

Per the Federal Facility Agreement for Iowa Army Ammunition Plant, Article X.B.1, the attached document is the final version of the submitted document.

IOWA ARMY AMMUNITION PLANT

PROPOSED PLAN FOR TRENCH 6, TRENCH 7, AND THE CAP EXTENSION AREA OF THE INERT DISPOSAL AREA (IDA)

OPERABLE UNIT FOUR

INTRODUCTION

This Proposed Plan identifies the Preferred Remedial Alternative for the closure of Trench 6 Landfill (Trench 6), Trench 7 Waste Pile (Trench 7) [a Corrective Action Management Unit (CAMU)], and the Cap Extension Area (CEA). These facilities are part of Operable Unit 4 (OU-4) and are located within the Inert Disposal Area (IDA) at the Iowa Army Ammunition Plant (IAAAP) in Middletown, Iowa (Figure 1). This work is being conducted under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the IAAAP Federal Facility Agreement (FFA). This document is issued by the U.S. Army (Army), the owner of the IAAAP facility, and the U.S. Environmental Protection Agency (EPA). The State of Iowa is not a signatory to the IAAAP FFA. The Army is the lead agency and the EPA is the primary regulatory agency.

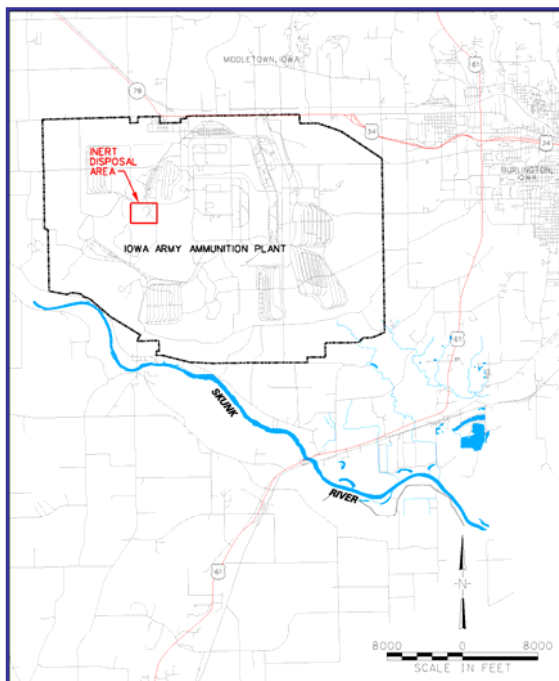


Figure 1 – Location of Inert Disposal Area

Dates To Remember:

A) Public Comment Period

May 21, 2007– to June 20, 2007

B) Public Meeting

7:00 PM, June 6, 2007

The Army and EPA will accept written comments on the Proposed Plan during a 30-day public comment period. The Army will hold a public meeting to explain the Proposed Plan and the alternatives in the Focused Feasibility Study. Oral and written comments will also be accepted at the meeting. The meeting will be held at the Winegard Board Room of Riverpark Place, 610 N. 4th Street, Burlington, Iowa, at 7:00 p.m.

For more information, see the Administrative Record File at one of the following locations.

Burlington Public Library
501 North Fourth Street
Burlington, Iowa 52601
319-753-1647

Lee County Health Department
2218 Avenue H
Fort Madison, Iowa 52627
319-372-5255

Danville City Hall
105 Shepherd Street
Danville, Iowa 52623

The Army and EPA are issuing this Proposed Plan as part of the public participation responsibilities under Section 300.430(f)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and Section 117(a) of CERCLA.

This Proposed Plan summarizes information that is presented in detail in the Focused Feasibility Study (Tetra Tech 2007) report and in the IAAAP Administrative Record File (see above). The Administrative Record is a compilation of the information that was considered in making the proposal presented in this Proposed Plan, and presents a comprehensive description of the site investigation and proposed remediation activities.

The IDA, which is part of Operable Unit 4 (OU-4), consists of approximately 20 acres. The IDA includes the Inert Landfill (ILF), Trench 6 Landfill, Trench 7, the Cap Extension Area (CEA) and associated sedimentation ponds. IAAAP conducted waste management operations, including landfilling, at the ILF from 1941 – 1990. Six landfill trenches were included as part of the ILF. Wastes including general municipal type waste along with industrial wastes were disposed in five of the ILF trenches, and in the north end of the sixth trench. Waste management and disposal was also conducted in areas of the IDA outside of the ILF.

The Army has constructed facilities at the IDA that have been used to store or dispose of contaminated soil identified in the site-wide IAAAP soil cleanup. These facilities take advantage of existing features at the IDA, and consolidate past and current waste management activity in a single location. These facilities include Trench 6, Trench 7, the CEA, and sedimentation ponds associated with each facility. The ILF and associated contaminated soils was capped as part of a removal action in 1998. Soils contaminated at varying levels have been disposed or stored in the ILF, Trench 6, Trench 7, and the CEA as part of the remediation activities. The IAAAP soil cleanup is nearly complete and the soils disposed in the IDA facilities must now be addressed in a manner protective for the long term.

This Proposed Plan proposes to consolidate Trench 7 soils in the CEA or Trench 6 after the Trench 7 soils are treated, and to cap soils that have been disposed in the CEA and Trench 6 with a composite cap composed of soil and geosynthetic materials. The caps will also be monitored and maintained as part of the remedy. Finally, Land Use Controls will be implemented to restrict access and land use at the IDA.

IAAAP HISTORY

IAAAP occupies approximately 19,015 acres adjacent to the town of Middletown in Des Moines County, Iowa. IAAAP is a government-owned, contractor-operated facility under the command of

the U.S. Army Joint Munitions Command, Rock Island, Illinois. Production of munitions began in 1941, including loading, assembling, and packing a variety of conventional munitions. The facility currently remains in operation.

