

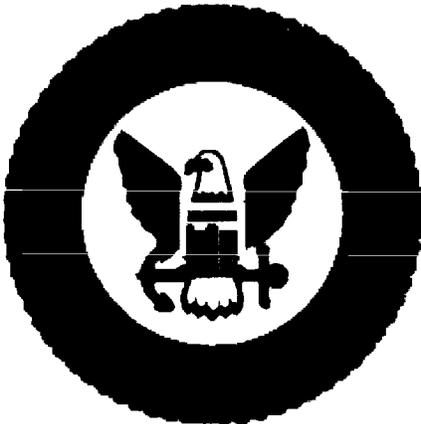
N61165.AR.004000
CNC CHARLESTON
5090.3a

COMPLETION REPORT PROCESS CLOSURE FOR AREA OF CONCERN 517 (AOC 517)
WITH TRANSMITTAL CNC CHARLESTON SC
2/24/1999
CNC CHARLESTON



COMPLETION REPORT

PROCESS CLOSURE FOR
AOC 517
NAVAL BASE CHARLESTON
CHARLESTON, SC



Prepared for:

DEPARTMENT OF THE NAVY
SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
CHARLESTON SC



Prepared by:

Supervisor of Shipbuilding, Conversion and Repair,
USN, (SUPSHIP) Portsmouth Va.,
Environmental Detachment Charleston, S.C.
1899 North Hobson Ave.
North Charleston, SC 29405-2106

February 24, 1999

Hunt, Tony (Efdsouth)

From: Bowman, Brenda (Efdsouth)
Sent: Monday, December 17, 2001 4:45 PM
To: Hunt, Tony (Efdsouth)
Subject: RE: BRAC Charleston

Bruce's office.

-----Original Message-----

From: Hunt, Tony (Efdsouth)
Sent: Monday, December 17, 2001 4:34 PM
To: Joseph, Bruce (Efdsouth); Fressilli, Tom (Efdsouth); Nelson, Raymond (Efdsouth)
Cc: Bowman, Brenda (Efdsouth); Beverly, Steve (Efdsouth)
Subject: RE: BRAC Charleston

I am available tomorrow at 10:00, a meeting Steve and I had with the RDA has been postponed. Wednesday is not good. I assume we are in B-3.

-----Original Message-----

From: Joseph, Bruce (Efdsouth)
Sent: Monday, December 17, 2001 3:31 PM
To: Fressilli, Tom (Efdsouth); Hunt, Tony (Efdsouth); Nelson, Raymond (Efdsouth)
Cc: Bowman, Brenda (Efdsouth); Beverly, Steve (Efdsouth)
Subject: RE: BRAC Charleston

tony/Steve

I didn't think asbestos is a CERCLA issue. On the real estate side of the house, the FPMP only requires disclosure of asbestos, but no abatement. Under BRAC it more or less became policy that we would abate friable, damaged and accessible asbestos. Since we have already transferred property, we face the obstacle of spending money on property we don't own. If we are talking just policy driven reasons to abate, we probably can shirk our responsibility and drop it on the LRA since they own the property now, with our humblest apology. but if there is CERCLA or RCRA liability for friable asbestos release, then we can justify the abatement under the covenants in the deed. Suggest a quick meeting to discuss. brenda will set up..

-----Original Message-----

From: Fressilli, Tom (Efdsouth)
Sent: Monday, December 17, 2001 2:14 PM
To: Hunt, Tony (Efdsouth); Nelson, Raymond (Efdsouth)
Cc: Bowman, Brenda (Efdsouth); Joseph, Bruce (Efdsouth); Beverly, Steve (Efdsouth)
Subject: RE: BRAC Charleston

Brenda suggested that we hold a meeting to discuss proposed recommendations for the utility EBST. Is one still desired? I agree with Tony's recommendation with regard to the EBST, but I thought earlier that his recommendation was to share it only with the CNCRA, which certainly should be provided with proper notice/disclosure of environmental condition. I was of the impression that sharing it with the regulators was not necessary since we did not transfer any land with the utility infrastructure that is addressed in the document and were not seeking a FOST. Sending the document to the CNCRA would serve as our opportunity to let them know specifically where the material is and more importantly, where they are currently not in compliance and reaffirm the notion that exposure control is an CNCRA responsibility. When can we have the meeting?

-----Original Message-----

From: Hunt, Tony (Efdsouth)
Sent: Monday, December 17, 2001 1:58 PM
To: Nelson, Raymond (Efdsouth)
Cc: Bowman, Brenda (Efdsouth); Joseph, Bruce (Efdsouth); Fressilli, Tom (Efdsouth); Beverly, Steve (Efdsouth)
Subject: RE: BRAC Charleston

This leaves a major portion of the overhead lines from the vent to the power house and several other facilities as being Navy property which has, as a result of being included in Phase I transfer, become property of the RDA. This piping has several areas where the lagging is damaged exposing the rigid cast magnesia forms which contain asbestos. The recommendations in the recently prepared Utility EBST require remediation of the damaged areas, are we to assume this is now the responsibility of the RDA? The Navy policy with respect to asbestos has been that we remediate damaged, friable and accessible asbestos except in the case where the building (or structures in this case) are scheduled for demolition or renovation. This policy would certainly apply here where all of the aboveground piping will be removed eventually as the supply from Foster Wheeler is removed and redevelopment occurs in the vicinity of the remainder of steam piping. The problem is that the damaged and friable asbestos on the aboveground piping is out in the open where there is no exposure control. The obvious question then is who provides

the exposure control until the lagging is abated or removed.

My recommendation as far as the Utility EBST is concerned is to provide the additional asbestos disclosure statement to be added to the Phase I FOST/EBST that states that asbestos containing materials are present in the above and below ground steam systems. This notice and a copy of the Utility EBST should be provided to the RDA and the regulatory agencies. If not, we may be found negligent for improper disclosure to subsequent landowners in determining the environmental condition of the property. The regulatory agencies have to be provided at least the opportunity to comment on the determination of the environmental condition.

The existing condition of the asbestos is out of compliance, both the RDA and the Navy could be held liable for release that have occurred depending on the location of the release. The damaged areas on the distribution system up to the supply to the individual buildings should be abated or installed in containments so that further asbestos release does not occur. I would suggest that we furnish the information in the form of the EBST to the RDA and inform them that they are responsible for the damaged areas on property that has been transferred. The Navy is responsible for damaged areas on property that has not yet transferred. This should happen as soon as possible now that we have a comprehensive report identifying the damaged areas. The actual removal of the asbestos can occur whenever the RDA and their tenants begin demolition or renovation of the the individual parcels containing piping sections.

Please advise

-----Original Message-----

From: Nelson, Raymond (Efdsouth)
Sent: Monday, December 17, 2001 10:12 AM
To: Hunt, Tony (Efdsouth)
Cc: Bowman, Brenda (Efdsouth); All, JC (Efdsouth); Joseph, Bruce (Efdsouth); Fressilli, Tom (Efdsouth)
Subject: BRAC Charleston

Tony, the steam line from the fence to the vent is the property of Foster-Wheeler.

J.C., please correct me if I have erred.

