



**NATIONAL GUARD BUREAU**  
111 SOUTH GEORGE MASON DRIVE  
ARLINGTON VA 22204-1382

ARNG-CSG-P

September 8, 2017

**MEMORANDUM FOR:** Alaska National Guard Adjutant General

**SUBJECT:** Industrial Hygiene (IH) Lead Dust Survey for Kotzebue Armory [Facility No. 568514]

**PURPOSE**

The National Guard Bureau (NGB) Mid-West Regional IH Office assigned Lori Arent and Bruce Hills, Certified Industrial Hygienists (CIHs), to perform annual lead surface wipe sampling at the subject facility to determine if lead contamination was present. The sampling was conducted on July 25, 2017 and the site point of contact was Mr. Steve Smith. This armory was constructed in 1987 and had an indoor firing range (IFR) that has been converted to office space for the Alaska State Troopers.

**FINDINGS**

1. Measurable lead dust was found in the following samples:

Sample Number	Location	Lead (micrograms/square foot)
K-19	Small bay on table near drill press	22
K-20	Small bay on floor inside storage cage	<b><u>49</u></b>
K-21	Large bay on workbench near offices	<b><u>103</u></b>
K-30	Old IFR backstop room on encapsulated backstop	<b><u>315</u></b>
K-33	Old IFR backstop room on wall near exhaust fan	<b><u>88</u></b>
K-35	Old IFR backstop room on floor	<b><u>2178</u></b>
K-37	Trooper office on floor	21
K-39	Trooper office on light fixture	<b><u>790</u></b>
K-40	Trooper office on top of locker #7	<b><u>57</u></b>
K-41	Trooper office on top of locker #6	36

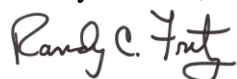
2. Seven of the ten detectable lead results were above the 40 micrograms per square foot limit recommended by the EPA for facilities occupied by the public. All of the high results were from the old IFR and the maintenance bays. Lead levels above the limit are most likely due to migration from the old IFR and/or handling of contaminated weapons, equipment, and clothing. Regular housekeeping where all horizontal surfaces are cleaned will keep lead levels below 40 and prevent contamination of other areas.
3. In the Trooper office area of the old IFR, the soundproofing, electrical, and mechanical fixtures from the old range remain in the space (see attached photos). A wall was added to partition the Trooper offices from the old IFR backstop room. The wall is not sealed at the top; there is a gap of approximately 4 to 6 inches at the top of the wall. The old IFR backstop room was locked and the lock had to be drilled for access to the room. A note was posted on the backstop stating that the backstop had been cleaned and encapsulated in August 1994. The metal backstop, a metal ceiling baffle, the range exhaust fan (inoperable according to the site contact), and electrical fixtures remain in the old backstop room.
4. The sample results show that there is some lead contamination above the limits on elevated surfaces in the Trooper office area (on a light fixture and on top of a locker). There are also high lead levels in the old IFR backstop room (wall near exhaust fan and floor) and the results show that the encapsulant on the backstop has failed. The maintenance bays also tested high for lead (small bay storage cage floor and large bay workbench).

## **RECOMMENDATIONS**

1. Convert the old IFR in accordance with NG PAM 420-15. The old IFR range components must be removed and the area cleaned and encapsulated for the range to be fully converted and classified as closed. An option for the backstop room is to leave the old IFR components in place (fan, baffle, and backstop), permanently abandon and seal the space, and seal the gap at the top of the wall shared with the Trooper office space.
2. Once the old IFR conversion is completed, contact Randy Fritz at the number below to schedule lead clearance sampling.
3. Clean the horizontal surface in the work bays using wet methods or a high-efficiency particulate air (HEPA) filter vacuum.

The attached laboratory report will provide the results and locations of the samples collected within this facility. For any further questions, please contact Randy Fritz at [randy.c.fritz.civ@mail.mil](mailto:randy.c.fritz.civ@mail.mil) or 303 210-8722.