Past munitions production has resulted in contamination of soil and groundwater. The majority of contamination resulted from disposing explosives and waste containing heavy metals directly on soil and into surface water. Explosive contaminants migrated through the soil into the groundwater and over land into surface water. Wastes produced at IAAAP include various explosive-laden sludges, wastewaters, and solids. These wastes were untreated and sometimes disposed to the environment in the past. IAAAP was placed on the CERCLA National Priorities List (NPL) in 1990. The Department of Defense (DOD) has established the Defense Environmental Restoration Program to address sites that are within the responsibility of the DOD under CERCLA.

The Interim Action Record of Decision (Irod) and Record of Decision (ROD) for OU-1 soils were signed in 1998 for remedial action at the IAAAP. The RODs presented the selected remedy for OU-1. The selected remedy included excavation of soils with contamination concentrations exceeding remediation goals (RGs) followed by low temperature thermal desorption for treatment of explosives contaminated soils and solidification/stabilization of metals contaminated soils. Biological treatment of contaminated soils was identified as a contingent remedy. Soils contaminated with semivolatile organic compounds (SVOCs) were to be transported off-site for proper disposal.

Significant changes to the OU-1 ROD were documented in the Explanation of Significant Differences (ESD) issued in 2003. In the ESD biological treatment of explosives-only contaminated soils was identified as the remedial alternative. In addition, the ESD remedy for soils contaminated only with metals is solidification/stabilization. The revised remedy for soils

contaminated with explosives and metals incorporates a two-step process of biological treatment of explosives and solidification/stabilization of metals.

Starting in 1997 and continuing to the present, numerous remedial actions have been completed within the IAAAP. To date, approximately 216,000 cubic yards of soil have been excavated and taken to the IDA for treatment and/or disposal under the ILF cap, within Trench 6, Trench 7, or the CEA.

SITE BACKGROUND

The IAAAP has been divided into OU-1 for soils, OU-3 for groundwater and an Installation-Wide OU (OU-4) to facilitate management of remedial measures at the site. OU-4 addresses unacceptable

risks not addressed in either OU-1 or OU-3. OU-2 was originally defined, but has not been utilized in the IAAAP cleanup. The Final OU-1 ROD (EPA 1998) specified that the installation-wide OU-4 would address the closure of Trench 7 at the IDA, institutional controls, previously unaddressed areas of soil contamination, volatile organic compound (VOC) contaminated media, ecological risks, long-term monitoring requirements, and any other unacceptable risks identified and not addressed in either OU-1 (soil) or OU-3 (groundwater).

The IDA, which is part of OU-4, encompasses approximately 20 acres and includes the ILF, Trench 6 Landfill, Trench 7, the CEA and associated sedimentation ponds, as shown in Figure 2.

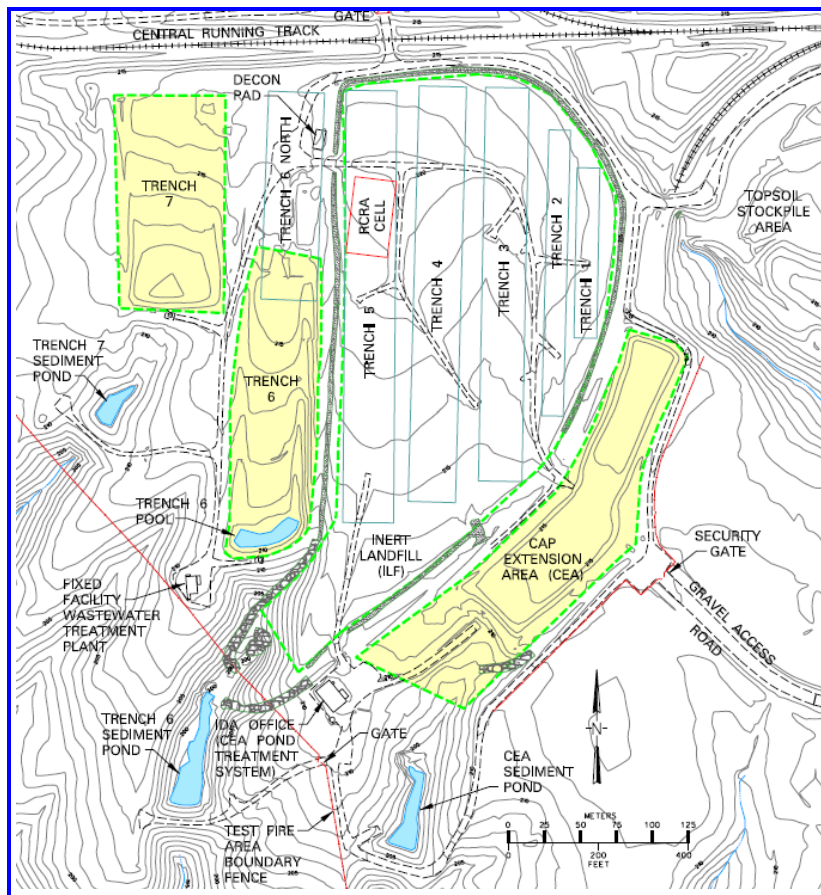


Figure 2 Site Map – Inert Disposal Area

Inert Landfill

The ILF covers approximately 14 acres. ILF landfilling operations began in 1941, when the IAAAP was constructed and continued until 1990. The landfill received such materials as residential and cafeteria refuse and garbage, plastic, tin cans, scrap lumber, and unsalvageable paper and cardboard. RCRA wastes were disposed in Trench 5 of the ILF, which for definitional purposes is comprised of trenches 1 – 5, and the north end of Trench 6. The south end of Trench 6 was previously constructed / excavated by the Army, but was not used for waste disposal and was unlined. The northern section of Trench 5, which received explosive-contaminated waste, was capped and closed in 1989 in accordance with RCRA Subtitle C guidelines. As part of a 1997 Removal Action, or cleanup, five trenches and the northern section of the sixth ILF trench were covered with 12 inches of low-level contaminated soils that were compacted to provide an appropriate grade as a base for the cap over the ILF. The contaminated soils were excavated from two of the largest, most highly contaminated areas on the IAAAP, the Line 1 Impoundment (L1I) and the Line 800 Pinkwater Lagoon (PWL). The soil volumes excavated from the L1I and PWL were approximately 12,225 cubic yards and 84,880 cubic yards, respectively. The contaminant masses excavated from the L1I and PWL were approximately 1,786 kilograms (kg) and 36,215 kg, respectively. A composite geosynthetic and soil cap meeting the requirements of RCRA Subtitle D (40 CFR 258) was then installed on the ILF in 1998. The ILF cap consists from bottom to top of a 12-inch compacted clay liner, a geomembrane liner, a geocomposite drainage layer, an 18-inch infiltration layer, and 6 inches of vegetated topsoil. No additional actions are planned for the ILF as part of this proposal.