Thanks



DEPARTMENT OF THE NAVY
SUPERVISOR OF SHIPBUILDING, CONVERSION AND REPAIR, USN
PORTSMOUTH, VIRGINIA, ENVIRONMENTAL DETACHMENT CHARLESTON
1859 NORTH HOBSON AVENUE, BUILDING 30
NORTH CHARLESTON, SOUTH CAROLINA 29405-2106

IN REPLY REFER TO:

Ser: 154

FEB 26 1999

From: Director, Supervisor of Shipbuilding, Conversion and Repair, USN,
Portsmouth, VA, Environmental Detachment Charleston
(SPORTENVDETCHASN)
To: Commanding Officer, Southern Division Naval Facilities Engineering
Command (Code 18B4 – Hayes Patterson)
Subj: SUBMITTAL OF COMPLETION REPORT FOR AOC 517, PROJECT
NUMBER C98049
Ref: SOUTHNAVFACENCOM Ltr 5090, Ser Code 18B4 dtd 24 Aug 98,
Authorization for Project C98049, Zone C Indoor Firing Range,
Charleston Naval Complex
Encl: (1) Completion Report for AOC 517, Naval Base Charleston,
Charleston, SC

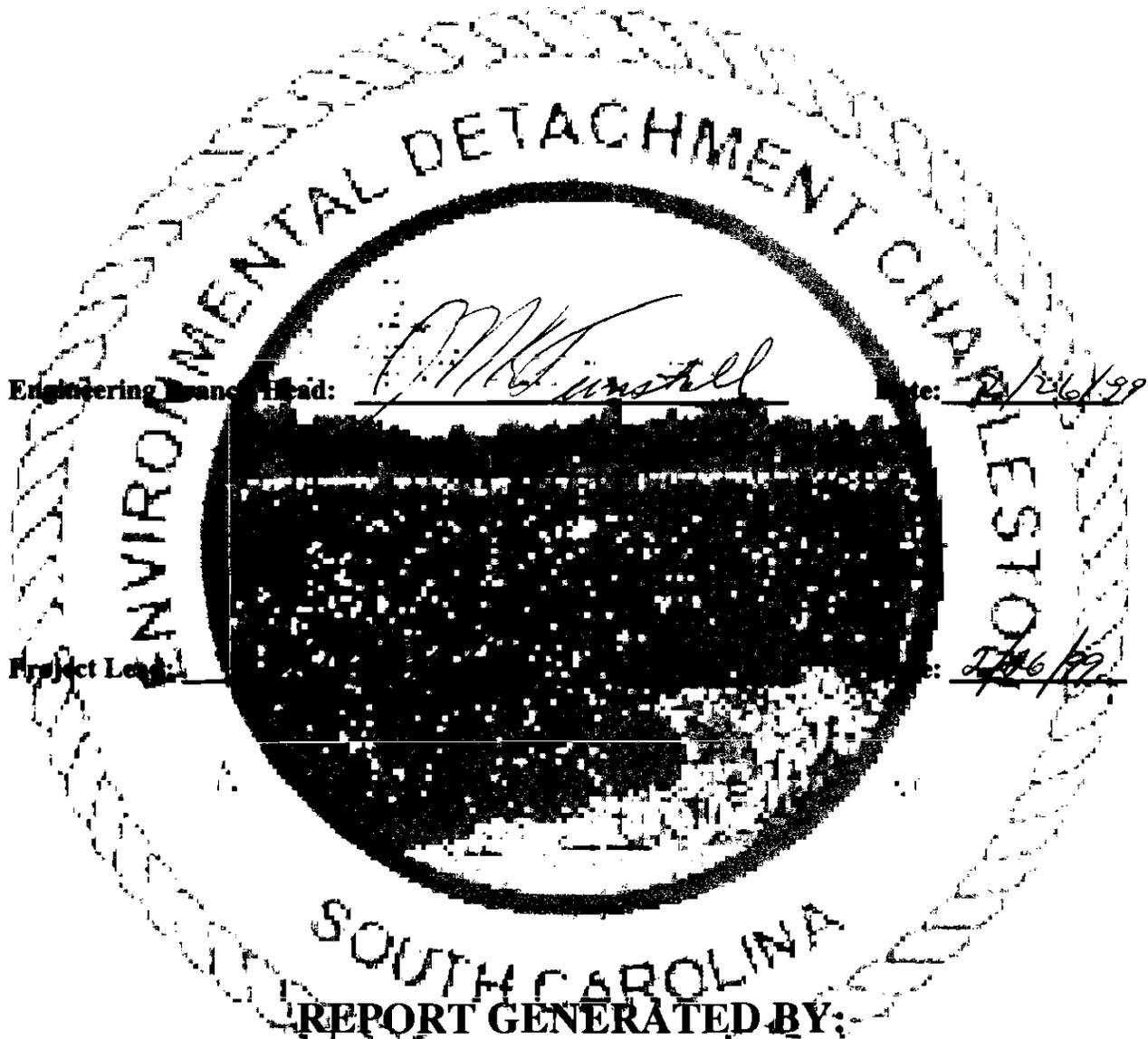
1. Per reference (a) the Environmental Detachment Charleston (DET) submits the enclosed Completion Report for AOC 517. The DET was tasked by SOUTHDIV to perform a process closure in the removal of lead dust from Building M-192, a former indoor firing range. These actions were performed by the DET within the original cost estimate for the project.

2. Questions regarding this report may be directed to Danny Hughes at 743-2821 ext. 122, or Kevin Tunstall at ext. 227.

for M. Tunstall
E.R. DEARHART

Copy to:
CSO

COMPLETION REPORT
PROCESS CLOSURE FOR AOC 517
NAVAL BASE CHARLESTON
CHARLESTON, SOUTH CAROLINA



REPORT GENERATED BY:
ENVIRONMENTAL DETACHMENT CHARLESTON
1899 NORTH HOBSON AVENUE
NORTH CHARLESTON, SC 29405



COMPLETION REPORT

PROCESS CLOSURE FOR
AOC 517
NAVAL BASE CHARLESTON
CHARLESTON, SC



Prepared for:

DEPARTMENT OF THE NAVY
SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
CHARLESTON SC



Prepared by:

Supervisor of Shipbuilding, Conversion and Repair,
USN, (SUPSHIP) Portsmouth Va.,
Environmental Detachment Charleston, S.C.
1899 North Hobson Ave.
North Charleston, SC 29405-2106

February 24, 1999

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APPENDICES

- Appendix A - Building M-192 Lead Wipe Results and Locations
- Appendix B - Material Safety Data Sheet for Encapsulant
- Appendix C - Analysis Data Sheets for Lead Wipes and Waste Characterization
- Appendix D - Photographs

FIGURES

- Figure 1 - AOC 517 Site Location
- Figure 2 - Bldg. M-192 Initial Wipe Results
- Figure 3 - Bldg. M-192 Screening Wipe Results
- Figure 4 - Bldg. M-192 Confirmatory Wipe Results

REFERENCES

- (a) Work Plan for Cleaning of Lead Dust from Building M-192, Former Indoor Firing Range at Naval Base Charleston

ACRONYM LIST

ACGIH	American Council of Governmental Industrial Hygienists
AOC	Area of Concern
DET	Environmental Detachment Charleston
CFR	Code of Federal Regulations
CHASP	Comprehensive Health and Safety Plan
CSAP	Comprehensive Sampling and Analysis Plan
CRZ	Contamination Reduction Zone
DOT	Department of Transportation
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
ERT	Emergency Response Team
HAZWOPER	Hazardous Waste Operations and Emergency Response
HEPA	High Efficiency Particulate Air
HUD	U.S. Department of Housing and Urban Development
HW/HM	Hazardous Waste/Hazardous Material
IDLH	Immediately Dangerous to Life and Health
IM	Interim Measure
LEL	Lower Explosive Limit
MSDS	Material Safety Data Sheet
NIOSH	National Institute of Occupational Safety and Health
NLLAP	National Lead Accreditation Program
NPDES	National Pollution Discharge Elimination System
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
POTW	Publicly Owned Treatment Works
PPE	Personal Protective Equipment
PPM	Parts Per Million
RBC	Risk Based Concentration
RCRA	Resource Conservation and Recovery Act
RFI	Facility Investigation
SHSO	Site Health and Safety Officer
SPORTENVDETHASN	Supervisor of Shipbuilding Conversion and Repair, Portsmouth Va., Environmental Detachment Charleston
SSHSP	Site-Specific Health and Safety Plan
SZ	Support Zone
TCLP	Toxic Characteristic Leaching Procedure
TLV	Threshold Limit Values
USAR	United States Army Reserve

EXECUTIVE SUMMARY

Southern Division, Naval Facilities Engineering Command retained Supervisor of Shipbuilding Conversion and Repair, USN, Portsmouth Va., Environmental Detachment Charleston (SPORTENVDETCNASN) to perform a lead dust survey and a combination of interim and abatement actions of Building M-192, identified as Area of Concern (AOC 517). Building M-192 is a former indoor firing range on Naval Base Charleston.

