del>	<del>12:</del>	4:30	8
Daily Total:					



May 24, 2018

**Subcontract Number:** NA  
**Laboratory Report:** RES 409331-1  
**Project # / P.O. #** PO# 1644  
**Project Description:** Tumbleson House

Michael Lohr  
Boulder County Parks  
5201 St. Vrain Rd.  
Longmont CO 80503

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

**RES 409331-1** is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

A handwritten signature in blue ink that reads "Brett S. Colbert". Below the signature is the printed name "Brett S. Colbert for".

Brett S. Colbert for

Jeanne Spencer  
President

# RESERVOIRS ENVIRONMENTAL INC.

NVLAP Lab Code 101896-0

**TABLE: PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME**

RES Job Number: RES 409331-1  
 Client: Boulder County Parks  
 Client Project Number / P.O.: PO# 1644  
 Client Project Description: Tumbleson House  
 Date Samples Received: May 24, 2018  
 Method: EPA 600/R-93/116 - Short Report, Bulk  
 Turnaround: 2 Hour  
 Date Samples Analyzed: May 24, 2018

ND=None Detected  
 TR=Trace, <1% Visual Estimate  
 Trem/Act=Tremolite/Actinolite

Client Sample Number	Lab ID Number	Physical Description	Sub Part (%)	Asbestos Content		Non-Fibrous Components (%)
				Mineral	Visual Estimate (%)	
TM-LR-EW-PLASTER	EM 2094640	A Colorless adhesive	10		ND	100
		B Off white granular plaster	90		ND	97
T-RC-EW-PLASTER	EM 2094641	A White plaster	5		ND	100
		B Tan granular plaster	95		ND	99
T-K-N-W1	EM 2094642	A Pink/multi-colored paint	10		ND	100
		B Tan compound	20	Chrysotile	3	97
T-LR-EW-Patch Wht	EM 2094643	C White compound w/ light blue/multi-colored paint	25		ND	100
		D Tan/off white drywall	45		ND	55
T-K-SW1	EM 2094644	A White compound	100		ND	100
		B Pink/multi-colored paint	15		ND	100
		C Tan compound	15	Chrysotile	3	97
		D White compound w/ off white paint	20		ND	100
		White/tan drywall	50		ND	55

TEM Analysis recommended for organically bound material (i.e. floor tile) if PLM results are <1%.



## RESERVOIRS ENVIRONMENTAL INC.

NVLAP Lab Code 101896-0

**TABLE: PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME**

RES Job Number: RES 409331-1  
 Client: Boulder County Parks  
 Client Project Number / P.O.: PO# 1644  
 Client Project Description: Tumbleson House  
 Date Samples Received: May 24, 2018  
 Method: EPA 600/R-93/116 - Short Report, Bulk  
 Turnaround: 2 Hour  
 Date Samples Analyzed: May 24, 2018

ND=None Detected  
 TR=Trace, <1% Visual Estimate  
 Trem/Act=Tremolite/Actinolite

Client Sample Number	Lab ID Number	L A Y E R	Physical Description	Sub Part (%)	Asbestos Content		Non-Fibrous Components (%)
					Mineral	Visual Estimate (%)	
T-LR-EW-Patch PNK	EM 2094645	A	Colorless adhesive	5	ND	Asbestos Fibrous Components (%)	100
		B	Pink perlitic plaster	95	ND	Non-Fibrous Components (%)	100

TEM Analysis recommended for organically bound material (i.e. floor tile) if PLM results are <1%.



Daniel Erhard

Analyst / Data QA

**REILAB Reservoirs Environmental, Inc.**  
5801 Logan St. Denver, CO 80216 • Ph. 303-964-1966 • Fax 303-477-4275 • Toll Free 866-RES-ENV  
Pager: 303-509-2098

**INVOICE TO: (IF DIFFERENT)**

Company: **Boulder County Parks and Open Space**  
Address: **5201 St Vrain Rd.  
Longmont CO, 80503**

Contact: **Michael Lohr**  
Phone: **970-481-1349**  
Fax:   
Cell/pager:

**CONTACT INFORMATION:**

Contact: **Herron Admin@comcast.net**  
Phone: **ggallo@coackenviromental.net**  
Fax: **18hr.mike@gmail.com**  
Cell/pager:

Project Number and/or P.O.#: **P.O.# 1644**  
Project Description/Location: **Tumbleson House**  
Final Data Deliverable Email Address: **mlhr@bouldercounty.org**

REQUESTED ANALYSIS	VALID MATRIX CODES	LAB NOTES:
<b>ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm</b> <b>PLM / PCM / TEM</b> <input checked="" type="checkbox"/> RUSH (Same Day) <input type="checkbox"/> PRIORITY (Next Day) <input type="checkbox"/> STANDARD (Rush PCM = 2hr, TEM = 6hr.)  <b>CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm</b> Metal(s) / Dust <input type="checkbox"/> RUSH <input type="checkbox"/> 24 hr. <input type="checkbox"/> 3-5 Day RCRA 8 / Metals & Welding <input type="checkbox"/> RUSH <input type="checkbox"/> 5 day <input type="checkbox"/> 10 day Fume Scan / TCLP <input type="checkbox"/> RUSH <input type="checkbox"/> 24 hr. <input type="checkbox"/> 3 day <input type="checkbox"/> 5 Day Organics <input type="checkbox"/> 24 hr. <input type="checkbox"/> 3 day <input type="checkbox"/> 5 Day <b>MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm</b> E.coli O157:H7, Coliforms, S.aureus <input type="checkbox"/> 24 hr. <input type="checkbox"/> 2 Day <input type="checkbox"/> 3-5 Day Salmonella, Listeria, E.coli, APC, Y & M <input type="checkbox"/> 48 Hr. <input type="checkbox"/> 3-5 Day Mold <input type="checkbox"/> RUSH <input type="checkbox"/> 24 Hr. <input type="checkbox"/> 48 Hr. <input type="checkbox"/> 3 Day <input type="checkbox"/> 5 Day **Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.**	Air = A Bulk = B Dust = D Paint = P Soil = S Wipe = W Swab = SW F = Food Drinking Water = DW Waste Water = WW O = Other **ASTM E1792 approved wipe media only**	EM Number (Laboratory Use Only) 2094640 641 42 43 44 45

Client sample ID number	(Sample ID's must be unique)	PLM - Short report, Long report, Point Count	TEM - AHERA Level II, 7402 ISO, +/-, Quant	Semi-quant, Micro-vac, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analyte(s)	RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - METH	Salmonella +/-	E.coli O157:H7 +/-	Listeria +/-	Aerobic Plate Count +/- or Quantification	E.coli +/- or Quantification	Coliforms +/- or Quantification	S.aureus +/- or Quantification	Y & M +/- or Quantification	Mold +/- Identification, Quantification	SAMPLER'S INITIALS OR OTHER NOTES		
1	TM-LR-EW-PLASTER	X																			
2	T-RC-EW-PLASTER	X																			
3	T-K-N-W1	X																			
4	T-LR-EW-Patch Wht	X																			
5	T-K-SW1	X																			
6	T-LR-EW-PATCH Pnk	X																			
7																					
8																					
9																					
10																					

Number of samples received:      (Additional samples shall be listed on attached long form.)  
 NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

**Relinquished By:** Tyler Sco Date/Time: 5/24/18 11:13 Carrier: Hand

**Laboratory Use Only**  
 Received By: Tyler Sco Date/Time: 5/24/18 11:13 Carrier: Hand

Contact	Phone Email Fax	Date	Time	Initials	Contact	Phone Email Fax	Date	Time	Initials
Contact	Phone Email Fax	Date	Time	Initials	Contact	Phone Email Fax	Date	Time	Initials

Sample Condition: On Ice  Sealed  Intact   
 Temp (F°)      Yes / No  Yes / No

## Boulder County Parks & Open Space - Asbestos Sample ID Form

Please include w/ this form: floor plans w/ sample diagrams -- photographs of samples w/ ID tags -- Assessment of Friable/TSI materials					
Property/Project: <b>Tumbleson House</b>			Date: <b>5/24/2018</b>		
Sample ID:	Description	Type (SM, TSI, M)	Friable? (Y/N)	Damage Assessment / Notes	
T-K-SW1	Drywall & Compound - SW Corner	SM	N	Good	
T-K-NW1	" " N. WALL NEAR BASE TRIM	" "	" "	" "	
T-RC-EW PLASTER	Root Cellar Plaster from B. WALL	SM	Y	Sig damage	
T-LR-EW PATCHWHT	White Patch of Compound along Crack	SM	Y	damaged	
T-LR-EW PATCHPNK	Pinkish Patch that travels vertically up Stone	SM	Y	" "	
T-LR-EW PLASTER	PLASTER under the white STAIN COAT	SM	Y	" "	

---

**From:** Destiny M. Herron <HERRONAdmin@comcast.net>  
**Sent:** Friday, June 8, 2018 1:54 PM  
**To:** 'Michael Lohr'; 'Carol Beam'; 'Brian Bertin'  
**Cc:** 'Allen Gallogly'; 'David W. Starks'; 'L. P. (Lennie) Herron'; 'Christy M. Herron'; 'Billie J. Herron'; Destiny M. Herron  
**Subject:** 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
**Attachments:** 0421178.7, Daily Report, 05.25.18.pdf

## Project Update

In regards to the end of the shift:  
05/25/18 (Friday)

1. Notifications –
  - a. Issues during the shift –
    - 1) No issues
2. Containment observation: Yes
  - a. In accordance with the Specifications and Regulations –

Current Work Area –

WA#2 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster Wall(s) on Stone

1st Floor Root Cellar – 322 ft<sup>2</sup>

Demolition of Wood Shelving in 1st Floor Root Cellar (embedded in Plaster) – 11.5X4' X 3 sets

1. Apply negative air to meet a criteria of -0.03”
  - a. Results within local, state, and/or federal regulations

Awaiting Work Area(s) –

WA#1 - Enclosure Area(s)

Test Area(s) 1st Floor Two (2) Perimeter Wall(s), Perform test area of removal of Asbestos Plaster on Stone, approximately 4X4' for Engineer determination of acceptable removal methods - 32 ft<sup>2</sup>

1st and 2nd Floors Decontamination, Floor Surface Area of 1st and 2nd Floor Levels – 1,592.25 ft<sup>2</sup>

1st and 2nd Floors Decontamination will include the Cleanup and Decontamination of Rodent Feces – 1,592.25 ft<sup>2</sup>

On successful completion of the Major Spill Response the 2nd Floor will be Isolated from the remainder of the House as no further asbestos work exists.

1. Apply negative air to meet a criteria of -0.03”
  - a. Awaiting Setup

Awaiting Work Area(s) –

WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone

1st Floor Kitchen and Bedroom 2 - 1,048 ft<sup>2</sup>

Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high

1. Apply negative air to meet a criteria of -0.03”
  - a. Awaiting Setup

Awaiting Work Area(s) –

WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos  
Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone  
1st Floor Living Room, Bedroom 1, and Stairwell – 1,612 ft<sup>2</sup>

1. Apply negative air to meet a criteria of -0.03”
  - a. Awaiting Setup

3. Structure Crack Monitoring –

- a. Surface mounted gauges will be visually observed twice daily after arrival of the first visit of the Engineer to determine if the existing cracks within the masonry are being impacted by the abatement
  - 1) AM
    1. W1 – West Side, North End – 1.0 mm
    2. W2 – West Side, South End – 1.0 mm
    3. S1 – South Side, East End – 0.5 mm
    4. E1 – East Side, Center – 1.0 mm

4. Asbestos Air Monitoring –

- a. During-abatement monitoring with the following preliminary results –
  - 1) WA#2
  - 2) Awaiting Setup

5. Daily Contractor Submittals Received (sign in sheets, daily logs, entry/exit logs, special reports) –

- a. 05/25/18 – not received – submit
- b. 05/24/18 – not received – submit
- c. 05/23/18 – not received – submit
- d. 05/22/18 – not received – submit
- e. 05/21/18 – not received – submit
- f. 05/18/18 – not received – submit
- g. 05/17/18 – not received – submit
- h. 05/17/18 – mobilization 05/17/18 7:30 AM MST
  - 1) Contractor Project Directory –
    1. Note: Should Employee not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.

6. Work Areas completed –

- a. WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (PCM Clearance Passed 05/22/18)  
1st Floor Living Room, 7X2’ Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft<sup>2</sup>  
2nd Floor Closet, Loose Sheet Flooring on Wood Substrate - 10 ft<sup>2</sup>
- b. WA#5 - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s) (Visual Passed 05/21/18)  
Exterior, South Alcove Roofing, Debris, and Associated 2” of Soil – 10 ft<sup>2</sup>  
Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3’ from foundation.

7. Punch list items completed –

- a. Awaiting Completion

8. Notes:

- a. Refer to Project Memo(s).
- b. All observations stated in this report are based on facts and circumstances as they existed during the time of the observations, and during the time period of this report preparation and as available within the limits of the mutually agreed upon Scope of Work, budget, and schedule. The observations in this report

is not intended to be exhaustive in scope, and is considered an ongoing working document. HERRON™ reserves the right to modify the contents of this document, as necessary.

- c. As agreed, daily conversations are occurring, and daily reports will be on site for employee review. Hard copy will not be mailed as this correspondence constitutes delivery of the specified documents.
- d. Refer to Project Definitions below.

Please advise within an RFI if you have any questions.

Thanks in advance,

Destiny M. Herron  
Administrative Assistant  
HERRON™ Enterprises USA, Inc.  
7261 W. Hampden Ave., Lakewood, CO 80227-5305  
(303) 763-9639 / Fax (303) 763-9686  
Email: [HERRONAdmin@comcast.net](mailto:HERRONAdmin@comcast.net)  
Website: [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

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Project Definitions:

Asbestos

1. In regards to the results, Regulation 29 CFR 1910, 1926 –

[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=standards&p\\_id=9995](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9995)  
[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_id=10862&p\\_table=standards](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=10862&p_table=standards)

A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL). In accordance with 29 CFR 1926, 1926.1101; 1926.1101(c)(1); 1926.1101(f)(1) Standard Interpretation Correct manner to interpret air sample measurements of an employee's asbestos exposure when the samples are overloaded [01/17/2006] [http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=INTERPRETATIONS&p\\_id=2529](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=2529) 5;

*'...While monitoring an employee's exposure to an airborne contaminant, such as asbestos, occasionally samples are lost, damaged, overloaded, or are otherwise unusable. Analytical laboratories report such samples as "VOID," with a note of explanation. An overloaded asbestos air sample is one in which non-asbestos dust obscures some or all of the fibers on the filter and therefore makes it impossible to accurately determine the concentration of asbestos in the laboratory's microscopic analysis. Such samples should not be counted by an employer in TWA calculations of employee exposure. The use of a "zero" exposure result for such samples is inappropriate; it will underestimate the employee's true exposure. An employer has the responsibility to "accurately" determine his employee's exposure to asbestos...'*

1926.1101(b) Definitions

Employee exposure means that exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

1926.1101(c)(2) Excursion limit

The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(c) Permissible exposure limits (PELS)

1926.1101(c)(1)

Time-weighted average limit (TWA). The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air as an eight (8) hour time-weighted average (TWA), as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(c)(2)

Excursion limit. The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(g)(2)(v)

Wherever the feasible engineering and work practice controls described above are not sufficient to reduce employee exposure to or below the permissible exposure limit and/or excursion limit prescribed in paragraph (c) of this section, the employer shall use them to reduce employee exposure to the lowest levels attainable by these controls and shall supplement them by the use of respiratory protection that complies with the requirements of paragraph (h) of this section.

2. In regards to the results, AQCC Regulation No. 8 –

<http://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=7206&fileName=5> CCR 1001-10

III.U.2. The Maximum Allowable Asbestos Level (MAAL)

III.U.2.a. PCM - If PCM is used as the method of analysis the standard is 0.01 fibers per cubic centimeter of air (f/cc), which is equivalent to 10,000 fibers per cubic meter of air (f/m<sup>3</sup>).

III.U.2.b. TEM - Where TEM is used as the method of analysis, the standard is 70 structures/millimeter<sup>2</sup> (s/mm<sup>2</sup>).

3. Laboratory certificates not included with this correspondence have not been received, will follow under a separate cover.
4. Legend: .8 $\mu$ , 25mm MCE Filter Cassettes, Amb = Ambient, IWA = Inside Work Area, OWA = Outside Work Area, CR = Clean/Change Room, LO = Loadout, NAM = Negative Air Exhaust, Ex = Excursion, Per = Personnel, VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read, BDL = Below Detection Limit



**HERRON™** Enterprises USA, Inc.

Hazardous Materials\*Mold\*Asbestos\*Lead Paint  
Environmental Services\*Industrial Hygienists

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Website [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

## ASBESTOS SERVICES

Client: Boulder County  
Client Contact: Michael Lohr  
Order No.: SOQ #6673-17  
Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
Date of Assignment: 05/25-29/18  
Assignment: Environmental Consultation/Asbestos Services  
HERRON™ Project No.: 0421178.7  
Date of Report: 05/29/18

## SUMMARY OF WORK

Per Client request, and under the guidelines defined, HERRON™ Enterprises USA, Inc. has concluded the Environmental Consultation/Asbestos Service for friable and/or non-friable Asbestos Containing Material(s) at the aforementioned property.

Our Environmental Consultation/Asbestos Service report may include a Limited Asbestos Building Inspection, descriptions of Bulk, Dust, and/or Air Monitoring samples, their locations and analyses data, which have been obtained and analyses performed in accordance with local, state, and/or federal regulations.

For Calculation purposes of samples obtained by HERRON™, all results are expressed basis actual sampling duration, with courtesy 8 hours time weighted average calculations, based on the actual sampling duration. For Calculation purposes of samples submitted to HERRON™, all results are expressed basis actual sampling duration, as submitted by the Client. HERRON™ implies no warranty to the accuracy of the information or the samples submitted by the Client. In order to make exact determinations, the employer should calculate exact times based on containment sign-in/out sheets for TWA's, in accordance with current OSHA regulations.

All Miscellaneous Provisions, Terms and Conditions apply to all services provided as indicated in HERRON™ current Terms of Services.

Information and data which has been generated as a result of this Environmental Consultation/Asbestos Service will remain confidential and will not be released to any party without prior written authorization from Client(s) (refer to authorized distribution).

We appreciate the confidence which has been demonstrated by your continued patronage, and look forward to assisting you and your group should you have future needs of Environmental Consultation/Asbestos Services.

Sincerely,

Billie J. Herron-Lusk  
Project Manager  
HERRON™ Enterprises USA, Inc.





**FIELD REPORT & OBSERVATIONS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/25-29/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.7  
 Date of Report: 05/29/18

**DATE TIME SUMMARY OF EVENTS**

05/17/18	----	<p>Requested to perform Baseline (MAAL/OSHA) Air Monitoring, Pre-Abatement Visual Containment(s) Inspection(s), Removal (MAAL/OSHA) Air Monitoring, Final Visual Containment(s) Inspection(s), Final Clearance (MAAL/OSHA) Air Monitoring, and OSHA Compliance Air Monitoring for Gross removal of</p> <p><b>WA#1</b> - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall</p> <p><b>1st Floor Living Room</b>, 7X2' Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft<sup>2</sup></p> <p><b>2nd Floor Closet</b> Loose Sheet Flooring on Wood Substrate - 10 ft<sup>2</sup></p> <p><b>Test Area(s) 1st Floor Two (2) Perimeter Wall(s)</b> Perform test area of removal of Asbestos Plaster on Stone, approximately 4X4' for Engineer determination of acceptable removal methods - 32 ft<sup>2</sup></p> <p><b>1st and 2nd Floors Decontamination</b> Floor Surface Area of 1st and 2nd Floor Levels – 1,592.25 ft<sup>2</sup> 1st and 2nd Floors Decontamination will include the Cleanup and Decontamination of Rodent Feces – 1,592.25 ft<sup>2</sup> On successful completion of the Major Spill Response the 2nd Floor will be Isolated from the remainder of the House as no further asbestos work exists.</p> <p><b>WA#2</b> - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster Wall(s) on Stone</p> <p><b>1st Floor Root Cellar</b> – 322 ft<sup>2</sup> Demolition of Wood Shelving in 1st Floor Root Cellar (embedded in Plaster) – 11.5X4' X 3 sets</p> <p><b>WA#3</b> - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone</p> <p><b>1st Floor Kitchen and Bedroom 2</b> - 1,048 ft<sup>2</sup> Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high</p> <p><b>WA#4</b> - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone</p> <p><b>1st Floor Living Room, Bedroom 1, and Stairwell</b> – 1,612 ft<sup>2</sup></p> <p><b>WA#5</b> - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s)</p> <p><b>Exterior, South Alcove</b> Roofing, Debris, and Associated 2" of Soil – 10 ft<sup>2</sup> Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3' from foundation.</p>
05/25/18	*	Commenced (MAAL/OSHA) Air Monitoring
	*	Completed (MAAL/OSHA) Air Monitoring



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7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

**FIELD REPORT & OBSERVATIONS**

Client: Boulder County  
Client Contact: Michael Lohr  
Order No.: SOQ #6673-17  
Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 /  
Boulder County  
Date of Assignment: 05/25-29/18  
Assignment: Environmental Consultation/Asbestos Services  
HERRON™ Project No.: 0421178.7  
Date of Report: 05/29/18

DATE	TIME	SUMMARY OF EVENTS
	*	Completed (MAAL/OSHA) Air Monitoring PCM analysis-All Work Area samples below AQCC MAAL, <=0.01 f/cc/OSHA 1926.1101, EL <1.0 f/cc, PEL <0.10 f/cc, where regulated, unless otherwise noted as follows: NA
	*	Advised results
05/29/18	*	Field documentation completed and report distributed (refer to distribution)

Note: \*Refer to daily project memo for complete details of events.



**FLOOR PLANS/SITE PHOTOGRAPHS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/25-29/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.7  
 Date of Report: 05/29/18

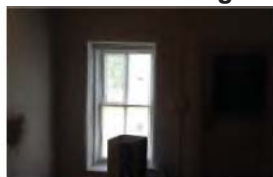
**Photo Log**



20180525\_075715



20180525\_075728



20180525\_075732



20180525\_075745



20180525\_080437



20180525\_080447



20180525\_080502



20180525\_080508



20180524\_144245



20180525\_075537



20180525\_075630



20180525\_075636



20180525\_075638



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**FLOOR PLANS/SITE PHOTOGRAPHS**

Client: Boulder County  
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Order No.: SOQ #6673-17  
Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
Date of Assignment: 05/25-29/18  
Assignment: Environmental Consultation/Asbestos Services  
HERRON™ Project No.: 0421178.7  
Date of Report: 05/29/18

**Photo Log**





**HERRON**™ Enterprises USA, Inc.

Hazardous Materials\* Mold\* Asbestos\* Lead Paint  
Environmental Services\* Industrial Hygienists

Phone (303) 763 9639

Fax (303) 763 9686

E-Mail [Lennie.Herron@comcast.net](mailto:Lennie.Herron@comcast.net)

Website [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

**FLOOR PLANS/SITE PHOTOGRAPHS**

Client: Boulder County  
Client Contact: Michael Lohr  
Order No.: SOQ #6673-17  
Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
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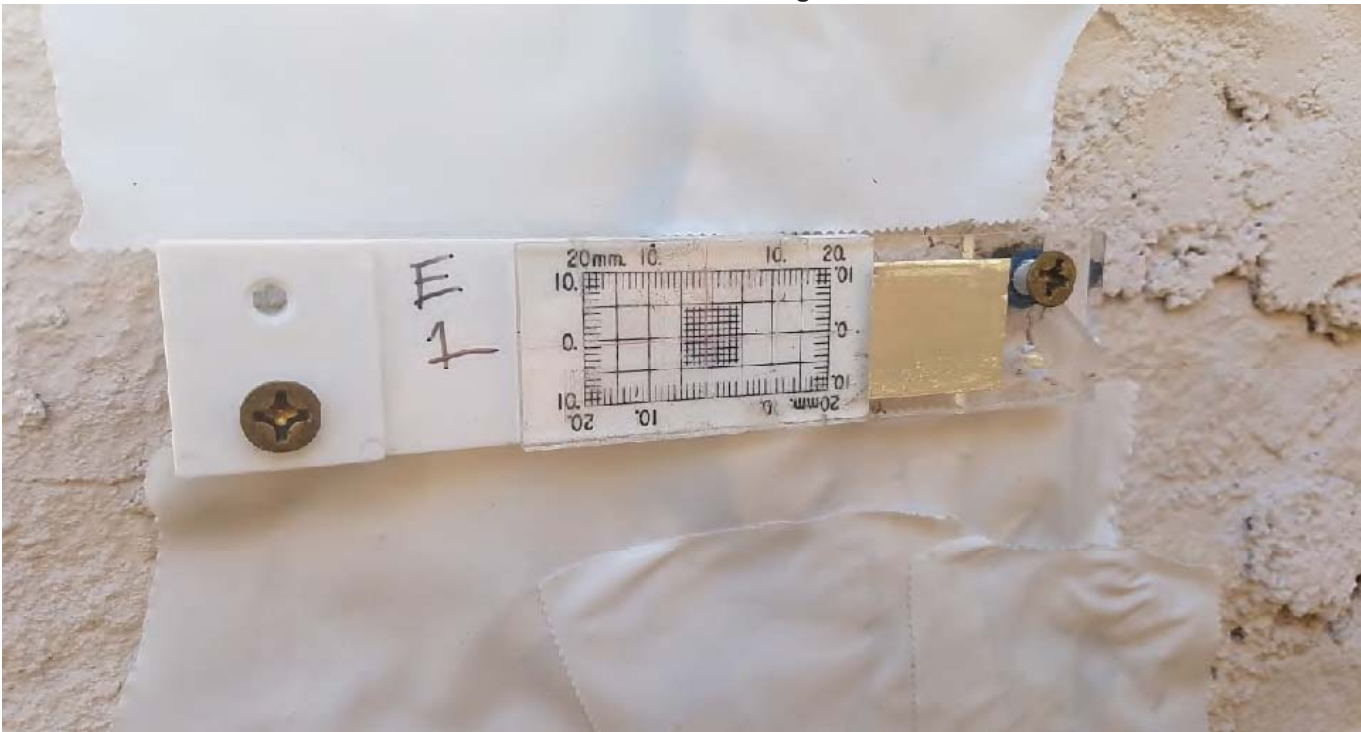
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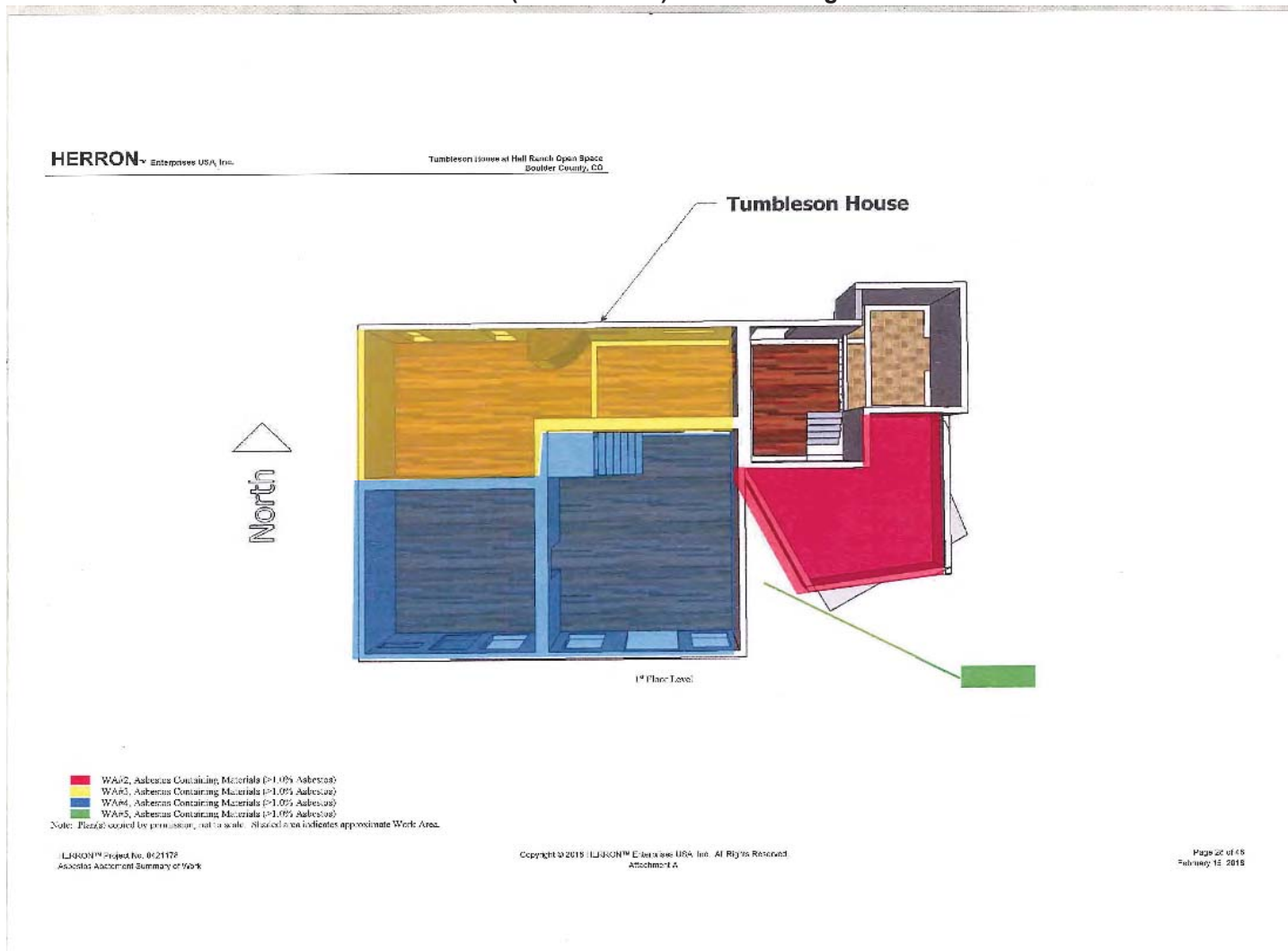




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**(MAAL/OSHA) Air Monitoring**







## AQCC REG. NO. 8 ASBESTOS ABATEMENT INSPECTION FORM COMPLIANCE CHECKLIST AND INFORMATION

Colorado Dept. of Public Health  
and Environment  
APCD-IE-B1  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
Phone: 303-692-3100  
Fax: 303-782-0278

Project(s) Address: <b><u>Tumbleson House at Hall Ranch Open Space, Boulder County, CO</u></b>		Project(s) Permit #: 18BO2912A	
Project(s) start date: May 17, 2018		Project(s) completion date: June 04, 2018	
Inspector(s): LP (Lennie) Herron/#2572 (AMS/PM - ___) Billie J. Herron/#2650 (AMS/PM - <u>X</u> ) Jamie L. Herron-Carson/#2649 (AMS/PM - ___) Sherri K. Herron/#8728 (AMS/PM - ___) Michael W. Herron, Sr./#13788 (AMS/PM - ___)		Inspection Date: 05/25/18	
Current Abatement Phase:	<input checked="" type="checkbox"/> Pre	<input type="checkbox"/> Active	<input type="checkbox"/> Post
More than one phase/project?		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Comments:			

**Types(s) and total quantity of ACM removed/to be removed\* as reported by the abatement contractor:**

Pipe Insulation*:	Fireproofing:	Spray-on:
Ceiling Tile:	Boiler Insulation:	VAT:
Transite:	<b>Other (describe):</b> <ul style="list-style-type: none"> <li>Rodent Feces – 1,592.25 ft<sup>2</sup></li> <li>Miscellaneous Material = 20 ft<sup>2</sup></li> <li>Surfacing Material = 2,982 ft<sup>2</sup></li> </ul>	

\*Pipe insulation is reported in lineal feet, all other materials including ductwork are reported in square footage regardless of the thickness of the ACM. If reporting in 55-gallon drums, note square footage or linear footage area to be removed.

**List of ALL abatement workers in containment today:**

#	NAME	SSN OR REC. #	AHERA / STATE / PHYSICAL / FIT TEST
1	SEE ATTACHED		/ / /
<b>COMMENTS:</b>			

**Note: Responses to the Description of Citation is indicated by the anticipation of the day, with the default as X = OK / Vio. / N/A. Should the response differ, cross-out will appear and appropriate response indicated.**

**PART I – SECTION A - OUTSIDE WORK AREA(S) – CERTIFICATION AND PERMIT/NOTIFICATION REQUIREMENTS, ETC.**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
16	II.A.2	All training certs./documents on site - with <b>photo IDs</b> ?	X		
26	II.J	Project Manager - credentials ok (certified as PD, completed AMS training, HS diploma, 1 yr. Experience, independent)?			X
29	III.B.1.a & III.B.4	On-site supervisor state certified?	X		
29	III.B.1.b & III.B.4	All workers on site trained/certified?	X		
30	III.B.5	Air Monitoring Spec. trained and certified? Note - this requirement may apply during pre-and active abatement phases, e.g. monitoring NAM exhaust inside a building or checking for the "MAAL".	X		
30	III.B.6	Project Manager required (>1,000 LF/>3000SF of friable) Note: Not required in schools.			X
30	III.C.1	Project Design required (>1,000 LF/>3000SF in P&C) (>3 LF/>3SF in Schools)	X		
31	III.C.4	Project Design on the site and signed?	X		
31	III.E.1	No false, inaccurate, or misleading information?	X		
33	III.F	If a variance has been granted for any work practice(s); <b>are the conditions of this variance being followed?</b>			X
34	III.G	Permit Valid (i.e. start/stop dates)?	X		
35	III.G.4	ORIGINAL permit posted at work site?	X		
36	III.G.8	Permit signed by Project Manager?			X

**COMMENTS ON PART I – SECTION A:**


**PART I – SECTION B – OUTSIDE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
37	III.J.1.a	Negative Air Machines (NAMs) operating continuously?	X		
37 & 52	III.J.1.d & III.U.1.b.i	NAMs monitored if exhausted inside the building?	X		
37	III.J.3	-0.02" H <sub>2</sub> O or better on Manometer?		X	
37	III.J.3	Continuous printout on Manometer?	X		
37	III.J.4	Smoke tubes present?	X		
37	III.J.4	Air flow - outside to inside ok?	X		
38	III.K.1	All chambers separated by airlocks?	X		
38	III.K.1	Decon Unit - 3 stages?	X		
38	III.K.1	Self-closing flaps/doors? (Z flaps are preferable, but not required)	X		
38	III.K.1.a	Clean room - adequately sized?	X		
38	III.K.1.b	Shower - hot and cold water at the tap?	X		
38	III.K.1.b	Shower – leakage anywhere but the supply connection?	X		
38	III.K.1.b	Shower - wastewater filtered to 5 microns or less, sanitary sewer discharge?	X		
38	III.K.1.b	Shower and Clean room - ACM debris present?	X		
39	III.K.2	Entry and exit procedures ok?	X		
41	III.N.2	View port present (at minimum 12"x12")?	X		
41	III.N.3	Waste load out separate from Decon?	X		
41	III.N.3	Waste load out - 2 stages?	X		

**COMMENTS ON PART I – SECTION B:** PRESSURE DIFFERENTIAL STILL BEING ADDRESSED VIA INSTALLATION OF CRITICAL BARRIERS AND ADDITIONAL NEGATIVE AIR MACHINES – CORRECTED BY ADDING A 4<sup>TH</sup> NEGATIVE AIR MACHINE AND SEALING EXTERIOR PENETRATIONS AT THE ROOF LINE.

**PART II – INSIDE THE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
36	III.I	Critical barriers - 1 layer 6 mil?	X		
36	III.J.1.b	Air cleaning equipment - HEPA filters properly installed, equipment operating, maintained adequately, etc.?	X		
37	III.J.2	Adequate equipment in place to ensure 4 air changes per hour?	X		
38	III.K.1.c	6 mil disposal bag present in Dirty Room?	X		
39	III.K.2.b	Disposable clothing worn by workers?	X		
39	III.L	Pre-cleaning - criticals and decon, HEPA vacs, wet cleaning, proper disposal?	X		
39	III.L.1	Movable objects cleaned before removal from the work area?	X		
39	III.M	Fixed objects - 1 layer 6 mil?	X		
40	III.N.1.a	Floors - 2 separate layers 6 mil?	X		
40	III.N.1.a, b, & c	No seams present (wall/floor, wall/ceiling, 12" overlap)?	X		
40	III.N.1.b	Walls - 2 separate layers 4 mil?	X		
40	III.N.1.c	Ceilings - 1 layer 4 mil?	X		
41	III.O.1.a.i.(A)	Amended water being used (surfactants) before ACM is removed?	X		
41	III.O.1.a.i.(A)	Are the surfactants a commercial product designed specifically for ACM removal?	X		
41	III.O.1.a.i.(A)	Material adequately wet and/or kept wet until bagged for disposal?	X		
42	III.O.1.a.i.(B)	Airless sprayers used for applying amended water or encapsulant?	X		
42	III.O.1.a.iii	All contaminated surfaces wet-wiped prior to disassembly of containment barriers?	X		

**COMMENTS ON PART II:**

**PART III – SECTION A –SPECIAL PROJECTS, RESILIENT FLOOR TILE**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
31	III.E.1	Notice posted at the worksite?			X
46	III.R.	Waste handled as nonfriable waste?			X
114	Appendix B	Appendix B, Amended water being used?			X
114	Appendix B	Appendix B, Hand tools only?			X
48	III.S.1	Appendix B, Proper handling and packaging of tiles/adhesives?			X
48	III.S.1	Voluntarily using splashguards, critical, negative air, and decon?			X
48	III.S.1.c	Is the material being rendered friable?			X

**COMMENTS ON PART III, SECTION A:**

**PART III – SECTION B –SPECIAL PROJECTS, SHEET VINYL FLOORING**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
34	III.E.1	Notice/Permit posted at the worksite?			X
46	III.R.	Waste handled as friable waste?			X
48	III.S.1.c	Is the material being rendered friable?			X
48	III.S.1.d.	Worker(s)/Supervisor(s) trained according to Appendix C?			X
48	III.S.2	Appendix B, Amended water being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Hand tools only being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Proper handling and packaging of sheet flooring being used by only App. C trained workers?			X
107	Appendix B	Appendix B, Proper wetting at the delaminating nip point being used by only App. C trained workers?			X
48	III.S.2	Voluntarily using splashguards, critical, negative air, and decon?			X

**COMMENTS ON PART III, SECTION B:**


**PART III – SECTION C –SPECIAL PROJECTS, NONFRIABLE ACM**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
49	III.S.4.a.	ACM adequately wet?			X
49	III.S.4.b.	Hand removal methods being used?			X
49	III.S.4.c.	Minimal breakage and disturbance?			X
49	III.S.4.d.	Material properly disposed of as nonfriable waste?			X

**COMMENTS ON PART III, SECTION C:**


**PART IV – SPECIAL REMOVAL METHODS, GLOVEBAGS AND FACILITY COMPONENT REMOVAL**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
53	III.V.1	Glove bags - proper usage (useable without causing fiber release)?			X
53	III.V.1.a	Glove bags - properly sealed to the area, no bottom seam?			X
53	III.V.1.b	Glove bags - pipes cooler than 150°F?			X
53	III.V.1.c	Glove bags used only once?			X
53	III.V.1.d.i	Glove bags - secondary containment(s) in place if removal > 3LF/SF?			X
54	III.V.1.d.ii	Glove bags - smoke tested prior to use?			X
54	III.V.1.d.iv	Glove bags - material in bags adequately wet?			X
54	III.V.1.d.vi	Glove bags - "rough" edges encapsulated?			X
54	III.V.1.d.vii	Glove bags - evacuated with HEPA vac prior to removing the bag?			X
54	III.V.2	Facility component removal - w/o containment, material well adhered to surface?			X
54	III.V.2.a	Facility component removal - adequately wet and wrapped in 6 mil poly prior to removal from the work area?			X

**COMMENTS ON PART IV:**


**PART V – MAJOR SPILLS**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
50	III.T.1.	Spill properly characterized (air sampling, tape sampling, microvac sampling)?	X		
50	III.T.1.a.	Area immediately sealed off?	X		
50	III.T.1.b	Air handling system shut down or modified to prevent further disturbance?	X		
50	III.T.1.c.	Division properly notified by phone and requirement(s) of subsection III.E. fulfilled?	X		
50	III.T.1.e.	Area sealed off and negative pressure established in accordance with III.J.	X		
50	III.T.1.e.	Certified personnel in accordance with section II performing work?	X		
50	III.T.1.j	Final clearance air monitoring performed in accordance with subsection III.P.	X		

**COMMENTS ON PART IV:**

**NOTE: WORK AREA #1 ONLY – COMPLETE 05/22/18**


**PART VI – WASTE HANDLING REQUIREMENTS (WASTE STORAGE AREA)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
47	III.R.1	6 mil or greater bags?	X		
46	III.R.2.a	Containers - material adequately wet in bags?	X		
46	III.R.2.a	No breakage, rupture or leakage?	X		
47	III.R.2.b	Proper warning labels on bags?	X		
47	III.R.2.d	Visible emissions – anywhere on job site?	X		
47	III.R.2.f	All waste water filtered to 5 microns AND discharged to a <b>sanitary sewer</b> ?	X		
47	III.R.3	Are ACWM bags labeled with generator labels in accordance with 40 CFR 61.150?	X		
47	III.R.3	Are appropriate waste shipment records being maintained (40 CFR 61.150)?	X		
47	III.R.3	Transport to a proper disposal site?	X		
47	III.R.3	Waste storage vehicles placard during loading/storage at job site?	X		

**COMMENTS ON PART V:**


## PART VII – POST ACTIVE ABATEMENT REQUIREMENTS

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
19	II.D.	Is the AMS properly trained and certified? (Note: this requirement also pertains to “background air sampling” and sampling conducted near NAM exhausts if the NAMs are exhausted inside a building, i.e. sampling for the MAAL.)	X		
43	III.P	Is the AMS performing the final clearance procedures completely independent of the asbestos contractor?	X		
44	III.P.1	Work area reduced to only critical barriers in place?	X		
44	III.P.3.a.i	Aggressive sampling conducted pursuant to 40 CFR 763 Appendix A?	X		
44	III.P.3.a.i	Has all dust and debris been removed from the work area, including areas behind the critical barriers?	X		
45	III.P.3.b.ii	TEM air sampling - 1,199 liters of air drawn (25 mm cassette) and average of the required 5 samples is below 70 structures/mm <sup>2</sup> ?* Note: Required for schools if the project is >160 SF/260 LF.			X
45	III.P.3.b.iii	PCM air sampling – Sufficient amount of air drawn so the LOD is <0.01f/cc (25mm cassette) and each sample of 5 required samples is below 0.01 f/cc?* Note: Required for school is the project is >3 SF/>3LF but <160 SF/<260 LF.	X		
45	III.P.3.c.i	TEMs - lab properly accredited (by NIST)?			X
46	III.P.3.c.ii	PCMs - lab successfully participating in AIHA PAT program?	X		
46	III.P.3.c.ii	Satellite Labs - directly under the control of properly accredited “parent” lab pursuant to subclause III.P.3.c.i?	X		
46	III.P.3.c.ii	Satellite labs - proper procedures (NIOSH 7400 method) followed, and is the analyst properly trained pursuant to Section III.P.3.c.ii?	X		
53	III.U.3.b	MAAL, sample(s) outside containment >0.01 f/cc PCM?	X		
52 & 53	III.U.2.b & III.U.3.a	MAAL, if yes to above, re-analyzed TEM within 24 hours and/or area treated as a spill?			X
27	II.L.	Everyone performing consulting firm activities registered with CDPH&E?	X		

**\*There are two possible exceptions to these rules, see page 46 for details\***

**COMMENTS ON PART VI:**


**COMMENTS, GENERAL:**




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**PROJECT/LOCATION: 0421178, RFP#6648-17- Tumbleson House at Hall Ranch Open Space Asbestos Consulting Services / Boulder County**

DATE REPORT NO	DATE											05/25/18
	On-site Today?	AHERA Worker Expiration	State Worker Expiration	AHERA Supervisor Expiration	State Supervisor Expiration	Physical Expiration	Fit Test Expiration	Copy of All Certifications on Site?	State ID Card Displayed On-Site?	Certificate of Workers Acknowledgement	Copy of All Certifications and State ID Card Received by HERRON?	
											*	Yes
	Yes	03/03/19	04/27/19	NA	NA	04/16/19	02/20/19	*	*	*	*	Yes
		07/01/18	07/15/18	NA	NA	07/14/18	12/26/18	*	*	*	*	Yes
		NA	NA	08/25/18	09/18/18	02/02/19	05/09/19	*	*	*	*	Yes
		NA	NA	12/22/18	01/04/19	01/08/19	01/09/19	*	*	*	*	Yes
	Yes	03/17/19	04/19/19	NA	NA	04/14/19	04/20/19	*	*	*	*	Yes
	Yes	03/03/19	06/29/18	NA	NA	04/24/19	04/03/19	*	*	*	*	Yes
		04/30/19	03/16/19	NA	NA	01/18/19	05/19/19	*	*	*	*	Yes
		07/29/18	09/21/19	NA	NA	05/17/19	12/18/18	*	*	*	*	Yes
		02/03/19	05/24/18	NA	NA	06/01/18	06/01/18	*	*	*	*	No

**CONTRACTOR Employees**

9 3  
 Expired

Expired and/or Update Not Received:

\*Should Employee not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.  
 Legend of Documents not received by HERRON: 1, AHERA Certification, 2, State Certification, 3, Physical, 4, Fit Test, 5, Certificate of Worker's Acknowledgement.  
 Effectively, this document is published daily to include Employees which have signed in.

## ON-SITE DAILY SIGN-IN SHEET

Date: 5/25/18  
 Project Name: TUMBLESON HOUSE.  
 Job #: 18-0260  
 Supervisor: Felipe Hernandez.

Name	Time In	Lunch Out	Lunch In	Time Out	Total Hours
Felipe Hernandez	7:30				
Ronald SILVA	7:30				
CARLOS VANDERHORST	7:30				
<b>Daily Total:</b>					



---

**From:** Destiny M. Herron <HERRONAdmin@comcast.net>  
**Sent:** Friday, June 8, 2018 1:56 PM  
**To:** 'Michael Lohr'; 'Carol Beam'; 'Brian Bertin'  
**Cc:** 'Allen Gallogly'; 'David W. Starks'; 'L. P. (Lennie) Herron'; 'Christy M. Herron'; 'Billie J. Herron'; Destiny M. Herron  
**Subject:** 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
**Attachments:** 0421178.8, Daily Report, 05.29.18.pdf

## Project Update

In regards to the end of the shift:  
05/29/18 (Tuesday)

1. Notifications –
  - a. Issues during the shift –
    - 1) No issues
2. Containment observation: Yes
  - a. In accordance with the Specifications and Regulations –

Current Work Area(s) –

WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone  
1st Floor Kitchen and Bedroom 2 - 1,048 ft<sup>2</sup>

Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high

1. Apply negative air to meet a criteria of -0.03”
  - a. Awaiting Setup

WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone  
1st Floor Living Room, Bedroom 1, and Stairwell – 1,612 ft<sup>2</sup>

1. Apply negative air to meet a criteria of -0.03”
  - a. Awaiting Setup

Awaiting Work Area(s) –

WA#1 - Enclosure Area(s)

Test Area(s) 1st Floor Two (2) Perimeter Wall(s), Perform test area of removal of Asbestos Plaster on Stone, approximately 4X4' for Engineer determination of acceptable removal methods - 32 ft<sup>2</sup>  
1st and 2nd Floors Decontamination, Floor Surface Area of 1st and 2nd Floor Levels – 1,592.25 ft<sup>2</sup>

1st and 2nd Floors Decontamination will include the Cleanup and Decontamination of Rodent Feces – 1,592.25 ft<sup>2</sup>

On successful completion of the Major Spill Response the 2nd Floor will be Isolated from the remainder of the House as no further asbestos work exists.

1. Apply negative air to meet a criteria of -0.03”
  - a. Awaiting Setup

3. Structure Crack Monitoring –
  - a. Surface mounted gauges will be visually observed twice daily after arrival of the first visit of the Engineer to determine if the existing cracks within the masonry are being impacted by the abatement

- 1) AM
    1. W1 – West Side, North End – 1.0 mm
    2. W2 – West Side, South End – 1.0 mm
    3. S1 – South Side, East End – 0.5 mm
    4. E1 – East Side, Center – 1.0 mm
  - 2) PM
    1. W1 – West Side, North End – 1.0 mm
    2. W2 – West Side, South End – 1.0 mm
    3. S1 – South Side, East End – 0.5 mm
    4. E1 – East Side, Center – 1.0 mm
4. Asbestos Air Monitoring –
- a. Pre-abatement monitoring with the following preliminary results –
    - 1) WA#3, #4
    - 1) Pre-abatement visual containment inspection(s) – Passed
  - b. During-abatement monitoring with the following preliminary results –
    - 1) WA#3, #4
    - 2) IWA – 0.008 f/cc
    - 3) OWA,
    - 4) OWA, Clean Room
    - 5) OWA, Negative Air Exhausted Outside of the Building
    - 6) OWA, Ambient, Outside of Building
      1. These environmental samples, on completion of final analysis, Outside Work Area sample(s) have not exceeded the Maximum Allowable Asbestos Level (MAAL) by Phase Contrast Microscopy (PCM), or Transmission Electron Microscopy (TEM), where applicable.
  - c. OSHA Compliance monitoring with the following preliminary results –
    - 1) WA#3, #4
    - 2) Excursion – BDL f/cc
    - 3) Personal, Multi-sample 8 Hour TWA – 0.021 f/cc
      1. These environmental samples, on completion of final analysis, have not exceeded the EL (Excursion Level) or the PEL (Permissible Exposure Level) by Phase Contrast Microscopy (PCM), where applicable.
      2. Samples which were reported as CBR were not included in the multi-sample TWA result.
      3. Sampling flow rates should be lowered to avoid CBR results.
      4. *A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL) –*
      5. Should a CBR sample have occurred, the Contractor is advised to review engineering controls, negative pressure, air flow, wet methods, etc.
5. Daily Contractor Submittals Received (sign in sheets, daily logs, entry/exit logs, special reports) –
- a. 05/29/18 – not received – submit
  - b. 05/25/18 – not received – submit
  - c. 05/24/18 – not received – submit
  - d. 05/23/18 – not received – submit
  - e. 05/22/18 – not received – submit
  - f. 05/21/18 – not received – submit
  - g. 05/18/18 – not received – submit
  - h. 05/17/18 – not received – submit
  - i. 05/17/18 – mobilization 05/17/18 7:30 AM MST
    - 1) Contractor Project Directory –
      1. Note: Should Employee not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.

6. Work Areas completed –
  - a. WA#2 Removed from Scope of Work - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster Wall(s) on Stone  
1st Floor Root Cellar – 322 ft<sup>2</sup>  
Demolition of Wood Shelving in 1st Floor Root Cellar (embedded in Plaster) – 11.5X4’ X 3 sets
  - b. WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (PCM Clearance Passed 05/22/18)  
1st Floor Living Room, 7X2’ Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft<sup>2</sup>  
2nd Floor Closet, Loose Sheet Flooring on Wood Substrate - 10 ft<sup>2</sup>
  - c. WA#5 - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s) (Visual Passed 05/21/18)  
Exterior, South Alcove Roofing, Debris, and Associated 2” of Soil – 10 ft<sup>2</sup>  
Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3’ from foundation.
7. Punch list items completed –
  - a. Awaiting Completion
8. Notes:
  - a. Refer to Project Memo(s).
  - b. All observations stated in this report are based on facts and circumstances as they existed during the time of the observations, and during the time period of this report preparation and as available within the limits of the mutually agreed upon Scope of Work, budget, and schedule. The observations in this report is not intended to be exhaustive in scope, and is considered an ongoing working document. HERRON™ reserves the right to modify the contents of this document, as necessary.
  - c. As agreed, daily conversations are occurring, and daily reports will be on site for employee review. Hard copy will not be mailed as this correspondence constitutes delivery of the specified documents.
  - d. Refer to Project Definitions below.

Please advise within an RFI if you have any questions.

Thanks in advance,

Destiny M. Herron  
 Administrative Assistant  
 HERRON™ Enterprises USA, Inc.  
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Project Definitions:

Asbestos

1. In regards to the results, Regulation 29 CFR 1910, 1926 –  
[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=standards&p\\_id=9995](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9995)  
[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_id=10862&p\\_table=standards](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=10862&p_table=standards)  
 A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL). In accordance with 29 CFR 1926, 1926.1101; 1926.1101(c)(1);

1926.1101(f)(1) Standard Interpretation Correct manner to interpret air sample measurements of an employee's asbestos exposure when the samples are overloaded [01/17/2006] [http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=INTERPRETATIONS&p\\_id=25295](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=25295);

*'...While monitoring an employee's exposure to an airborne contaminant, such as asbestos, occasionally samples are lost, damaged, overloaded, or are otherwise unusable. Analytical laboratories report such samples as "VOID," with a note of explanation. An overloaded asbestos air sample is one in which non-asbestos dust obscures some or all of the fibers on the filter and therefore makes it impossible to accurately determine the concentration of asbestos in the laboratory's microscopic analysis. Such samples should not be counted by an employer in TWA calculations of employee exposure. The use of a "zero" exposure result for such samples is inappropriate; it will underestimate the employee's true exposure. An employer has the responsibility to "accurately" determine his employee's exposure to asbestos...'*

#### 1926.1101(b) Definitions

Employee exposure means that exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

#### 1926.1101(c)(2) Excursion limit

The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

#### 1926.1101(c) Permissible exposure limits (PELS)

##### 1926.1101(c)(1)

Time-weighted average limit (TWA). The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air as an eight (8) hour time-weighted average (TWA), as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

##### 1926.1101(c)(2)

Excursion limit. The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

##### 1926.1101(g)(2)(v)

Wherever the feasible engineering and work practice controls described above are not sufficient to reduce employee exposure to or below the permissible exposure limit and/or excursion limit prescribed in paragraph (c) of this section, the employer shall use them to reduce employee exposure to the lowest levels attainable by these controls and shall supplement them by the use of respiratory protection that complies with the requirements of paragraph (h) of this section.

#### 2. In regards to the results, AQCC Regulation No. 8 –

<http://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=7206&fileName=5> CCR 1001-10 III.U.2. The Maximum Allowable Asbestos Level (MAAL)

III.U.2.a. PCM - If PCM is used as the method of analysis the standard is 0.01 fibers per cubic centimeter of air (f/cc), which is equivalent to 10,000 fibers per cubic meter of air (f/m<sup>3</sup>).

III.U.2.b. TEM - Where TEM is used as the method of analysis, the standard is 70 structures/millimeter<sup>2</sup> (s/mm<sup>2</sup>).

#### 3. Laboratory certificates not included with this correspondence have not been received, will follow under a separate cover.

#### 4. Legend: .8μ, 25mm MCE Filter Cassettes, Amb = Ambient, IWA = Inside Work Area, OWA = Outside Work Area, CR = Clean/Change Room, LO = Loadout, NAM = Negative Air Exhaust, Ex = Excursion, Per = Personnel, VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read, BDL = Below Detection Limit



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## ASBESTOS SERVICES

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/29-30/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.8  
 Date of Report: 05/30 /18

## SUMMARY OF WORK

Per Client request, and under the guidelines defined, HERRON™ Enterprises USA, Inc. has concluded the Environmental Consultation/Asbestos Service for friable and/or non-friable Asbestos Containing Material(s) at the aforementioned property.

Our Environmental Consultation/Asbestos Service report may include a Limited Asbestos Building Inspection, descriptions of Bulk, Dust, and/or Air Monitoring samples, their locations and analyses data, which have been obtained and analyses performed in accordance with local, state, and/or federal regulations.

For Calculation purposes of samples obtained by HERRON™, all results are expressed basis actual sampling duration, with courtesy 8 hours time weighted average calculations, based on the actual sampling duration. For Calculation purposes of samples submitted to HERRON™, all results are expressed basis actual sampling duration, as submitted by the Client. HERRON™ implies no warranty to the accuracy of the information or the samples submitted by the Client. In order to make exact determinations, the employer should calculate exact times based on containment sign-in/out sheets for TWA's, in accordance with current OSHA regulations.

All Miscellaneous Provisions, Terms and Conditions apply to all services provided as indicated in HERRON™ current Terms of Services.

Information and data which has been generated as a result of this Environmental Consultation/Asbestos Service will remain confidential and will not be released to any party without prior written authorization from Client(s) (refer to authorized distribution).

We appreciate the confidence which has been demonstrated by your continued patronage, and look forward to assisting you and your group should you have future needs of Environmental Consultation/Asbestos Services.

Sincerely,

Billie J. Herron-Lusk  
Project Manager  
HERRON™ Enterprises USA, Inc.



**FIELD REPORT & OBSERVATIONS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
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 Date of Assignment: 05/29-30/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.8  
 Date of Report: 05/30 /18

**DATE TIME SUMMARY OF EVENTS**

05/17/18 ---- Requested to perform Baseline (MAAL/OSHA) Air Monitoring, Pre-Abatement Visual Containment(s) Inspection(s), Removal (MAAL/OSHA) Air Monitoring, Final Visual Containment(s) Inspection(s), Final Clearance (MAAL/OSHA) Air Monitoring, and OSHA Compliance Air Monitoring for Gross removal of

**WA#1** - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall

**1st Floor Living Room**, 7X2' Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft2

**2nd Floor Closet**  
 Loose Sheet Flooring on Wood Substrate - 10 ft2

**Test Area(s) 1st Floor Two (2) Perimeter Wall(s)**  
 Perform test area of removal of Asbestos Plaster on Stone, approximately 4X4' for Engineer determination of acceptable removal methods - 32 ft2

**1st and 2nd Floors Decontamination**  
 Floor Surface Area of 1st and 2nd Floor Levels – 1,592.25 ft2  
 1st and 2nd Floors Decontamination will include the Cleanup and Decontamination of Rodent Feces – 1,592.25 ft2  
 On successful completion of the Major Spill Response the 2nd Floor will be Isolated from the remainder of the House as no further asbestos work exists.

**WA#3** - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone

**1st Floor Kitchen and Bedroom 2** - 1,048 ft2  
 Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high

**WA#4** - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

**1st Floor Living Room, Bedroom 1, and Stairwell** – 1,612 ft2

**WA#5** - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s)

**Exterior, South Alcove** Roofing, Debris, and Associated 2" of Soil – 10 ft2  
 Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3' from foundation.

05/29/18 \* Commenced (MAAL/OSHA) Air Monitoring  
 \* Completed (MAAL/OSHA) Air Monitoring  
 \* Completed (MAAL/OSHA) Air Monitoring PCM analysis-All Work Area samples below AQCC MAAL, <=0.01 f/cc/OSHA 1926.1101, EL <1.0 f/cc, PEL <0.10 f/cc, where regulated, unless otherwise noted as follows: NA  
 \* Advised results



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**FIELD REPORT & OBSERVATIONS**

Client: Boulder County  
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Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 /  
Boulder County  
Date of Assignment: 05/29-30/18  
Assignment: Environmental Consultation/Asbestos Services  
HERRON™ Project No.: 0421178.8  
Date of Report: 05/30 /18

DATE	TIME	SUMMARY OF EVENTS
05/30/18	*	Field documentation completed and report distributed (refer to distribution)

Note: \*Refer to daily project memo for complete details of events.



**ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/29-30/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.8  
 Date of Report: 05/30 /18

SAMPLE NO. AND DESC.	PUMP NO.	TIME					FLOW RATE			FIBER					
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	DENSITY (F/MM2)	LOD (F/CC)	FIBERS (F/CC)
052918-1 Removal,	505	14	0	15	10	70	10.00	10.00	700	L	12.0	100	15.287	0.004	0.008
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0012		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

IWA

052918-2 Removal,	505	14	0	15	10	70	10.00	10.00	700	L	5.0	100	6.369	0.004	BDL
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0005		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA

052918-3 Removal,	505	14	0	15	10	70	10.00	10.00	700	L	4.0	100	5.096	0.004	BDL
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0004		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Clean Room

052918-4 Removal,	201	14	0	15	10	70	10.00	10.00	700	L	3.0	100	3.822	0.004	BDL
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0003		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Negative air exhausted outside of Building

052918-5 Removal,	505	14	0	15	10	70	10.00	10.00	700	VL	1.0	100	1.274	0.004	BDL
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0001		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Negative air exhausted outside of Building





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## ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/29-30/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.8  
 Date of Report: 05/30 /18

SAMPLE NO. AND DESC.	PUMP NO.	TIME					FLOW RATE			FIBER					
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	DENSITY (F/MM2)	LOD (F/CC)	FIBERS (F/CC)
052198-6	505	14	0	15	10	70	10.00	10.00	700	VL	0.5	100	0.637	0.004	BDL
Removal,		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0001		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Ambient

052918-B1 Blank VL 0.0 100  
 052918-B2 Blank VL 0.0 100 DATA: BL

Note: .8µ, 25mm MCE Filter Cassettes - Note: IWA = Inside Work Area, OWA = Outside Work Area, BDL = Below Detection Limit - Note: VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read - Note: Proficiency Analytical Testing (PAT) Program



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 Date of Assignment: 05/29-30/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.8  
 Date of Report: 05/30 /18

SAMPLE NO. AND DESC.	PUMP NO	TIME					FLOW RATE			FIBER					
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	DENSITY (F/MM2)	LOD (F/CC)	FIBERS (F/CC)
052918-P1	701	13	30	14	0	30	2.00	2.00	60	LOADING	2.0	100	2.548	0.045	BDL
OSHA Compliance		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):				0.0010	

Air Monitoring Samples,

Excursion Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

Juan Veloz/#10999

052918-P2	701	14	0	15	10	70	2.00	2.00	140	L	6.0	100	7.643	0.019	0.021
OSHA Compliance		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc):			0.0031	
Air Monitoring Samples,											(Multiple Sample 8 Hr. TWA, f/cc):			0.0041	

Personal Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

Juan Veloz/#10999

052918-B1	Blank										VL	0.0	100		
052918-B2	Blank										VL	0.0	100	DATA:	BL

Note: .8µ, 25mm MCE Filter Cassettes - Note: IWA = Inside Work Area, OWA = Outside Work Area, BDL = Below Detection Limit - Note: VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read - Note: Proficiency Analytical Testing (PAT) Program



**FLOOR PLANS/SITE PHOTOGRAPHS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/29-30/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.8  
 Date of Report: 05/30 /18

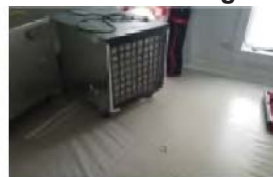
**Photo Log**



20180529\_081414



20180529\_081419



20180529\_081425



20180529\_081436



20180529\_081546



20180529\_081604



20180529\_081622



20180529\_081628



20180529\_083057



20180529\_081328



20180529\_081335



20180529\_081411



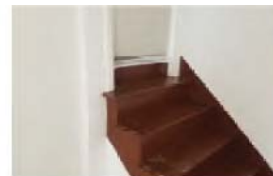
20180529\_110609



20180529\_110617



20180529\_110759



20180529\_110801



20180529\_110803



20180529\_110838



20180529\_110842



20180529\_110455



20180529\_110456



20180529\_110517



20180529\_110525



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**FLOOR PLANS/SITE PHOTOGRAPHS**

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 HERRON™ Project No.: 0421178.8  
 Date of Report: 05/30 /18

**Photo Log**



20180529\_141605



20180529\_141623



20180529\_141633



20180529\_141647



20180529\_141655



20180529\_155311



20180529\_135822



20180529\_135831



20180529\_140057



20180529\_140107



20180529\_140112



20180529\_140140



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Client: Boulder County  
Client Contact: Michael Lohr  
Order No.: SOQ #6673-17  
Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
Date of Assignment: 05/29-30/18  
Assignment: Environmental Consultation/Asbestos Services  
HERRON™ Project No.: 0421178.8  
Date of Report: 05/30 /18

**Photo Log**





**HERRON**™ Enterprises USA, Inc.

Hazardous Materials\* Mold\* Asbestos\* Lead Paint  
Environmental Services\* Industrial Hygienists

Phone (303) 763 9639

Fax (303) 763 9686

E-Mail [Lennie.Herron@comcast.net](mailto:Lennie.Herron@comcast.net)

Website [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

**FLOOR PLANS/SITE PHOTOGRAPHS**

Client: Boulder County  
Client Contact: Michael Lohr  
Order No.: SOQ #6673-17  
Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
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Client Contact:	Michael Lohr
Order No.:	SOQ #6673-17
Job Location:	0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County
Date of Assignment:	05/29-30/18
Assignment:	Environmental Consultation/Asbestos Services
HERRON™ Project No.:	0421178.8
Date of Report:	05/30 /18

**Photo Log**





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**Photo Log**







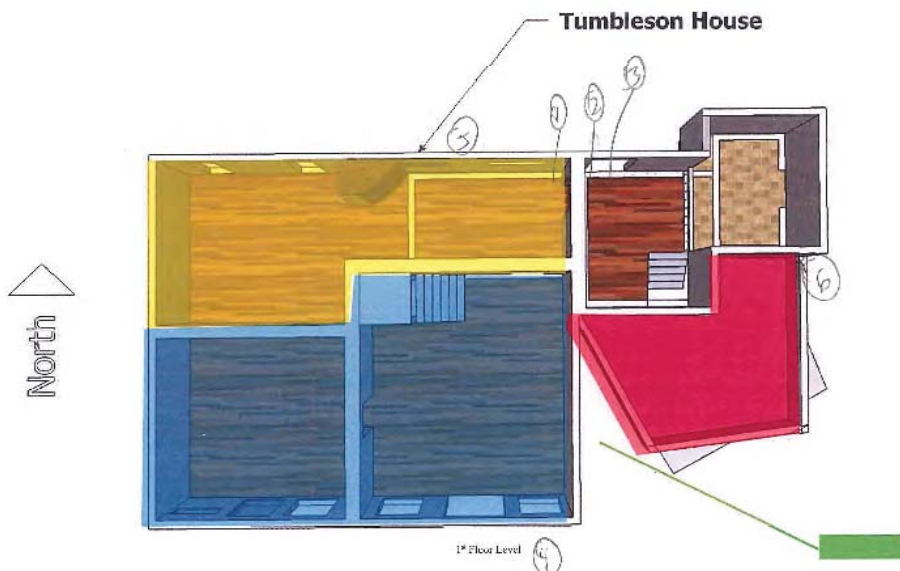
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 HERRON™ Project No.: 0421178.8  
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**(MAAL/OSHA) Air Monitoring**

HERRON™ Enterprises USA, Inc.

Tumbleson House at Hall Ranch Open Space  
Boulder County, CO



■ W42, Asbestos Containing Materials (1-1.0% Asbestos)  
■ W44, Asbestos Containing Materials (1-1.0% Asbestos)  
■ W44, Asbestos Containing Materials (1-1.0% Asbestos)  
■ W45, Asbestos Containing Materials (1-1.0% Asbestos)

Note: Photo(s) shown by permission, not to scale. Shaded area indicates approved/active Work Area.

HERRON™ Project No.: 0421178  
Asbestos Abatement Summary of Work

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Attachment A

Page 28 of 48  
February 10, 2019



## AQCC REG. NO. 8 ASBESTOS ABATEMENT INSPECTION FORM COMPLIANCE CHECKLIST AND INFORMATION

Colorado Dept. of Public Health  
and Environment  
APCD-IE-B1  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
Phone: 303-692-3100  
Fax: 303-782-0278

Project(s) Address: <b><u>Tumbleson House at Hall Ranch Open Space, Boulder County, CO</u></b>		Project(s) Permit #: 18BO2912A	
Project(s) start date: May 17, 2018		Project(s) completion date: June 04, 2018	
Inspector(s): LP (Lennie) Herron/#2572 (AMS/PM - ___) Billie J. Herron/#2650 (AMS/PM - <u>X</u> ) Jamie L. Herron-Carson/#2649 (AMS/PM - ___) Sherri K. Herron/#8728 (AMS/PM - ___) Michael W. Herron, Sr./#13788 (AMS/PM - ___)		Inspection Date: 05/29/18	
Current Abatement Phase:	<input checked="" type="checkbox"/> Pre	<input type="checkbox"/> Active	<input type="checkbox"/> Post
More than one phase/project?		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Comments:			

**Types(s) and total quantity of ACM removed/to be removed\* as reported by the abatement contractor:**

Pipe Insulation*:	Fireproofing:	Spray-on:
Ceiling Tile:	Boiler Insulation:	VAT:
Transite:	<b>Other (describe):</b> <ul style="list-style-type: none"> <li>Rodent Feces – 1,592.25 ft<sup>2</sup></li> <li>Miscellaneous Material = 20 ft<sup>2</sup></li> <li>Surfacing Material = 2,982 ft<sup>2</sup></li> </ul>	

\*Pipe insulation is reported in lineal feet, all other materials including ductwork are reported in square footage regardless of the thickness of the ACM. If reporting in 55-gallon drums, note square footage or linear footage area to be removed.

**List of ALL abatement workers in containment today:**

#	NAME	SSN OR REC. #	AHERA / STATE / PHYSICAL / FIT TEST
1	SEE ATTACHED		/ / /
<b>COMMENTS:</b>			

**Note: Responses to the Description of Citation is indicated by the anticipation of the day, with the default as X = OK / Vio. / N/A. Should the response differ, cross-out will appear and appropriate response indicated.**

**PART I – SECTION A - OUTSIDE WORK AREA(S) – CERTIFICATION AND PERMIT/NOTIFICATION REQUIREMENTS, ETC.**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
16	II.A.2	All training certs./documents on site - with <b>photo IDs</b> ?	X		
26	II.J	Project Manager - credentials ok (certified as PD, completed AMS training, HS diploma, 1 yr. Experience, independent)?			X
29	III.B.1.a & III.B.4	On-site supervisor state certified?	X		
29	III.B.1.b & III.B.4	All workers on site trained/certified?	X		
30	III.B.5	Air Monitoring Spec. trained and certified? Note - this requirement may apply during pre-and active abatement phases, e.g. monitoring NAM exhaust inside a building or checking for the "MAAL".	X		
30	III.B.6	Project Manager required (>1,000 LF/>3000SF of friable) Note: Not required in schools.			X
30	III.C.1	Project Design required (>1,000 LF/>3000SF in P&C) (>3 LF/>3SF in Schools)	X		
31	III.C.4	Project Design on the site and signed?	X		
31	III.E.1	No false, inaccurate, or misleading information?	X		
33	III.F	If a variance has been granted for any work practice(s); <b>are the conditions of this variance being followed?</b>			X
34	III.G	Permit Valid (i.e. start/stop dates)?	X		
35	III.G.4	ORIGINAL permit posted at work site?	X		
36	III.G.8	Permit signed by Project Manager?			X

**COMMENTS ON PART I – SECTION A:**

**PART I – SECTION B – OUTSIDE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
37	III.J.1.a	Negative Air Machines (NAMs) operating continuously?	X		
37 & 52	III.J.1.d & III.U.1.b.i	NAMs monitored if exhausted inside the building?	X		
37	III.J.3	-0.02" H <sub>2</sub> O or better on Manometer?		X	
37	III.J.3	Continuous printout on Manometer?	X		
37	III.J.4	Smoke tubes present?	X		
37	III.J.4	Air flow - outside to inside ok?	X		
38	III.K.1	All chambers separated by airlocks?	X		
38	III.K.1	Decon Unit - 3 stages?	X		
38	III.K.1	Self-closing flaps/doors? (Z flaps are preferable, but not required)	X		
38	III.K.1.a	Clean room - adequately sized?	X		
38	III.K.1.b	Shower - hot and cold water at the tap?	X		
38	III.K.1.b	Shower – leakage anywhere but the supply connection?	X		
38	III.K.1.b	Shower - wastewater filtered to 5 microns or less, sanitary sewer discharge?	X		
38	III.K.1.b	Shower and Clean room - ACM debris present?	X		
39	III.K.2	Entry and exit procedures ok?	X		
41	III.N.2	View port present (at minimum 12"x12")?	X		
41	III.N.3	Waste load out separate from Decon?	X		
41	III.N.3	Waste load out - 2 stages?	X		

**COMMENTS ON PART I – SECTION B:** PRESSURE DIFFERENTIAL STILL BEING ADDRESSED VIA INSTALLATION OF CRITICAL BARRIERS AND ADDITIONAL NEGATIVE AIR MACHINES – CORRECTED BY ADDING A 4<sup>TH</sup> NEGATIVE AIR MACHINE AND SEALING EXTERIOR PENETRATIONS AT THE ROOF LINE.

**PART II – INSIDE THE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
36	III.I	Critical barriers - 1 layer 6 mil?	X		
36	III.J.1.b	Air cleaning equipment - HEPA filters properly installed, equipment operating, maintained adequately, etc.?	X		
37	III.J.2	Adequate equipment in place to ensure 4 air changes per hour?	X		
38	III.K.1.c	6 mil disposal bag present in Dirty Room?	X		
39	III.K.2.b	Disposable clothing worn by workers?	X		
39	III.L	Pre-cleaning - criticals and decon, HEPA vacs, wet cleaning, proper disposal?	X		
39	III.L.1	Movable objects cleaned before removal from the work area?	X		
39	III.M	Fixed objects - 1 layer 6 mil?	X		
40	III.N.1.a	Floors - 2 separate layers 6 mil?	X		
40	III.N.1.a, b, & c	No seams present (wall/floor, wall/ceiling, 12" overlap)?	X		
40	III.N.1.b	Walls - 2 separate layers 4 mil?	X		
40	III.N.1.c	Ceilings - 1 layer 4 mil?	X		
41	III.O.1.a.i.(A)	Amended water being used (surfactants) before ACM is removed?	X		
41	III.O.1.a.i.(A)	Are the surfactants a commercial product designed specifically for ACM removal?	X		
41	III.O.1.a.i.(A)	Material adequately wet and/or kept wet until bagged for disposal?	X		
42	III.O.1.a.i.(B)	Airless sprayers used for applying amended water or encapsulant?	X		
42	III.O.1.a.iii	All contaminated surfaces wet-wiped prior to disassembly of containment barriers?	X		

**COMMENTS ON PART II:**

**PART III – SECTION A –SPECIAL PROJECTS, RESILIENT FLOOR TILE**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
31	III.E.1	Notice posted at the worksite?			X
46	III.R.	Waste handled as nonfriable waste?			X
114	Appendix B	Appendix B, Amended water being used?			X
114	Appendix B	Appendix B, Hand tools only?			X
48	III.S.1	Appendix B, Proper handling and packaging of tiles/adhesives?			X
48	III.S.1	Voluntarily using splashguards, critical, negative air, and decon?			X
48	III.S.1.c	Is the material being rendered friable?			X

**COMMENTS ON PART III, SECTION A:**

**PART III – SECTION B –SPECIAL PROJECTS, SHEET VINYL FLOORING**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
34	III.E.1	Notice/Permit posted at the worksite?			X
46	III.R.	Waste handled as friable waste?			X
48	III.S.1.c	Is the material being rendered friable?			X
48	III.S.1.d.	Worker(s)/Supervisor(s) trained according to Appendix C?			X
48	III.S.2	Appendix B, Amended water being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Hand tools only being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Proper handling and packaging of sheet flooring being used by only App. C trained workers?			X
107	Appendix B	Appendix B, Proper wetting at the delaminating nip point being used by only App. C trained workers?			X
48	III.S.2	Voluntarily using splashguards, critical, negative air, and decon?			X

**COMMENTS ON PART III, SECTION B:**


**PART III – SECTION C –SPECIAL PROJECTS, NONFRIABLE ACM**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
49	III.S.4.a.	ACM adequately wet?			X
49	III.S.4.b.	Hand removal methods being used?			X
49	III.S.4.c.	Minimal breakage and disturbance?			X
49	III.S.4.d.	Material properly disposed of as nonfriable waste?			X

**COMMENTS ON PART III, SECTION C:**


**PART IV – SPECIAL REMOVAL METHODS, GLOVEBAGS AND FACILITY COMPONENT REMOVAL**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
53	III.V.1	Glove bags - proper usage (useable without causing fiber release)?			X
53	III.V.1.a	Glove bags - properly sealed to the area, no bottom seam?			X
53	III.V.1.b	Glove bags - pipes cooler than 150°F?			X
53	III.V.1.c	Glove bags used only once?			X
53	III.V.1.d.i	Glove bags - secondary containment(s) in place if removal > 3LF/SF?			X
54	III.V.1.d.ii	Glove bags - smoke tested prior to use?			X
54	III.V.1.d.iv	Glove bags - material in bags adequately wet?			X
54	III.V.1.d.vi	Glove bags - "rough" edges encapsulated?			X
54	III.V.1.d.vii	Glove bags - evacuated with HEPA vac prior to removing the bag?			X
54	III.V.2	Facility component removal - w/o containment, material well adhered to surface?			X
54	III.V.2.a	Facility component removal - adequately wet and wrapped in 6 mil poly prior to removal from the work area?			X

**COMMENTS ON PART IV:**


**PART V – MAJOR SPILLS**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
50	III.T.1.	Spill properly characterized (air sampling, tape sampling, microvac sampling)?	X		
50	III.T.1.a.	Area immediately sealed off?	X		
50	III.T.1.b	Air handling system shut down or modified to prevent further disturbance?	X		
50	III.T.1.c.	Division properly notified by phone and requirement(s) of subsection III.E. fulfilled?	X		
50	III.T.1.e.	Area sealed off and negative pressure established in accordance with III.J.	X		
50	III.T.1.e.	Certified personnel in accordance with section II performing work?	X		
50	III.T.1.j	Final clearance air monitoring performed in accordance with subsection III.P.	X		

**COMMENTS ON PART IV:**

**NOTE: WORK AREA #1 ONLY – COMPLETE 05/22/18**


**PART VI – WASTE HANDLING REQUIREMENTS (WASTE STORAGE AREA)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
47	III.R.1	6 mil or greater bags?	X		
46	III.R.2.a	Containers - material adequately wet in bags?	X		
46	III.R.2.a	No breakage, rupture or leakage?	X		
47	III.R.2.b	Proper warning labels on bags?	X		
47	III.R.2.d	Visible emissions – anywhere on job site?	X		
47	III.R.2.f	All waste water filtered to 5 microns AND discharged to a <b>sanitary sewer</b> ?	X		
47	III.R.3	Are ACWM bags labeled with generator labels in accordance with 40 CFR 61.150?	X		
47	III.R.3	Are appropriate waste shipment records being maintained (40 CFR 61.150)?	X		
47	III.R.3	Transport to a proper disposal site?	X		
47	III.R.3	Waste storage vehicles placard during loading/storage at job site?	X		

**COMMENTS ON PART V:**


### PART VII – POST ACTIVE ABATEMENT REQUIREMENTS

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
19	II.D.	Is the AMS properly trained and certified? (Note: this requirement also pertains to "background air sampling" and sampling conducted near NAM exhausts if the NAMs are exhausted inside a building, i.e. sampling for the MAAL.)	X		
43	III.P	Is the AMS performing the final clearance procedures completely independent of the asbestos contractor?	X		
44	III.P.1	Work area reduced to only critical barriers in place?	X		
44	III.P.3.a.i	Aggressive sampling conducted pursuant to 40 CFR 763 Appendix A?	X		
44	III.P.3.a.i	Has all dust and debris been removed from the work area, including areas behind the critical barriers?	X		
45	III.P.3.b.ii	TEM air sampling - 1,199 liters of air drawn (25 mm cassette) and average of the required 5 samples is below 70 structures/mm <sup>2</sup> ?* Note: Required for schools if the project is >160 SF/260 LF.			X
45	III.P.3.b.iii	PCM air sampling – Sufficient amount of air drawn so the LOD is <0.01f/cc (25mm cassette) and each sample of 5 required samples is below 0.01 f/cc?* Note: Required for school is the project is >3 SF/>3LF but <160 SF/<260 LF.	X		
45	III.P.3.c.i	TEMs - lab properly accredited (by NIST)?			X
46	III.P.3.c.ii	PCMs - lab successfully participating in AIHA PAT program?	X		
46	III.P.3.c.ii	Satellite Labs - directly under the control of properly accredited "parent" lab pursuant to subclause III.P.3.c.i?	X		
46	III.P.3.c.ii	Satellite labs - proper procedures (NIOSH 7400 method) followed, and is the analyst properly trained pursuant to Section III.P.3.c.ii?	X		
53	III.U.3.b	MAAL, sample(s) outside containment >0.01 f/cc PCM?	X		
52 & 53	III.U.2.b & III.U.3.a	MAAL, if yes to above, re-analyzed TEM within 24 hours and/or area treated as a spill?			X
27	II.L.	Everyone performing consulting firm activities registered with CDPH&E?	X		

**\*There are two possible exceptions to these rules, see page 46 for details\***

#### COMMENTS ON PART VI:

#### COMMENTS, GENERAL:



**HERRON™** Enterprises USA, Inc.  
 Hazardous Materials\* Mold\* Asbestos\* Lead Paint  
 Environmental Services\* Industrial Hygienists

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 Website [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)  
 7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

**PROJECT/LOCATION: 0421178, RFP#6648-17- Tumbleson House at Hall Ranch Open Space Asbestos Consulting**

**Services / Boulder County**

CONTRACTOR Employees	On-Site Today?	AHERA Worker Expiration	State Worker Expiration	AHERA Supervisor Expiration	State Supervisor Expiration	Physical Expiration	Fit Test Expiration	Copy of All Certifications on Site?	State ID Card Displayed On-Site?	Certificate of Workers Acknowledgement	DATE REPORT NO	05/29/18	
												State ID Card Received by HERRON?	* Authorized Employee in Work Area(s) at This Job Site Today?
Alma Mosqueda/#12109		03/03/19	04/27/19	NA	NA	04/16/19	02/20/19	*	*	*			
Carlos Vandehorst/#22241	Yes	07/01/18	07/15/18	NA	NA	07/14/18	12/26/18	*	*	*			
David Starks/#15640		NA	NA	08/25/18	09/18/18	02/02/19	05/09/19	*	*	*			
Dylan Gallogly/#24196		NA	NA	12/22/18	01/04/19	01/08/19	01/09/19	*	*	*			
Felipe Hernandez/#16523	Yes	03/17/19	04/19/19	NA	NA	04/14/19	04/20/19	*	*	*			
Hector Salgado/#20974	Yes	03/03/19	06/29/18	NA	NA	04/24/19	04/03/19	*	*	*			
Allen Gallogly/#21476	Yes	04/30/19	03/16/19	NA	NA	01/18/19	05/19/19	*	*	*			
Juan Veloz/#10999	Yes	07/29/18	09/21/19	NA	NA	05/17/19	12/18/18	*	*	*			
Adriana Jacobi-Uribe/#12893		02/03/19	05/24/18	NA	NA	06/01/18	06/01/18	*	*	*			No

9 5  
 Expired

Expired and/or Update Not Received:

\*Should Employee not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.  
 Legend of Documents not received by HERRON: 1, AHERA Certification, 2, State Certification, 3, Physical, 4, Fit Test, 5, Certificate of Worker's Acknowledgement.  
 Effectively, this document is published daily to include Employees which have signed in.



## ON-SITE DAILY SIGN-IN SHEET

Date: 5/29/2018  
 Project Name: tumbleson HOUSE.  
 Job #: 18-026.  
 Supervisor: Felipe Hernandez

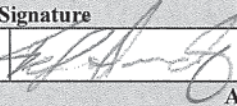
Name	Time In	Lunch Out	Lunch In	Time Out	Total Hours
Felipe Hernandez					
Hector Salgado					
Carlos VANDERHORST					
Allen Gillegly					
JUAN VELOZ					
Daily Total:					

**CERTIFICATION OF PRE-ABATEMENT VISUAL INSPECTION(S)**

Building	Work Area/Containment	Material(s)	Quantity(ies)	Full/Mini/ Regulated Area
Tumbleson	WA#3/#4	SCC SPEC	SEESPEC	Full


**Asbestos Abatement Contractor Certification**

In accordance with local, state, federal regulations, and the Asbestos Abatement Summary of Work, the Asbestos Abatement Contractor hereby certifies that he or she has properly prepared and has visually inspected the Work Area (all posting of permits and certifications, installation and proper operation or implementation of all work practices, decontamination units, waste load out areas, pre-cleaning of surfaces, manometers, disposal containers, integrity of enclosures, water, surfactants, equipment, materials, protective clothing, respiratory protection, etc.) and that the Asbestos Abatement Contractor is ready to proceed with active abatement.

Asbestos Abatement Contractor Signature	Date/Time	Certification No.	Printed Name	Title	Pass/Fail
Final 	5/29/18	16523	Felipe Hernandez	Sup.	P

**Air Monitoring Specialist/Asbestos Project Manager Certification**

The Air Monitoring Specialist/Asbestos Project Manager hereby certifies that he or she has accompanied the Asbestos Abatement Contractor on this visual inspection and verifies that this visual inspection has been thorough where visible/accessible, and to the best of his or her knowledge and belief, the Asbestos Abatement Contractor's Certification above is a true and honest one.

Air Monitoring Specialist/Asbestos Project Manager Signature	Date/Time	Certification No.	Printed Name	Title	Pass/Fail
Final 	05/29/18	2670	B. L. Kirk	AMN	✓

**Comments:**

**Designer/Project Administrator Certification**

The Designer/Project Administrator hereby certifies that he or she has reviewed the Asbestos Abatement Contractor, Air Monitoring Specialist/Asbestos Project Manager Certification on completion of this final visual inspection and believes that this final visual inspection has been thorough where visible/accessible, and to the best of his or her knowledge and belief, the Asbestos Abatement Contractor's and Air Monitoring Specialist's/Asbestos Project Manager's Certification's above are true and honest ones.

Designer Signature	Date/Time	Certification No.	Printed Name	Title
Project Administrator Signature	Date/Time	Certification No.	Printed Name	Title

---

**From:** Destiny M. Herron <HERRONAdmin@comcast.net>  
**Sent:** Friday, June 8, 2018 1:57 PM  
**To:** 'Michael Lohr'; 'Carol Beam'; 'Brian Bertin'  
**Cc:** 'Allen Gallogly'; 'David W. Starks'; 'L. P. (Lennie) Herron'; 'Christy M. Herron'; 'Billie J. Herron'; Destiny M. Herron  
**Subject:** 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
**Attachments:** 0421178.9, Daily Report, 05.30.18.pdf

## Project Update

In regards to the end of the shift:  
05/30/18 (Wednesday)

1. Notifications –
  - a. Issues during the shift –
    - 1) No issues
2. Containment observation: Yes
  - a. In accordance with the Specifications and Regulations –

Current Work Area(s) –

WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone  
1st Floor Kitchen and Bedroom 2 - 1,048 ft<sup>2</sup>

Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high

1. Apply negative air to meet a criteria of -0.03”
  - a. Results within local, state, and/or federal regulations

WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone  
1st Floor Living Room, Bedroom 1, and Stairwell – 1,612 ft<sup>2</sup>

1. Apply negative air to meet a criteria of -0.03”
  - a. Results within local, state, and/or federal regulations

3. Structure Crack Monitoring –
  - a. Surface mounted gauges will be visually observed twice daily after arrival of the first visit of the Engineer to determine if the existing cracks within the masonry are being impacted by the abatement
    - 1) AM
      1. W1 – West Side, North End – 1.0 mm
      2. W2 – West Side, South End – 0.0 mm
      3. S1 – South Side, East End – 0.5 mm
      4. E1 – East Side, Center – 1.0 mm
    - 2) PM
      1. W1 – West Side, North End – 1.0 mm
      2. W2 – West Side, South End – 1.0 mm
      3. S1 – South Side, East End – 0.5 mm
      4. E1 – East Side, Center – 1.0 mm
4. Asbestos Air Monitoring –
  - a. During-abatement monitoring with the following preliminary results –

- 1) WA#3, #4
  - 2) IWA – 0.009 f/cc
  - 3) OWA,
  - 4) OWA, Clean Room
  - 5) OWA, Negative Air Exhausted Outside of the Building
  - 6) OWA, Ambient, Outside of Building
    1. These environmental samples, on completion of final analysis, Outside Work Area sample(s) have not exceeded the Maximum Allowable Asbestos Level (MAAL) by Phase Contrast Microscopy (PCM), or Transmission Electron Microscopy (TEM), where applicable.
- b. OSHA Compliance monitoring with the following preliminary results –
- 1) WA#3, #4
  - 2) Excursion – 0.057 f/cc
  - 3) Personal, Multi-sample 8 Hour TWA – 0.0199 f/cc
    1. These environmental samples, on completion of final analysis, have not exceeded the EL (Excursion Level) or the PEL (Permissible Exposure Level) by Phase Contrast Microscopy (PCM), where applicable.
    2. Samples which were reported as CBR were not included in the multi-sample TWA result.
    3. Sampling flow rates should be lowered to avoid CBR results.
    4. *A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL) –*
    5. Should a CBR sample have occurred, the Contractor is advised to review engineering controls, negative pressure, air flow, wet methods, etc.
5. Daily Contractor Submittals Received (sign in sheets, daily logs, entry/exit logs, special reports) –
- a. 05/30/18 – not received – submit
  - b. 05/29/18 – not received – submit
  - c. 05/25/18 – not received – submit
  - d. 05/24/18 – not received – submit
  - e. 05/23/18 – not received – submit
  - f. 05/22/18 – not received – submit
  - g. 05/21/18 – not received – submit
  - h. 05/18/18 – not received – submit
  - i. 05/17/18 – not received – submit
  - j. 05/17/18 – mobilization 05/17/18 7:30 AM MST
    - 1) Contractor Project Directory –
      1. Note: Should Employee not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.
6. Work Areas completed –
- a. WA#2 Removed from Scope of Work - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster Wall(s) on Stone  
1st Floor Root Cellar – 322 ft<sup>2</sup>  
Demolition of Wood Shelving in 1st Floor Root Cellar (embedded in Plaster) – 11.5X4’ X 3 sets
  - b. WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (PCM Clearance Passed 05/22/18)  
1st Floor Living Room, 7X2’ Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft<sup>2</sup>  
2nd Floor Closet, Loose Sheet Flooring on Wood Substrate - 10 ft<sup>2</sup>
  - c. WA#5 - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s) (Visual Passed 05/21/18)  
Exterior, South Alcove Roofing, Debris, and Associated 2” of Soil – 10 ft<sup>2</sup>

Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3' from foundation.

7. Punch list items completed –
  - a. Awaiting Completion
8. Notes:
  - a. Refer to Project Memo(s).
  - b. All observations stated in this report are based on facts and circumstances as they existed during the time of the observations, and during the time period of this report preparation and as available within the limits of the mutually agreed upon Scope of Work, budget, and schedule. The observations in this report is not intended to be exhaustive in scope, and is considered an ongoing working document. HERRON™ reserves the right to modify the contents of this document, as necessary.
  - c. As agreed, daily conversations are occurring, and daily reports will be on site for employee review. Hard copy will not be mailed as this correspondence constitutes delivery of the specified documents.
  - d. Refer to Project Definitions below.

Please advise within an RFI if you have any questions.

Thanks in advance,

Destiny M. Herron  
Administrative Assistant  
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Project Definitions:

Asbestos

1. In regards to the results, Regulation 29 CFR 1910, 1926 –  
[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=standards&p\\_id=9995](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9995)  
[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_id=10862&p\\_table=standards](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=10862&p_table=standards)  
A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL). In accordance with 29 CFR 1926, 1926.1101; 1926.1101(c)(1); 1926.1101(f)(1) Standard Interpretation Correct manner to interpret air sample measurements of an employee's asbestos exposure when the samples are overloaded [01/17/2006]  
[http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=INTERPRETATIONS&p\\_id=2529](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=2529)  
[5](#);  
*'...While monitoring an employee's exposure to an airborne contaminant, such as asbestos, occasionally samples are lost, damaged, overloaded, or are otherwise unusable. Analytical laboratories report such samples as "VOID," with a note of explanation. An overloaded asbestos air sample is one in which non-asbestos dust obscures some or all of the fibers on the filter and therefore makes it impossible to accurately determine the concentration of asbestos in the laboratory's microscopic analysis. Such samples should not be counted by an employer in TWA calculations of employee exposure. The use of a "zero" exposure result for such samples is inappropriate; it will underestimate the employee's true exposure. An employer has the responsibility to "accurately" determine his employee's exposure to asbestos...'*  
1926.1101(b) Definitions

Employee exposure means that exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

1926.1101(c)(2) Excursion limit

The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(c) Permissible exposure limits (PELS)

1926.1101(c)(1)

Time-weighted average limit (TWA). The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air as an eight (8) hour time-weighted average (TWA), as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(c)(2)

Excursion limit. The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(g)(2)(v)

Wherever the feasible engineering and work practice controls described above are not sufficient to reduce employee exposure to or below the permissible exposure limit and/or excursion limit prescribed in paragraph (c) of this section, the employer shall use them to reduce employee exposure to the lowest levels attainable by these controls and shall supplement them by the use of respiratory protection that complies with the requirements of paragraph (h) of this section.

2. In regards to the results, AQCC Regulation No. 8 –

<http://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=7206&fileName=5> CCR 1001-10

III.U.2. The Maximum Allowable Asbestos Level (MAAL)

III.U.2.a. PCM - If PCM is used as the method of analysis the standard is 0.01 fibers per cubic centimeter of air (f/cc), which is equivalent to 10,000 fibers per cubic meter of air (f/m<sup>3</sup>).

III.U.2.b. TEM - Where TEM is used as the method of analysis, the standard is 70 structures/millimeter<sup>2</sup> (s/mm<sup>2</sup>).

3. Laboratory certificates not included with this correspondence have not been received, will follow under a separate cover.
4. Legend: .8μ, 25mm MCE Filter Cassettes, Amb = Ambient, IWA = Inside Work Area, OWA = Outside Work Area, CR = Clean/Change Room, LO = Loadout, NAM = Negative Air Exhaust, Ex = Excursion, Per = Personnel, VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read, BDL = Below Detection Limit



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## ASBESTOS SERVICES

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/30-31/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.9  
 Date of Report: 05/31 /18

## SUMMARY OF WORK

Per Client request, and under the guidelines defined, HERRON™ Enterprises USA, Inc. has concluded the Environmental Consultation/Asbestos Service for friable and/or non-friable Asbestos Containing Material(s) at the aforementioned property.

Our Environmental Consultation/Asbestos Service report may include a Limited Asbestos Building Inspection, descriptions of Bulk, Dust, and/or Air Monitoring samples, their locations and analyses data, which have been obtained and analyses performed in accordance with local, state, and/or federal regulations.

For Calculation purposes of samples obtained by HERRON™, all results are expressed basis actual sampling duration, with courtesy 8 hours time weighted average calculations, based on the actual sampling duration. For Calculation purposes of samples submitted to HERRON™, all results are expressed basis actual sampling duration, as submitted by the Client. HERRON™ implies no warranty to the accuracy of the information or the samples submitted by the Client. In order to make exact determinations, the employer should calculate exact times based on containment sign-in/out sheets for TWA's, in accordance with current OSHA regulations.

All Miscellaneous Provisions, Terms and Conditions apply to all services provided as indicated in HERRON™ current Terms of Services.

Information and data which has been generated as a result of this Environmental Consultation/Asbestos Service will remain confidential and will not be released to any party without prior written authorization from Client(s) (refer to authorized distribution).

We appreciate the confidence which has been demonstrated by your continued patronage, and look forward to assisting you and your group should you have future needs of Environmental Consultation/Asbestos Services.

Sincerely,

Billie J. Herron-Lusk  
Project Manager  
HERRON™ Enterprises USA, Inc.



**FIELD REPORT & OBSERVATIONS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/30-31/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.9  
 Date of Report: 05/31 /18

**DATE TIME SUMMARY OF EVENTS**

DATE	TIME	SUMMARY OF EVENTS
05/17/18	----	<p>Requested to perform Baseline (MAAL/OSHA) Air Monitoring, Pre-Abatement Visual Containment(s) Inspection(s), Removal (MAAL/OSHA) Air Monitoring, Final Visual Containment(s) Inspection(s), Final Clearance (MAAL/OSHA) Air Monitoring, and OSHA Compliance Air Monitoring for Gross removal of</p> <p><b>WA#1</b> - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall</p> <p><b>1st Floor Living Room</b>, 7X2' Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft<sup>2</sup></p> <p><b>2nd Floor Closet</b> Loose Sheet Flooring on Wood Substrate - 10 ft<sup>2</sup></p> <p><b>Test Area(s) 1st Floor Two (2) Perimeter Wall(s)</b> Perform test area of removal of Asbestos Plaster on Stone, approximately 4X4' for Engineer determination of acceptable removal methods - 32 ft<sup>2</sup></p> <p><b>1st and 2nd Floors Decontamination</b> Floor Surface Area of 1st and 2nd Floor Levels – 1,592.25 ft<sup>2</sup> 1st and 2nd Floors Decontamination will include the Cleanup and Decontamination of Rodent Feces – 1,592.25 ft<sup>2</sup> On successful completion of the Major Spill Response the 2nd Floor will be Isolated from the remainder of the House as no further asbestos work exists.</p> <p><b>WA#3</b> - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone <b>1st Floor Kitchen and Bedroom 2</b> - 1,048 ft<sup>2</sup> Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high</p> <p><b>WA#4</b> - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone <b>1st Floor Living Room, Bedroom 1, and Stairwell</b> – 1,612 ft<sup>2</sup></p> <p><b>WA#5</b> - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s) <b>Exterior, South Alcove</b> Roofing, Debris, and Associated 2" of Soil – 10 ft<sup>2</sup> Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3' from foundation.</p>
05/30/18	*	Commenced (MAAL/OSHA) Air Monitoring
	*	Completed (MAAL/OSHA) Air Monitoring
	*	Completed (MAAL/OSHA) Air Monitoring PCM analysis-All Work Area samples below AQCC MAAL, <=0.01 f/cc/OSHA 1926.1101, EL <1.0 f/cc, PEL <0.10 f/cc, where regulated, unless otherwise noted as follows: NA
	*	Advised results





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**FIELD REPORT & OBSERVATIONS**

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Client Contact: Michael Lohr  
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Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 /  
Boulder County  
Date of Assignment: 05/30-31/18  
Assignment: Environmental Consultation/Asbestos Services  
HERRON™ Project No.: 0421178.9  
Date of Report: 05/31 /18

DATE	TIME	SUMMARY OF EVENTS
05/31/18	*	Field documentation completed and report distributed (refer to distribution)

Note: \*Refer to daily project memo for complete details of events.



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## ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/30-31/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.9  
 Date of Report: 05/31 /18

SAMPLE NO. AND DESC.	PUMP NO.	TIME					FLOW RATE			VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	FIBER		
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	DENSITY (F/MM2)					LOD (F/CC)	FIBERS (F/CC)	
053018-1 Removal,	505	7	50	14	30	400	3.00	3.00	1200	M	22.0	100	28.025	0.002	0.009	
		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc): 0.0075					

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

IWA

053018-2 Removal,	505	7	50	14	30	400	3.00	3.00	1200	M	0.5	100	0.637	0.002	BDL
		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc): 0.0002				

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA

053018-3 Removal,	505	7	50	14	30	400	3.00	3.00	1200	M	8.0	100	10.191	0.002	0.003
		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc): 0.0027				

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Clean Room

053018-4 Removal,	201	7	50	14	30	400	3.00	3.00	1200	L	7.0	100	8.917	0.002	0.003
		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc): 0.0024				

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Negative air exhausted outside of Building

053018-5 Removal,	505	7	50	14	30	400	3.00	3.00	1200	L	4.0	100	5.096	0.002	BDL
		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc): 0.0014				

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Negative air exhausted outside of Building



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## ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/30-31/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.9  
 Date of Report: 05/31 /18

SAMPLE NO. AND DESC.	PUMP NO.	TIME					FLOW RATE			FIBER					
		ON HR	MIN	OFF HR	MIN	TOT MIN	(LPM) ON	(LPM) OFF	VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	DENSITY (F/MM2)	LOD (F/CC)	FIBERS (F/CC)
053018-6	505	7	50	14	30	400	3.00	3.00	1200	L	2.0	100	2.548	0.002	BDL
Removal,		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0007		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Ambient

053018-B1 Blank VL 0.0 100  
 053018-B2 Blank VL 0.0 100 DATA: BL

Note: .8μ, 25mm MCE Filter Cassettes - Note: IWA = Inside Work Area, OWA = Outside Work Area, BDL = Below Detection Limit - Note: VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read - Note: Proficiency Analytical Testing (PAT) Program



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## ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS

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 Date of Assignment: 05/30-31/18  
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 HERRON™ Project No.: 0421178.9  
 Date of Report: 05/31 /18

SAMPLE NO. AND DESC.	PUMP NO	TIME					FLOW RATE			VOL (L)	PARTICULATE LOADING	FIBER			
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	FIBER COUNT			FIELD COUNT	DENSITY (F/MM2)	LOD (F/CC)	FIBERS (F/CC)
053018-P1	701	8	15	8	45	30	2.00	2.00	60	M	7.0	100	8.917	0.045	0.057
OSHA Compliance		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc):			0.0036	

Air Monitoring Samples,

Excursion Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

Carlos Vandehorst/#22241

053018-P2	701	8	45	14	30	345	2.00	2.00	690	H	32.0	100	40.764	0.004	0.023
OSHA Compliance		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc):			0.0163	
Air Monitoring Samples,											(Multiple Sample 8 Hr. TWA, f/cc):			0.0199	

Personal Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

Carlos Vandehorst/#22241

053018-B1	Blank										VL	0.0	100		
053018-B2	Blank										VL	0.0	100	DATA:	BL

Note: .8µ, 25mm MCE Filter Cassettes - Note: IWA = Inside Work Area, OWA = Outside Work Area, BDL = Below Detection Limit - Note: VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read - Note: Proficiency Analytical Testing (PAT) Program



**FLOOR PLANS/SITE PHOTOGRAPHS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/30-31/18  
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 HERRON™ Project No.: 0421178.9  
 Date of Report: 05/31 /18

**Photo Log**



20180530\_081707



20180530\_081719



20180530\_081724



20180530\_081728



20180530\_081737



20180530\_081742



20180530\_081747



20180530\_081754



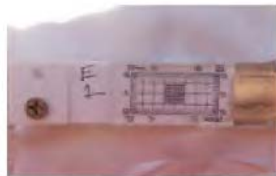
20180530\_081823



20180530\_081111



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20180530\_081227



20180530\_081234



20180530\_081639



20180530\_081644



20180530\_081648



20180530\_081652



20180530\_081702



**FLOOR PLANS/SITE PHOTOGRAPHS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/30-31/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.9  
 Date of Report: 05/31 /18

**Photo Log**



20180530\_135601



20180530\_135612



20180530\_135622



20180530\_135907



20180530\_140403



20180530\_140412



20180530\_140427



20180530\_140437



20180530\_135519



20180530\_135524



20180530\_135526



20180530\_135537



20180530\_135546



20180530\_135548



20180530\_135557



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Date of Assignment: 05/30-31/18  
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HERRON™ Project No.: 0421178.9  
Date of Report: 05/31 /18

**Photo Log**





**HERRON**™ Enterprises USA, Inc.

Hazardous Materials\* Mold\* Asbestos\* Lead Paint  
Environmental Services\* Industrial Hygienists

Phone (303) 763 9639

Fax (303) 763 9686

E-Mail [Lennie.Herron@comcast.net](mailto:Lennie.Herron@comcast.net)

Website [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

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Order No.:	SOQ #6673-17
Job Location:	0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County
Date of Assignment:	05/30-31/18
Assignment:	Environmental Consultation/Asbestos Services
HERRON™ Project No.:	0421178.9
Date of Report:	05/31 /18

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**Photo Log**





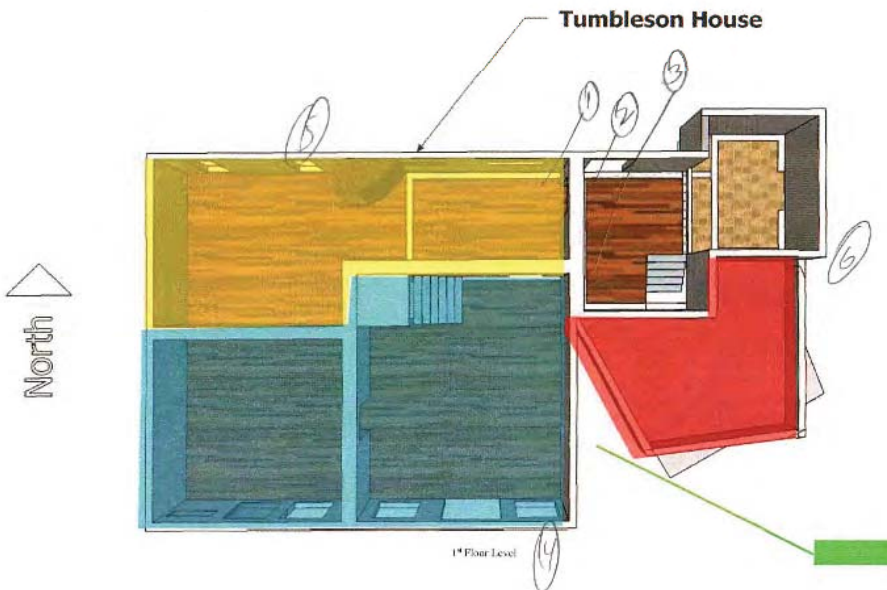
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 HERRON™ Project No.: 0421178.9  
 Date of Report: 05/31 /18

**(MAAL/OSHA) Air Monitoring**

HERRON™ Enterprises USA, Inc.

Tumbleson House at Hall Ranch Open Space  
Boulder County, CO



■ WAP2, Asbestos Containing Materials (>1.0% Asbestos)  
■ WAP1, Asbestos Containing Materials (>1.0% Asbestos)  
■ WAP4, Asbestos Containing Materials (>1.0% Asbestos)  
■ WAP5, Asbestos Containing Materials (>1.0% Asbestos)  
 Note: Plan(s) copied by permission, not to scale. Shaded area indicates approximate Work Area.

HERRON™ Project No. 0421178  
Asbestos Abatement Summary of Work

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Attachment A

Page 28 of 45  
February 15, 2018



## AQCC REG. NO. 8 ASBESTOS ABATEMENT INSPECTION FORM COMPLIANCE CHECKLIST AND INFORMATION

Colorado Dept. of Public Health  
and Environment  
APCD-IE-B1  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
Phone: 303-692-3100  
Fax: 303-782-0278

Project(s) Address: <b><u>Tumbleson House at Hall Ranch Open Space, Boulder County, CO</u></b>		Project(s) Permit #: 18BO2912A	
Project(s) start date: May 17, 2018		Project(s) completion date: June 04, 2018	
Inspector(s): LP (Lennie) Herron/#2572 (AMS/PM - ___) Billie J. Herron/#2650 (AMS/PM - <u>X</u> ) Jamie L. Herron-Carson/#2649 (AMS/PM - ___) Sherri K. Herron/#8728 (AMS/PM - ___) Michael W. Herron, Sr./#13788 (AMS/PM - ___)		Inspection Date: 05/30/18	
Current Abatement Phase:	Pre <input type="checkbox"/>	Active <input checked="" type="checkbox"/>	Post <input type="checkbox"/>
More than one phase/project?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Comments:			

**Types(s) and total quantity of ACM removed/to be removed\* as reported by the abatement contractor:**

Pipe Insulation*:	Fireproofing:	Spray-on:
Ceiling Tile:	Boiler Insulation:	VAT:
Transite:	<b>Other (describe):</b> <ul style="list-style-type: none"> <li>Rodent Feces – 1,592.25 ft<sup>2</sup></li> <li>Miscellaneous Material = 20 ft<sup>2</sup></li> <li>Surfacing Material = 2,982 ft<sup>2</sup></li> </ul>	

\*Pipe insulation is reported in lineal feet, all other materials including ductwork are reported in square footage regardless of the thickness of the ACM. If reporting in 55-gallon drums, note square footage or linear footage area to be removed.

**List of ALL abatement workers in containment today:**

#	NAME	SSN OR REC. #	AHERA / STATE / PHYSICAL / FIT TEST
1	SEE ATTACHED		/ / /
<b>COMMENTS:</b>			

**Note: Responses to the Description of Citation is indicated by the anticipation of the day, with the default as X = OK / Vio. / N/A. Should the response differ, cross-out will appear and appropriate response indicated.**

**PART I – SECTION A - OUTSIDE WORK AREA(S) – CERTIFICATION AND PERMIT/NOTIFICATION REQUIREMENTS, ETC.**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
16	II.A.2	All training certs./documents on site - with <b>photo IDs</b> ?	X		
26	II.J	Project Manager - credentials ok (certified as PD, completed AMS training, HS diploma, 1 yr. Experience, independent)?			X
29	III.B.1.a & III.B.4	On-site supervisor state certified?	X		
29	III.B.1.b & III.B.4	All workers on site trained/certified?	X		
30	III.B.5	Air Monitoring Spec. trained and certified? Note - this requirement may apply during pre-and active abatement phases, e.g. monitoring NAM exhaust inside a building or checking for the "MAAL".	X		
30	III.B.6	Project Manager required (>1,000 LF/>3000SF of friable) Note: Not required in schools.			X
30	III.C.1	Project Design required (>1,000 LF/>3000SF in P&C) (>3 LF/>3SF in Schools)	X		
31	III.C.4	Project Design on the site and signed?	X		
31	III.E.1	No false, inaccurate, or misleading information?	X		
33	III.F	If a variance has been granted for any work practice(s); <b>are the conditions of this variance being followed?</b>			X
34	III.G	Permit Valid (i.e. start/stop dates)?	X		
35	III.G.4	ORIGINAL permit posted at work site?	X		
36	III.G.8	Permit signed by Project Manager?			X

**COMMENTS ON PART I – SECTION A:**


**PART I – SECTION B – OUTSIDE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
37	III.J.1.a	Negative Air Machines (NAMs) operating continuously?	X		
37 & 52	III.J.1.d & III.U.1.b.i	NAMs monitored if exhausted inside the building?	X		
37	III.J.3	-0.02" H <sub>2</sub> O or better on Manometer?	X		
37	III.J.3	Continuous printout on Manometer?	X		
37	III.J.4	Smoke tubes present?	X		
37	III.J.4	Air flow - outside to inside ok?	X		
38	III.K.1	All chambers separated by airlocks?	X		
38	III.K.1	Decon Unit - 3 stages?	X		
38	III.K.1	Self-closing flaps/doors? (Z flaps are preferable, but not required)	X		
38	III.K.1.a	Clean room - adequately sized?	X		
38	III.K.1.b	Shower - hot and cold water at the tap?	X		
38	III.K.1.b	Shower – leakage anywhere but the supply connection?	X		
38	III.K.1.b	Shower - wastewater filtered to 5 microns or less, sanitary sewer discharge?	X		
38	III.K.1.b	Shower and Clean room - ACM debris present?	X		
39	III.K.2	Entry and exit procedures ok?	X		
41	III.N.2	View port present (at minimum 12"x12")?	X		
41	III.N.3	Waste load out separate from Decon?	X		
41	III.N.3	Waste load out - 2 stages?	X		

**COMMENTS ON PART I – SECTION B:**

--	--	--	--	--	--

**PART II – INSIDE THE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
36	III.I	Critical barriers - 1 layer 6 mil?	X		
36	III.J.1.b	Air cleaning equipment - HEPA filters properly installed, equipment operating, maintained adequately, etc.?	X		
37	III.J.2	Adequate equipment in place to ensure 4 air changes per hour?	X		
38	III.K.1.c	6 mil disposal bag present in Dirty Room?	X		
39	III.K.2.b	Disposable clothing worn by workers?	X		
39	III.L	Pre-cleaning - criticals and decon, HEPA vacs, wet cleaning, proper disposal?	X		
39	III.L.1	Movable objects cleaned before removal from the work area?	X		
39	III.M	Fixed objects - 1 layer 6 mil?	X		
40	III.N.1.a	Floors - 2 separate layers 6 mil?	X		
40	III.N.1.a, b, & c	No seams present (wall/floor, wall/ceiling, 12" overlap)?	X		
40	III.N.1.b	Walls - 2 separate layers 4 mil?	X		
40	III.N.1.c	Ceilings - 1 layer 4 mil?	X		
41	III.O.1.a.i.(A)	Amended water being used (surfactants) before ACM is removed?	X		
41	III.O.1.a.i.(A)	Are the surfactants a commercial product designed specifically for ACM removal?	X		
41	III.O.1.a.i.(A)	Material adequately wet and/or kept wet until bagged for disposal?	X		
42	III.O.1.a.i.(B)	Airless sprayers used for applying amended water or encapsulant?	X		
42	III.O.1.a.iii	All contaminated surfaces wet-wiped prior to disassembly of containment barriers?	X		

**COMMENTS ON PART II:**

**PART III – SECTION A –SPECIAL PROJECTS, RESILIENT FLOOR TILE**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
31	III.E.1	Notice posted at the worksite?			X
46	III.R.	Waste handled as nonfriable waste?			X
114	Appendix B	Appendix B, Amended water being used?			X
114	Appendix B	Appendix B, Hand tools only?			X
48	III.S.1	Appendix B, Proper handling and packaging of tiles/adhesives?			X
48	III.S.1	Voluntarily using splashguards, critical, negative air, and decon?			X
48	III.S.1.c	Is the material being rendered friable?			X

**COMMENTS ON PART III, SECTION A:**

**PART III – SECTION B –SPECIAL PROJECTS, SHEET VINYL FLOORING**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
34	III.E.1	Notice/Permit posted at the worksite?			X
46	III.R.	Waste handled as friable waste?			X
48	III.S.1.c	Is the material being rendered friable?			X
48	III.S.1.d.	Worker(s)/Supervisor(s) trained according to Appendix C?			X
48	III.S.2	Appendix B, Amended water being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Hand tools only being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Proper handling and packaging of sheet flooring being used by only App. C trained workers?			X
107	Appendix B	Appendix B, Proper wetting at the delaminating nip point being used by only App. C trained workers?			X
48	III.S.2	Voluntarily using splashguards, critical, negative air, and decon?			X

**COMMENTS ON PART III, SECTION B:**


**PART III – SECTION C –SPECIAL PROJECTS, NONFRIABLE ACM**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
49	III.S.4.a.	ACM adequately wet?			X
49	III.S.4.b.	Hand removal methods being used?			X
49	III.S.4.c.	Minimal breakage and disturbance?			X
49	III.S.4.d.	Material properly disposed of as nonfriable waste?			X

**COMMENTS ON PART III, SECTION C:**


**PART IV – SPECIAL REMOVAL METHODS, GLOVEBAGS AND FACILITY COMPONENT REMOVAL**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
53	III.V.1	Glove bags - proper usage (useable without causing fiber release)?			X
53	III.V.1.a	Glove bags - properly sealed to the area, no bottom seam?			X
53	III.V.1.b	Glove bags - pipes cooler than 150°F?			X
53	III.V.1.c	Glove bags used only once?			X
53	III.V.1.d.i	Glove bags - secondary containment(s) in place if removal > 3LF/SF?			X
54	III.V.1.d.ii	Glove bags - smoke tested prior to use?			X
54	III.V.1.d.iv	Glove bags - material in bags adequately wet?			X
54	III.V.1.d.vi	Glove bags - "rough" edges encapsulated?			X
54	III.V.1.d.vii	Glove bags - evacuated with HEPA vac prior to removing the bag?			X
54	III.V.2	Facility component removal - w/o containment, material well adhered to surface?			X
54	III.V.2.a	Facility component removal - adequately wet and wrapped in 6 mil poly prior to removal from the work area?			X

**COMMENTS ON PART IV:**


### PART V – MAJOR SPILLS

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
50	III.T.1.	Spill properly characterized (air sampling, tape sampling, microvac sampling)?	X		
50	III.T.1.a.	Area immediately sealed off?	X		
50	III.T.1.b	Air handling system shut down or modified to prevent further disturbance?	X		
50	III.T.1.c.	Division properly notified by phone and requirement(s) of subsection III.E. fulfilled?	X		
50	III.T.1.e.	Area sealed off and negative pressure established in accordance with III.J.	X		
50	III.T.1.e.	Certified personnel in accordance with section II performing work?	X		
50	III.T.1.j	Final clearance air monitoring performed in accordance with subsection III.P.	X		

**COMMENTS ON PART IV:**

**NOTE: WORK AREA #1 ONLY – COMPLETE 05/22/18**


### PART VI – WASTE HANDLING REQUIREMENTS (WASTE STORAGE AREA)

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
47	III.R.1	6 mil or greater bags?	X		
46	III.R.2.a	Containers - material adequately wet in bags?	X		
46	III.R.2.a	No breakage, rupture or leakage?	X		
47	III.R.2.b	Proper warning labels on bags?	X		
47	III.R.2.d	Visible emissions – anywhere on job site?	X		
47	III.R.2.f	All waste water filtered to 5 microns AND discharged to a <b>sanitary sewer</b> ?	X		
47	III.R.3	Are ACWM bags labeled with generator labels in accordance with 40 CFR 61.150?	X		
47	III.R.3	Are appropriate waste shipment records being maintained (40 CFR 61.150)?	X		
47	III.R.3	Transport to a proper disposal site?	X		
47	III.R.3	Waste storage vehicles placard during loading/storage at job site?	X		

**COMMENTS ON PART V:**








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**PROJECT/LOCATION:** 0421178, RFP#6648-17- Tumbleson House at Hall Ranch Open Space Asbestos Consulting Services / Boulder County

DATE	PROJECT/LOCATION: <u>0421178, RFP#6648-17- Tumbleson House at Hall Ranch Open Space Asbestos Consulting Services / Boulder County</u>										05/30/18		
	On-site Today?	AHERA Worker Expiration	State Worker Expiration	AHERA Supervisor Expiration	State Supervisor Expiration	Physical Expiration	Fit Test Expiration	Copy of All Certifications on Site?	State ID Card Displayed On-Site?	Certificate of Workers Acknowledgement	REPORT NO	0421178. 9	* Authorized Employee in Work Area(s) at This Job Site Today?
		03/03/19	04/27/19	NA	NA	04/16/19	02/20/19	*	*	*			Yes
	Yes	07/01/18	07/15/18	NA	NA	07/14/18	12/26/18	*	*	*			Yes
		NA	NA	08/25/18	09/18/18	02/02/19	05/09/19	*	*	*			Yes
		NA	NA	12/22/18	01/04/19	01/08/19	01/09/19	*	*	*			Yes
	Yes	03/17/19	04/19/19	NA	NA	04/14/19	04/20/19	*	*	*			Yes
	Yes	03/03/19	06/29/18	NA	NA	04/24/19	04/03/19	*	*	*			Yes
	Yes	04/30/19	03/16/19	NA	NA	01/18/19	05/19/19	*	*	*			Yes
		07/29/18	09/21/19	NA	NA	05/17/19	12/18/18	*	*	*			Yes
		02/03/19	05/24/18	NA	NA	06/01/18	06/01/18	*	*	*			No

**CONTRACTOR Employees**

9 4  
 Expired

Expired and/or Update Not Received:

\*Should Employee not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.  
 Legend of Documents not received by HERRON: 1, AHERA Certification, 2, State Certification, 3, Physical, 4, Fit Test, 5, Certificate of Worker's Acknowledgement.  
 Effectively, this document is published daily to include Employees which have signed in.



## ON-SITE DAILY SIGN-IN SHEET

Date: 5/30/2018  
 Project Name: LUMBIESON HOUSE  
 Job #: 18-026,  
 Supervisor: Felipe Hernandez.

Name	Time In	Lunch Out	Lunch In	Time Out	Total Hours
Felipe Hernandez	7:30				
CARLOS VANDERHORST	7:30				
JUAN VELOZ	7:30				
Hector Salas	7:30				
Allen Gallego	8:15				
Daily Total:					

---

**From:** Destiny M. Herron <HERRONAdmin@comcast.net>  
**Sent:** Friday, June 8, 2018 1:58 PM  
**To:** 'Michael Lohr'; 'Carol Beam'; 'Brian Bertin'  
**Cc:** 'Allen Gallogly'; 'David W. Starks'; 'L. P. (Lennie) Herron'; 'Christy M. Herron'; 'Billie J. Herron'; Destiny M. Herron  
**Subject:** 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
**Attachments:** 0421178.10, Daily Report, 05.31.18.pdf

## Project Update

In regards to the end of the shift:  
05/31/18 (Thursday)

1. Notifications –
  - a. Issues during the shift –
    - 1) No issues
2. Containment observation: Yes
  - a. In accordance with the Specifications and Regulations –

Current Work Area(s) –

WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone  
1st Floor Kitchen and Bedroom 2 - 1,048 ft<sup>2</sup>

Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high

1. Apply negative air to meet a criteria of -0.03”
  - a. Results within local, state, and/or federal regulations

WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone  
1st Floor Living Room, Bedroom 1, and Stairwell – 1,612 ft<sup>2</sup>

1. Apply negative air to meet a criteria of -0.03”
  - a. Results within local, state, and/or federal regulations

3. Structure Crack Monitoring –
  - a. Surface mounted gauges will be visually observed twice daily after arrival of the first visit of the Engineer to determine if the existing cracks within the masonry are being impacted by the abatement
    - 1) AM
      1. W1 – West Side, North End – 0.0 mm
      2. W2 – West Side, South End – 2.0 mm
      3. S1 – South Side, East End – 0.5 mm
      4. E1 – East Side, Center – 1.0 mm
    - 2) PM
      1. W1 – West Side, North End – 1.0 mm
      2. W2 – West Side, South End – 2.0 mm
      3. S1 – South Side, East End – 0.5 mm
      4. E1 – East Side, Center – 1.0 mm
4. Asbestos Air Monitoring –
  - a. During-abatement monitoring with the following preliminary results –

- 1) WA#3, #4
  - 2) IWA – 0.009 f/cc
  - 3) OWA,
  - 4) OWA, Clean Room
  - 5) OWA, Negative Air Exhausted Outside of the Building
  - 6) OWA, Ambient, Outside of Building
    1. These environmental samples, on completion of final analysis, Outside Work Area sample(s) have not exceeded the Maximum Allowable Asbestos Level (MAAL) by Phase Contrast Microscopy (PCM), or Transmission Electron Microscopy (TEM), where applicable.
- b. OSHA Compliance monitoring with the following preliminary results –
- 1) WA#3, #4
  - 2) Excursion – 0.082 f/cc
  - 3) Personal, Multi-sample 8 Hour TWA – 0.0174 f/cc
    1. These environmental samples, on completion of final analysis, have not exceeded the EL (Excursion Level) or the PEL (Permissible Exposure Level) by Phase Contrast Microscopy (PCM), where applicable.
    2. Samples which were reported as CBR were not included in the multi-sample TWA result.
    3. Sampling flow rates should be lowered to avoid CBR results.
    4. *A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL) –*
    5. Should a CBR sample have occurred, the Contractor is advised to review engineering controls, negative pressure, air flow, wet methods, etc.
5. Daily Contractor Submittals Received (sign in sheets, daily logs, entry/exit logs, special reports) –
- a. 05/31/18 – not received – submit
  - b. 05/30/18 – not received – submit
  - c. 05/29/18 – not received – submit
  - d. 05/25/18 – not received – submit
  - e. 05/24/18 – not received – submit
  - f. 05/23/18 – not received – submit
  - g. 05/22/18 – not received – submit
  - h. 05/21/18 – not received – submit
  - i. 05/18/18 – not received – submit
  - j. 05/17/18 – not received – submit
  - k. 05/17/18 – mobilization 05/17/18 7:30 AM MST
    - 1) Contractor Project Directory –
      1. Note: Should Employee not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.
6. Work Areas completed –
- a. WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (PCM Clearance Passed 05/22/18)
 

1st Floor Living Room, 7X2’ Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft<sup>2</sup>

2nd Floor Closet, Loose Sheet Flooring on Wood Substrate - 10 ft<sup>2</sup>
  - b. WA#5 - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s) (Visual Passed 05/21/18)
 

Exterior, South Alcove Roofing, Debris, and Associated 2” of Soil – 10 ft<sup>2</sup>

Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3’ from foundation.
7. Punch list items completed –

- a. Awaiting Completion

8. Notes:

- a. Refer to Project Memo(s).
- b. All observations stated in this report are based on facts and circumstances as they existed during the time of the observations, and during the time period of this report preparation and as available within the limits of the mutually agreed upon Scope of Work, budget, and schedule. The observations in this report is not intended to be exhaustive in scope, and is considered an ongoing working document. HERRON™ reserves the right to modify the contents of this document, as necessary.
- c. As agreed, daily conversations are occurring, and daily reports will be on site for employee review. Hard copy will not be mailed as this correspondence constitutes delivery of the specified documents.
- d. Refer to Project Definitions below.

Please advise within an RFI if you have any questions.