Trench 6 Landfill

Also associated with the 1997 Removal Action, the floor of the south end of Trench 6 (referred to as Trench 6 - the north end of the Trench 6 was part of the ILF) was lined with a synthetic liner along

with leachate collection and leak detection systems in 1998. With the lower liner and leachate/leak detection system, Trench 6 meets the requirements of a RCRA hazardous waste (Subtitle C) landfill in accordance with 40 CFR 264, Subpart N. The lower liner system consists, from bottom to top, of a geomembrane, a geonet for leak detection, a second geomembrane, and a geocomposite drainage layer for leachate collection. Trench 6 was lined solely to house CERCLA remediation waste. Moderately contaminated soils excavated as part of the CERCLA remediation of the IAAAP have been placed in the 2.5-acre Trench 6 Landfill. Since construction in 1998, approximately 68,000 cubic yards of contaminated soils (approximately 20,000 kg of contaminant mass) have been disposed in Trench 6. These soils are currently uncovered and open to the environment.

Trench 7

Trench 7 consists of a former soil borrow area adjacent to the north end of Trench 6 that was lined and equipped with leak collection and leak detection capabilities to store contaminated soils as part of the IAAAP soil cleanup work. This lined former borrow area was designated by EPA as a CAMU as part of the 1997 Removal Action. The most highly contaminated soils are stored in Trench 7 awaiting treatment. Once all of the highly contaminated soils across the IAAAP have been excavated, they will be located to Trench 7 and ultimately treated to protective levels. Presently, approximately 12,000 cubic yards of contaminated soils are stored in Trench 7 awaiting treatment. Trench 7 was built in 1998 in accordance with 40 Code of Federal Regulation (CFR) 264.552, Subpart L. The liner system consists, from bottom to top, of a geomembrane, a geonet for leak detection, a second geomembrane, and a geocomposite drainage layer for leachate collection. Soils stored in Trench 7 are currently uncovered and open to the environment.

Cap Extension Area (CEA)

The CEA is an unlined unit that was constructed to hold low-level contaminated soils when there was

no additional capacity to dispose soils under the ILF cap. The CEA was not historically operated by the Army as a landfill. The CEA is located adjacent to the ILF. Approximately 48,000 cubic yards of low level contaminated soil has been placed in the CEA. The soils are currently covered with grass and open to the environment.

SITE CHARACTERISTICS

IAAAP conducted waste management operations, including landfilling, at the ILF from 1941 – 1990. Wastes including general municipal type waste along with industrial wastes were disposed in five of the six trenches, and in the north end of the sixth trench. Wastes were also disposed / managed in other areas of the IDA (e.g., blue sludge burial, burning grounds area, metal scrap). RCRA wastes were disposed in a portion of Trench 5 of the ILF. As part of 1997 Removal Action at IAAAP, contaminated soils and materials from within the IDA were consolidated within the footprint of the ILF, and contaminated soils from two of the larger, most highly contaminated sub-sites, the Line 1 Impoundment (L1I), and the Line 800 Pinkwater Lagoon (PWL) were excavated and disposed or stored at the IDA. The most highly contaminated soils from the L1I and PWL were stored in the Trench 7 awaiting future treatment, mid-level contaminated soils were disposed in the lined portion of Trench 6, and low-level contaminated soils were placed on the existing ILF. After the ILF was capped, additional low-level contaminated soils were stockpiled adjacent to the ILF in the CEA.

The soil and debris at the IDA disposal areas contain varying levels of contamination, primarily comprised of explosives and metals. A cumulative cancer risk calculation for protecting on-site workers, based on the concentration of explosives contamination was used to segregate the contaminated soils for disposal under the ILF cap, in the CEA, in Trench 6, or in Trench 7, as follows:

- CEA – ILF Cap - Soils with low-level contamination (cumulative cancer risk less than 10^{-6} exceeding groundwater protection

standards) were disposed under the ILF cap or in the CEA.

- Trench 6 - Soils with a moderate level of contamination (cumulative cancer risk between 10^{-6} and 10^{-5}) were disposed in Trench 6.
- Trench 7 – Soils with high levels of contamination (cumulative cancer risk of 10^{-5} or greater) were stored in Trench 7, awaiting future treatment prior to disposal.

RCRA Land Disposal Restrictions were also considered in determining how contaminated soils would be segregated.

The primary contaminant of concern for determining the disposition of the contaminated soils was the explosive hexahydro-1,3,5-trinitro-1,3,5 triazine (Royal Demolition Explosive (RDX)). In general, the RDX levels associated with disposal in each of the IDA disposal facilities is as follows:

CEA – ILF Cap – Soils with RDX levels greater than 1.3 parts per million (ppm), but less than 53 ppm;

Trench 6 – Soils with RDX levels greater than 53 parts per million (ppm), but less than 530 ppm;

Trench 7 - Soils with RDX levels greater than 530 ppm.

The IDA facilities will continue to receive CERCLA remediation wastes consistent with the OU-1 RODs until the OU1 remedy is completed.