The scope of work for this project was to reduce the lead in dust contamination inside the building to a level that presents no appreciable risk to personnel. The levels established for this project were to reduce lead in dust below 100 $\mu\text{g}/\text{ft}^2$ for floors and 200 $\mu\text{g}/\text{ft}^2$ for all other surfaces. If the surfaces could not be reduced to these levels after initial cleaning, then the Detachment would perform three additional cleaning cycles. Additional samples would be taken, and if this standard was not met an encapsulate would be applied to adhere lead dust to the surface.

All accessible surfaces in Building M-192 meet the levels established for this project.

1.0 INTRODUCTION

Supervisor of Shipbuilding Conversion and Repair, USN, Portsmouth Va., Environmental Detachment Charleston (SPORTENVDETHASN) was retained by Southern Division, Naval Facilities Engineering Command to perform a lead dust survey and a combination of interim and abatement actions of Building M-192 (AOC 517), a former indoor firing range on Naval Base Charleston. See Figure #1 for site location. This project was completed in accordance with the guidelines of reference (a). Building M-192 has an interior finish of cinder block walls. The floor is tile and cement, and the ceiling is acoustical tile. The range area in the building is 78' long X 19' 6" wide X 8' high. The target area had been previously removed and a plywood floor constructed over the target area sand pit. The current tenant had cleared the building of miscellaneous material. The building has several window unit heat pumps for climate control.

2.0 LEAD DUST CLEANING PROCEDURE SUMMARY

Inspectors took initial wipe samples of the interior surfaces to evaluate the number of cleanings required for Building M-192 (See Figure 2, Appendix A). Areas that exceed the contamination limit for lead were found in the ceiling rafters, ceiling tile, and floor. The walls were clean. All ceiling tiles were removed and vacuumed. The wood flooring over the sand pit was removed and disposed as construction debris. A Toxicity Characteristic Leaching Procedure (TCLP) performed on a sample of the wood indicated <0.2 ppm. The rafter area above the ceiling tile was rinsed, washed, wiped, and vacuumed. This cleaning evolution was repeated prior to collecting screening samples (See Figure 3, Appendix A). The screening samples revealed that additional cleaning would be required in certain areas. The cleaning evolution was performed an additional time in these areas; specifically in the sand pit. Additional sampling in the sand pit indicated levels above the limit. Since there were so many minute inaccessible areas associated with the steel rafters it was decided to encapsulate the entire rafter area and the floor of the concrete sand pit. International Protective Coatings Corporation manufactures the encapsulate product, Barrier-Coat™- II (See Appendix B). Confirmatory samples were taken after the encapsulate was applied

and the results were $< 25 \mu\text{g}/\text{ft}^2$ (See Figure 4, Appendix A). Also, samples were taken in the overhead above the concrete ceiling of the vault. This area was inaccessible to cleaning, but wipe results indicated the area was within the established limits. A new plywood floor was installed over the concrete sand pit. The lead rinsate water was collected and transferred into two 55 gallon drums. The two drums were sampled, labeled, and disposed by the DET. Appendix C contains the laboratory analysis data sheets of lead wipe samples and waste characterization. Photographs of the work evolution are located in Appendix D.

3.0 CONCLUSION AND RECOMMENDATIONS

3.1 Conclusion

The scope of work for this project to reduce the lead in dust contamination inside the firing range to $< 100 \mu\text{g}/\text{ft}^2$ on the floors and $< 200 \mu\text{g}/\text{ft}^2$ on all other surfaces was accomplished.

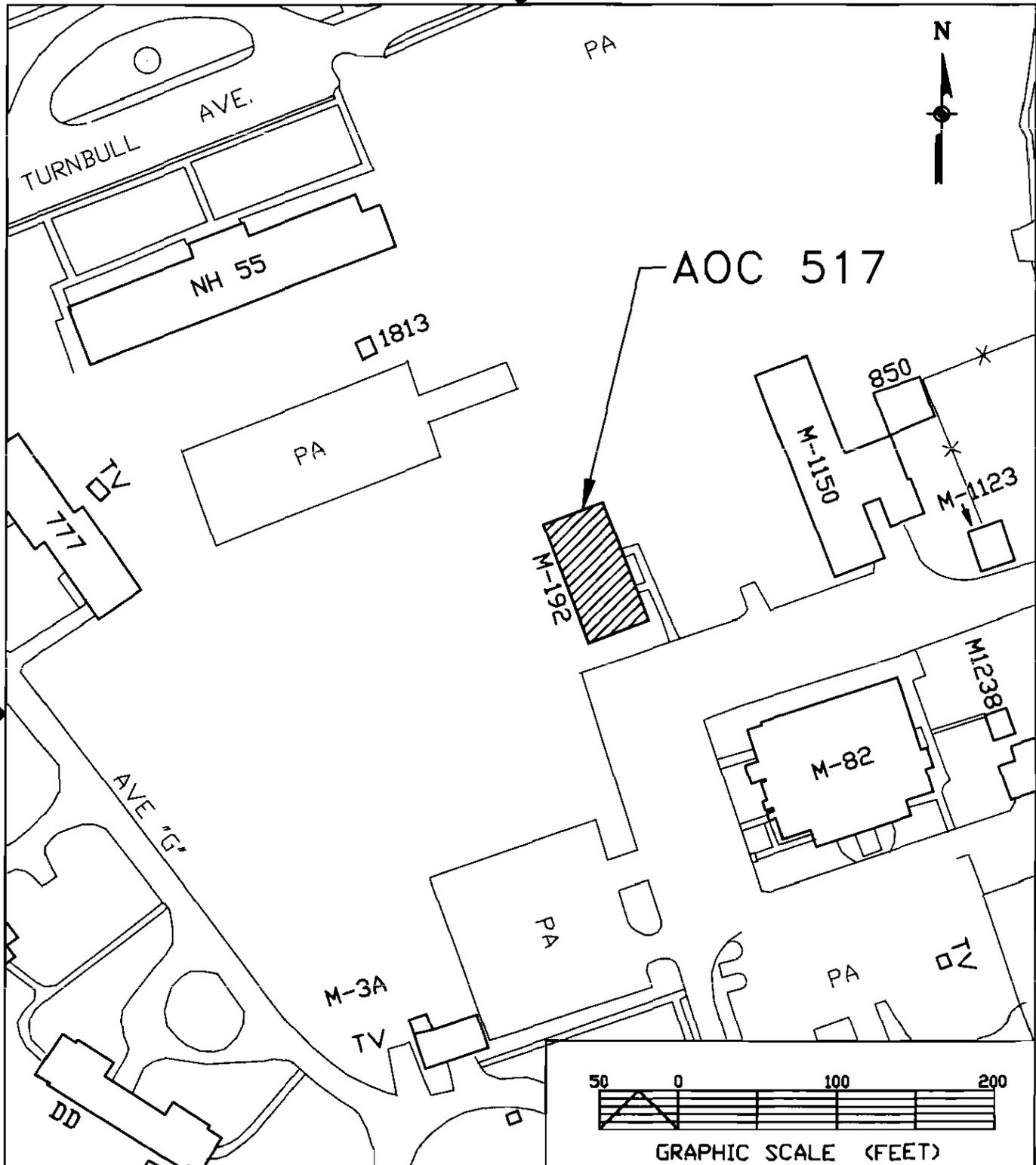
3.2 Recommendations

The Detachment's recommendation is to maintain the painted (encapsulated) surfaces. This can be achieved by applying additional paint to these areas when necessary. The flooring over the target area sand pit should not be removed until it has been confirmed that the encapsulate is still adequate. Also, since wipes from the walls indicated they were clean, the DET feels that lead dust may have been painted over during previous painting evolutions. Walls should be kept painted to prevent peeling or chalking.

