

ASBESTOS INVESTIGATION REPORT

Umpqua National Forest
2900 N. W. Stewart Parkway
P. O. Box 1008
Roseburg, OR 97470

COTTAGE GROVE R.S.

Conducted and Prepared by:

Environmental Enterprise Group, Inc.
1305 East Main
Russellville, AR 72801

November 30, 1992

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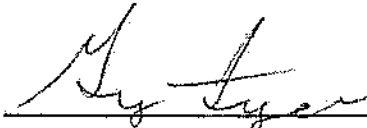
- Appendix A - Certification of Inspector
- Appendix B - Additional Photographs

1.0 EXECUTIVE SUMMARY

This report is made for the building inspection of the Cottage Grove area of the Umpqua National Forest. The inspection included the location of asbestos-containing building materials (ACBM); the condition assessment of ACBM; sample analysis reports of all bulk samples; and photographs and drawings detailing locations of homogeneous materials containing asbestos.

The field inspection was performed by Greg Frazee, a certified inspector under the EPA approved certification program (certificates provided in Appendix A). Suspect materials were identified and samples were collected for laboratory analysis. EEG, Inc. makes no statement concerning any material below ground or buried in concrete. Representative sampling was performed as per EPA recommended procedures in 40 CFR Part 763.86. Due to the random sampling requirements and information made available to the inspector, the inspection assumes the material to be homogeneous throughout when the material's appearance, installation date and installer are identical (e.g., floor tile adhesive is normally sampled in one location for homogeneous tile).

The following report is a summary of the inspection and assessment results and is hereby submitted to Umpqua National Forest.



Greg Frazee
Inspector #02

11/30/92
Date

2.0 INTRODUCTION

The purpose of this investigation was to identify, locate, sample and assess the condition of accessible material found at the Cottage Grove Area that were suspected of containing more than one percent (1%) asbestos. The investigation took place at the request of the Umpqua National Forest, and was conducted on October 19, 1992.

Asbestos is a naturally occurring fibrous mineral that has many beneficial properties. It is resistant to acids and heat, and does not conduct electricity or heat well. It is because of these features that it was widely used in buildings constructed prior to 1975.

Asbestos was used in over 3,000 types of construction materials. The following paragraphs describe building materials observed at this site that commonly contain asbestos and therefore were considered suspect asbestos-containing materials (ACM).

2.1 COMMON SUSPECT ASBESTOS-CONTAINING MATERIALS

1) Surfacing Materials

The most common type of suspect surfacing materials are spray-applied materials used for fireproofing and insulation. Insulating materials are generally fluffy, but can also be cementitious. Both types of materials are made of a mineral wool base, with tiny glass beads mixed in. They may also contain a binding material and up to 95 percent asbestos. Asbestos can also be found in plasters where a binding material was required in the underlying "brown coat" layer or in the finish coat when a smooth finish was desired.

The friability of these materials on building surfaces (walls, ceilings, wide flange beams or other structural members) is determined by touch. If the material can be reduced to powder by hand or other mechanical pressure, it is considered friable.

2) Miscellaneous Materials

Ceiling Tile

Approximately two (2%) percent of all ceiling tile manufactured before 1975 contain asbestos. The tiles are usually friable, even if they are in good condition, because they can be crushed by hand pressure.

Floor Tile and Floor Tile Mastic

Due to the excellent durability of asbestos, it was commonly used as a component of floor tile. In this application, the asbestos is tightly bound to the vinyl substrate of the tile. Under normal wear, floor tile is not considered friable. Floor tile mastic also commonly contains asbestos, however, it is usually encapsulated by the floor tile.

3) Loose Fill Attic Insulation

Some loose fill insulations may contain asbestos fibers. The majority of loose fill insulation is fibrous glass or rock wool.

2.2 ASSESSMENT FACTORS

As suspected ACM are identified, they are classified as either friable or non-friable. Friable materials are more hazardous than non-friable materials, because they are more likely to release fibers into the air. In assessing the fiber release potential, the current condition of all ACM was noted.

Evidence of deterioration, physical damage or water damage, in addition to the potential for future disturbance, damage or erosion of the ACM due to air disturbance, high vibration or contact, was also noted.

EEG, Inc. uses the following assessment factors to evaluate the material:

Priority 1

The material is significantly or moderately damaged, and the potential for continued disturbance of the material is high or the chance of continued disturbance is moderate, but the air flow around the material is high.

Priority 2

The material shows little damage, has a moderate potential for future or continuing damage, and is in an area with little air flow.

Priority 3

The material show little or no damage, has a low potential for continued disturbance, and is in an area with little or no air flow.

2.3 REGULATORY STANDARDS

Airborne levels of asbestos fibers are regulated by the Occupational Safety and Health Administration (OSHA) and the United State Environmental Protection Agency (USEPA). These governmental agencies have promulgated standards for permissible airborne concentrations of asbestos fibers and specific requirements of repair and abatement. The laws are designed to protect the worker (OSHA) school building occupants (USEPA) and the general environment (USEPA).

OSHA has had an asbestos standard since 1971, primarily directed toward industrial applications (29 CFR 1910.1001). In response to the growing asbestos abatement industry and the additional concern regarding asbestos exposure, a standard for the construction industry 39 CFR 1926.58) became effective on July 21, 1986. These standards specifically outline asbestos removal procedures, respirator selection and fit testing, air sampling, the analysis of asbestos air samples and employee protection from exposure to airborne asbestos fibers.

The standards include a time-weighted average (TWA) permissible exposure limit (PEL) of 0.2 fibers per cubic centimeter of air (f/cc), and eight-hour TWA action level of 0.1 f/cc. Concentration above these levels require specific employer-initiated activities such as instituting a respiratory protection program and medical surveillance for exposed employees.

The USEPA has also published a "visible emissions" standard under the National Standard for Hazardous Air Pollutants (NESHAPS, 40 CFR 61.140). This standard also regulates specific procedures for land disposal of ACM.

2.4 HEALTH EFFECTS

Asbestos causes asbestosis, lung cancer and mesothelioma.

The onset of asbestosis has been linked to the concentration of the asbestos dust, the type of asbestos fiber in the dust, and the length of exposure. It is a progressive disease that may develop fully 20 to 30 years after the first exposure. It is characterized by scarring of the lungs, and will significantly decrease the ability of the lungs to exchange air.