Thanks in advance,

Destiny M. Herron  
Administrative Assistant  
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Project Definitions:

Asbestos

1. In regards to the results, Regulation 29 CFR 1910, 1926 –

[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=standards&p\\_id=9995](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9995)

[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_id=10862&p\\_table=standards](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=10862&p_table=standards)

A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL). In accordance with 29 CFR 1926, 1926.1101; 1926.1101(c)(1); 1926.1101(f)(1) Standard Interpretation Correct manner to interpret air sample measurements of an employee's asbestos exposure when the samples are overloaded [01/17/2006]

[http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=INTERPRETATIONS&p\\_id=25295](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=25295);

*'...While monitoring an employee's exposure to an airborne contaminant, such as asbestos, occasionally samples are lost, damaged, overloaded, or are otherwise unusable. Analytical laboratories report such samples as "VOID," with a note of explanation. An overloaded asbestos air sample is one in which non-asbestos dust obscures some or all of the fibers on the filter and therefore makes it impossible to accurately determine the concentration of asbestos in the laboratory's microscopic analysis. Such samples should not be counted by an employer in TWA calculations of employee exposure. The use of a "zero" exposure result for such samples is inappropriate; it will underestimate the employee's true exposure. An employer has the responsibility to "accurately" determine his employee's exposure to asbestos... '.*

1926.1101(b) Definitions

Employee exposure means that exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

1926.1101(c)(2) Excursion limit

The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(c) Permissible exposure limits (PELS)

1926.1101(c)(1)

Time-weighted average limit (TWA). The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air as an eight (8) hour time-weighted average (TWA), as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(c)(2)

Excursion limit. The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(g)(2)(v)

Wherever the feasible engineering and work practice controls described above are not sufficient to reduce employee exposure to or below the permissible exposure limit and/or excursion limit prescribed in paragraph (c) of this section, the employer shall use them to reduce employee exposure to the lowest levels attainable by these controls and shall supplement them by the use of respiratory protection that complies with the requirements of paragraph (h) of this section.

2. In regards to the results, AQCC Regulation No. 8 –

<http://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=7206&fileName=5> CCR 1001-10 III.U.2. The Maximum Allowable Asbestos Level (MAAL)

III.U.2.a. PCM - If PCM is used as the method of analysis the standard is 0.01 fibers per cubic centimeter of air (f/cc), which is equivalent to 10,000 fibers per cubic meter of air (f/m<sup>3</sup>).

III.U.2.b. TEM - Where TEM is used as the method of analysis, the standard is 70 structures/millimeter<sup>2</sup> (s/mm<sup>2</sup>).

3. Laboratory certificates not included with this correspondence have not been received, will follow under a separate cover.
4. Legend: .8μ, 25mm MCE Filter Cassettes, Amb = Ambient, IWA = Inside Work Area, OWA = Outside Work Area, CR = Clean/Change Room, LO = Loadout, NAM = Negative Air Exhaust, Ex = Excursion, Per = Personnel, VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read, BDL = Below Detection Limit



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## ASBESTOS SERVICES

Client: Boulder County  
Client Contact: Michael Lohr  
Order No.: SOQ #6673-17  
Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
Date of Assignment: 05/31/18-06/01/18  
Assignment: Environmental Consultation/Asbestos Services  
HERRON™ Project No.: 0421178.10  
Date of Report: 06/01/18

## SUMMARY OF WORK

Per Client request, and under the guidelines defined, HERRON™ Enterprises USA, Inc. has concluded the Environmental Consultation/Asbestos Service for friable and/or non-friable Asbestos Containing Material(s) at the aforementioned property.

Our Environmental Consultation/Asbestos Service report may include a Limited Asbestos Building Inspection, descriptions of Bulk, Dust, and/or Air Monitoring samples, their locations and analyses data, which have been obtained and analyses performed in accordance with local, state, and/or federal regulations.

For Calculation purposes of samples obtained by HERRON™, all results are expressed basis actual sampling duration, with courtesy 8 hours time weighted average calculations, based on the actual sampling duration. For Calculation purposes of samples submitted to HERRON™, all results are expressed basis actual sampling duration, as submitted by the Client. HERRON™ implies no warranty to the accuracy of the information or the samples submitted by the Client. In order to make exact determinations, the employer should calculate exact times based on containment sign-in/out sheets for TWA's, in accordance with current OSHA regulations.

All Miscellaneous Provisions, Terms and Conditions apply to all services provided as indicated in HERRON™ current Terms of Services.

Information and data which has been generated as a result of this Environmental Consultation/Asbestos Service will remain confidential and will not be released to any party without prior written authorization from Client(s) (refer to authorized distribution).

We appreciate the confidence which has been demonstrated by your continued patronage, and look forward to assisting you and your group should you have future needs of Environmental Consultation/Asbestos Services.

Sincerely,

Billie J. Herron-Lusk  
Project Manager  
HERRON™ Enterprises USA, Inc.





**FIELD REPORT & OBSERVATIONS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
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 Date of Assignment: 05/31/18-06/01/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.10  
 Date of Report: 06/01/18

**DATE TIME SUMMARY OF EVENTS**

05/17/18 ---- Requested to perform Baseline (MAAL/OSHA) Air Monitoring, Pre-Abatement Visual Containment(s) Inspection(s), Removal (MAAL/OSHA) Air Monitoring, Final Visual Containment(s) Inspection(s), Final Clearance (MAAL/OSHA) Air Monitoring, and OSHA Compliance Air Monitoring for Gross removal of

**WA#1** - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall

**1st Floor Living Room, 7X2' Opening** in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft<sup>2</sup>

**2nd Floor Closet**  
Loose Sheet Flooring on Wood Substrate - 10 ft<sup>2</sup>

**Test Area(s) 1st Floor Two (2) Perimeter Wall(s)**  
Perform test area of removal of Asbestos Plaster on Stone, approximately 4X4' for Engineer determination of acceptable removal methods - 32 ft<sup>2</sup>

**1st and 2nd Floors Decontamination**  
Floor Surface Area of 1st and 2nd Floor Levels – 1,592.25 ft<sup>2</sup>  
1st and 2nd Floors Decontamination will include the Cleanup and Decontamination of Rodent Feces – 1,592.25 ft<sup>2</sup>  
On successful completion of the Major Spill Response the 2nd Floor will be Isolated from the remainder of the House as no further asbestos work exists.

**WA#3** - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone  
**1st Floor Kitchen and Bedroom 2** - 1,048 ft<sup>2</sup>  
Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high

**WA#4** - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone  
**1st Floor Living Room, Bedroom 1, and Stairwell** – 1,612 ft<sup>2</sup>

**WA#5** - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s)  
**Exterior, South Alcove** Roofing, Debris, and Associated 2" of Soil – 10 ft<sup>2</sup>  
Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3' from foundation.

05/31/18 \* Commenced (MAAL/OSHA) Air Monitoring  
 \* Completed (MAAL/OSHA) Air Monitoring  
 \* Completed (MAAL/OSHA) Air Monitoring PCM analysis-All Work Area samples below AQCC MAAL, <=0.01 f/cc/OSHA 1926.1101, EL <1.0 f/cc, PEL <0.10 f/cc, where regulated, unless otherwise noted as follows: NA  
 \* Advised results



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**FIELD REPORT & OBSERVATIONS**

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Order No.: SOQ #6673-17  
Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 /  
Boulder County  
Date of Assignment: 05/31/18-06/01/18  
Assignment: Environmental Consultation/Asbestos Services  
HERRON™ Project No.: 0421178.10  
Date of Report: 06/01/18

DATE	TIME	SUMMARY OF EVENTS
06/01/18	*	Field documentation completed and report distributed (refer to distribution)

Note: \*Refer to daily project memo for complete details of events.



**ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/31/18-06/01/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.10  
 Date of Report: 06/01/18

SAMPLE NO. AND DESC.	PUMP NO.	TIME					FLOW RATE			VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	FIBER		
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	DENSITY (F/MM2)					LOD (F/CC)	FIBERS (F/CC)	
053118-1 Removal,	505	7	35	14	0	385	3.00	3.00	1155	M	21.0	100	26.752	0.002	0.009	
		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc): 0.0072					

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

IWA

053118-2 Removal,	505	7	35	14	0	385	3.00	3.00	1155	M	14.0	100	17.834	0.002	0.006
		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc): 0.0048				

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone 1st Floor Kitchen and Bedroom 2 - 1,048 ft2 Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high

WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone 1st Floor Living Room, Bedroom 1, and Stairwell – 1,612 ft2 (Refer to Summary of Events Detail Page)

OWA

053118-3 Removal,	505	7	35	14	0	385	3.00	3.00	1155	M	8.0	100	10.191	0.002	0.003
		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc): 0.0027				

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Clean Room

053118-4 Removal,	201	7	35	14	0	385	3.00	3.00	1155	L	10.0	100	12.739	0.002	0.004
		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc): 0.0034				

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Load Out



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## ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/31/18-06/01/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.10  
 Date of Report: 06/01/18

SAMPLE NO. AND DESC.	PUMP NO.	TIME					FLOW RATE			FIBER					
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	DENSITY (F/MM2)	LOD (F/CC)	FIBERS (F/CC)
053118-5 Removal,	505	7	35	14	0	385	3.00	3.00	1155	L	2.0	100	2.548	0.002	BDL
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0007		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Negative air exhausted outside of Building

053118-6 Removal,	505	7	35	14	0	385	3.00	3.00	1155	L	1.0	100	1.274	0.002	BDL
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0003		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Ambient

053118-B1	Blank									VL	0.0	100			
053118-B2	Blank									VL	0.0	100	DATA:	BL	

Note: .8µ, 25mm MCE Filter Cassettes - Note: IWA = Inside Work Area, OWA = Outside Work Area, BDL = Below Detection Limit - Note: VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read - Note: Proficiency Analytical Testing (PAT) Program



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## ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/31/18-06/01/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.10  
 Date of Report: 06/01/18

SAMPLE NO. AND DESC.	PUMP NO	TIME					FLOW RATE			VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	FIBER		
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	DENSITY (F/MM2)					LOD (F/CC)	FIBERS (F/CC)	
053118-P1	701	8	30	9	0	30	2.00	2.00	60	M	10.0	100	12.739	0.045	0.082	
OSHA Compliance		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc):			0.0051		

Air Monitoring Samples,

Excursion Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

Carlos Vanderhorst/#2224

053118-P2	701	8	30	14	0	330	2.00	2.00	660	M	24.0	100	30.573	0.004	0.018
OSHA Compliance		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc):			0.0123	
Air Monitoring Samples,											(Multiple Sample 8 Hr. TWA, f/cc):			0.0174	

Personal Air Monitoring, WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (Refer to Summary of Events Detail Page)

Felipe Hernandez/#16523

053118-B1	Blank										VL	0.0	100		
053118-B2	Blank										VL	0.0	100	DATA:	BL

Note: .8μ, 25mm MCE Filter Cassettes - Note: IWA = Inside Work Area, OWA = Outside Work Area, BDL = Below Detection Limit - Note: VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read - Note: Proficiency Analytical Testing (PAT) Program



**FLOOR PLANS/SITE PHOTOGRAPHS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/31/18-06/01/18  
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 HERRON™ Project No.: 0421178.10  
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**Photo Log**



20180531\_073026



20180531\_073027



20180531\_073049



20180531\_073100



20180531\_073140



20180531\_073159



20180531\_073201



20180531\_073204



20180531\_072957



20180531\_073003



20180531\_073015



20180531\_135046



20180531\_135109



20180531\_135142



20180531\_135224



20180531\_135252



20180531\_135310



20180531\_134758



20180531\_134853



20180531\_134902



20180531\_134909



20180531\_134922



20180531\_134940



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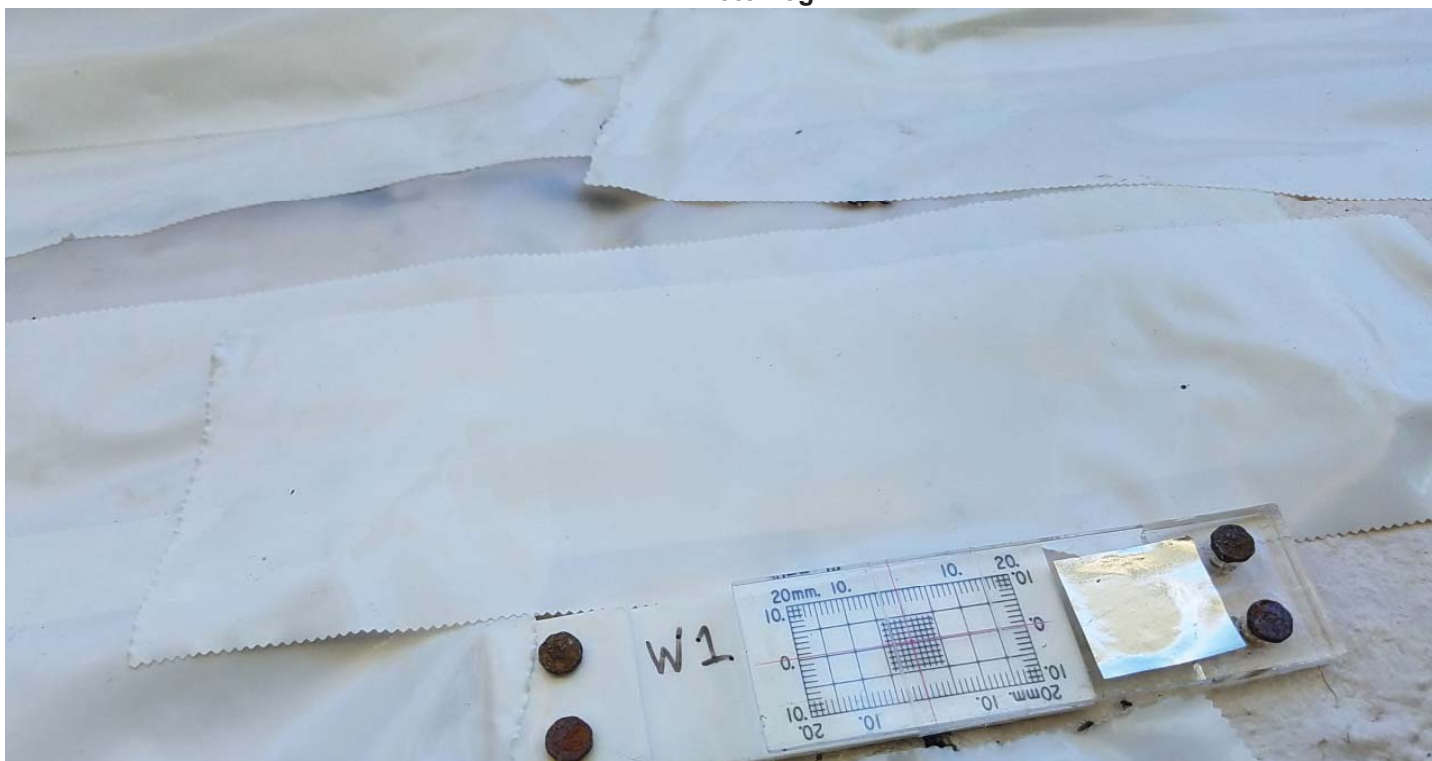
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**FLOOR PLANS/SITE PHOTOGRAPHS**

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**Photo Log**





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**HERRON**™ Enterprises USA, Inc.

Hazardous Materials\* Mold\* Asbestos\* Lead Paint  
Environmental Services\* Industrial Hygienists

Phone (303) 763 9639

Fax (303) 763 9686

E-Mail [Lennie.Herron@comcast.net](mailto:Lennie.Herron@comcast.net)

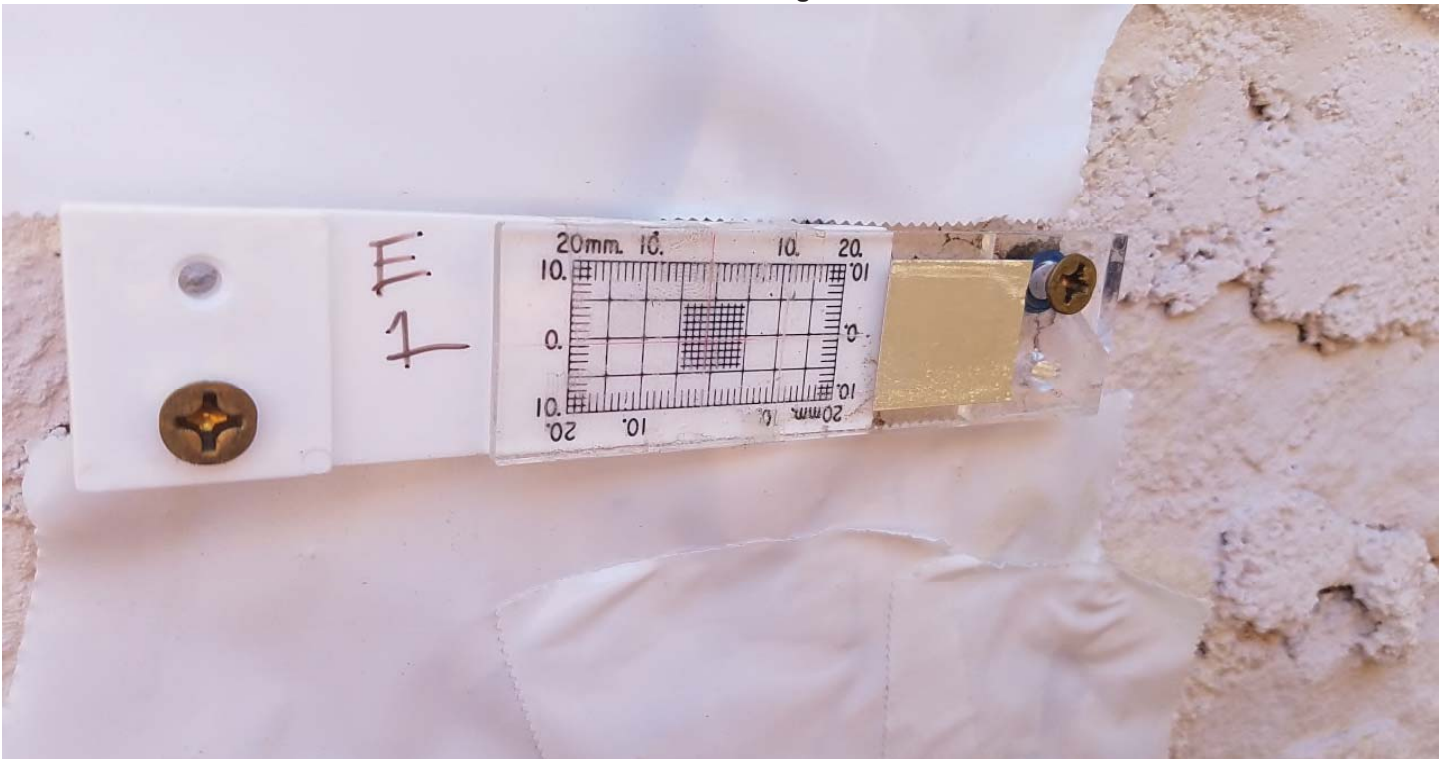
Website [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

**FLOOR PLANS/SITE PHOTOGRAPHS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 05/31/18-06/01/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.10  
 Date of Report: 06/01/18

**Photo Log**





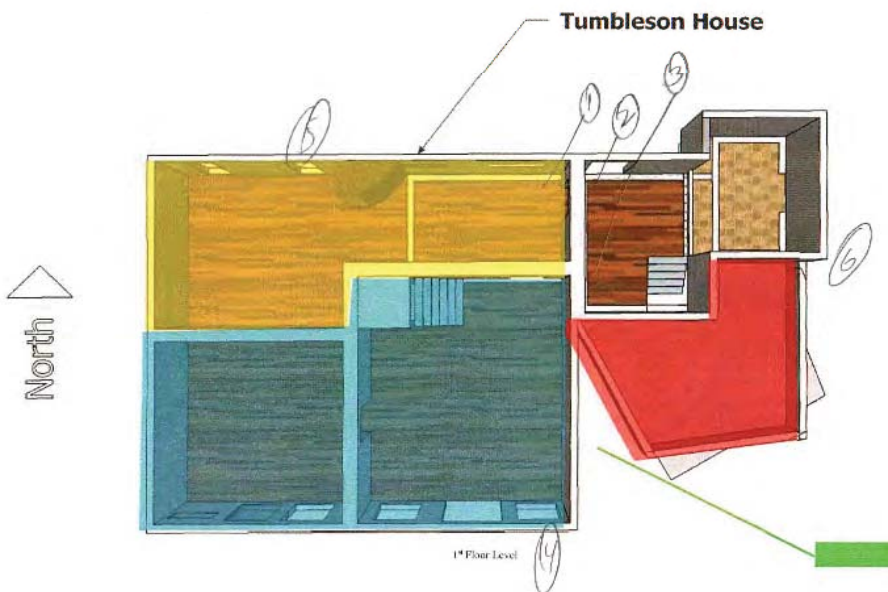
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**(MAAL/OSHA) Air Monitoring**

HERRON™ Enterprises USA, Inc.

Tumbleson House at Hall Ranch Open Space  
Boulder County, CO



- WAP2, Asbestos Containing Materials (>1.0% Asbestos)
- WAP1, Asbestos Containing Materials (>1.0% Asbestos)
- WAP4, Asbestos Containing Materials (>1.0% Asbestos)
- WAP5, Asbestos Containing Materials (>1.0% Asbestos)

Note: Plan(s) copied by permission, not to scale. Shaded area indicates approximate Work Area.

HERRON™ Project No. 0421178  
Asbestos Abatement Summary of Work

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Attachment A

Page 28 of 45  
February 15, 2018



## AQCC REG. NO. 8 ASBESTOS ABATEMENT INSPECTION FORM COMPLIANCE CHECKLIST AND INFORMATION

Colorado Dept. of Public Health  
and Environment  
APCD-IE-B1  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
Phone: 303-692-3100  
Fax: 303-782-0278

Project(s) Address: <b><u>Tumbleson House at Hall Ranch Open Space, Boulder County, CO</u></b>		Project(s) Permit #: 18BO2912A	
Project(s) start date: May 17, 2018		Project(s) completion date: June 04, 2018	
Inspector(s): LP (Lennie) Herron/#2572 (AMS/PM - ___) Billie J. Herron/#2650 (AMS/PM - <u>X</u> ) Jamie L. Herron-Carson/#2649 (AMS/PM - ___) Sherri K. Herron/#8728 (AMS/PM - ___) Michael W. Herron, Sr./#13788 (AMS/PM - ___)		Inspection Date: 05/31/18	
Current Abatement Phase:	<input type="checkbox"/> Pre	<input checked="" type="checkbox"/> Active	<input type="checkbox"/> Post
More than one phase/project?		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Comments:			

**Types(s) and total quantity of ACM removed/to be removed\* as reported by the abatement contractor:**

Pipe Insulation*:	Fireproofing:	Spray-on:
Ceiling Tile:	Boiler Insulation:	VAT:
Transite:	<b>Other (describe):</b> <ul style="list-style-type: none"> <li>Rodent Feces – 1,592.25 ft<sup>2</sup></li> <li>Miscellaneous Material = 20 ft<sup>2</sup></li> <li>Surfacing Material = 2,982 ft<sup>2</sup></li> </ul>	

\*Pipe insulation is reported in lineal feet, all other materials including ductwork are reported in square footage regardless of the thickness of the ACM. If reporting in 55-gallon drums, note square footage or linear footage area to be removed.

**List of ALL abatement workers in containment today:**

#	NAME	SSN OR REC. #	AHERA / STATE / PHYSICAL / FIT TEST
1	SEE ATTACHED		/ / /
<b>COMMENTS:</b>			

**Note: Responses to the Description of Citation is indicated by the anticipation of the day, with the default as X = OK / Vio. / N/A. Should the response differ, cross-out will appear and appropriate response indicated.**

**PART I – SECTION A - OUTSIDE WORK AREA(S) – CERTIFICATION AND PERMIT/NOTIFICATION REQUIREMENTS, ETC.**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
16	II.A.2	All training certs./documents on site - with <b>photo IDs</b> ?	X		
26	II.J	Project Manager - credentials ok (certified as PD, completed AMS training, HS diploma, 1 yr. Experience, independent)?			X
29	III.B.1.a & III.B.4	On-site supervisor state certified?	X		
29	III.B.1.b & III.B.4	All workers on site trained/certified?	X		
30	III.B.5	Air Monitoring Spec. trained and certified? Note - this requirement may apply during pre-and active abatement phases, e.g. monitoring NAM exhaust inside a building or checking for the "MAAL".	X		
30	III.B.6	Project Manager required (>1,000 LF/>3000SF of friable) Note: Not required in schools.			X
30	III.C.1	Project Design required (>1,000 LF/>3000SF in P&C) (>3 LF/>3SF in Schools)	X		
31	III.C.4	Project Design on the site and signed?	X		
31	III.E.1	No false, inaccurate, or misleading information?	X		
33	III.F	If a variance has been granted for any work practice(s); <b>are the conditions of this variance being followed?</b>			X
34	III.G	Permit Valid (i.e. start/stop dates)?	X		
35	III.G.4	ORIGINAL permit posted at work site?	X		
36	III.G.8	Permit signed by Project Manager?			X

**COMMENTS ON PART I – SECTION A:**


**PART I – SECTION B – OUTSIDE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
37	III.J.1.a	Negative Air Machines (NAMs) operating continuously?	X		
37 & 52	III.J.1.d & III.U.1.b.i	NAMs monitored if exhausted inside the building?	X		
37	III.J.3	-0.02" H <sub>2</sub> O or better on Manometer?	X		
37	III.J.3	Continuous printout on Manometer?	X		
37	III.J.4	Smoke tubes present?	X		
37	III.J.4	Air flow - outside to inside ok?	X		
38	III.K.1	All chambers separated by airlocks?	X		
38	III.K.1	Decon Unit - 3 stages?	X		
38	III.K.1	Self-closing flaps/doors? (Z flaps are preferable, but not required)	X		
38	III.K.1.a	Clean room - adequately sized?	X		
38	III.K.1.b	Shower - hot and cold water at the tap?	X		
38	III.K.1.b	Shower – leakage anywhere but the supply connection?	X		
38	III.K.1.b	Shower - wastewater filtered to 5 microns or less, sanitary sewer discharge?	X		
38	III.K.1.b	Shower and Clean room - ACM debris present?	X		
39	III.K.2	Entry and exit procedures ok?	X		
41	III.N.2	View port present (at minimum 12"x12")?	X		
41	III.N.3	Waste load out separate from Decon?	X		
41	III.N.3	Waste load out - 2 stages?	X		

**COMMENTS ON PART I – SECTION B:**

--	--	--	--	--	--

**PART II – INSIDE THE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
36	III.I	Critical barriers - 1 layer 6 mil?	X		
36	III.J.1.b	Air cleaning equipment - HEPA filters properly installed, equipment operating, maintained adequately, etc.?	X		
37	III.J.2	Adequate equipment in place to ensure 4 air changes per hour?	X		
38	III.K.1.c	6 mil disposal bag present in Dirty Room?	X		
39	III.K.2.b	Disposable clothing worn by workers?	X		
39	III.L	Pre-cleaning - criticals and decon, HEPA vacs, wet cleaning, proper disposal?	X		
39	III.L.1	Movable objects cleaned before removal from the work area?	X		
39	III.M	Fixed objects - 1 layer 6 mil?	X		
40	III.N.1.a	Floors - 2 separate layers 6 mil?	X		
40	III.N.1.a, b, & c	No seams present (wall/floor, wall/ceiling, 12" overlap)?	X		
40	III.N.1.b	Walls - 2 separate layers 4 mil?	X		
40	III.N.1.c	Ceilings - 1 layer 4 mil?	X		
41	III.O.1.a.i.(A)	Amended water being used (surfactants) before ACM is removed?	X		
41	III.O.1.a.i.(A)	Are the surfactants a commercial product designed specifically for ACM removal?	X		
41	III.O.1.a.i.(A)	Material adequately wet and/or kept wet until bagged for disposal?	X		
42	III.O.1.a.i.(B)	Airless sprayers used for applying amended water or encapsulant?	X		
42	III.O.1.a.iii	All contaminated surfaces wet-wiped prior to disassembly of containment barriers?	X		

**COMMENTS ON PART II:**

**PART III – SECTION A –SPECIAL PROJECTS, RESILIENT FLOOR TILE**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
31	III.E.1	Notice posted at the worksite?			X
46	III.R.	Waste handled as nonfriable waste?			X
114	Appendix B	Appendix B, Amended water being used?			X
114	Appendix B	Appendix B, Hand tools only?			X
48	III.S.1	Appendix B, Proper handling and packaging of tiles/adhesives?			X
48	III.S.1	Voluntarily using splashguards, critical, negative air, and decon?			X
48	III.S.1.c	Is the material being rendered friable?			X

**COMMENTS ON PART III, SECTION A:**

**PART III – SECTION B –SPECIAL PROJECTS, SHEET VINYL FLOORING**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
34	III.E.1	Notice/Permit posted at the worksite?			X
46	III.R.	Waste handled as friable waste?			X
48	III.S.1.c	Is the material being rendered friable?			X
48	III.S.1.d.	Worker(s)/Supervisor(s) trained according to Appendix C?			X
48	III.S.2	Appendix B, Amended water being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Hand tools only being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Proper handling and packaging of sheet flooring being used by only App. C trained workers?			X
107	Appendix B	Appendix B, Proper wetting at the delaminating nip point being used by only App. C trained workers?			X
48	III.S.2	Voluntarily using splashguards, critical, negative air, and decon?			X

**COMMENTS ON PART III, SECTION B:**


**PART III – SECTION C –SPECIAL PROJECTS, NONFRIABLE ACM**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
49	III.S.4.a.	ACM adequately wet?			X
49	III.S.4.b.	Hand removal methods being used?			X
49	III.S.4.c.	Minimal breakage and disturbance?			X
49	III.S.4.d.	Material properly disposed of as nonfriable waste?			X

**COMMENTS ON PART III, SECTION C:**


**PART IV – SPECIAL REMOVAL METHODS, GLOVEBAGS AND FACILITY COMPONENT REMOVAL**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
53	III.V.1	Glove bags - proper usage (useable without causing fiber release)?			X
53	III.V.1.a	Glove bags - properly sealed to the area, no bottom seam?			X
53	III.V.1.b	Glove bags - pipes cooler than 150°F?			X
53	III.V.1.c	Glove bags used only once?			X
53	III.V.1.d.i	Glove bags - secondary containment(s) in place if removal > 3LF/SF?			X
54	III.V.1.d.ii	Glove bags - smoke tested prior to use?			X
54	III.V.1.d.iv	Glove bags - material in bags adequately wet?			X
54	III.V.1.d.vi	Glove bags - "rough" edges encapsulated?			X
54	III.V.1.d.vii	Glove bags - evacuated with HEPA vac prior to removing the bag?			X
54	III.V.2	Facility component removal - w/o containment, material well adhered to surface?			X
54	III.V.2.a	Facility component removal - adequately wet and wrapped in 6 mil poly prior to removal from the work area?			X

**COMMENTS ON PART IV:**


**PART V – MAJOR SPILLS**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
50	III.T.1.	Spill properly characterized (air sampling, tape sampling, microvac sampling)?	X		
50	III.T.1.a.	Area immediately sealed off?	X		
50	III.T.1.b	Air handling system shut down or modified to prevent further disturbance?	X		
50	III.T.1.c.	Division properly notified by phone and requirement(s) of subsection III.E. fulfilled?	X		
50	III.T.1.e.	Area sealed off and negative pressure established in accordance with III.J.	X		
50	III.T.1.e.	Certified personnel in accordance with section II performing work?	X		
50	III.T.1.j	Final clearance air monitoring performed in accordance with subsection III.P.	X		

**COMMENTS ON PART IV:**

**NOTE: WORK AREA #1 ONLY – COMPLETE 05/22/18**

**PART VI – WASTE HANDLING REQUIREMENTS (WASTE STORAGE AREA)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
47	III.R.1	6 mil or greater bags?	X		
46	III.R.2.a	Containers - material adequately wet in bags?	X		
46	III.R.2.a	No breakage, rupture or leakage?	X		
47	III.R.2.b	Proper warning labels on bags?	X		
47	III.R.2.d	Visible emissions – anywhere on job site?	X		
47	III.R.2.f	All waste water filtered to 5 microns AND discharged to a <b>sanitary sewer</b> ?	X		
47	III.R.3	Are ACWM bags labeled with generator labels in accordance with 40 CFR 61.150?	X		
47	III.R.3	Are appropriate waste shipment records being maintained (40 CFR 61.150)?	X		
47	III.R.3	Transport to a proper disposal site?	X		
47	III.R.3	Waste storage vehicles placard during loading/storage at job site?	X		

**COMMENTS ON PART V:**



**PART VII – POST ACTIVE ABATEMENT REQUIREMENTS**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
19	II.D.	Is the AMS properly trained and certified? (Note: this requirement also pertains to “background air sampling” and sampling conducted near NAM exhausts if the NAMs are exhausted inside a building, i.e. sampling for the MAAL.)	X		
43	III.P	Is the AMS performing the final clearance procedures completely independent of the asbestos contractor?	X		
44	III.P.1	Work area reduced to only critical barriers in place?			X
44	III.P.3.a.i	Aggressive sampling conducted pursuant to 40 CFR 763 Appendix A?			X
44	III.P.3.a.i	Has all dust and debris been removed from the work area, including areas behind the critical barriers?			X
45	III.P.3.b.ii	TEM air sampling - 1,199 liters of air drawn (25 mm cassette) and average of the required 5 samples is below 70 structures/mm <sup>2</sup> ?* Note: Required for schools if the project is >160 SF/260 LF.			X
45	III.P.3.b.iii	PCM air sampling – Sufficient amount of air drawn so the LOD is <0.01f/cc (25mm cassette) and each sample of 5 required samples is below 0.01 f/cc?*	X		
45	III.P.3.c.i	TEMs - lab properly accredited (by NIST)?			X
46	III.P.3.c.ii	PCMs - lab successfully participating in AIHA PAT program?	X		
46	III.P.3.c.ii	Satellite Labs - directly under the control of properly accredited “parent” lab pursuant to subclause III.P.3.c.i?	X		
46	III.P.3.c.ii	Satellite labs - proper procedures (NIOSH 7400 method) followed, and is the analyst properly trained pursuant to Section III.P.3.c.ii?	X		
53	III.U.3.b	MAAL, sample(s) outside containment >0.01 f/cc PCM?	X		
52 & 53	III.U.2.b & III.U.3.a	MAAL, if yes to above, re-analyzed TEM within 24 hours and/or area treated as a spill?			X
27	II.L.	Everyone performing consulting firm activities registered with CDPH&E?	X		

**\*There are two possible exceptions to these rules, see page 46 for details\***

**COMMENTS ON PART VI:**


**COMMENTS, GENERAL:**






# ON-SITE DAILY SIGN-IN SHEET

Date: 5/31/2018

Project Name: tumblson House.

Job #: 18-026

Supervisor: Felipe Hernandez

Name	Time In	Lunch Out	Lunch In	Time Out	Total Hours
Felipe Hernandez	8:00	12:00	12:30		
Heckler Sal G... G... G...	7:30	12:00	12:30		
CARLOS VANDERHORST	7:30	12:00	12:30		
Allen Gailly	8:00	10:30	Ø	Ø	2.5
	7:30	12:00	12:30		
Daily Total:					

---

**From:** Destiny M. Herron <HERRONAdmin@comcast.net>  
**Sent:** Friday, June 8, 2018 1:59 PM  
**To:** 'Michael Lohr'; 'Carol Beam'; 'Brian Bertin'  
**Cc:** 'Allen Gallogly'; 'David W. Starks'; 'L. P. (Lennie) Herron'; 'Christy M. Herron'; 'Billie J. Herron'; Destiny M. Herron  
**Subject:** 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
**Attachments:** 0421178.11 Daily Report 06.01.18.pdf

## Project Update

In regards to the end of the shift:  
06/01/18 (Friday)

1. Notifications –
  - a. Issues during the shift –
    - 1) No issues
2. Containment observation: Yes
  - a. In accordance with the Specifications and Regulations –

Current Work Area(s) –

WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone  
1st Floor Kitchen and Bedroom 2 - 1,048 ft<sup>2</sup>

Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high

1. Apply negative air to meet a criteria of -0.03”
  - a. Results within local, state, and/or federal regulations

WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone  
1st Floor Living Room, Bedroom 1, and Stairwell – 1,612 ft<sup>2</sup>

1. Apply negative air to meet a criteria of -0.03”
  - a. Results within local, state, and/or federal regulations

3. Structure Crack Monitoring –
  - a. Surface mounted gauges will be visually observed twice daily after arrival of the first visit of the Engineer to determine if the existing cracks within the masonry are being impacted by the abatement
    - 1) AM
      1. W1 – West Side, North End – 0.0 mm
      2. W2 – West Side, South End – 2.0 mm
      3. S1 – South Side, East End – 0.5 mm
      4. E1 – East Side, Center – 1.0 mm
    - 2) PM
      1. W1 – West Side, North End – 1.0 mm
      2. W2 – West Side, South End – 2.0 mm
      3. S1 – South Side, East End – 0.5 mm
      4. E1 – East Side, Center – 1.0 mm
4. Asbestos Air Monitoring –
  - a. During-abatement monitoring with the following preliminary results –

- 1) WA#3, #4
  - 2) IWA – 0.006 f/cc
  - 3) OWA,
  - 4) OWA, Clean Room
  - 5) OWA, Negative Air Exhausted Outside of the Building
  - 6) OWA, Ambient, Outside of Building
    1. These environmental samples, on completion of final analysis, Outside Work Area sample(s) have not exceeded the Maximum Allowable Asbestos Level (MAAL) by Phase Contrast Microscopy (PCM), or Transmission Electron Microscopy (TEM), where applicable.
- b. OSHA Compliance monitoring with the following preliminary results –
- 1) WA#3, #4
  - 2) Excursion – BDL f/cc
  - 3) Personal, Multi-sample 8 Hour TWA – 0.0003 f/cc
    1. These environmental samples, on completion of final analysis, have not exceeded the EL (Excursion Level) or the PEL (Permissible Exposure Level) by Phase Contrast Microscopy (PCM), where applicable.
    2. Samples which were reported as CBR were not included in the multi-sample TWA result.
    3. Sampling flow rates should be lowered to avoid CBR results.
    4. *A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL) –*
    5. Should a CBR sample have occurred, the Contractor is advised to review engineering controls, negative pressure, air flow, wet methods, etc.
5. Daily Contractor Submittals Received (sign in sheets, daily logs, entry/exit logs, special reports) –
- a. 06/01/18 – not received – submit
  - b. 05/31/18 – not received – submit
  - c. 05/30/18 – not received – submit
  - d. 05/29/18 – not received – submit
  - e. 05/25/18 – not received – submit
  - f. 05/24/18 – not received – submit
  - g. 05/23/18 – not received – submit
  - h. 05/22/18 – not received – submit
  - i. 05/21/18 – not received – submit
  - j. 05/18/18 – not received – submit
  - k. 05/17/18 – not received – submit
  - l. 05/17/18 – mobilization 05/17/18 7:30 AM MST
    - 1) Contractor Project Directory –
      1. Note: Should Employee not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.
6. Work Areas completed –
- a. WA#2 Removed from Scope of Work - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster Wall(s) on Stone  
1st Floor Root Cellar – 322 ft<sup>2</sup>  
Demolition of Wood Shelving in 1st Floor Root Cellar (embedded in Plaster) – 11.5X4’ X 3 sets
  - b. WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (PCM Clearance Passed 05/22/18)  
1st Floor Living Room, 7X2’ Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft<sup>2</sup>  
2nd Floor Closet, Loose Sheet Flooring on Wood Substrate - 10 ft<sup>2</sup>
  - c. WA#5 - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s) (Visual Passed 05/21/18)

Exterior, South Alcove Roofing, Debris, and Associated 2” of Soil – 10 ft2  
Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3’  
from foundation.

7. Punch list items completed –
  - a. Awaiting Completion
  
8. Notes:
  - a. Refer to Project Memo(s).
  - b. All observations stated in this report are based on facts and circumstances as they existed during the time of the observations, and during the time period of this report preparation and as available within the limits of the mutually agreed upon Scope of Work, budget, and schedule. The observations in this report is not intended to be exhaustive in scope, and is considered an ongoing working document. HERRON™ reserves the right to modify the contents of this document, as necessary.
  - c. As agreed, daily conversations are occurring, and daily reports will be on site for employee review. Hard copy will not be mailed as this correspondence constitutes delivery of the specified documents.
  - d. Refer to Project Definitions below.

Please advise within an RFI if you have any questions.

Thanks in advance,

Destiny M. Herron  
Administrative Assistant  
HERRON™ Enterprises USA, Inc.  
7261 W. Hampden Ave., Lakewood, CO 80227-5305  
(303) 763-9639 / Fax (303) 763-9686  
Email: [HERRONAdmin@comcast.net](mailto:HERRONAdmin@comcast.net)  
Website: [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

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Project Definitions:

Asbestos

1. In regards to the results, Regulation 29 CFR 1910, 1926 –  
[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=standards&p\\_id=9995](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9995)  
[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_id=10862&p\\_table=standards](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=10862&p_table=standards)  
A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL). In accordance with 29 CFR 1926, 1926.1101; 1926.1101(c)(1); 1926.1101(f)(1) Standard Interpretation Correct manner to interpret air sample measurements of an employee's asbestos exposure when the samples are overloaded [01/17/2006]  
[http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=INTERPRETATIONS&p\\_id=25295](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=25295);  
*‘...While monitoring an employee's exposure to an airborne contaminant, such as asbestos, occasionally samples are lost, damaged, overloaded, or are otherwise unusable. Analytical laboratories report such samples as "VOID," with a note of explanation. An overloaded asbestos air sample is one in which non-asbestos dust obscures some or all of the fibers on the filter and therefore makes it impossible to accurately determine the concentration of asbestos in the laboratory's microscopic analysis. Such samples should not be counted by an employer in TWA calculations of employee exposure. The use of a "zero" exposure result for such samples is inappropriate; it will underestimate the employee's true exposure. An employer has the responsibility to "accurately" determine his employee's exposure to asbestos...’.*

1926.1101(b) Definitions

Employee exposure means that exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

1926.1101(c)(2) Excursion limit

The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(c) Permissible exposure limits (PELS)

1926.1101(c)(1)

Time-weighted average limit (TWA). The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air as an eight (8) hour time-weighted average (TWA), as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(c)(2)

Excursion limit. The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(g)(2)(v)

Wherever the feasible engineering and work practice controls described above are not sufficient to reduce employee exposure to or below the permissible exposure limit and/or excursion limit prescribed in paragraph (c) of this section, the employer shall use them to reduce employee exposure to the lowest levels attainable by these controls and shall supplement them by the use of respiratory protection that complies with the requirements of paragraph (h) of this section.

2. In regards to the results, AQCC Regulation No. 8 –

<http://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=7206&fileName=5> CCR 1001-10

III.U.2. The Maximum Allowable Asbestos Level (MAAL)

III.U.2.a. PCM - If PCM is used as the method of analysis the standard is 0.01 fibers per cubic centimeter of air (f/cc), which is equivalent to 10,000 fibers per cubic meter of air (f/m<sup>3</sup>).

III.U.2.b. TEM - Where TEM is used as the method of analysis, the standard is 70 structures/millimeter<sup>2</sup> (s/mm<sup>2</sup>).

3. Laboratory certificates not included with this correspondence have not been received, will follow under a separate cover.
4. Legend: .8μ, 25mm MCE Filter Cassettes, Amb = Ambient, IWA = Inside Work Area, OWA = Outside Work Area, CR = Clean/Change Room, LO = Loadout, NAM = Negative Air Exhaust, Ex = Excursion, Per = Personnel, VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read, BDL = Below Detection Limit



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## ASBESTOS SERVICES

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 06/01-04/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.11  
 Date of Report: 06/04/18

## SUMMARY OF WORK

Per Client request, and under the guidelines defined, HERRON™ Enterprises USA, Inc. has concluded the Environmental Consultation/Asbestos Service for friable and/or non-friable Asbestos Containing Material(s) at the aforementioned property.

Our Environmental Consultation/Asbestos Service report may include a Limited Asbestos Building Inspection, descriptions of Bulk, Dust, and/or Air Monitoring samples, their locations and analyses data, which have been obtained and analyses performed in accordance with local, state, and/or federal regulations.

For Calculation purposes of samples obtained by HERRON™, all results are expressed basis actual sampling duration, with courtesy 8 hours time weighted average calculations, based on the actual sampling duration. For Calculation purposes of samples submitted to HERRON™, all results are expressed basis actual sampling duration, as submitted by the Client. HERRON™ implies no warranty to the accuracy of the information or the samples submitted by the Client. In order to make exact determinations, the employer should calculate exact times based on containment sign-in/out sheets for TWA's, in accordance with current OSHA regulations.

All Miscellaneous Provisions, Terms and Conditions apply to all services provided as indicated in HERRON™ current Terms of Services.

Information and data which has been generated as a result of this Environmental Consultation/Asbestos Service will remain confidential and will not be released to any party without prior written authorization from Client(s) (refer to authorized distribution).

We appreciate the confidence which has been demonstrated by your continued patronage, and look forward to assisting you and your group should you have future needs of Environmental Consultation/Asbestos Services.

Sincerely,

Billie J. Herron-Lusk  
Project Manager  
HERRON™ Enterprises USA, Inc.





**FIELD REPORT & OBSERVATIONS**

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 HERRON™ Project No.: 0421178.11  
 Date of Report: 06/04/18

**DATE TIME SUMMARY OF EVENTS**

05/17/18 ---- Requested to perform Baseline (MAAL/OSHA) Air Monitoring, Pre-Abatement Visual Containment(s) Inspection(s), Removal (MAAL/OSHA) Air Monitoring, Final Visual Containment(s) Inspection(s), Final Clearance (MAAL/OSHA) Air Monitoring, and OSHA Compliance Air Monitoring for Gross removal of

**WA#1** - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall

**1st Floor Living Room, 7X2' Opening** in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft<sup>2</sup>

**2nd Floor Closet**  
Loose Sheet Flooring on Wood Substrate - 10 ft<sup>2</sup>

**Test Area(s) 1st Floor Two (2) Perimeter Wall(s)**  
Perform test area of removal of Asbestos Plaster on Stone, approximately 4X4' for Engineer determination of acceptable removal methods - 32 ft<sup>2</sup>

**1st and 2nd Floors Decontamination**  
Floor Surface Area of 1st and 2nd Floor Levels – 1,592.25 ft<sup>2</sup>  
1st and 2nd Floors Decontamination will include the Cleanup and Decontamination of Rodent Feces – 1,592.25 ft<sup>2</sup>  
On successful completion of the Major Spill Response the 2nd Floor will be Isolated from the remainder of the House as no further asbestos work exists.

**WA#3** - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone  
**1st Floor Kitchen and Bedroom 2** - 1,048 ft<sup>2</sup>  
Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high

**WA#4** - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone  
**1st Floor Living Room, Bedroom 1, and Stairwell** – 1,612 ft<sup>2</sup>

**WA#5** - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s)  
**Exterior, South Alcove** Roofing, Debris, and Associated 2" of Soil – 10 ft<sup>2</sup>  
Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3' from foundation.

06/01/18 \* Commenced (MAAL/OSHA) Air Monitoring  
 \* Completed (MAAL/OSHA) Air Monitoring  
 \* Completed (MAAL/OSHA) Air Monitoring PCM analysis-All Work Area samples below AQCC MAAL, <=0.01 f/cc/OSHA 1926.1101, EL <1.0 f/cc, PEL <0.10 f/cc, where regulated, unless otherwise noted as follows: NA  
 \* Advised results



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**FIELD REPORT & OBSERVATIONS**

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 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.11  
 Date of Report: 06/04/18

DATE	TIME	SUMMARY OF EVENTS
06/04/18	*	Field documentation completed and report distributed (refer to distribution)

Note: \*Refer to daily project memo for complete details of events.



**ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 06/01-04/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.11  
 Date of Report: 06/04/18

SAMPLE NO. AND DESC.	PUMP NO.	TIME					FLOW RATE			VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	FIBER		
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	DENSITY (F/MM2)					LOD (F/CC)	FIBERS (F/CC)	
060118-1 Removal,	505	7	35	14	20	405	3.00	3.00	1215	M	15.0	100	19.108	0.002	0.006	
		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc): 0.0051					

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

IWA

060118-2 Removal,	505	7	35	14	20	405	3.00	3.00	1215	M	8.0	100	10.191	0.002	0.003
		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc): 0.0027				

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA

060118-3 Removal,	505	7	35	14	20	405	3.00	3.00	1215	M	9.0	100	11.465	0.002	0.004
		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc): 0.0031				

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Clean Room

060118-4 Removal,	201	7	35	14	20	405	3.00	3.00	1215	L	10.0	100	12.739	0.002	0.004
		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc): 0.0034				

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Load Out



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## ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS

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 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.11  
 Date of Report: 06/04/18

SAMPLE NO. AND DESC.	PUMP NO.	TIME					FLOW RATE			FIBER					
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	DENSITY (F/MM2)	LOD (F/CC)	FIBERS (F/CC)
060118-5 Removal,	505	7	35	14	20	405	3.00	3.00	1215	L	2.0	100	2.548	0.002	BDL
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0007		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Negative air exhausted outside of Building

060118-6 Removal,	505	7	35	14	20	405	3.00	3.00	1215	L	1.0	100	1.274	0.002	BDL
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0003		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Ambient

060118-B1	Blank									VL	0.0	100			
060118-B2	Blank									VL	0.0	100	DATA:	BL	

Note: .8µ, 25mm MCE Filter Cassettes - Note: IWA = Inside Work Area, OWA = Outside Work Area, BDL = Below Detection Limit - Note: VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read - Note: Proficiency Analytical Testing (PAT) Program



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## ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS

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 HERRON™ Project No.: 0421178.11  
 Date of Report: 06/04/18

SAMPLE NO. AND DESC.	PUMP NO	TIME					FLOW RATE			VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	FIBER		
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	DENSITY (F/MM2)					LOD (F/CC)	FIBERS (F/CC)	
060118-P1	701	8	0	8	30	30	2.00	2.00	60	M	11.0	100	14.013	0.045	0.090	
OSHA Compliance		0	0	0	0	0	0.00	0.00	(Calculated 8 Hr. TWA, f/cc):				0.0056			

Air Monitoring Samples,

Excursion Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

Juan Veloz/#10999

060118-P2	701	8	30	14	0	330	2.00	2.00	660	H	19.5	100	24.841	0.004	0.014
OSHA Compliance		0	0	0	0	0	0.00	0.00	(Calculated 8 Hr. TWA, f/cc):				0.0100		
Air Monitoring Samples,		(Multiple Sample 8 Hr. TWA, f/cc):				0.0156									

Personal Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

Juan Veloz/#10999

060118-B1	Blank										VL	0.0	100		
060118-B2	Blank										VL	0.0	100	DATA:	BL

Note: .8μ, 25mm MCE Filter Cassettes - Note: IWA = Inside Work Area, OWA = Outside Work Area, BDL = Below Detection Limit - Note: VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read - Note: Proficiency Analytical Testing (PAT) Program



**FLOOR PLANS/SITE PHOTOGRAPHS**

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**Photo Log**



20180601\_075725



20180601\_075730



20180601\_075738



20180601\_075748



20180501\_080244



20180601\_074754



20180601\_074815



20180601\_074830



20180601\_074841



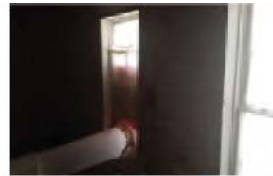
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20180601\_142802



20180601\_142807



20180601\_142812



20180601\_142916



20180501\_142952



20180601\_143002



20180601\_143257



20180601\_143313



20180601\_142702



20180501\_142722



20180601\_142741



20180601\_142746



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**Photo Log**





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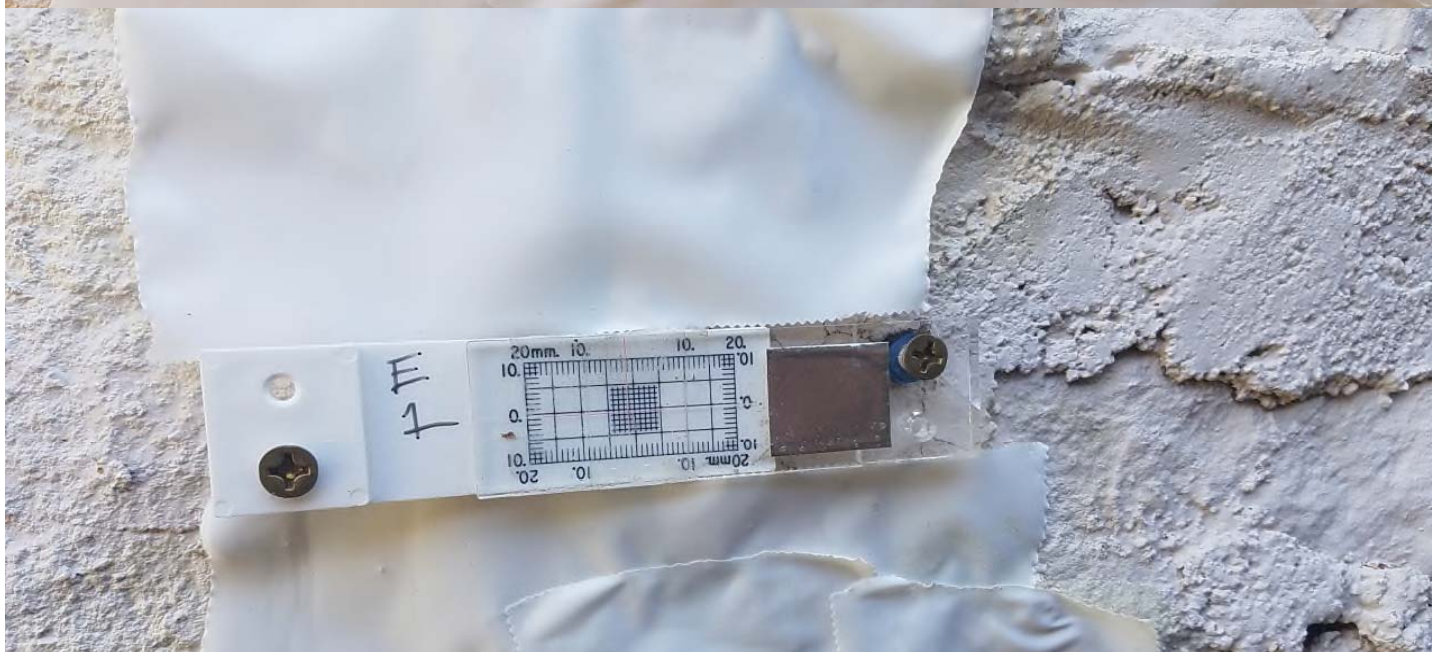
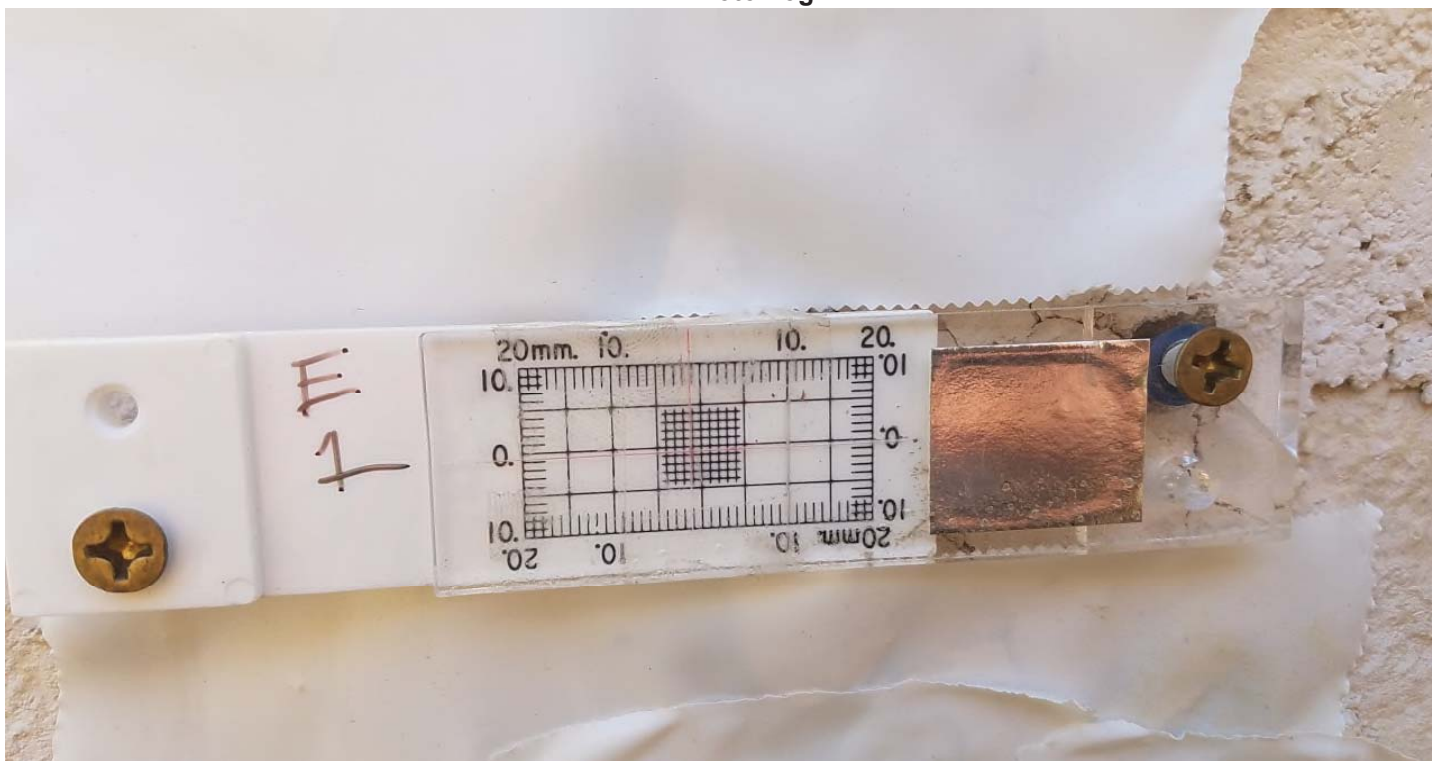
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**Photo Log**





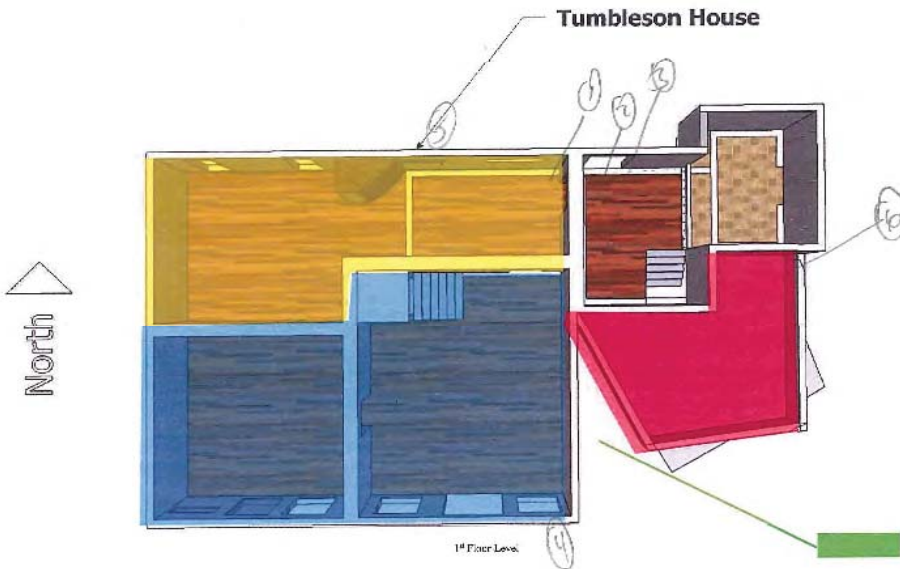
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**(MAAL/OSHA) Air Monitoring**

HERRON™ Enterprises USA, Inc.

Tumbleson House at Hall Ranch Open Space  
Boulder County, CO



- WA-1, Asbestos Containing Materials (1.0%) Asbestos
- WA-2, Asbestos Containing Materials (1.0%) Asbestos
- WA-3, Asbestos Containing Materials (1.0%) Asbestos
- WA-4, Asbestos Containing Materials (1.0%) Asbestos
- WA-5, Asbestos Containing Materials (1.0%) Asbestos

Note: Plans copied by permission, not to scale. Shaded areas indicate approximate Work Area.



## AQCC REG. NO. 8 ASBESTOS ABATEMENT INSPECTION FORM COMPLIANCE CHECKLIST AND INFORMATION

Colorado Dept. of Public Health  
and Environment  
APCD-IE-B1  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
Phone: 303-692-3100  
Fax: 303-782-0278

Project(s) Address: <b><u>Tumbleson House at Hall Ranch Open Space, Boulder County, CO</u></b>		Project(s) Permit #: 18BO2912A	
Project(s) start date: May 17, 2018		Project(s) completion date: June 04, 2018	
Inspector(s): LP (Lennie) Herron/#2572 (AMS/PM - ___) Billie J. Herron/#2650 (AMS/PM - <u>X</u> ) Jamie L. Herron-Carson/#2649 (AMS/PM - ___) Sherri K. Herron/#8728 (AMS/PM - ___) Michael W. Herron, Sr./#13788 (AMS/PM - ___)		Inspection Date: 06/01/18	
Current Abatement Phase:	<input type="checkbox"/> Pre	<input checked="" type="checkbox"/> Active	<input type="checkbox"/> Post
More than one phase/project?		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Comments:			

**Types(s) and total quantity of ACM removed/to be removed\* as reported by the abatement contractor:**

Pipe Insulation*:	Fireproofing:	Spray-on:
Ceiling Tile:	Boiler Insulation:	VAT:
Transite:	<b>Other (describe):</b> <ul style="list-style-type: none"> <li>Rodent Feces – 1,592.25 ft<sup>2</sup></li> <li>Miscellaneous Material = 20 ft<sup>2</sup></li> <li>Surfacing Material = 2,982 ft<sup>2</sup></li> </ul>	

\*Pipe insulation is reported in lineal feet, all other materials including ductwork are reported in square footage regardless of the thickness of the ACM. If reporting in 55-gallon drums, note square footage or linear footage area to be removed.