Appendix A

Bldg M-192 Lead Wipe

Results and Locations

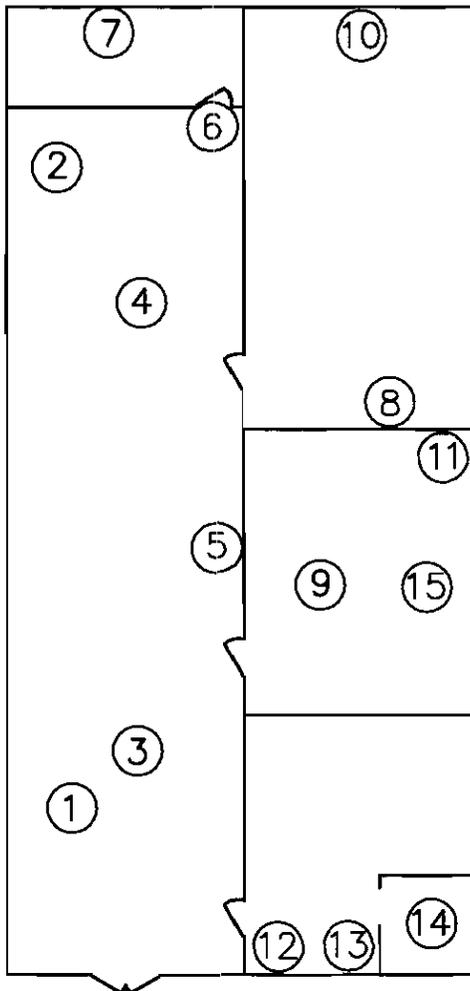


ENVIRONMENTAL DETACHMENT CHARLESTON
 1899 NORTH HOBBSON AVENUE - BUILDING 30
 NORTH CHARLESTON, SOUTH CAROLINA 29405-2106

FIGURE 1
AOC 517 COMPLETION REPORT SITE MAP

DATE:	25 FEB 99	PREPARED BY:	J.I. BROWNLEE	REV:	-
SCALE:	NONE	SHEET:			

INITIAL WIPE RESULTS



BUILDING M-192

<u>SAMPLE LOCATION</u>	<u>SAMPLE NO.</u>	<u>μg/ft²</u>
1. FLOOR	98AZ-122	382
2. FLOOR	98AZ-123	<25
3. CEILING	98AZ-124	109
4. RAFTERS	98AZ-125	9886
5. WALL	98AZ-126	<25
6. FLOOR	98AZ-127	634
7. CEILING	98AZ-128	63480
8. FLOOR	98AZ-129	115
9. FLOOR	98AZ-130	500
10. WALL	98AZ-131	<25
11. WALL	98AZ-132	<25
12. FLOOR	98AZ-133	40
13. WALL (AROUND WINDOW)	98AZ-134	147
14. CEILING	98AZ-135	7041
15. CEILING	98AZ-136	<25

ENVIRONMENTAL DETACHMENT CHARLESTON
1899 NORTH HOBSON AVENUE - BUILDING 30
NORTH CHARLESTON, SOUTH CAROLINA 29405-2106

FIGURE 2
AOC 517, BUILDING M-192 SAMPLE
LOCATIONS AND INITIAL WIPE RESULTS

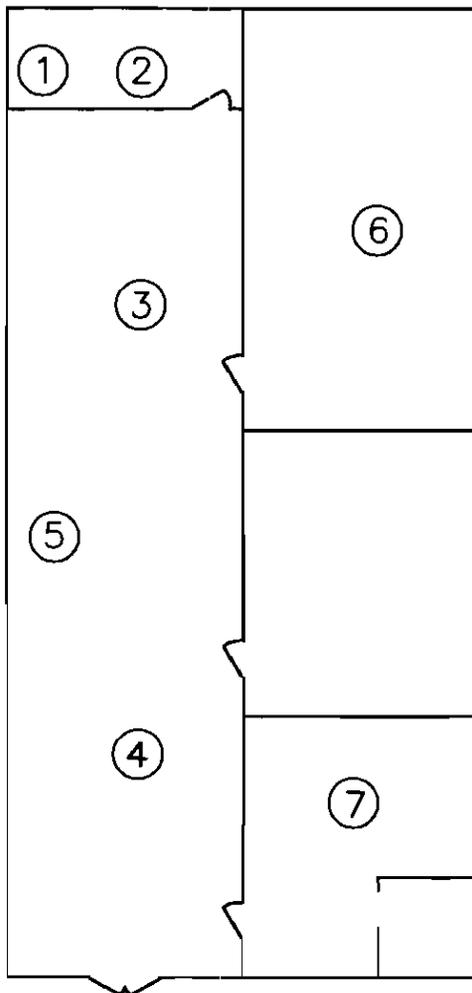
DATE: 25 FEB 99	PREPARED BY: J.I. BROWNLEE	REV -
SCALE: NONE	SHEET:	

LEGEND

⊗ SAMPLE LOCATION

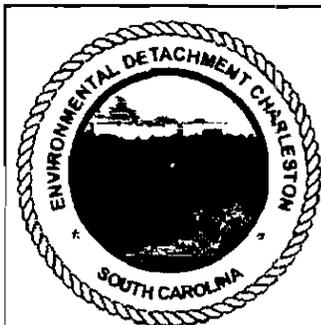


SCREENING WIPE RESULTS



BUILDING M-192

<u>SAMPLE LOCATION</u>	<u>SAMPLE NO.</u>	<u>μg/ft²</u>
1. FLOOR (CLEANED AREA)	99AZ007-01	757
2. FLOOR (DIRTY AREA)	99AZ007-02	6470
3. CEILING GIRDER	99AZ007-03	618
4. CEILING GIRDER	99AZ007-04	160
5. CEILING TILES	99AZ007-05	29
6. CEILING GIRDER	99AZ007-06	30
7. CEILING GIRDER	99AZ007-07	701



ENVIRONMENTAL DETACHMENT CHARLESTON
 1899 NORTH HOBSON AVENUE - BUILDING 30
 NORTH CHARLESTON, SOUTH CAROLINA 29405-2108

FIGURE 3

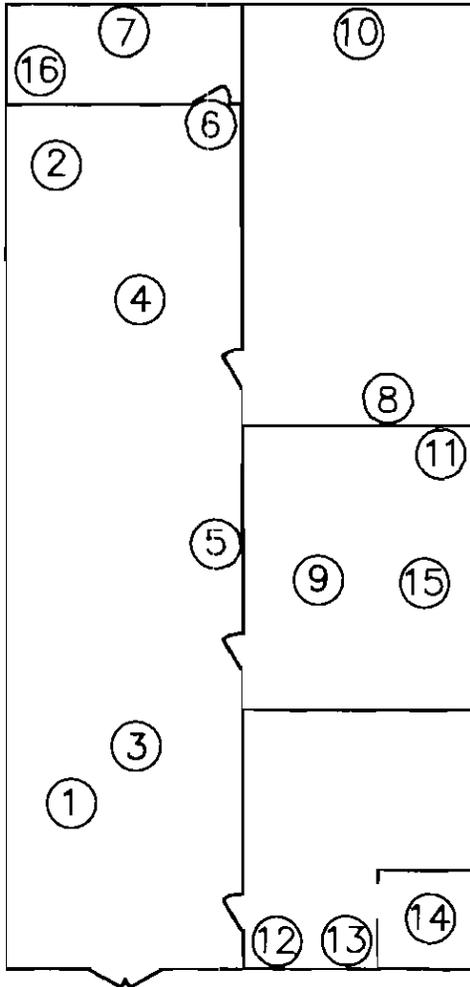
**AOC 517, BUILDING M-192 SAMPLE
 LOCATIONS AND SCREENING WIPE RESULTS**

DATE:	26 FEB 99	PREPARED BY:	J.I. BROWNLEE	REV:	-
SCALE:	NONE	SHEET:			