Randy C. Fritz, DM, MS



National Guard Bureau  
Regional Industrial Hygienist

## PSC-FOH ENVIRONMENTAL LABORATORY

536 S. CLARK STREET CHICAGO, IL 60605 PHONE: (312) 886-0413 FAX: (312) 886-0434

### ANALYTICAL REPORT

Submitted To: ARNG – Region Midwest IH Office  
2824 Fairview Pt Rd STE IH  
Edgewood, MD 21040

Attention: COL Randy Fritz/Ms. Lori Arent, CIH

Submitted By: Ms. Michelle C. Stemmons

**Reference Data:** Lead  
Sampling Site: NGB: Kotzebue, AK (Armory)  
Sample Media: Ghost Wipe(s)®  
Method Reference: OSHA ID-121  
Project ID: Project 16106  
DFOH Lab Nos.: TM-17-133447 through TM-17-133490  
Date Received: 07/31/17  
Data Analyzed: 08/07/17 – 08/17/17  
Date Issued: 08/23/17

The wipe samples were hot plate digested. The samples were run on a Perkin Elmer flame atomic absorption spectrophotometer (AA).

**General Lab Comments:**

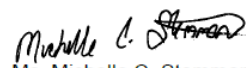
All quality control criteria have been met.

\* All samples received in condition acceptable for analysis unless otherwise noted.

\*\* Sample results have not been corrected for contamination based on the field blank or other analytical blank unless otherwise noted.

Analytical results are given on the enclosed tables. Results relate only to items tested. If you have any questions about these results, feel free to phone the Laboratory at (312) 886-0413.

  
Ms. Edna A. Bautista  
Technical Manager

  
Ms. Michelle C. Stemmons  
Laboratory Director



**Project 16106**  
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## PSC-FOH ENVIRONMENTAL LABORATORY

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### LEAD on WIPE RESULTS

SAMPLE NUMBER*	LABORATORY NUMBER	CONCENTRATION (µg)	CONCENTRATION (µg/ft²)
K-1	TM-17-133447	<5.0	<5.0
K-2	TM-17-133448	<5.0	<5.0
K-3	TM-17-133449	<5.0	<5.0
K-4	TM-17-133450	<5.0	<5.0
K-5	TM-17-133451	<5.0	<5.0
K-6	TM-17-133452	<5.0	<5.0
K-7	TM-17-133453	<5.0	<5.0
K-8	TM-17-133454	<5.0	<5.0
K-9	TM-17-133455	<5.0	<5.0
K-10	TM-17-133456	<5.0	<5.0
K-11	TM-17-133457	<5.0	<5.0
K-12	TM-17-133458	<5.0	<5.0
K-13	TM-17-133459	<5.0	<5.0
K-14	TM-17-133460	<5.0	<5.0
K-15	TM-17-133461	<5.0	<5.0
K-16	TM-17-133462	<5.0	<5.0
K-17	TM-17-133463	<5.0	<5.0
K-18	TM-17-133464	<5.0	<5.0
K-19	TM-17-133465	22	22
K-20	TM-17-133466	49	49
K-21	TM-17-133467	103	103
K-22	TM-17-133468	<5.0	<5.0
K-23	TM-17-133469	<5.0	<5.0
K-24	TM-17-133470	<5.0	<5.0
K-25	TM-17-133471	<5.0	<5.0
K-26	TM-17-133472	<5.0	<5.0
K-27	TM-17-133473	<5.0	<5.0
K-28	TM-17-133474	<5.0	<5.0
K-29	TM-17-133475	<5.0	<5.0
K-30	TM-17-133476	315	315
K-31	TM-17-133477	<5.0	<5.0
K-32	TM-17-133478	<5.0	<5.0
K-33	TM-17-133479	88	88
K-34	TM-17-133480	<5.0	<5.0
K-35	TM-17-133481	2178	2178
K-36	TM-17-133482	<5.0	<5.0
K-37	TM-17-133483	21	21
K-38	TM-17-133484	<5.0	<5.0
K-39	TM-17-133485	790	790
K-40	TM-17-133486	57	57
K-41	TM-17-133487	36	36
K-42**	TM-17-133488	<5.0	
K-43**	TM-17-133489	<5.0	
K-44**	TM-17-133490	<5.0	