Groundwater monitoring results indicate that contaminants have migrated from the ILF to groundwater. This contamination is associated with past disposal practices rather than the current use of the ILF for disposal of contaminated soils. Current human health risks associated with groundwater contamination are limited by the absence of current exposure routes. The site is surrounded by vacant land with vegetation and trees. There is currently no residential or

commercial land use in the immediate area of the IDA. A maintenance area / office exists at the IDA that is occupied by IAAAP remediation workers. The IAAAP Test Fire Area is located just to the west of the IDA and is regularly used by IAAAP personnel. The IDA office and the Test Fire Area do not use groundwater as a drinking water source, thus, the probability of exposure to IDA related contaminants is low. Actions recommended in this Proposed Plan will limit potential releases of contaminants from the landfill units to the groundwater. The necessity for any remediation due to the groundwater contamination associated with the ILF will be addressed as part of OU-3. Groundwater monitoring requirements associated with the performance of the various caps of the landfill cells/disposal areas will be addressed as part of this remedial action for the IDA.

SCOPE AND ROLE OF REMEDIAL ACTION

The proposed response actions at the IDA disposal areas will be implemented after the entire OU-1 soils cleanup is complete, and will render the IDA closed and unavailable for any future remedial activity. This Proposed Plan addresses the closure of Trench 6 and the CEA by considering remedial alternatives involving containment with suitable caps for these units. Closure of Trench 7 would include excavation of treated soils that have been stored in Trench 7 and excavation of the Trench 7 synthetic liner components, with disposal of the waste material in Trench 6. Additional actions required under OU-4 beyond the IDA capping/closure will be addressed in the OU-4 FS which will be published at a later date. Remediation of groundwater contamination associated with the IDA will be addressed as part of OU-3 for Site-Wide Groundwater. As part of the proposed remedial action at IDA, IAAAP intends to:

- Treat contaminated soils stored in Trench 7 pursuant to the OU-1 ROD;
- Transfer the treated soil to the CEA or Trench 6 for permanent disposal;

- Remove the Trench 7 liner and any associated contaminated soil beneath and adjacent to Trench 7 and dispose in Trench 6;
- Construct caps that satisfy requirements of RCRA Subtitle C over Trench 6 and the CEA. The caps shall consist, from bottom to top, of a geosynthetic clay liner, a geomembrane liner, a geocomposite drainage layer, an 18 inch infiltration layer, and 6 inches of revegetated topsoil;
- Perform long-term operations and maintenance activities of the Trench 6/CEA cap system and associated leachate collection and leak detection system;
- Provide long-term monitoring of groundwater at the IDA to verify the effectiveness of the remedial measures; and
- Implement Land Use Controls at the IDA to restrict site access and usage.

Broader Institutional Controls and groundwater monitoring to address site-wide concerns (beyond the IDA) will be addressed in the OU3 or OU4 final RODs, as needed. The Preferred Remedial Alternative for the IDA will be considered an interim remedy until the remaining concerns in the Installation-Wide OU-4 are addressed.

SUMMARY OF SITE RISKS

The soil and debris at the IDA disposal areas contain varying levels of contamination, primarily comprised of explosives and metals. A cumulative human health cancer risk calculation based on the concentration of explosives contamination associated with on-site worker exposures was used to segregate the contaminated soils for disposal under the ILF cap, in Trench 6, in Trench 7, or in the CEA, as follows:

- The CEA contains soils with low-level contamination (cumulative cancer risk less than 10^{-6} exceeding groundwater protection standards).

- Trench 6 contains soils with a moderate level of contamination (cumulative cancer risk between 10^{-6} and 10^{-5}).
- Trench 7 was designed to treat/contain soils with high levels of contamination (cumulative cancer risk 10^{-5} or greater).

During a radiological screening of the IDA, one isolated area of radiological contamination was identified in the CEA. This area was limited to a small object and the soils around the object (approximately one square yard). Lab analysis indicated this object contained Cesium-137. The object was removed and disposed of off-site. Dose estimate calculations indicated that capping of the landfill with a cap thickness of 2 feet would result in a total dose less than the U.S. Department of Energy, the U.S. Nuclear Regulatory Commission, and the State of Iowa exposure limit of 25 millirem per year as well as EPA's recommended risk based criteria of 15 millirem per year. Based on the calculations the remaining soils that are residually contaminated with Cesium-137 will remain in place.

Groundwater monitoring results indicate that contaminants have migrated from the ILF to groundwater. This contamination is associated with past disposal practices rather than the current use of the ILF for disposal of contaminated soils. Current human health risks associated with groundwater contamination are limited by the absence of current exposure routes. The site is surrounded by vacant land with vegetation and trees. There is currently no residential or commercial land use in the immediate area of the IDA and land use is not expected to change in the future. A maintenance area / office exists at the IDA and is occupied by IAAAP remediation workers. The IAAAP Test Fire Area is located just to the west of the IDA and is regularly used by IAAAP personnel. The IDA office and the Test Fire Area do not use groundwater as a drinking water source, thus, the probability of exposure to the IDA related contaminants is low. Actions recommended in this Proposed Plan will limit potential releases of contaminants from the landfill units to the groundwater. The necessity for any

remediation due to the groundwater contamination associated with the ILF will be addressed as part of OU-3. Groundwater monitoring requirements associated with the performance of the various caps of the landfill cells/disposal areas will be addressed as part of the IDA remedial action.

REMEDIAL ACTION OBJECTIVES

Remedial Action Objectives (RAOs) describe what the proposed cleanup alternative is expected to accomplish and serves as the basis for development and evaluation of the selected remedial alternatives. The RAOs for the land disposal units at the IDA are to:

- Provide adequate caps and land use controls to protect human health from carcinogenic and non-carcinogenic risks associated with incidental ingestion of, inhalation of, and dermal contact with contaminated soil in excess of the soil remediation goals at 10^{-6} risk level as identified in the OU-1 Interim ROD (EPA 1998).
- Provide adequate caps to prevent leaching of chemicals from contaminated soil that would result in groundwater concentrations in excess of groundwater and surface water standards as identified in the OU-1 Interim and Final RODs (EPA 1998).

