

APPENDIX J

Asbestos Results Report

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January 28, 2011

Project No. 6232.01

Ms. Marie Simpson
Science Applications International Corporation
151 Lafayette Drive
Oak Ridge, Tennessee 37831

**Asbestos Sampling of Building Materials at C-Block Quarry
2008 PBA for Environmental Investigation and Remediation
Ravenna Army Ammunition Plant
Ravenna, Ohio**

Dear Ms. Simpson:

TTL Associates, Inc. (TTL) performed asbestos sampling of building materials and soil at the Ravenna Army Ammunition Plant located at 8451 State Route 5 #1 in Ravenna, Ohio on March 25, 2010. TTL understands that the purpose of this project is to perform an investigation of potential asbestos-contaminated media at the C-Block Quarry AOC. This project was conducted in accordance with TTL's Proposal for Services, dated February 8, 2010 and the Science Applications International Corporation (SAIC) Request for Proposal (RFP) Number 11529379 and its Statement of Work and other related documents and pictures received via electronic mail at TTL on January 21, 2010.

SURVEY, SAMPLING AND ANALYSIS

The objective of this project was to perform a site survey of observable suspected asbestos containing material (ACM) present in C-Block Quarry, provide an approximate quantity of the materials, conduct asbestos bulk sampling of all potential ACM, record the NAD 83 horizontal coordinates of each sampling location, conduct asbestos bulk sampling of adjacent surface soils near any friable (or damaged/weathered) potential ACM that could disperse fibers, provide laboratory analysis and analytical results of all samples, and prepare a letter report presenting all findings and the location of each material present at C-Block Quarry.

To meet this objective, Mr. Greg Mays of TTL conducted a reconnaissance of the entire C-Block Quarry, bulk sampling of all potential ACM, and bulk sampling of adjacent surface soil. Mr. Mays is certified by the State of Ohio Department of Health as an Asbestos Hazard Evaluation Specialist. A copy of his certification can be found in Attachment A.

The asbestos sampling included the identification of suspect materials and the definition of homogeneous materials, estimation of the approximate quantity of the suspect ACM, and collection

and analysis of bulk samples from each identified material. A homogenous material is defined as materials that exhibit similar physical characteristics (e.g., texture, surface color, and appearance) as observed by TTL's inspectors utilizing professional judgment and experience.

The samples were collected using a coring device or other means, as appropriate, to collect a sample of the suspect material. The samples were placed into clean and unused sealable bags marked with a unique sample identification number. The samples of suspect ACM were transported to TTL's laboratory and analyzed by Polarized Light Microscopy using U.S. EPA Method 600/R-93/116. TTL's laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) which is administered by the National Institute of Standards and Technology (NIST).

SURVEY RESULTS

Four suspect ACM were identified in the C-Block Quarry, from which a total of six (6) bulk samples were collected and analyzed. One (1) soil sample was also collected adjacent to the debris pile containing the suspect ACM. According to laboratory results, four of the six bulk samples were identified as asbestos containing as defined by the U.S. EPA. Asbestos fibers were determined to be present in the soil sample. The soil was collected from surface soil approximately one foot away from a pile of exposed asbestos containing material that was partially covered with soil.

The asbestos containing materials were observed in an area of approximately 2,750 square feet. The majority of these materials appear to be underneath soil. The bulk samples were collected from locations where the materials were not covered by soil. There was less than ten square feet of visible asbestos containing debris throughout the area. The remainder of the ACM was covered with soil.

Refer to the attached Asbestos Sampling Summary Table for a listing of the materials identified and the analytical results.

CONCLUSIONS/RECOMMENDATIONS

Regulated Asbestos-Containing Materials were identified in the C-Block Quarry area (RACM). The U.S. EPA defines regulated asbestos-containing material as: (a) Friable asbestos material, (b) Category I non-friable ACM that has become friable, (c) Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations. Based on the condition of the materials observed, the materials are considered a RACM. TTL recommends the RACM be removed in accordance with all federal, state and local requirements prior to activities that may disturb these materials.