Project 16106  
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## PSC-FOH ENVIRONMENTAL LABORATORY

536 S. CLARK STREET CHICAGO, IL 60605 PHONE: (312) 886-0413 FAX: (312) 886-0434

### Surface Wipe Sampling Criteria

Metal	Acceptable Surface Level $\mu\text{g}/\text{ft}^2$	Basis for Criteria
Lead	200 for facilities (all surfaces)	NG Pam 420-15, Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges, 3 November 2006, <a href="http://www.ngbpdcc.ngb.army.mil/pubs/420/ngpam420_15.pdf">http://www.ngbpdcc.ngb.army.mil/pubs/420/ngpam420_15.pdf</a>
Lead	40 for any potentially child occupied areas of facility (all surfaces); used for armories with public access, family services offices, or other routine use by children	NG Pam 420-15, Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges, 3 November 2006, <a href="http://www.ngbpdcc.ngb.army.mil/pubs/420/ngpam420_15.pdf">http://www.ngbpdcc.ngb.army.mil/pubs/420/ngpam420_15.pdf</a>

### Metals in Wipe Limits (based on one $\text{ft}^2$ sampled area)

Analyte	Analytical Method	Method Detection Limit	Minimum Reporting Limit
Lead	OSHA ID-121	$2.5 \mu\text{g}/\text{ft}^2$	$5.0 \mu\text{g}/\text{ft}^2$

  
Ms. Edna A. Bautista  
Technical Manager



Project 16106  
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PROJECT REFERENCE				For Lab Use Only			
Agreement No.:		Project No.:		Project / Report #		Due Date:	
A 106644		P 188319		16/06		Rev. 07/2010	
Statement of Work No.:		Project No.:		Samples Received Chilled? YES NO (circle one)		Water Sample Codes?	
S 188318		P 188319				1. STD. Standard 2. 3D. Three Day Rush	
Agency		Agency		Preservatives:		Container Types:	
ARNG		ARNG		A-NONE, B-H <sub>2</sub> SO <sub>4</sub> , C-HNO <sub>3</sub> , D-NaOH		P-Plastic, G-Glass, V-VOC	
Location		Location		City, State:		City, State:	
Armonoy		Armonoy		Kotzebue, AK		Kotzebue, AK	
Sample ID #		Sample Type		Sample Media		Sample Location / Description	
K-1	7	5	7/15/17	Court Room B on table			
K-2				Court Room C on counter			
K-3				124 Attorney Conference on desk			
K-4				204 Clerk's Office on counter			
K-5				Court Room A on table			
K-6				218 Jury Room on table			
K-7				210 Chambers on file cabinet			
K-8				Hall near 204 on table			
K-9				2nd floor hall on floor			
K-10				2nd floor storage on floor			

Sample Media Codes?		Sample Media Codes?		Sample Media Codes?		Sample Media Codes?	
1. Charcoal	2. Matched Weight, 0.6um	3. PVC filter	4. M CE 0.6 um, 37 mm	5. Ghost Wipes™	6. Passive badge	7. Other	8. Other

Sample Media Codes?		Sample Media Codes?		Sample Media Codes?		Sample Media Codes?	
1. Charcoal	2. Matched Weight, 0.6um	3. PVC filter	4. M CE 0.6 um, 37 mm	5. Ghost Wipes™	6. Passive badge	7. Other	8. Other

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COMMENTS: <sup>a</sup> Applied to organic and inorganic analysis in cases of an emergency only. <sup>b</sup> Applied to inorganic and organic samples, SD: Applied to organic and inorganic samples 7-10 business days.