Mesothelioma, or cancer of the lining of the lung or chest cavity, may occur without evidence of asbestosis. Mesothelioma may occur after a short, intensive exposure to asbestos fibers.

According to the Department of Labor, information is insufficient at this time to set an exposure standard (other than zero) that could assure the prevention of mesothelioma in all workers, since the disease may occur following a very limited exposure 10 to 15 years earlier. People exposed to industrial concentration of asbestos are at risk five times greater than the general public of developing lung cancer.

Cigarette smoking is strongly implicated as a "co-carcinogen" among asbestos workers. Calculations suggest that cigarette-smoking asbestos workers have approximately eight times the risk of developing lung cancer compared with other smokers.

2.5 INVESTIGATION PROCEDURES (GENERAL)

The site was inspected for the presence of material that may contain asbestos. These materials were then described and categorized in a homogeneous area (HA).

A homogeneous area (HA) consists of all observed material found in various locations in a building that are identical in color, appearance, texture and date of installation.

ACM are divided into three main types: Surfacing Materials, Thermal System Insulation and Miscellaneous Materials. A minimum number of samples must be taken from each HA, depending on the category that the HA falls into and the amount of material present.

2.6 CHOOSING SAMPLE LOCATIONS

Thermal system insulation and miscellaneous materials were collected in a randomly distributed manner sufficient to determine whether the material was ACM or not ACM. Bulk samples were not collected from any homogeneous area where the inspector determined that the thermal system insulation was fiberglass, foam glass, rubber or other non-ACM.

2.7 SAMPLING METHODS

The bulk samples were obtained with a stainless steel coring tool or knife designed to make clean cores into friable material to avoid creating excessive dust. The area was pre-wetted to reduce fiber generation during the sampling process. The coring tool or knife was utilized, rather than scratching a sample from the surface of suspected materials, in an effort to obtain a sample that was representative of all layers of the material.

Samples of materials such as ceiling tile, wallboard, floor tile, etc., are generally obtained with a utility knife. Frequently, a small, broken piece of these materials can be found and used as a sample.

2.8 BULK SAMPLE ANALYSIS

All bulk samples were analyzed at EEG's laboratory by polarized light microscopy utilizing dispersion staining. This type of analysis requires the microscopist to take a portion of the bulk sample and treat it with an oil of specific refractive index. This prepared slide is then subjected to a variety of tests while being viewed under varying polarizations of light.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. According to OSHA and EPA regulations, any material that contains more than one percent (1%) of any type of asbestos is considered an ACM.

3.0 GENERAL RECOMMENDATIONS

- 1) Retain a qualified industrial hygiene consultant, such as EEG, Inc., to prepare detailed project specifications for any scheduled asbestos removal activity.
- 2) Retain a qualified professional asbestos abatement contractor to remove all necessary ACM in all areas to be renovated. Any damaged insulation should either be repaired or removed by the abatement contractor. Any delaminated asbestos debris should also be cleaned up and properly disposed of by the contractor.
- 3) Retain a qualified industrial hygiene consultant, such as EEG, Inc., to provide air monitoring and project specification enforcement during removal activities.
- 4) An Operations & Maintenance (O&M) Program should be developed and implemented until all of the identified ACM is removed. The purpose of the O&M Program is to avoid ACM disturbance or damage and to establish procedures to accomplish this goal. The O&M Program should include employee awareness, visual inspections and procedures for notifying contractors who may find it necessary to work near ACM. The ACM should be inspected and reassessed periodically (EEG, Inc. suggests every six months) to ensure that the material does not become damaged or start to deteriorate. When necessary, damaged material should be repaired or removed by a licensed and qualified asbestos abatement contractor before maintenance or renovation activities disturb the ACM. An O&M Program is a prudent alternative to ACM removal if ACM removal is not financially feasible or if further ACM is discovered and is in good condition. An excellent reference on this subject is EPA publication #560/5-85-024, obtained free by calling the EPA's Office of Toxic Substance at (212) 554-1404.

4.0 BUILDING LIST

* ACM-DETECTED - NO ACM DETECTED

<u>Location</u>	<u>Building</u>	<u>Year Built</u>	<u>Sq. Ft.</u>
- Cottage Grove	Warehouse	1976	4830 sq. ft.
* Cottage Grove	Office	1976	9890 sq. ft.
- Cottage Grove	Tree Cooler	1976	1134 sq. ft.
- Cottage Grove	Gas House	1978	200 sq. ft.