LIMITATIONS

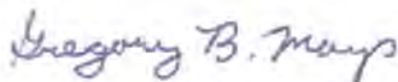
TTL has made reasonable efforts to identify and quantify suspect ACM based upon the standard of care in the environmental industry existing at the time of the sampling. This sampling only summarizes the potential presence and estimated quantities of visually observed ACM.

Additional materials identified should be evaluated on a case-by-case basis, especially materials that were previously hidden, obscured or inaccessible, to determine if the material is included in this sampling. If a given material is not described in this sampling or cannot be identified as a non-suspect material, the material should be assumed to contain asbestos.

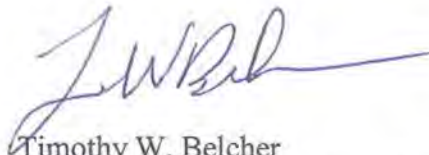
The information contained in the report was based upon specific parameters at the time of the survey. The information herein is only for the specific use of Science Applications International Corporation TTL, unless written authorization is obtained from TTL. TTL accepts no responsibility for the use, interpretation, or reliance by other parties on the information contained herein, nor does this report represent an instrument of regulatory compliance or an asbestos abatement specification.

TTL appreciates the continued opportunity to provide the Science Applications International Corporation with our environmental, geotechnical, and testing services and we look forward to working with you in the future. Should you have any questions concerning this report, please contact Mr. Tim Belcher at (419) 324-2222, extension 1248.

Sincerely,
TTL Associates, Inc.



Greg Mays
Industrial Hygienist



Timothy W. Belcher
Manager, Industrial Hygiene Services

Attachments

V:\Toledo\SAIC\Ravenna Army Ammunition Plant\Asbestos Sampling Report for C-Block Quarry

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ATTACHMENT A
INSPECTOR CERTIFICATION

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State of Ohio
Department of Health
Division of Quality Assurance - Asbestos Program

Asbestos Hazard Evaluation Specialist

Gregory B Mays
TTL Associates, Inc.
1915 N. 12th Street
Toledo OH 43604



Certification Number: **ES3132**
Expiration Date: **03/06/2011**

DOB: **04/02/1960**

This certification is issued pursuant to Chapter 3710 of the Revised Code and 3701-34 of the Ohio Administrative Code.

Certification Card is not valid if altered.

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ATTACHMENT B
ASBESTOS SAMPLING SUMMARY TABLES

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**ASBESTOS SAMPLING OF BUILDING MATERIALS AT C-BLOCK QUARRY
2008 PBA FOR ENVIRONMENTAL INVESTIGATION AND REMEDIATION
RAVENNA ARMY AMMUNITION PLANT
8451 STATE ROUTE 5 #1
RAVENNA, OHIO
TTL PROJECT NO. 6232.01**

Page 1 of 1

Sample No.	Material Description	Results	Friability	NAD 83 Horizontal Coordinate
CBLSS-013-5793-BD	Cement Shingle, Gray	P	F	North 559506.68 ft. East 2343800.49 ft.
CBLSS-014-5794-BD	Cement Shingle, Gray	P	F	North 559481.34 ft. East 2343796.94 ft.
CBLSS-014-5795-BD	Building Insulation, Black	P	F	North 559481.34 ft. East 2343796.94 ft.
CBLSS-015-5796-BD	Building Insulation, Black	P	F	North 559483.69 ft. East 2343784.17 ft.
CBLSS-016-5797-BD	Cement Block, Orange	N	NF-II	North 559577.41 ft. East 2343851.30 ft.
CBLSS-017-5798-SO	Soil, 0-1 ft. deep	P	F	North 559484.81 ft. East 2343833.73 ft.
CBLSS-018-5799-BD	Rock-Like Material, Black	N	NF-II	North 559459.64 ft. East 2343817.30 ft.