PROJECT REFERENCE				PROJECT INFORMATION				ANALYSIS REQUESTED			
Agreement No.	Statement of Work No.	Project No.	Agency	City, State	Sample Location / Description	Sample Type	ID #	Sample Date	Time	Analysis Requested	Rev.
A 106844	S 188318	P 188319	ARNG	Arkansas	Office 108 on desk	7	K-11	7/26/17		Lead	07/20/10
			Prof. Manager		Classroom 109 on floor		K-12				
					Drill Floor on floor		K-13				
					Drill Floor on table		K-14				
					Jail on table		K-15				
					State Trooper Man Office on desk		K-16				
					Trooper Break Room on table		K-17				
					Trooper Break Room on floor		K-18				
					Small Bay on table		K-19				
					Small Bay Storage Cage on floor		K-20				

COMMENTS: ☐ Applied to inorganic and organic samples, SD: Applied to organic and inorganic samples 7-10 business days. ☐ Applied to inorganic and organic samples, SD: Applied to organic and inorganic samples 7-10 business days.

US PUBLIC HEALTH SERVICE, FEDERAL OCCUPATIONAL HEALTH CHAIN-OF-CUSTODY / FIELD DATA SHEET

Environmental Laboratory		PROJECT REFERENCE		For Lab Use Only		Project / Report #		385	
538 S. Clark Street South, Suite 714 Chicago, IL 60605-1621 Tel: (312)-886-0413 Fax: (312)-886-0434 Attn: Michelle Stemmons		Agreement No.: A 106644		Due Date:		1/10/06		Rev. 07/2010	
Contact Information		Statement of Work No.: S 188318		Samples Received Chilled? YES NO (Circle one)					
Name: Lori Arent		Project No.: P 188319		Water Sample Codes:		Time Around Time Codes:		Analysis Requested	
Address: 3606 Fernwood Dr. Raleigh, NC 27612		Agency: ARNG		Container Types:		STD - Standard			
Phone/Fax: 919-247-0883		Proj. Manager: Armorey		Preservatives:		3D - Three Day Flush			
Email: larent1@gmail.com		Location: Kitzburg, AK		A-Note B-H <sub>2</sub> SO <sub>4</sub> C-HNO <sub>3</sub> D-NaOH					
ID #		Sample Location / Description		Air		Water		Lab ID #	
Type <sup>1</sup>	Media <sup>2</sup>	Collected Date	Time	Flow (LPM)	Time (Min)	Volume (Liters)	Area (ft <sup>2</sup> )	Turn Around Time*	
K-21	75	7/25/17						STD	TM-17-133467
K-22									TM-17-133468
K-23									TM-17-133469
K-24									TM-17-133470
K-25									TM-17-133471
K-26									TM-17-133472
K-27									TM-17-133473
K-28									TM-17-133474
K-29									TM-17-133475
K-30									TM-17-133476
Sample Type Codes <sup>1</sup>		Sample Media Codes <sup>2</sup>		Reimbursed By		Date & Time		Received by	
1-Air 2-Water 3-Paint 4-Soil 5-Dust 6-Bulk 7-Wide 8-Other		1-Charcoal 2-Matched Weigh 0.8um 3-PVC filter 4-M CE 0.8 um, 37 mm 5-Ghost Wipes <sup>TM</sup> 6- Passive badge 7- Other		Mini Dent		7/25/17		P. Arent	
								Date & Time	
								7/31/17	

COMMENTS:  
\* Applied to organic and inorganic analysis in cases of an emergency only. @ Applied to inorganic and organic samples, SD: Applied to organic and inorganic samples 7-10 business days.