INDIVIDUAL BUILDING RESULTS

Cottage Grove - Office

Asbestos Detected

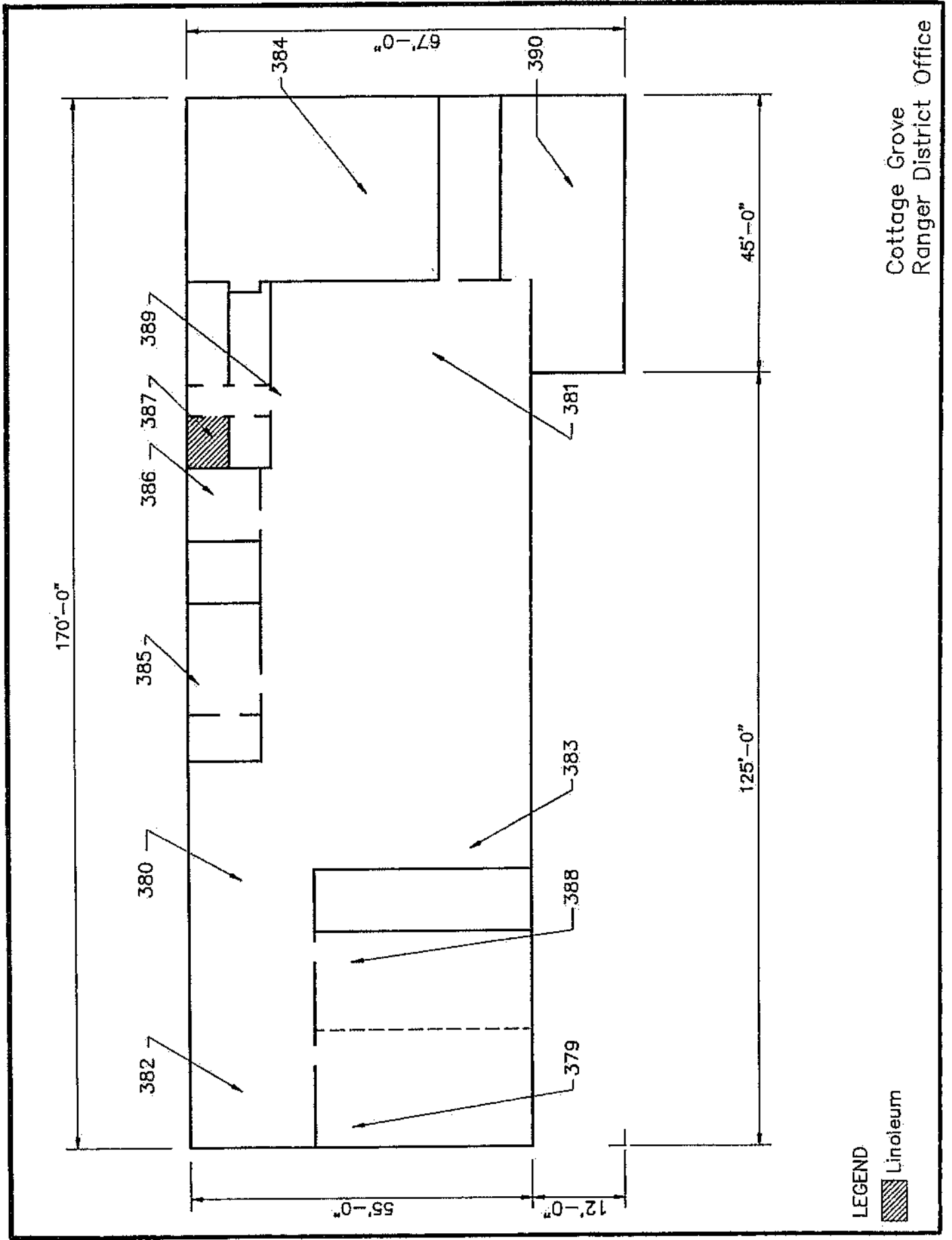
<u>Homogeneous Area</u>	<u>Sample Number</u>	<u>Material Description/Location</u>	<u>Amount</u>
HA-09	UMP-02-387	Linoleum - Cream	120 sq. ft.

No Asbestos Detected

<u>Homogeneous Area</u>	<u>Sample Number</u>	<u>Material Description/Location</u>
HA-01	UMP-02-379	Ceiling Tile in Conference Room
HA-02	UMP-02-380	Ceiling Tile in Silviculture Area
HA-03	UMP-02-381	Ceiling Tile in Copy Room
HA-04	UMP-02-382	Ceiling Tile in Hallway
HA-05	UMP-02-383	Ceiling Tile in Engineering Area
HA-06	UMP-02-384	Ceiling Tile in Timber Area
HA-07	UMP-02-385	Acoustical Tile 1' x 1" - on Walls
HA-08	UMP-02-386	Ceiling Tile in Computer Room
HA-10	UMP-02-388	Wallboard & Taping Compound
HA-11	UMP-02-389	Wallboard & Taping Compound
HA-12	UMP-02-390	Taping Compound
HA-13	UMP-02-391	Shingle
HA-14	UMP-02-392	Felt under Shingle

Trace Detected

<u>Homogeneous Area</u>	<u>Sample Number</u>	<u>Material Description/Location</u>
N/A		



LEGEND

Linoleum

Cottage Grove
Ranger District Office

5.3 MATERIAL CONDITIONS/RISK ASSESSMENT

HA-09 - Linoleum: The linoleum located in the kitchen/break room area is in good condition and in its present state poses no significant health hazard. It is given a Priority 3.

5.4 SPECIFIC RECOMMENDATIONS

HA-09 - Linoleum: Recommendation is to identify the Homogeneous Area in an Operations and Maintenance Program, and specify preventative measures to reduce disturbance and potential for damage. In the event of major renovation or demolition, removal shall be in accordance with State and Federal Regulations.



Environmental Consulting and Laboratory Services

Environmental Enterprise Group, Inc.
1305 E. Main, Russellville, AR 72801, (501) 968-6767 • (501) 968-1956 Fax

Client: Umpqua National Forest
Methodology: EPA-600/M4-82-020
Sample(s) Taken From: Cottage Grove/Office
Received: 10/26/92 Shipped Via: H.D. G. Frazee

Job #: 92500-B4066
Date: 10/22/92
Reported: 11/02/92

Table with 4 columns: SAMPLE #, PARAMETER, ANALYSIS, MATERIAL DESCRIPTION. Contains 4 rows of data for Asbestos testing on ceiling tiles.

The information listed above applies to the standards or procedures identified and to the samples actually tested. The methodology listed in this report is the only methodology used. Each percentage reported above on materials present in each sample is a visual estimation of total composition. The samples tested may not be representative samples, therefore, the results of these samples may not be true for the total material from which the samples were taken, nor for apparently identical materials. The information listed above is for the exclusive use of the client listed above. The sample results shall not be reproduced in any form or fashion for advertising or other purposes in connection with EEG's name or signature without consent from EEG. The sample results shall not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. Samples not destroyed in analysis will be retained for a maximum of thirty days. The samples may be returned to the client upon request.



Respectfully Submitted
EEG, Inc.

Analyst: [Signature]
NVLAP Signatory: [Signature]



Environmental Consulting and Laboratory Services

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Client: Umpqua National Forest
Methodology: EPA-600/M4-82-020
Sample(s) Taken From: Cottage Grove/Office
Received: 10/26/92 Shipped Via: H.D. G. Frazee

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Respectfully Submitted
EEG, Inc.

Analyst: [Signature]
NVLAP Signatory: [Signature]



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Client: Umpqua National Forest
Methodology: EPA-600/M4-82-020
Sample(s) Taken From: Cottage Grove/Office
Received: 10/26/92 Shipped Via: H.D. G. Frazee

Job #: 92500-B4066
Date: 10/22/92
Reported: 11/02/92

Table with 4 columns: SAMPLE #, PARAMETER, ANALYSIS, MATERIAL DESCRIPTION. Contains 4 rows of data for asbestos testing on various materials like Linoleum, Tape Cp, and Total Material.