List of ALL abatement workers in containment today:

#	NAME	SSN OR REC. #	AHERA / STATE / PHYSICAL / FIT TEST
1	SEE ATTACHED		/ / /
<b>COMMENTS:</b>			

**Note: Responses to the Description of Citation is indicated by the anticipation of the day, with the default as X = OK / Vio. / N/A. Should the response differ, cross-out will appear and appropriate response indicated.**

**PART I – SECTION A - OUTSIDE WORK AREA(S) – CERTIFICATION AND PERMIT/NOTIFICATION REQUIREMENTS, ETC.**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
16	II.A.2	All training certs./documents on site - with <b>photo IDs</b> ?	X		
26	II.J	Project Manager - credentials ok (certified as PD, completed AMS training, HS diploma, 1 yr. Experience, independent)?			X
29	III.B.1.a & III.B.4	On-site supervisor state certified?	X		
29	III.B.1.b & III.B.4	All workers on site trained/certified?	X		
30	III.B.5	Air Monitoring Spec. trained and certified? Note - this requirement may apply during pre-and active abatement phases, e.g. monitoring NAM exhaust inside a building or checking for the "MAAL".	X		
30	III.B.6	Project Manager required (>1,000 LF/>3000SF of friable) Note: Not required in schools.			X
30	III.C.1	Project Design required (>1,000 LF/>3000SF in P&C) (>3 LF/>3SF in Schools)	X		
31	III.C.4	Project Design on the site and signed?	X		
31	III.E.1	No false, inaccurate, or misleading information?	X		
33	III.F	If a variance has been granted for any work practice(s); <b>are the conditions of this variance being followed?</b>			X
34	III.G	Permit Valid (i.e. start/stop dates)?	X		
35	III.G.4	ORIGINAL permit posted at work site?	X		
36	III.G.8	Permit signed by Project Manager?			X

**COMMENTS ON PART I – SECTION A:**


**PART I – SECTION B – OUTSIDE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
37	III.J.1.a	Negative Air Machines (NAMs) operating continuously?	X		
37 & 52	III.J.1.d & III.U.1.b.i	NAMs monitored if exhausted inside the building?	X		
37	III.J.3	-0.02" H <sub>2</sub> O or better on Manometer?	X		
37	III.J.3	Continuous printout on Manometer?	X		
37	III.J.4	Smoke tubes present?	X		
37	III.J.4	Air flow - outside to inside ok?	X		
38	III.K.1	All chambers separated by airlocks?	X		
38	III.K.1	Decon Unit - 3 stages?	X		
38	III.K.1	Self-closing flaps/doors? (Z flaps are preferable, but not required)	X		
38	III.K.1.a	Clean room - adequately sized?	X		
38	III.K.1.b	Shower - hot and cold water at the tap?	X		
38	III.K.1.b	Shower – leakage anywhere but the supply connection?	X		
38	III.K.1.b	Shower - wastewater filtered to 5 microns or less, sanitary sewer discharge?	X		
38	III.K.1.b	Shower and Clean room - ACM debris present?	X		
39	III.K.2	Entry and exit procedures ok?	X		
41	III.N.2	View port present (at minimum 12"x12")?	X		
41	III.N.3	Waste load out separate from Decon?	X		
41	III.N.3	Waste load out - 2 stages?	X		

**COMMENTS ON PART I – SECTION B:**

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**PART II – INSIDE THE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
36	III.I	Critical barriers - 1 layer 6 mil?	X		
36	III.J.1.b	Air cleaning equipment - HEPA filters properly installed, equipment operating, maintained adequately, etc.?	X		
37	III.J.2	Adequate equipment in place to ensure 4 air changes per hour?	X		
38	III.K.1.c	6 mil disposal bag present in Dirty Room?	X		
39	III.K.2.b	Disposable clothing worn by workers?	X		
39	III.L	Pre-cleaning - criticals and decon, HEPA vacs, wet cleaning, proper disposal?	X		
39	III.L.1	Movable objects cleaned before removal from the work area?	X		
39	III.M	Fixed objects - 1 layer 6 mil?	X		
40	III.N.1.a	Floors - 2 separate layers 6 mil?	X		
40	III.N.1.a, b, & c	No seams present (wall/floor, wall/ceiling, 12" overlap)?	X		
40	III.N.1.b	Walls - 2 separate layers 4 mil?	X		
40	III.N.1.c	Ceilings - 1 layer 4 mil?	X		
41	III.O.1.a.i.(A)	Amended water being used (surfactants) before ACM is removed?	X		
41	III.O.1.a.i.(A)	Are the surfactants a commercial product designed specifically for ACM removal?	X		
41	III.O.1.a.i.(A)	Material adequately wet and/or kept wet until bagged for disposal?	X		
42	III.O.1.a.i.(B)	Airless sprayers used for applying amended water or encapsulant?	X		
42	III.O.1.a.iii	All contaminated surfaces wet-wiped prior to disassembly of containment barriers?	X		

**COMMENTS ON PART II:**

**PART III – SECTION A –SPECIAL PROJECTS, RESILIENT FLOOR TILE**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
31	III.E.1	Notice posted at the worksite?			X
46	III.R.	Waste handled as nonfriable waste?			X
114	Appendix B	Appendix B, Amended water being used?			X
114	Appendix B	Appendix B, Hand tools only?			X
48	III.S.1	Appendix B, Proper handling and packaging of tiles/adhesives?			X
48	III.S.1	Voluntarily using splashguards, critical, negative air, and decon?			X
48	III.S.1.c	Is the material being rendered friable?			X

**COMMENTS ON PART III, SECTION A:**

**PART III – SECTION B –SPECIAL PROJECTS, SHEET VINYL FLOORING**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
34	III.E.1	Notice/Permit posted at the worksite?			X
46	III.R.	Waste handled as friable waste?			X
48	III.S.1.c	Is the material being rendered friable?			X
48	III.S.1.d.	Worker(s)/Supervisor(s) trained according to Appendix C?			X
48	III.S.2	Appendix B, Amended water being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Hand tools only being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Proper handling and packaging of sheet flooring being used by only App. C trained workers?			X
107	Appendix B	Appendix B, Proper wetting at the delaminating nip point being used by only App. C trained workers?			X
48	III.S.2	Voluntarily using splashguards, critical, negative air, and decon?			X

**COMMENTS ON PART III, SECTION B:**


**PART III – SECTION C –SPECIAL PROJECTS, NONFRIABLE ACM**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
49	III.S.4.a.	ACM adequately wet?			X
49	III.S.4.b.	Hand removal methods being used?			X
49	III.S.4.c.	Minimal breakage and disturbance?			X
49	III.S.4.d.	Material properly disposed of as nonfriable waste?			X

**COMMENTS ON PART III, SECTION C:**


**PART IV – SPECIAL REMOVAL METHODS, GLOVEBAGS AND FACILITY COMPONENT REMOVAL**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
53	III.V.1	Glove bags - proper usage (useable without causing fiber release)?			X
53	III.V.1.a	Glove bags - properly sealed to the area, no bottom seam?			X
53	III.V.1.b	Glove bags - pipes cooler than 150°F?			X
53	III.V.1.c	Glove bags used only once?			X
53	III.V.1.d.i	Glove bags - secondary containment(s) in place if removal > 3LF/SF?			X
54	III.V.1.d.ii	Glove bags - smoke tested prior to use?			X
54	III.V.1.d.iv	Glove bags - material in bags adequately wet?			X
54	III.V.1.d.vi	Glove bags - "rough" edges encapsulated?			X
54	III.V.1.d.vii	Glove bags - evacuated with HEPA vac prior to removing the bag?			X
54	III.V.2	Facility component removal - w/o containment, material well adhered to surface?			X
54	III.V.2.a	Facility component removal - adequately wet and wrapped in 6 mil poly prior to removal from the work area?			X

**COMMENTS ON PART IV:**


**PART V – MAJOR SPILLS**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
50	III.T.1.	Spill properly characterized (air sampling, tape sampling, microvac sampling)?	X		
50	III.T.1.a.	Area immediately sealed off?	X		
50	III.T.1.b	Air handling system shut down or modified to prevent further disturbance?	X		
50	III.T.1.c.	Division properly notified by phone and requirement(s) of subsection III.E. fulfilled?	X		
50	III.T.1.e.	Area sealed off and negative pressure established in accordance with III.J.	X		
50	III.T.1.e.	Certified personnel in accordance with section II performing work?	X		
50	III.T.1.j	Final clearance air monitoring performed in accordance with subsection III.P.	X		

**COMMENTS ON PART IV:**

**NOTE: WORK AREA #1 ONLY – COMPLETE 05/22/18**


**PART VI – WASTE HANDLING REQUIREMENTS (WASTE STORAGE AREA)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
47	III.R.1	6 mil or greater bags?	X		
46	III.R.2.a	Containers - material adequately wet in bags?	X		
46	III.R.2.a	No breakage, rupture or leakage?	X		
47	III.R.2.b	Proper warning labels on bags?	X		
47	III.R.2.d	Visible emissions – anywhere on job site?	X		
47	III.R.2.f	All waste water filtered to 5 microns AND discharged to a <b>sanitary sewer</b> ?	X		
47	III.R.3	Are ACWM bags labeled with generator labels in accordance with 40 CFR 61.150?	X		
47	III.R.3	Are appropriate waste shipment records being maintained (40 CFR 61.150)?	X		
47	III.R.3	Transport to a proper disposal site?	X		
47	III.R.3	Waste storage vehicles placard during loading/storage at job site?	X		

**COMMENTS ON PART V:**








**HERRON™** Enterprises USA, Inc.  
 Hazardous Materials\* Mold\* Asbestos\* Lead Paint  
 Environmental Services\* Industrial Hygienists

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**PROJECT/LOCATION: 0421178, RFP#6648-17- Tumbleson House at Hall Ranch Open Space Asbestos Consulting Services / Boulder County**

CONTRACTOR Employees	On-site Today?	AHERA Worker Expiration	State Worker Expiration	AHERA Supervisor Expiration	State Supervisor Expiration	Physical Expiration	Fit Test Expiration	Copy of All Certifications on Site?	State ID Card Displayed On-Site?	Certificate of Workers Acknowledgement	DATE	06/01/18
											REPORT NO	
Alma Mosqueda/#12109		03/03/19	04/27/19	NA	NA	04/16/19	02/20/19	*	*	*	* * *	Yes
Carlos Vandehorst/#22241	Yes	07/01/18	07/15/18	NA	NA	07/14/18	12/26/18	*	*	*	* * *	Yes
David Starks/#15640		NA	NA	08/25/18	09/18/18	02/02/19	05/09/19	*	*	*	* * *	Yes
Dylan Gallogly/#24196		NA	NA	12/22/18	01/04/19	01/08/19	01/09/19	*	*	*	* * *	Yes
Felipe Hernandez/#16523	Yes	03/17/19	04/19/19	NA	NA	04/14/19	04/20/19	*	*	*	* * *	Yes
Hector Salgado/#20974	Yes	03/03/19	06/29/18	NA	NA	04/24/19	04/03/19	*	*	*	* * *	Yes
Allen Gallogly/#21476	Yes	04/30/19	03/16/19	NA	NA	01/18/19	05/19/19	*	*	*	* * *	Yes
Juan Veloz/#10999	Yes	07/29/18	09/21/19	NA	NA	05/17/19	12/18/18	*	*	*	* * *	Yes
Adriana Jacobi-Urribe/#12893		02/03/19	05/24/18	NA	NA	06/01/18	06/01/18	*	*	*	* * *	No

9 5  
 Expired

Expired and/or Update Not Received:

\*Should Employee not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.  
 Legend of Documents not received by HERRON: 1, AHERA Certification, 2, State Certification, 3, Physical, 4, Fit Test, 5, Certificate of Worker's Acknowledgement.  
 Effectively, this document is published daily to include Employees which have signed in.



---

**From:** Destiny M. Herron <HERRONAdmin@comcast.net>  
**Sent:** Friday, June 8, 2018 1:59 PM  
**To:** 'Michael Lohr'; 'Carol Beam'; 'Brian Bertin'  
**Cc:** 'Allen Gallogly'; 'David W. Starks'; 'L. P. (Lennie) Herron'; 'Christy M. Herron'; 'Billie J. Herron'; Destiny M. Herron  
**Subject:** 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
**Attachments:** 0421178.12, Daily Report, 06.04.18.pdf

## Project Update

In regards to the end of the shift:  
06/04/18 (Monday)

1. Notifications –
  - a. Issues during the shift –
    - 1) No issues
2. Containment observation: Yes
  - a. In accordance with the Specifications and Regulations –

Current Work Area(s) –

WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone  
1st Floor Kitchen and Bedroom 2 - 1,048 ft<sup>2</sup>

Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high

1. Apply negative air to meet a criteria of -0.03”
  - a. Results within local, state, and/or federal regulations

WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone  
1st Floor Living Room, Bedroom 1, and Stairwell – 1,612 ft<sup>2</sup>

1. Apply negative air to meet a criteria of -0.03”
  - a. Results within local, state, and/or federal regulations

3. Structure Crack Monitoring –
  - a. Surface mounted gauges will be visually observed twice daily after arrival of the first visit of the Engineer to determine if the existing cracks within the masonry are being impacted by the abatement
    - 1) AM
      1. W1 – West Side, North End – 5.0 mm – Note: during plaster removal the anchors securing this monitor have been dislodged. Boulder County contacted. Awaiting new anchor points. Remaining crack monitors remain unchanged.
      2. W2 – West Side, South End – 2.0 mm
      3. S1 – South Side, East End – 0.5 mm
      4. E1 – East Side, Center – 1.0 mm
    - 2) PM
      1. W1 – West Side, North End – Note: during plaster removal the anchors securing this monitor have been dislodged. Boulder County contacted. Awaiting new anchor points. Remaining crack monitors remain unchanged.
      2. W2 – West Side, South End – 2.0 mm
      3. S1 – South Side, East End – 0.5 mm

4. E1 – East Side, Center – 1.0 mm

4. Asbestos Air Monitoring –

a. During-abatement monitoring with the following preliminary results –

- 1) WA#3, #4
- 2) IWA – 0.007 f/cc
- 3) OWA,
- 4) OWA, Clean Room
- 5) OWA, Negative Air Exhausted Outside of the Building
- 6) OWA, Ambient, Outside of Building

1. These environmental samples, on completion of final analysis, Outside Work Area sample(s) have not exceeded the Maximum Allowable Asbestos Level (MAAL) by Phase Contrast Microscopy (PCM), or Transmission Electron Microscopy (TEM), where applicable.

b. OSHA Compliance monitoring with the following preliminary results –

- 1) WA#3, #4
- 2) Excursion – 0.147 f/cc
- 3) Personal, Multi-sample 8 Hour TWA – 0.0220 f/cc
  1. These environmental samples, on completion of final analysis, have not exceeded the EL (Excursion Level) or the PEL (Permissible Exposure Level) by Phase Contrast Microscopy (PCM), where applicable.
  2. Samples which were reported as CBR were not included in the multi-sample TWA result.
  3. Sampling flow rates should be lowered to avoid CBR results.
  4. *A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL) –*
  5. Should a CBR sample have occurred, the Contractor is advised to review engineering controls, negative pressure, air flow, wet methods, etc.

5. Daily Contractor Submittals Received (sign in sheets, daily logs, entry/exit logs, special reports) –

- a. 06/04/18 – not received – submit
- b. 06/01/18 – not received – submit
- c. 05/31/18 – not received – submit
- d. 05/30/18 – not received – submit
- e. 05/29/18 – not received – submit
- f. 05/25/18 – not received – submit
- g. 05/24/18 – not received – submit
- h. 05/23/18 – not received – submit
- i. 05/22/18 – not received – submit
- j. 05/21/18 – not received – submit
- k. 05/18/18 – not received – submit
- l. 05/17/18 – not received – submit
- m. 05/17/18 – mobilization 05/17/18 7:30 AM MST

1) Contractor Project Directory –

1. Note: Should Employee not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.

6. Work Areas completed –

- a. WA#2 Removed from Scope of Work - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster Wall(s) on Stone  
1st Floor Root Cellar – 322 ft<sup>2</sup>  
Demolition of Wood Shelving in 1st Floor Root Cellar (embedded in Plaster) – 11.5X4' X 3 sets
- b. WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (PCM Clearance Passed 05/22/18)

1st Floor Living Room, 7X2' Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft<sup>2</sup>  
2nd Floor Closet, Loose Sheet Flooring on Wood Substrate - 10 ft<sup>2</sup>  
c. WA#5 - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s) (Visual Passed 05/21/18)  
Exterior, South Alcove Roofing, Debris, and Associated 2” of Soil – 10 ft<sup>2</sup>  
Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3’ from foundation.

7. Punch list items completed –  
a. Awaiting Completion

8. Notes:

- a. Refer to Project Memo(s).
- b. All observations stated in this report are based on facts and circumstances as they existed during the time of the observations, and during the time period of this report preparation and as available within the limits of the mutually agreed upon Scope of Work, budget, and schedule. The observations in this report is not intended to be exhaustive in scope, and is considered an ongoing working document. HERRON™ reserves the right to modify the contents of this document, as necessary.
- c. As agreed, daily conversations are occurring, and daily reports will be on site for employee review. Hard copy will not be mailed as this correspondence constitutes delivery of the specified documents.
- d. Refer to Project Definitions below.

Please advise within an RFI if you have any questions.

Thanks in advance,

Destiny M. Herron  
Administrative Assistant  
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Project Definitions:

Asbestos

1. In regards to the results, Regulation 29 CFR 1910, 1926 –

[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=standards&p\\_id=9995](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9995)  
[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_id=10862&p\\_table=standards](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=10862&p_table=standards)

A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL). In accordance with 29 CFR 1926, 1926.1101; 1926.1101(c)(1); 1926.1101(f)(1) Standard Interpretation Correct manner to interpret air sample measurements of an employee's asbestos exposure when the samples are overloaded [01/17/2006]  
[http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=INTERPRETATIONS&p\\_id=2529](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=2529)  
5;

*‘...While monitoring an employee's exposure to an airborne contaminant, such as asbestos, occasionally samples are lost, damaged, overloaded, or are otherwise unusable. Analytical laboratories report such samples as "VOID," with a note of explanation. An overloaded asbestos air sample is one in which non-asbestos dust obscures some or all of the fibers on the filter and therefore makes it impossible to accurately determine the concentration of asbestos in the*

*laboratory's microscopic analysis. Such samples should not be counted by an employer in TWA calculations of employee exposure. The use of a "zero" exposure result for such samples is inappropriate; it will underestimate the employee's true exposure. An employer has the responsibility to "accurately" determine his employee's exposure to asbestos... '.*

1926.1101(b) Definitions

Employee exposure means that exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

1926.1101(c)(2) Excursion limit

The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(c) Permissible exposure limits (PELS)

1926.1101(c)(1)

Time-weighted average limit (TWA). The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air as an eight (8) hour time-weighted average (TWA), as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(c)(2)

Excursion limit. The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(g)(2)(v)

Wherever the feasible engineering and work practice controls described above are not sufficient to reduce employee exposure to or below the permissible exposure limit and/or excursion limit prescribed in paragraph (c) of this section, the employer shall use them to reduce employee exposure to the lowest levels attainable by these controls and shall supplement them by the use of respiratory protection that complies with the requirements of paragraph (h) of this section.

2. In regards to the results, AQCC Regulation No. 8 –

<http://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=7206&fileName=5> CCR 1001-10

III.U.2. The Maximum Allowable Asbestos Level (MAAL)

III.U.2.a. PCM - If PCM is used as the method of analysis the standard is 0.01 fibers per cubic centimeter of air (f/cc), which is equivalent to 10,000 fibers per cubic meter of air (f/m<sup>3</sup>).

III.U.2.b. TEM - Where TEM is used as the method of analysis, the standard is 70 structures/millimeter<sup>2</sup> (s/mm<sup>2</sup>).

3. Laboratory certificates not included with this correspondence have not been received, will follow under a separate cover.

4. Legend: .8μ, 25mm MCE Filter Cassettes, Amb = Ambient, IWA = Inside Work Area, OWA = Outside Work Area, CR = Clean/Change Room, LO = Loadout, NAM = Negative Air Exhaust, Ex = Excursion, Per = Personnel, VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read, BDL = Below Detection Limit



**HERRON™** Enterprises USA, Inc.

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7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

## ASBESTOS SERVICES

Client: Boulder County  
Client Contact: Michael Lohr  
Order No.: SOQ #6673-17  
Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
Date of Assignment: 06/04-05/18  
Assignment: Environmental Consultation/Asbestos Services  
HERRON™ Project No.: 0421178.12  
Date of Report: 06/04/18

## SUMMARY OF WORK

Per Client request, and under the guidelines defined, HERRON™ Enterprises USA, Inc. has concluded the Environmental Consultation/Asbestos Service for friable and/or non-friable Asbestos Containing Material(s) at the aforementioned property.

Our Environmental Consultation/Asbestos Service report may include a Limited Asbestos Building Inspection, descriptions of Bulk, Dust, and/or Air Monitoring samples, their locations and analyses data, which have been obtained and analyses performed in accordance with local, state, and/or federal regulations.

For Calculation purposes of samples obtained by HERRON™, all results are expressed basis actual sampling duration, with courtesy 8 hours time weighted average calculations, based on the actual sampling duration. For Calculation purposes of samples submitted to HERRON™, all results are expressed basis actual sampling duration, as submitted by the Client. HERRON™ implies no warranty to the accuracy of the information or the samples submitted by the Client. In order to make exact determinations, the employer should calculate exact times based on containment sign-in/out sheets for TWA's, in accordance with current OSHA regulations.

All Miscellaneous Provisions, Terms and Conditions apply to all services provided as indicated in HERRON™ current Terms of Services.

Information and data which has been generated as a result of this Environmental Consultation/Asbestos Service will remain confidential and will not be released to any party without prior written authorization from Client(s) (refer to authorized distribution).

We appreciate the confidence which has been demonstrated by your continued patronage, and look forward to assisting you and your group should you have future needs of Environmental Consultation/Asbestos Services.

Sincerely,

Billie J. Herron-Lusk  
Project Manager  
HERRON™ Enterprises USA, Inc.





**FIELD REPORT & OBSERVATIONS**

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 Date of Assignment: 06/04-05/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.12  
 Date of Report: 06/04/18

**DATE TIME SUMMARY OF EVENTS**

05/17/18	----	<p>Requested to perform Baseline (MAAL/OSHA) Air Monitoring, Pre-Abatement Visual Containment(s) Inspection(s), Removal (MAAL/OSHA) Air Monitoring, Final Visual Containment(s) Inspection(s), Final Clearance (MAAL/OSHA) Air Monitoring, and OSHA Compliance Air Monitoring for Gross removal of</p> <p><b>WA#1</b> - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall</p> <p><b>1st Floor Living Room</b>, 7X2' Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft<sup>2</sup></p> <p><b>2nd Floor Closet</b> Loose Sheet Flooring on Wood Substrate - 10 ft<sup>2</sup></p> <p><b>Test Area(s) 1st Floor Two (2) Perimeter Wall(s)</b> Perform test area of removal of Asbestos Plaster on Stone, approximately 4X4' for Engineer determination of acceptable removal methods - 32 ft<sup>2</sup></p> <p><b>1st and 2nd Floors Decontamination</b> Floor Surface Area of 1st and 2nd Floor Levels – 1,592.25 ft<sup>2</sup> 1st and 2nd Floors Decontamination will include the Cleanup and Decontamination of Rodent Feces – 1,592.25 ft<sup>2</sup> On successful completion of the Major Spill Response the 2nd Floor will be Isolated from the remainder of the House as no further asbestos work exists.</p>
06/04/18	*	<p>Commenced (MAAL/OSHA) Air Monitoring</p> <p>* Completed (MAAL/OSHA) Air Monitoring</p> <p>* Completed (MAAL/OSHA) Air Monitoring PCM analysis-All Work Area samples below AQCC MAAL, &lt;=0.01 f/cc/OSHA 1926.1101, EL &lt;1.0 f/cc, PEL &lt;0.10 f/cc, where regulated, unless otherwise noted as follows: NA</p> <p>* Advised results</p>



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### FIELD REPORT & OBSERVATIONS

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Boulder County  
Date of Assignment: 06/04-05/18  
Assignment: Environmental Consultation/Asbestos Services  
HERRON™ Project No.: 0421178.12  
Date of Report: 06/04/18

DATE	TIME	SUMMARY OF EVENTS
06/05/18	*	Field documentation completed and report distributed (refer to distribution)

Note: \*Refer to daily project memo for complete details of events.



**ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
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 Date of Assignment: 06/04-05/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.12  
 Date of Report: 06/04/18

SAMPLE NO. AND DESC.	PUMP NO.	TIME					FLOW RATE			FIBER					
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	DENSITY (F/MM2)	LOD (F/CC)	FIBERS (F/CC)
060418-1 Removal,	505	7	50	14	0	370	4.00	4.00	1480	M	20.0	100	25.478	0.002	0.007
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0051		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

IWA

060418-2 Removal,	505	7	50	14	0	370	4.00	4.00	1480	M	14.0	100	17.834	0.002	0.005
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0036		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA

060418-3 Removal,	505	7	50	14	0	370	4.00	4.00	1480	M	9.0	100	11.465	0.002	0.003
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0023		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Clean Room

060418-4 Removal,	201	7	50	14	0	370	4.00	4.00	1480	M	12.0	100	15.287	0.002	0.004
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0031		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Load Out

060418-5 Removal,	505	7	50	14	0	370	4.00	4.00	1480	L	5.0	100	6.369	0.002	BDL
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0013		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Negative air exhausted outside of Building



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**ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 06/04-05/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.12  
 Date of Report: 06/04/18

SAMPLE NO. AND DESC.	PUMP NO	TIME					FLOW RATE			FIBER					
		ON HR	MIN	OFF HR	MIN	TOT MIN	(LPM) ON	(LPM) OFF	VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	DENSITY (F/MM2)	LOD (F/CC)	FIBERS (F/CC)
060418-6	505	7	50	14	0	370	4.00	4.00	1480	L	0.5	100	0.637	0.002	BDL
Removal,		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0001		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Ambient

060418-B1 Blank VL 0.0 100  
 060418-B2 Blank VL 0.0 100 DATA: BL

Note: .8µ, 25mm MCE Filter Cassettes - Note: IWA = Inside Work Area, OWA = Outside Work Area, BDL = Below Detection Limit - Note: VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read - Note: Proficiency Analytical Testing (PAT) Program



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 Date of Report: 06/04/18

SAMPLE		TIME					FLOW RATE			FIBER					
NO. AND	PUMP	ON	OFF	TOT	(LPM)	(LPM)	VOL	PARTICULATE	FIBER	FIELD	DENSITY	LOD	FIBERS		
DESC.	NO	HR	MIN	HR	MIN	MIN	ON	OFF	(L)	LOADING	COUNT	COUNT	(F/MM2)	(F/CC)	(F/CC)
060418-P1	701	8	30	9	0	30	2.00	2.00	60	H	18.0	100	22.930	0.045	0.147
OSHA Compliance		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc):		0.0092		

Air Monitoring Samples,

Excursion Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

Hector Salgado/#20974

060418-P2	701	9	30	14	0	270	2.00	2.00	540	H	25.0	100	31.847	0.005	0.023
OSHA Compliance		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc):		0.0128		
Air Monitoring Samples,											(Multiple Sample 8 Hr. TWA, f/cc):		0.0220		

Personal Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

Hector Salgado/#20974

060418-B1	Blank										VL	0.0	100		
060418-B2	Blank										VL	0.0	100	DATA:	BL

Note: .8μ, 25mm MCE Filter Cassettes - Note: IWA = Inside Work Area, OWA = Outside Work Area, BDL = Below Detection Limit - Note: VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read - Note: Proficiency Analytical Testing (PAT) Program



**FLOOR PLANS/SITE PHOTOGRAPHS**

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**Photo Log**



20180604\_073523



20180604\_073759



20180604\_073842



20180604\_073932



20180504\_073934



20180604\_073937



20180604\_073411



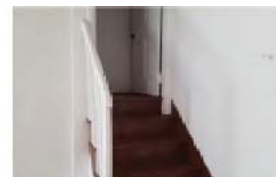
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20180604\_073507



20180517\_152602



20180517\_152608



20180517\_152617



20180517\_152625



20180517\_152628



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20180517\_152656



20180517\_152702



20180517\_152711



20180517\_152545



20180517\_152549



20180517\_152553



20180517\_152555



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**Photo Log**



20180604\_141012



20180604\_141019



20180604\_141028



20180604\_141039



20180604\_141041



20180604\_141048



20180604\_143200



20180604\_143254



20180604\_143310



20180604\_143335



20180604\_143426



20180604\_143428



20180604\_143441



20180604\_140932



20180604\_140934



20180604\_140936



20180604\_140942



20180604\_140950



20180604\_140952



20180604\_140955



20180604\_141003



20180604\_141008



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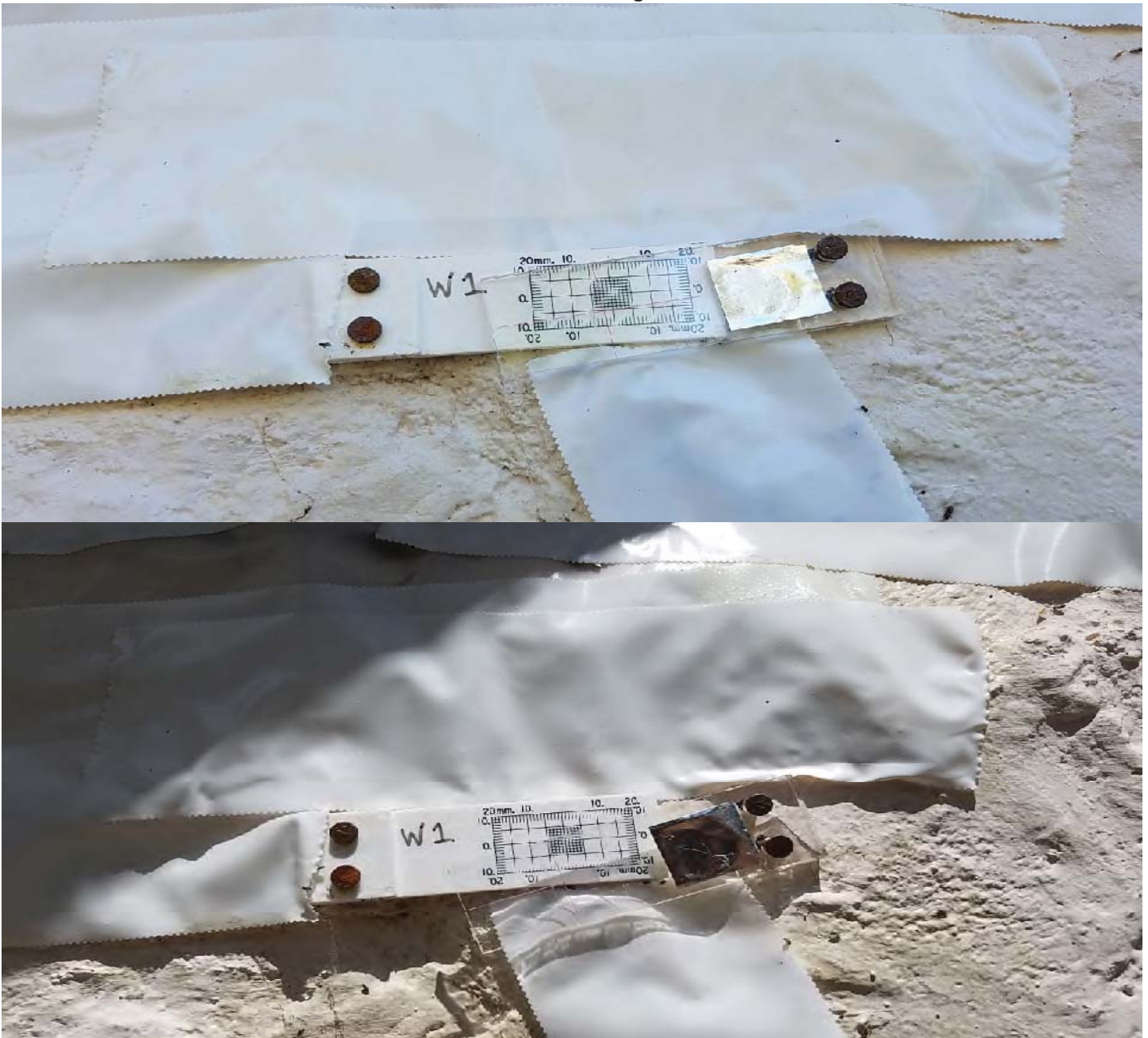
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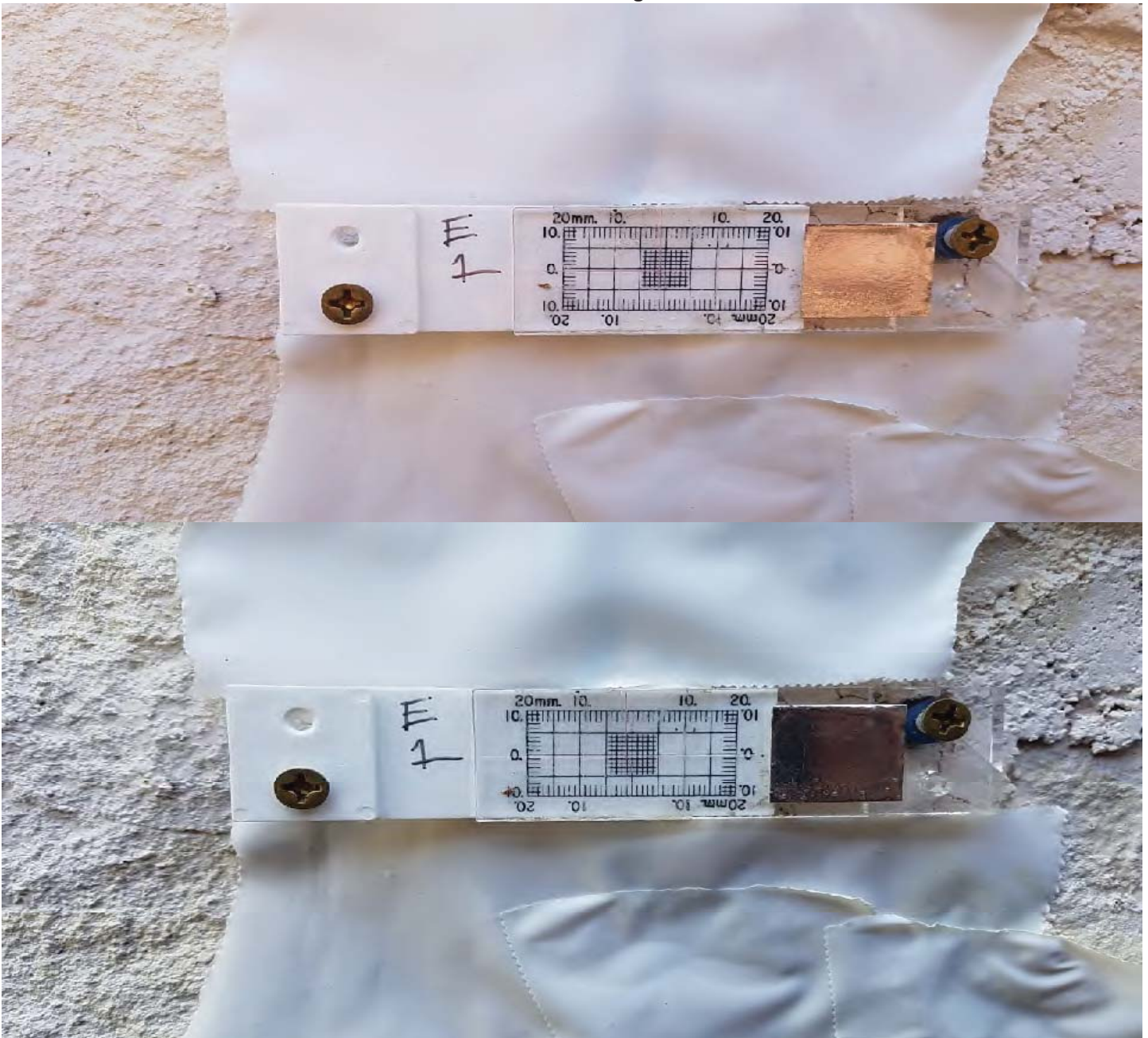
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**Photo Log**





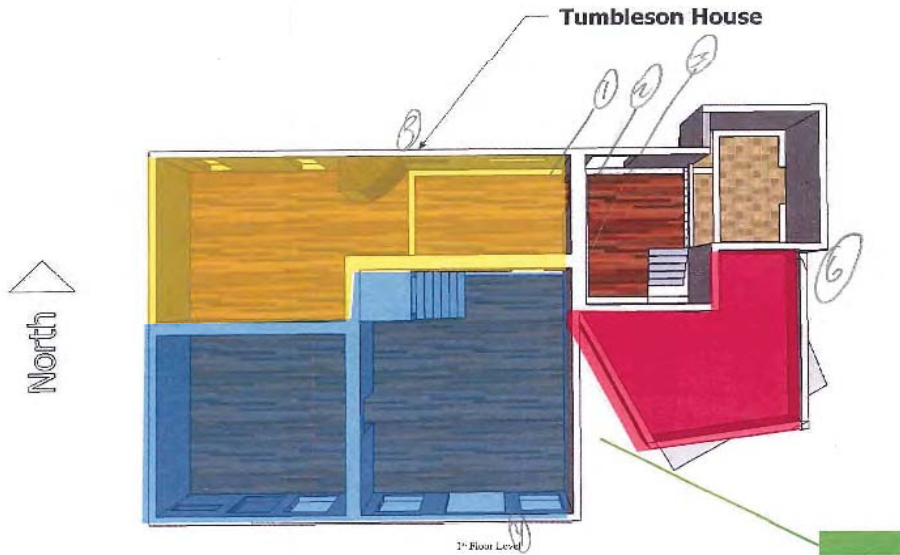
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**(MAAL/OSHA) Air Monitoring**

HERRON™ Enterprises USA, Inc.

Tumbleson House at Hall Ranch Open Space  
Boulder County, CO



- WAP1, Asbestos Containing Materials (> 15% Asbestos)
- WAP2, Asbestos Containing Materials (> 1% Asbestos)
- WAP3, Asbestos Containing Materials (> 15% Asbestos)
- WAP4, Asbestos Containing Materials (> 15% Asbestos)
- WAP5, Asbestos Containing Materials (> 15% Asbestos)

Note: Shaded area indicates approximate Work Area.



## AQCC REG. NO. 8 ASBESTOS ABATEMENT INSPECTION FORM COMPLIANCE CHECKLIST AND INFORMATION

Colorado Dept. of Public Health  
and Environment  
APCD-IE-B1  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
Phone: 303-692-3100  
Fax: 303-782-0278

Project(s) Address: <b><u>Tumbleson House at Hall Ranch Open Space, Boulder County, CO</u></b>		Project(s) Permit #: 18BO2912A	
Project(s) start date: May 17, 2018		Project(s) completion date: June 04, 2018	
Inspector(s): LP (Lennie) Herron/#2572 (AMS/PM - ___) Billie J. Herron/#2650 (AMS/PM - <u>X</u> ) Jamie L. Herron-Carson/#2649 (AMS/PM - ___) Sherri K. Herron/#8728 (AMS/PM - ___) Michael W. Herron, Sr./#13788 (AMS/PM - ___)		Inspection Date: 06/04/18	
Current Abatement Phase:	<input type="checkbox"/> Pre	<input checked="" type="checkbox"/> Active	<input type="checkbox"/> Post
More than one phase/project?		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Comments:			

**Types(s) and total quantity of ACM removed/to be removed\* as reported by the abatement contractor:**

Pipe Insulation*:	Fireproofing:	Spray-on:
Ceiling Tile:	Boiler Insulation:	VAT:
Transite:	<b>Other (describe):</b> <ul style="list-style-type: none"> <li>Rodent Feces – 1,592.25 ft<sup>2</sup></li> <li>Miscellaneous Material = 20 ft<sup>2</sup></li> <li>Surfacing Material = 2,982 ft<sup>2</sup></li> </ul>	

\*Pipe insulation is reported in lineal feet, all other materials including ductwork are reported in square footage regardless of the thickness of the ACM. If reporting in 55-gallon drums, note square footage or linear footage area to be removed.

List of ALL abatement workers in containment today:

#	NAME	SSN OR REC. #	AHERA / STATE / PHYSICAL / FIT TEST
1	SEE ATTACHED		/ / /

<b>COMMENTS:</b>

**Note: Responses to the Description of Citation is indicated by the anticipation of the day, with the default as X = OK / Vio. / N/A. Should the response differ, cross-out will appear and appropriate response indicated.**

**PART I – SECTION A - OUTSIDE WORK AREA(S) – CERTIFICATION AND PERMIT/NOTIFICATION REQUIREMENTS, ETC.**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
16	II.A.2	All training certs./documents on site - with <b>photo IDs</b> ?	X		
26	II.J	Project Manager - credentials ok (certified as PD, completed AMS training, HS diploma, 1 yr. Experience, independent)?			X
29	III.B.1.a & III.B.4	On-site supervisor state certified?	X		
29	III.B.1.b & III.B.4	All workers on site trained/certified?	X		
30	III.B.5	Air Monitoring Spec. trained and certified? Note - this requirement may apply during pre-and active abatement phases, e.g. monitoring NAM exhaust inside a building or checking for the "MAAL".	X		
30	III.B.6	Project Manager required (>1,000 LF/>3000SF of friable) Note: Not required in schools.			X
30	III.C.1	Project Design required (>1,000 LF/>3000SF in P&C) (>3 LF/>3SF in Schools)	X		
31	III.C.4	Project Design on the site and signed?	X		
31	III.E.1	No false, inaccurate, or misleading information?	X		
33	III.F	If a variance has been granted for any work practice(s); <b>are the conditions of this variance being followed?</b>			X
34	III.G	Permit Valid (i.e. start/stop dates)?	X		
35	III.G.4	ORIGINAL permit posted at work site?	X		
36	III.G.8	Permit signed by Project Manager?			X

**COMMENTS ON PART I – SECTION A:**


**PART I – SECTION B – OUTSIDE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
37	III.J.1.a	Negative Air Machines (NAMs) operating continuously?	X		
37 & 52	III.J.1.d & III.U.1.b.i	NAMs monitored if exhausted inside the building?		X	
37	III.J.3	-0.02" H <sub>2</sub> O or better on Manometer?	X		
37	III.J.3	Continuous printout on Manometer?	X		
37	III.J.4	Smoke tubes present?	X		
37	III.J.4	Air flow - outside to inside ok?	X		
38	III.K.1	All chambers separated by airlocks?	X		
38	III.K.1	Decon Unit - 3 stages?	X		
38	III.K.1	Self-closing flaps/doors? (Z flaps are preferable, but not required)	X		
38	III.K.1.a	Clean room - adequately sized?	X		
38	III.K.1.b	Shower - hot and cold water at the tap?	X		
38	III.K.1.b	Shower – leakage anywhere but the supply connection?	X		
38	III.K.1.b	Shower - wastewater filtered to 5 microns or less, sanitary sewer discharge?	X		
38	III.K.1.b	Shower and Clean room - ACM debris present?	X		
39	III.K.2	Entry and exit procedures ok?	X		
41	III.N.2	View port present (at minimum 12"x12")?	X		
41	III.N.3	Waste load out separate from Decon?	X		
41	III.N.3	Waste load out - 2 stages?	X		

**COMMENTS ON PART I – SECTION B: MANOMETER PRINTER NOT WORKING. TO BE REPLACED 06/05/18**

**PART II – INSIDE THE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
36	III.I	Critical barriers - 1 layer 6 mil?	X		
36	III.J.1.b	Air cleaning equipment - HEPA filters properly installed, equipment operating, maintained adequately, etc.?	X		
37	III.J.2	Adequate equipment in place to ensure 4 air changes per hour?	X		
38	III.K.1.c	6 mil disposal bag present in Dirty Room?	X		
39	III.K.2.b	Disposable clothing worn by workers?	X		
39	III.L	Pre-cleaning - criticals and decon, HEPA vacs, wet cleaning, proper disposal?	X		
39	III.L.1	Movable objects cleaned before removal from the work area?	X		
39	III.M	Fixed objects - 1 layer 6 mil?	X		
40	III.N.1.a	Floors - 2 separate layers 6 mil?	X		
40	III.N.1.a, b, & c	No seams present (wall/floor, wall/ceiling, 12" overlap)?	X		
40	III.N.1.b	Walls - 2 separate layers 4 mil?	X		
40	III.N.1.c	Ceilings - 1 layer 4 mil?	X		
41	III.O.1.a.i.(A)	Amended water being used (surfactants) before ACM is removed?	X		
41	III.O.1.a.i.(A)	Are the surfactants a commercial product designed specifically for ACM removal?	X		
41	III.O.1.a.i.(A)	Material adequately wet and/or kept wet until bagged for disposal?	X		
42	III.O.1.a.i.(B)	Airless sprayers used for applying amended water or encapsulant?	X		
42	III.O.1.a.iii	All contaminated surfaces wet-wiped prior to disassembly of containment barriers?	X		

**COMMENTS ON PART II:**


**PART III – SECTION A –SPECIAL PROJECTS, RESILIENT FLOOR TILE**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
31	III.E.1	Notice posted at the worksite?			X
46	III.R.	Waste handled as nonfriable waste?			X
114	Appendix B	Appendix B, Amended water being used?			X
114	Appendix B	Appendix B, Hand tools only?			X
48	III.S.1	Appendix B, Proper handling and packaging of tiles/adhesives?			X
48	III.S.1	Voluntarily using splashguards, critical, negative air, and decon?			X
48	III.S.1.c	Is the material being rendered friable?			X

**COMMENTS ON PART III, SECTION A:**


**PART III – SECTION B –SPECIAL PROJECTS, SHEET VINYL FLOORING**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
34	III.E.1	Notice/Permit posted at the worksite?			X
46	III.R.	Waste handled as friable waste?			X
48	III.S.1.c	Is the material being rendered friable?			X
48	III.S.1.d.	Worker(s)/Supervisor(s) trained according to Appendix C?			X
48	III.S.2	Appendix B, Amended water being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Hand tools only being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Proper handling and packaging of sheet flooring being used by only App. C trained workers?			X
107	Appendix B	Appendix B, Proper wetting at the delaminating nip point being used by only App. C trained workers?			X
48	III.S.2	Voluntarily using splashguards, critical, negative air, and decon?			X

**COMMENTS ON PART III, SECTION B:**


**PART III – SECTION C –SPECIAL PROJECTS, NONFRIABLE ACM**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
49	III.S.4.a.	ACM adequately wet?			X
49	III.S.4.b.	Hand removal methods being used?			X
49	III.S.4.c.	Minimal breakage and disturbance?			X
49	III.S.4.d.	Material properly disposed of as nonfriable waste?			X

**COMMENTS ON PART III, SECTION C:**


**PART IV – SPECIAL REMOVAL METHODS, GLOVEBAGS AND FACILITY COMPONENT REMOVAL**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
53	III.V.1	Glove bags - proper usage (useable without causing fiber release)?			X
53	III.V.1.a	Glove bags - properly sealed to the area, no bottom seam?			X
53	III.V.1.b	Glove bags - pipes cooler than 150°F?			X
53	III.V.1.c	Glove bags used only once?			X
53	III.V.1.d.i	Glove bags - secondary containment(s) in place if removal > 3LF/SF?			X
54	III.V.1.d.ii	Glove bags - smoke tested prior to use?			X
54	III.V.1.d.iv	Glove bags - material in bags adequately wet?			X
54	III.V.1.d.vi	Glove bags - "rough" edges encapsulated?			X
54	III.V.1.d.vii	Glove bags - evacuated with HEPA vac prior to removing the bag?			X
54	III.V.2	Facility component removal - w/o containment, material well adhered to surface?			X
54	III.V.2.a	Facility component removal - adequately wet and wrapped in 6 mil poly prior to removal from the work area?			X

**COMMENTS ON PART IV:**




**PART V – MAJOR SPILLS**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
50	III.T.1.	Spill properly characterized (air sampling, tape sampling, microvac sampling)?	X		
50	III.T.1.a.	Area immediately sealed off?	X		
50	III.T.1.b	Air handling system shut down or modified to prevent further disturbance?	X		
50	III.T.1.c.	Division properly notified by phone and requirement(s) of subsection III.E. fulfilled?	X		
50	III.T.1.e.	Area sealed off and negative pressure established in accordance with III.J.	X		
50	III.T.1.e.	Certified personnel in accordance with section II performing work?	X		
50	III.T.1.j	Final clearance air monitoring performed in accordance with subsection III.P.	X		

**COMMENTS ON PART IV:**

**NOTE: WORK AREA #1 ONLY – COMPLETE 05/22/18**


**PART VI – WASTE HANDLING REQUIREMENTS (WASTE STORAGE AREA)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
47	III.R.1	6 mil or greater bags?	X		
46	III.R.2.a	Containers - material adequately wet in bags?	X		
46	III.R.2.a	No breakage, rupture or leakage?	X		
47	III.R.2.b	Proper warning labels on bags?	X		
47	III.R.2.d	Visible emissions – anywhere on job site?	X		
47	III.R.2.f	All waste water filtered to 5 microns AND discharged to a <b>sanitary sewer</b> ?	X		
47	III.R.3	Are ACWM bags labeled with generator labels in accordance with 40 CFR 61.150?	X		
47	III.R.3	Are appropriate waste shipment records being maintained (40 CFR 61.150)?	X		
47	III.R.3	Transport to a proper disposal site?	X		
47	III.R.3	Waste storage vehicles placard during loading/storage at job site?	X		

**COMMENTS ON PART V:**






**HERRON™** Enterprises USA, Inc.  
 Hazardous Materials\* Mold\* Asbestos\* Lead Paint  
 Environmental Services\* Industrial Hygienists

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 E-Mail [Lennie.Herron@comcast.net](mailto:Lennie.Herron@comcast.net)  
 Website [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)  
 7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

**PROJECT/LOCATION: 0421178, RFP#6648-17- Tumbleson House at Hall Ranch Open Space Asbestos Consulting Services / Boulder County**

CONTRACTOR Employees	On-site Today?	AHERA Worker Expiration	State Worker Expiration	AHERA Supervisor Expiration	State Supervisor Expiration	Physical Expiration	Fit Test Expiration	Copy of All Certifications on Site?	State ID Card Displayed On-Site?	Certificate of Worker's Acknowledgement	DATE	
											REPORT NO	06/04/18
Alma Mosqueda/#12109		03/03/19	04/27/19	NA	NA	04/16/19	02/20/19	*	*	*	0421178. 12	06/04/18
Carlos Vandehorst/#22241	Yes	07/01/18	07/15/18	NA	NA	07/14/18	12/26/18	*	*	*		
David Starks/#15640		NA	NA	08/25/18	09/18/18	02/02/19	05/09/19	*	*	*		
Dylan Gallogly/#24196		NA	NA	12/22/18	01/04/19	01/08/19	01/09/19	*	*	*		
Felipe Hernandez/#16523	Yes	03/17/19	04/19/19	NA	NA	04/14/19	04/20/19	*	*	*		
Hector Salgado/#20974	Yes	03/03/19	06/29/18	NA	NA	04/24/19	04/03/19	*	*	*		
Allen Gallogly/#21476		04/30/19	03/16/19	NA	NA	01/18/19	05/19/19	*	*	*		
Juan Veloz/#10999	Yes	07/29/18	09/21/19	NA	NA	05/17/19	12/18/18	*	*	*		
Adriana Jacobi-Urribe/#12893		02/03/19	05/24/18	NA	NA		06/01/18	*	*	*		No

9 9 4  
 Expired

Expired and/or Update Not Received:

\*Should Employee not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.

Legend of Documents not received by HERRON: 1, AHERA Certification, 2, State Certification, 3, Physical, 4, Fit Test, 5, Certificate of Worker's Acknowledgement. Effectively, this document is published daily to include Employees which have signed in.



---

**From:** Destiny M. Herron <HERRONAdmin@comcast.net>  
**Sent:** Friday, June 8, 2018 2:32 PM  
**To:** 'Michael Lohr'; 'Carol Beam'; 'Brian Bertin'  
**Cc:** 'Allen Gallogly'; 'David W. Starks'; 'L. P. (Lennie) Herron'; 'Christy M. Herron'; 'Billie J. Herron'; Destiny M. Herron  
**Subject:** 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
**Attachments:** 0421178.13, Daily Report, 06.05.18.pdf

## Project Update

In regards to the end of the shift:

06/05/18 (Tuesday)

1. Notifications –
  - a. Issues during the shift –
    - 1) No issues
2. Containment observation: Yes
  - a. In accordance with the Specifications and Regulations –

Current Work Area(s) –

WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone

1st Floor Kitchen and Bedroom 2 - 1,048 ft<sup>2</sup>

Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high

1. Apply negative air to meet a criteria of -0.03”
  - a. Results within local, state, and/or federal regulations

WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

1st Floor Living Room, Bedroom 1, and Stairwell – 1,612 ft<sup>2</sup>

1. Apply negative air to meet a criteria of -0.03”
  - a. Results within local, state, and/or federal regulations

3. Structure Crack Monitoring –
  - a. Surface mounted gauges will be visually observed twice daily after arrival of the first visit of the Engineer to determine if the existing cracks within the masonry are being impacted by the abatement
    - 1) AM
      1. W1 – West Side, North End – Note: Awaiting new anchor points. Remaining crack monitors remain unchanged.
      2. W2 – West Side, South End – 2.0 mm
      3. S1 – South Side, East End – 0.5 mm
      4. E1 – East Side, Center – 1.0 mm
    - 2) PM
      1. W1 – West Side, North End – Note: Awaiting new anchor points. Remaining crack monitors remain unchanged.
      2. W2 – West Side, South End – 2.0 mm
      3. S1 – South Side, East End – 0.5 mm
      4. E1 – East Side, Center – 1.0 mm

4. Asbestos Air Monitoring –
  - a. During-abatement monitoring with the following preliminary results –
    - 1) WA#3, #4
    - 2) IWA – 0.008 f/cc
    - 3) OWA,
    - 4) OWA, Clean Room
    - 5) OWA, Negative Air Exhausted Outside of the Building
    - 6) OWA, Ambient, Outside of Building
      1. These environmental samples, on completion of final analysis, Outside Work Area sample(s) have not exceeded the Maximum Allowable Asbestos Level (MAAL) by Phase Contrast Microscopy (PCM), or Transmission Electron Microscopy (TEM), where applicable.
  - b. OSHA Compliance monitoring with the following preliminary results –
    - 1) WA#3, #4
    - 2) Excursion – 0.098 f/cc
    - 3) Personal, Multi-sample 8 Hour TWA – 0.0174 f/cc
      1. These environmental samples, on completion of final analysis, have not exceeded the EL (Excursion Level) or the PEL (Permissible Exposure Level) by Phase Contrast Microscopy (PCM), where applicable.
      2. Samples which were reported as CBR were not included in the multi-sample TWA result.
      3. Sampling flow rates should be lowered to avoid CBR results.
      4. *A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL) –*
      5. Should a CBR sample have occurred, the Contractor is advised to review engineering controls, negative pressure, air flow, wet methods, etc.
5. Daily Contractor Submittals Received (sign in sheets, daily logs, entry/exit logs, special reports) –
  - a. 06/05/18 – not received – submit
  - b. 06/04/18 – not received – submit
  - c. 06/01/18 – not received – submit
  - d. 05/31/18 – not received – submit
  - e. 05/30/18 – not received – submit
  - f. 05/29/18 – not received – submit
  - g. 05/25/18 – not received – submit
  - h. 05/24/18 – not received – submit
  - i. 05/23/18 – not received – submit
  - j. 05/22/18 – not received – submit
  - k. 05/21/18 – not received – submit
  - l. 05/18/18 – not received – submit
  - m. 05/17/18 – not received – submit
  - n. 05/17/18 – mobilization 05/17/18 7:30 AM MST
    - 1) Contractor Project Directory –
      1. Note: Should Employee not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.
6. Work Areas completed –
  - a. WA#2 Removed from Scope of Work - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster Wall(s) on Stone  
1st Floor Root Cellar – 322 ft<sup>2</sup>  
Demolition of Wood Shelving in 1st Floor Root Cellar (embedded in Plaster) – 11.5X4’ X 3 sets
  - b. WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (PCM Clearance Passed 05/22/18)

1st Floor Living Room, 7X2' Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft<sup>2</sup>  
2nd Floor Closet, Loose Sheet Flooring on Wood Substrate - 10 ft<sup>2</sup>  
c. WA#5 - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s) (Visual Passed 05/21/18)  
Exterior, South Alcove Roofing, Debris, and Associated 2” of Soil – 10 ft<sup>2</sup>  
Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3’ from foundation.

7. Punch list items completed –  
a. Awaiting Completion

8. Notes:

- a. Refer to Project Memo(s).
- b. All observations stated in this report are based on facts and circumstances as they existed during the time of the observations, and during the time period of this report preparation and as available within the limits of the mutually agreed upon Scope of Work, budget, and schedule. The observations in this report is not intended to be exhaustive in scope, and is considered an ongoing working document. HERRON™ reserves the right to modify the contents of this document, as necessary.
- c. As agreed, daily conversations are occurring, and daily reports will be on site for employee review. Hard copy will not be mailed as this correspondence constitutes delivery of the specified documents.
- d. Refer to Project Definitions below.

Please advise within an RFI if you have any questions.

Thanks in advance,

Destiny M. Herron  
Administrative Assistant  
HERRON™ Enterprises USA, Inc.  
7261 W. Hampden Ave., Lakewood, CO 80227-5305  
(303) 763-9639 / Fax (303) 763-9686  
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Project Definitions:

Asbestos

1. In regards to the results, Regulation 29 CFR 1910, 1926 –

[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=standards&p\\_id=9995](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9995)  
[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_id=10862&p\\_table=standards](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=10862&p_table=standards)

A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL). In accordance with 29 CFR 1926, 1926.1101; 1926.1101(c)(1); 1926.1101(f)(1) Standard Interpretation Correct manner to interpret air sample measurements of an employee's asbestos exposure when the samples are overloaded [01/17/2006]  
[http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=INTERPRETATIONS&p\\_id=2529](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=2529)  
5;

*‘...While monitoring an employee's exposure to an airborne contaminant, such as asbestos, occasionally samples are lost, damaged, overloaded, or are otherwise unusable. Analytical laboratories report such samples as "VOID," with a note of explanation. An overloaded asbestos air sample is one in which non-asbestos dust obscures some or all of the fibers on the filter and therefore makes it impossible to accurately determine the concentration of asbestos in the*

*laboratory's microscopic analysis. Such samples should not be counted by an employer in TWA calculations of employee exposure. The use of a "zero" exposure result for such samples is inappropriate; it will underestimate the employee's true exposure. An employer has the responsibility to "accurately" determine his employee's exposure to asbestos... '.*

1926.1101(b) Definitions

Employee exposure means that exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

1926.1101(c)(2) Excursion limit

The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(c) Permissible exposure limits (PELS)

1926.1101(c)(1)

Time-weighted average limit (TWA). The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air as an eight (8) hour time-weighted average (TWA), as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(c)(2)

Excursion limit. The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(g)(2)(v)

Wherever the feasible engineering and work practice controls described above are not sufficient to reduce employee exposure to or below the permissible exposure limit and/or excursion limit prescribed in paragraph (c) of this section, the employer shall use them to reduce employee exposure to the lowest levels attainable by these controls and shall supplement them by the use of respiratory protection that complies with the requirements of paragraph (h) of this section.

2. In regards to the results, AQCC Regulation No. 8 –

<http://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=7206&fileName=5> CCR 1001-10

III.U.2. The Maximum Allowable Asbestos Level (MAAL)

III.U.2.a. PCM - If PCM is used as the method of analysis the standard is 0.01 fibers per cubic centimeter of air (f/cc), which is equivalent to 10,000 fibers per cubic meter of air (f/m<sup>3</sup>).

III.U.2.b. TEM - Where TEM is used as the method of analysis, the standard is 70 structures/millimeter<sup>2</sup> (s/mm<sup>2</sup>).

3. Laboratory certificates not included with this correspondence have not been received, will follow under a separate cover.

4. Legend: .8μ, 25mm MCE Filter Cassettes, Amb = Ambient, IWA = Inside Work Area, OWA = Outside Work Area, CR = Clean/Change Room, LO = Loadout, NAM = Negative Air Exhaust, Ex = Excursion, Per = Personnel, VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read, BDL = Below Detection Limit





**HERRON™** Enterprises USA, Inc.

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7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

## ASBESTOS SERVICES

Client: Boulder County  
Client Contact: Michael Lohr  
Order No.: SOQ #6673-17  
Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
Date of Assignment: 06/05-06/18  
Assignment: Environmental Consultation/Asbestos Services  
HERRON™ Project No.: 0421178.13  
Date of Report: 06/05/18

## SUMMARY OF WORK

Per Client request, and under the guidelines defined, HERRON™ Enterprises USA, Inc. has concluded the Environmental Consultation/Asbestos Service for friable and/or non-friable Asbestos Containing Material(s) at the aforementioned property.

Our Environmental Consultation/Asbestos Service report may include a Limited Asbestos Building Inspection, descriptions of Bulk, Dust, and/or Air Monitoring samples, their locations and analyses data, which have been obtained and analyses performed in accordance with local, state, and/or federal regulations.

For Calculation purposes of samples obtained by HERRON™, all results are expressed basis actual sampling duration, with courtesy 8 hours time weighted average calculations, based on the actual sampling duration. For Calculation purposes of samples submitted to HERRON™, all results are expressed basis actual sampling duration, as submitted by the Client. HERRON™ implies no warranty to the accuracy of the information or the samples submitted by the Client. In order to make exact determinations, the employer should calculate exact times based on containment sign-in/out sheets for TWA's, in accordance with current OSHA regulations.

All Miscellaneous Provisions, Terms and Conditions apply to all services provided as indicated in HERRON™ current Terms of Services.

Information and data which has been generated as a result of this Environmental Consultation/Asbestos Service will remain confidential and will not be released to any party without prior written authorization from Client(s) (refer to authorized distribution).

We appreciate the confidence which has been demonstrated by your continued patronage, and look forward to assisting you and your group should you have future needs of Environmental Consultation/Asbestos Services.

Sincerely,

Billie J. Herron-Lusk  
Project Manager  
HERRON™ Enterprises USA, Inc.



**FIELD REPORT & OBSERVATIONS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 06/05-06/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.13  
 Date of Report: 06/05/18

**DATE TIME SUMMARY OF EVENTS**

05/17/18 ---- Requested to perform Baseline (MAAL/OSHA) Air Monitoring, Pre-Abatement Visual Containment(s) Inspection(s), Removal (MAAL/OSHA) Air Monitoring, Final Visual Containment(s) Inspection(s), Final Clearance (MAAL/OSHA) Air Monitoring, and OSHA Compliance Air Monitoring for Gross removal of

**WA#1** - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall

**1st Floor Living Room**, 7X2' Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft2

**2nd Floor Closet**  
Loose Sheet Flooring on Wood Substrate - 10 ft2

**Test Area(s) 1st Floor Two (2) Perimeter Wall(s)**  
Perform test area of removal of Asbestos Plaster on Stone, approximately 4X4' for Engineer determination of acceptable removal methods - 32 ft2

**1st and 2nd Floors Decontamination**  
Floor Surface Area of 1st and 2nd Floor Levels – 1,592.25 ft2  
1st and 2nd Floors Decontamination will include the Cleanup and Decontamination of Rodent Feces – 1,592.25 ft2  
On successful completion of the Major Spill Response the 2nd Floor will be Isolated from the remainder of the House as no further asbestos work exists.

**WA#3** - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone  
**1st Floor Kitchen and Bedroom 2** - 1,048 ft2  
Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high

**WA#4** - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone  
**1st Floor Living Room, Bedroom 1, and Stairwell** – 1,612 ft2

**WA#5** - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s)  
**Exterior, South Alcove** Roofing, Debris, and Associated 2" of Soil – 10 ft2  
Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3' from foundation.