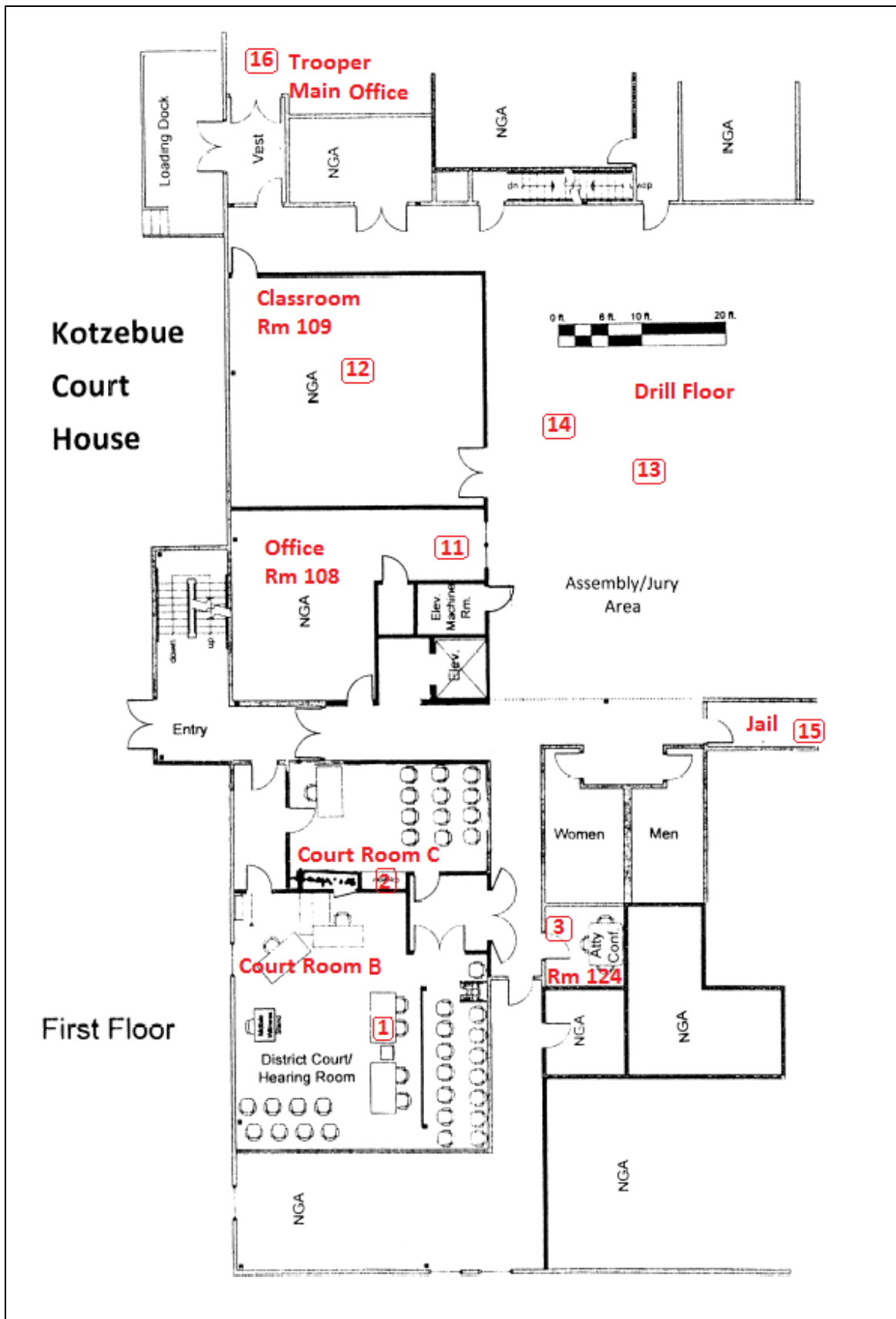
**US PUBLIC HEALTH SERVICE, FEDERAL OCCUPATIONAL HEALTH CHAIN-OF-CUSTODY / FIELD DATA SHEET**

<b>Environmental Laboratory</b> 536 S. Clark Street South, Suite 714 Chicago, IL 60605-1521 Tel: (312)-886-0413 Fax: (312)-886-0434 Attn: Michelle Stemmons Contact Information Name: Lori Arent Address: 3505 Fernwood Dr. Raleigh, NC 27612 Phone/Fax: 919-247-0883 Email: larent1@gmail.com				<b>PROJECT REFERENCE</b> Agreement No.: A 106644 Statement of Work No.: S 188318 Project No.: P 188319 Agency: ARNG Prof. Manager: Armory Location: Kotzebue, AK (City, State):				<b>For Lab Use Only</b> Project / Report #: 16106 Due Date: 4045 Samples Received Chilled? YES NO (Circle one) Turn Around Time Code* STD- Standard 3D- Three Day Rush				Analysis Requested Rev. 07/2010			
Sample		Sample Media Codes*		Retained By		Date & Time		Replied By		Date & Time					
ID #	Type Media*	Collected Date	Time	1-Charcoal 2-Matched Weight 0.8um 3-PVC filter 4-M CE 0.8 um, 30 mm 5-Chest Wipes 6- Passive badge 7- Other	Retained By	Date & Time	Replied By	Date & Time							
K-31	7 S 7/25/17														
K-32															
K-33															
K-34															
K-35															
K-36															
K-37															
K-38															
K-39															
K-40															