The information listed above applies to the standards or procedures identified and to the samples actually tested. The methodology listed in this report is the only methodology used. Each percentage reported above on materials present in each sample is a visual estimation of total composition. The samples tested may not be representative samples, therefore the results of these samples may not be true for the total material from which the samples were taken, nor for apparently identical materials.



Respectfully Submitted
EEG, Inc.

Handwritten signature: Mike Cole

Analyst

NVLAP Signatory



Environmental Consulting and Laboratory Services

Environmental Enterprise Group, Inc.
1305 E. Main, Russellville, AR 72801, (501) 968-6767 * (501) 968-1956 Fax

Client: Umpqua National Forest
Methodology: EPA-600/M4-82-020
Sample(s) Taken From: Cottage Grove/Office
Received: 10/26/92 Shipped Via: H.D. G. Frazee

Job #: 92500-B4066
Date: 10/22/92
Reported: 11/02/92

SAMPLE #	PARAMETER	ANALYSIS	MATERIAL DESCRIPTION
442. UMP-02-389 10% Tape Cp	Asbestos	None Detected	Sample Color - White This material contains approximately <1% Cellulose, 2% Quartz, 1% Mica, 90% Gypsum Mortar, 7% Particulate Matter
90% WB	Asbestos	None Detected	Sample Color - White/Brown This material contains approximately 60% Cellulose, 1% Quartz, 38% Gypsum Mortar, 1% Particulate Matter
Total Material	Asbestos	None Detected	Sample Color - White This material contains approximately 54% Cellulose, 1% Quartz, <1% Mica, 36% Gypsum Mortar, 9% Particulate Matter

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Respectfully Submitted
EEG, Inc.

Analyst

NVLAP Signatory

Rich Cole

[Signature]



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Client: Umpqua National Forest
Methodology: EPA-600/M4-82-020
Sample(s) Taken From: Cottage Grove/Office
Received: 10/26/92 Shipped Via: H.D. G. Frazee

Job #: 92500-B4066
Date: 10/22/92
Reported: 11/02/92

SAMPLE #	PARAMETER	ANALYSIS	MATERIAL DESCRIPTION
443. UMP-02-390 Tape Cmpd	Asbestos	None Detected	Sample Color - White This material contains approximately <1% Cellulose, 2% Quartz, 5% Mica, 80% Calcite, 13% Particulate Matter
444. UMP-02-391 Shingle	Asbestos	None Detected	Sample Color - Brown/Black This material contains approximately 15% Fiberglass, 1% Quartz, 1% Mica, 20% Calcite, 63% Particulate Matter
445. UMP-02-392 Felt	Asbestos	None Detected	Sample Color - Black This material contains approximately 80% Cellulose, 20% Particulate Matter

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Respectfully Submitted
EEG, Inc.

Analyst Mark Cole
NVLAP Signatory [Signature]

SAMPLE LOCATION LOG

Project Name: Cottage Grove

Building ID: Office

Inspector: GP

Sample Collection Date: 10/22/92 Sample Analysis Date: _____

Page _____ of _____

Sample I	NA I	Description	Sample Location	Special Inst.	
				A	C
379		CT 2x4 Type A	Conference Room	✓	
380		" " " "	Silviculture Area		✓
381		" " " "	Copy Room		✓
382		CT 2x4 Type B	Hallway by Fuel + Fire Storage	✓	
383		" " " "	Engineering Area		✓
384		" " " "	Timber Area		✓
385		Around Tile	RTM Area	✓	
386		" " " "	Computer Room	✓	
387		L.V. Conn	Break Room	✓	
388		Type Conn A	Class in Conference Room	✓	
389		" " B	Mech Room/Telephone Room	✓	
390		" " C	Extreme Fiber Area	✓	
391		Roof Shingle	Roof	✓	
392		Felt Under	Shingle	✓	

** If negative, analyze the next sequential cataloged sample.



**COTTAGE GROVE
UMPQUA NATIONAL FOREST
ROSEBURG, OREGON**

EEG Project #92-109

ENVIRONMENTAL

ENTERPRISE

GROUP, INC.

Cottage Grove - Warehouse

Asbestos Detected

<u>Homogeneous Area</u>	<u>Sample Number</u>	<u>Material Description/Location</u>	<u>Amount</u>
N/A			

No Asbestos Detected

<u>Homogeneous Area</u>	<u>Sample Number</u>	<u>Material Description/Location</u>
HA-01	UMP-02-393	Linoleum - Blue
HA-02	UMP-02-394	Wallboard & Taping Compound
HA-03	UMP-02-395	Shingle
HA-04	UMP-02-396	Felt under Shingle

Trace Detected

<u>Homogeneous Area</u>	<u>Sample Number</u>	<u>Material Description/Location</u>
N/A		



Environmental Consulting and Laboratory Services

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1305 E. Main, Russellville, AR 72801, (501) 968-6767 • (501) 968-1956 Fax

Client: Umpqua National Forest
Methodology: EPA-600/M4-82-020
Sample(s) Taken From: Cottage Grove/Warehouse
Received: 10/26/92 Shipped Via: H.D. G. Frazee

Job #: 92500-B4066
Date: 10/22/92
Reported: 11/02/92

Table with 4 columns: SAMPLE #, PARAMETER, ANALYSIS, MATERIAL DESCRIPTION. Contains 4 rows of data for asbestos testing on linoleum, tape, and total material.

The information listed above applies to the standards or procedures identified and to the samples actually tested. The methodology listed in this report is the only methodology used. Each percentage reported above on materials present in each sample is a visual estimation of total composition.



Respectfully Submitted
EEG, Inc.

Analyst

NVLAP Signatory



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Client: Umpqua National Forest
Methodology: EPA-600/M4-82-020
Sample(s) Taken From: Cottage Grove/Warehouse
Received: 10/26/92 Shipped Via: H.D. G. Frazee

Job #: 92500-B4066
Date: 10/22/92
Reported: 11/02/92

Table with 4 columns: SAMPLE #, PARAMETER, ANALYSIS, MATERIAL DESCRIPTION. Contains two rows of data for samples 448 and 449.