RESULTS:

P: Positive
N: Negative
A: Assumed Positive

FRIABILITY:

F: Friable
NF-I: Non-Friable Category I
NF-II: Non-Friable Category II

CONDITION:

Good: Little or no damage
Damaged: Less than 10% damage of total surface area, or less than 25% damage in a localized area
Significantly Damaged: Greater than 10% damage of total surface area, or greater than 25% damage in a localized area

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ATTACHMENT C
ASBESTOS ANALYTICAL REPORT

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CLIENT: Science Applications International
301 Laboratory Road
OAK RIDGE, TENNESSEE 37830

DATE: April 1, 2010

ATTN: Ms. Kathy Craig

Project No.: 6232.01

Lab Receiving No.: 10-03-201931

Date Received: March 26, 2010

Date Sampled: March 25, 2010

Project Location: C-Block Quarry
Revenna Army Ammunition Plant
8451 State Route 5 #1
Revenna, Ohio

Sample Point(s): see analytical results

Analysis Performed: Asbestos Analysis by PLM

DISCLAIMER

This report is "PROPRIETARY AND CONFIDENTIAL" and delivered to, and intended for the exclusive use of the above named client only. TTL Associates, Inc., assumes no responsibility or liability for the reliance hereon or use hereof by anyone other than the above named client.

Reviewed by: Myron V. Gasiorowski Date: 04/01/2010
Myron V. Gasiorowski, Lab Supervisor

Approved by: Nicole S. Christie Date: 04/01/2010
Nicole Christie, ASP, Manager, Industrial Hygiene Services

ANALYTICAL NARRATIVE

The note(s) below pertain to the sample(s) and analytical data reported herein:

Quantitative results are listed as approximate % asbestos. Results are based on calibrated visual estimation of materials. All results <1% asbestos (Trace) have been confirmed by the analysis of a duplicate slide. As per the method, all "negative" or BDL samples have been confirmed by triplicate analyses. Due to the nature of the samples the following measurements of uncertainty may apply:

% Asbestos	Uncertainty
1%	± 2%
5%	± 4%
10%	± 5%
>20%	± 10%

Due to the complexity of analyzing floor tile by PLM, the client may want to consider having "negative" floor tiles analyzed further by an alternative method such as TEM.

Samples are archived by TTL Associates for a period of thirty days. Samples may be retained for a longer period of time or returned to the client upon written request.

Laboratory Accreditation:

U.S. Department of Commerce, National Institute of Standards and Technology, National Voluntary Laboratory Accreditation Program (NVLAP), Lab #101594-0

This report may not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. This report relates only to the items tested, and may not be reproduced, except in full, without the written approval of the laboratory.

Report Key:

BDL = Below Detection Level
 n/a = not applicable
 HSA = Homogeneous Sampling Area

Detection Level: 1% asbestos fibers greater than one micrometer in length.

**POLARIZED LIGHT MICROSCOPY
ANALYTICAL RESULTS**

METHOD NUMBER:	EPA/600/R-93/116, July, 1993; 40 CFR, Ch. 1 (7-1-93 ed.), Part 763, Subpart F, Appendix A, pages 293-299
BATCH NUMBER:	2PLM010010
DATE ANALYZED:	April 1, 2010
ANALYST:	Myron Gasiorowski

LAB No.	Sample ID	HSA No.	SAMPLE LOCATION	LAYER DESCRIPTION	NON-ASBESTOS COMPONENTS	APPROXIMATE % ASBESTOS
186027	CBLSS-013-5793-BD		559506.68 feet north, 2343800.49 feet east, grey cement shingle	Grey Transite	84% Binder	16% Chrysotile
186028	CBLSS-014-5794-BD		559481.34 feet north, 2343796.94 feet east, grey cement shingle	Beige Transite	80% Binder	20% Chrysotile
186029	CBLSS-014-5795-BD		559481.34 feet north, 2343796.94 feet east, black building insulation	Black Tar	90% Binder	10% Chrysotile
186030	CBLSS-015-5796-BD		559483.69 feet north, 2343784.17 feet east, black building insulation	Black Tar Paper	65% Binder	35% Chrysotile
186031	CBLSS-016-5797-BD		559577.41 feet north, 2343851.30 feet east, orange cement block	Beige Firebrick	100% Binder	BDL
186032	CBLSS-017-5798-SO		559484.81 feet north, 2343833.73 feet east, soil, 0-1 foot deep	Brown Soil	100% Binder	<1% Chrysotile
186033	CBLSS-018-5799-BD		559459.64 feet north, 2343817.30 feet east, black rock-like material	Black Cinder	100% Binder	BDL