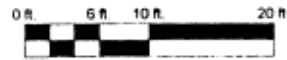
**COMMENTS:**  
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Environmental Laboratory				PROJECT REFERENCE				For Lab Use Only				5010			
536 S. Clark Street South, Suite 714 Chicago, IL 60605-1621 Tel: (312)-886-0433 Fax: (312)-886-0434 Attn: Michelle Stemmmons				Agreement No.: A 106644 Statement of Work No.: S 188318 Project No.: P 188319				Project / Report: 106644 Due Date: 07/20/10 Samples Received Chilled? YES NO (circle one) Water Sample Codes* Container Types: STD- Standard 3D- Three Day Rub <sup>®</sup>				Analysis Requested			
Name: Lori Arent Address: 3505 Fernwood Dr. Raleigh, NC 27612 Phone/Fax: 919-247-0883 Email: larent1@gmail.com				Project: ARNG Agency: ARNG Location: ARNG (City, State): ARNG				Preservatives: A-More, B-H-SO <sub>4</sub> , CHNO <sub>3</sub> , D-NaOH				Analysis Requested			
ID #	Type	Sample Meas <sup>®</sup>	Collected Date	Time	Flow (LPM)	Time (Min)	Volume (L/min)	Area (in <sup>2</sup> )	Water Volume (L/min)	Code (L/min)	Turn Around Time	Lab ID #	Analysis Requested		
K-41	75	7/25/10										TM-17-133487	Lead		
K-42												TM-17-133488			
K-43												TM-17-133489			
K-44												TM-17-133490			

COMMENTS: Applied to organic and inorganic samples 7-10 business days.