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Respectfully Submitted
EEG, Inc.

Analyst

NVLAP Signatory

Handwritten signature: Mike Cook

Handwritten signature

SAMPLE LOCATION LOG

Project Name: Cottage Grove

Building ID: Warehouse

Inspector: GF

Sample Collection Date: 10/22/92 Sample Analysis Date: _____

Page of

Sample #	HA #	Description	Sample Location	Special Inst.	
				A	C
393		Lin Blue	Rest Room	/	
394		TAPE CAMP	Bay next to office	/	
395		Roof Straps	Arrows	/	
396		Felt under	straps	/	

* If negative, analyze the next sequential cataloged sample.

Cottage Grove - Tree Cooler

Asbestos Detected

<u>Homogeneous Area</u>	<u>Sample Number</u>	<u>Material Description/Location</u>	<u>Amount</u>
N/A			

No Asbestos Detected

<u>Homogeneous Area</u>	<u>Sample Number</u>	<u>Material Description/Location</u>
HA-01	UMP-02-397	Tar Insulation
HA-02	UMP-02-398	Shingle
HA-03	UMP-02-399	Felt under Shingle

Trace Detected

<u>Homogeneous Area</u>	<u>Sample Number</u>	<u>Material Description/Location</u>
HA-04	UMP-02-400	Tar Insulation



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Client: Umpqua National Forest Job #: 92500-B4066
Methodology: EPA-600/M4-82-020
Sample(s) Taken From: Cottage Grove/T.Cooler Date: 10/22/92
Received: 10/26/92 Shipped Via: H.D. G. Frazee Reported: 11/02/92

Table with 4 columns: SAMPLE #, PARAMETER, ANALYSIS, MATERIAL DESCRIPTION. Contains 4 rows of sample data including Asbestos analysis for Tar Insulation, Shingle, Felt, and Tar Insulation.

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Respectfully Submitted
EEG, Inc.

Analyst [Signature]
NVLAP Signatory [Signature]

SAMPLE LOCATION LOG

Project Name: Cottage Grove
 Building ID: Tree Cooler
 Inspector: GF
 Sample Collection Date: 10/22/92 Sample Analysis Date: _____

Page _____ of _____

Sample #	NA #	Description	Sample Location	Special Inst.	
				A	C
397		Tar Insul on	Pipe Ray Cooler by Fan Unit	✓	
398		Roof Shingle	Brown	✓	
399		Felt under	Shingle	✓	
400		Tar Insul on	Pipe Center Cooler	✓	

-- If negative, analyze the next sequential cataloged sample.

Cottage Grove - Gas House

Asbestos Detected

<u>Homogeneous Area</u>	<u>Sample Number</u>	<u>Material Description/Location</u>	<u>Amount</u>
N/A			

No Asbestos Detected

<u>Homogeneous Area</u>	<u>Sample Number</u>	<u>Material Description/Location</u>
HA-01	UMP-02-401	Shingle
HA-02	UMP-02-402	Felt under Shingle

Trace Detected

<u>Homogeneous Area</u>	<u>Sample Number</u>	<u>Material Description/Location</u>
N/A		



Environmental Consulting and Laboratory Services

Environmental Enterprise Group, Inc.
1305 E. Main, Russellville, AR 72801, (501) 968-6767 * (501) 968-1936 Fax

Client: Umpqua National Forest
Methodology: EPA-600/M4-82-020
Sample(s) Taken From: Cottage Grove/Gas Hse.
Received: 10/26/92 Shipped Via: H.D. G. Frazee

Job #: 92500-B4066
Date: 10/22/92
Reported: 11/02/92

SAMPLE #	PARAMETER	ANALYSIS	MATERIAL DESCRIPTION
454. UMP-02-401 Shingle	Asbestos	None Detected	Sample Color - Brown/Black This material contains approximately 30% Cellulose, 2% Mica, 5% Calcite, 63% Particulate Matter
455. UMP-02-402 Felt	Asbestos	None Detected	Sample Color - Black This material contains approximately 80% Cellulose, <1% Quartz, 20% Particulate Matter

The information listed above applies to the standards or procedures identified and to the samples actually tested. The methodology listed in this report is the only methodology used. Each percentage reported above on materials present in each sample is a visual estimation of total composition. The samples tested may not be representative samples, therefore the results of these samples may not be true for the total material from which the samples were taken, nor for apparently identical materials. The information listed above is for the exclusive use of the client listed above. The sample results shall not be reproduced in any form or fashion for advertising or other purposes in connection with EEG's name or signature without consent from EEG. The sample results shall not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. Samples not destroyed in analysis will be retained for a maximum of thirty days. The samples may be returned to the client upon request.



Respectfully Submitted
EEG, Inc.

Mike Cal

Analyst
[Signature]

NVLAP Signatory

SAMPLE LOCATION LOG

Project Name: Cottage Grove

Building ID: Gas House

Inspector: GF

Sample Collection Date: 10/22/92 Sample Analysis Date: _____

Sample #	NA #	Description	Sample Location	Special Inst.	
				A	C
401		Roof Shingle	Roof	<input checked="checked" type="checkbox"/>	
402		Felt Under	Shingle	<input checked="checked" type="checkbox"/>	

** If negative, analyze the next sequential cataloged sample.

**6.0 BUILDINGS WITH NO ASBESTOS DETECTED
OR NO SUSPECT MATERIAL FOUND**

<u>Building #</u>	<u>Results</u>
Warehouse	None detected
Tree Cooler	None detected/trace
Gas House	Non detected

7.0 MATERIAL EXCLUDED FROM SAMPLING

There were no materials excluded from sampling in this area.

8.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions and recommendations expressed in this report are based only on conditions that were observed during EEG's inspection of the Cottage Grove Area.

Our inspection was non-destructive in nature. Any conditions or materials that were not able to be visually observed on the surface were not inspected and may differ from those conditions or materials observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure of materials that lay beneath the surface. Our selection of sample locations and frequency of sampling was based upon our observations and the assumption that like materials in the same area are homogeneous in content.