SAIC # RVAAP - PBA08RI - 057

Chain of Custody Record

1915 North 12th St, Toledo, OH 43604-5305; Voice 419-324-2222, Fax 419-241-1808
 Ship To Address: ATTN: RECEIVING LAB, 1915 North 12th St, Toledo, OH 43604-5305
 Sent From: Toledo Plymouth Detroit Other

18390

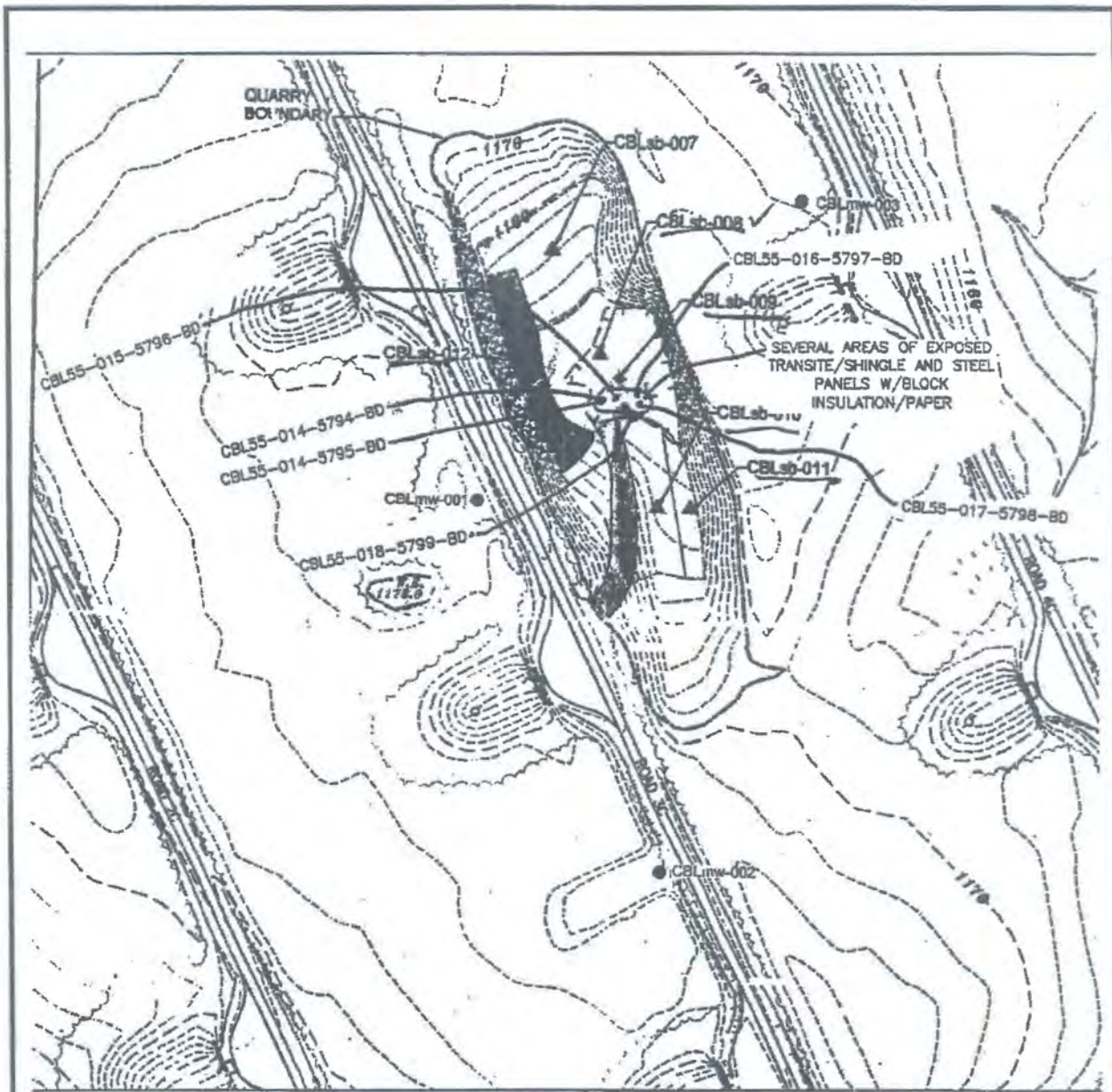
Page 1 of 1

Project No: 6232.01		Client: SAIC		Parameters: RR# 1931			
P.O. No.:		Project/Location: Ravenna Army Ammunition Plant, C-Block		Total No. of Containers: PLM ASB			
Project Mgr.: Tim Bratcher		Sampler's Name: Greg Mays		Preserved Yes/No			
Phone No. X1248		Sampler's Signature: Greg Mays		LAB USE ONLY: MG 03/26/10			
Item No.	Sample ID.	Date Sampled	Time Sampled	Type	Matrix	Sample Location	Lab #
1	CBLSS-013 5793-BD	3/25/10	11:15A	Bulk	Solid	Cement Shingle, Gray / 559506.68 ft N 2343800.49 ft E	186027
2	CBLSS-014 5794-BD	3/25/10	11:25A	Bulk	Solid	Cement Shingle, Gray / 559481.34 ft N 2343796.94 ft E	186028
3	CBLSS-014 5795-BD	3/25/10	11:30A	Bulk	Solid	Building Insulation, Black / 559481.34 ft N 2343796.94 ft E	186029
4	CBLSS-015 5796-BD	3/25/10	11:40A	Bulk	Solid	Building Insulation, Black / 559483.69 ft N 2343784.17 ft E	186030
5	CBLSS-016 5797-BD	3/25/10	11:45A	Bulk	Solid	Cement Block, Orange / 559577.41 ft N 2343851.30 ft E	186031
6	CBLSS-017 5798-BD	3/25/10	12:00P	Bulk	Solid	Soil 0-1 ft Deep / 559484.81 ft N 2343833.73 ft E	186032
7	CBLSS-018 5799-BD	3/25/10	12:18P	Bulk	Solid	Rock-Like Material, Black / 559459.64 ft N 2343817.30 ft E	186033
8						(7) Total	
9							
10							