SUMMARY OF REMEDIAL ALTERNATIVES

A summary of the two alternatives considered for Trench 6, Trench 7, and the CEA units of the IDA is presented in this section. The full screening and evaluation process for the remedial alternatives is presented in the Focused Feasibility Study.

Containment is considered a presumptive remedy for this situation and will be applied to the CEA and Trench 6 by providing suitable caps for the landfill and disposal area. Treated waste from Trench 7 will be transferred to Trench 6 prior to placing the cap.

An alternative was considered where soils from the CEA would be consolidated in Trench 6 along with the treated soils from Trench 7. Based on the additional volume of soils from the CEA (approximately 48,000 cubic yards) that would be added to Trench 6, a significant mounding of soils within Trench 6 would occur. This would result in an undesirable slope and decreased long-term stability for the final Trench 6 cap. Therefore, the option of consolidating the CEA soils into Trench 6 was found to be not viable.

The alternatives evaluated for the IDA portions of OU-4 are as follows:

- Alternative 1 - No Action.
- Alternative 2 - Source Containment using RCRA Subtitle C Caps for the CEA and Trench 6, Clean Closure for Trench 7, Land Use Controls (LUCs), and Monitoring

The descriptions of these alternatives are presented in Table 1.

**Table 1
Description of Remedial Alternatives**

Remedial Alternative	Description
Alternative 1- No Action	Nothing is done at the site (required by NCP for comparison)
Alternative 2- Source Containment using RCRA caps for the CEA and Trench 6, Clean closure for Trench 7, LUCs, Monitoring	Excavate contents of Trench 7 for clean closure, consolidate excavated waste with the contents of Trench 6 and the CEA, provide RCRA caps for Trench 6 and the CEA, long-term monitoring and repair of the caps, groundwater monitoring of wells to verify successful implementation of the remedial measures, and land use controls (to be part of Installation Wide Institutional Controls) to restrict/control the use of IDA and related groundwater.

Installation-Wide Institutional Controls to address site-wide concerns, beyond the IDA, will be presented in the OU-4 Record of Decision document published at a later date. To address

Land Use Controls associated with the IDA, the Army will prepare a Land Use Control Remedial Design that will identify the specific institutional controls and will contain implementation actions. The Army is responsible for implementing, maintaining, reporting on, and enforcing the land use/institutional controls selected as part of the Preferred Alternative. Although the Army may later transfer some responsibilities to other parties by contract or other means, the Army will retain ultimate responsibility for remedy integrity.

Alternative 1 - No Action

Estimated Capital Cost: \$0
Total Operation and Maintenance (O&M) Cost: \$0
Total Present Worth Cost: \$0

For this alternative, nothing would be done at the site to prevent exposure to contaminated soils by the humans or the environment. The alternative does not provide required protection of human health and the environment and would not satisfy the regulatory requirements. The National Oil and Hazardous Substance Pollution Contingency Plan requires that a No Action alternative be considered for evaluation for comparison purposes. This alternative reflects current conditions at the site and does not address the wastes that are present or potential impact to groundwater. There would be no reduction in toxicity, mobility, or volume of the contaminants at the CEA, Trench 6, or Trench 7, other than that which would result from natural dispersion, dilution, or other attenuating factors. However, there would be no measures in place to monitor the progress of natural attenuation.

Alternative 2 – Source containment using RCRA Subtitle C Caps for the CEA and Trench 6, Clean Closure for Trench 7, LUCs, and Monitoring

Estimated Capital Cost: \$3,402,000
Total O&M Cost: \$4,491,000
Total Present Worth Cost: \$6,388,000

Alternative 2 consists of the following components:

- Transferring treated soil from Trench 7 to either Trench 6 or the CEA

- Removing the liner, leak detection system components, and leachate collection system components from Trench 7 and disposing in Trench 6
- Excavating soil underneath the liner in Trench 7, if necessary, after sampling for clean closure and disposing soil in Trench 6 or the CEA as appropriate
- Filling the excavated areas of Trench 7 with fresh fill and top soil, and seeding the area
- Providing RCRA Subtitle C caps for the CEA and Trench 6,
- Monitoring groundwater to evaluate the performance of landfill caps until the RAOs are achieved
- Land Use Controls to restrict site access and future usage at the IDA
- Routine cap inspection and repairs and maintenance for the CEA cap
- Monitoring for cap maintenance, leachate collection and leak detection for Trench 6 and maintenance and repair of the landfill cap,
- Treating contact runoff prior to establishment of the caps of Trench 6 and the CEA in the existing temporary treatment systems
- Prior to the removal of Trench 7 and the capping of Trench 6, the sediments in the sedimentation ponds will be characterized. If above the OU-1 RGs the sediments will be excavated and disposed of in Trench 6 or treated in Trench 7 then disposed in Trench 6, as applicable. If required, sedimentation pond waters will be treated with the existing temporary treatment systems prior to sediment excavation.
- Performing five-year site reviews

- Treating leachate from Trench 6 in the existing temporary treatment plants

Trench 6 and the CEA will have composite geosynthetic and soil caps consisting of the following components from top to bottom. (Typical cross-section is shown in Figure 3).

- Vegetative layer
- Minimum 6-inch layer of topsoil
- 18-inch infiltration layer
- Geocomposite drainage layer
- 40-mil low density polyethylene (LDPE) geomembrane
- GCL (geosynthetic clay liner)
- Minimum 6 inch contouring layer

The caps fulfill the requirement of a Subtitle C cap for Trench 6 and provides Subtitle C equivalent cap over the CEA.

Land Use Controls will be implemented as part of the Institutional Controls. Land use at IDA is to remain non-residential and industrial. LUCs to be implemented at IDA include access restrictions, signs, construction restrictions, and groundwater usage restrictions. Site restrictions would be enacted to prohibit unauthorized intrusive activity within the land disposal unit boundary, to restrict access to areas, and to ban the use of the groundwater as a drinking water supply. Signs would also be posted to alert users of the property about the presence of the land disposal units.