06/05/18 \* Commenced (MAAL/OSHA) Air Monitoring  
 \* Completed (MAAL/OSHA) Air Monitoring  
 \* Completed (MAAL/OSHA) Air Monitoring PCM analysis-All Work Area samples below AQCC MAAL, <=0.01 f/cc/OSHA 1926.1101, EL <1.0 f/cc, PEL <0.10 f/cc, where regulated, unless otherwise noted as follows: NA  
 \* Advised results



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**FIELD REPORT & OBSERVATIONS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 06/05-06/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.13  
 Date of Report: 06/05/18

DATE	TIME	SUMMARY OF EVENTS
06/06/18	*	Field documentation completed and report distributed (refer to distribution)

Note: \*Refer to daily project memo for complete details of events.



**ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 06/05-06/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.13  
 Date of Report: 06/05/18

SAMPLE NO. AND DESC.	PUMP NO.	TIME					FLOW RATE			VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	FIBER		
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	DENSITY (F/MM2)					LOD (F/CC)	FIBERS (F/CC)	
060518-1 Removal,	505	9	15	14	0	285	4.00	4.00	1140	H	19.0	100	24.204	0.002	0.008	
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0049			

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

IWA

060518-2 Removal,	505	9	15	14	0	285	4.00	4.00	1140	M	14.0	100	17.834	0.002	0.006
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0036		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA

060518-3 Removal,	505	9	15	14	0	285	4.00	4.00	1140	M	14.0	100	17.834	0.002	0.006
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0036		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Clean Room

060518-4 Removal,	201	9	15	14	0	285	4.00	4.00	1140	M	13.0	100	16.561	0.002	0.006
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0033		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Load Out

060518-5 Removal,	505	9	15	14	0	285	4.00	4.00	1140	L	5.0	100	6.369	0.002	BDL
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0013		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Negative air exhausted outside of Building



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## ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 06/05-06/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.13  
 Date of Report: 06/05/18

SAMPLE NO. AND DESC.	PUMP NO.	TIME					FLOW RATE			FIBER					
		ON HR	MIN	OFF HR	MIN	TOT MIN	(LPM) ON	(LPM) OFF	VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	DENSITY (F/MM2)	LOD (F/CC)	FIBERS (F/CC)
060518-6	505	9	15	14	0	285	4.00	4.00	1140	L	1.0	100	1.274	0.002	BDL
Removal,		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0003		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Ambient

060518-B1 Blank VL 0.0 100  
 060518-B2 Blank VL 0.0 100 DATA: BL

Note: .8µ, 25mm MCE Filter Cassettes - Note: IWA = Inside Work Area, OWA = Outside Work Area, BDL = Below Detection Limit - Note: VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read - Note: Proficiency Analytical Testing (PAT) Program



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 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.13  
 Date of Report: 06/05/18

SAMPLE		TIME					FLOW RATE			FIBER					
NO. AND	PUMP	ON	OFF	TOT	(LPM)	(LPM)	VOL	PARTICULATE	FIBER	FIELD	DENSITY	LOD	FIBERS		
DESC.	NO	HR	MIN	HR	MIN	MIN	ON	OFF	(L)	LOADING	COUNT	COUNT	(F/MM2)	(F/CC)	(F/CC)
060518-P1	701	9	15	9	45	30	2.00	2.00	60	H	12.0	100	15.287	0.045	0.098
OSHA Compliance		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc):		0.0061		

Air Monitoring Samples,

Excursion Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

Hector Salgado/#20974

060518-P2	701	9	30	14	0	270	2.00	2.00	540	H	22.0	100	28.025	0.005	0.020
OSHA Compliance		0	0	0	0	0	0.00	0.00			(Calculated 8 Hr. TWA, f/cc):		0.0112		
Air Monitoring Samples,											(Multiple Sample 8 Hr. TWA, f/cc):		0.0174		

Personal Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

Hector Salgado/#20974

060518-B1	Blank										VL	0.0	100		
060518-B2	Blank										VL	0.0	100	DATA:	BL

Note: .8μ, 25mm MCE Filter Cassettes - Note: IWA = Inside Work Area, OWA = Outside Work Area, BDL = Below Detection Limit - Note: VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read - Note: Proficiency Analytical Testing (PAT) Program



**FLOOR PLANS/SITE PHOTOGRAPHS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 06/05-06/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.13  
 Date of Report: 06/05/18

**Photo Log**



20180605\_091534



20180605\_091537



20180605\_091540



20180605\_091643



20180605\_092528



20180605\_093425



20180605\_093435



20180605\_093452



20180605\_093515



20180605\_091223



20180605\_091225



20180605\_091227



20180605\_091230



20180605\_091318



20180605\_091320



20180605\_091523



20180605\_135626



20180605\_134811



20180605\_134813



20180605\_134816



20180605\_134830



20180605\_135546



20180605\_135558



20180605\_135610



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**FLOOR PLANS/SITE PHOTOGRAPHS**

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Date of Assignment: 06/05-06/18  
Assignment: Environmental Consultation/Asbestos Services  
HERRON™ Project No.: 0421178.13  
Date of Report: 06/05/18

**Photo Log**



20180605\_091433



20180605\_091445



20180605\_091456



20180605\_091510



20180605\_091515



20180605\_091326



20180605\_091415



20180605\_091420





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HERRON™ Project No.: 0421178.13  
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**Photo Log**





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**FLOOR PLANS/SITE PHOTOGRAPHS**

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Date of Assignment: 06/05-06/18  
Assignment: Environmental Consultation/Asbestos Services  
HERRON™ Project No.: 0421178.13  
Date of Report: 06/05/18

**Photo Log**





**FLOOR PLANS/SITE PHOTOGRAPHS**

Client:	Boulder County
Client Contact:	Michael Lohr
Order No.:	SOQ #6673-17
Job Location:	0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County
Date of Assignment:	06/05-06/18
Assignment:	Environmental Consultation/Asbestos Services
HERRON™ Project No.:	0421178.13
Date of Report:	06/05/18

**Photo Log**





**FLOOR PLANS/SITE PHOTOGRAPHS**

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 Client Contact: Michael Lohr  
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 Date of Assignment: 06/05-06/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.13  
 Date of Report: 06/05/18

**Photo Log**





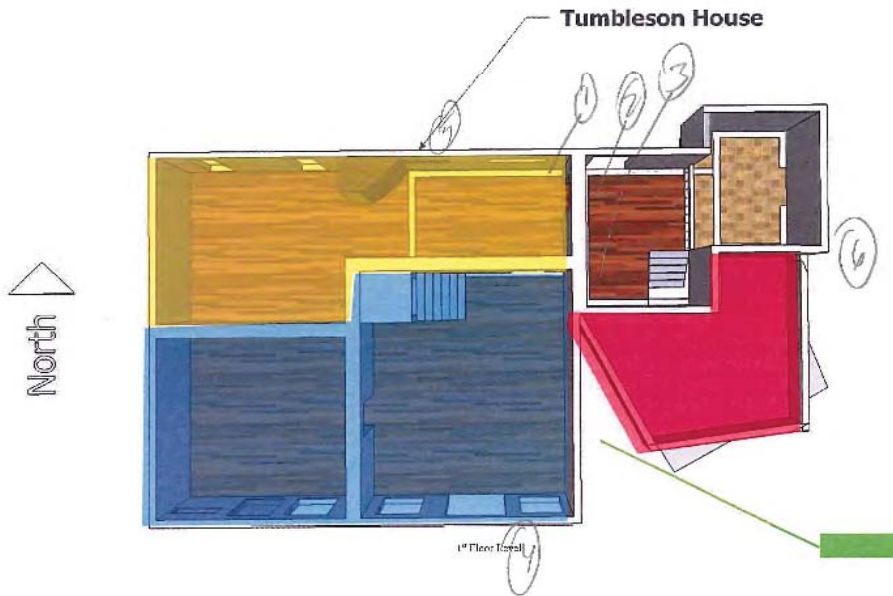
**FLOOR PLANS/SITE PHOTOGRAPHS**

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 Date of Report: 06/05/18

**(MAAL/OSHA) Air Monitoring**

HERRON™ Enterprises USA, Inc.

Tumbleson House at Hall Ranch Open Space  
Boulder County, CO



- WAP2, Asbestos Containing Materials (>1.0% Asbestos)
- WAP3, Asbestos Containing Materials (>1.0% Asbestos)
- WAP4, Asbestos Containing Materials (>1.0% Asbestos)
- WAP5, Asbestos Containing Materials (>1.0% Asbestos)

Note: Data(s) copied by permittee, not to scale. Shaded area indicates approximate Work Area.



## AQCC REG. NO. 8 ASBESTOS ABATEMENT INSPECTION FORM COMPLIANCE CHECKLIST AND INFORMATION

Colorado Dept. of Public Health  
and Environment  
APCD-IE-B1  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
Phone: 303-692-3100  
Fax: 303-782-0278

Project(s) Address: <b><u>Tumbleson House at Hall Ranch Open Space, Boulder County, CO</u></b>		Project(s) Permit #: 18BO2912A	
Project(s) start date: May 17, 2018		Project(s) completion date: June 04, 2018	
Inspector(s): LP (Lennie) Herron/#2572 (AMS/PM - ___) Billie J. Herron/#2650 (AMS/PM - <u>X</u> ) Jamie L. Herron-Carson/#2649 (AMS/PM - ___) Sherri K. Herron/#8728 (AMS/PM - ___) Michael W. Herron, Sr./#13788 (AMS/PM - ___)		Inspection Date: 06/05/18	
Current Abatement Phase:	<input type="checkbox"/> Pre	<input checked="" type="checkbox"/> Active	<input type="checkbox"/> Post
More than one phase/project?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments:			

**Types(s) and total quantity of ACM removed/to be removed\* as reported by the abatement contractor:**

Pipe Insulation*:	Fireproofing:	Spray-on:
Ceiling Tile:	Boiler Insulation:	VAT:
Transite:	<b>Other (describe):</b> <ul style="list-style-type: none"> <li>Rodent Feces – 1,592.25 ft<sup>2</sup></li> <li>Miscellaneous Material = 20 ft<sup>2</sup></li> <li>Surfacing Material = 2,982 ft<sup>2</sup></li> </ul>	

\*Pipe insulation is reported in lineal feet, all other materials including ductwork are reported in square footage regardless of the thickness of the ACM. If reporting in 55-gallon drums, note square footage or linear footage area to be removed.

**List of ALL abatement workers in containment today:**

#	NAME	SSN OR REC. #	AHERA / STATE / PHYSICAL / FIT TEST
1	SEE ATTACHED		/ / /
<b>COMMENTS:</b>			

**Note: Responses to the Description of Citation is indicated by the anticipation of the day, with the default as X = OK / Vio. / N/A. Should the response differ, cross-out will appear and appropriate response indicated.**

**PART I – SECTION A - OUTSIDE WORK AREA(S) – CERTIFICATION AND PERMIT/NOTIFICATION REQUIREMENTS, ETC.**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
16	II.A.2	All training certs./documents on site - with <b>photo IDs</b> ?	X		
26	II.J	Project Manager - credentials ok (certified as PD, completed AMS training, HS diploma, 1 yr. Experience, independent)?			X
29	III.B.1.a & III.B.4	On-site supervisor state certified?	X		
29	III.B.1.b & III.B.4	All workers on site trained/certified?	X		
30	III.B.5	Air Monitoring Spec. trained and certified? Note - this requirement may apply during pre-and active abatement phases, e.g. monitoring NAM exhaust inside a building or checking for the "MAAL".	X		
30	III.B.6	Project Manager required (>1,000 LF/>3000SF of friable) Note: Not required in schools.			X
30	III.C.1	Project Design required (>1,000 LF/>3000SF in P&C) (>3 LF/>3SF in Schools)	X		
31	III.C.4	Project Design on the site and signed?	X		
31	III.E.1	No false, inaccurate, or misleading information?	X		
33	III.F	If a variance has been granted for any work practice(s); <b>are the conditions of this variance being followed?</b>			X
34	III.G	Permit Valid (i.e. start/stop dates)?	X		
35	III.G.4	ORIGINAL permit posted at work site?	X		
36	III.G.8	Permit signed by Project Manager?			X

**COMMENTS ON PART I – SECTION A:**

**PART I – SECTION B – OUTSIDE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
37	III.J.1.a	Negative Air Machines (NAMs) operating continuously?	X		
37 & 52	III.J.1.d & III.U.1.b.i	NAMs monitored if exhausted inside the building?			X
37	III.J.3	-0.02" H <sub>2</sub> O or better on Manometer?	X		
37	III.J.3	Continuous printout on Manometer?	X		
37	III.J.4	Smoke tubes present?	X		
37	III.J.4	Air flow - outside to inside ok?	X		
38	III.K.1	All chambers separated by airlocks?	X		
38	III.K.1	Decon Unit - 3 stages?	X		
38	III.K.1	Self-closing flaps/doors? (Z flaps are preferable, but not required)	X		
38	III.K.1.a	Clean room - adequately sized?	X		
38	III.K.1.b	Shower - hot and cold water at the tap?	X		
38	III.K.1.b	Shower – leakage anywhere but the supply connection?	X		
38	III.K.1.b	Shower - wastewater filtered to 5 microns or less, sanitary sewer discharge?	X		
38	III.K.1.b	Shower and Clean room - ACM debris present?	X		
39	III.K.2	Entry and exit procedures ok?	X		
41	III.N.2	View port present (at minimum 12"x12")?	X		
41	III.N.3	Waste load out separate from Decon?	X		
41	III.N.3	Waste load out - 2 stages?	X		

**COMMENTS ON PART I – SECTION B: MANOMETER PRINTER NOT WORKING. TO BE REPLACED 06/05/18**

**PART II – INSIDE THE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
36	III.I	Critical barriers - 1 layer 6 mil?	X		
36	III.J.1.b	Air cleaning equipment - HEPA filters properly installed, equipment operating, maintained adequately, etc.?	X		
37	III.J.2	Adequate equipment in place to ensure 4 air changes per hour?	X		
38	III.K.1.c	6 mil disposal bag present in Dirty Room?	X		
39	III.K.2.b	Disposable clothing worn by workers?	X		
39	III.L	Pre-cleaning - criticals and decon, HEPA vacs, wet cleaning, proper disposal?	X		
39	III.L.1	Movable objects cleaned before removal from the work area?	X		
39	III.M	Fixed objects - 1 layer 6 mil?	X		
40	III.N.1.a	Floors - 2 separate layers 6 mil?	X		
40	III.N.1.a, b, & c	No seams present (wall/floor, wall/ceiling, 12" overlap)?	X		
40	III.N.1.b	Walls - 2 separate layers 4 mil?	X		
40	III.N.1.c	Ceilings - 1 layer 4 mil?	X		
41	III.O.1.a.i.(A)	Amended water being used (surfactants) before ACM is removed?	X		
41	III.O.1.a.i.(A)	Are the surfactants a commercial product designed specifically for ACM removal?	X		
41	III.O.1.a.i.(A)	Material adequately wet and/or kept wet until bagged for disposal?	X		
42	III.O.1.a.i.(B)	Airless sprayers used for applying amended water or encapsulant?	X		
42	III.O.1.a.iii	All contaminated surfaces wet-wiped prior to disassembly of containment barriers?	X		

**COMMENTS ON PART II:**

**PART III – SECTION A –SPECIAL PROJECTS, RESILIENT FLOOR TILE**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
31	III.E.1	Notice posted at the worksite?			X
46	III.R.	Waste handled as nonfriable waste?			X
114	Appendix B	Appendix B, Amended water being used?			X
114	Appendix B	Appendix B, Hand tools only?			X
48	III.S.1	Appendix B, Proper handling and packaging of tiles/adhesives?			X
48	III.S.1	Voluntarily using splashguards, critical, negative air, and decon?			X
48	III.S.1.c	Is the material being rendered friable?			X

**COMMENTS ON PART III, SECTION A:**



**PART III – SECTION B –SPECIAL PROJECTS, SHEET VINYL FLOORING**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
34	III.E.1	Notice/Permit posted at the worksite?			X
46	III.R.	Waste handled as friable waste?			X
48	III.S.1.c	Is the material being rendered friable?			X
48	III.S.1.d.	Worker(s)/Supervisor(s) trained according to Appendix C?			X
48	III.S.2	Appendix B, Amended water being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Hand tools only being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Proper handling and packaging of sheet flooring being used by only App. C trained workers?			X
107	Appendix B	Appendix B, Proper wetting at the delaminating nip point being used by only App. C trained workers?			X
48	III.S.2	Voluntarily using splashguards, critical, negative air, and decon?			X

**COMMENTS ON PART III, SECTION B:**


**PART III – SECTION C –SPECIAL PROJECTS, NONFRIABLE ACM**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
49	III.S.4.a.	ACM adequately wet?			X
49	III.S.4.b.	Hand removal methods being used?			X
49	III.S.4.c.	Minimal breakage and disturbance?			X
49	III.S.4.d.	Material properly disposed of as nonfriable waste?			X

**COMMENTS ON PART III, SECTION C:**


**PART IV – SPECIAL REMOVAL METHODS, GLOVEBAGS AND FACILITY COMPONENT REMOVAL**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
53	III.V.1	Glove bags - proper usage (useable without causing fiber release)?			X
53	III.V.1.a	Glove bags - properly sealed to the area, no bottom seam?			X
53	III.V.1.b	Glove bags - pipes cooler than 150°F?			X
53	III.V.1.c	Glove bags used only once?			X
53	III.V.1.d.i	Glove bags - secondary containment(s) in place if removal > 3LF/SF?			X
54	III.V.1.d.ii	Glove bags - smoke tested prior to use?			X
54	III.V.1.d.iv	Glove bags - material in bags adequately wet?			X
54	III.V.1.d.vi	Glove bags - "rough" edges encapsulated?			X
54	III.V.1.d.vii	Glove bags - evacuated with HEPA vac prior to removing the bag?			X
54	III.V.2	Facility component removal - w/o containment, material well adhered to surface?			X
54	III.V.2.a	Facility component removal - adequately wet and wrapped in 6 mil poly prior to removal from the work area?			X

**COMMENTS ON PART IV:**








**HERRON™** Enterprises USA, Inc.  
 Hazardous Materials\* Mold\* Asbestos\* Lead Paint  
 Environmental Services\* Industrial Hygienists

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 7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

**PROJECT/LOCATION: 0421178, RFP#6648-17- Tumbleson House at Hall Ranch Open Space Asbestos Consulting**

**Services / Boulder County**

DATE	REPORT NO	Copy of All Certifications and HERRON?	*Authorized Employee in Work Area(s) at This Job Site Today?	Services / Boulder County														
				On-site Today?	AHERA Worker Expiration	State Worker Expiration	AHERA Supervisor Expiration	State Supervisor Expiration	Physical Expiration	Fit Test Expiration	Copy of All Certifications on Site?	State ID Card Displayed On-Site?	Certificate of Worker's Acknowledgement					
06/05/18	0421178. 13																	
		<b>CONTRACTOR Employees</b>																
		Alma Mosqueda/#12109			03/03/19	04/27/19	NA	NA	04/16/19	02/20/19	*	*	*	*	*	*	*	Yes
		Carlos Vandehorst/#22241	Yes	07/01/18	07/15/18	NA	NA	07/14/18	12/26/18	*	*	*	*	*	*	*	*	Yes
		David Starks/#15640		NA	NA	08/25/18	09/18/18	02/02/19	05/09/19	*	*	*	*	*	*	*	*	Yes
		Dylan Gallogly/#24196		NA	NA	12/22/18	01/04/19	01/08/19	01/09/19	*	*	*	*	*	*	*	*	Yes
		Felipe Hernandez/#16523	Yes	03/17/19	04/19/19	NA	NA	04/14/19	04/20/19	*	*	*	*	*	*	*	*	Yes
		Hector Salgado/#20974	Yes	03/03/19	06/29/18	NA	NA	04/24/19	04/03/19	*	*	*	*	*	*	*	*	Yes
		Allen Gallogly/#21476	Yes	04/30/19	03/16/19	NA	NA	01/18/19	05/19/19	*	*	*	*	*	*	*	*	Yes
		Juan Veloz/#10999	Yes	07/29/18	09/21/19	NA	NA	05/17/19	12/18/18	*	*	*	*	*	*	*	*	Yes
		Adriana Jacobi-Urribe/#12893		02/03/19	05/24/18	NA	NA	06/01/18		*	*	*	*	*	*	*	*	No

9 9 5  
 Expired

Expired and/or Update Not Received:

\*Should Employee not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.

Legend of Documents not received by HERRON: 1, AHERA Certification, 2, State Certification, 3, Physical, 4, Fit Test, 5, Certificate of Worker's Acknowledgement. Effectively, this document is published daily to include Employees which have signed in.



## Destiny M. Herron

---

**From:** Destiny M. Herron <HERRONAdmin@comcast.net>  
**Sent:** Friday, June 8, 2018 2:32 PM  
**To:** 'Michael Lohr'; 'Carol Beam'; 'Brian Bertin'  
**Cc:** 'Allen Gallogly'; 'David W. Starks'; 'L. P. (Lennie) Herron'; 'Christy M. Herron'; 'Billie J. Herron'; Destiny M. Herron  
**Subject:** 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
**Attachments:** 0421178.14, Daily Report, 06.06.18.pdf

### Project Update

In regards to the end of the shift:  
06/06/18 (Wednesday)

1. Notifications –
  - a. Issues during the shift –
    - 1) No issues
2. Containment observation: Yes
  - a. In accordance with the Specifications and Regulations –

Current Work Area(s) –

WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone  
1st Floor Kitchen and Bedroom 2 - 1,048 ft<sup>2</sup>

Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high

1. Apply negative air to meet a criteria of -0.03"
  - a. Results within local, state, and/or federal regulations

WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone  
1st Floor Living Room, Bedroom 1, and Stairwell – 1,612 ft<sup>2</sup>

1. Apply negative air to meet a criteria of -0.03"
  - a. Results within local, state, and/or federal regulations

3. Structure Crack Monitoring –
  - a. Surface mounted gauges will be visually observed twice daily after arrival of the first visit of the Engineer to determine if the existing cracks within the masonry are being impacted by the abatement
    - 1) AM
      1. W1 – West Side, North End – Note: Awaiting new anchor points. Remaining crack monitors remain unchanged.
      2. W2 – West Side, South End – 2.0 mm
      3. S1 – South Side, East End – 0.5 mm
      4. E1 – East Side, Center – 1.0 mm
    - 2) PM
      1. W1 – West Side, North End – Note: Awaiting new anchor points. Remaining crack monitors remain unchanged.
      2. W2 – West Side, South End – 2.0 mm
      3. S1 – South Side, East End – 0.5 mm
    - 3) E1 – East Side, Center – 1.0 mm

4. Asbestos Air Monitoring –
  - a. During-abatement monitoring with the following preliminary results –
    - 1) WA#3, #4
    - 2) IWA – 0.009 f/cc
    - 3) OWA,
    - 4) OWA, Clean Room
    - 5) OWA, Negative Air Exhausted Outside of the Building
    - 6) OWA, Ambient, Outside of Building
      1. These environmental samples, on completion of final analysis, Outside Work Area sample(s) have not exceeded the Maximum Allowable Asbestos Level (MAAL) by Phase Contrast Microscopy (PCM), or Transmission Electron Microscopy (TEM), where applicable.
  - b. OSHA Compliance monitoring with the following preliminary results –
    - 1) WA#3, #4
    - 2) Excursion – 0.090 f/cc
    - 3) Personal, Multi-sample 8 Hour TWA – 0.0146 f/cc
      1. These environmental samples, on completion of final analysis, have not exceeded the EL (Excursion Level) or the PEL (Permissible Exposure Level) by Phase Contrast Microscopy (PCM), where applicable.
      2. Samples which were reported as CBR were not included in the multi-sample TWA result.
      3. Sampling flow rates should be lowered to avoid CBR results.
      4. *A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL) –*
      5. Should a CBR sample have occurred, the Contractor is advised to review engineering controls, negative pressure, air flow, wet methods, etc.
5. Daily Contractor Submittals Received (sign in sheets, daily logs, entry/exit logs, special reports) –
  - a. 06/06/18 – not received – submit
  - b. 06/05/18 – not received – submit
  - c. 06/04/18 – not received – submit
  - d. 06/01/18 – not received – submit
  - e. 05/31/18 – not received – submit
  - f. 05/30/18 – not received – submit
  - g. 05/29/18 – not received – submit
  - h. 05/25/18 – not received – submit
  - i. 05/24/18 – not received – submit
  - j. 05/23/18 – not received – submit
  - k. 05/22/18 – not received – submit
  - l. 05/21/18 – not received – submit
  - m. 05/18/18 – not received – submit
  - n. 05/17/18 – not received – submit
  - o. 05/17/18 – mobilization 05/17/18 7:30 AM MST
    - 1) Contractor Project Directory –
      1. Note: Should Employee not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.
6. Work Areas completed –
  - a. WA#2 Removed from Scope of Work - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster Wall(s) on Stone  
1st Floor Root Cellar – 322 ft<sup>2</sup>  
Demolition of Wood Shelving in 1st Floor Root Cellar (embedded in Plaster) – 11.5X4’ X 3 sets
  - b. WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (PCM Clearance Passed 05/22/18)

1st Floor Living Room, 7X2' Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft<sup>2</sup>  
2nd Floor Closet, Loose Sheet Flooring on Wood Substrate - 10 ft<sup>2</sup>  
c. WA#5 - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s) (Visual Passed 05/21/18)  
Exterior, South Alcove Roofing, Debris, and Associated 2” of Soil – 10 ft<sup>2</sup>  
Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3’ from foundation.

7. Punch list items completed –  
a. Awaiting Completion

8. Notes:

- a. Refer to Project Memo(s).
- b. All observations stated in this report are based on facts and circumstances as they existed during the time of the observations, and during the time period of this report preparation and as available within the limits of the mutually agreed upon Scope of Work, budget, and schedule. The observations in this report is not intended to be exhaustive in scope, and is considered an ongoing working document. HERRON™ reserves the right to modify the contents of this document, as necessary.
- c. As agreed, daily conversations are occurring, and daily reports will be on site for employee review. Hard copy will not be mailed as this correspondence constitutes delivery of the specified documents.
- d. Refer to Project Definitions below.

Please advise within an RFI if you have any questions.

Thanks in advance,

Destiny M. Herron  
Administrative Assistant  
HERRON™ Enterprises USA, Inc.  
7261 W. Hampden Ave., Lakewood, CO 80227-5305  
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Project Definitions:

Asbestos

1. In regards to the results, Regulation 29 CFR 1910, 1926 –

[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=standards&p\\_id=9995](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9995)  
[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_id=10862&p\\_table=standards](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=10862&p_table=standards)

A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL). In accordance with 29 CFR 1926, 1926.1101; 1926.1101(c)(1); 1926.1101(f)(1) Standard Interpretation Correct manner to interpret air sample measurements of an employee's asbestos exposure when the samples are overloaded [01/17/2006]  
[http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=INTERPRETATIONS&p\\_id=2529](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=2529)  
5;

*‘...While monitoring an employee's exposure to an airborne contaminant, such as asbestos, occasionally samples are lost, damaged, overloaded, or are otherwise unusable. Analytical laboratories report such samples as "VOID," with a note of explanation. An overloaded asbestos air sample is one in which non-asbestos dust obscures some or all of the fibers on the filter and therefore makes it impossible to accurately determine the concentration of asbestos in the*



*laboratory's microscopic analysis. Such samples should not be counted by an employer in TWA calculations of employee exposure. The use of a "zero" exposure result for such samples is inappropriate; it will underestimate the employee's true exposure. An employer has the responsibility to "accurately" determine his employee's exposure to asbestos... '.*

1926.1101(b) Definitions

Employee exposure means that exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

1926.1101(c)(2) Excursion limit

The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(c) Permissible exposure limits (PELS)

1926.1101(c)(1)

Time-weighted average limit (TWA). The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air as an eight (8) hour time-weighted average (TWA), as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(c)(2)

Excursion limit. The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(g)(2)(v)

Wherever the feasible engineering and work practice controls described above are not sufficient to reduce employee exposure to or below the permissible exposure limit and/or excursion limit prescribed in paragraph (c) of this section, the employer shall use them to reduce employee exposure to the lowest levels attainable by these controls and shall supplement them by the use of respiratory protection that complies with the requirements of paragraph (h) of this section.

2. In regards to the results, AQCC Regulation No. 8 –

<http://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=7206&fileName=5> CCR 1001-10

III.U.2. The Maximum Allowable Asbestos Level (MAAL)

III.U.2.a. PCM - If PCM is used as the method of analysis the standard is 0.01 fibers per cubic centimeter of air (f/cc), which is equivalent to 10,000 fibers per cubic meter of air (f/m<sup>3</sup>).

III.U.2.b. TEM - Where TEM is used as the method of analysis, the standard is 70 structures/millimeter<sup>2</sup> (s/mm<sup>2</sup>).

3. Laboratory certificates not included with this correspondence have not been received, will follow under a separate cover.

4. Legend: .8μ, 25mm MCE Filter Cassettes, Amb = Ambient, IWA = Inside Work Area, OWA = Outside Work Area, CR = Clean/Change Room, LO = Loadout, NAM = Negative Air Exhaust, Ex = Excursion, Per = Personnel, VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read, BDL = Below Detection Limit



# HERRON™ Enterprises USA, Inc.

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7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

## ASBESTOS SERVICES

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 06/06-07/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.14  
 Date of Report: 06/07/18

## SUMMARY OF WORK

Per Client request, and under the guidelines defined, HERRON™ Enterprises USA, Inc. has concluded the Environmental Consultation/Asbestos Service for friable and/or non-friable Asbestos Containing Material(s) at the aforementioned property.

Our Environmental Consultation/Asbestos Service report may include a Limited Asbestos Building Inspection, descriptions of Bulk, Dust, and/or Air Monitoring samples, their locations and analyses data, which have been obtained and analyses performed in accordance with local, state, and/or federal regulations.

For Calculation purposes of samples obtained by HERRON™, all results are expressed basis actual sampling duration, with courtesy 8 hours time weighted average calculations, based on the actual sampling duration. For Calculation purposes of samples submitted to HERRON™, all results are expressed basis actual sampling duration, as submitted by the Client. HERRON™ implies no warranty to the accuracy of the information or the samples submitted by the Client. In order to make exact determinations, the employer should calculate exact times based on containment sign-in/out sheets for TWA's, in accordance with current OSHA regulations.

All Miscellaneous Provisions, Terms and Conditions apply to all services provided as indicated in HERRON™ current Terms of Services.

Information and data which has been generated as a result of this Environmental Consultation/Asbestos Service will remain confidential and will not be released to any party without prior written authorization from Client(s) (refer to authorized distribution).

We appreciate the confidence which has been demonstrated by your continued patronage, and look forward to assisting you and your group should you have future needs of Environmental Consultation/Asbestos Services.

Sincerely,

Billie J. Herron-Lusk  
Project Manager  
HERRON™ Enterprises USA, Inc.



**FIELD REPORT & OBSERVATIONS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 06/06-07/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.14  
 Date of Report: 06/07/18

**DATE TIME SUMMARY OF EVENTS**

05/17/18 ---- Requested to perform Baseline (MAAL/OSHA) Air Monitoring, Pre-Abatement Visual Containment(s) Inspection(s), Removal (MAAL/OSHA) Air Monitoring, Final Visual Containment(s) Inspection(s), Final Clearance (MAAL/OSHA) Air Monitoring, and OSHA Compliance Air Monitoring for Gross removal of

**WA#1** - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall

**1st Floor Living Room**, 7X2' Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft2

**2nd Floor Closet**  
 Loose Sheet Flooring on Wood Substrate - 10 ft2

**Test Area(s) 1st Floor Two (2) Perimeter Wall(s)**  
 Perform test area of removal of Asbestos Plaster on Stone, approximately 4X4' for Engineer determination of acceptable removal methods - 32 ft2

**1st and 2nd Floors Decontamination**  
 Floor Surface Area of 1st and 2nd Floor Levels – 1,592.25 ft2  
 1st and 2nd Floors Decontamination will include the Cleanup and Decontamination of Rodent Feces – 1,592.25 ft2  
 On successful completion of the Major Spill Response the 2nd Floor will be Isolated from the remainder of the House as no further asbestos work exists.

**WA#3** - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone  
**1st Floor Kitchen and Bedroom 2** - 1,048 ft2  
 Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high

**WA#4** - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone  
**1st Floor Living Room, Bedroom 1, and Stairwell** – 1,612 ft2

**WA#5** - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s)  
**Exterior, South Alcove** Roofing, Debris, and Associated 2" of Soil – 10 ft2  
 Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3' from foundation.

06/06/18 \* Commenced (MAAL/OSHA) Air Monitoring  
 \* Completed (MAAL/OSHA) Air Monitoring  
 \* Completed (MAAL/OSHA) Air Monitoring PCM analysis-All Work Area samples below AQCC MAAL, <=0.01 f/cc/OSHA 1926.1101, EL <1.0 f/cc, PEL <0.10 f/cc, where regulated, unless otherwise noted as follows: NA  
 \* Advised results



**HERRON**™ Enterprises USA, Inc.

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**FIELD REPORT & OBSERVATIONS**

Client: Boulder County  
Client Contact: Michael Lohr  
Order No.: SOQ #6673-17  
Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 /  
Boulder County  
Date of Assignment: 06/06-07/18  
Assignment: Environmental Consultation/Asbestos Services  
HERRON™ Project No.: 0421178.14  
Date of Report: 06/07/18

DATE	TIME	SUMMARY OF EVENTS
06/07/18	*	Field documentation completed and report distributed (refer to distribution)

Note: \*Refer to daily project memo for complete details of events.



**ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 06/06-07/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.14  
 Date of Report: 06/07/18

SAMPLE NO. AND DESC.	PUMP NO.	TIME					FLOW RATE			VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	FIBER		
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	DENSITY (F/MM2)					LOD (F/CC)	FIBERS (F/CC)	
060618-1 Removal,	505	7	50	14	10	380	4.00	4.00	1520	H	27.0	100	34.395	0.002	0.009	
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0069			

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

IWA

060618-2 Removal,	505	7	50	14	10	380	4.00	4.00	1520	M	22.0	100	28.025	0.002	0.007
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0056		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA

060618-3 Removal,	505	7	50	14	10	380	4.00	4.00	1520	M	19.0	100	24.204	0.002	0.006
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0049		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Clean Room

060618-4 Removal,	201	7	50	14	10	380	4.00	4.00	1520	M	15.0	100	19.108	0.002	0.005
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0038		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Load Out

060618-5 Removal,	505	7	50	14	10	380	4.00	4.00	1520	L	9.0	100	11.465	0.002	0.003
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0023		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Negative air exhausted outside of Building



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7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

## ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 06/06-07/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.14  
 Date of Report: 06/07/18

SAMPLE NO. AND DESC.	PUMP NO.	TIME					FLOW RATE			FIBER					
		ON HR	MIN	OFF HR	MIN	TOT MIN	(LPM) ON	(LPM) OFF	VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	DENSITY (F/MM2)	LOD (F/CC)	FIBERS (F/CC)
060618-6	505	7	50	14	10	380	4.00	4.00	1520	L	2.0	100	2.548	0.002	BDL
Removal,		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0005		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Ambient

060618-B1 Blank VL 0.0 100  
 060618-B2 Blank VL 0.0 100 DATA: BL

Note: .8μ, 25mm MCE Filter Cassettes - Note: IWA = Inside Work Area, OWA = Outside Work Area, BDL = Below Detection Limit - Note: VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read - Note: Proficiency Analytical Testing (PAT) Program



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 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.14  
 Date of Report: 06/07/18

SAMPLE NO. AND DESC.	PUMP NO.	TIME					FLOW RATE			VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	FIBER		
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	DENSITY (F/MM2)					LOD (F/CC)	FIBERS (F/CC)	
060618-P1	701	8	10	8	40	30	2.00	2.00	60	H	11.0	100	14.013	0.045	0.090	
OSHA Compliance		0	0	0	0	0	0.00	0.00	(Calculated 8 Hr. TWA, f/cc):				0.0056			

Air Monitoring Samples,

Excursion Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

Carlos Vandehorst/#22241

060618-P2	701	8	40	14	10	330	2.00	2.00	660	H	17.5	100	22.293	0.004	0.013
OSHA Compliance		0	0	0	0	0	0.00	0.00	(Calculated 8 Hr. TWA, f/cc):				0.0089		
Air Monitoring Samples,		(Multiple Sample 8 Hr. TWA, f/cc):				0.0146									

Personal Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

Carlos Vandehorst/#22241

060618-B1	Blank	VL	0.0	100											
060618-B2	Blank	VL	0.0	100	DATA:	BL									

Note: .8μ, 25mm MCE Filter Cassettes - Note: IWA = Inside Work Area, OWA = Outside Work Area, BDL = Below Detection Limit - Note: VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read - Note: Proficiency Analytical Testing (PAT) Program



**FLOOR PLANS/SITE PHOTOGRAPHS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 06/06-07/18  
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 HERRON™ Project No.: 0421178.14  
 Date of Report: 06/07/18

**Photo Log**



20180606\_080534



20180606\_080543



20180606\_080607



20180606\_080617



20180606\_080838



20180606\_080859



20180606\_080915



20180606\_080925



20180606\_080347



20180606\_080507



20180606\_080509



20180606\_080519



20180606\_080521



20180606\_080524



20180606\_080529



20180606\_140341



20180606\_140433



20180606\_140511



20180606\_140558



20180606\_140711



20180606\_141148



20180606\_141159



20180606\_141213



20180606\_141220



20180606\_141248



20180606\_140037



20180606\_140254



20180606\_140301



20180606\_140306



20180606\_140316





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**Photo Log**

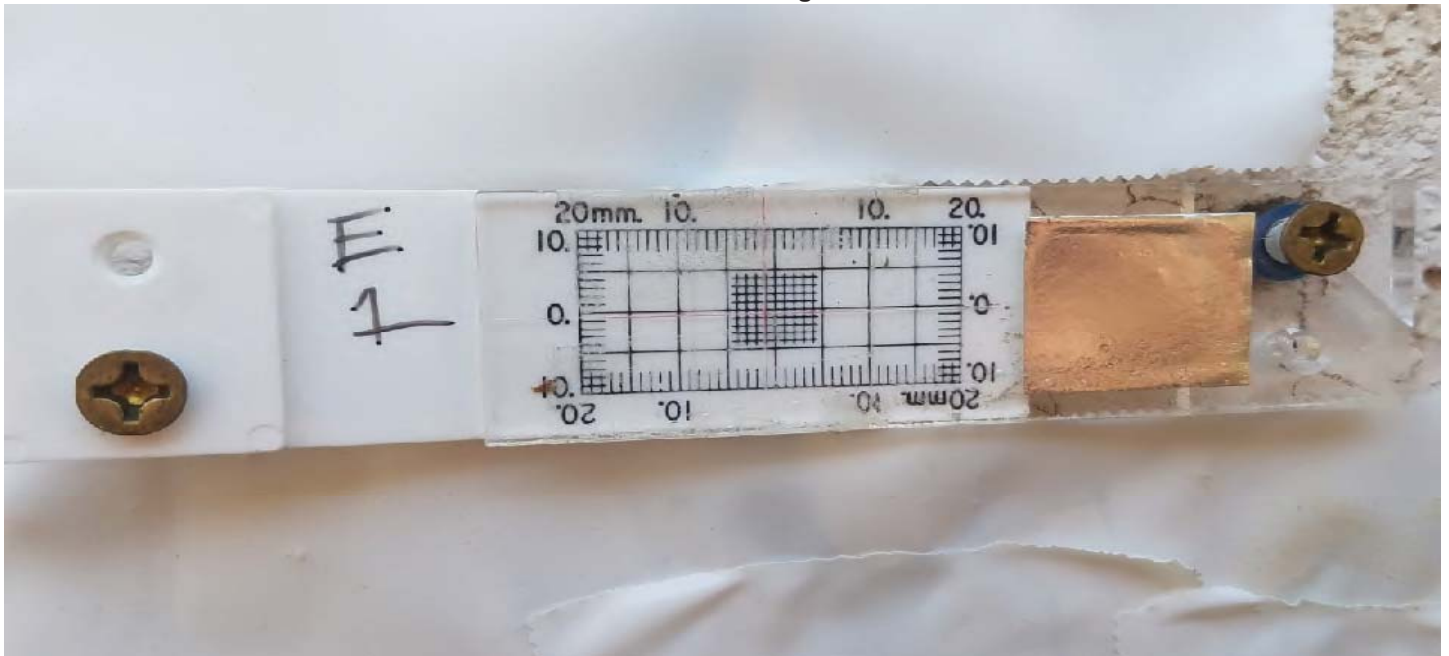




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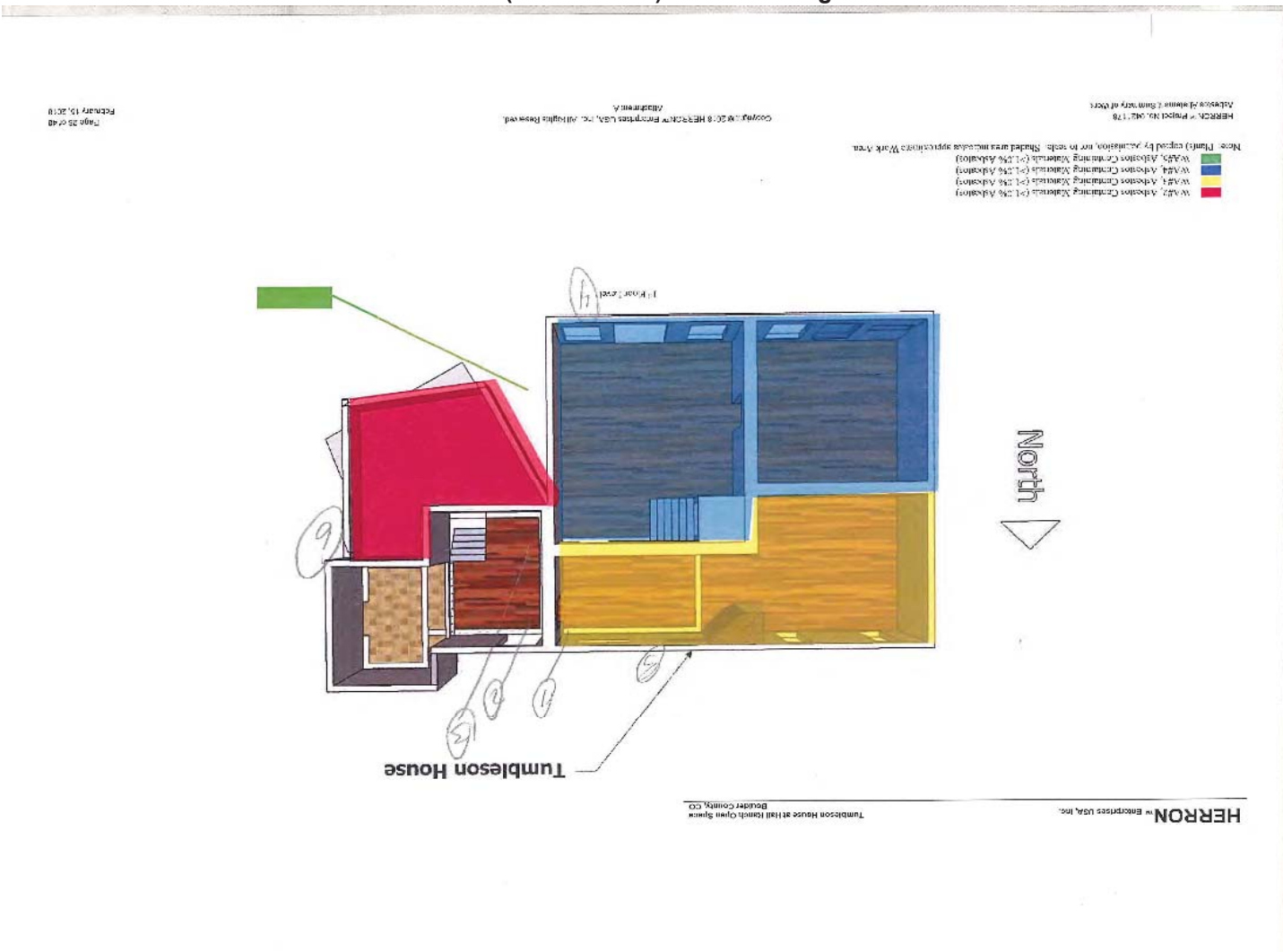
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 HERRON™ Project No.: 0421178.14  
 Date of Report: 06/07/18

### (MAAL/OSHA) Air Monitoring





## AQCC REG. NO. 8 ASBESTOS ABATEMENT INSPECTION FORM COMPLIANCE CHECKLIST AND INFORMATION

Colorado Dept. of Public Health  
and Environment  
APCD-IE-B1  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
Phone: 303-692-3100  
Fax: 303-782-0278

Project(s) Address: <b><u>Tumbleson House at Hall Ranch Open Space, Boulder County, CO</u></b>		Project(s) Permit #: 18BO2912A	
Project(s) start date: May 17, 2018		Project(s) completion date: June 04, 2018	
Inspector(s): LP (Lennie) Herron/#2572 (AMS/PM - ___) Billie J. Herron/#2650 (AMS/PM - <u>X</u> ) Jamie L. Herron-Carson/#2649 (AMS/PM - ___) Sherri K. Herron/#8728 (AMS/PM - ___) Michael W. Herron, Sr./#13788 (AMS/PM - ___)		Inspection Date: 06/06/18	
Current Abatement Phase:	<input type="checkbox"/> Pre	<input checked="" type="checkbox"/> Active	<input type="checkbox"/> Post
More than one phase/project?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments:			

**Types(s) and total quantity of ACM removed/to be removed\* as reported by the abatement contractor:**

Pipe Insulation*:	Fireproofing:	Spray-on:
Ceiling Tile:	Boiler Insulation:	VAT:
Transite:	<b>Other (describe):</b> <ul style="list-style-type: none"> <li>Rodent Feces – 1,592.25 ft<sup>2</sup></li> <li>Miscellaneous Material = 20 ft<sup>2</sup></li> <li>Surfacing Material = 2,982 ft<sup>2</sup></li> </ul>	

\*Pipe insulation is reported in lineal feet, all other materials including ductwork are reported in square footage regardless of the thickness of the ACM. If reporting in 55-gallon drums, note square footage or linear footage area to be removed.

**List of ALL abatement workers in containment today:**

#	NAME	SSN OR REC. #	AHERA / STATE / PHYSICAL / FIT TEST
1	SEE ATTACHED		/ / /
<b>COMMENTS:</b>			

**Note: Responses to the Description of Citation is indicated by the anticipation of the day, with the default as X = OK / Vio. / N/A. Should the response differ, cross-out will appear and appropriate response indicated.**

**PART I – SECTION A - OUTSIDE WORK AREA(S) – CERTIFICATION AND PERMIT/NOTIFICATION REQUIREMENTS, ETC.**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
16	II.A.2	All training certs./documents on site - with <b>photo IDs</b> ?	X		
26	II.J	Project Manager - credentials ok (certified as PD, completed AMS training, HS diploma, 1 yr. Experience, independent)?			X
29	III.B.1.a & III.B.4	On-site supervisor state certified?	X		
29	III.B.1.b & III.B.4	All workers on site trained/certified?	X		
30	III.B.5	Air Monitoring Spec. trained and certified? Note - this requirement may apply during pre-and active abatement phases, e.g. monitoring NAM exhaust inside a building or checking for the "MAAL".	X		
30	III.B.6	Project Manager required (>1,000 LF/>3000SF of friable) Note: Not required in schools.			X
30	III.C.1	Project Design required (>1,000 LF/>3000SF in P&C) (>3 LF/>3SF in Schools)	X		
31	III.C.4	Project Design on the site and signed?	X		
31	III.E.1	No false, inaccurate, or misleading information?	X		
33	III.F	If a variance has been granted for any work practice(s); <b>are the conditions of this variance being followed?</b>			X
34	III.G	Permit Valid (i.e. start/stop dates)?	X		
35	III.G.4	ORIGINAL permit posted at work site?	X		
36	III.G.8	Permit signed by Project Manager?			X

**COMMENTS ON PART I – SECTION A:**

**PART I – SECTION B – OUTSIDE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
37	III.J.1.a	Negative Air Machines (NAMs) operating continuously?	X		
37 & 52	III.J.1.d & III.U.1.b.i	NAMs monitored if exhausted inside the building?			X
37	III.J.3	-0.02" H <sub>2</sub> O or better on Manometer?	X		
37	III.J.3	Continuous printout on Manometer?	X		
37	III.J.4	Smoke tubes present?	X		
37	III.J.4	Air flow - outside to inside ok?	X		
38	III.K.1	All chambers separated by airlocks?	X		
38	III.K.1	Decon Unit - 3 stages?	X		
38	III.K.1	Self-closing flaps/doors? (Z flaps are preferable, but not required)	X		
38	III.K.1.a	Clean room - adequately sized?	X		
38	III.K.1.b	Shower - hot and cold water at the tap?	X		
38	III.K.1.b	Shower – leakage anywhere but the supply connection?	X		
38	III.K.1.b	Shower - wastewater filtered to 5 microns or less, sanitary sewer discharge?	X		
38	III.K.1.b	Shower and Clean room - ACM debris present?	X		
39	III.K.2	Entry and exit procedures ok?	X		
41	III.N.2	View port present (at minimum 12"x12")?	X		
41	III.N.3	Waste load out separate from Decon?	X		
41	III.N.3	Waste load out - 2 stages?	X		

**COMMENTS ON PART I – SECTION B: MANOMETER PRINTER NOT WORKING. TO BE REPLACED 06/05/18**

**PART II – INSIDE THE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
36	III.I	Critical barriers - 1 layer 6 mil?	X		
36	III.J.1.b	Air cleaning equipment - HEPA filters properly installed, equipment operating, maintained adequately, etc.?	X		
37	III.J.2	Adequate equipment in place to ensure 4 air changes per hour?	X		
38	III.K.1.c	6 mil disposal bag present in Dirty Room?	X		
39	III.K.2.b	Disposable clothing worn by workers?	X		
39	III.L	Pre-cleaning - criticals and decon, HEPA vacs, wet cleaning, proper disposal?	X		
39	III.L.1	Movable objects cleaned before removal from the work area?	X		
39	III.M	Fixed objects - 1 layer 6 mil?	X		
40	III.N.1.a	Floors - 2 separate layers 6 mil?	X		
40	III.N.1.a, b, & c	No seams present (wall/floor, wall/ceiling, 12" overlap)?	X		
40	III.N.1.b	Walls - 2 separate layers 4 mil?	X		
40	III.N.1.c	Ceilings - 1 layer 4 mil?	X		
41	III.O.1.a.i.(A)	Amended water being used (surfactants) before ACM is removed?	X		
41	III.O.1.a.i.(A)	Are the surfactants a commercial product designed specifically for ACM removal?	X		
41	III.O.1.a.i.(A)	Material adequately wet and/or kept wet until bagged for disposal?	X		
42	III.O.1.a.i.(B)	Airless sprayers used for applying amended water or encapsulant?	X		
42	III.O.1.a.iii	All contaminated surfaces wet-wiped prior to disassembly of containment barriers?	X		

**COMMENTS ON PART II:**

**PART III – SECTION A –SPECIAL PROJECTS, RESILIENT FLOOR TILE**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
31	III.E.1	Notice posted at the worksite?			X
46	III.R.	Waste handled as nonfriable waste?			X
114	Appendix B	Appendix B, Amended water being used?			X
114	Appendix B	Appendix B, Hand tools only?			X
48	III.S.1	Appendix B, Proper handling and packaging of tiles/adhesives?			X
48	III.S.1	Voluntarily using splashguards, critical, negative air, and decon?			X
48	III.S.1.c	Is the material being rendered friable?			X

**COMMENTS ON PART III, SECTION A:**



**PART III – SECTION B –SPECIAL PROJECTS, SHEET VINYL FLOORING**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
34	III.E.1	Notice/Permit posted at the worksite?			X
46	III.R.	Waste handled as friable waste?			X
48	III.S.1.c	Is the material being rendered friable?			X
48	III.S.1.d.	Worker(s)/Supervisor(s) trained according to Appendix C?			X
48	III.S.2	Appendix B, Amended water being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Hand tools only being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Proper handling and packaging of sheet flooring being used by only App. C trained workers?			X
107	Appendix B	Appendix B, Proper wetting at the delaminating nip point being used by only App. C trained workers?			X
48	III.S.2	Voluntarily using splashguards, critical, negative air, and decon?			X

**COMMENTS ON PART III, SECTION B:**


**PART III – SECTION C –SPECIAL PROJECTS, NONFRIABLE ACM**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
49	III.S.4.a.	ACM adequately wet?			X
49	III.S.4.b.	Hand removal methods being used?			X
49	III.S.4.c.	Minimal breakage and disturbance?			X
49	III.S.4.d.	Material properly disposed of as nonfriable waste?			X

**COMMENTS ON PART III, SECTION C:**


**PART IV – SPECIAL REMOVAL METHODS, GLOVEBAGS AND FACILITY COMPONENT REMOVAL**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
53	III.V.1	Glove bags - proper usage (useable without causing fiber release)?			X
53	III.V.1.a	Glove bags - properly sealed to the area, no bottom seam?			X
53	III.V.1.b	Glove bags - pipes cooler than 150°F?			X
53	III.V.1.c	Glove bags used only once?			X
53	III.V.1.d.i	Glove bags - secondary containment(s) in place if removal > 3LF/SF?			X
54	III.V.1.d.ii	Glove bags - smoke tested prior to use?			X
54	III.V.1.d.iv	Glove bags - material in bags adequately wet?			X
54	III.V.1.d.vi	Glove bags - "rough" edges encapsulated?			X
54	III.V.1.d.vii	Glove bags - evacuated with HEPA vac prior to removing the bag?			X
54	III.V.2	Facility component removal - w/o containment, material well adhered to surface?			X
54	III.V.2.a	Facility component removal - adequately wet and wrapped in 6 mil poly prior to removal from the work area?			X

**COMMENTS ON PART IV:**








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**PROJECT/LOCATION: 0421178, RFP#6648-17- Tumbleson House at Hall Ranch Open Space Asbestos Consulting**

**Services / Boulder County**

CONTRACTOR Employees	On-site Today?	AHERA Worker Expiration	State Worker Expiration	AHERA Supervisor Expiration	State Supervisor Expiration	Physical Expiration	Fit Test Expiration	Copy of All Certifications on Site?	State ID Card Displayed On-Site?	Certificate of Worker's Acknowledgement	DATE REPORT NO	06/06/18	
												State ID Card Received by HERRON?	* Authorized Employee in Work Area(s) at This Job Site Today?
Alma Mosqueda/#12109		03/03/19	04/27/19	NA	NA	04/16/19	02/20/19	*	*	*			
Carlos Vandehorst/#22241	Yes	07/01/18	07/15/18	NA	NA	07/14/18	12/26/18	*	*	*			
David Starks/#15640		NA	NA	08/25/18	09/18/18	02/02/19	05/09/19	*	*	*			
Dylan Gallogly/#24196		NA	NA	12/22/18	01/04/19	01/08/19	01/09/19	*	*	*			
Felipe Hernandez/#16523	Yes	03/17/19	04/19/19	NA	NA	04/14/19	04/20/19	*	*	*			
Hector Salgado/#20974	Yes	03/03/19	06/29/18	NA	NA	04/24/19	04/03/19	*	*	*			
Allen Gallogly/#21476	Yes	04/30/19	03/16/19	NA	NA	01/18/19	05/19/19	*	*	*			
Juan Veloz/#10999	Yes	07/29/18	09/21/19	NA	NA	05/17/19	12/18/18	*	*	*			
Adriana Jacobi-Urribe/#12893		02/03/19	05/24/18	NA	NA		06/01/18	*	*	*			No

9 5  
 Expired

Expired and/or Update Not Received:

\*Should Employee not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.

Legend of Documents not received by HERRON: 1, AHERA Certification, 2, State Certification, 3, Physical, 4, Fit Test, 5, Certificate of Worker's Acknowledgement. Effectively, this document is published daily to include Employees which have signed in.



---

**From:** Destiny M. Herron <HERRONAdmin@comcast.net>  
**Sent:** Friday, June 8, 2018 2:42 PM  
**To:** 'Michael Lohr'; 'Carol Beam'; 'Brian Bertin'  
**Cc:** 'Allen Gallogly'; 'David W. Starks'; 'L. P. (Lennie) Herron'; 'Christy M. Herron'; 'Billie J. Herron'; Destiny M. Herron  
**Subject:** 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
**Attachments:** 0421178.15, Daily Report, 06.07.18.pdf

## Project Update

In regards to the end of the shift:  
06/07/18 (Thursday)

1. Notifications –
  - a. Issues during the shift –
    - 1) No issues
2. Containment observation: Yes
  - a. In accordance with the Specifications and Regulations –

Current Work Area(s) –

WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone  
1st Floor Kitchen and Bedroom 2 - 1,048 ft<sup>2</sup>

Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high

1. Apply negative air to meet a criteria of -0.03”
  - a. Results within local, state, and/or federal regulations

WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone  
1st Floor Living Room, Bedroom 1, and Stairwell – 1,612 ft<sup>2</sup>

1. Apply negative air to meet a criteria of -0.03”
  - a. Results within local, state, and/or federal regulations

3. Structure Crack Monitoring –
  - a. Surface mounted gauges will be visually observed twice daily after arrival of the first visit of the Engineer to determine if the existing cracks within the masonry are being impacted by the abatement
    - 1) AM
      1. W1 – West Side, North End – Note: Awaiting new anchor points. Remaining crack monitors remain unchanged.
      2. W2 – West Side, South End – 2.0 mm
      3. S1 – South Side, East End – 0.5 mm
      4. E1 – East Side, Center – 1.0 mm
    - 2) PM
      1. W1 – West Side, North End – Note: Awaiting new anchor points. Remaining crack monitors remain unchanged.
      2. W2 – West Side, South End – 2.0 mm
      3. S1 – South Side, East End – 0.5 mm
      4. E1 – East Side, Center – 1.0 mm

4. Asbestos Air Monitoring –
  - a. During-abatement monitoring with the following preliminary results –
    - 1) WA#3, #4
    - 2) IWA – 0.006 f/cc
    - 3) OWA,
    - 4) OWA, Clean Room
    - 5) OWA, Negative Air Exhausted Outside of the Building
    - 6) OWA, Ambient, Outside of Building
      1. These environmental samples, on completion of final analysis, Outside Work Area sample(s) have not exceeded the Maximum Allowable Asbestos Level (MAAL) by Phase Contrast Microscopy (PCM), or Transmission Electron Microscopy (TEM), where applicable.
  - b. OSHA Compliance monitoring with the following preliminary results –
    - 1) WA#3, #4
    - 2) Excursion – 0.123 f/cc
    - 3) Personal, Multi-sample 8 Hour TWA – 0.0235 f/cc
      1. These environmental samples, on completion of final analysis, have not exceeded the EL (Excursion Level) or the PEL (Permissible Exposure Level) by Phase Contrast Microscopy (PCM), where applicable.
      2. Samples which were reported as CBR were not included in the multi-sample TWA result.
      3. Sampling flow rates should be lowered to avoid CBR results.
      4. *A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL) –*
      5. Should a CBR sample have occurred, the Contractor is advised to review engineering controls, negative pressure, air flow, wet methods, etc.
5. Daily Contractor Submittals Received (sign in sheets, daily logs, entry/exit logs, special reports) –
  - a. 06/07/18 – not received – submit
  - b. 06/06/18 – not received – submit
  - c. 06/05/18 – not received – submit
  - d. 06/04/18 – not received – submit
  - e. 06/01/18 – not received – submit
  - f. 05/31/18 – not received – submit
  - g. 05/30/18 – not received – submit
  - h. 05/29/18 – not received – submit
  - i. 05/25/18 – not received – submit
  - j. 05/24/18 – not received – submit
  - k. 05/23/18 – not received – submit
  - l. 05/22/18 – not received – submit
  - m. 05/21/18 – not received – submit
  - n. 05/18/18 – not received – submit
  - o. 05/17/18 – not received – submit
  - p. 05/17/18 – mobilization 05/17/18 7:30 AM MST
    - 1) Contractor Project Directory –
      1. Note: Should Employee not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.
6. Work Areas completed –
  - a. WA#2 Removed from Scope of Work - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster Wall(s) on Stone  
1st Floor Root Cellar – 322 ft<sup>2</sup>  
Demolition of Wood Shelving in 1st Floor Root Cellar (embedded in Plaster) – 11.5X4' X 3 sets

- b. WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (PCM Clearance Passed 05/22/18)  
1st Floor Living Room, 7X2’ Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft<sup>2</sup>  
2nd Floor Closet, Loose Sheet Flooring on Wood Substrate - 10 ft<sup>2</sup>
  - c. WA#5 - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s) (Visual Passed 05/21/18)  
Exterior, South Alcove Roofing, Debris, and Associated 2” of Soil – 10 ft<sup>2</sup>  
Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3’ from foundation.
7. Punch list items completed –
- a. Awaiting Completion
8. Notes:
- a. Refer to Project Memo(s).
  - b. All observations stated in this report are based on facts and circumstances as they existed during the time of the observations, and during the time period of this report preparation and as available within the limits of the mutually agreed upon Scope of Work, budget, and schedule. The observations in this report is not intended to be exhaustive in scope, and is considered an ongoing working document. HERRON™ reserves the right to modify the contents of this document, as necessary.
  - c. As agreed, daily conversations are occurring, and daily reports will be on site for employee review. Hard copy will not be mailed as this correspondence constitutes delivery of the specified documents.
  - d. Refer to Project Definitions below.

Please advise within an RFI if you have any questions.

Thanks in advance,

Destiny M. Herron  
Administrative Assistant  
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Project Definitions:

Asbestos

1. In regards to the results, Regulation 29 CFR 1910, 1926 –  
[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=standards&p\\_id=9995](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9995)  
[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_id=10862&p\\_table=standards](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=10862&p_table=standards)  
A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL). In accordance with 29 CFR 1926, 1926.1101; 1926.1101(c)(1); 1926.1101(f)(1) Standard Interpretation Correct manner to interpret air sample measurements of an employee's asbestos exposure when the samples are overloaded [01/17/2006]  
[http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=INTERPRETATIONS&p\\_id=25295](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=25295);

*‘...While monitoring an employee's exposure to an airborne contaminant, such as asbestos, occasionally samples are lost, damaged, overloaded, or are otherwise unusable. Analytical*



*laboratories report such samples as "VOID," with a note of explanation. An overloaded asbestos air sample is one in which non-asbestos dust obscures some or all of the fibers on the filter and therefore makes it impossible to accurately determine the concentration of asbestos in the laboratory's microscopic analysis. Such samples should not be counted by an employer in TWA calculations of employee exposure. The use of a "zero" exposure result for such samples is inappropriate; it will underestimate the employee's true exposure. An employer has the responsibility to "accurately" determine his employee's exposure to asbestos... '.*

1926.1101(b) Definitions

Employee exposure means that exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

1926.1101(c)(2) Excursion limit

The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(c) Permissible exposure limits (PELS)

1926.1101(c)(1)

Time-weighted average limit (TWA). The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air as an eight (8) hour time-weighted average (TWA), as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(c)(2)

Excursion limit. The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(g)(2)(v)

Wherever the feasible engineering and work practice controls described above are not sufficient to reduce employee exposure to or below the permissible exposure limit and/or excursion limit prescribed in paragraph (c) of this section, the employer shall use them to reduce employee exposure to the lowest levels attainable by these controls and shall supplement them by the use of respiratory protection that complies with the requirements of paragraph (h) of this section.