This report is designed to aid the building owner, architect, construction manager, general contractors and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification document.

QUALITY CONTROL/QUALITY ASSURANCE



Professional Service Industries, Inc.

Report of Bulk Sample Analysis For Asbestos by Polarized Light Microscopy (NVLAP Protocol)

BOX #: 11776

Tested For: E.E.G.

Project / Report Number: 576-17068

Project Name: Umpona National Forest

Date: 11-6-92

Client ID #: <u>KMP 02 382</u>		Client Location:		Laboratory ID #: <u>EE92-87</u>															
Asbestos Containing Material?: <u>No</u>		Material Type:																	
Macroscopic Observ.	Consistent Source	<u>NA</u>	Total Asbestos	Chrysotile	Amosite	Crocidolite	Anthophyllite	Actinolite	Tremolite	Mineral/Glass Wool	Wood/Paper Fibers	Vermiculite	Pelite/Pumice	Nonfibrous Binder	Other	Other	Other	Slide Preparations	
	Material																	Original	Duplicate
	Bulk Sample Code	<u>NA</u>																	
	Color	<u>G</u>																	
	Texture	<u>R</u>																	
	Homogeneous	<u>Y</u>																	
	% Suspected Asbestos	<u>0</u>																	
Analysis	Primary Analysis	<u>12</u>								<u>45</u>	<u>35</u>		<u>10</u>	<u>10</u>					
	Sub-analysis																		
Microscopic Observ.	Pleochroism																		
	Sign of Elongation																		
	Extinction Characteristic									<u>1</u>	<u>u</u>		<u>1</u>						
	Morphology													<u>M</u>					
	Parallel Index																		
	Perpendicular Index																		
	Birefringence																		
KEY		Texture:		Pleochroism:		Extinction Characteristic:		Morphology:		Comments:									
Color: W - White G - Gray Y - Yellow T - Tan P - Pink L - Blue N - Green B - Brown K - Black - - Other (Specify in Comments)		F - Fibrous Y - Fluffy P - Powder X - Flexible Tile C - Clumpy L - Layered V - Woven R - Friable Tile H - Hard Tile - - Other (Specify in Comments)		N - None L - Slight M - Moderate S - Strong		P - Parallel S - Symmetric O - Oblique (May specify Angle in Comments) U - Undulces I - 360 (Isotropic)		W - Wavy A - Acicular B - Banded R - Ribbon like P - Platy H - Hair like G - Granular C - Conchoidal M - Amorphous - - Other (Specify in Comments)											

* Asbestos content is greater than 1%. Quantification is based on a visual determination of the relative volume of bulk sample components. The results are valid only for the item tested. This report may not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. Method used: E.P.A. Interim Method for the Determination of Asbestos in Bulk Insulation Samples (40 CFR Ch. 1 Pt. 763, App. A to Subpt. F, July 1, 1987). Samples will be disposed of within 30 days unless otherwise notified in writing by client. This report must be reproduced in full and may only be reproduced with the written permission of PSI.

Wanda Johnson
Microscopist

Respectfully submitted, Professional Service Industries, Inc.