LEGEND

⊗ SAMPLE LOCATION

CONFIRMATORY WIPE RESULTS



BUILDING M-192

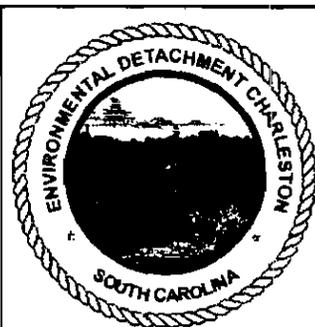
<u>SAMPLE LOCATION</u>	<u>SAMPLE NO.</u>	<u>μg/ft²</u>
1. FLOOR	99AZ011-01	<25
2. FLOOR	99AZ011-02	<25
3. CEILING	99AZ011-03	<25
4. RAFTERS	99AZ011-04	<25
5. WALL	99AZ011-05	<25
6. FLOOR	99AZ011-06	<25
7. CEILING	99AZ011-07	<25
8. FLOOR	99AZ011-08	<25
9. FLOOR	99AZ011-09	<25
10. WALL	99AZ011-10	<25
11. WALL	99AZ011-11	<25
12. FLOOR	99AZ011-12	<25
13. WALL (AROUND WINDOW)	99AZ011-13	<25
14. CEILING	99AZ011-14	<25
15. CEILING	99AZ011-15	<25
16. SAND PIT	99AZ011-16	<25

ENVIRONMENTAL DETACHMENT CHARLESTON
 1899 NORTH HOBSON AVENUE - BUILDING 30
 NORTH CHARLESTON, SOUTH CAROLINA 29405-2106

FIGURE 4

**AOC 517, BUILDING M-192 SAMPLE
 LOCATIONS AND CONFIRMATORY WIPE RESULTS**

DATE:	26 FEB 99	PREPARED BY:	J.I. BROWNLEE	REV	-
SCALE:	NONE	SHEET:			



LEGEND

⊗ SAMPLE LOCATION

Appendix B

Material Safety Data

Sheet for Encapsulant

INTERNATIONAL PROTECTIVE COATINGS -- BARRIER-COAT
MATERIAL SAFETY DATA SHEET
NSN: 801000N078716
Manufacturer's CAGE: 45239
Part No. Indicator: A
Part Number/Trade Name: BARRIER-COAT

=====
General Information
=====

Company's Name: INTERNATIONAL PROTECTIVE COATINGS CORP
Company's Street: 725 CAROL AVE
Company's City: OAKHURST
Company's State: NJ
Company's Country: US
Company's Zip Code: 07755
Company's Emerg Ph #: 800-424-9300 (CHEMTREC)
Company's Info Ph #: 800-334-8796
Record No. For Safety Entry: 001
Tot Safety Entries This Stk#: 001
Status: SMJ
Date MSDS Prepared: 01MAR94
Safety Data Review Date: 07AUG97
MSDS Preparer's Name: M NAVARRO
Preparer's Company: SAME
MSDS Serial Number: CGGMH

=====
Ingredients/Identity Information
=====

Proprietary: NO
Ingredient: NON-HAZARDOUS INGREDIENTS
Ingredient Sequence Number: 01
NIOSH (RTECS) Number: 1000314NH
OSHA PEL: N/K (FP N)
ACGIH TLV: N/K (FP N)

Proprietary: NO
Ingredient: VOLATILE ORGANIC COMPOUND: <0.005 LBS/GAL
Ingredient Sequence Number: 02
NIOSH (RTECS) Number: 9999999VO
OSHA PEL: N/K (FP N)
ACGIH TLV: N/K (FP N)

=====
Physical/Chemical Characteristics
=====

Appearance And Odor: WHITE LIQUID, MILD LATEX ODOR
Boiling Point: 212F,100C
Vapor Pressure (MM Hg/70 F): N/A
Vapor Density (Air=1): >1.0
Specific Gravity: 1.33 (FP N)
Evaporation Rate And Ref: >1.0 (ETHER=1)
Solubility In Water: (SUP DAT)
Percent Volatiles By Volume: 55.0

=====
Fire and Explosion Hazard Data
=====

Flash Point: N/A
Lower Explosive Limit: N/A
Upper Explosive Limit: N/A
Extinguishing Media: FOAM, ALCOHOL FOAM, CARBON DIOXIDE, DRY CHEMICAL,
WATER FOG.
Special Fire Fighting Proc: WEAR NIOSH APPROVED SCBA & FULL PROTECTIVE
EQUIPMENT (FP N).
Unusual Fire And Expl Hazrds: THIS PRODUCT WILL NOT BURN, BUT MAY SPATTER
IF THE TEMPERATURE EXCEEDS THE BOILING POINT.

=====
Reactivity Data
=====

Stability: YES
Cond To Avoid (Stability): NOT APPLICABLE.
Materials To Avoid: STRONG ACIDS AND ALKALINE AGENTS.
Hazardous Decomp Products: PRIMARILY CARBON MONOXIDE AND/OR CARBON
DIOXIDE. TRACE AMOUNTS OF NITROGEN AND ASPHYXIANTS.
Hazardous Poly Occur: NO
Conditions To Avoid (Poly): NOT RELEVANT.

=====
Health Hazard Data
=====

LD50-LC50 Mixture: NONE SPECIFIED BY MANUFACTURER.
Route Of Entry - Inhalation: YES
Route Of Entry - Skin: YES
Route Of Entry - Ingestion: YES
Health Haz Acute And Chronic: ACUTE: EYES: IRRITATION. SKIN: EXCESSIVE
EXPOSURE MAY CAUSE DRYING AND CHAPPING. INHALATION: MAY CAUSE GAGGING,
NONE SPECIFIED BY MANUFACTURER.
Carcinogenicity - NTP: NO
Carcinogenicity - IARC: NO
Carcinogenicity - OSHA: NO
Explanation Carcinogenicity: NOT RELEVANT.
Signs/Symptoms Of Overexp: SEE HEALTH HAZARDS.
Med Cond Aggravated By Exp: NONE KNOWN.
Emergency/First Aid Proc: EYES: FLUSH WITH WATER FOR AT LEAST 15 MINUTES.
DO NOT RUB. CONSULT MD IF IRRITATION PERSISTS. SKIN: WASH WITH SOAP AND
WATER. INHALATION: REMOVE TO FRESH AIR. INGESTION: INDUCE VOMITING. CONSULT
MD.

=====
Precautions for Safe Handling and Use
=====

Steps If Matl Released/Spill: KEEP ALL SPECTATORS AWAY. UNCONTAMINATED
MATERIAL MAY BE RECOVERED AND REUSED. IF CONTAMINATED SCOOP INTO RECEPTACLE
FOR DISPOSAL.
Neutralizing Agent: NONE SPECIFIED BY MANUFACTURER.
Waste Disposal Method: ALLOW MATERIAL TO DRY. DISPOSE OF SOLID WASTE IN
ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.
Precautions-Handling/Storing: SEAL CONTAINER WHEN NOT IN USE. STORE IN
WELL-VENTILATED AREA.
Other Precautions: INFO & RECS OFFERED HEREIN, ARE FOR USERS CONSIDERATION
& EXAMINATION & IS TO BE USED IN ADDN TO ALL OTHER INFO THAT IS AVAIL &
PERTINENT. IT IS THE USER'S RESPONSIBILLITY TO DETERMINE SUITABILITY OF ITS
SPECIFIC CNDTNS & PARTICULAR USE.