2. In regards to the results, AQCC Regulation No. 8 –

<http://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=7206&fileName=5> CCR 1001-10

III.U.2. The Maximum Allowable Asbestos Level (MAAL)

III.U.2.a. PCM - If PCM is used as the method of analysis the standard is 0.01 fibers per cubic centimeter of air (f/cc), which is equivalent to 10,000 fibers per cubic meter of air (f/m<sup>3</sup>).

III.U.2.b. TEM - Where TEM is used as the method of analysis, the standard is 70 structures/millimeter<sup>2</sup> (s/mm<sup>2</sup>).

3. Laboratory certificates not included with this correspondence have not been received, will follow under a separate cover.
4. Legend: .8μ, 25mm MCE Filter Cassettes, Amb = Ambient, IWA = Inside Work Area, OWA = Outside Work Area, CR = Clean/Change Room, LO = Loadout, NAM = Negative Air Exhaust, Ex = Excursion, Per = Personnel, VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read, BDL = Below Detection Limit



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## ASBESTOS SERVICES

Client: Boulder County  
Client Contact: Michael Lohr  
Order No.: SOQ #6673-17  
Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
Date of Assignment: 06/07-08/18  
Assignment: Environmental Consultation/Asbestos Services  
HERRON™ Project No.: 0421178.15  
Date of Report: 06/08/18

## SUMMARY OF WORK

Per Client request, and under the guidelines defined, HERRON™ Enterprises USA, Inc. has concluded the Environmental Consultation/Asbestos Service for friable and/or non-friable Asbestos Containing Material(s) at the aforementioned property.

Our Environmental Consultation/Asbestos Service report may include a Limited Asbestos Building Inspection, descriptions of Bulk, Dust, and/or Air Monitoring samples, their locations and analyses data, which have been obtained and analyses performed in accordance with local, state, and/or federal regulations.

For Calculation purposes of samples obtained by HERRON™, all results are expressed basis actual sampling duration, with courtesy 8 hours time weighted average calculations, based on the actual sampling duration. For Calculation purposes of samples submitted to HERRON™, all results are expressed basis actual sampling duration, as submitted by the Client. HERRON™ implies no warranty to the accuracy of the information or the samples submitted by the Client. In order to make exact determinations, the employer should calculate exact times based on containment sign-in/out sheets for TWA's, in accordance with current OSHA regulations.

All Miscellaneous Provisions, Terms and Conditions apply to all services provided as indicated in HERRON™ current Terms of Services.

Information and data which has been generated as a result of this Environmental Consultation/Asbestos Service will remain confidential and will not be released to any party without prior written authorization from Client(s) (refer to authorized distribution).

We appreciate the confidence which has been demonstrated by your continued patronage, and look forward to assisting you and your group should you have future needs of Environmental Consultation/Asbestos Services.

Sincerely,

Billie J. Herron-Lusk  
Project Manager  
HERRON™ Enterprises USA, Inc.



**FIELD REPORT & OBSERVATIONS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 06/07-08/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.15  
 Date of Report: 06/08/18

**DATE TIME SUMMARY OF EVENTS**

05/17/18 ---- Requested to perform Baseline (MAAL/OSHA) Air Monitoring, Pre-Abatement Visual Containment(s) Inspection(s), Removal (MAAL/OSHA) Air Monitoring, Final Visual Containment(s) Inspection(s), Final Clearance (MAAL/OSHA) Air Monitoring, and OSHA Compliance Air Monitoring for Gross removal of

**WA#1** - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall

**1st Floor Living Room**, 7X2' Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft<sup>2</sup>

**2nd Floor Closet**  
 Loose Sheet Flooring on Wood Substrate - 10 ft<sup>2</sup>

**Test Area(s) 1st Floor Two (2) Perimeter Wall(s)**  
 Perform test area of removal of Asbestos Plaster on Stone, approximately 4X4' for Engineer determination of acceptable removal methods - 32 ft<sup>2</sup>

**1st and 2nd Floors Decontamination**  
 Floor Surface Area of 1st and 2nd Floor Levels – 1,592.25 ft<sup>2</sup>  
 1st and 2nd Floors Decontamination will include the Cleanup and Decontamination of Rodent Feces – 1,592.25 ft<sup>2</sup>  
 On successful completion of the Major Spill Response the 2nd Floor will be Isolated from the remainder of the House as no further asbestos work exists.

**WA#3** - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone  
**1st Floor Kitchen and Bedroom 2** - 1,048 ft<sup>2</sup>  
 Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high

**WA#4** - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone  
**1st Floor Living Room, Bedroom 1, and Stairwell** – 1,612 ft<sup>2</sup>

**WA#5** - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s)  
**Exterior, South Alcove** Roofing, Debris, and Associated 2" of Soil – 10 ft<sup>2</sup>  
 Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3' from foundation.

06/07/18 \* Commenced (MAAL/OSHA) Air Monitoring  
 \* Completed (MAAL/OSHA) Air Monitoring  
 \* Completed (MAAL/OSHA) Air Monitoring PCM analysis-All Work Area samples below AQCC MAAL, <=0.01 f/cc/OSHA 1926.1101, EL <1.0 f/cc, PEL <0.10 f/cc, where regulated, unless otherwise noted as follows: NA  
 \* Advised results



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**FIELD REPORT & OBSERVATIONS**

Client: Boulder County  
Client Contact: Michael Lohr  
Order No.: SOQ #6673-17  
Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 /  
Boulder County  
Date of Assignment: 06/07-08/18  
Assignment: Environmental Consultation/Asbestos Services  
HERRON™ Project No.: 0421178.15  
Date of Report: 06/08/18

DATE	TIME	SUMMARY OF EVENTS
06/08/18	*	Field documentation completed and report distributed (refer to distribution)

Note: \*Refer to daily project memo for complete details of events.



**ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 06/07-08/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.15  
 Date of Report: 06/08/18

SAMPLE NO. AND DESC.	PUMP NO	TIME					FLOW RATE			FIBER					
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	DENSITY (F/MM2)	LOD (F/CC)	FIBERS (F/CC)
060718-1 Removal,	505	7	45	14	5	380	4.00	4.00	1520	H	19.0	100	24.204	0.002	0.006
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0049		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

IWA

060718-2 Removal,	505	7	45	14	5	380	4.00	4.00	1520	M	15.0	100	19.108	0.002	0.005
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0038		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA

060718-3 Removal,	505	7	45	14	5	380	4.00	4.00	1520	M	12.5	100	15.924	0.002	0.004
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0032		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Clean Room

060718-4 Removal,	201	7	45	14	5	380	4.00	4.00	1520	M	14.0	100	17.834	0.002	0.005
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0036		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Load Out

060718-5 Removal,	505	7	45	14	5	380	4.00	4.00	1520	L	4.0	100	5.096	0.002	BDL
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0010		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Negative air exhausted outside of Building



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## ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 06/07-08/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.15  
 Date of Report: 06/08/18

SAMPLE NO. AND DESC.	PUMP NO.	TIME					FLOW RATE			VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	FIBER		
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	DENSITY (F/MM2)					LOD (F/CC)	FIBERS (F/CC)	
060718-6	505	7	45	14	5	380	4.00	4.00	1520	L	2.0	100	2.548	0.002	BDL	
Removal,		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0005			

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Ambient

060718-B1 Blank VL 0.0 100  
 060718-B2 Blank VL 0.0 100 DATA: BL

Note: .8μ, 25mm MCE Filter Cassettes - Note: IWA = Inside Work Area, OWA = Outside Work Area, BDL = Below Detection Limit - Note: VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read - Note: Proficiency Analytical Testing (PAT) Program



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## ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 06/07-08/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.15  
 Date of Report: 06/08/18

SAMPLE		TIME					FLOW RATE			FIBER					
NO. AND	PUMP	ON	OFF	TOT	(LPM)	(LPM)	VOL	PARTICULATE	FIBER	FIELD	DENSITY	LOD	FIBERS		
DESC.	NO	HR	MIN	HR	MIN	MIN	ON	OFF	(L)	LOADING	COUNT	COUNT	(F/MM2)	(F/CC)	(F/CC)
060718-P1	701	8	5	8	35	30	2.00	2.00	60	H	15.0	100	19.108	0.045	0.123
OSHA Compliance		0	0	0	0	0	0.00	0.00	(Calculated 8 Hr. TWA, f/cc):			0.0077			

Air Monitoring Samples,

Excursion Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

Hector Salgado/#20974

060718-P2	701	8	35	14	5	330	2.00	2.00	660	H	31.0	100	39.490	0.004	0.023
OSHA Compliance		0	0	0	0	0	0.00	0.00	(Calculated 8 Hr. TWA, f/cc):			0.0158			
Air Monitoring Samples,		(Multiple Sample 8 Hr. TWA, f/cc):			0.0235										

Personal Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

Hector Salgado/#20974

060718-B1	Blank	VL	0.0	100											
060718-B2	Blank	VL	0.0	100	DATA:	BL									

Note: .8μ, 25mm MCE Filter Cassettes - Note: IWA = Inside Work Area, OWA = Outside Work Area, BDL = Below Detection Limit - Note: VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read - Note: Proficiency Analytical Testing (PAT) Program



**FLOOR PLANS/SITE PHOTOGRAPHS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 06/07-08/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.15  
 Date of Report: 06/08/18

**Photo Log**



20180607\_074258



20180607\_074353



20180607\_074457



20180607\_074510



20180607\_080105



20180607\_080125



20180606\_141213



20180606\_141220



20180607\_074251



20180607\_074253



20180607\_142200



20180607\_142201



20180607\_142327



20180607\_142542



20180607\_142554



20180607\_142641



20180607\_142650



20180607\_142125



20180607\_142127



20180607\_142131



20180607\_142140



20180607\_142152



20180607\_142154





**HERRON**™ Enterprises USA, Inc.

Hazardous Materials\* Mold\* Asbestos\* Lead Paint  
Environmental Services\* Industrial Hygienists

Phone (303) 763 9639

Fax (303) 763 9686

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Website [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

**FLOOR PLANS/SITE PHOTOGRAPHS**

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Client Contact: Michael Lohr  
Order No.: SOQ #6673-17  
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**Photo Log**





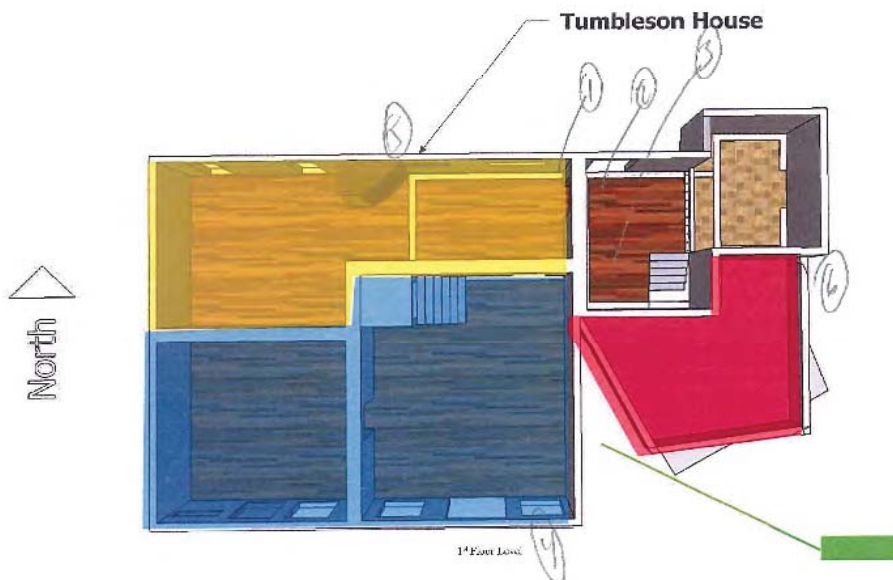
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**(MAAL/OSHA) Air Monitoring**

HERRON™ Enterprises USA, Inc.

Tumbleson House at Hall Ranch Open Space  
Boulder County, CO



- WAC2, Asbestos Containing Materials (>1.0% Asbestos)
- WAC3, Asbestos Containing Materials (>1.0% Asbestos)
- WAC4, Asbestos Containing Materials (>1.0% Asbestos)
- WAC5, Asbestos Containing Materials (>1.0% Asbestos)

Note: Plans copied by permission, not to scale. Shaded areas indicate approximate Work Area.



## AQCC REG. NO. 8 ASBESTOS ABATEMENT INSPECTION FORM COMPLIANCE CHECKLIST AND INFORMATION

Colorado Dept. of Public Health  
and Environment  
APCD-IE-B1  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
Phone: 303-692-3100  
Fax: 303-782-0278

Project(s) Address: <b><u>Tumbleson House at Hall Ranch Open Space, Boulder County, CO</u></b>		Project(s) Permit #: 18BO2912A	
Project(s) start date: May 17, 2018		Project(s) completion date: June 04, 2018	
Inspector(s): LP (Lennie) Herron/#2572 (AMS/PM - ___) Billie J. Herron/#2650 (AMS/PM - <u>X</u> ) Jamie L. Herron-Carson/#2649 (AMS/PM - ___) Sherri K. Herron/#8728 (AMS/PM - ___) Michael W. Herron, Sr./#13788 (AMS/PM - ___)		Inspection Date: 06/07/18	
Current Abatement Phase:	Pre	<input checked="" type="checkbox"/> Active	Post
More than one phase/project?		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Comments:			

**Types(s) and total quantity of ACM removed/to be removed\* as reported by the abatement contractor:**

Pipe Insulation*:	Fireproofing:	Spray-on:
Ceiling Tile:	Boiler Insulation:	VAT:
Transite:	<b>Other (describe):</b> <ul style="list-style-type: none"> <li>Rodent Feces – 1,592.25 ft<sup>2</sup></li> <li>Miscellaneous Material = 20 ft<sup>2</sup></li> <li>Surfacing Material = 2,982 ft<sup>2</sup></li> </ul>	

\*Pipe insulation is reported in lineal feet, all other materials including ductwork are reported in square footage regardless of the thickness of the ACM. If reporting in 55-gallon drums, note square footage or linear footage area to be removed.

**List of ALL abatement workers in containment today:**

#	NAME	SSN OR REC. #	AHERA / STATE / PHYSICAL / FIT TEST
1	SEE ATTACHED		/ / /
<b>COMMENTS:</b>			

**Note: Responses to the Description of Citation is indicated by the anticipation of the day, with the default as X = OK / Vio. / N/A. Should the response differ, cross-out will appear and appropriate response indicated.**

**PART I – SECTION A - OUTSIDE WORK AREA(S) – CERTIFICATION AND PERMIT/NOTIFICATION REQUIREMENTS, ETC.**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
16	II.A.2	All training certs./documents on site - with <b>photo IDs</b> ?	X		
26	II.J	Project Manager - credentials ok (certified as PD, completed AMS training, HS diploma, 1 yr. Experience, independent)?			X
29	III.B.1.a & III.B.4	On-site supervisor state certified?	X		
29	III.B.1.b & III.B.4	All workers on site trained/certified?	X		
30	III.B.5	Air Monitoring Spec. trained and certified? Note - this requirement may apply during pre-and active abatement phases, e.g. monitoring NAM exhaust inside a building or checking for the "MAAL".	X		
30	III.B.6	Project Manager required (>1,000 LF/>3000SF of friable) Note: Not required in schools.			X
30	III.C.1	Project Design required (>1,000 LF/>3000SF in P&C) (>3 LF/>3SF in Schools)	X		
31	III.C.4	Project Design on the site and signed?	X		
31	III.E.1	No false, inaccurate, or misleading information?	X		
33	III.F	If a variance has been granted for any work practice(s); <b>are the conditions of this variance being followed?</b>			X
34	III.G	Permit Valid (i.e. start/stop dates)?	X		
35	III.G.4	ORIGINAL permit posted at work site?	X		
36	III.G.8	Permit signed by Project Manager?			X

**COMMENTS ON PART I – SECTION A:**


**PART I – SECTION B – OUTSIDE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
37	III.J.1.a	Negative Air Machines (NAMs) operating continuously?	X		
37 & 52	III.J.1.d & III.U.1.b.i	NAMs monitored if exhausted inside the building?			X
37	III.J.3	-0.02" H <sub>2</sub> O or better on Manometer?	X		
37	III.J.3	Continuous printout on Manometer?	X		
37	III.J.4	Smoke tubes present?	X		
37	III.J.4	Air flow - outside to inside ok?	X		
38	III.K.1	All chambers separated by airlocks?	X		
38	III.K.1	Decon Unit - 3 stages?	X		
38	III.K.1	Self-closing flaps/doors? (Z flaps are preferable, but not required)	X		
38	III.K.1.a	Clean room - adequately sized?	X		
38	III.K.1.b	Shower - hot and cold water at the tap?	X		
38	III.K.1.b	Shower – leakage anywhere but the supply connection?	X		
38	III.K.1.b	Shower - wastewater filtered to 5 microns or less, sanitary sewer discharge?	X		
38	III.K.1.b	Shower and Clean room - ACM debris present?	X		
39	III.K.2	Entry and exit procedures ok?	X		
41	III.N.2	View port present (at minimum 12"x12")?	X		
41	III.N.3	Waste load out separate from Decon?	X		
41	III.N.3	Waste load out - 2 stages?	X		

**COMMENTS ON PART I – SECTION B: MANOMETER PRINTER NOT WORKING. TO BE REPLACED 06/05/18**

**PART II – INSIDE THE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
36	III.I	Critical barriers - 1 layer 6 mil?	X		
36	III.J.1.b	Air cleaning equipment - HEPA filters properly installed, equipment operating, maintained adequately, etc.?	X		
37	III.J.2	Adequate equipment in place to ensure 4 air changes per hour?	X		
38	III.K.1.c	6 mil disposal bag present in Dirty Room?	X		
39	III.K.2.b	Disposable clothing worn by workers?	X		
39	III.L	Pre-cleaning - criticals and decon, HEPA vacs, wet cleaning, proper disposal?	X		
39	III.L.1	Movable objects cleaned before removal from the work area?	X		
39	III.M	Fixed objects - 1 layer 6 mil?	X		
40	III.N.1.a	Floors - 2 separate layers 6 mil?	X		
40	III.N.1.a, b, & c	No seams present (wall/floor, wall/ceiling, 12" overlap)?	X		
40	III.N.1.b	Walls - 2 separate layers 4 mil?	X		
40	III.N.1.c	Ceilings - 1 layer 4 mil?	X		
41	III.O.1.a.i.(A)	Amended water being used (surfactants) before ACM is removed?	X		
41	III.O.1.a.i.(A)	Are the surfactants a commercial product designed specifically for ACM removal?	X		
41	III.O.1.a.i.(A)	Material adequately wet and/or kept wet until bagged for disposal?	X		
42	III.O.1.a.i.(B)	Airless sprayers used for applying amended water or encapsulant?	X		
42	III.O.1.a.iii	All contaminated surfaces wet-wiped prior to disassembly of containment barriers?	X		

**COMMENTS ON PART II:**

**PART III – SECTION A –SPECIAL PROJECTS, RESILIENT FLOOR TILE**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
31	III.E.1	Notice posted at the worksite?			X
46	III.R.	Waste handled as nonfriable waste?			X
114	Appendix B	Appendix B, Amended water being used?			X
114	Appendix B	Appendix B, Hand tools only?			X
48	III.S.1	Appendix B, Proper handling and packaging of tiles/adhesives?			X
48	III.S.1	Voluntarily using splashguards, critical, negative air, and decon?			X
48	III.S.1.c	Is the material being rendered friable?			X

**COMMENTS ON PART III, SECTION A:**



**PART III – SECTION B –SPECIAL PROJECTS, SHEET VINYL FLOORING**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
34	III.E.1	Notice/Permit posted at the worksite?			X
46	III.R.	Waste handled as friable waste?			X
48	III.S.1.c	Is the material being rendered friable?			X
48	III.S.1.d.	Worker(s)/Supervisor(s) trained according to Appendix C?			X
48	III.S.2	Appendix B, Amended water being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Hand tools only being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Proper handling and packaging of sheet flooring being used by only App. C trained workers?			X
107	Appendix B	Appendix B, Proper wetting at the delaminating nip point being used by only App. C trained workers?			X
48	III.S.2	Voluntarily using splashguards, critical, negative air, and decon?			X

**COMMENTS ON PART III, SECTION B:**


**PART III – SECTION C –SPECIAL PROJECTS, NONFRIABLE ACM**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
49	III.S.4.a.	ACM adequately wet?			X
49	III.S.4.b.	Hand removal methods being used?			X
49	III.S.4.c.	Minimal breakage and disturbance?			X
49	III.S.4.d.	Material properly disposed of as nonfriable waste?			X

**COMMENTS ON PART III, SECTION C:**


**PART IV – SPECIAL REMOVAL METHODS, GLOVEBAGS AND FACILITY COMPONENT REMOVAL**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
53	III.V.1	Glove bags - proper usage (useable without causing fiber release)?			X
53	III.V.1.a	Glove bags - properly sealed to the area, no bottom seam?			X
53	III.V.1.b	Glove bags - pipes cooler than 150°F?			X
53	III.V.1.c	Glove bags used only once?			X
53	III.V.1.d.i	Glove bags - secondary containment(s) in place if removal > 3LF/SF?			X
54	III.V.1.d.ii	Glove bags - smoke tested prior to use?			X
54	III.V.1.d.iv	Glove bags - material in bags adequately wet?			X
54	III.V.1.d.vi	Glove bags - "rough" edges encapsulated?			X
54	III.V.1.d.vii	Glove bags - evacuated with HEPA vac prior to removing the bag?			X
54	III.V.2	Facility component removal - w/o containment, material well adhered to surface?			X
54	III.V.2.a	Facility component removal - adequately wet and wrapped in 6 mil poly prior to removal from the work area?			X

**COMMENTS ON PART IV:**








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**PROJECT/LOCATION: 0421178, RFP#6648-17- Tumbleson House at Hall Ranch Open Space Asbestos Consulting**

**Services / Boulder County**

CONTRACTOR Employees	On-site Today?	AHERA Worker Expiration	State Worker Expiration	AHERA Supervisor Expiration	State Supervisor Expiration	Physical Expiration	Fit Test Expiration	Copy of All Certifications on Site?	State ID Card Displayed On-Site?	Certificate of Workers Acknowledgement	DATE	06/07/18
											REPORT NO	
Alma Mosqueda/#12109		03/03/19	04/27/19	NA	NA	04/16/19	02/20/19	*	*	*	* * *	Yes
Carlos Vandehorst/#22241	Yes	07/01/18	07/15/18	NA	NA	07/14/18	12/26/18	*	*	*	* * *	Yes
David Starks/#15640		NA	NA	08/25/18	09/18/18	02/02/19	05/09/19	*	*	*	* * *	Yes
Dylan Gallogly/#24196		NA	NA	12/22/18	01/04/19	01/08/19	01/09/19	*	*	*	* * *	Yes
Felipe Hernandez/#16523	Yes	03/17/19	04/19/19	NA	NA	04/14/19	04/20/19	*	*	*	* * *	Yes
Hector Salgado/#20974	Yes	03/03/19	06/29/18	NA	NA	04/24/19	04/03/19	*	*	*	* * *	Yes
Allen Gallogly/#21476		04/30/19	03/16/19	NA	NA	01/18/19	05/19/19	*	*	*	* * *	Yes
Juan Veloz/#10999	Yes	07/29/18	09/21/19	NA	NA	05/17/19	12/18/18	*	*	*	* * *	Yes
Adriana Jacobi-Urribe/#12893		02/03/19	05/24/18	NA	NA	06/01/18	06/01/18	*	*	*	* * *	No

9 4  
 Expired

Expired and/or Update Not Received:

\*Should Employee not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.

Legend of Documents not received by HERRON: 1, AHERA Certification, 2, State Certification, 3, Physical, 4, Fit Test, 5, Certificate of Worker's Acknowledgement. Effectively, this document is published daily to include Employees which have signed in.



ON-SITE DAILY SIGN-IN SHEET

Date: 6/7/18  
 Project Name: TUMBLESON HOUSE  
 Job #: 18-026  
 Supervisor: Felipe Hernandez.

Name	Time In	Lunch Out	Lunch In	Time Out	Total Hours
Felipe Hernandez.	7:30				
CARLOS VANDERHORST	7:30				
JUAN VELOZ	7:30				
Hector Salgado	7:30				
Daily Total:					

---

**From:** Destiny M. Herron <HERRONAdmin@comcast.net>  
**Sent:** Wednesday, June 13, 2018 3:52 PM  
**To:** 'Michael Lohr'; 'Carol Beam'; 'Brian Bertin'  
**Cc:** 'Allen Gallogly'; 'David W. Starks'; 'L. P. (Lennie) Herron'; 'Christy M. Herron'; 'Billie J. Herron'; Destiny M. Herron  
**Subject:** 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
**Attachments:** 0421178.16, Daily Report, 06.08.18.pdf

## Project Update

In regards to the end of the shift:  
06/08/18 (Friday)

1. Notifications –
  - a. Issues during the shift –
    - 1) No issues
2. Containment observation: Yes
  - a. In accordance with the Specifications and Regulations –

Current Work Area(s) –

WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone  
1st Floor Kitchen and Bedroom 2 - 1,048 ft<sup>2</sup>

Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high

1. Apply negative air to meet a criteria of -0.03”
  - a. Results within local, state, and/or federal regulations

WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone  
1st Floor Living Room, Bedroom 1, and Stairwell – 1,612 ft<sup>2</sup>

1. Apply negative air to meet a criteria of -0.03”
  - a. Results within local, state, and/or federal regulations

3. Structure Crack Monitoring –
  - a. Surface mounted gauges will be visually observed twice daily after arrival of the first visit of the Engineer to determine if the existing cracks within the masonry are being impacted by the abatement
    - 1) AM
      1. W1 – West Side, North End – Note: Awaiting new anchor points. Remaining crack monitors remain unchanged.
      2. W2 – West Side, South End – 2.0 mm
      3. S1 – South Side, East End – 0.5 mm
      4. E1 – East Side, Center – 1.0 mm
    - 2) PM
      1. W1 – West Side, North End – Note: Awaiting new anchor points. Remaining crack monitors remain unchanged.
      2. W2 – West Side, South End – 2.0 mm
      3. S1 – South Side, East End – 0.5 mm
      4. E1 – East Side, Center – 1.0 mm

4. Asbestos Air Monitoring –
  - a. During-abatement monitoring with the following preliminary results –
    - 1) WA#3, #4
    - 2) IWA – 0.008 f/cc
    - 3) OWA,
    - 4) OWA, Clean Room
    - 5) OWA, Negative Air Exhausted Outside of the Building
    - 6) OWA, Ambient, Outside of Building
      1. These environmental samples, on completion of final analysis, Outside Work Area sample(s) have not exceeded the Maximum Allowable Asbestos Level (MAAL) by Phase Contrast Microscopy (PCM), or Transmission Electron Microscopy (TEM), where applicable.
  - b. OSHA Compliance monitoring with the following preliminary results –
    - 1) WA#3, #4
    - 2) Excursion – 0.114 f/cc
    - 3) Personal, Multi-sample 8 Hour TWA – 0.199 f/cc
      1. These environmental samples, on completion of final analysis, have not exceeded the EL (Excursion Level) or the PEL (Permissible Exposure Level) by Phase Contrast Microscopy (PCM), where applicable.
      2. Samples which were reported as CBR were not included in the multi-sample TWA result.
      3. Sampling flow rates should be lowered to avoid CBR results.
      4. *A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL) –*
      5. Should a CBR sample have occurred, the Contractor is advised to review engineering controls, negative pressure, air flow, wet methods, etc.
5. Daily Contractor Submittals Received (sign in sheets, daily logs, entry/exit logs, special reports) –
  - a. 06/08/18 – not received – submit
  - b. 06/07/18 – not received – submit
  - c. 06/06/18 – not received – submit
  - d. 06/05/18 – not received – submit
  - e. 06/04/18 – not received – submit
  - f. 06/01/18 – not received – submit
  - g. 05/31/18 – not received – submit
  - h. 05/30/18 – not received – submit
  - i. 05/29/18 – not received – submit
  - j. 05/25/18 – not received – submit
  - k. 05/24/18 – not received – submit
  - l. 05/23/18 – not received – submit
  - m. 05/22/18 – not received – submit
  - n. 05/21/18 – not received – submit
  - o. 05/18/18 – not received – submit
  - p. 05/17/18 – not received – submit
  - q. 05/17/18 – mobilization 05/17/18 7:30 AM MST
    - 1) Contractor Project Directory –
      1. Note: Should Employee not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.
6. Work Areas completed –
  - a. WA#2 Removed from Scope of Work - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster Wall(s) on Stone  
1st Floor Root Cellar – 322 ft<sup>2</sup>  
Demolition of Wood Shelving in 1st Floor Root Cellar (embedded in Plaster) – 11.5X4’ X 3 sets

- b. WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (PCM Clearance Passed 05/22/18)  
1st Floor Living Room, 7X2’ Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft<sup>2</sup>  
2nd Floor Closet, Loose Sheet Flooring on Wood Substrate - 10 ft<sup>2</sup>
  - c. WA#5 - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s) (Visual Passed 05/21/18)  
Exterior, South Alcove Roofing, Debris, and Associated 2” of Soil – 10 ft<sup>2</sup>  
Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3’ from foundation.
7. Punch list items completed –
- a. Awaiting Completion
8. Notes:
- a. Refer to Project Memo(s).
  - b. All observations stated in this report are based on facts and circumstances as they existed during the time of the observations, and during the time period of this report preparation and as available within the limits of the mutually agreed upon Scope of Work, budget, and schedule. The observations in this report is not intended to be exhaustive in scope, and is considered an ongoing working document. HERRON™ reserves the right to modify the contents of this document, as necessary.
  - c. As agreed, daily conversations are occurring, and daily reports will be on site for employee review. Hard copy will not be mailed as this correspondence constitutes delivery of the specified documents.
  - d. Refer to Project Definitions below.

Please advise within an RFI if you have any questions.

Thanks in advance,

Destiny M. Herron  
Administrative Assistant  
HERRON™ Enterprises USA, Inc.  
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Project Definitions:

Asbestos

1. In regards to the results, Regulation 29 CFR 1910, 1926 –  
[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=standards&p\\_id=9995](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9995)  
[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_id=10862&p\\_table=standards](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=10862&p_table=standards)  
A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL). In accordance with 29 CFR 1926, 1926.1101; 1926.1101(c)(1); 1926.1101(f)(1) Standard Interpretation Correct manner to interpret air sample measurements of an employee's asbestos exposure when the samples are overloaded [01/17/2006]  
[http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=INTERPRETATIONS&p\\_id=25295](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=25295);

*‘...While monitoring an employee's exposure to an airborne contaminant, such as asbestos, occasionally samples are lost, damaged, overloaded, or are otherwise unusable. Analytical*



*laboratories report such samples as "VOID," with a note of explanation. An overloaded asbestos air sample is one in which non-asbestos dust obscures some or all of the fibers on the filter and therefore makes it impossible to accurately determine the concentration of asbestos in the laboratory's microscopic analysis. Such samples should not be counted by an employer in TWA calculations of employee exposure. The use of a "zero" exposure result for such samples is inappropriate; it will underestimate the employee's true exposure. An employer has the responsibility to "accurately" determine his employee's exposure to asbestos... '.*

1926.1101(b) Definitions

Employee exposure means that exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

1926.1101(c)(2) Excursion limit

The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(c) Permissible exposure limits (PELS)

1926.1101(c)(1)

Time-weighted average limit (TWA). The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air as an eight (8) hour time-weighted average (TWA), as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(c)(2)

Excursion limit. The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(g)(2)(v)

Wherever the feasible engineering and work practice controls described above are not sufficient to reduce employee exposure to or below the permissible exposure limit and/or excursion limit prescribed in paragraph (c) of this section, the employer shall use them to reduce employee exposure to the lowest levels attainable by these controls and shall supplement them by the use of respiratory protection that complies with the requirements of paragraph (h) of this section.

2. In regards to the results, AQCC Regulation No. 8 –

<http://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=7206&fileName=5> CCR 1001-10

III.U.2. The Maximum Allowable Asbestos Level (MAAL)

III.U.2.a. PCM - If PCM is used as the method of analysis the standard is 0.01 fibers per cubic centimeter of air (f/cc), which is equivalent to 10,000 fibers per cubic meter of air (f/m<sup>3</sup>).

III.U.2.b. TEM - Where TEM is used as the method of analysis, the standard is 70 structures/millimeter<sup>2</sup> (s/mm<sup>2</sup>).

3. Laboratory certificates not included with this correspondence have not been received, will follow under a separate cover.
4. Legend: .8μ, 25mm MCE Filter Cassettes, Amb = Ambient, IWA = Inside Work Area, OWA = Outside Work Area, CR = Clean/Change Room, LO = Loadout, NAM = Negative Air Exhaust, Ex = Excursion, Per = Personnel, VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read, BDL = Below Detection Limit



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## ASBESTOS SERVICES

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 06/08-11/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.16  
 Date of Report: 06/11/18

## SUMMARY OF WORK

Per Client request, and under the guidelines defined, HERRON™ Enterprises USA, Inc. has concluded the Environmental Consultation/Asbestos Service for friable and/or non-friable Asbestos Containing Material(s) at the aforementioned property.

Our Environmental Consultation/Asbestos Service report may include a Limited Asbestos Building Inspection, descriptions of Bulk, Dust, and/or Air Monitoring samples, their locations and analyses data, which have been obtained and analyses performed in accordance with local, state, and/or federal regulations.

For Calculation purposes of samples obtained by HERRON™, all results are expressed basis actual sampling duration, with courtesy 8 hours time weighted average calculations, based on the actual sampling duration. For Calculation purposes of samples submitted to HERRON™, all results are expressed basis actual sampling duration, as submitted by the Client. HERRON™ implies no warranty to the accuracy of the information or the samples submitted by the Client. In order to make exact determinations, the employer should calculate exact times based on containment sign-in/out sheets for TWA's, in accordance with current OSHA regulations.

All Miscellaneous Provisions, Terms and Conditions apply to all services provided as indicated in HERRON™ current Terms of Services.

Information and data which has been generated as a result of this Environmental Consultation/Asbestos Service will remain confidential and will not be released to any party without prior written authorization from Client(s) (refer to authorized distribution).

We appreciate the confidence which has been demonstrated by your continued patronage, and look forward to assisting you and your group should you have future needs of Environmental Consultation/Asbestos Services.

Sincerely,

Billie J. Herron-Lusk  
Project Manager  
HERRON™ Enterprises USA, Inc.



**FIELD REPORT & OBSERVATIONS**

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 HERRON™ Project No.: 0421178.16  
 Date of Report: 06/11/18

**DATE TIME SUMMARY OF EVENTS**

05/17/18 ---- Requested to perform Baseline (MAAL/OSHA) Air Monitoring, Pre-Abatement Visual Containment(s) Inspection(s), Removal (MAAL/OSHA) Air Monitoring, Final Visual Containment(s) Inspection(s), Final Clearance (MAAL/OSHA) Air Monitoring, and OSHA Compliance Air Monitoring for Gross removal of

**WA#1** - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall

**1st Floor Living Room**, 7X2' Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft<sup>2</sup>

**2nd Floor Closet**  
Loose Sheet Flooring on Wood Substrate - 10 ft<sup>2</sup>

**Test Area(s) 1st Floor Two (2) Perimeter Wall(s)**  
Perform test area of removal of Asbestos Plaster on Stone, approximately 4X4' for Engineer determination of acceptable removal methods - 32 ft<sup>2</sup>

**1st and 2nd Floors Decontamination**  
Floor Surface Area of 1st and 2nd Floor Levels – 1,592.25 ft<sup>2</sup>  
1st and 2nd Floors Decontamination will include the Cleanup and Decontamination of Rodent Feces – 1,592.25 ft<sup>2</sup>  
On successful completion of the Major Spill Response the 2nd Floor will be Isolated from the remainder of the House as no further asbestos work exists.

**WA#3** - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone  
**1st Floor Kitchen and Bedroom 2** - 1,048 ft<sup>2</sup>  
Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high

**WA#4** - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone  
**1st Floor Living Room, Bedroom 1, and Stairwell** – 1,612 ft<sup>2</sup>

**WA#5** - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s)  
**Exterior, South Alcove** Roofing, Debris, and Associated 2" of Soil – 10 ft<sup>2</sup>  
Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3' from foundation.

06/08/18 \* Commenced (MAAL/OSHA) Air Monitoring  
 \* Completed (MAAL/OSHA) Air Monitoring  
 \* Completed (MAAL/OSHA) Air Monitoring PCM analysis-All Work Area samples below AQCC MAAL, <=0.01 f/cc/OSHA 1926.1101, EL <1.0 f/cc, PEL <0.10 f/cc, where regulated, unless otherwise noted as follows: NA  
 \* Advised results



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Assignment: Environmental Consultation/Asbestos Services  
HERRON™ Project No.: 0421178.16  
Date of Report: 06/11/18

DATE	TIME	SUMMARY OF EVENTS
06/11/18	*	Field documentation completed and report distributed (refer to distribution)

Note: \*Refer to daily project memo for complete details of events.



**ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
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 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.16  
 Date of Report: 06/11/18

SAMPLE NO. AND DESC.	PUMP NO.	TIME					FLOW RATE			FIBER					
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	DENSITY (F/MM2)	LOD (F/CC)	FIBERS (F/CC)
060818-1 Removal,	505	8	40	14	10	330	4.00	4.00	1320	M	22.0	100	28.025	0.002	0.008
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0056		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

IWA

060818-2 Removal,	505	8	40	14	10	330	4.00	4.00	1320	M	12.0	100	15.287	0.002	0.004
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0031		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA

060818-3 Removal,	505	8	40	14	10	330	4.00	4.00	1320	M	17.0	100	21.656	0.002	0.006
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0043		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Clean Room

060818-4 Removal,	201	8	40	14	10	330	4.00	4.00	1320	M	19.0	100	24.204	0.002	0.007
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0049		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Load Out

060818-5 Removal,	505	8	40	14	10	330	4.00	4.00	1320	L	5.0	100	6.369	0.002	BDL
		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0013		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Negative air exhausted outside of Building



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**ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 06/08-11/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.16  
 Date of Report: 06/11/18

SAMPLE NO. AND DESC.	PUMP NO.	TIME					FLOW RATE			FIBER					
		ON HR	MIN	OFF HR	MIN	TOT MIN	(LPM) ON	(LPM) OFF	VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	DENSITY (F/MM2)	LOD (F/CC)	FIBERS (F/CC)
060818-6	505	8	40	14	10	330	4.00	4.00	1320	L	4.0	100	5.096	0.002	BDL
Removal,		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0010		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Ambient

060818-B1 Blank VL 0.0 100  
 060818-B2 Blank VL 0.0 100 DATA: BL

Note: .8µ, 25mm MCE Filter Cassettes - Note: IWA = Inside Work Area, OWA = Outside Work Area, BDL = Below Detection Limit - Note: VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read - Note: Proficiency Analytical Testing (PAT) Program



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SAMPLE NO. AND DESC.	PUMP NO.	TIME					FLOW RATE			VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	FIBER		
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	DENSITY (F/MM2)					LOD (F/CC)	FIBERS (F/CC)	
060818-P1	701	8	50	9	20	30	2.00	2.00	60	M	14.0	100	17.834	0.045	0.114	
OSHA Compliance		0	0	0	0	0	0.00	0.00	(Calculated 8 Hr. TWA, f/cc):				0.0072			

Air Monitoring Samples,

Excursion Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

Juan Veloz/#10999

060818-P2	701	9	20	14	10	290	2.00	2.00	580	M	25.0	100	31.847	0.005	0.021
OSHA Compliance		0	0	0	0	0	0.00	0.00	(Calculated 8 Hr. TWA, f/cc):				0.0128		
Air Monitoring Samples,		(Multiple Sample 8 Hr. TWA, f/cc):				0.0199									

Personal Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

Juan Veloz/#10999

060818-B1	Blank										VL	0.0	100		
060818-B2	Blank										VL	0.0	100	DATA:	BL

Note: .8μ, 25mm MCE Filter Cassettes - Note: IWA = Inside Work Area, OWA = Outside Work Area, BDL = Below Detection Limit - Note: VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read - Note: Proficiency Analytical Testing (PAT) Program



**FLOOR PLANS/SITE PHOTOGRAPHS**

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**Photo Log**



20180608\_084749



20180608\_084244



20180608\_084250



20180608\_084254



20180608\_084257



20180608\_084301



20180608\_084318



20180608\_084323



20180608\_084328



20180608\_084334



20180608\_084338



20180608\_084347



20180608\_084654



20180608\_084705



20180608\_084706



20180608\_084738





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**Photo Log**



20180608\_141642



20180608\_141644



20180608\_141647



20180608\_141653



20180608\_141701



20180608\_141708



20180608\_141713



20180608\_141719



20180608\_141724



20180608\_141726



20180608\_141341



20180608\_141350



20180608\_141417



20180608\_141428



20180608\_141634



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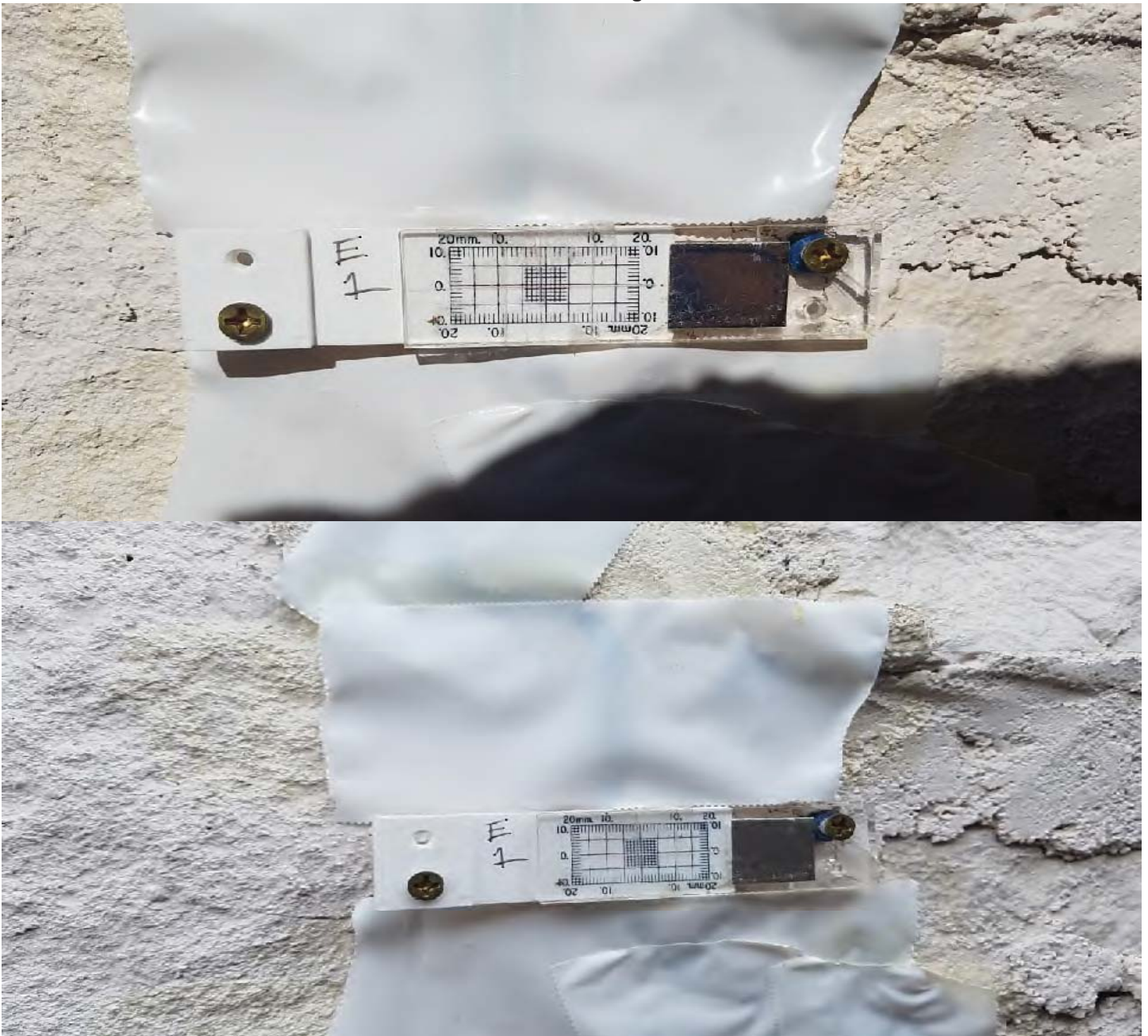
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 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 06/08-11/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.16  
 Date of Report: 06/11/18

**Photo Log**





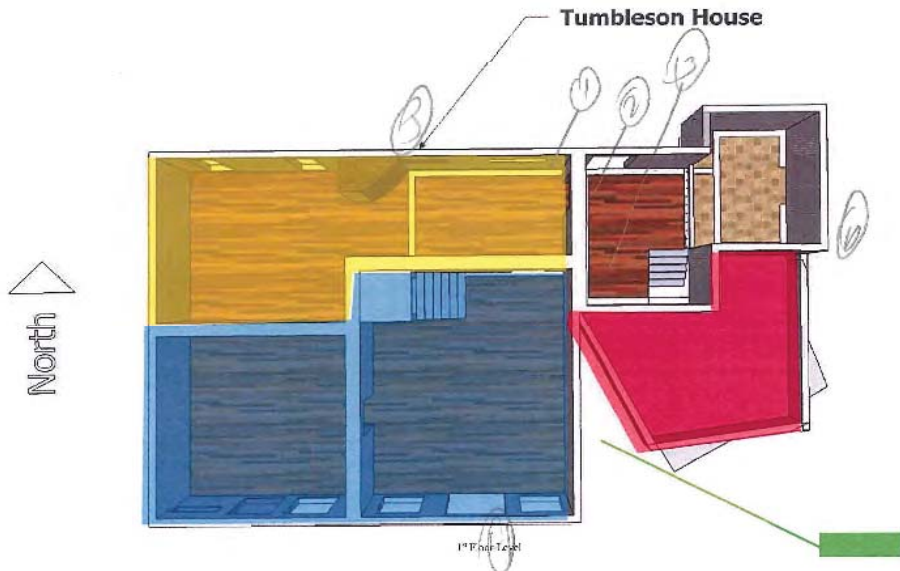
**FLOOR PLANS/SITE PHOTOGRAPHS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 06/08-11/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.16  
 Date of Report: 06/11/18

**(MAAL/OSHA) Air Monitoring**

HERRON™ Enterprises USA, Inc.

Tumbleson House at Hall Ranch Open Space  
Boulder County, CO



- WA22, Asbestos Containing Materials (>1.5% Asbestos)
- WA23, Asbestos Containing Materials (>1.5% Asbestos)
- WA24, Asbestos Containing Materials (>1.5% Asbestos)
- WA25, Asbestos Containing Materials (>1.5% Asbestos)

Note: Plan(s) copied by permission, not to scale. Shaded area indicates approximate Work Area.

HERRON™ Project No. C421178  
Asbestos Abatement Survey of Work

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Attachment A

Page 28 of 45  
January 18, 2018



## AQCC REG. NO. 8 ASBESTOS ABATEMENT INSPECTION FORM COMPLIANCE CHECKLIST AND INFORMATION

Colorado Dept. of Public Health  
and Environment  
APCD-IE-B1  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
Phone: 303-692-3100  
Fax: 303-782-0278

Project(s) Address: <b><u>Tumbleson House at Hall Ranch Open Space, Boulder County, CO</u></b>		Project(s) Permit #: 18BO2912A	
Project(s) start date: May 17, 2018		Project(s) completion date: June 04, 2018	
Inspector(s): LP (Lennie) Herron/#2572 (AMS/PM - ___) Billie J. Herron/#2650 (AMS/PM - <u>X</u> ) Jamie L. Herron-Carson/#2649 (AMS/PM - ___) Sherri K. Herron/#8728 (AMS/PM - ___) Michael W. Herron, Sr./#13788 (AMS/PM - ___)		Inspection Date: 06/08/18	
Current Abatement Phase:	<input type="checkbox"/> Pre	<input checked="" type="checkbox"/> Active	<input type="checkbox"/> Post
	More than one phase/project?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Comments:			

**Types(s) and total quantity of ACM removed/to be removed\* as reported by the abatement contractor:**

Pipe Insulation*:	Fireproofing:	Spray-on:
Ceiling Tile:	Boiler Insulation:	VAT:
Transite:	<b>Other (describe):</b> <ul style="list-style-type: none"> <li>Rodent Feces – 1,592.25 ft<sup>2</sup></li> <li>Miscellaneous Material = 20 ft<sup>2</sup></li> <li>Surfacing Material = 2,982 ft<sup>2</sup></li> </ul>	

\*Pipe insulation is reported in lineal feet, all other materials including ductwork are reported in square footage regardless of the thickness of the ACM. If reporting in 55-gallon drums, note square footage or linear footage area to be removed.

**List of ALL abatement workers in containment today:**

#	NAME	SSN OR REC. #	AHERA / STATE / PHYSICAL / FIT TEST
1	SEE ATTACHED		/ / /
<b>COMMENTS:</b>			

**Note: Responses to the Description of Citation is indicated by the anticipation of the day, with the default as X = OK / Vio. / N/A. Should the response differ, cross-out will appear and appropriate response indicated.**

**PART I – SECTION A - OUTSIDE WORK AREA(S) – CERTIFICATION AND PERMIT/NOTIFICATION REQUIREMENTS, ETC.**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
16	II.A.2	All training certs./documents on site - with <b>photo IDs</b> ?	X		
26	II.J	Project Manager - credentials ok (certified as PD, completed AMS training, HS diploma, 1 yr. Experience, independent)?			X
29	III.B.1.a & III.B.4	On-site supervisor state certified?	X		
29	III.B.1.b & III.B.4	All workers on site trained/certified?	X		
30	III.B.5	Air Monitoring Spec. trained and certified? Note - this requirement may apply during pre-and active abatement phases, e.g. monitoring NAM exhaust inside a building or checking for the "MAAL".	X		
30	III.B.6	Project Manager required (>1,000 LF/>3000SF of friable) Note: Not required in schools.			X
30	III.C.1	Project Design required (>1,000 LF/>3000SF in P&C) (>3 LF/>3SF in Schools)	X		
31	III.C.4	Project Design on the site and signed?	X		
31	III.E.1	No false, inaccurate, or misleading information?	X		
33	III.F	If a variance has been granted for any work practice(s); <b>are the conditions of this variance being followed?</b>			X
34	III.G	Permit Valid (i.e. start/stop dates)?	X		
35	III.G.4	ORIGINAL permit posted at work site?	X		
36	III.G.8	Permit signed by Project Manager?			X

**COMMENTS ON PART I – SECTION A:**

**PART I – SECTION B – OUTSIDE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
37	III.J.1.a	Negative Air Machines (NAMs) operating continuously?	X		
37 & 52	III.J.1.d & III.U.1.b.i	NAMs monitored if exhausted inside the building?			X
37	III.J.3	-0.02" H <sub>2</sub> O or better on Manometer?	X		
37	III.J.3	Continuous printout on Manometer?	X		
37	III.J.4	Smoke tubes present?	X		
37	III.J.4	Air flow - outside to inside ok?	X		
38	III.K.1	All chambers separated by airlocks?	X		
38	III.K.1	Decon Unit - 3 stages?	X		
38	III.K.1	Self-closing flaps/doors? (Z flaps are preferable, but not required)	X		
38	III.K.1.a	Clean room - adequately sized?	X		
38	III.K.1.b	Shower - hot and cold water at the tap?	X		
38	III.K.1.b	Shower – leakage anywhere but the supply connection?	X		
38	III.K.1.b	Shower - wastewater filtered to 5 microns or less, sanitary sewer discharge?	X		
38	III.K.1.b	Shower and Clean room - ACM debris present?	X		
39	III.K.2	Entry and exit procedures ok?	X		
41	III.N.2	View port present (at minimum 12"x12")?	X		
41	III.N.3	Waste load out separate from Decon?	X		
41	III.N.3	Waste load out - 2 stages?	X		

**COMMENTS ON PART I – SECTION B: MANOMETER PRINTER NOT WORKING. TO BE REPLACED 06/05/18**



**PART II – INSIDE THE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
36	III.I	Critical barriers - 1 layer 6 mil?	X		
36	III.J.1.b	Air cleaning equipment - HEPA filters properly installed, equipment operating, maintained adequately, etc.?	X		
37	III.J.2	Adequate equipment in place to ensure 4 air changes per hour?	X		
38	III.K.1.c	6 mil disposal bag present in Dirty Room?	X		
39	III.K.2.b	Disposable clothing worn by workers?	X		
39	III.L	Pre-cleaning - criticals and decon, HEPA vacs, wet cleaning, proper disposal?	X		
39	III.L.1	Movable objects cleaned before removal from the work area?	X		
39	III.M	Fixed objects - 1 layer 6 mil?	X		
40	III.N.1.a	Floors - 2 separate layers 6 mil?	X		
40	III.N.1.a, b, & c	No seams present (wall/floor, wall/ceiling, 12" overlap)?	X		
40	III.N.1.b	Walls - 2 separate layers 4 mil?	X		
40	III.N.1.c	Ceilings - 1 layer 4 mil?	X		
41	III.O.1.a.i.(A)	Amended water being used (surfactants) before ACM is removed?	X		
41	III.O.1.a.i.(A)	Are the surfactants a commercial product designed specifically for ACM removal?	X		
41	III.O.1.a.i.(A)	Material adequately wet and/or kept wet until bagged for disposal?	X		
42	III.O.1.a.i.(B)	Airless sprayers used for applying amended water or encapsulant?	X		
42	III.O.1.a.iii	All contaminated surfaces wet-wiped prior to disassembly of containment barriers?	X		

**COMMENTS ON PART II:**

**PART III – SECTION A –SPECIAL PROJECTS, RESILIENT FLOOR TILE**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
31	III.E.1	Notice posted at the worksite?			X
46	III.R.	Waste handled as nonfriable waste?			X
114	Appendix B	Appendix B, Amended water being used?			X
114	Appendix B	Appendix B, Hand tools only?			X
48	III.S.1	Appendix B, Proper handling and packaging of tiles/adhesives?			X
48	III.S.1	Voluntarily using splashguards, critical, negative air, and decon?			X
48	III.S.1.c	Is the material being rendered friable?			X

**COMMENTS ON PART III, SECTION A:**

**PART III – SECTION B –SPECIAL PROJECTS, SHEET VINYL FLOORING**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
34	III.E.1	Notice/Permit posted at the worksite?			X
46	III.R.	Waste handled as friable waste?			X
48	III.S.1.c	Is the material being rendered friable?			X
48	III.S.1.d.	Worker(s)/Supervisor(s) trained according to Appendix C?			X
48	III.S.2	Appendix B, Amended water being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Hand tools only being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Proper handling and packaging of sheet flooring being used by only App. C trained workers?			X
107	Appendix B	Appendix B, Proper wetting at the delaminating nip point being used by only App. C trained workers?			X
48	III.S.2	Voluntarily using splashguards, critical, negative air, and decon?			X

**COMMENTS ON PART III, SECTION B:**


**PART III – SECTION C –SPECIAL PROJECTS, NONFRIABLE ACM**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
49	III.S.4.a.	ACM adequately wet?			X
49	III.S.4.b.	Hand removal methods being used?			X
49	III.S.4.c.	Minimal breakage and disturbance?			X
49	III.S.4.d.	Material properly disposed of as nonfriable waste?			X

**COMMENTS ON PART III, SECTION C:**


**PART IV – SPECIAL REMOVAL METHODS, GLOVEBAGS AND FACILITY COMPONENT REMOVAL**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
53	III.V.1	Glove bags - proper usage (useable without causing fiber release)?			X
53	III.V.1.a	Glove bags - properly sealed to the area, no bottom seam?			X
53	III.V.1.b	Glove bags - pipes cooler than 150°F?			X
53	III.V.1.c	Glove bags used only once?			X
53	III.V.1.d.i	Glove bags - secondary containment(s) in place if removal > 3LF/SF?			X
54	III.V.1.d.ii	Glove bags - smoke tested prior to use?			X
54	III.V.1.d.iv	Glove bags - material in bags adequately wet?			X
54	III.V.1.d.vi	Glove bags - "rough" edges encapsulated?			X
54	III.V.1.d.vii	Glove bags - evacuated with HEPA vac prior to removing the bag?			X
54	III.V.2	Facility component removal - w/o containment, material well adhered to surface?			X
54	III.V.2.a	Facility component removal - adequately wet and wrapped in 6 mil poly prior to removal from the work area?			X

**COMMENTS ON PART IV:**








**HERRON™** Enterprises USA, Inc.  
 Hazardous Materials\* Mold\* Asbestos\* Lead Paint  
 Environmental Services\* Industrial Hygienists

Phone (303) 763 9639  
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 Website [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)  
 7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

**PROJECT/LOCATION:** 0421178, RFP#6648-17- Tumbleson House at Hall Ranch Open Space Asbestos Consulting

**Services / Boulder County**

CONTRACTOR Employees	On-Site Today?	AHERA Worker Expiration	State Worker Expiration	AHERA Supervisor Expiration	State Supervisor Expiration	Physical Expiration	Fit Test Expiration	Copy of All Certifications on Site?	State ID Card Displayed On-Site?	Certificate of Workers Acknowledgement	Copy of All Certifications and State ID Card Received by HERRON?	*Authorized Employee in Work Area(s) at This Job Site Today?	DATE
													REPORT NO
Alma Mosqueda/#12109		03/03/19	04/27/19	NA	NA	04/16/19	02/20/19	*	*	*	*	Yes	0421178. 16
Carlos Vandehorst/#22241	Yes	07/01/18	07/15/18	NA	NA	07/14/18	12/26/18	*	*	*	*	Yes	
David Starks/#15640		NA	NA	08/25/18	09/18/18	02/02/19	05/09/19	*	*	*	*	Yes	
Dylan Gallogly/#24196		NA	NA	12/22/18	01/04/19	01/08/19	01/09/19	*	*	*	*	Yes	
Felipe Hernandez/#16523	Yes	03/17/19	04/19/19	NA	NA	04/14/19	04/20/19	*	*	*	*	Yes	
Hector Salgado/#20974	Yes	03/03/19	06/29/18	NA	NA	04/24/19	04/03/19	*	*	*	*	Yes	
Allen Gallogly/#21476	Yes	04/30/19	03/16/19	NA	NA	01/18/19	05/19/19	*	*	*	*	Yes	
Juan Veloz/#10999	Yes	07/29/18	09/21/19	NA	NA	05/17/19	12/18/18	*	*	*	*	Yes	
Adriana Jacobi-Uribe/#12893		02/03/19	05/24/18	NA	NA		06/01/18	*	*	*	*	No	

9 5

Expired

Expired and/or Update Not Received:

\*Should Employee not be within regulatory compliance or specifications. Employee is prohibited from work within a Regulated Area.  
 Legend of Documents not received by HERRON: 1, AHERA Certification, 2, State Certification, 3, Physical, 4, Fit Test, 5, Certificate of Worker's Acknowledgement.  
 Effectively, this document is published daily to include Employees which have signed in.



---

**From:** Destiny M. Herron <HERRONAdmin@comcast.net>  
**Sent:** Friday, June 15, 2018 6:34 AM  
**To:** 'Michael Lohr'; 'Carol Beam'; 'Brian Bertin'  
**Cc:** 'Allen Gallogly'; 'David W. Starks'; 'L. P. (Lennie) Herron'; 'Christy M. Herron'; 'Billie J. Herron'; Destiny M. Herron  
**Subject:** 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
**Attachments:** 0421178.17 Daily Report 06.11.18.pdf

## Project Update

In regards to the end of the shift:  
06/11/18 (Monday)

1. Notifications –
  - a. Issues during the shift –
    - 1) No issues
2. Containment observation: Yes
  - a. In accordance with the Specifications and Regulations –

Current Work Area(s) –

WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone  
1st Floor Kitchen and Bedroom 2 - 1,048 ft<sup>2</sup>

Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high

1. Apply negative air to meet a criteria of -0.03”
  - a. Results within local, state, and/or federal regulations

WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone  
1st Floor Living Room, Bedroom 1, and Stairwell – 1,612 ft<sup>2</sup>

1. Apply negative air to meet a criteria of -0.03”
  - a. Results within local, state, and/or federal regulations

3. Structure Crack Monitoring –
  - a. Surface mounted gauges will be visually observed twice daily after arrival of the first visit of the Engineer to determine if the existing cracks within the masonry are being impacted by the abatement
    - 1) AM
      1. W1 – West Side, North End – Note: Awaiting new anchor points. Remaining crack monitors remain unchanged.
      2. W2 – West Side, South End – 2.0 mm
      3. S1 – South Side, East End – 0.5 mm
      4. E1 – East Side, Center – 1.0 mm
4. Asbestos Air Monitoring –
  - a. During-abatement monitoring with the following preliminary results –
    - 1) WA#3, #4
    - 2) IWA – 0.004 f/cc
    - 3) OWA,
    - 4) OWA, Clean Room

- 5) OWA, Negative Air Exhausted Outside of the Building
- 6) OWA, Ambient, Outside of Building
  - 1. These environmental samples, on completion of final analysis, Outside Work Area sample(s) have not exceeded the Maximum Allowable Asbestos Level (MAAL) by Phase Contrast Microscopy (PCM), or Transmission Electron Microscopy (TEM), where applicable.
  
- b. OSHA Compliance monitoring with the following preliminary results –
  - 1) WA#3, #4
  - 2) Excursion – 0.065 f/cc
  - 3) Personal, Multi-sample 8 Hour TWA – 0.0128 f/cc
    - 1. These environmental samples, on completion of final analysis, have not exceeded the EL (Excursion Level) or the PEL (Permissible Exposure Level) by Phase Contrast Microscopy (PCM), where applicable.
    - 2. Samples which were reported as CBR were not included in the multi-sample TWA result.
    - 3. Sampling flow rates should be lowered to avoid CBR results.
    - 4. *A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL) –*
    - 5. Should a CBR sample have occurred, the Contractor is advised to review engineering controls, negative pressure, air flow, wet methods, etc.
  