Groundwater monitoring would involve sampling seven wells periodically to assess the effectiveness of the caps. Annual and five-year reports would indicate the conditions of the groundwater. If applicable, future monitoring requirements will be consolidated under OU-3 remediation. Groundwater remediation at these landfill units, if required, will be addressed by the Groundwater OU-3.

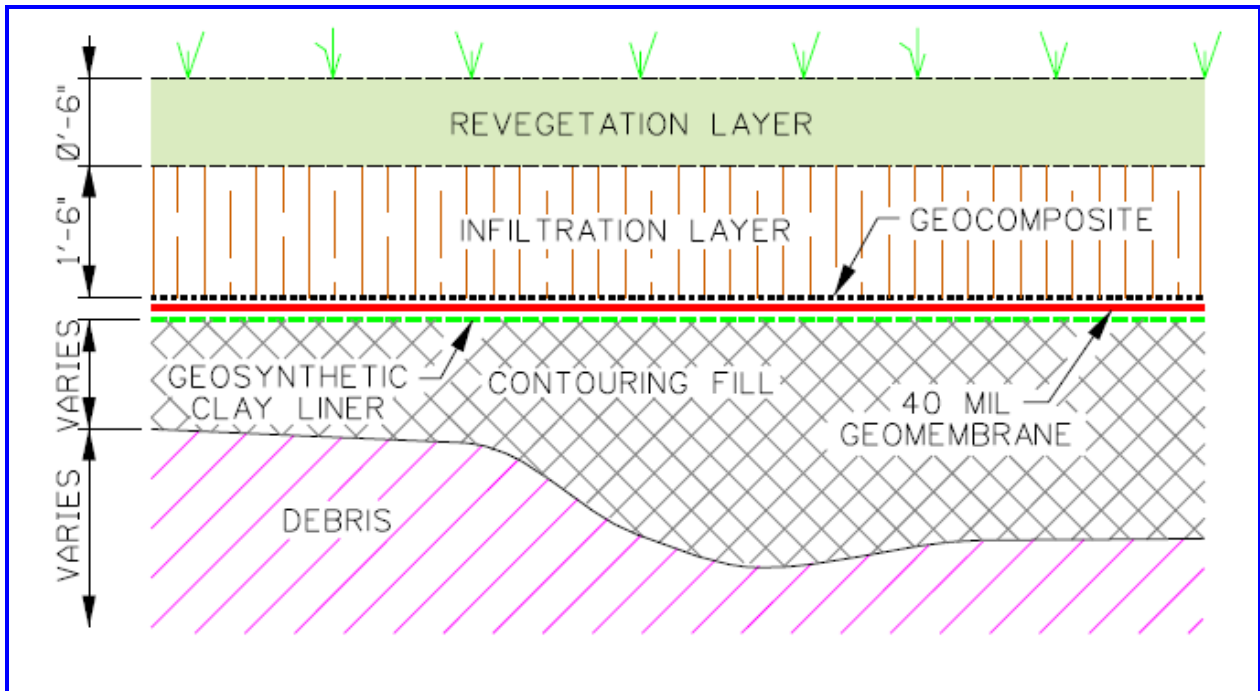


Figure 3 – Typical Cross Section of the Caps

REMEDIAL ALTERNATIVE EVALUATION

In accordance with CERCLA regulations, the Army and EPA used the following nine criteria to determine the best remedy for the site:

Threshold Criteria:

1. **Overall Protection of Human Health and the Environment:** Does the alternative protect human health and the environment from exposure to risks above acceptable threshold levels?
2. **Compliance with Applicable or Relevant and Appropriate Requirements (ARARs):** Does the alternative comply with all required laws, statutes, and regulations?

Balancing Criteria:

3. **Long-Term Effectiveness and Permanence:** Is the alternative effective and permanent for the contamination at the site?
4. **Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment:** Does the alternative reduce the toxicity, mobility, and volume of the contaminants?

5. **Short-Term Effectiveness:** What is the short-term effectiveness of the alternative?
6. **Implementability:** How difficult is it to implement the alternative?
7. **Cost:** What are the relative costs associated with the alternative?

Modifying Criteria:

8. **State / Support Agency Acceptance:** Do the regulatory agencies involved accept the remedy?
9. **Community Acceptance:** Does the community accept the remedy as a viable option? Community acceptance will be evaluated as part of the Proposed Plan process.

For an alternative to be selected, it must (1) be protective of human health and the environment and (2) comply with ARARs. Alternative 1 would not provide adequate protection of human health and the environment. No Action would allow unacceptable risks to human health and the environment. The No Action alternative would do nothing to effectively address potential groundwater contamination. Alternative 1 would not comply with the ARARs.

Alternative 1 does not meet the threshold criteria and there is no other viable alternative to compare with Alternative 2. Therefore, no comparative analysis is presented.

The analysis of the CERCLA criteria for Alternative 2 is as follows.

- Overall Protection of Human Health and the Environment. The new caps at Trench 6 and the CEA, and removal of all treated waste from Trench 7 and closure of Trench 7 in Alternative 2 would offer adequate protection of human health and the environment. The caps would satisfy the RCRA Subtitle C requirements for final caps. Clean closure of Trench 7 by transferring treated soil and liner components to the landfill units would leave no wastes in Trench 7 and thus provides high protection to human health and the environment. LUCs would prevent unauthorized access and construction thus providing protection against incidental exposure. Any potential transport of contaminants from the treatment units or the CEA to nearby bodies of water would be halted by this alternative.
- Compliance with ARARs. Alternative 2 would meet the ARARs. Chemical-specific ARARs such as LDRs would be satisfied prior to the disposal of waste in the units. USEPA requirements would be met by providing RCRA Subtitle C caps. Any contaminated water in the sedimentation ponds would be treated to meet the discharge requirements. Hazardous waste landfill closure requirements would be met by the Trench 6 closure. Trench 7 closure requirements would be met by excavating all of the Trench 7 contents and disposing in accordance with the OU-1 ROD requirements.
- Long-Term Effectiveness and Permanence. Contaminated soil removal and closure of Trench 7 and the new caps at Trench 6 and the CEA in Alternative 2 would be permanent and effective on a long-term basis in providing protection against direct contact and potential leaching. Periodic inspections and maintenance of the caps would be conducted to ensure long-

term effectiveness. Periodic groundwater monitoring would indicate the effectiveness of the caps. Leachate collection and treatment at Trench 6 would prevent contaminant migration. LUCs with construction and groundwater use restrictions would prevent possible human exposure and consumption of contaminated groundwater. Five-year reviews would indicate the long-term effectiveness of the remedy.