Item No. 1-7	Relinquished By: Greg Mays	Date / Time: 3/25/10 1:37P	Received By: Myron V. Staszewski	Date / Time: 3/26/10 0847	LAB USE ONLY		
Item No.	Relinquished By:	Date / Time:	Received By:	Date / Time:	<input checked="" type="checkbox"/> in person <input type="checkbox"/> by courier <input type="checkbox"/> in field <input type="checkbox"/> in lab <input checked="" type="checkbox"/> N/A Temp of samples: MTC Did samples arrive intact and sealed? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> N/A Were proper containers used? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no Was container labeled properly for contents? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no Were samples packaged properly for type of material? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no Was shipping label completed properly per regulations? (49 CFR 170, etc.) <input type="checkbox"/> yes <input type="checkbox"/> no Samples were: <input checked="" type="checkbox"/> accepted <input type="checkbox"/> rejected Comments:		
Item No.	Relinquished By:	Date / Time:	Received By:	Date / Time:	Comments: TAT STD		

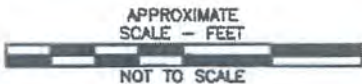
ATTACHMENT D

SITE PLAN

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LEGEND



**FIGURE 1.0
SAMPLE LOCATION MAP
ASBESTOS SURVEY
RAVENNA ARMY AMMUNITION PLANT
8451 STATE ROUTE 5, #1
RAVENNA, OHIO**

PREPARED FOR
SAIC
OAK RIDGE, TENNESSEE

DRAWN AJC/04-05-10

CHECKED

REVISED

APPROVED

JOB NO. 6232.01

DRAWING NUMBER

623201-01H



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