- c. Post-abatement monitoring with the following preliminary results –
  - 1) WA#3,WA#4
  - 2) Preliminary Final Visual Containment Inspection – Passed
  
- 5. Daily Contractor Submittals Received (sign in sheets, daily logs, entry/exit logs, special reports) –
  - a. 06/11/18 – not received – submit
  - b. 06/08/18 – not received – submit
  - c. 06/07/18 – not received – submit
  - d. 06/06/18 – not received – submit
  - e. 06/05/18 – not received – submit
  - f. 06/04/18 – not received – submit
  - g. 06/01/18 – not received – submit
  - h. 05/31/18 – not received – submit
  - i. 05/30/18 – not received – submit
  - j. 05/29/18 – not received – submit
  - k. 05/25/18 – not received – submit
  - l. 05/24/18 – not received – submit
  - m. 05/23/18 – not received – submit
  - n. 05/22/18 – not received – submit
  - o. 05/21/18 – not received – submit
  - p. 05/18/18 – not received – submit
  - q. 05/17/18 – not received – submit
  - r. 05/17/18 – mobilization 05/17/18 7:30 AM MST
    - 1) Contractor Project Directory –
      - 1. Note: Should Employee not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.
  
- 6. Work Areas completed –
  - a. WA#2 Removed from Scope of Work - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster Wall(s) on Stone  
1st Floor Root Cellar – 322 ft<sup>2</sup>  
Demolition of Wood Shelving in 1st Floor Root Cellar (embedded in Plaster) – 11.5X4’ X 3 sets



- b. WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (PCM Clearance Passed 05/22/18)  
1st Floor Living Room, 7X2’ Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft<sup>2</sup>  
2nd Floor Closet, Loose Sheet Flooring on Wood Substrate - 10 ft<sup>2</sup>
  - c. WA#5 - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s) (Visual Passed 05/21/18)  
Exterior, South Alcove Roofing, Debris, and Associated 2” of Soil – 10 ft<sup>2</sup>  
Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3’ from foundation.
7. Punch list items completed –
- a. Awaiting Completion
8. Notes:
- a. Refer to Project Memo(s).
  - b. All observations stated in this report are based on facts and circumstances as they existed during the time of the observations, and during the time period of this report preparation and as available within the limits of the mutually agreed upon Scope of Work, budget, and schedule. The observations in this report is not intended to be exhaustive in scope, and is considered an ongoing working document. HERRON™ reserves the right to modify the contents of this document, as necessary.
  - c. As agreed, daily conversations are occurring, and daily reports will be on site for employee review. Hard copy will not be mailed as this correspondence constitutes delivery of the specified documents.
  - d. Refer to Project Definitions below.

Please advise within an RFI if you have any questions.

Thanks in advance,

Destiny M. Herron  
Administrative Assistant  
HERRON™ Enterprises USA, Inc.  
7261 W. Hampden Ave., Lakewood, CO 80227-5305  
(303) 763-9639 / Fax (303) 763-9686  
Email: [HERRONAdmin@comcast.net](mailto:HERRONAdmin@comcast.net)  
Website: [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

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Project Definitions:

Asbestos

1. In regards to the results, Regulation 29 CFR 1910, 1926 –  
[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=standards&p\\_id=9995](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9995)  
[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_id=10862&p\\_table=standards](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=10862&p_table=standards)  
A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL). In accordance with 29 CFR 1926, 1926.1101; 1926.1101(c)(1); 1926.1101(f)(1) Standard Interpretation Correct manner to interpret air sample measurements of an employee's asbestos exposure when the samples are overloaded [01/17/2006]  
[http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=INTERPRETATIONS&p\\_id=25295](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=25295);

*‘...While monitoring an employee's exposure to an airborne contaminant, such as asbestos, occasionally samples are lost, damaged, overloaded, or are otherwise unusable. Analytical*

*laboratories report such samples as "VOID," with a note of explanation. An overloaded asbestos air sample is one in which non-asbestos dust obscures some or all of the fibers on the filter and therefore makes it impossible to accurately determine the concentration of asbestos in the laboratory's microscopic analysis. Such samples should not be counted by an employer in TWA calculations of employee exposure. The use of a "zero" exposure result for such samples is inappropriate; it will underestimate the employee's true exposure. An employer has the responsibility to "accurately" determine his employee's exposure to asbestos... '.*

1926.1101(b) Definitions

Employee exposure means that exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

1926.1101(c)(2) Excursion limit

The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(c) Permissible exposure limits (PELS)

1926.1101(c)(1)

Time-weighted average limit (TWA). The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air as an eight (8) hour time-weighted average (TWA), as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(c)(2)

Excursion limit. The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(g)(2)(v)

Wherever the feasible engineering and work practice controls described above are not sufficient to reduce employee exposure to or below the permissible exposure limit and/or excursion limit prescribed in paragraph (c) of this section, the employer shall use them to reduce employee exposure to the lowest levels attainable by these controls and shall supplement them by the use of respiratory protection that complies with the requirements of paragraph (h) of this section.

2. In regards to the results, AQCC Regulation No. 8 –

<http://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=7206&fileName=5> CCR 1001-10

III.U.2. The Maximum Allowable Asbestos Level (MAAL)

III.U.2.a. PCM - If PCM is used as the method of analysis the standard is 0.01 fibers per cubic centimeter of air (f/cc), which is equivalent to 10,000 fibers per cubic meter of air (f/m<sup>3</sup>).

III.U.2.b. TEM - Where TEM is used as the method of analysis, the standard is 70 structures/millimeter<sup>2</sup> (s/mm<sup>2</sup>).

3. Laboratory certificates not included with this correspondence have not been received, will follow under a separate cover.
4. Legend: .8μ, 25mm MCE Filter Cassettes, Amb = Ambient, IWA = Inside Work Area, OWA = Outside Work Area, CR = Clean/Change Room, LO = Loadout, NAM = Negative Air Exhaust, Ex = Excursion, Per = Personnel, VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read, BDL = Below Detection Limit



# HERRON™ Enterprises USA, Inc.

Hazardous Materials\* Mold\* Asbestos\* Lead Paint  
Environmental Services\* Industrial Hygienists

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7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

## ASBESTOS SERVICES

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 06/11-12/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.17  
 Date of Report: 06/12/18

## SUMMARY OF WORK

Per Client request, and under the guidelines defined, HERRON™ Enterprises USA, Inc. has concluded the Environmental Consultation/Asbestos Service for friable and/or non-friable Asbestos Containing Material(s) at the aforementioned property.

Our Environmental Consultation/Asbestos Service report may include a Limited Asbestos Building Inspection, descriptions of Bulk, Dust, and/or Air Monitoring samples, their locations and analyses data, which have been obtained and analyses performed in accordance with local, state, and/or federal regulations.

For Calculation purposes of samples obtained by HERRON™, all results are expressed basis actual sampling duration, with courtesy 8 hours time weighted average calculations, based on the actual sampling duration. For Calculation purposes of samples submitted to HERRON™, all results are expressed basis actual sampling duration, as submitted by the Client. HERRON™ implies no warranty to the accuracy of the information or the samples submitted by the Client. In order to make exact determinations, the employer should calculate exact times based on containment sign-in/out sheets for TWA's, in accordance with current OSHA regulations.

All Miscellaneous Provisions, Terms and Conditions apply to all services provided as indicated in HERRON™ current Terms of Services.

Information and data which has been generated as a result of this Environmental Consultation/Asbestos Service will remain confidential and will not be released to any party without prior written authorization from Client(s) (refer to authorized distribution).

We appreciate the confidence which has been demonstrated by your continued patronage, and look forward to assisting you and your group should you have future needs of Environmental Consultation/Asbestos Services.

Sincerely,

Billie J. Herron-Lusk  
Project Manager  
HERRON™ Enterprises USA, Inc.



**FIELD REPORT & OBSERVATIONS**

Client: Boulder County  
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 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.17  
 Date of Report: 06/12/18

**DATE TIME SUMMARY OF EVENTS**

05/17/18 ---- Requested to perform Baseline (MAAL/OSHA) Air Monitoring, Pre-Abatement Visual Containment(s) Inspection(s), Removal (MAAL/OSHA) Air Monitoring, Final Visual Containment(s) Inspection(s), Final Clearance (MAAL/OSHA) Air Monitoring, and OSHA Compliance Air Monitoring for Gross removal of

**WA#1** - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall

**1st Floor Living Room**, 7X2' Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft2

**2nd Floor Closet**  
Loose Sheet Flooring on Wood Substrate - 10 ft2

**Test Area(s) 1st Floor Two (2) Perimeter Wall(s)**  
Perform test area of removal of Asbestos Plaster on Stone, approximately 4X4' for Engineer determination of acceptable removal methods - 32 ft2

**1st and 2nd Floors Decontamination**  
Floor Surface Area of 1st and 2nd Floor Levels – 1,592.25 ft2  
1st and 2nd Floors Decontamination will include the Cleanup and Decontamination of Rodent Feces – 1,592.25 ft2  
On successful completion of the Major Spill Response the 2nd Floor will be Isolated from the remainder of the House as no further asbestos work exists.

**WA#3** - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone

**1st Floor Kitchen and Bedroom 2** - 1,048 ft2  
Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high

**WA#4** - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

**1st Floor Living Room, Bedroom 1, and Stairwell** – 1,612 ft2

**WA#5** - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s)

**Exterior, South Alcove** Roofing, Debris, and Associated 2" of Soil – 10 ft2  
Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3' from foundation.

06/11/18 \* Commenced (MAAL/OSHA) Air Monitoring  
 \* Completed (MAAL/OSHA) Air Monitoring  
 \* Completed (MAAL/OSHA) Air Monitoring PCM analysis-All Work Area samples below AQCC MAAL, <=0.01 f/cc/OSHA 1926.1101, EL <1.0 f/cc, PEL <0.10 f/cc, where regulated, unless otherwise noted as follows: NA  
 \* Advised results



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**FIELD REPORT & OBSERVATIONS**

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Boulder County  
Date of Assignment: 06/11-12/18  
Assignment: Environmental Consultation/Asbestos Services  
HERRON™ Project No.: 0421178.17  
Date of Report: 06/12/18

DATE	TIME	SUMMARY OF EVENTS
06/12/18	*	Field documentation completed and report distributed (refer to distribution)

Note: \*Refer to daily project memo for complete details of events.



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## ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS

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 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.17  
 Date of Report: 06/12/18

SAMPLE NO. AND DESC.	PUMP NO.	TIME					FLOW RATE			FIBER					
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	DENSITY (F/MM2)	LOD (F/CC)	FIBERS (F/CC)
061118-1 Removal,	505	9	20	14	0	280	4.00	4.00	1120	M	10.0	100	12.739	0.002	0.004
		0	0	0	0	0	0.00	0.00					(Calculated 8 Hr. TWA, f/cc):	0.0026	

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

IWA

061118-2 Removal,	505	9	20	14	0	280	4.00	4.00	1120	M	8.0	100	10.191	0.002	0.004
		0	0	0	0	0	0.00	0.00					(Calculated 8 Hr. TWA, f/cc):	0.0020	

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA

061118-3 Removal,	505	9	20	14	0	280	4.00	4.00	1120	M	14.0	100	17.834	0.002	0.006
		0	0	0	0	0	0.00	0.00					(Calculated 8 Hr. TWA, f/cc):	0.0036	

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Clean Room

061118-4 Removal,	201	9	20	14	0	280	4.00	4.00	1120	M	9.0	100	11.465	0.002	0.004
		0	0	0	0	0	0.00	0.00					(Calculated 8 Hr. TWA, f/cc):	0.0023	

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Load Out

061118-5 Removal,	505	9	20	14	0	280	4.00	4.00	1120	L	2.0	100	2.548	0.002	BDL
		0	0	0	0	0	0.00	0.00					(Calculated 8 Hr. TWA, f/cc):	0.0005	

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Negative air exhausted outside of Building



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**ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS**

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 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.17  
 Date of Report: 06/12/18

SAMPLE NO. AND DESC.	PUMP NO.	TIME					FLOW RATE			FIBER					
		ON HR	MIN	OFF HR	MIN	TOT MIN	(LPM) ON	(LPM) OFF	VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	DENSITY (F/MM2)	LOD (F/CC)	FIBERS (F/CC)
061118-6	505	9	20	14	0	280	4.00	4.00	1120	L	0.5	100	0.637	0.002	BDL
Removal,		0	0	0	0	0	0.00	0.00		(Calculated 8 Hr. TWA, f/cc):			0.0001		

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

OWA, Ambient

061118-B1 Blank VL 0.0 100  
 061118-B2 Blank VL 0.0 100 DATA: BL

Note: .8µ, 25mm MCE Filter Cassettes - Note: IWA = Inside Work Area, OWA = Outside Work Area, BDL = Below Detection Limit - Note: VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read - Note: Proficiency Analytical Testing (PAT) Program



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 Date of Report: 06/12/18

SAMPLE NO. AND DESC.	PUMP NO.	TIME					FLOW RATE			VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	FIBER		
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	DENSITY (F/MM2)					LOD (F/CC)	FIBERS (F/CC)	
061118-P1	701	9	25	9	55	30	2.00	2.00	60	M	8.0	100	10.191	0.045	0.065	
OSHA Compliance		0	0	0	0	0	0.00	0.00	(Calculated 8 Hr. TWA, f/cc):				0.0041			

Air Monitoring Samples,

Excursion Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

Juan Veloz/#10999

061118-P2	701	9	55	14	0	245	2.00	2.00	490	M	17.0	100	21.656	0.006	0.017
OSHA Compliance		0	0	0	0	0	0.00	0.00	(Calculated 8 Hr. TWA, f/cc):				0.0087		
Air Monitoring Samples,					(Multiple Sample 8 Hr. TWA, f/cc):				0.0128						

Personal Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

Juan Veloz/#10999

061118-B1	Blank									VL	0.0	100			
061118-B2	Blank									VL	0.0	100	DATA:	BL	

Note: .8μ, 25mm MCE Filter Cassettes - Note: IWA = Inside Work Area, OWA = Outside Work Area, BDL = Below Detection Limit - Note: VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read - Note: Proficiency Analytical Testing (PAT) Program





**FLOOR PLANS/SITE PHOTOGRAPHS**

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**Photo Log**



20180611\_093117



20180611\_103403



20180611\_105918



20180611\_105921



20180611\_105924



20180611\_105931



20180611\_105938



20180611\_105944



20180611\_105957



20180611\_110000



20180611\_092315



20180611\_092343



20180611\_092354



20180611\_092411



20180611\_092420



20180611\_092443



20180611\_092641



20180611\_092644



20180611\_093001



20180611\_135707



20180611\_135739



20180611\_135745



20180611\_135801



20180611\_135822



20180611\_135632



20180611\_135653



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### Photo Log





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**Photo Log**





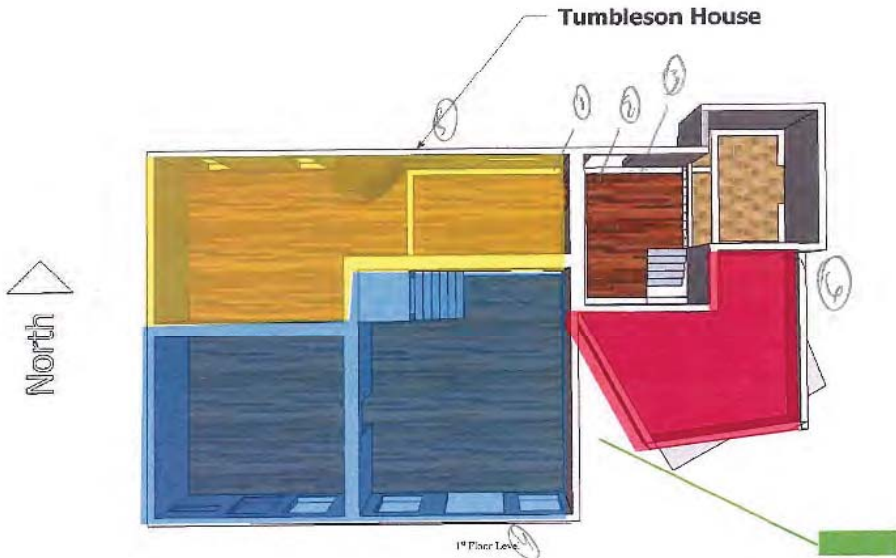
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**(MAAL/OSHA) Air Monitoring**

HERRON™ Enterprises USA, Inc.

Tumbleson House at Hall Ranch Open Space  
Boulder County, CO



- WA#1, Asbestos Containing Materials (>1.0% Asbestos)
- WA#2, Asbestos Containing Materials (>1.0% Asbestos)
- WA#3, Asbestos Containing Materials (>1.0% Asbestos)
- WA#4, Asbestos Containing Materials (>1.0% Asbestos)

Note: Plans copied by permission, not to scale. Shaded area indicates approximate Work Area.

HERRON™ Project No. 0421178  
Asbestos Abatement Summary of Work

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Attachment A

Page 25 of 48  
February 15, 2018



## AQCC REG. NO. 8 ASBESTOS ABATEMENT INSPECTION FORM COMPLIANCE CHECKLIST AND INFORMATION

Colorado Dept. of Public Health  
and Environment  
APCD-IE-B1  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
Phone: 303-692-3100  
Fax: 303-782-0278

Project(s) Address: <b><u>Tumbleson House at Hall Ranch Open Space, Boulder County, CO</u></b>		Project(s) Permit #: 18BO2912A	
Project(s) start date: May 17, 2018		Project(s) completion date: June 04, 2018	
Inspector(s): LP (Lennie) Herron/#2572 (AMS/PM - ___) Billie J. Herron/#2650 (AMS/PM - <u>X</u> ) Jamie L. Herron-Carson/#2649 (AMS/PM - ___) Sherri K. Herron/#8728 (AMS/PM - ___) Michael W. Herron, Sr./#13788 (AMS/PM - ___)		Inspection Date: 06/11/18	
Current Abatement Phase:	<input type="checkbox"/> Pre	<input checked="" type="checkbox"/> Active	<input type="checkbox"/> Post
More than one phase/project?		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Comments:			

**Types(s) and total quantity of ACM removed/to be removed\* as reported by the abatement contractor:**

Pipe Insulation*:	Fireproofing:	Spray-on:
Ceiling Tile:	Boiler Insulation:	VAT:
Transite:	<b>Other (describe):</b> <ul style="list-style-type: none"> <li>Rodent Feces – 1,592.25 ft<sup>2</sup></li> <li>Miscellaneous Material = 20 ft<sup>2</sup></li> <li>Surfacing Material = 2,982 ft<sup>2</sup></li> </ul>	

\*Pipe insulation is reported in lineal feet, all other materials including ductwork are reported in square footage regardless of the thickness of the ACM. If reporting in 55-gallon drums, note square footage or linear footage area to be removed.

**List of ALL abatement workers in containment today:**

#	NAME	SSN OR REC. #	AHERA / STATE / PHYSICAL / FIT TEST
1	SEE ATTACHED		/ / /
<b>COMMENTS:</b>			

**Note: Responses to the Description of Citation is indicated by the anticipation of the day, with the default as X = OK / Vio. / N/A. Should the response differ, cross-out will appear and appropriate response indicated.**

**PART I – SECTION A - OUTSIDE WORK AREA(S) – CERTIFICATION AND PERMIT/NOTIFICATION REQUIREMENTS, ETC.**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
16	II.A.2	All training certs./documents on site - with <b>photo IDs</b> ?	X		
26	II.J	Project Manager - credentials ok (certified as PD, completed AMS training, HS diploma, 1 yr. Experience, independent)?			X
29	III.B.1.a & III.B.4	On-site supervisor state certified?	X		
29	III.B.1.b & III.B.4	All workers on site trained/certified?	X		
30	III.B.5	Air Monitoring Spec. trained and certified? Note - this requirement may apply during pre-and active abatement phases, e.g. monitoring NAM exhaust inside a building or checking for the "MAAL".	X		
30	III.B.6	Project Manager required (>1,000 LF/>3000SF of friable) Note: Not required in schools.			X
30	III.C.1	Project Design required (>1,000 LF/>3000SF in P&C) (>3 LF/>3SF in Schools)	X		
31	III.C.4	Project Design on the site and signed?	X		
31	III.E.1	No false, inaccurate, or misleading information?	X		
33	III.F	If a variance has been granted for any work practice(s); <b>are the conditions of this variance being followed?</b>			X
34	III.G	Permit Valid (i.e. start/stop dates)?	X		
35	III.G.4	ORIGINAL permit posted at work site?	X		
36	III.G.8	Permit signed by Project Manager?			X

**COMMENTS ON PART I – SECTION A:**


**PART I – SECTION B – OUTSIDE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
37	III.J.1.a	Negative Air Machines (NAMs) operating continuously?	X		
37 & 52	III.J.1.d & III.U.1.b.i	NAMs monitored if exhausted inside the building?			X
37	III.J.3	-0.02" H <sub>2</sub> O or better on Manometer?	X		
37	III.J.3	Continuous printout on Manometer?	X		
37	III.J.4	Smoke tubes present?	X		
37	III.J.4	Air flow - outside to inside ok?	X		
38	III.K.1	All chambers separated by airlocks?	X		
38	III.K.1	Decon Unit - 3 stages?	X		
38	III.K.1	Self-closing flaps/doors? (Z flaps are preferable, but not required)	X		
38	III.K.1.a	Clean room - adequately sized?	X		
38	III.K.1.b	Shower - hot and cold water at the tap?	X		
38	III.K.1.b	Shower – leakage anywhere but the supply connection?	X		
38	III.K.1.b	Shower - wastewater filtered to 5 microns or less, sanitary sewer discharge?	X		
38	III.K.1.b	Shower and Clean room - ACM debris present?	X		
39	III.K.2	Entry and exit procedures ok?	X		
41	III.N.2	View port present (at minimum 12"x12")?	X		
41	III.N.3	Waste load out separate from Decon?	X		
41	III.N.3	Waste load out - 2 stages?	X		

**COMMENTS ON PART I – SECTION B: MANOMETER PRINTER NOT WORKING. TO BE REPLACED 06/05/18**



**PART II – INSIDE THE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
36	III.I	Critical barriers - 1 layer 6 mil?	X		
36	III.J.1.b	Air cleaning equipment - HEPA filters properly installed, equipment operating, maintained adequately, etc.?	X		
37	III.J.2	Adequate equipment in place to ensure 4 air changes per hour?	X		
38	III.K.1.c	6 mil disposal bag present in Dirty Room?	X		
39	III.K.2.b	Disposable clothing worn by workers?	X		
39	III.L	Pre-cleaning - criticals and decon, HEPA vacs, wet cleaning, proper disposal?	X		
39	III.L.1	Movable objects cleaned before removal from the work area?	X		
39	III.M	Fixed objects - 1 layer 6 mil?	X		
40	III.N.1.a	Floors - 2 separate layers 6 mil?	X		
40	III.N.1.a, b, & c	No seams present (wall/floor, wall/ceiling, 12" overlap)?	X		
40	III.N.1.b	Walls - 2 separate layers 4 mil?	X		
40	III.N.1.c	Ceilings - 1 layer 4 mil?	X		
41	III.O.1.a.i.(A)	Amended water being used (surfactants) before ACM is removed?	X		
41	III.O.1.a.i.(A)	Are the surfactants a commercial product designed specifically for ACM removal?	X		
41	III.O.1.a.i.(A)	Material adequately wet and/or kept wet until bagged for disposal?	X		
42	III.O.1.a.i.(B)	Airless sprayers used for applying amended water or encapsulant?	X		
42	III.O.1.a.iii	All contaminated surfaces wet-wiped prior to disassembly of containment barriers?	X		

**COMMENTS ON PART II:**

**PART III – SECTION A –SPECIAL PROJECTS, RESILIENT FLOOR TILE**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
31	III.E.1	Notice posted at the worksite?			X
46	III.R.	Waste handled as nonfriable waste?			X
114	Appendix B	Appendix B, Amended water being used?			X
114	Appendix B	Appendix B, Hand tools only?			X
48	III.S.1	Appendix B, Proper handling and packaging of tiles/adhesives?			X
48	III.S.1	Voluntarily using splashguards, critical, negative air, and decon?			X
48	III.S.1.c	Is the material being rendered friable?			X

**COMMENTS ON PART III, SECTION A:**

**PART III – SECTION B –SPECIAL PROJECTS, SHEET VINYL FLOORING**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
34	III.E.1	Notice/Permit posted at the worksite?			X
46	III.R.	Waste handled as friable waste?			X
48	III.S.1.c	Is the material being rendered friable?			X
48	III.S.1.d.	Worker(s)/Supervisor(s) trained according to Appendix C?			X
48	III.S.2	Appendix B, Amended water being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Hand tools only being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Proper handling and packaging of sheet flooring being used by only App. C trained workers?			X
107	Appendix B	Appendix B, Proper wetting at the delaminating nip point being used by only App. C trained workers?			X
48	III.S.2	Voluntarily using splashguards, critical, negative air, and decon?			X

**COMMENTS ON PART III, SECTION B:**


**PART III – SECTION C –SPECIAL PROJECTS, NONFRIABLE ACM**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
49	III.S.4.a.	ACM adequately wet?			X
49	III.S.4.b.	Hand removal methods being used?			X
49	III.S.4.c.	Minimal breakage and disturbance?			X
49	III.S.4.d.	Material properly disposed of as nonfriable waste?			X

**COMMENTS ON PART III, SECTION C:**


**PART IV – SPECIAL REMOVAL METHODS, GLOVEBAGS AND FACILITY COMPONENT REMOVAL**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
53	III.V.1	Glove bags - proper usage (useable without causing fiber release)?			X
53	III.V.1.a	Glove bags - properly sealed to the area, no bottom seam?			X
53	III.V.1.b	Glove bags - pipes cooler than 150°F?			X
53	III.V.1.c	Glove bags used only once?			X
53	III.V.1.d.i	Glove bags - secondary containment(s) in place if removal > 3LF/SF?			X
54	III.V.1.d.ii	Glove bags - smoke tested prior to use?			X
54	III.V.1.d.iv	Glove bags - material in bags adequately wet?			X
54	III.V.1.d.vi	Glove bags - "rough" edges encapsulated?			X
54	III.V.1.d.vii	Glove bags - evacuated with HEPA vac prior to removing the bag?			X
54	III.V.2	Facility component removal - w/o containment, material well adhered to surface?			X
54	III.V.2.a	Facility component removal - adequately wet and wrapped in 6 mil poly prior to removal from the work area?			X

**COMMENTS ON PART IV:**










**CERTIFICATION OF VISUAL INSPECTION(S)**

Building	Work Area/Containment	Material(s)	Quantity(ies)	Full/Mini/ Regulated Area		
Tumbleson	#31#4	See SACC	See SACC	Full		
<b>Asbestos Abatement Contractor Certification</b>						
In accordance with local, state, federal regulations, and the Asbestos Abatement Summary of Work, the Asbestos Abatement Contractor hereby certifies that he or she has visually inspected the Work Area (all surfaces including pipes, beams, ledges, walls, ceiling and floor, Decontamination Unit(s), sheet plastic, etc.) and has found no dust, debris or residue.						
Asbestos Abatement Contractor Signature	Date/Time	Certification No.	Printed Name	Title	Pass	Fail
<i>[Signature]</i>	06/11/18	16523	Felipe HSEC	SUP.	✓	
Final Visual Inspection						
<b>Air Monitoring Specialist/Asbestos Project Manager Certification</b>						
The Air Monitoring Specialist/Asbestos Project Manager hereby certifies that he or she has accompanied the Asbestos Abatement Contractor on this visual inspection and verifies that these visual inspection(s), as indicated, have been thorough where visible/accessible, and to the best of his or her knowledge and belief, the Asbestos Abatement Contractor's Certification above, as indicated and where applicable, is a true and honest one.						
Air Monitoring Specialist/Asbestos Project Manager Signature	Date/Time	Certification No.	Printed Name	Title	Pass	Fail
<i>[Signature]</i>	06/11/18/110	2650	Billie Lux	AMS	✓	
Final Visual Inspection						
<b>Comments:</b>						
<b>Designer/Project Administrator Certification</b>						
The Designer/Project Administrator hereby certifies that he or she has reviewed the Asbestos Abatement Contractor, Air Monitoring Specialist/Asbestos Project Manager Certification on completion of this final visual inspection and believes that this final visual inspection has been thorough where visible/accessible, and to the best of his or her knowledge and belief, the Asbestos Abatement Contractor's and Air Monitoring Specialist's/Asbestos Project Manager's Certification's above are true and honest ones.						
Designer Signature	Date/Time	Certification No.	Printed Name	Title		
Project Administrator Signature	Date/Time	Certification No.	Printed Name	Title		

*\* Preliminary prior to encapsulate application*

---

**From:** Destiny M. Herron <HERRONAdmin@comcast.net>  
**Sent:** Friday, June 15, 2018 7:16 AM  
**To:** 'Michael Lohr'; 'Carol Beam'; 'Brian Bertin'  
**Cc:** 'Allen Gallogly'; 'David W. Starks'; 'L. P. (Lennie) Herron'; 'Christy M. Herron'; 'Billie J. Herron'; Destiny M. Herron  
**Subject:** 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
**Attachments:** 0421178.18 Daily Report 06.12.18.pdf

### Final Project Update (Project Completed 06/12/18)

In regards to the end of the shift:  
06/12/18 (Tuesday)

1. Punch list items completed –
  - a. All Work Areas on completion of final walk through by AMS, Project Designer 06/12/18 PM
    - 1) Final Tear Down
    - 2) All equipment removed from site
    - 3) All waste removed from the site anticipated no later than 06/14/18
    - 4) Owner advised of all materials i.e., doors, lighting, etc. which remain outside of the house
      1. Required:
        - a. Any and all pre-, during- and/or final- remaining submittals which have not been submitted, should be forwarded to the Owner for review, with file copy to the Designer/AMS in accordance with the specifications.
2. Notifications –
  - a. Issues during the shift –
    - 1) No issues
    - 2) Observation of rodent feces during final walk-through. This is indicative of rodent invasion into the building. Anticipation of further rodent feces contamination is possible if actions are not taken to keep rodents out of the building.
3. Containment observation: Yes
  - a. In accordance with the Specifications and Regulations –

Current Work Area(s) –  
WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone  
1st Floor Kitchen and Bedroom 2 - 1,048 ft<sup>2</sup>  
Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high

    1. Apply negative air to meet a criteria of -0.03”
      - a. Results within local, state, and/or federal regulations

WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone  
1st Floor Living Room, Bedroom 1, and Stairwell – 1,612 ft<sup>2</sup>

    1. Apply negative air to meet a criteria of -0.03”
      - a. Results within local, state, and/or federal regulations
4. Structure Crack Monitoring –



- a. Surface mounted gauges will be visually observed twice daily after arrival of the first visit of the Engineer to determine if the existing cracks within the masonry are being impacted by the abatement

- 1) AM

1. W1 – West Side, North End – Note: Awaiting new anchor points. Remaining crack monitors remain unchanged.
2. W2 – West Side, South End – 2.0 mm
3. S1 – South Side, East End – 0.5 mm
4. E1 – East Side, Center – 1.0 mm

5. Asbestos Air Monitoring –

- a. Post-abatement monitoring with the following preliminary results –

- 1) WA#3, WA#4

- 2) Final Visual Containment Inspection – Passed

- 3) Inside Work Area, Aggressive Final Clearance, 5 Sample PCM Clearance – Passed

1. In accordance with the Owner requirements and within the regulations, each of the five (5) air samples could not exceed the filter background level of 0.01 f/cc (PCM) therefore, the final clearance passed. These environmental samples, on completion of final analysis, have not exceeded the Maximum Allowable Asbestos Level (MAAL) by Phase Contrast Microscopy (PCM).
2. Contractor proceeded with tear down of successfully cleared Work Area, during which, post-abatement visual inspection occurred.

6. Daily Contractor Submittals Received (sign in sheets, daily logs, entry/exit logs, special reports) –

- a. 06/12/18 – not received – submit
- b. 06/11/18 – not received – submit
- c. 06/08/18 – not received – submit
- d. 06/07/18 – not received – submit
- e. 06/06/18 – not received – submit
- f. 06/05/18 – not received – submit
- g. 06/04/18 – not received – submit
- h. 06/01/18 – not received – submit
- i. 05/31/18 – not received – submit
- j. 05/30/18 – not received – submit
- k. 05/29/18 – not received – submit
- l. 05/25/18 – not received – submit
- m. 05/24/18 – not received – submit
- n. 05/23/18 – not received – submit
- o. 05/22/18 – not received – submit
- p. 05/21/18 – not received – submit
- q. 05/18/18 – not received – submit
- r. 05/17/18 – not received – submit
- s. 05/17/18 – mobilization 05/17/18 7:30 AM MST

- 1) Contractor Project Directory –

1. Note: Should Employee not be within regulatory compliance or specifications, Employee is prohibited from work within a Regulated Area.

7. Work Areas completed –

- a. WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone (PCM Clearance Passed 06/12/18)  
1st Floor Kitchen and Bedroom 2 - 1,048 ft<sup>2</sup>  
Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high
- WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone  
1st Floor Living Room, Bedroom 1, and Stairwell – 1,612 ft<sup>2</sup>
- b. WA#2 Removed from Scope of Work - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster Wall(s) on Stone

- 1st Floor Root Cellar – 322 ft2  
 Demolition of Wood Shelving in 1st Floor Root Cellar (embedded in Plaster) – 11.5X4’ X 3 sets
- c. WA#1 - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall (PCM Clearance Passed 05/22/18)  
 1st Floor Living Room, 7X2’ Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft2  
 2nd Floor Closet, Loose Sheet Flooring on Wood Substrate - 10 ft2
  - d. WA#5 - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s) (Visual Passed 05/21/18)  
 Exterior, South Alcove Roofing, Debris, and Associated 2” of Soil – 10 ft2  
 Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3’ from foundation.

8. Notes:

- a. Refer to Project Memo(s).
- b. All observations stated in this report are based on facts and circumstances as they existed during the time of the observations, and during the time period of this report preparation and as available within the limits of the mutually agreed upon Scope of Work, budget, and schedule. The observations in this report is not intended to be exhaustive in scope, and is considered an ongoing working document. HERRON™ reserves the right to modify the contents of this document, as necessary.
- c. As agreed, daily conversations are occurring, and daily reports will be on site for employee review. Hard copy will not be mailed as this correspondence constitutes delivery of the specified documents.
- d. Refer to Project Definitions below.

Please advise within an RFI if you have any questions.

Thanks in advance,

Destiny M. Herron  
 Administrative Assistant  
 HERRON™ Enterprises USA, Inc.  
 7261 W. Hampden Ave., Lakewood, CO 80227-5305  
 (303) 763-9639 / Fax (303) 763-9686  
 Email: [HERRONAdmin@comcast.net](mailto:HERRONAdmin@comcast.net)  
 Website: [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

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Project Definitions:

Asbestos

1. In regards to the results, Regulation 29 CFR 1910, 1926 –  
[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=standards&p\\_id=9995](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9995)  
[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_id=10862&p\\_table=standards](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=10862&p_table=standards)  
 A CBR (cannot be read) due to loose debris or overloading is a sample which cannot be assigned a numerical value could be assumed to exceed both the Maximum Allowable Asbestos Level (MAAL) and the Permissible Exposure Limit (PEL). In accordance with 29 CFR 1926, 1926.1101; 1926.1101(c)(1); 1926.1101(f)(1) Standard Interpretation Correct manner to interpret air sample measurements of an employee's asbestos exposure when the samples are overloaded [01/17/2006]  
[http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=INTERPRETATIONS&p\\_id=2529](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=2529)  
[5](#);  
*‘...While monitoring an employee's exposure to an airborne contaminant, such as asbestos, occasionally samples are lost, damaged, overloaded, or are otherwise unusable. Analytical laboratories report such samples as "VOID," with a note of explanation. An overloaded asbestos*

*air sample is one in which non-asbestos dust obscures some or all of the fibers on the filter and therefore makes it impossible to accurately determine the concentration of asbestos in the laboratory's microscopic analysis. Such samples should not be counted by an employer in TWA calculations of employee exposure. The use of a "zero" exposure result for such samples is inappropriate; it will underestimate the employee's true exposure. An employer has the responsibility to "accurately" determine his employee's exposure to asbestos... '.*

1926.1101(b) Definitions

Employee exposure means that exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

1926.1101(c)(2) Excursion limit

The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(c) Permissible exposure limits (PELS)

1926.1101(c)(1)

Time-weighted average limit (TWA). The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air as an eight (8) hour time-weighted average (TWA), as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(c)(2)

Excursion limit. The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1101(g)(2)(v)

Wherever the feasible engineering and work practice controls described above are not sufficient to reduce employee exposure to or below the permissible exposure limit and/or excursion limit prescribed in paragraph (c) of this section, the employer shall use them to reduce employee exposure to the lowest levels attainable by these controls and shall supplement them by the use of respiratory protection that complies with the requirements of paragraph (h) of this section.

2. In regards to the results, AQCC Regulation No. 8 –

<http://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=7206&fileName=5> CCR 1001-10

III.U.2. The Maximum Allowable Asbestos Level (MAAL)

III.U.2.a. PCM - If PCM is used as the method of analysis the standard is 0.01 fibers per cubic centimeter of air (f/cc), which is equivalent to 10,000 fibers per cubic meter of air (f/m<sup>3</sup>).

III.U.2.b. TEM - Where TEM is used as the method of analysis, the standard is 70 structures/millimeter<sup>2</sup> (s/mm<sup>2</sup>).

3. Laboratory certificates not included with this correspondence have not been received, will follow under a separate cover.
4. Legend: .8μ, 25mm MCE Filter Cassettes, Amb = Ambient, IWA = Inside Work Area, OWA = Outside Work Area, CR = Clean/Change Room, LO = Loadout, NAM = Negative Air Exhaust, Ex = Excursion, Per = Personnel, VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read, BDL = Below Detection Limit



# HERRON™ Enterprises USA, Inc.

Hazardous Materials\*Mold\*Asbestos\*Lead Paint  
Environmental Services\*Industrial Hygienists

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Website [www.HERRON-Enterprises.com](http://www.HERRON-Enterprises.com)

7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

## ASBESTOS SERVICES

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 06/12-13/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.18  
 Date of Report: 06/13/18

## SUMMARY OF WORK

Per Client request, and under the guidelines defined, HERRON™ Enterprises USA, Inc. has concluded the Environmental Consultation/Asbestos Service for friable and/or non-friable Asbestos Containing Material(s) at the aforementioned property.

Our Environmental Consultation/Asbestos Service report may include a Limited Asbestos Building Inspection, descriptions of Bulk, Dust, and/or Air Monitoring samples, their locations and analyses data, which have been obtained and analyses performed in accordance with local, state, and/or federal regulations.

For Calculation purposes of samples obtained by HERRON™, all results are expressed basis actual sampling duration, with courtesy 8 hours time weighted average calculations, based on the actual sampling duration. For Calculation purposes of samples submitted to HERRON™, all results are expressed basis actual sampling duration, as submitted by the Client. HERRON™ implies no warranty to the accuracy of the information or the samples submitted by the Client. In order to make exact determinations, the employer should calculate exact times based on containment sign-in/out sheets for TWA's, in accordance with current OSHA regulations.

All Miscellaneous Provisions, Terms and Conditions apply to all services provided as indicated in HERRON™ current Terms of Services.

Information and data which has been generated as a result of this Environmental Consultation/Asbestos Service will remain confidential and will not be released to any party without prior written authorization from Client(s) (refer to authorized distribution).

We appreciate the confidence which has been demonstrated by your continued patronage, and look forward to assisting you and your group should you have future needs of Environmental Consultation/Asbestos Services.

Sincerely,

Billie J. Herron-Lusk  
Project Manager  
HERRON™ Enterprises USA, Inc.



**FIELD REPORT & OBSERVATIONS**

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 06/12-13/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.18  
 Date of Report: 06/13/18

**DATE TIME SUMMARY OF EVENTS**

05/17/18 ---- Requested to perform Baseline (MAAL/OSHA) Air Monitoring, Pre-Abatement Visual Containment(s) Inspection(s), Removal (MAAL/OSHA) Air Monitoring, Final Visual Containment(s) Inspection(s), Final Clearance (MAAL/OSHA) Air Monitoring, and OSHA Compliance Air Monitoring for Gross removal of

**WA#1** - Enclosure Area(s), Decontamination – Cleanup and decontaminate the Asbestos Contamination under Major Spill Response requirements due to Asbestos Plaster and Textured Drywall

**1st Floor Living Room**, 7X2' Opening in the floor created to inspect floor joists contains ACM Plaster Debris on Soil. Clean debris and loose soil within reach, then critical from the Work Area – 14 ft2

**2nd Floor Closet**  
 Loose Sheet Flooring on Wood Substrate - 10 ft2

**Test Area(s) 1st Floor Two (2) Perimeter Wall(s)**  
 Perform test area of removal of Asbestos Plaster on Stone, approximately 4X4' for Engineer determination of acceptable removal methods - 32 ft2

**1st and 2nd Floors Decontamination**  
 Floor Surface Area of 1st and 2nd Floor Levels – 1,592.25 ft2  
 1st and 2nd Floors Decontamination will include the Cleanup and Decontamination of Rodent Feces – 1,592.25 ft2  
 On successful completion of the Major Spill Response the 2nd Floor will be Isolated from the remainder of the House as no further asbestos work exists.

**WA#3** - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone

**1st Floor Kitchen and Bedroom 2** - 1,048 ft2  
 Demolition of Wood Closet in 1st Floor Bedroom 2 (embedded in Plaster) – 1X4' X8' high

**WA#4** - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

**1st Floor Living Room, Bedroom 1, and Stairwell** – 1,612 ft2

**WA#5** - Regulated Area(s), Abatement – Gross Removal and decontamination of Asbestos Tar Impregnated Roofing Material(s)

**Exterior, South Alcove** Roofing, Debris, and Associated 2" of Soil – 10 ft2  
 Abatement will require clean-up of roofing pieces around the perimeter of the house, approximately 3' from foundation.

06/12/18 \* Commenced (MAAL/OSHA) Air Monitoring  
 \* Completed (MAAL/OSHA) Air Monitoring  
 \* Completed (MAAL/OSHA) Air Monitoring PCM analysis-All Work Area samples below AQCC MAAL, <=0.01 f/cc/OSHA 1926.1101, EL <1.0 f/cc, PEL <0.10 f/cc, where regulated, unless otherwise noted as follows: NA  
 \* Advised results



**HERRON™** Enterprises USA, Inc.

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**FIELD REPORT & OBSERVATIONS**

Client: Boulder County  
Client Contact: Michael Lohr  
Order No.: SOQ #6673-17  
Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 /  
Boulder County  
Date of Assignment: 06/12-13/18  
Assignment: Environmental Consultation/Asbestos Services  
HERRON™ Project No.: 0421178.18  
Date of Report: 06/13/18

DATE	TIME	SUMMARY OF EVENTS
06/13/18	*	Field documentation completed and report distributed (refer to distribution)

Note: \*Refer to daily project memo for complete details of events.



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7261 W. Hampden Ave., Lakewood, Colorado 80227-5305

## ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 06/12-13/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.18  
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SAMPLE NO. AND DESC.	PUMP NO	TIME					FLOW RATE			FIBER					
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	DENSITY (F/MM2)	LOD (F/CC)	FIBERS (F/CC)
061218-1	505	8	10	9	43	93	14.00	14.00	1302	L	12.0	100	15.287	0.002	0.005
Final Clearance,		0	0	0	0	0	0.00	0.00							

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

IWA, Sample 1 of 5

061218-3	505	8	10	9	43	93	14.00	14.00	1302	L	8.0	100	10.191	0.002	0.003
Final Clearance,		0	0	0	0	0	0.00	0.00							

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

IWA, Sample 2 of 5

061218-3	505	8	10	9	43	93	14.00	14.00	1302	L	10.5	100	13.376	0.002	0.004
Final Clearance,		0	0	0	0	0	0.00	0.00							

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

IWA, Sample 3 of 5

061218-4	505	8	10	9	43	93	14.00	14.00	1302	L	9.0	100	11.465	0.002	0.003
Final Clearance,		0	0	0	0	0	0.00	0.00							

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

IWA, Sample 4 of 5

061218-5	505	8	10	9	43	93	14.00	14.00	1302	L	11.0	100	14.013	0.002	0.004
Final Clearance,		0	0	0	0	0	0.00	0.00							

(MAAL) Air Monitoring, WA#3 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Plaster and Lathe Ceiling(s), and Walls(s) on Stone, WA#4 - Enclosure Area(s), Abatement – Gross Removal and decontamination of Asbestos Drywall Ceiling(s) and Wall(s), Plaster Walls(s) on Stone

IWA, Sample 5 of 5



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## ASBESTOS AIR SAMPLING DATA/NIOSH 7400 FIBER COUNT ANALYSIS

Client: Boulder County  
 Client Contact: Michael Lohr  
 Order No.: SOQ #6673-17  
 Job Location: 0421178, Tumbleson House at Hall Ranch, 31271 S. Saint Vrain Drive, Lyons, CO 80540 / Boulder County  
 Date of Assignment: 06/12-13/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.18  
 Date of Report: 06/13/18

SAMPLE NO. AND DESC.	PUMP NO	TIME				FLOW RATE			FIBER						
		ON HR	ON MIN	OFF HR	OFF MIN	TOT MIN	(LPM) ON	(LPM) OFF	VOL (L)	PARTICULATE LOADING	FIBER COUNT	FIELD COUNT	DENSITY (F/MM2)	LOD (F/CC)	FIBERS (F/CC)
061218-B1	Blank									VL	0.0	100			
061218-B2	Blank									VL	0.0	100	DATA:	BL	

Note: .8µ, 25mm MCE Filter Cassettes - Note: IWA = Inside Work Area, OWA = Outside Work Area, BDL = Below Detection Limit - Note: VL = Very Light, L = Light, M = Moderate, H = Heavy, VH = Very Heavy, CBR = Cannot Be Read - Note: Proficiency Analytical Testing (PAT) Program





**FLOOR PLANS/SITE PHOTOGRAPHS**

Client: Boulder County  
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 Date of Assignment: 06/12-13/18  
 Assignment: Environmental Consultation/Asbestos Services  
 HERRON™ Project No.: 0421178.18  
 Date of Report: 06/13/18

**Photo Log**



20180612\_080320



20180612\_080323



20180612\_080328



20180612\_080333



20180612\_080336



20180612\_080356



20180612\_080358



20180612\_080403



20180612\_080247



20180612\_080250



20180612\_080252



20180612\_080256



20180612\_080303



20180612\_080309



20180612\_080311



20180612\_080313



20180612\_080316



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**Photo Log**



20180612\_115030



20180612\_115032



20180612\_111939



20180612\_111941



20180612\_111945



20180612\_111947



20180612\_113404



20180612\_113406



20180612\_113409



20180612\_113416



20180612\_113422



20180612\_113509



20180612\_113556



20180612\_113624



20180612\_114735



20180612\_114738



20180612\_114739



20180612\_114742



20180612\_114745



20180612\_114747



20180612\_114852



20180612\_114900



20180612\_114913



20180612\_114924



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 Date of Report: 06/13/18

**Photo Log**



20180612\_133044



20180612\_133055



20180612\_133100



20180612\_133128



20180612\_132646



20180612\_132649



20180612\_132652



20180612\_132658



20180612\_132705



20180612\_132712



20180612\_132718



20180612\_132723



20180612\_132728



20180612\_132739



20180612\_132758



20180612\_132803



20180612\_132810



20180612\_132822



20180612\_132825



20180612\_132835



20180612\_132837



20180612\_132918



20180612\_132924



20180612\_132948



20180612\_132951





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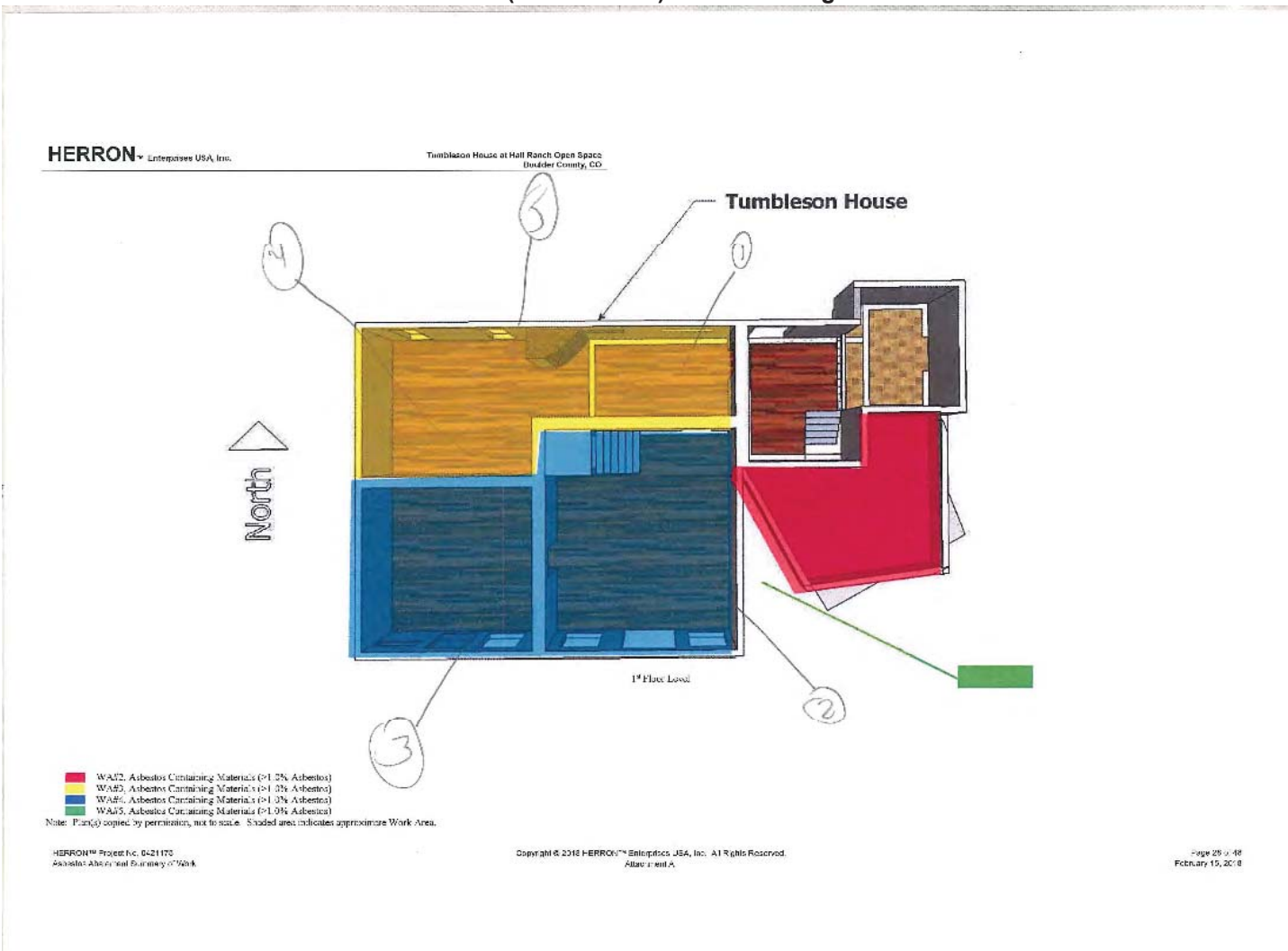
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### (MAAL/OSHA) Air Monitoring







## AQCC REG. NO. 8 ASBESTOS ABATEMENT INSPECTION FORM COMPLIANCE CHECKLIST AND INFORMATION

Colorado Dept. of Public Health  
and Environment  
APCD-IE-B1  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
Phone: 303-692-3100  
Fax: 303-782-0278

Project(s) Address: <b><u>Tumbleson House at Hall Ranch Open Space, Boulder County, CO</u></b>		Project(s) Permit #: 18BO2912A	
Project(s) start date: May 17, 2018		Project(s) completion date: June 04, 2018	
Inspector(s): LP (Lennie) Herron/#2572 (AMS/PM - ___) Billie J. Herron/#2650 (AMS/PM - <u>X</u> ) Jamie L. Herron-Carson/#2649 (AMS/PM - ___) Sherri K. Herron/#8728 (AMS/PM - ___) Michael W. Herron, Sr./#13788 (AMS/PM - ___)		Inspection Date: 06/12/18	
Current Abatement Phase:	<input type="checkbox"/> Pre	<input checked="" type="checkbox"/> Active	<input type="checkbox"/> Post
More than one phase/project?		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Comments:			

**Types(s) and total quantity of ACM removed/to be removed\* as reported by the abatement contractor:**

Pipe Insulation*:	Fireproofing:	Spray-on:
Ceiling Tile:	Boiler Insulation:	VAT:
Transite:	<b>Other (describe):</b> <ul style="list-style-type: none"> <li>Rodent Feces – 1,592.25 ft<sup>2</sup></li> <li>Miscellaneous Material = 20 ft<sup>2</sup></li> <li>Surfacing Material = 2,982 ft<sup>2</sup></li> </ul>	

\*Pipe insulation is reported in lineal feet, all other materials including ductwork are reported in square footage regardless of the thickness of the ACM. If reporting in 55-gallon drums, note square footage or linear footage area to be removed.

**List of ALL abatement workers in containment today:**

#	NAME	SSN OR REC. #	AHERA / STATE / PHYSICAL / FIT TEST
1	SEE ATTACHED		/ / /
<b>COMMENTS:</b>			

**Note: Responses to the Description of Citation is indicated by the anticipation of the day, with the default as X = OK / Vio. / N/A. Should the response differ, cross-out will appear and appropriate response indicated.**

**PART I – SECTION A - OUTSIDE WORK AREA(S) – CERTIFICATION AND PERMIT/NOTIFICATION REQUIREMENTS, ETC.**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
16	II.A.2	All training certs./documents on site - with <b>photo IDs</b> ?	X		
26	II.J	Project Manager - credentials ok (certified as PD, completed AMS training, HS diploma, 1 yr. Experience, independent)?			X
29	III.B.1.a & III.B.4	On-site supervisor state certified?	X		
29	III.B.1.b & III.B.4	All workers on site trained/certified?	X		
30	III.B.5	Air Monitoring Spec. trained and certified? Note - this requirement may apply during pre-and active abatement phases, e.g. monitoring NAM exhaust inside a building or checking for the "MAAL".	X		
30	III.B.6	Project Manager required (>1,000 LF/>3000SF of friable) Note: Not required in schools.			X
30	III.C.1	Project Design required (>1,000 LF/>3000SF in P&C) (>3 LF/>3SF in Schools)	X		
31	III.C.4	Project Design on the site and signed?	X		
31	III.E.1	No false, inaccurate, or misleading information?	X		
33	III.F	If a variance has been granted for any work practice(s); <b>are the conditions of this variance being followed?</b>			X
34	III.G	Permit Valid (i.e. start/stop dates)?	X		
35	III.G.4	ORIGINAL permit posted at work site?	X		
36	III.G.8	Permit signed by Project Manager?			X

**COMMENTS ON PART I – SECTION A:**


**PART I – SECTION B – OUTSIDE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
37	III.J.1.a	Negative Air Machines (NAMs) operating continuously?	X		
37 & 52	III.J.1.d & III.U.1.b.i	NAMs monitored if exhausted inside the building?			X
37	III.J.3	-0.02" H <sub>2</sub> O or better on Manometer?	X		
37	III.J.3	Continuous printout on Manometer?	X		
37	III.J.4	Smoke tubes present?	X		
37	III.J.4	Air flow - outside to inside ok?	X		
38	III.K.1	All chambers separated by airlocks?	X		
38	III.K.1	Decon Unit - 3 stages?	X		
38	III.K.1	Self-closing flaps/doors? (Z flaps are preferable, but not required)	X		
38	III.K.1.a	Clean room - adequately sized?	X		
38	III.K.1.b	Shower - hot and cold water at the tap?	X		
38	III.K.1.b	Shower – leakage anywhere but the supply connection?	X		
38	III.K.1.b	Shower - wastewater filtered to 5 microns or less, sanitary sewer discharge?	X		
38	III.K.1.b	Shower and Clean room - ACM debris present?	X		
39	III.K.2	Entry and exit procedures ok?	X		
41	III.N.2	View port present (at minimum 12"x12")?	X		
41	III.N.3	Waste load out separate from Decon?	X		
41	III.N.3	Waste load out - 2 stages?	X		

**COMMENTS ON PART I – SECTION B: MANOMETER PRINTER NOT WORKING. TO BE REPLACED 06/05/18**

**PART II – INSIDE THE WORK AREA(S)**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
36	III.I	Critical barriers - 1 layer 6 mil?	X		
36	III.J.1.b	Air cleaning equipment - HEPA filters properly installed, equipment operating, maintained adequately, etc.?	X		
37	III.J.2	Adequate equipment in place to ensure 4 air changes per hour?	X		
38	III.K.1.c	6 mil disposal bag present in Dirty Room?	X		
39	III.K.2.b	Disposable clothing worn by workers?	X		
39	III.L	Pre-cleaning - criticals and decon, HEPA vacs, wet cleaning, proper disposal?	X		
39	III.L.1	Movable objects cleaned before removal from the work area?	X		
39	III.M	Fixed objects - 1 layer 6 mil?	X		
40	III.N.1.a	Floors - 2 separate layers 6 mil?	X		
40	III.N.1.a, b, & c	No seams present (wall/floor, wall/ceiling, 12" overlap)?	X		
40	III.N.1.b	Walls - 2 separate layers 4 mil?	X		
40	III.N.1.c	Ceilings - 1 layer 4 mil?	X		
41	III.O.1.a.i.(A)	Amended water being used (surfactants) before ACM is removed?	X		
41	III.O.1.a.i.(A)	Are the surfactants a commercial product designed specifically for ACM removal?	X		
41	III.O.1.a.i.(A)	Material adequately wet and/or kept wet until bagged for disposal?	X		
42	III.O.1.a.i.(B)	Airless sprayers used for applying amended water or encapsulant?	X		
42	III.O.1.a.iii	All contaminated surfaces wet-wiped prior to disassembly of containment barriers?	X		

**COMMENTS ON PART II:**

**PART III – SECTION A –SPECIAL PROJECTS, RESILIENT FLOOR TILE**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
31	III.E.1	Notice posted at the worksite?			X
46	III.R.	Waste handled as nonfriable waste?			X
114	Appendix B	Appendix B, Amended water being used?			X
114	Appendix B	Appendix B, Hand tools only?			X
48	III.S.1	Appendix B, Proper handling and packaging of tiles/adhesives?			X
48	III.S.1	Voluntarily using splashguards, critical, negative air, and decon?			X
48	III.S.1.c	Is the material being rendered friable?			X

**COMMENTS ON PART III, SECTION A:**

**PART III – SECTION B –SPECIAL PROJECTS, SHEET VINYL FLOORING**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
34	III.E.1	Notice/Permit posted at the worksite?			X
46	III.R.	Waste handled as friable waste?			X
48	III.S.1.c	Is the material being rendered friable?			X
48	III.S.1.d.	Worker(s)/Supervisor(s) trained according to Appendix C?			X
48	III.S.2	Appendix B, Amended water being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Hand tools only being used by only App. C trained workers?			X
48	III.S.2	Appendix B, Proper handling and packaging of sheet flooring being used by only App. C trained workers?			X
107	Appendix B	Appendix B, Proper wetting at the delaminating nip point being used by only App. C trained workers?			X
48	III.S.2	Voluntarily using splashguards, critical, negative air, and decon?			X

**COMMENTS ON PART III, SECTION B:**


**PART III – SECTION C –SPECIAL PROJECTS, NONFRIABLE ACM**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
49	III.S.4.a.	ACM adequately wet?			X
49	III.S.4.b.	Hand removal methods being used?			X
49	III.S.4.c.	Minimal breakage and disturbance?			X
49	III.S.4.d.	Material properly disposed of as nonfriable waste?			X

**COMMENTS ON PART III, SECTION C:**


**PART IV – SPECIAL REMOVAL METHODS, GLOVEBAGS AND FACILITY COMPONENT REMOVAL**

PAGE #	CITATION	DESCRIPTION OF CITATION	OK	Vio.	N/A
53	III.V.1	Glove bags - proper usage (useable without causing fiber release)?			X
53	III.V.1.a	Glove bags - properly sealed to the area, no bottom seam?			X
53	III.V.1.b	Glove bags - pipes cooler than 150°F?			X
53	III.V.1.c	Glove bags used only once?			X
53	III.V.1.d.i	Glove bags - secondary containment(s) in place if removal > 3LF/SF?			X
54	III.V.1.d.ii	Glove bags - smoke tested prior to use?			X
54	III.V.1.d.iv	Glove bags - material in bags adequately wet?			X
54	III.V.1.d.vi	Glove bags - "rough" edges encapsulated?			X
54	III.V.1.d.vii	Glove bags - evacuated with HEPA vac prior to removing the bag?			X
54	III.V.2	Facility component removal - w/o containment, material well adhered to surface?			X
54	III.V.2.a	Facility component removal - adequately wet and wrapped in 6 mil poly prior to removal from the work area?			X

**COMMENTS ON PART IV:**












**CERTIFICATION OF VISUAL INSPECTION(S)**

Building	Work Area/Containment	Material(s)	Quantity(ies)	Full/Mini/ Regulated Area
Tumbleson	#31/#4	SEE SPACE	SEE SPACE	Full

**Asbestos Abatement Contractor Certification**

In accordance with local, state, federal regulations, and the Asbestos Abatement Summary of Work, the Asbestos Abatement Contractor hereby certifies that he or she has visually inspected the Work Area (all surfaces including pipes, beams, ledges, walls, ceiling and floor, Decontamination Unit(s), sheet plastic, etc.) and has found no dust, debris or residue.

Asbestos Abatement Contractor Signature	Date/Time	Certification No.	Printed Name	Title	Pass	Fail
<i>[Signature]</i>	06/12/18	16523	Felipe Hoer	SUP	✓	

**Air Monitoring Specialist/Asbestos Project Manager Certification**

The Air Monitoring Specialist/Asbestos Project Manager hereby certifies that he or she has accompanied the Asbestos Abatement Contractor on this visual inspection and verifies that these visual inspection(s), as indicated, have been thorough where visible/accessible, and to the best of his or her knowledge and belief, the Asbestos Abatement Contractor's Certification above, as indicated and where applicable, is a true and honest one.

Air Monitoring Specialist/Asbestos Project Manager Signature	Date/Time	Certification No.	Printed Name	Title	Pass	Fail
<i>[Signature]</i>	06/12/18 0800	2610	B. J. Cwik	AMI	✓	

**Comments:**

**Designer/Project Administrator Certification**

The Designer/Project Administrator hereby certifies that he or she has reviewed the Asbestos Abatement Contractor, Air Monitoring Specialist/Asbestos Project Manager Certification on completion of this final visual inspection and believes that this final visual inspection has been thorough where visible/accessible, and to the best of his or her knowledge and belief, the Asbestos Abatement Contractor's and Air Monitoring Specialist's/Asbestos Project Manager's Certification's above are true and honest ones.