- Reduction of Toxicity, Mobility, or Volume through Treatment. Removal of contaminated soil at Trench 7 and new caps for Trench 6 and the CEA would reduce contaminant mobility. Reduction of toxicity might occur but only through natural processes.
- Short-Term Effectiveness. Removal and transfer of contaminated soil and building new caps would potentially result in short-term risks. However, common engineering practices should minimize such risks. Potential exposures of on-site workers to landfill contents and dust during the contaminated soil transfer and placement of caps would be limited through the use of personal protective equipment and engineering and dust controls. Public or workers exposure to potential threats would be minimal due to construction or transportation. Implementation of this alternative would not pose any safety concerns to nearby communities, the environment, or on-site workers.
- Implementability. Alternative 2 would be implementable. Transfer of treated soils and the liner components of Trench 7 and construction of caps at Trench 6 and the CEA could be performed effectively. Equipment and materials are readily available for installing the caps and excavating and transferring waste materials. Required manpower and materials are readily available. The alternative is fairly reliable because clean closure of Trench 7 and new caps will protect from direct contact and potential leaching risk. Long-term monitoring will indicate the potential risks. This alternative should take less than one year to implement. Administrative issues and coordination with

other agencies or acquiring permits are easily achievable. Future remedial actions at Trench 7, if needed, would not be hindered by this alternative; however, such actions at Trench 6 and the CEA may be hindered because of the caps.

- Cost. Present worth cost over a period of 30 years would be \$6,388,000. The estimated capital cost for Alternative 2 would be \$3,400,000. The annual O&M costs would be \$200,000 for the years 1 to 3, \$153,000 for the years 4 to 6, and \$143,000 for the years 7 through 30. The O&M costs are primarily for treating the leachate and contact/runoff water from Trench 6.

SUMMARY OF THE PREFERRED REMEDIAL ALTERNATIVE

The Preferred Remedial Alternative for the IDA of OU-4 is Alternative 2, consisting of:

- Transferring treated soil from Trench 7 to either Trench 6 or the CEA
- Removing the liner, leak detection system components, and leachate collection system components from Trench 7 and disposing in Trench 6
- Excavating soil underneath the liner in Trench 7, if necessary, after sampling for clean closure and disposing soil in Trench 6 or the CEA as appropriate
- Filling the excavated areas of Trench 7 with fresh fill and top soil, and seeding the area
- Providing RCRA Subtitle C caps for the CEA and Trench 6
- Monitoring groundwater to evaluate the performance of landfill cap systems until the RAOs are achieved
- Land Use Controls to restrict site access and future usage at the IDA
- Routine cap inspection and repairs and maintenance for the CEA cap

- Monitoring for cap maintenance, leachate collection and leak detection for Trench 6 and maintenance and repair of the landfill cap
- Treating contact runoff prior to establishment of the caps of Trench 6 and the CEA in the existing temporary treatment plants
- Prior to the removal of Trench 7 and the capping of Trench 6, the sediments in the sedimentation ponds will be characterized. If above the OU-1 RGs the sediments will be excavated and disposed of in Trench 6 or treated in Trench 7 then disposed in Trench 6, as applicable. If required, sedimentation pond waters will be treated with the existing temporary treatment systems prior to sediment excavation.
- Five-year site reviews

The alternative would provide engineered caps for the CEA and Trench 6 and clean close Trench 7. Additionally, institutional and land use controls will be implemented to help prevent exposures to contaminated soils and groundwater. The alternative provides the presumptive remedy for military landfills. Periodic inspection and maintenance of the caps would ensure long-term effectiveness of the caps. Groundwater monitoring at seven designated monitoring wells would verify the performance of the caps. Any required groundwater remediation will be carried out under OU-3 remedial measures.

The Army and EPA support the Preferred Remedial Alternative and believe it provides the best remedial alternative with respect to the evaluation criteria. The Army and EPA expect the Preferred Remedial Alternative to satisfy the following statutory requirements of CERCLA Section 121(b): 1) be protective of human health and the environment; 2) comply with Applicable or Relevant and Appropriate Requirements; and 3) utilize permanent solutions and alternative treatment technologies to the maximum extent practicable. Treatment of landfill/land disposal unit contents will not be viable for the IDA because of the large volume of waste/contaminated soil.

COMMUNITY PARTICIPATION

Detailed information regarding this proposed action is available in the Administrative Record File at the Danville City Hall, Burlington Public Library, and the Lee County Health Department. An announcement of the availability of this Proposed Plan was published in the Hawk Eye newspaper on May 21, 2007 in accordance with CERCLA.

The Army is seeking comments on the action recommended in this Proposed Plan. A public comment period running from Date to Date is open during which comments will be accepted and considered prior to a final decision on the remedy for the IDA disposal areas. In addition, a public meeting will be held at the Winegard Board Room of Riverpark Place, 610 N. 4th Street, Burlington, Iowa on June 6, 2007 to explain this proposed action and to answer questions and accept comments. A comment form has been included at the end of this document to submit input on the Proposed Plan.