Department Manager

APPENDIX A - CERTIFICATIONS

University of Arkansas at Little Rock

Certificate of Achievement

Awarded to GREG FRAZEE

in recognition of the successful completion of

Asbestos Inspector Training Program
Refreshers Course

I-175

January 17, 1992

Certificate Number

January 17, 1993

Course Date

Asbestos Project Coordinator

Expiration Date

Phyllis Moore



University of Arkansas at Little Rock

Certificate of Achievement

Awarded to GREG FRAZEE

in recognition of the successful completion of

Asbestos Management Planner Training Program
Refresher Course

153

January 17, 1992

Certificate Number

January 17, 1993

Expiration Date

Phyllis Moore

Asbestos Project Coordinator



**APPENDIX B - PHOTOGRAPHS OF
NON-ASBESTOS CONTAINING MATERIALS**



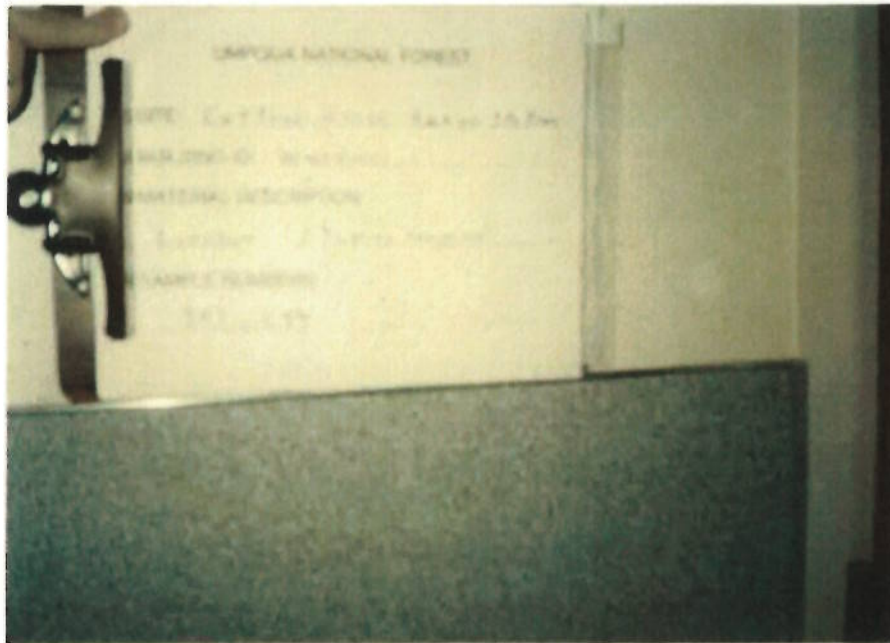
Sample #390



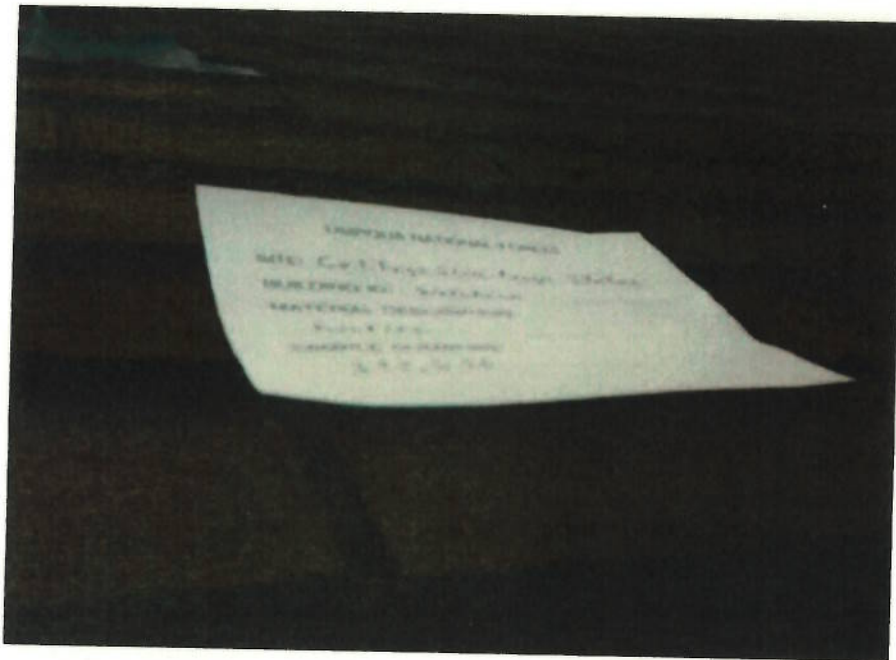
**COTTAGE GROVE
UMPOUA NATIONAL FOREST
ROSEBURG, OREGON**

EEG Project #92-109

**ENVIRONMENTAL
ENTERPRISE
GROUP, INC.**



Sample #'s 393 & 394



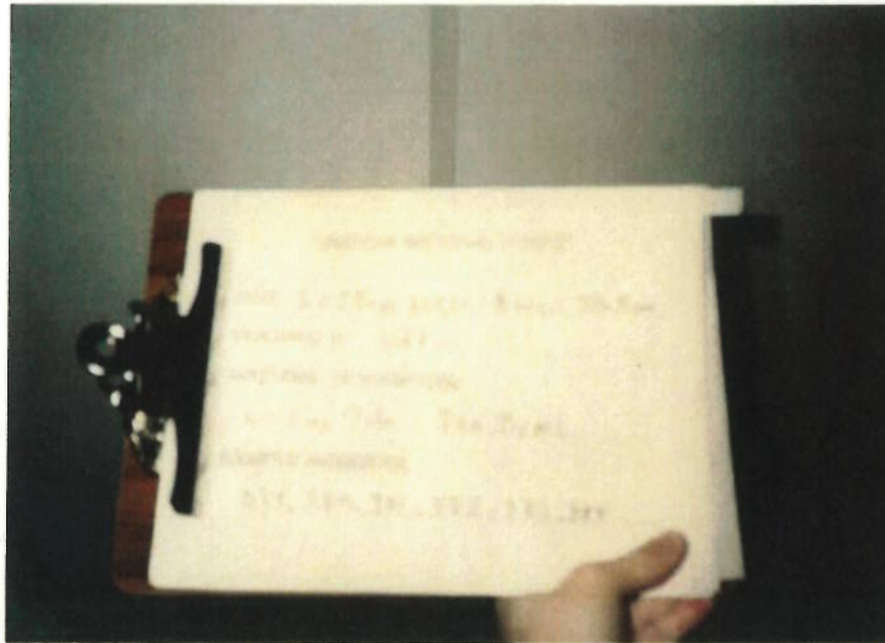
**COTTAGE GROVE
UMPQUA NATIONAL FOREST
ROSEBURG, OREGON**

EEG Project #92-109

ENVIRONMENTAL

ENTERPRISE

GROUP, INC.



Sample #'s 379, 380, 381, 382,
383, 384



**COTTAGE GROVE
UMPQUA NATIONAL FOREST
ROSEBURG, OREGON**

EEG Project #92-109

ENVIRONMENTAL

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Sample #388

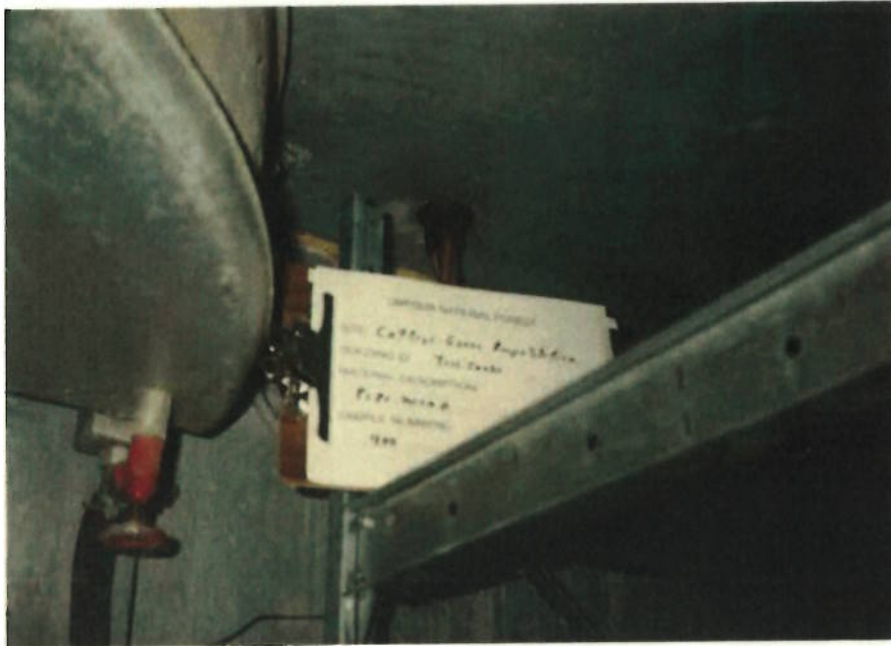
**COTTAGE GROVE
UMPQUA NATIONAL FOREST
ROSEBURG, OREGON**

EEG Project #92-109

ENVIRONMENTAL

ENTERPRISE

GROUP, INC.