=====
Control Measures
=====

Respiratory Protection: USE NIOSH APPROVED RESPIRATOR IN POORLY VENTILATED
AREAS.
Ventilation: GENERAL (MECHANICAL) ROOM VENTILATION IS TO BE SATISFACTORY
FOR NORMAL USAGE.
Protective Gloves: IMPERVIOUS GLOVES.
Eye Protection: ANSI APPRVD CHEM WORKERS GOGGLES (FP N).
Other Protective Equipment: AS NEEDED. EMERGENCY EYEWASH AND DELUGE SHOWER
MEETING ANSI DESIGN CRITERIA (FP N).
Work Hygienic Practices: AVOID CONTACT WITH SKIN AND CLOTHING. WASH AFTER
USE AND LAUNDER CONTAMINATED CLOTHING BEFORE REUSE.
Suppl. Safety & Health Data: SOL IN WATER: APPRECIABLE (IN LIQUID PHASE).

=====
Transportation Data
=====

=====
Disposal Data
=====

=====
Label Data
=====

Label Required: YES
Technical Review Date: 07AUG97
Label Date: 07AUG97

Label Status: G
Common Name: BARRIER-COAT
Chronic Hazard: NO
Signal Word: CAUTION!
Acute Health Hazard-Slight: X
Contact Hazard-Slight: X
Fire Hazard-None: X
Reactivity Hazard-None: X
Special Hazard Precautions: ACUTE: EYES: IRRITATION. SKIN: EXCESSIVE
EXPOSURE MAY CAUSE DRYING AND CHAPPING. INHALATION: MAY CAUSE GAGGING,
NONE SPECIFIED BY MANUFACTURER.
Protect Eye: Y
Protect Skin: Y
Protect Respiratory: Y
Label Name: INTERNATIONAL PROTECTIVE COATINGS CORP
Label Street: 725 CAROL AVE
Label City: OAKHURST
Label State: NJ
Label Zip Code: 07755
Label Country: US
Label Emergency Number: 800-424-9300 (CHEMTREC)

Appendix C

Analysis Data Sheets for Lead Wipes and Waste Characterization

SAMPLE DESCRIPTIONS

BUILDING M-192 SAMPLE NUMBER	TYPE OF SAMPLE
98AZ-122 THROUGH -136	INITIAL
99AZ-004-01	TCLP ON WOOD FLOORING
99AZ-007-01 THROUGH 007-07	SCREENING
99AZ-008-01	SAND PIT FLOOR AFTER 2 ND CLEANING
99AZ-011-01 THROUGH 011-16	CONFIRMATORY
99AZ-012-01 THROUGH 012-12	SAMPLES OVER VAULT



CLIENT: SPORTENVDETHASN
1899 N Hobson Ave., BLDG. 30
N. Charleston, SC 29405-2106
ATTN.: Tommy Hardin

Workorder: 9805120
Received: 5/22/98 3:17:00 PM
Received by: McGuiggan T
Validated: 5/29/98 9:26:00 AM
Validated by: Greer D
Approved: 5/29/98 9:26:00 AM
Approved by: Greer D

Project Info: Bldg 192

Purchase Ord: N68836-98-M-X083& CNSF38040C008

Client ID	Test Requested
1 98AZ-122	Lead Wipe
2 98AZ-123	Lead Wipe
3 98AZ-124	Lead Wipe
4 98AZ-125	Lead Wipe
5 98AZ-126	Lead Wipe
6 98AZ-127	Lead Wipe
7 98AZ-128	Lead Wipe
8 98AZ-129	Lead Wipe
9 98AZ-130	Lead Wipe
10 98AZ-131	Lead Wipe
11 98AZ-132	Lead Wipe
12 98AZ-133	Lead Wipe
13 98AZ-134	Lead Wipe
14 98AZ-135	Lead Wipe
15 98AZ-136	Lead Wipe

Director of Laboratories: Richard D. Bennett, MSPH CIH
AIHA Laboratory ID Number: 9044 ELLAP Laboratory ID Number: 9044

Final Approval: Tommy McGuiggan

Date: May 29, 1998

Order #: 9805120
Project #: Bldg 192

Laboratory Results

HUD Lead Wipe

Analytical Method: Flame Atomic Absorption Spectrometry
by modified NIOSH 7082.

Sample Description	Amount (ug)	Area (ft2)	Result (ug/ft2)
1 98AZ-122	392	1.000	392
2 98AZ-123	<25	1.000	<25
3 98AZ-124	109	1.000	109
4 98AZ-125	9886	1.000	9886
5 98AZ-126	<25	1.000	<25
6 98AZ-127	634	1.000	634
7 98AZ-128	63480	1.000	63480
8 98AZ-129	115	1.000	115
9 98AZ-130	500	1.000	500
10 98AZ-131	<25	1.000	<25
11 98AZ-132	<25	1.000	<25
12 98AZ-133	40	1.000	40
13 98AZ-134	147	1.000	147
14 98AZ-135	7041	1.000	7041
15 98AZ-136	<25	1.000	<25

THE SAMPLES DID NOT FULLY DIGEST AND GO INTO SOLUTION,
THEREFORE SAMPLE LOSS MAY HAVE OCCURRED.



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9229 University Blvd.

Charleston, SC 29406

(800) 968-3565 Fax (803) 569-3282

Test Request Form

Name Environmental Detachment (EHS)Address 1349 North Jackson
N. Charleston, SC 29405-2100Special requests: 5 day Turnaround

Verbal results _____

Fax report XFax # 743-9415

Results needed by: _____

Project No. <u>BLDG 192</u>	Sample Type <u>Dustwipe (Lead)</u>	# of Samples <u>15</u>	P.O. (No 8836-98-M 38048 CORG) <u>208</u>
Contact Name <u>Tommy Howard</u>	Phone No. <u>1743 2821 ext. 222</u>	Date Shipped <u>5/21/98</u>	
Special Instructions / Unusual Conditions / Possible Interferences: <u>Analyze Per App. 14 of HUD Guidelines</u>			

Lab Use Only	Sample Number or Area	Sample Volume or Time	Date Sampled	Media Type	Analysis Requested
	1 98A2-122	1ft ² 0920	5/21/98	Dust Wipe	Lead
	2 98A2-123	1ft ² 0925			
	3 98A2-124	1ft ² 0930			
	4 98A2-125	1ft ² 0932			
	5 98A2-126	1ft ² 0934			
	6 98A2-127	1ft ² 0936			
	7 98A2-128	1ft ² 0940			
	8 98A2-129	1ft ² 0942			
	9 98A2-130	1ft ² 0945			
	10 98A2-131	1ft ² 0947			
	11 98A2-132	1ft ² 0950			
	12 98A2-133	1ft ² 0952			
	13 98A2-134	1ft ² 0954			
	14 98A2-135	1ft ² 0955			
	15 98A2-136	1ft ² 0959	5/21/98	Dust Wipe	Lead

American Industrial Hygiene Association: Laboratory Accreditation #367

CUSTODY	Relinquished by: <u>J.T. Hanch</u>	Date/Time: <u>5/21/98 1300</u>	Received by: <u>J. Decker</u>	Date/Time: <u>5/21/98 1300</u>
	Relinquished by: <u>AD/kyh</u>	Date/Time: <u>5/21/98 1645</u>	Received at Lab by: <u>X</u>	Date/Time: <u>5/21/98 1645</u>
	Method of Shipment: _____	Sample Condition Upon Receipt: <input type="checkbox"/> Acceptable <input type="checkbox"/> Other (explain)		
Authorized by: <u>J.T. Hanch</u>	Date: <u>5/21/98</u>	(Client Signature Must Accompany Request)		