Designer Signature	Date/Time	Certification No.	Printed Name	Title
Project Administrator Signature	Date/Time	Certification No.	Printed Name	Title



# HERRON™ Enterprises USA, Inc.

Hazardous Materials\* Mold\* Asbestos\* Lead Paint  
Environmental Services\* Industrial Hygienists

Phone (303) 763 9639

Fax (303) 763 9686

E-Mail Lennie.Herron@comcast.net

Website www.HERRON-Enterprises.com

7261 W. Hampden Ave., Lakewood, Colorado 80227-5303

<b>PROJECT/LOCATION:</b> <i>Trumblyson House Boulder County</i>		DATE:	<i>06/12/18</i>
<b>QUALITY CONTROL REPORT</b>		REPORT NO:	<i>0421178 .18</i>
<b>POST PROJECT CHECKLIST</b>			
	<b>Yes</b>	<b>No</b>	<b>N/A</b>
Proof of all asbestos waste disposed of properly?	✓		
Total cubic yards removed from site? <i>40 yds</i>	✓		
All critical barriers removed and surfaces cleaned?	✓		
All submittals current to date?	✓		
Additional asbestos work required? List:		✓	
Note all damages from abatement activities: <b>Location and Description:</b>			✓



**HERRON**™ Enterprises USA, Inc.

Hazardous Materials\* Mold\* Asbestos\* Lead Paint  
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E-Mail [Lennie.Herron@comcast.net](mailto:Lennie.Herron@comcast.net)

7261 W. Hampden Ave., Lakewood, Colorado 80227

Website [HERRON-Enterprises.com](http://HERRON-Enterprises.com)

---

## HERRON™ SUBMITTALS



Colorado Department  
of Public Health  
and Environment

## ASBESTOS CONSULTING FIRM

This certifies that

**Herron Enterprises USA, Inc.**

**Registration No.: ACF - 14976**

has met the registration requirements of 25-7-507, C.R.S. and the Air Quality Control Commission Regulation No. 8, Part B, and is hereby authorized to perform asbestos consulting activities as required under Regulation No 8, Part B, in the state of Colorado.

Issued: January 22, 2018

Expires: January 30, 2019

Authorized APCD Representative

SEAL

THE  
**ENVIRONMENTAL**  
Training Center

and  
Steven Herron & Associates  
CERTIFY THAT

Christy Herron

has successfully completed the

**THE NIOSH 582 EQUIVALENT COURSE  
SAMPLING & EVALUATING AIRBORNE ASBESTOS DUST**

Course Date 11/3-11/6/92  
No. of Hours 32  
Exam Date 11/6/92  
Certificate No. D110692-02

*Steven D. Herron*

C.I.H.

*Lester Allin*

Authorized Signature

**ETC**  
Environmental Training  
& Consulting  
2761 West Oxford Avenue #7  
Englewood, Colorado 80110  
303 781-0422

CERTIFIES THAT

**DESTINY HERRON**  
has successfully completed  
**THE NIOSH 582 EQUIVALENT COURSE  
SAMPLING & EVALUATING AIRBORNE ASBESTOS DUST**

Course Date: 07/22/16  
Exam Date: 07/22/16  
Certificate No.: DO072216 - 06



*William Bealy*  
Authorized Signature



# Front Range Community College

This is to certify that  
**BILLIE J. HERRON**

has been trained in  
CDPH&E REQUIREMENTS FOR  
AIR MONITORING SPECIALIST/NIOSH 582E

Presented

This 22nd day of October, 1996

*Kim Lewis*  
Authorized Signature

*Bill Oberst*  
Instructor

Presented by FRCC and HWS Consulting

# ACCLAIM ENVIRONMENTAL

S E R V I C E S I N G

7959 Ulster Court, Thornton, Colorado 80602  
Tel: 303.424.4647  
Fax: 303.432.8669

CERTIFIES THAT

**BILLIE HERRON-LUSK**

Has successfully completed the

## AIR MONITORING SPECIALIST – REFRESHER COURSE

This course is approved by the Colorado Department of Public Health and Environment in accordance with the AQCC requirements of Colorado Regulation No. 8.

Course Date: 07/19/17  
Exam Date: N/A  
Certificate No.: AE17-027-AMS-R-02  
Expiration Date: 07/19/18

  
K. Jay Gale, President





Colorado Department  
of Public Health  
and Environment

## ASBESTOS CERTIFICATION\*

This certifies that

**Billie J. Herron-Lusk**

**Certification No.: 2650**

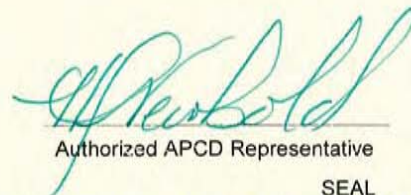
has met the requirements of 25-7-507, C.R.S. and Air Quality Control  
Commission Regulation No. 8, Part B, and is hereby certified by the  
state of Colorado in the following discipline:

**Air Monitoring Specialist\***

**Issued: October 26, 2017**

**Expires: November 06, 2018**

*\* This certificate is valid only with the possession of a  
current Division-approved training course certification  
in the discipline specified above.*

  
Authorized APCD Representative  
SEAL



CHC Training  
 Nationwide Training & Certification Experts  
 www.trainingchc.com  
 303.412.6360  
 (855) 60.CERTIFY

1775 West 55th Avenue  
 Denver, CO 80221,  
 United States of America

# CERTIFICATE OF ACHIEVEMENT

This certificate is awarded to:

**BILLIE LUSK**

In recognition of satisfactory completion of the EPA-approved annual asbestos refresher training course under section 206 of the Toxic Substance Control Act (TSCA), Title II entitled:

**BUILDING INSPECTOR / MANAGEMENT PLANNER**

COURSE DATE: MAY 9, 2018  
 EXPIRATION DATE: MAY 9, 2019  
 COURSE HOURS: 8.0

Verify Credential



*Danayya N. Benedetto*  
 Co-Founder & CEO  
 Training Program Manager

Credential License ID: 11527530



*Frank Hulse*  
 Instructor

CHC Training Certificate No.  
 R18-0927-AIMP-CO

Visit our Website





Colorado Department  
of Public Health  
and Environment

## ASBESTOS CERTIFICATION\*

This certifies that

**Billie J. Herron-Lusk**

**Certification No.: 2650**

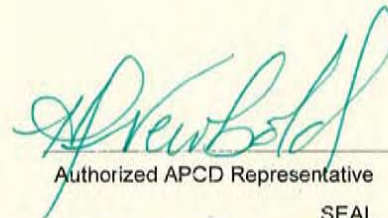
has met the requirements of 25-7-507, C.R.S. and Air Quality Control  
Commission Regulation No. 8, Part B, and is hereby certified by the  
state of Colorado in the following discipline:

**Inspector/Management Planner\***

**Issued: October 26, 2017**

**Expires: October 29, 2018**

*\* This certificate is valid only with the possession of a  
current Division-approved training course certification  
in the discipline specified above.*

  
Authorized APCD Representative  
SEAL



1775 West 55<sup>th</sup> Avenue  
 Denver, CO 80221  
 303.410.4941  
 trainingchc.com



*Certificate of Completion*

*presented to*

Billie Herron-Lusk

2650

*in recognition of satisfactory completion of an EPA Approved Asbestos Hazard Emergency Response Act refresher course of instruction under Section 206 of the Toxic Substance Control Act (TSCA) and Colorado Regulation No. 8 entitled*

**AHERA Project Designer Training**

Course Date    September 21, 2017  
 Certificate No.    R17-1677-APD-CO  
 No. of Hours    8  
 Expiration Date    September 21, 2018

Certification not valid without watermark

Mike Benedetto - Instructor

Danaya Benedetto- Training Program Manager



Colorado Department  
of Public Health  
and Environment

## ASBESTOS CERTIFICATION\*

This certifies that

**Billie J. Herron-Lusk**

**Certification No.: 2650**

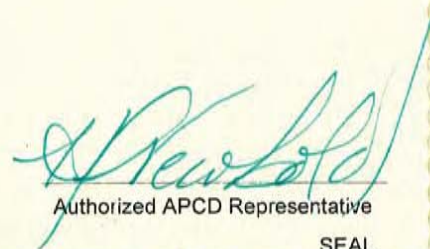
has met the requirements of 25-7-507, C.R.S. and Air Quality Control  
Commission Regulation No. 8, Part B, and is hereby certified by the  
state of Colorado in the following discipline:

**Project Designer\***

**Issued: October 26, 2017**

**Expires: November 27, 2018**

*\* This certificate is valid only with the possession of a  
current Division-approved training course certification  
in the discipline specified above.*

  
Authorized APCD Representative  
SEAL



Reservoirs Environmental, Inc.  
Reservoirs Environmental QA Manual

November 22, 2016

**Laboratory Code:** RES  
**Subcontract Number:** NA  
**Laboratory Report:** RES 365748-2  
**Project # / PO #:** P.O. #1644  
**Project Description:** Tumbleson House @ Hall Ranch

Boulder County Parks  
5201 St. Vrain Rd.  
Longmont CO 80503

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the American Industrial Hygiene Association, Lab ID 101533 - Accreditation Certificate #480. The laboratory is currently proficient in both IHPAT & ELPAT programs respectively.

Reservoirs has analyzed the following sample(s) using Atomic Absorption Spectroscopy (AAS) / Atomic Emission Spectroscopy - Mass Spectrometry (ICP-MS) per your request. Reported sample results were not blank corrected. The analysis has been completed in general accordance with the appropriate methodology as stated in the analysis table. Results have been sent to your office.

**RES 365748-2** is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those authorized by the client. The results described in this report only apply to the samples analyzed. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you should have any questions about this report, please feel free to call me at 303-964-1986.

Sincerely,

A handwritten signature in blue ink that reads "Jeanne Spencer". The signature is written in a cursive, flowing style.

Jeanne Spencer  
President

# RESERVOIRS ENVIRONMENTAL, INC.

5801 Logan St., Suite 100  
Denver CO 80216

## TABLE ANALYSIS: LEAD IN PAINT

RES Job Number: **RES 365748-2**  
Client: **Boulder County Parks**  
Client Project Number / P.O.: **P.O. #1644**  
Client Project Description: **Tumbleson House @ Hall Ranch**  
Date Samples Received: **November 18, 2016**  
Analysis Type: **USEPA SW846 3050B / AA (7420)**  
Turnaround: **3-5 Day**  
Date Samples Analyzed: **November 22, 2016**

Client ID Number	Lab ID Number	Reporting Limit (%)	LEAD CONCENTRATION (%)
TM-BE-2	EM 1751360	0.0032	0.031
T-EX-1	EM 1751364	0.0031	0.0050
T-EX-2	EM 1751365	0.0033	0.068
T-EX-3	EM 1751366	0.0021	0.0034

\* Unless otherwise noted all quality control samples performed within specifications established by the laboratory.

  
Renee A. Cortez

Analyst / Data QA: \_\_\_\_\_

1-PLUM  
2-STEM

RES 365748

**REILAB Reservoirs Environmental, Inc.**  
5801 Logan St. Denver, CO 80216 • Ph. 303 964-1986 • Fax 303-477-4275 • Toll Free 866 RES-ENV  
Pager: 303-509-2098

Due Date: 11/23-11/28  
Due Time: 3:25

**INVOICE TO: (IF DIFFERENT)**

Company: Boulder County Parks  
Address: 5801 St Vrain Rd  
Longmont, 80501  
Project Number and/or P.O.#: P.O.# 1644  
Project Description/Location: Turnbleson House @ HALL RANCH

**CONTACT INFORMATION:**  
Contact: Michael Long  
Phone: 970.481.1349  
Fax:  
Cell/pager:  
Final Data Deliverable Email Address: m10hr@bouldercounty.org

**ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm**  
PLM / PCM / TEM \_\_\_ RUSH (Same Day) \_\_\_ PRIORITY (Next Day)  STANDARD  
(Rush PCM = 2hr, TEM = 6hr.)

**CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm**  
Metal(s) / Dust \_\_\_ RUSH \_\_\_ 24 hr.  3-5 Day  
RCRA 8 / Metals & Welding \_\_\_ RUSH \_\_\_ 5 day \_\_\_ 10 day  
Fume Scan / TCLP \_\_\_ 24 hr. \_\_\_ 3 day \_\_\_ 5 Day  
Organics

**MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm**  
E.coli O157:H7, Coliforms, S.aureus \_\_\_ 24 hr. \_\_\_ 2 Day \_\_\_ 3-5 Day  
Salmonella, Listeria, E.coli, APC, Y & M \_\_\_ 48 Hr. \_\_\_ 3-5 Day  
Mold \_\_\_ RUSH \_\_\_ 24 Hr \_\_\_ 48 Hr \_\_\_ 3 Day \_\_\_ 5 Day

**\*\*Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.\*\***

**Special Instructions:**

**Client sample ID number** (Sample ID's must be unique)

1	TM-LR-1	Plaster
2	" "	" "
3	" "	" "
4	" "	" "
5	" "	" "
6	" "	Hardened Putty
7	TM-B1-1	Plaster
8	TM-BE-1	" "
9	" "	Paint
10	TD1	(18) Electrical wire

Number of samples received: \_\_\_\_\_  
NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

REQUESTED ANALYSIS		VALID MATRIX CODES		LAB NOTES:	
PLM - Short report, Long report, Point Count	TEM - AHERA Level II, 7402, ISO, +/- Quant, Semi-quant, Micro-vac, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	Air = A	Bulk = B	
DUST - Total, Respirable	METALS - Analyte(s)	RCRA 8, TCLP, Welding Fume, Metals Scan	Dust = D	Paint = P	
ORGANICS - METH	Salmonella +/-	E.coli O157:H7 +/-	Soil = S	Wipe = W	
Microbiology	Listeria +/-	Aerobic Plate Count +/- or Quantification	Swab = SW	F = Food	
SAMPLER'S INITIALS OR OTHER NOTES	Coliforms +/- or Quantification	Staph aureus +/- or Quantification	Drinking Water = DW	Waste Water = WW	
Y & M: +/- or Quantification	Mold +/-, Identification, Quantification		O = Other	**ASTM E1792 approved wipe media only**	
Sample Volume	Matrix Code	Date Collected mm/dd/yy	Time Collected hr:mm:ap	EM Number (Laboratory Use Only)	
X				MS1352	
X				34	
X				5	
X				6	
X				7	
X				8	
X				9	
X				00	

**Reinquisitioned By:** \_\_\_\_\_ Date/Time: \_\_\_\_\_  
**Laboratory Use Only** Received By: SMITH Date/Time: 11/18/10 3:25 Carrier: HAND  
Results: Contact: \_\_\_\_\_ Phone Email Fax: \_\_\_\_\_ Initials: \_\_\_\_\_  
Contact: \_\_\_\_\_ Phone Email Fax: \_\_\_\_\_ Initials: \_\_\_\_\_  
Date: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Time: \_\_\_\_\_  
Sealed: \_\_\_\_\_ Yes / No: \_\_\_\_\_  
Intact: \_\_\_\_\_ Yes / No: \_\_\_\_\_



Due Date: \_\_\_\_\_  
Due Time: \_\_\_\_\_



3605748  
Job # Tumbleson  
Page 2 of 2

5801 Logan St, Denver, CO 80216 • Ph: 303 964-1986 • Fax 303-477-4275 • Toll Free 866 RESI-ENV  
Pager: 303-509-2098

**INVOICE TO: (IF DIFFERENT)**

Company: Boulder County Parks      Company: Michael Lehr  
Address: 5301 St. Vrain Rd      Address: 970-481-1349  
Project Number and/or P.O. #: # 1644      Final Data Deliverable Email Address: micn@bouldercounty.org  
Project Description/Location: Tumbleson House @ Hall

**CONTACT INFORMATION:**

**ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm**  
PLM / PCM / TEM    RUSH (Same Day)    PRIORITY (Next Day)    STANDARD  
(Rush PCM = 2hr, TEM = 6hr.)

**CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm**  
Metal(s) / Dust    RUSH    24 hr.    3-5 Day  
RCRA 8 / Metals & Welding    RUSH    5 day    10 day  
Fume Scan / TCLP    RUSH    24 Hr.    48 Hr.    3-5 Day  
Organics    24 hr.    3 day    5 Day

**MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm**  
E.coli O157:H7, Coliforms, S.aureus    24 hr.    2 Day    3-5 Day  
Salmonella, Listeria, E.coli, APC, Y & M    48 Hr.    3-5 Day  
Mold    RUSH    24 Hr.    48 Hr.    3 Day    5 Day

**\*\*Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.\*\***

**Special Instructions:**  
Client sample ID number (Sample ID's must be unique)  
1 T-CS1    Wire-Electrical  
2 " " 2    "  
3 T-EX 1    PAINT  
4 "    "  
5 "    "  
6 TU-BI-1    Window Glazing  
7 " " 2    Lenoleum  
8 " " 2    Mastic

Client sample ID number	PLM - Short report, Long report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/- Quant, Semi-quant, Micro-vac, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analyte(s) RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - METH	Salmonella +/-	E.coli O157:H7 +/-	Listeria +/-	Aerobic Plate Count +/- or Quantification	Coliforms +/- or Quantification	S.aureus +/- or Quantification	Y & M +/- or Quantification	Mold +/-, Identification, Quantification	SAMPLER'S INITIALS OR OTHER NOTES	VALID MATRIX CODES	LAB NOTES:	EM Number (Laboratory Use Only)
1	X															Air = A    Bulk = B Dust = D    Paint = P Soil = S    Wipe = W Swab = SW    F = Food Drinking Water = DW    Waste Water = WW O = Other **ASTM E1792 approved wipe media only**		1751362
2	X																	3
3																		4
4																		5
5																		6
6	X																	7
7																		8
8																		9
9																		
10																		

Number of samples received: \_\_\_\_\_  
NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

**Relinquished By:**  
Laboratory Use Only  
Received By: \_\_\_\_\_  
Results: Contact \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_ Phone Email Fax \_\_\_\_\_  
Carrier: \_\_\_\_\_  
Date/Time: \_\_\_\_\_  
Sample Condition: On Ice \_\_\_\_\_ Sealed \_\_\_\_\_ Intact \_\_\_\_\_  
Temp. (F°) \_\_\_\_\_ Yes / No \_\_\_\_\_ Yes / No \_\_\_\_\_  
Date \_\_\_\_\_ Time \_\_\_\_\_ Phone Email Fax \_\_\_\_\_  
Date \_\_\_\_\_ Time \_\_\_\_\_ Phone Email Fax \_\_\_\_\_



April 19, 2017

**Laboratory Code:** RES  
**Subcontract Number:** NA  
**Laboratory Report:** RES 377221-2  
**Project # / PO #:** PO# 1644  
**Project Description:** Hall Ranch Tumpleson

Michael Lohr  
Boulder County Parks  
5201 St. Vrain Rd.  
Longmont CO 80503

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the American Industrial Hygiene Association, Lab ID 101533 - Accreditation Certificate #480. The laboratory is currently proficient in both IHPAT & ELPAT programs respectively.

Reservoirs has analyzed the following sample(s) using Atomic Absorption Spectroscopy (AAS) / Atomic Emission Spectroscopy - Mass Spectrometry (ICP-MS) per your request. Reported sample results were not blank corrected. The analysis has been completed in general accordance with the appropriate methodology as stated in the analysis table. Results have been sent to your office.

**RES 377221-2** is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those authorized by the client. The results described in this report only apply to the samples analyzed. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you should have any questions about this report, please feel free to call me at 303-964-1986.

Sincerely,

A handwritten signature in blue ink that reads "Jeanne Spencer".

Jeanne Spencer  
President

# RESERVOIRS ENVIRONMENTAL, INC.

5801 Logan St., Suite 100  
Denver CO 80216

## TABLE ANALYSIS: LEAD IN PAINT

RES Job Number: RES 377221-2  
Client: Boulder County Parks  
Client Project Number / P.O.: PO# 1644  
Client Project Description: Hall Ranch Tumpleson  
Date Samples Received: April 19, 2017  
Analysis Type: USEPA SW846 3050B / AA (7420)  
Turnaround: 6 Hour  
Date Samples Analyzed: April 19, 2017

Client ID Number	Lab ID Number	Reporting Limit (%)	LEAD CONCENTRATION (%)
T-EX-S-PAINT-1	EM 1842695	0.0026	0.037
T-EX-S-PAINT-2	EM 1842696	0.0030	BRL

\* Unless otherwise noted all quality control samples performed within specifications established by the laboratory.

Analyst / Data QA:   
Renee A. Cortez

BRL = Below Reporting Limit

Due Date: 4/19/17  
 Due Time: 11:45 AM  
 Po: 3asp

RES 377221

**REILAB Reservoirs Environmental, Inc.**

5801 Logan St. Denver, CO 80216 • Ph: 303 964-1986 • Fax 303-477-4275 • Toll Free 866 RES-ENV  
 Pager: 303-609-2098

Page 1 of 4  
 Plm-17 Pb-2

**INVOICE TO: (IF DIFFERENT)**

**CONTACT INFORMATION:**

Company: Boulder County Parks and Open Space  
 Address: 5201 St Vrain Rd.  
 Longmont CO, 80503  
 Project Number and/or P.O. #: P.O.# 1644  
 Project Description/Location: HALL RANCH TUMPLESON

Contact: Michael Lohr  
 Phone: 970-481-1349  
 Fax:  
 Cell/pager:  
 Final Data Deliverable Email Address: mlshr@bouldercounty.org  
 Please C.C. lohnr.mike@gmail.com

**ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm**

PLM / PCM / TEM  RUSH (Same Day)  PRIORITY (Next Day)  STANDARD  
 (Rush PCM = 2hr, TEM = 6hr.)

**CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm**

Metal(s) / Dust  RUSH  24 hr.  3-5 Day  
 RCRA 8 / Metals & Welding  RUSH  5 day  10 day  
 Fume Scan / TCLP  RUSH  5 day  10 day  
 Organics  24 hr.  3 day  5 Day  
 \*\*Prior notification is required for RUSH turnarounds.\*\*

**MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm**

E.coli O157:H7, Coliforms, S.aureus  24 hr.  2 Day  3-5 Day  
 Salmonella, Listeria, E.coli, APC, Y & M  48 Hr.  3-5 Day  
 Mold  RUSH  24 Hr.  48 Hr.  3 Day  5 Day

\*\*Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.\*\*

Special Instructions: Point Count TR% Samples

Client sample ID number (Sample ID's must be unique)

- 1 T-EX-R1
- 2
- 3
- 4
- 5
- 6
- 7
- 8 T-EX-GR1
- 9
- 10

Number of samples received: 39

(Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

**REQUESTED ANALYSIS**

PLM - Short report, Long report, Point Count	<input checked="" type="checkbox"/>
TEM - AHERA, Level II, 7402, ISO, +/-, Quant	
Semi-quant, Micro-vec, ISO-Indirect Preps	
PM - 7400A, 7400B, OSHA	
DUST - Total, Respirable	
MEALS - Analyte(s)	
RCRA 8, TCLP, Welding Fume, Metals Scan	
ORGANICS - METH	
Salmonella +/-	
LiSteria +/-	
Aerobic Plate Count +/- or Quantification	
Coliforms +/- or Quantification	
S.aureus +/- or Quantification	
Y & M +/- or Quantification	
Mold +/-, Identification, Quantification	

**VALID MATRIX CODES**

Air = A	Bulk = B
Dust = D	Paint = P
Soil = S	Wipe = W
Swab = SW	F = Food
Drinking Water = DW	Waste Water = WW
O = Other	

\*\*ASTM E1792 approved wipe media only\*\*

**LAB NOTES:**

EM Number (Laboratory Use Only)	1817650
---------------------------------	---------

Relinquished By: [Signature]  
 Laboratory Use Only  
 Received By: [Signature]  
 R results: Contact [Signature] Phone Email Fax [Signature] Date [Signature]  
 Contact [Signature] Phone Email Fax [Signature] Date [Signature]

Sample Condition: On Ice  Sealed  Intact   
 Temp. (F°)  Yes / No  Yes / No

377221  
Job # TUMBLESON 5  
Page 2 of 4

Due Date: \_\_\_\_\_  
Due Time: \_\_\_\_\_

**REILAB Reservoirs Environmental, Inc.**  
5901 Logan St. Denver, CO 80216 • Ph: 303.964.1886 • Fax 303.477.4275 • Toll Free 866.RES-ENV  
Pager: 303.609.2098

INVOICE TO: (IF DIFFERENT)

Company: **Boulder County Parks and Open Space**  
Address: **5201 St Vrain Rd.  
Longmont CO, 80503**  
Project Number and/or P.O.#: **P.O.# 1644**  
Project Description/Location: **HALL RANCH TUMBLESON**

Company: **Michael Lohr**  
Address: **970-481-1349**  
Phone: **970-481-1349**  
Fax: \_\_\_\_\_  
Cell/pager: \_\_\_\_\_  
Final Data Deliverable Email Address: **mlohr@bouldercounty.org**

CONTACT INFORMATION:

**ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm**  
PLM / PCM / TEM  RUSH (Same Day) \_\_\_ PRIORITY (Next Day) \_\_\_ STANDARD  
(Rush PCM = 2hr, TEM = 6hr.)

**CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm**  
Metal(s) / Dust \_\_\_ RUSH \_\_\_ 24 hr. \_\_\_ 3-5 Day  
RCRA 8 / Metals & Welding \_\_\_ RUSH \_\_\_ 5 day \_\_\_ 10 day  
Fume Scan / TCLP \_\_\_ RUSH \_\_\_ 24 hr. \_\_\_ 3 day \_\_\_ 5 Day  
Organics \_\_\_ 24 hr. \_\_\_ 3 day \_\_\_ 5 Day

**MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm**  
E.coli O157:H7, Coliforms, S.aureus \_\_\_ 24 hr. \_\_\_ 2 Day \_\_\_ 3-5 Day  
Salmonella, Listeria, E.coli, APC, Y & M \_\_\_ 48 Hr. \_\_\_ 3-5 Day  
Mold \_\_\_ RUSH \_\_\_ 24 Hr. \_\_\_ 48 Hr. \_\_\_ 3 Day \_\_\_ 5 Day

\*\*Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.\*\*

Special Instructions: **Paint Count TR% Samples**  
Client sample ID number (Sample ID's must be unique)

1	T-WG-N1
2	↓
3	↓
4	↓
5	T-WG-E1
6	↓
7	↓
8	↓
9	T-M-k-w1
10	w2

PLM - Short report, Long report, Point Count	TEM - AHERA Level II, 7402 ISO, +/- Quant	Semi-quant, Micro-vac, ISO-Indirect Preps	PCM - 7400A, 7400B OSHA	DUST - Total, Respirable	METALS - Analyte(s)	RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - METH	Salmonella +/-	E. coli O157:H7 +/-	Listeria +/-	Aerobic Plate Count +/- or Quantification	Coliforms +/- or Quantification	S aureus +/- or Quantification	Y & M +/- or Quantification	Mold +/-, Identification, Quantification	SAMPLER'S INITIALS OR OTHER NOTES	VALID MATRIX CODES	LAB NOTES:
<input checked="" type="checkbox"/>																	Air = A Bulk = B Dust = D Paint = P Soil = S Wipe = W Swab = SW F = Food Drinking Water = DW Waste Water = WWW O = Other **ASTM E1792 approved wipe media only**	EM Number (Laboratory Use Only) 1812228 7-25-10

Number of samples received: \_\_\_\_\_ (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days. Failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Reinquished By: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Carrier: \_\_\_\_\_

Received By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Results:	Contact	Phone	Email	Fax	Date	Time	Initials	Contact	Phone	Email	Fax	Date	Time	Initials
	Contact	Phone	Email	Fax	Date	Time	Initials	Contact	Phone	Email	Fax	Date	Time	Initials

Sample Condition: On Ice Sealed Intact  
Temp. (F°) Yes / No Yes / No Yes / No

37221  
Tumbleson 5  
Page 3 of 4

Due Date: \_\_\_\_\_  
Due Time: \_\_\_\_\_

Job # \_\_\_\_\_  
Page \_\_\_\_\_ of \_\_\_\_\_

**REILAB Reservoirs Environmental, Inc.**  
5801 Logan St. Denver, CO 80216 • Ph: 303 964-1986 • Fax 303-477-4275 • Toll Free 866 RES-ENV  
Pager: 303-509-2098

**INVOICE TO: (IF DIFFERENT)**

Company: **Boulder County Parks and Open Space**  
Address: **5201 St Vrain Rd.  
Longmont CO, 80503**

Project Number and/or P.O. #: **P.O.# 1644**

Project Description/Location: **HALL RANCH TUMBLESON**

Contact: **Michael Lohr**  
Phone: **970-481-1349**  
Fax: \_\_\_\_\_  
Cell/pager: \_\_\_\_\_

Final Data Deliverable Email Address: **mlohr@bouldercounty.org**

**ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm**  
PLM / PCM / TEM  RUSH (Same Day) \_\_\_ PRIORITY (Next Day) \_\_\_ STANDARD  
(Rush PCM = 2hr, TEM = 6hr.)

**CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm**  
Metal(s) / Dust \_\_\_ RUSH \_\_\_ 24 hr. \_\_\_ 3-5 Day  
RCRA 8 / Metals & Welding \_\_\_ RUSH \_\_\_ 5 day \_\_\_ 10 day  
Fume Scan / TCLP \_\_\_ RUSH \_\_\_ 5 day \_\_\_ 10 day  
Organics \_\_\_ 24 hr. \_\_\_ 3 day \_\_\_ 5 Day

**MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm**  
E.coli O157:H7, Coliforms, S.aureus \_\_\_ 24 hr. \_\_\_ 2 Day \_\_\_ 3-5 Day  
Salmonella, Listeria, E.coli, APC, Y & M \_\_\_ 48 Hr. \_\_\_ 3-5 Day  
Mold \_\_\_ RUSH \_\_\_ 24 Hr. \_\_\_ 48 Hr. \_\_\_ 3 Day \_\_\_ 5 Day

\*\*Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.\*\*

Special Instructions: **Point Count IR% Samples**  
Client sample ID number (Sample ID's must be unique)

1	T-EX-N1
2	N2
3	T-EX-S1
4	↓ S2
5	↓ S3
6	T-WG-S1
7	S2
8	S3
9	S4
10	S5

Number of samples received: \_\_\_\_\_ (Additional samples shall be listed on attached long form.)  
NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Client sample ID number	Sample Condition:	On Ice	Sealed	Intact
	Temp. (F°)	Yes / No	Yes / No	Yes / No
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

Carrier: \_\_\_\_\_  
Date/Time: \_\_\_\_\_  
Date/Time: \_\_\_\_\_

Received By: \_\_\_\_\_  
Laboratory Use Only

Results: Contact Phone Email Fax Date Time Initials  
Contact Phone Email Fax Date Time Initials

37721  
Tumbleson's

Due Date: \_\_\_\_\_  
Due Time: \_\_\_\_\_

Job # \_\_\_\_\_  
Page 4 of 4

**REILAB Reservoirs Environmental, Inc.**  
5801 Logan St, Denver, CO 80216 • Ph. 303.964.1986 • Fax 303.477.4275 • Toll Free 866.RESHENV  
Pager : 303-509-2098

INVOICE TO: (IF DIFFERENT)

CONTACT INFORMATION:

Company: **Boulder County Parks and Open Space**      Contact: **Michael Lohr**  
Address: **5201 St Vrain Rd.**      Phone: **970-481-1349**  
**Longmont CO, 80503**      Fax: \_\_\_\_\_  
Project Number and/or P.O. #: **P.O.# 1644**      Cell/pager: \_\_\_\_\_  
Project Description/Location: **HALL RANCH TUMBLESON**      Final Data Deliverable Email Address: **mlhr@bouldercounty.org**

Client sample ID number (Sample ID's must be unique)	REQUESTED ANALYSIS		VALID MATRIX CODES		LAB NOTES:								
	PLM - Short report, Long report, Point Count	TEM - AHERA Level II, 7402 ISO +/- Quant, Semi-quant, Micro-vec, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable		METALS - Analyte(s)	MICROBIOLOGY	ORGANICS - METH	SAMPLERS INITIALS OR OTHER NOTES	Sample Volume (L / Area)	Matrix Code	Date Collected mmm/dd/yy	Time Collected hh:mm:ss
1	X												
2	X												
3	X												
4	X												
5	X												
6	X												
7	X												
8	X												
9	X												
10	X												

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm  
 PLM / PCM / TEM  RUSH (Same Day) \_\_\_ PRIORITY (Next Day) \_\_\_ STANDARD (Rush PCM = 2hr, TEM = 6hr.)  
 CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm  
 Metals / Dust \_\_\_ RUSH \_\_\_ 24 hr.  3-5 Day  
 RCRA 8 / Metals & Welding \_\_\_ RUSH \_\_\_ 5 day \_\_\_ 10 day  
 Fume Scan / TCLP \_\_\_ RUSH \_\_\_ 5 day \_\_\_ 10 day  
 Organics \_\_\_ 24 hr. \_\_\_ 3 day \_\_\_ 5 Day  
 MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm  
 E.coli O157:H7, Coliforms, S.aureus \_\_\_ 24 hr. \_\_\_ 2 Day \_\_\_ 3-5 Day  
 Salmonella, Listeria, E.coli, APC, Y & M \_\_\_ 48 Hr. \_\_\_ 3-5 Day  
 Mold \_\_\_ RUSH \_\_\_ 24 Hr. \_\_\_ 48 Hr. \_\_\_ 3 Day \_\_\_ 5 Day  
 \*\*Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.\*\*  
 Special Instructions: \_\_\_\_\_  
 Client sample ID number (Sample ID's must be unique)  
 1 T-FOUND 1  
 2 " " 2  
 3 " " 3  
 4 T-U-B2-DUST  
 5 T-U-B2-1  
 6 T-U-B1-FI 2  
 7 T-EX-5-PAINT 1  
 8 " " PAINT 2  
 9  
 10

Number of samples received: \_\_\_\_\_ (Additional samples shall be listed on attached long form.)  
 NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By:	Date/Time:	Carrier:
Laboratory Use Only	Date/Time:	Contact
Received By:	Phone Email Fax	Phone Email Fax
Results:	Phone Email Fax	Phone Email Fax
	Date	Date
	Time	Time
	Initials	Initials
	Contact	Contact
	Phone Email Fax	Phone Email Fax
	Date	Date
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Tumbleson House - south elevation



Tumbleson House – southwest elevation



Attachment F: Photos



Tumbleson House – northwest elevation



Tumbleson House – interior south elevation. Front door center of photo

Attachment F: Photos



Tumbleson House – interior southwest elevation. Front door at left of photo



Tumbleson House – interior southwest elevation detail



Tumbleson House – interior east wall elevation



Tumbleson House – interior east wall elevation detail

Attachment F: Photos



Tumbleson House – interior northeast elevation



Tumbleson House – interior rear addition looking west

Attachment F: Photos



Tumbleson House – interior rear addition looking east



Tumbleson House – interior southwest elevation detail

## ATTACHMENT G – SAMPLE CONTRACT

THIS CONTRACT ("Contract") is entered into by and between the Board of County Commissioners on behalf of the County of Boulder, State of Colorado, a body corporate and politic, for the benefit of the Parks and Open Space Department ("County") and **[Supplier]** ("Contractor"). County and Contractor are each a "Party," and collectively the "Parties."

In consideration of the mutual covenants contained in this Contract, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

1. Incorporation into Contract: The **Details Summary** is incorporated into this Contract. The **Contract Documents** are incorporated into this Contract by reference, except to the extent that the Proposal, if any is incorporated, contains any obligations placed upon County and not otherwise contained in this Contract.
2. Work to be Performed: Contractor will provide all labor and equipment and do all tasks necessary and incidental to performing the work as described in the **Details Summary** and **Contract Documents** (the "Work"). Contractor will perform the Work (a) in a good and workmanlike manner, (b) at its own cost and expense, (c) in accordance with recognized industry standards of care, skill and diligence for the type of work being performed, and (d) in strict accordance with the Contract. **Work shall not commence until the County has provided a NOTICE TO PROCEED to Contractor, which shall set forth the date that Contractor may begin the Work.**
3. Term of Contract: The **Contract Term** begins on the **Start Date** and expires on the Expiration Date. Notwithstanding, Work shall not commence until the County has provided a NOTICE TO PROCEED to Contractor, which shall set forth the date that Contractor may begin the Work. As specified in BID# XXXX-XX, Contractor shall have XXX calendar days to complete the Work, unless this Contract is terminated earlier or the County grants Contractor a written extension in accordance with paragraph 6 or 7. In no event shall Work be performed outside the **Contract Term**.
4. Payment for Work Performed: In consideration of the Work performed by Contractor, and subject to conditions contained in this Contract, County will pay an amount not to exceed the **Contract Amount** to Contractor in accordance with the **Contract Documents**.
5. Invoicing: Contractor will promptly provide a copy of its Form W-9 and invoice template to County upon request. Contractor must submit an invoice to the County by the fifteenth (15th) day of the month following completion of the Work. All invoices submitted require the following components: Contractor's name and address (submitted W-9 address must match remit address), detailed description of services, dates of services, itemization of labor and materials costs, "Bill to: Boulder County" language, payment remittance address, payer, name and address, date of invoice, unique invoice number, and total amount due. Contractor must send all completed invoices to the **Invoice Contact** in the **Details Summary**. Email delivery is preferred by the County; County may require delivery of invoices by email. Failure to submit invoices in a timely manner and in accordance with the terms of this Contract may cause a delay in payment. County may recoup any damages incurred because of Contractor's failure to submit invoices pursuant to the terms of this paragraph. County's acceptance or payment of an invoice will not constitute acceptance of any Work performed under this Contract.

6. Extra Time to Complete the Work: If Contractor cannot complete the Work by the **Expiration Date**, Contractor may request extra time to complete the Work. County, in its sole discretion, may grant Contractor additional time to complete the Work and, if so, will provide Contractor with written notice of the amount of extra time granted. County granting extra time to complete the Work will not entitle Contractor to additional compensation from County. This Contract will remain in full force and effect during any time period that Contractor is permitted to finish completing the Work.

7. Extension of Contract Term (Additional Work): Upon mutual agreement of the Parties, this Contract may be extended until the **Final End Date**. During any extended **Contract Term**, the terms of this Contract will remain in full force and effect, unless otherwise amended in writing by the Parties. Where the Contractor will provide additional services for additional compensation beyond the initial **Contract Amount**, the Parties must execute a written amendment before the then-current **Expiration Date**. If necessary, the written amendment will incorporate an updated Scope of Work and updated Fee Schedule as exhibits. Contractor must provide a current Certificate of Insurance to the County that complies with the **Insurance Requirements** of this Contract, if any, prior to any extended **Contract Term**.

8. Schedule of Work: County may designate the hours (on a daily or weekly basis) during which Contractor can perform the Work, strictly for the purposes of minimizing inconvenience to the County and interference with County operations. Contractor will otherwise set its own work schedule.

9. Indemnity: Contractor will be liable for any damages to persons or property caused by or arising out of the actions, obligations, or omissions of Contractor, its employees, agents, representatives or other persons acting under Contractor's direction or control in performing or failing to perform the Work under this Contract. Contractor will indemnify and hold harmless County, its elected officials and appointed department heads, and its employees, agents and representatives (the "indemnified parties"), from any and all liability, claims, demands, actions, damages, losses, judgments, costs or expenses, including attorneys' fees, which may be made or brought or which may result against any of the indemnified parties as a result or on account of the actions or omissions of Contractor, its employees, agents or representatives, or other persons acting under Contractor's direction or control. This indemnification obligation will extend to claims based on Contractor's unauthorized use or disclosure of confidential information and intellectual property infringement. County will not be obligated to indemnify or defend Contractor under any circumstances. Contractor's obligations under this provision shall survive expiration or termination of this Contract. Nothing contained in this Contract or the **Contract Documents** is intended to limit or restrict the indemnification rights or obligations of any Party under this provision, or damages available for breaches of the obligations herein.

10. Nondiscrimination: Contractor will comply with the letter and spirit of the Colorado Anti-Discrimination Act, C.R.S. § 24-34-401, et seq., as amended, and all applicable local, State and Federal laws concerning discrimination and unfair employment practices. County prohibits unlawful discrimination on the basis of race, color, religion, gender, gender identity, national origin, age 40 and over, disability, socio-economic status, sexual orientation, genetic information, or any other status protected by applicable Federal, State or local law. Contractor must require that its subcontractors, if any, similarly comply with all applicable laws concerning discrimination and unfair employment practices.

11. Information and Reports: Contractor will provide to authorized County, State, and Federal government representatives all information and reports that may be required for any purpose

authorized by law. Contractor will permit access to such representatives to Contractor's facilities, books, records, accounts, and any other relevant sources of information. Where information required by a representative is in the exclusive possession of a person or entity other than Contractor, Contractor must so certify to the County and explain what efforts it has made to obtain the information.

12. Independent Contractor: Contractor is an independent contractor for all purposes in performing the Work. Contractor is not an employee of the County for any purpose, including the Federal Insurance Contribution Act, the Social Security Act, the Federal Unemployment Tax Act, the provisions of the Internal Revenue Code, the Colorado Workers' Compensation Act, the Colorado Unemployment Insurance Act, and the Public Employees Retirement Association. Accordingly, County will not withhold or pay any income tax, payroll tax, or retirement contribution of any kind on behalf of Contractor or Contractor's employees. As an independent contractor, Contractor is responsible for employing and directing such personnel and agents as it requires to perform the Work. Contractor will exercise complete authority over its personnel and agents and will be fully responsible for their actions.

13. Termination for Non-Appropriation: The other provisions of this Contract notwithstanding, the County is prohibited by law from making commitments beyond the current fiscal year. Payment to Contractor beyond the current fiscal year is contingent on the appropriation and continuing availability of funding in any subsequent year. County has reason to believe that sufficient funds will be available for the full **Contract Term**. Where, however, funds are not allocated for any fiscal period beyond the current fiscal year, County may terminate this Contract without penalty by providing seven (7) days' written notice to Contractor.

14. Termination for Breach: Either Party's failure to perform any of its material obligations under this Contract, in whole or in part or in a timely or satisfactory manner, will be a breach. The institution of proceedings under any bankruptcy, insolvency, reorganization or similar law, by or against Contractor, or the appointment of a receiver or similar officer for Contractor or any of its property, which is not vacated or fully stayed within thirty (30) days after the institution of such proceeding, will also constitute a breach. In the event of a breach, the non-breaching Party may provide written notice of the breach to the other Party. If the notified Party does not cure the breach, at its sole expense, within thirty (30) days after delivery of notice, the non-breaching Party may exercise any of its remedies provided under this Contract or at law, including immediate termination of this Contract.

15. Termination for Convenience: County may terminate this Contract, in whole or in part, for any reason, upon seven (7) days' advance written notice to Contractor.

16. Remedies for Non-Performance: If Contractor fails to perform any of its obligations under this Contract, County may, at its sole discretion, exercise one or more of the following remedies, which shall survive expiration or termination of this Contract:

a. Suspend Performance: County may require that Contractor suspend performance of all or any portion of the Work pending necessary corrective action specified by the County and without entitling Contractor to an increase in compensation or extension of the performance schedule. Contractor must promptly stop performance and incurring costs upon delivery of a notice of suspension by the County.

b. Withhold Payment Pending Corrections: County may permit Contractor to correct any rejected Work at the County's discretion. Upon County's request, Contractor must correct



rejected work at Contractor's sole expense within the time frame established by the County. Upon completion of the corrections satisfactory to the County, County will remit payment to Contractor.

c. Deny Payment: County may deny payment for any Work that does not comply with the requirements of the Contract or that Contractor otherwise fails to provide or complete, as determined by the County in its sole discretion. Upon County request, Contractor will promptly refund any amounts prepaid by the County with respect to such non-compliant Work.

d. Removal: Upon County's request, Contractor will remove any of its employees or agents from performance of the Work, if County, in its sole discretion, deems any such person to be incompetent, careless, unsuitable, or otherwise unacceptable.

17. Binding Arbitration Prohibited: County does not agree to binding arbitration by any extra-judicial body or person.

18. Conflicts of Interest: Contractor must not engage in any business or personal activities or practices or maintain any relationships that conflict in any way with the full performance of Contractor's obligations.

19. Notices: All notices provided under this Contract must be in writing and sent by Certified U.S. Mail (Return Receipt Requested), electronic mail, or hand-delivery to the other Party's **Contact** at the address specified in the **Details Summary**. For certified mailings, notice periods will begin to run on the day after the postmarked date of mailing. For electronic mail or hand-delivery, notice periods will begin to run on the date of delivery.

20. Statutory Requirements: This Contract is subject to all statutory requirements that are or may become applicable to counties or political subdivisions of the State of Colorado generally, including but not limited to: C.R.S. § 38-26-107, which requires withholding funds where the County receives a claim for payment from a supplier or subcontractor of Contractor upon notice of final settlement (required for public works contracts that exceed \$150,000); C.R.S. § 8-17-101 et seq.; C.R.S. § 18-8-301, et seq.; and C.R.S. § 18-8-401, et seq.

21. Public Contracts for Services (C.R.S. §§ 8-17.5-101, et seq.): Contractor hereby certifies, warrants, and agrees that it does not knowingly employ or contract with an illegal alien who will perform work under this Contract and further certifies that it will confirm the employment eligibility of all employees who are newly hired for employment to perform work under this Contract by participating in the E-Verify Program established under Pub. L. 104-28 or the department verification program established under C.R.S. § 8-17.5-102(5)(c). Contractor (i) shall not knowingly employ or contract with an illegal alien to perform work under this Contract; (ii) shall not enter into a contract with a subcontractor that fails to certify to the contractor that the subcontractor shall not knowingly employ or contract with an illegal alien to perform work under this Contract; (iii) has confirmed the employment eligibility of all employees who are newly hired for employment to perform work under this Contract through participation in the E-Verify program or department program; (iv) is prohibited from using either the E-Verify program or department program procedures to undertake preemployment screening of job applicants while this Contract is being performed; and (v) shall comply with any reasonable request by the department made in the course of an investigation that the Colorado Department of Labor and Employment is undertaking pursuant to the authority established in C.R.S. § 8-17.5-102(5). If Contractor obtains actual knowledge that a subcontractor performing work under this Contract knowingly employs or contracts with an illegal alien, Contractor shall (a) notify the subcontractor and County within three (3) days that Contractor has actual knowledge that subcontractor is employing or contracting

with an illegal alien; and (b) terminate the subcontract if, within three (3) days of receiving notice hereunder, subcontractor does not stop employing or contracting with the illegal alien; except that Contractor shall not terminate the contract with the subcontractor if during such three (3) days the subcontractor provides information to establish that the subcontractor has not knowingly employed or contracted with an illegal alien. Contractor's violation of this provision will constitute a material breach of this Contract, entitling the County to terminate the contract for breach. If this Contract is so terminated, Contractor shall be liable for actual and consequential damages to the County.

22. Entire Agreement/Binding Effect/Amendments: This Contract represents the complete agreement between the Parties and is fully binding upon them and their successors, heirs, and assigns, if any. This Contract terminates any prior agreements, whether written or oral in whole or in part, between the Parties relating to the Work. This Contract may be amended only by a written agreement signed by both Parties.

23. Assignment/Subcontractors: This Contract may not be assigned or subcontracted by Contractor without the prior written consent of the County. If Contractor subcontracts any of its obligations under this Contract, Contractor will remain liable to the County for those obligations and will also be responsible for subcontractor's performance under, and compliance with, this Contract.

24. Governing Law/Venue: The laws of the State of Colorado govern the construction, interpretation, performance, and enforcement of this Contract. Any claim relating to this Contract or breach thereof may only be brought exclusively in the Courts of the 20<sup>th</sup> Judicial District of the State of Colorado and the applicable Colorado Appellate Courts.

25. Breach: The failure of either Party to exercise any of its rights under this Contract will not be deemed to be a waiver of such rights or a waiver of any breach of the Contract. All remedies available to a Party in this Contract are cumulative and in addition to every other remedy provided by law.

26. Severability: If any provision of this Contract becomes inoperable for any reason but the fundamental terms and conditions continue to be legal and enforceable, then the remainder of the Contract will continue to be operative and binding on the Parties.

27. Third-Party Beneficiary: Enforcement of the terms and conditions and all rights and obligations of this Contract are reserved to the Parties. Any other person receiving services or benefits under this Contract is an incidental beneficiary only and has no rights under this Contract. Notwithstanding, where the beneficiary **Department** is led by an Elected Official, such Elected Official shall be considered a third-party beneficiary.

28. Colorado Open Records Act: County may disclose any records that are subject to public release under the Colorado Open Records Act, C.R.S. § 24-72-101, et seq.

29. Conflict of Provisions: If there is any conflict between the terms of the main body of this Contract and the terms of any of the **Contract Documents**, the terms of the main body of the Contract will control.

30. Governmental Immunity: Nothing in this Contract shall be construed in any way to be a waiver of the County's immunity protection under the Colorado Governmental Immunity Act, C.R.S. § 24-10-101, et seq., as amended.

31. Representations and Warranties: Contractor represents and warrants the following:
- a. Execution of this Contract and performance thereof is within Contractor's duly authorized powers;
  - b. The individual executing this Contract is authorized to do so by Contractor;
  - c. Contractor is authorized to do business in the State of Colorado and is properly licensed by all necessary governmental and public and quasi-public authorities having jurisdiction over the Work and the Contractor; and
  - d. Contractor and its subcontractors, if any, are financially solvent, able to pay all debts as they mature, and have sufficient working capital to complete the Work and perform all obligations under the Contract.
32. Legal Compliance: Contractor assumes full responsibility for obtaining and maintaining any permits and licenses required to perform the Work. Contractor's performance under this Contract and the Work itself will comply with all Federal, State, and local laws, regulations, ordinances and codes.
33. Litigation Reporting: Contractor is not currently involved in any action before a court or other administrative decision-making body that could affect Contractor's ability to perform the Work. Contractor will promptly notify the County if Contractor is served with a pleading or other document in connection with any such action.
34. Tax Exemption: County is exempt from payment of Federal, State, and local government taxes. Contractor shall collect no tax from the County, and the County shall not be liable to pay any taxes imposed on Contractor. County shall provide its tax exemption status information to Contractor upon request.
35. Delegation of Authority: The Parties acknowledge that the Board of County Commissioners has delegated authority to the Department Head or Elected Official that leads the beneficiary **Department** and their designees to act on behalf of the County under the terms of this Contract, including but not limited to the authority to terminate this Contract.
36. Ownership of Work Product: All work product, property, data, documentation, information or materials conceived, discovered, developed or created by Contractor pursuant to this Contract ("Work Product") will be owned exclusively by the County. To the extent possible, any Work Product will be deemed to be a work made for hire. Contractor unconditionally and irrevocably transfers and assigns to the County all right, title and interest in and to any Work Product.
37. Publicity Releases: Contractor will not refer to this Contract or the County in commercial advertising without prior written consent of the County. This provision shall survive expiration or termination of this Contract.
38. Execution by Counterparts; Electronic Signatures: This Contract may be executed in multiple counterparts, each of which will be deemed an original, but all of which will constitute one agreement. The Parties approve the use of electronic signatures, governed by the Uniform Electronic Transactions Act, C.R.S. §§ 24 71.3 101 to 121. The Parties will not deny the legal effect or enforceability of this Contract solely because it is in electronic form or because an electronic record was used in its creation. The Parties will not object to the admissibility of this Contract in the form of electronic record, or paper copy of an electronic document, or paper copy of a document bearing an electronic signature, because it is not in its original form or is not an original.

39. Limitation on Public Statements and Lobbying Activity: During the term of this Contract, Contractor may receive from the County its confidential data, work product, or other privileged or confidential information that is protected by law. To maintain the fact and appearance of absolute objectivity, Contractor shall not, without the prior written consent of the County, which shall not be unreasonably withheld, do any of the following: (a) disclose information obtained because of this contractual relationship to any third party; (b) lobby any State or Federal agency on any pending matter while this Contract is effective; or (c) make any public statements or appear at any time to give testimony at any public meeting on the subject matters regarding which Contractor is or was retained by the County. County may set reasonable conditions on any disclosure authorized by the County under this provision. Notwithstanding, Contractor may make disclosures as required by law, and to law enforcement officials in connection with any criminal justice investigation.

40. Sustainability: All construction, deconstruction, remodel, and office move projects are required to follow construction waste procedure modeled off of Boulder County BuildSmart Code, International Green Construction Code (IGCC), International Energy Conservation Code (IECC), and Leadership in Energy and Environmental Design (LEED) certification, as an effort to achieve maximum jobsite waste diversion, energy efficiency, and water conservation. All 'demolition projects' are to follow deconstruction procedures. Instead of demolition project materials being crushed and primarily sent to the landfill, these projects should be systematically dismantled, typically in the opposite order they were constructed, in order to maximize the salvage of materials. Any hazardous materials encountered should follow state and federal standards, and contractor shall leverage the Boulder County Hazardous Materials Management facility for hazardous materials. The development of a project diversion plan is encouraged to include material types and volume/weight estimations as well as planned destinations. Projects must track all jobsite waste.

41. Limitation of Liability: COUNTY SHALL NOT BE LIABLE TO CONTRACTOR FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL, PUNITIVE, OR INDIRECT DAMAGES ARISING FROM OR RELATING TO THIS CONTRACT, REGARDLESS OF ANY NOTICE OF THE POSSIBILITY OF SUCH DAMAGES. COUNTY'S AGGREGATE LIABILITY, IF ANY, ARISING FROM OR RELATED TO THIS CONTRACT, WHETHER IN CONTRACT, OR IN TORT, OR OTHERWISE, IS LIMITED TO, AND SHALL NOT EXCEED, THE AMOUNTS PAID OR PAYABLE HEREUNDER BY COUNTY TO CONTRACTOR. ANY CONTRACTUAL LANGUAGE LIMITING CONTRACTOR'S LIABILITY SHALL BE VOID.

42. Insurance Requirements: Prior to commencing the Work, Contractor will provide a Certificate of Insurance to the County demonstrating adequate insurance coverage as required by this paragraph. All policies evidencing coverage required by the Contract will be issued by insurance companies satisfactory to the County. Contractor will forward Certificates of Insurance directly to the **County Department** and **Contact** listed in the **Details Summary**.

a. For the entire duration of this Contract including any extended or renewed terms, and longer as may be required by this Contract, Contractor shall procure and maintain at its own expense, and without cost to the County, the following kinds and minimum amounts of insurance to insure the liability risks that Contractor has assumed under this Contract:

i. **Commercial General Liability**

Coverage should be provided on an Occurrence form, ISO CG0001 or equivalent. The policy shall be endorsed to include Additional Insured Owners, Lessees or Contractors endorsements CG 2038 (or equivalent), Designated Construction Project(s) General Aggregate Endorsement CG2503 (or equivalent) and Additional Insured Completed Operations for Owners, Lessees or Contractors CG 2037 (or equivalent). Minimum limits required of \$1,000,000 Each Occurrence, \$2,000,000 General Aggregate and \$2,000,000 Products/Completed Operations Aggregate. The County requires the Products/Completed Operations coverage to be provided 3 years after completion of construction. An endorsement must be included with the certificate.

ii. **Automobile Liability**

Bodily Injury and Property Damage for any owned, hired, and non-owned vehicles used in the performance of the Contract. Minimum limits \$1,000,000 Each Accident.

iii. **Workers' Compensation and Employer's Liability**

Workers' Compensation must be maintained with the statutory limits. Employer's Liability is required for minimum limits of \$100,000 Each Accident/\$500,000 Disease-Policy Limit/\$100,000 Disease-Each Employee.

iv. **Pollution Liability**

Coverage pay for those sums the Contractor becomes legally obligated to pay as damages because of Bodily Injury, Property Damage or environmental Damage arising out of a pollution incident caused by the Contractor's work including Completed Operations. Coverage shall include emergency response expenses, pollution liability during transportation (if applicable) and at Non-Owned Waste Disposal Site (if applicable). The Minimum limits required are \$1,000,000 Per Occurrence/Loss and \$1,000,000 Policy Aggregate. If the coverage is written on a claims-made basis, the Contractor warrants that any retroactive date applicable to coverage under the policy precedes the effective date of this Contract; and that continuous coverage will be maintained or an extended discovery period will be exercised for a period of three (3) years beginning from the time that work under this contract is completed. County shall be named as an additional insured for ongoing operations and completed operations.

b. **Boulder County as Additional Insured:** Boulder County shall be named as an additional insured for General Liability, Umbrella/Excess Liability, and Pollution Liability, as designated in this Contract. Additional insured shall be endorsed to the policy.

**THE ADDITIONAL INSURED WORDING SHOULD BE AS FOLLOWS:** *County of Boulder, State of Colorado, a body corporate and politic, is named as Additional Insured.*

c. **Notice of Cancellation:** Each insurance policy required by this Contract shall provide the required coverage and shall not be suspended, voided or canceled except after thirty (30) days' prior written notice has been given to the County except when cancellation is for non-

payment of premium, then ten (10) days' prior notice may be given. If any insurance company refuses to provide the required notice, Contractor or its insurance broker shall notify the County any cancellation, suspension, or nonrenewal of any insurance policy within seven (7) days of receipt of insurers' notification to that effect.

d. Insurance Obligations of County: County is not required to maintain or procure any insurance coverage beyond the coverage maintained by the County in its standard course of business. Any insurance obligations placed on the County in any of the **Contract Documents** shall be null and void.

e. Deductible: Any and all deductibles contained in any insurance policy shall be assumed by and at the sole risk of Contractor.

f. Primacy of Coverage: Coverage required of Contractor and its subcontractors, if any, shall be primary over any insurance or self-insurance program carried by the County.

g. Subrogation Waiver: All insurance policies in any way related to this Contract secured or maintained by Contractor as required herein shall include clauses stating that each carrier shall waive all rights of recovery, under subrogation or otherwise, against County, its organizations, officers, agents, employees, and volunteers.

43. Payable Costs in the Event of Termination: As set forth herein, the County reserves the right to terminate this Contract at any time for either breach or convenience. In the event that the County terminates the Contract before its expiration, Contractor shall be entitled to receive payment only for Work satisfactory executed and actual costs incurred prior to delivery of the notice to terminate.

44. Survival After Termination: Upon expiration or termination of this Contract, the obligations which by their nature are intended to survive expiration or termination of this Contract, will survive, including but not limited to the re-seeding and/or re-vegetative obligations set forth in the Scope of Work.

45. Notice to Proceed: The Parties agree that time is of the essence and work shall after a "Notice to Proceed" has been issued by the County and in accordance with the terms therein.

46. Change Orders: If unforeseen modifications or changes are required, Contractor may submit a Change Order request to County, which must include a complete description, timeline, and fee schedule for the proposed work. Change Orders are not effective until approved by County in writing.

47. Permits/Licenses/Code Compliance: Prior to starting the Work, Contractor will identify and obtain, and maintain during this Contract, all permits and licenses necessary to perform the Work. Contractor agrees to hold all necessary license(s) which permits the performance of the services in this Contract. Contractor shall comply with all State and local codes. Contractor is responsible for locating all public utilities, as necessary. Contractor shall require its subcontractors to comply with this provision. HVAC, roofing, and general contractors must be licensed through Boulder County Land Use. Electricians and plumbers must be licensed through the State and registered with Boulder County Land Use Building Safety and Inspection Division. Architects, Professional Engineers and Professional Land Surveyors must be fully-licensed through the

State. All required permits and licenses must be provided to County prior to Contractor beginning the Work.

48. Stormwater Quality Protection Requirements: Contractor will take all measures necessary to prevent pollutants from entering storm drains and watercourses. To eliminate stormwater pollution, Contractor shall implement effective Best Management Practices (BMPs). BMPs include general good housekeeping practices, appropriate scheduling of activities, operational practices, maintenance procedures and other measures to prevent the discharge of pollutants directly or indirectly to the storm drain system. These BMPs shall be maintained for the duration of this Contract. Contractor shall also be responsible for proper disposal of all waste materials, including wastes generated by the implementation of BMPs. Contractor shall otherwise comply with the Federal Clean Water Act, Colorado Water Quality Control Act, and Boulder County's local Clean Water Act, Illegal Discharge Ordinance (No. 2012-4). For work performed in urbanized areas, Contractor must comply with the requirements of MS4 permit (COR090000), which is available through the Colorado Department of Public Health and Environment.

49. Guaranties and Warranties: Upon completion of the Work, Contractor will provide County with a written guaranty covering all labor, materials and workmanship incorporated into the Work for one year, in addition to any other warranties or guaranties as required by the specifications; the specifications may require warranties or guaranties that exceed one year. Final payment upon completion of the Work will not relieve Contractor of responsibility for faulty material or workmanship, which County may require Contractor to fix at Contractor's sole expense, in addition to County's other remedies.

50. Retainage: County may retain partial payment pending completion and County acceptance of the Work as satisfactory and complete. For contracts that exceed \$150,000, the retention rate shall not exceed five percent (5%). C.R.S. § 24-91-103. Contractor is responsible for submitting a final invoice for any retainage held by County.

51. Bonds: Upon County's request, Contractor shall obtain and deliver to County payment and performance bonds each equal to 100% of the total Contract. Bonds shall be executed by a qualified corporate surety and must be acceptable to County. County reserves the right to accept other acceptable forms of surety in lieu of a bond, and to reduce the bond requirements set forth herein consistent with C.R.S. § 38-26-106.

52. Notice of Final Settlement: Prior to remitting final payment to Contractor, County shall publish a Notice of Final Settlement in accordance with C.R.S. § 38-26-107. Final payment will be rendered in accordance with the statute and the other terms of this Contract. Final payment will not be rendered until County, in its sole discretion, determines satisfactory completion of the Work.

53. Determination of Unit Prices: County will determine the actual quantities and classifications of Unit Price Work performed by Contractor. The Parties will review the County's preliminary determinations before County renders a written decision thereon (by recommendation of an Application for Payment or otherwise), which shall be final and binding upon Contractor. The value of any Unit Price Work covered by a Change Order or claim for an increase or decrease in the Contract Amount shall be determined by applying the unit prices to the quantities of items.

a. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, the Parties agree that the Contract Amount includes the total cost of Unit Price Work,

determined by multiplying the quantity of each item by its unit price. Initial quantity determinations are estimates, which must be adjusted to reflect actual quantities. Contractor shall make a claim in writing to County for any additional amounts owed where actual quantities exceed estimated quantities. Contractor shall provide such written claim within thirty (30) days of providing the items and shall be accompanied by supporting documentation. The written claim shall include a statement that the claimed amount covers all known amounts (direct, indirect and consequential) to which Contractor is owed. County shall only pay Contractor for actual quantities of items provided hereunder.

b. The Parties agree that each unit price adequately covers Contractor's overhead and profit for each item.

SAMPLE



IN WITNESS WHEREOF, the Parties have executed and entered into this Contract as of the latter day and year indicated below.

<b>SIGNED for and on behalf of Boulder County</b>	<b>SIGNED for and on behalf of Contractor</b>
Signature:	Signature:
Name:	Name:
Title:	Title:
Date:	Date:
↓↓ <i>For Board-signed documents only</i> ↓↓	
Attest:	<i>Initials</i>
Attestor Name:	
Attestor Title:	