

FUSRAP Document Management System

Year ID
00 3005

Further Info?

Operating Unit
Iowa

Site
IAAAP

Area

MARKS Number
FN:1110-1-8100g

Primary Document Type
Public Affairs/Community Relation

Secondary Document Type
Briefing Papers

Subject or Title
Iowa Army Ammunition Plant (IAAAP) Restoration Advisory Board Meeting, dated 5/24/01

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Company
CEMVS-PM-R

Date
5/24/2001

Recipient(s)
RAB

Company (-ies)

Version
Final

Original's Location
Central Files

Document Format
Paper

Confidential File?

Comments

Include in which AR(s)?

- North County
- Madison
- Downtown
- Iowa

ETL

SAIC number

Filed in Volume

Bechtel ID





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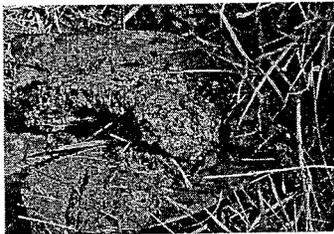
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Iowa Army Ammunition Plant (IAAAP) Restoration Advisory Board Meeting 24 May 01

**Sharon R. Cotner
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St. Louis District, Corps of Engineers**



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Agenda



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- **Walkover Survey**
- **Walkover Survey Findings**
- **Walkover Survey Conclusions**
- **Radiological Flyover Position**

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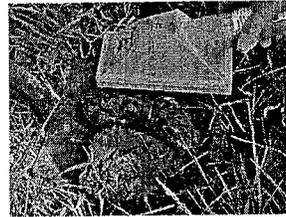
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Walkover Survey



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- Scoping Survey Plan was reviewed by IA-DPH, USEPA and IAAAP
- Conducted from 30 April to 4 May by USACE, its contractor and UXO support personnel. USEPA and IA-DPH were present
 - The walkover was conducted with gamma radiation detecting instruments linked to GPS.
- Scope
 - Firing Site 12
 - Area surveyed was 8 acres, a 150m radius around ground zero, to include the bunker
 - Firing Site 6
 - Area surveyed was 1 acre, a 30m radius around ground zero



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Walkover Survey Findings



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- Firing Site 12
 - DU pieces (15) were removed
 - Instrument readings indicated the presence of subsurface pieces
 - The extent of DU contamination extends beyond the 150m radius
 - Range of contamination
 - 20 samples taken
 - Background - 1,600 pCi/g DU
 - Bunker was sampled
 - Samples taken along the drainage pathway indicate no off-site migration



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Walkover Survey Findings



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- **Firing Site 6**
 - Walkover conducted due to findings from PA interview
 - Range of contamination
 - Background - 42 pCi/g for DU.
 - One elevated sample had 560 pCi/g
 - Located in a berm at the Firing Site ground zero
 - 7 samples were taken

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Walkover Survey Conclusions



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- **No opportunity for inhalation or ingestion of depleted uranium due to:**
 - **Location**
 - The soil covering the subsurface depleted uranium shields the radiation and prevents exposure to oxidized uranium.
 - **Controls**
 - Site access and use has been restricted by the IAAAP.
- **Depleted Uranium is not evenly distributed in the soil.**

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USACE Flyover Position



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- **FUSRAP Authority**
 - Limited to areas where Atomic Energy Commission activities occurred
- **What is a flyover?**
 - **A type of survey for gross assessment of contamination**
 - Conducted by a helicopter or fixed wing aircraft with gamma radiation detecting instruments positioned underneath
 - Instruments are larger (16" x 4" x 2") than those used for walkover surveys (2"x2")
 - Up to 12 instruments are commonly used on the flyover

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USACE Flyover Position



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- **Considerations to determine if a flyover is the best tool**
 - **What can we see using a flyover survey?**
 - Instrument detectability is affected by:
 - Ground cover (open ground vs. tree covered)
 - Type / form of material (chunks vs. evenly distributed particles)
 - One contractor indicated that 35 - 45 pCi/g of DU, evenly distributed throughout the surface, at 50 - 150 feet (Open vs. tree covered ground), can be detected.
 - For chunks, it would require approximately 50# to 275# (For the 50' and 150' surveys, respectively) pieces to be detected.
 - The flyover will not detect buried material
 - **Certainty**
 - The contractor indicated that the preceding numbers could be off by a factor of two, which means that you could double the detectability numbers from 35 - 45 pCi/g to 70-90 pCi/g.

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USACE Flyover Position



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- **Regulatory Acceptance**
 - Need acceptance by the USEPA and IA-DPH
 - Would need agreement on what the data means
 - How does it relate to MARSSIM's
- **Cost**
 - Have essentially one estimate for approximately \$500,000
 - **Is this cost justified**
 - Can we save on other costs for surveying or sampling?
 - Would it be smarter to spend the money on other types of surveys?

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USACE Flyover Position



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- **Position**
 - It is too early to decide one way or another
 - **Additional evaluation is needed on:**
 - effectiveness
 - certainty
 - regulatory acceptance (USEPA & IA-DPH)
 - cost
 - **The flyover needs to be considered in light of other survey tools.**
 - **FUSRAP would only be able to examine areas where AEC activities occurred.**

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Questions



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