CLIENT: SPORTEVOETCHASN
 1899 N Hobson Ave., BLDG. 30
 N. Charleston, SC 29405-2106
ATTN.: Vivan Washington

Workorder: 9812017
Received: 12/3/98 4:50:00 PM
Received by: mCgUIGGAN t
Validated:
Validated by:
Approved:
Approved by:

Project Info: Indoor Firing Range

Purchase Ord: Tom-credit card

Client Sample ID: 99AZ-004-01		Collection Date: 12/3/98
Azimuth ID: 9812017-01		
Test	Method	Sample Result
P Lead	EPA SW846 Method 1311,7420	<0.2 ppm

Director of Laboratories: Richard D. Bennett, MSPH CIH
 AIHA Laboratory ID Number: 9044 NY State ELAP Lab No. 11032 ELLAP Laboratory ID Number: 9044

Final Approval: _____

Date: _____



CLIENT: SPORTENVDETHASN
1899 N Hobson Ave., BLDG. 30
N. Charleston, SC 29405-2106
ATTN.: Danny Hughes

Project Info: Bldg M-192

Purchase Ord: Credit Card-Tom

Workorder: 9901040
Received: 1/14/99 10:19:00 AM
Received by: McGuiggan T
Validated: 1/14/99 3:52:00 PM
Validated by: McGuiggan T
Approved: 1/14/99 3:52:00 PM
Approved by: McGuiggan T

Client Sample ID: 99AZ-007-01 Azimuth ID: 9901040-01		Collection Date: 1/14/99
Test	Method	Sample Result
Lead Wipe	mNIOSH 7082	757 ug/ft2

Client Sample ID: 99AZ-007-02 Azimuth ID: 9901040-02		Collection Date: 1/14/99
Test	Method	Sample Result
Lead Wipe	mNIOSH 7082	6470 ug/ft2

Client Sample ID: 99AZ-007-03 Azimuth ID: 9901040-03		Collection Date: 1/14/99
Test	Method	Sample Result
Lead Wipe	mNIOSH 7082	618 ug/ft2

Client Sample ID: 99AZ-007-04 Azimuth ID: 9901040-04		Collection Date: 1/14/99
Test	Method	Sample Result
Lead Wipe	mNIOSH 7082	160 ug/ft2

Client Sample ID: 99AZ-007-05		Collection Date: 1/14/99
Azimuth ID: 9901040-05		
Test	Method	Sample Result
Lead Wipe	mNIOSH 7082	29 ug/ft2

Client Sample ID: 99AZ-007-06		Collection Date: 1/14/99
Azimuth ID: 9901040-06		
Test	Method	Sample Result
Lead Wipe	mNIOSH 7082	30 ug/ft2

Client Sample ID: 99AZ-007-07		Collection Date: 1/14/99
Azimuth ID: 9901040-07		
Test	Method	Sample Result
Lead Wipe	mNIOSH 7082	701 ug/ft2

Director of Laboratories: Richard D. Bennett, MSPH CIH

IA Laboratory ID Number: 9044

NY State ELAP Lab No. 11052

ELLAP Laboratory ID Number: 9044

The detection limit for lead on wipes is 0.50 mg/L. Samples did not fully digest and go into solution. Some sample loss may have occurred.

Final Approval: [Signature]

Date: January 15, 1999



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 Charleston, SC 29406
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Test Request Form

Name ENVIRONMENTAL DETACHMENT CHARLESTON
 Address 1299 NORTH HOBSON AVE
N. CHARLESTON SC 29405-2106
 Bill Hiers 743-6777 X-124

Special requests: 1 DAY TURN AROUND
 Verbal results _____
 Fax report X
 Fax # 743-0174
 Results needed by: _____

Project No. BLDG M-192 Sample Type DUST WIPE (LEAD) # of Samples 7 P.O. CREDITCARD-TOM
 Contact Name DANNY HUGHES Phone No. 743-2821 X 172 Date Shipped 01/14/99

Special Instructions / Unusual Conditions / Possible Interferences:
ANALYZE PER APPENDIX A OF H.U.D. GUIDELINES

Lab Use Only	Sample Number or Area	Sample Volume or Time	Date Sampled	Media Type	Analysis Requested
	99AZ-007-01	1 FT ²	01/14/99	DUST WIPE	LEAD
	99AZ-007-02	1 FT ²	↓	↓	↓
	99AZ-007-03	1 FT ²	↓	↓	↓
	99AZ-007-04	1 FT ²	↓	↓	↓
	99AZ-007-05	1 FT ²	↓	↓	↓
	99AZ-007-06	1 FT ²	↓	↓	↓
	99AZ-007-07	1 FT ²	↓	↓	↓

American Industrial Hygiene Association: Laboratory Accreditation #367

CUSTODY	Relinquished by: <u>[Signature]</u> Date/Time <u>01/14/99 0915</u>	Received by: <u>[Signature]</u> Date/Time <u>01/14/99 0915</u>
	Relinquished by: <u>[Signature]</u> Date/Time <u>01/14/99 0951</u>	Received at Lab by: <u>[Signature]</u> Date/Time <u>01/14/99 0951</u>
Method of Shipment: _____		Sample Condition Upon Receipt: <input checked="" type="checkbox"/> Acceptable <input type="checkbox"/> Other (explain)
Authorized by: <u>[Signature]</u> Date <u>01/14/99</u>		
(Client Signature Must Accompany Request)		

CLIENT: SPORTENVDETHASN
1899 N Hobson Ave., BLDG. 30
N. Charleston, SC 29405-2106
ATTN.: Danny Hughes

Project Info: B-M192

Purchase Ord: Credit Card-Tom

Workorder: 9901070
Received: 1/19/99 11:38:00 AM
Received by: McGuiggan T
Validated: 1/20/99 2:09:00 PM
Validated by: McGuiggan T
Approved: 1/20/99 2:09:00 PM
Approved by: McGuiggan T

Client Sample ID: 99AZ-008-01 Collection Date: 1/19/99
Azimuth ID: 9901070-01

Test	Method	Sample Result
Lead Wipe	mNIOSH 7082	806 ug/ft2

Director of Laboratories: Richard D. Bennett, MSPH CIH

AIHA Laboratory ID Number: 9044

NY State ELAP Lab No. 11052

ELLAP Laboratory ID Number: 9044

The detection limit for Lead on wipes is 0.5mg/L. A blank was not submitted with the sample.

Final Approval: Danny McGuiggan, Lab manager

Date: January 20, 1999



CLIENT: SPORTENVDETHASN
1899 N Hobson Ave., BLDG. 30
N. Charleston, SC 29405-2106
ATTN.: Danny Hughes

Project Info: BM-192

Purchase Ord: Credit Card-Tom

Workorder: 9902014
Received: 2/3/99 4:48:00 PM
Received by: McGuiggan T
Validated: 2/5/99 4:55:00 PM
Validated by: Gallagher J
Approved: 2/5/99 4:55:00 PM
Approved by: Gallagher J

Client Sample ID: 99AZ-011-01		Collection Date: 2/3/99
Azimuth ID: 9902014-01		
Test	Method	Sample Result
Lead Wipe	mNIOSH 7082	<25 ug/ft2

Client Sample ID: 99AZ-011-02		Collection Date: 2/3/99
Azimuth ID: 9902014-02		
Test	Method	Sample Result
Lead Wipe	mNIOSH 7082	<25 ug/ft2

Client Sample ID: 99AZ-011-03		Collection Date: 2/3/99
Azimuth ID: 9902014-03		
Test	Method	Sample Result
Lead Wipe	mNIOSH 7082	<25 ug/ft2