# Kotzebue Court House



Assembly Area Below

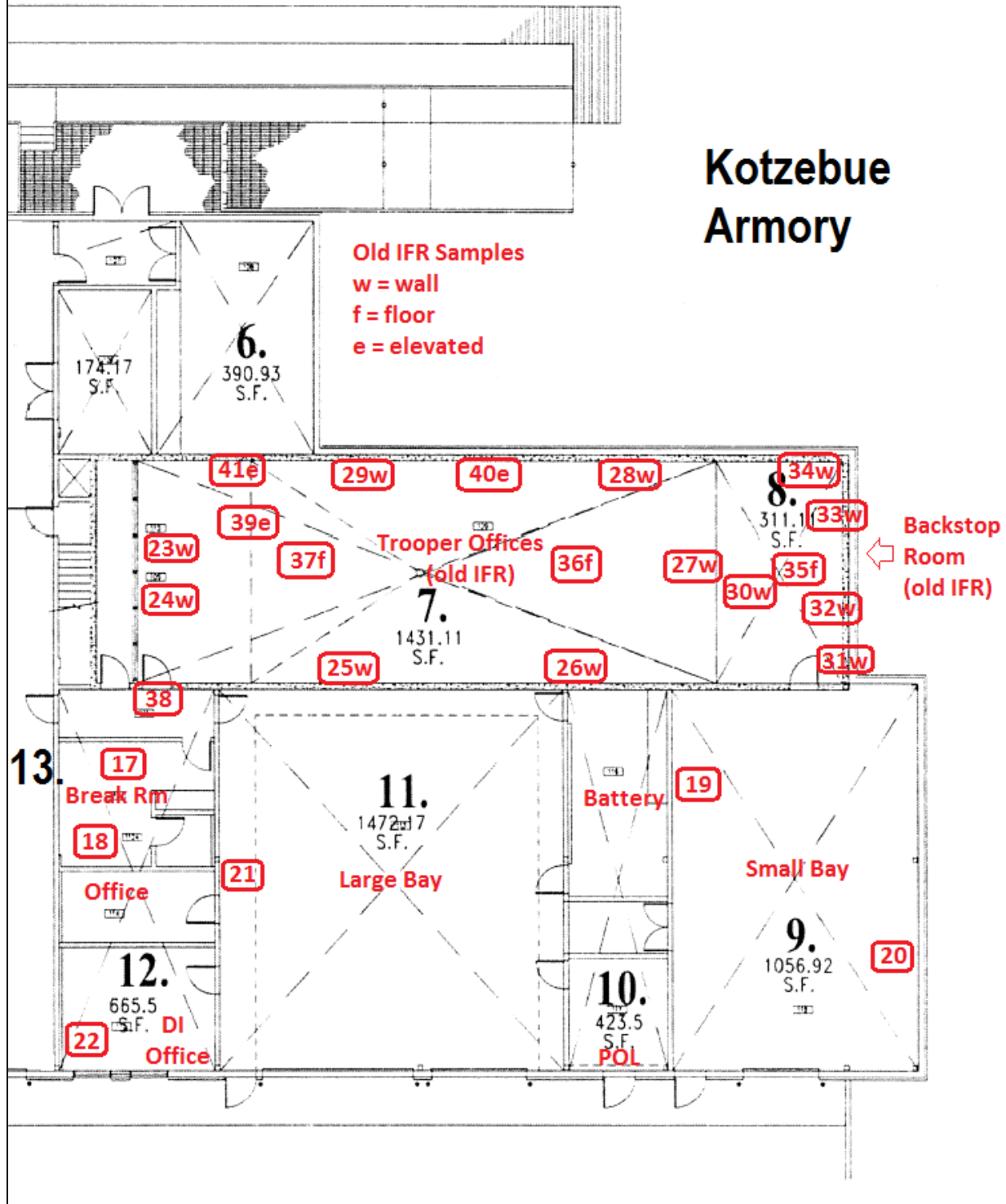
Second Floor





6.	OLD RECRUITER OFFICE
7.	RANGE/WEIGHT ROOM
8.	unusable space behind range
9.	VEHICLE BAY #1
10.	2 OFFICES + HALL
11.	VEHICLE BAY #2
12.	3 OFFICES + HALL
13.	DRILL HALL

## Kotzebue Armory

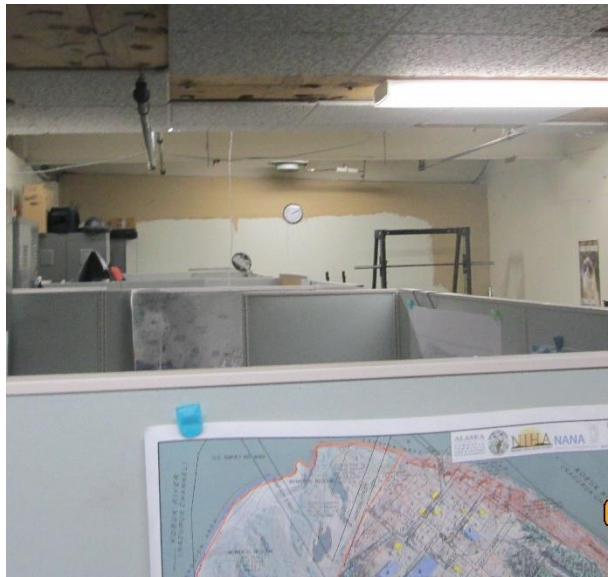




## Old IFR - Trooper Offices



Entry door showing mechanical/electrical, equipment and sound-proofing from old IFR.



Office area looking toward partition wall and fitness area.



Close up view of sound proofing and adhesive on ceiling above fitness area.



Partition wall showing gap at top of wall and mechanical/electrical equipment.

## Old IFR - Backstop Room



Entry door to backstop room.



Backstop and exhaust fan.



View above backstop showing baffle and partition wall with gap above.



Sample K-35 on floor.