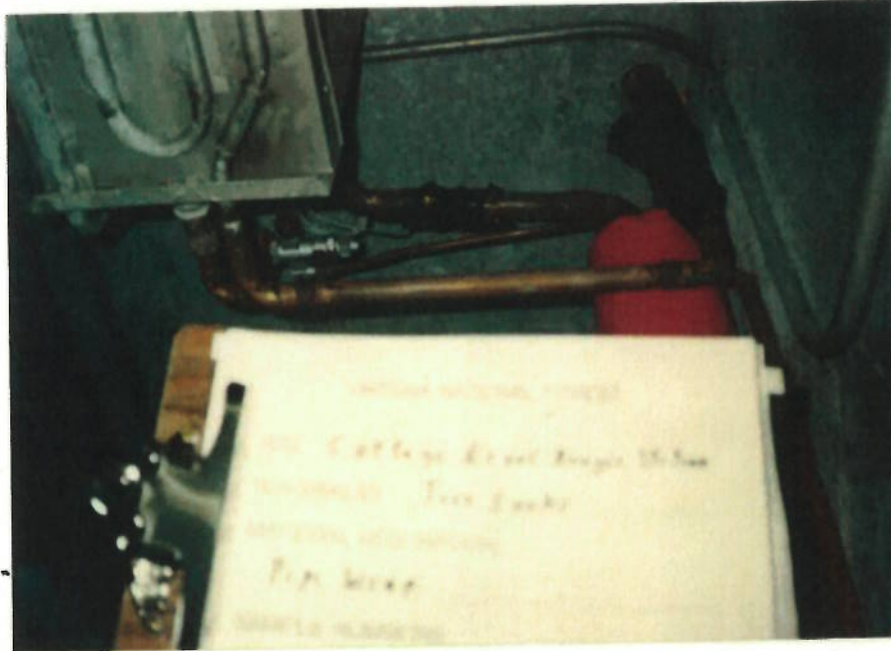
**COTTAGE GROVE
UMPKUA NATIONAL FOREST
ROSEBURG, OREGON**

EEG Project #92-109

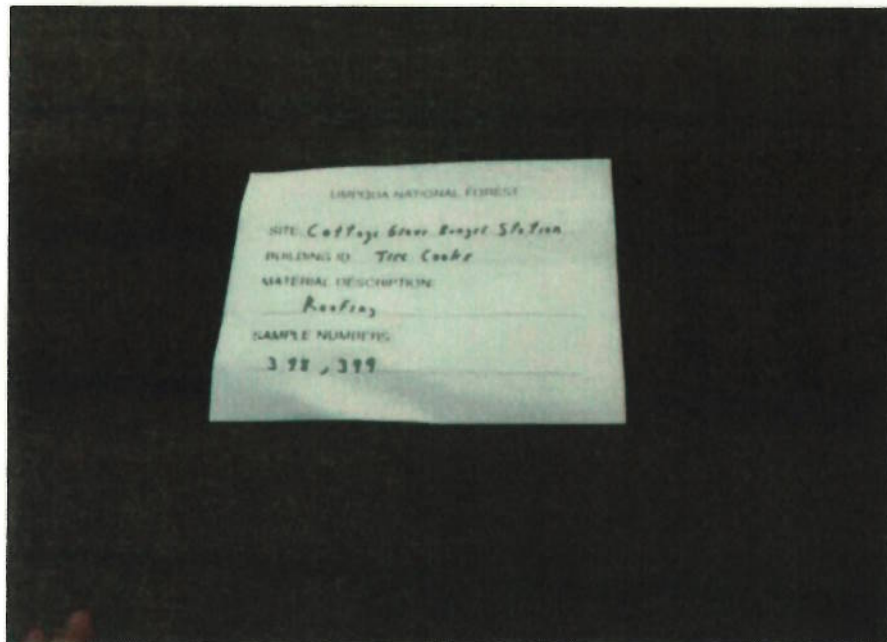
ENVIRONMENTAL

ENTERPRISE

GROUP, INC.



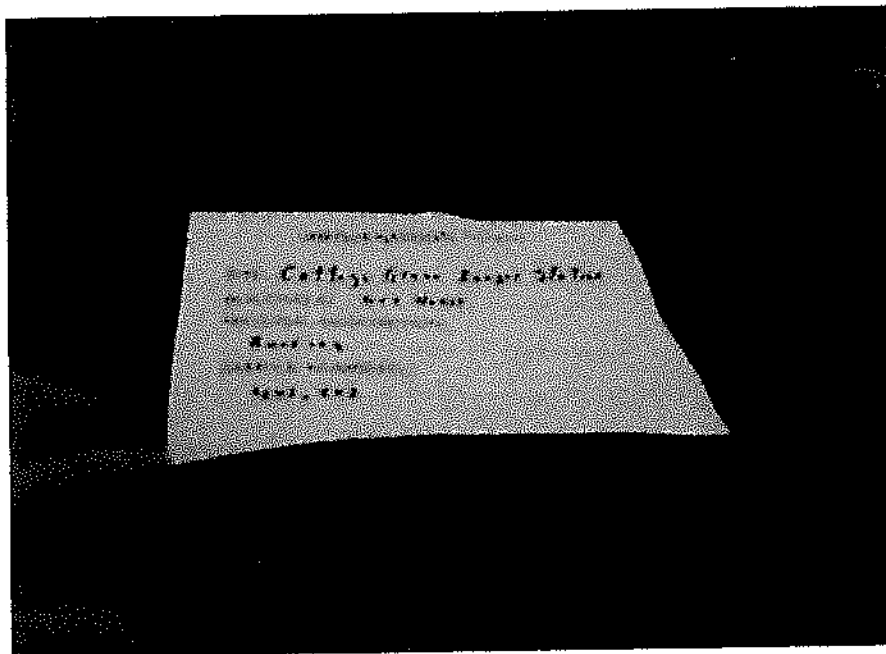
Sample #397



**COTTAGE GROVE
UMPKUA NATIONAL FOREST
ROSEBURG, OREGON**

EEG Project #92-109

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GROUP, INC.**



COTTAGE GROVE
UMPUQUA NATIONAL FOREST
ROSEBURG, OREGON

EEG Project #92-109

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GROUP, INC.