Client Sample ID: 99AZ-011-04		Collection Date: 2/3/99
Azimuth ID: 9902014-04		
Test	Method	Sample Result
Lead Wipe	mNIOSH 7082	<25 ug/ft2

Client Sample ID: 99AZ-011-05		Collection Date: 2/3/99
Azimuth ID: 9902014-05		
Test	Method	Sample Result
Lead Wipe	mNIOSH 7082	<25 ug/ft2

Client Sample ID: 99AZ-011-06		Collection Date: 2/3/99
Azimuth ID: 9902014-06		
Test	Method	Sample Result
Lead Wipe	mNIOSH 7082	<25 ug/ft2

Client Sample ID: 99AZ-011-07		Collection Date: 2/3/99
Azimuth ID: 9902014-07		
Test	Method	Sample Result
Lead Wipe	mNIOSH 7082	<25 ug/ft2

Client Sample ID: 99AZ-011-08		Collection Date: 2/3/99
Azimuth ID: 9902014-08		
Test	Method	Sample Result
Lead Wipe	mNIOSH 7082	<25 ug/ft2

Client Sample ID: 99AZ-011-09		Collection Date: 2/3/99
Azimuth ID: 9902014-09		
Test	Method	Sample Result
Lead Wipe	mNIOSH 7082	<25 ug/ft2

Client Sample ID: 99AZ-011-10		Collection Date: 2/3/99
Azimuth ID: 9902014-10		
Test	Method	Sample Result
Lead Wipe	mNIOSH 7082	<25 ug/ft2

Client Sample ID: 99AZ-011-11		Collection Date: 2/3/99
Azimuth ID: 9902014-11		
Test	Method	Sample Result
Lead Wipe	mNIOSH 7082	<25 ug/ft2

Client Sample ID: 99AZ-011-12		Collection Date: 2/3/99
Azimuth ID: 9902014-12		
Test	Method	Sample Result
Lead Wipe	mNIOSH 7082	<25 ug/ft2

Client Sample ID: 99AZ-011-13		Collection Date: 2/3/99
Azimuth ID: 9902014-13		
Test	Method	Sample Result
Lead Wipe	mNIOSH 7082	<25 ug/ft2

Client Sample ID: 99AZ-011-14		Collection Date: 2/3/99
Azimuth ID: 9902014-14		
Test	Method	Sample Result
Lead Wipe	mNIOSH 7082	<25 ug/ft2

Client Sample ID: 99AZ-011-15		Collection Date: 2/3/99
Azimuth ID: 9902014-15		
Test	Method	Sample Result
Lead Wipe	mNIOSH 7082	<25 ug/ft2

Client Sample ID: 99AZ-011-16		Collection Date: 2/3/99
Azimuth ID: 9902014-16		
Test	Method	Sample Result
Lead Wipe	mNIOSH 7082	<25 ug/ft2



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 Charleston, SC 29406
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Test Request Form

Name ENVIRONMENTAL DETACHMENT CHARLESTON
 Address 1899 NORTH HOBSON AVE.
NORTH CHARLESTON, SC.
29405-2106
 ATT: BILL HIERS

Special requests:
 Verbal results _____
 Fax report YES
 Fax # 743-9413
 Results needed by: ROUTINE

Project No. B M-192 Sample Type DUST WIPE (LEAD) # of Samples 16 P.O. CREDIT CARD-TOM
 Contact Name DANNY HUGHES Phone No. 743-2821 X122 Date Shipped _____

Special Instructions / Unusual Conditions / Possible Interferences:
ANALYZE PER APPENDIX 14 OF HUD GUIDELINES

Lab Use Only	Sample Number or Area	Sample Volume or Time	Date Sampled	Media Type	Analysis Requested
	99AZ-011-01	1 FT ²	2/3/99	DUST WIPE	LEAD
	99AZ-011-02				
	99AZ-011-03				
	99AZ-011-04				
	99AZ-011-05				
	99AZ-011-06				
	99AZ-011-07				
	99AZ-011-08				
	99AZ-011-09				
	99AZ-011-10				
	99AZ-011-11				
	99AZ-011-12				
	99AZ-011-13				
	99AZ-011-14				
	99AZ-011-15				
	99AZ-011-16				

American Industrial Hygiene Association: Laboratory Accreditation #367

GAIN OF CUSTODY	Relinquished by: _____	Date/Time _____	Received by: _____	Date/Time _____
	Relinquished by: _____	Date/Time _____	Received at Lab by: _____	Date/Time _____
	Method of Shipment: _____		Sample Condition Upon Receipt: <input type="checkbox"/> Acceptable <input type="checkbox"/> Other (explain)	
Authorized by: _____		Date _____		
(Client Signature <u>Must</u> Accompany Request)				



Test Request Form

A Division of Azimuth, Incorporated

9229 University Blvd.
Charleston, SC 29406
(800) 968-3565 Fax (803) 569-3282

Name ENVIRONMENTAL DETACHMENT CHARLESTON
Address 1899 NORTH HOBSON AVE,
NORTH CHARLESTON, S.C.
29405-2106
ATTN: Bill Hiers

Special requests:
Verbal results _____
Fax report YES
Fax # 743-9413
Results needed by: ROUTINE

Project No. <u>B-M192</u>	Sample Type <u>DUST WIPE (LEAD)</u>	# of Samples <u>2</u>	P.O. CREDIT CARD-TOM
Contact Name <u>DANNY HUGHES</u>	Phone No. <u>743-2821 X122</u>	Date Shipped	

Special Instructions / Unusual Conditions / Possible Interferences:
ANALYZE PER APPENDIX 14 OF HUD GUIDELINES

Lab Use Only	Sample Number or Area	Sample Volume or Time	Date Sampled	Media Type	Analysis Requested
	<u>99AZ-φ12-φ1</u>	<u>1 FT²</u>	<u>2/3/99</u>	<u>DUST WIPE</u>	<u>LEAD</u>
	<u>99AZ-φ12-φ2</u>	<u>1 FT²</u>	<u>2/3/99</u>	<u>DUST WIPE</u>	<u>LEAD</u>

American Industrial Hygiene Association: Laboratory Accreditation #367

PART OF CUSTODY	Relinquished by: _____	Date/Time _____	Received by: _____	Date/Time _____
	Relinquished by: _____	Date/Time _____	Received at Lab by: _____	Date/Time _____
	Method of Shipment: _____		Sample Condition Upon Receipt: <input type="checkbox"/> Acceptable <input type="checkbox"/> Other (explain)	
Authorized by: _____		Date _____		
(Client Signature <u>Must</u> Accompany Request)				

Client Sample ID: 99AZ-012-01		Collection Date: 2/3/99
Azimuth ID: 9902014-17		
Test	Method	Sample Result
Lead Wipe	mNIOSH 7082	105 ug/ft2

Client Sample ID: 99AZ-012-02		Collection Date: 2/3/99
Azimuth ID: 9902014-18		
Test	Method	Sample Result
Lead Wipe	mNIOSH 7082	<25 ug/ft2

Director of Laboratories: Richard D. Bennett, MSPH CIH

AIHA Laboratory ID Number: 9044

NY State ELAP Lab No. 11052

ELLAP Laboratory ID Number: 9044

The detection limit for lead on wipes is 0.50 mg/L. A blank was not submitted with the samples.

Final Approval: Donna McGuggan, Lab manager

Date: February 8, 1999

Appendix D

Photographs



CEILING TILES REMOVED EXPOSING RAFTERS



RAFTERS AND CEILING BEING CLEANED



TARGET PIT FLOOR REMOVED EXPOSING FLOOR JOIST



TARGET PIT FLOOR ENCAPSULATED



CEILING AND JOIST ENCAPSULATED



CEILING AND JOIST ENCAPSULATED ABOVE TARGET ROOM