For additional information, please contact:

Rodger Allison
SJMIA-INE
Iowa Army Ammunition Plant
17571 Highway 79
Middletown, Iowa 52638-5000
319-753-7130
rallison@aolc.biz

GLOSSARY OF TERMS

Administrative Record File – A compilation of documents that serve as the basis for the decision in selecting a response action to be taken at a site.

Applicable or Relevant and Appropriate Requirements (ARARs) – The federal and state environmental laws that a selected remedy will meet. These requirements may vary among sites and alternatives.

Capital Costs – Up-front costs associated with remediation system construction and start-up, administration, legal, engineering, and design.

Carcinogens – Potential cancer-causing chemicals. RDX is considered a “possible” carcinogen, meaning there are data indicating carcinogenicity in animals but no data for humans.

Comprehensive Environmental Response Compensation, and Liability Act (CERCLA) – The federal law that addresses problems resulting from releases of hazardous substances to the environment.

Explanation of Significant Differences (ESD) – A CERCLA document that evaluates options for remedial action.

Feasibility Study (FS) – This CERCLA document develops and evaluates options for remedial action. The FS emphasizes data analysis and is generally performed concurrently in an interactive fashion with the Remedial Investigation (RI), using data gathered during the RI.

Focused Feasibility Study (FFS) – An FS focused on certain areas of an operable unit that leads to an interim remedial action.

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) – These CERCLA regulations provide the federal government the authority to respond to the problems of abandoned or uncontrolled hazardous waste disposal sites as well as to certain incidents involving hazardous waste (e.g., spills).

National Priorities List (NPL) – EPA’s list of uncontrolled or abandoned waste sites that present the greatest potential threat to human health or the environment.

Operable Unit – A portion of a site separately considered for remedial or corrective action. For example, Operable Unit 3 at IAAAP addresses facility-wide groundwater contamination.

Operations and Maintenance (O&M) – Measures required to operate and maintain remedial systems to ensure the effectiveness of the response action.

Part per Million (ppm) – A unit of concentration equal to one part in one million (ppm)/and one milligram per gram (mg/g).

Preferred Remedial Alternative – The remedial alternative selected by the Army and EPA, based on a comparison of various remedial alternatives using specific evaluation criteria.

Present Worth – The amount of money that would need to be invested in the current year, at a particular discount rate, to sufficiently evaluate criteria.

Proposed Cleanup Level – Recommended maximum concentrations of chemicals for a specific combination of media (e.g., groundwater) and land use (e.g., residential). Used to establish cleanup levels for a site, after an evaluation is completed using the nine criteria for remedy selection outlined in the NCP.

Proposed Plan – CERCLA document that summarizes evidence to support the selection of a preferred remedial alternative at a CERCLA site. The document is intended for public distribution to solicit comments on the proposed action(s).

Record of Decision (ROD) – The CERCLA decision document that presents the cleanup remedy selected by the Army and EPA.

Remedial Action Objectives (RAOs) – Site-specific goals to protect human health and the environment.

Remedial Investigation (RI) – A process under CERCLA to determine the nature and extent of

the problem presented by a contaminant release. The RI includes sampling, monitoring, and gathering of sufficient information to determine the necessity for remedial action.

Remediation – Clean up.

Remediation Goals (RGs) – Contaminant concentrations used to identify the soil requiring excavation, treatment, and disposal to meet the RAOs and provide protection for human health and the environment.

RDX (Royal Demolition Explosive) – Hexahydro-1,3,5-trinitro-1,3,5-triazine. A common military munitions explosive; considered a possible human carcinogen.

Target Risk Range – EPA-established acceptable risk range for carcinogens of 1×10^{-4} to 1×10^{-6} . Estimated excess cancer risks within this range are generally considered unlikely in the general population. If calculated risks fall within the risk range, risk managers must determine whether remedial action is warranted to reduce the risk. If the risks are less than 1×10^{-6} (less than 1 in 1 million), no remedial action is required. If the risks are greater than 1×10^{-4} (1 in 10 thousand), remedial action is generally required.

RESPONSE TO USACHPPM COMMENTS
23 MARCH 2007

<p align="center">Comment Response Matrix</p> <p align="center">January 2007 comments on the Draft Proposed Plan for Trench 6, Trench 7, and the Cap Extension Area Inert Disposal Area (IDA), Operable Unit Four (OU-4), Iowa Army Ammunition Plant , Middletown, IA</p>			
<p>Commenter: Christine Moser</p>			
<p>Comments dated: March 23, 2007</p>			
Comment No.	Page/Reference	Comment	Response
<i>Specific Comments</i>			
1	Page 4, L. Tannenbaum Site Characteristics	<p>The three bullet paragraphs do not supply an adequate level of detail regarding the risk figures that are mentioned. Phraseology such as "cumulative risk less than 10⁻⁶" are unqualified.</p> <p><u>Recommendation:</u> In the revised document, please ensure that it is clear from the text of each of the bullet paragraphs, that human health is being discussed, that cancer risk is being discussed where "cumulative risk" is used, and that specific human receptors, to whom the cancer risks seemingly apply, are identified. Examples would be the child resident, the on-post recreational fisherman, etc.</p>	Text changed to clearly indicate “cumulative cancer risk” based on human health primarily for on-site workers.
2	Page 5. L. Tannenbaum Scope and Role of Remedial Action	<p>Ecological concerns are mentioned only once in the Proposed Plan, in this Section's point "c" (i.e., there is no mention of such concerns even in the fuller description of the preferred remedy on pages 10 and 11). As the Proposed Plan is written, there is no support for the statement in "c"; i.e., no unacceptable potential for ecological risk is described that would warrant an action taken to minimize such a risk or hazard. Also, please note that the sequencing of the text on this page is somewhat awkward. In "c", adverse ecological effects are mentioned, but the following section ("Summary of Site Risks") does not identify any adverse effects (either present now or to eventually arises).</p> <p><u>Recommendation:</u> Please, in the document revision, provide a fuller treatment of legitimate ecological concerns for OU-4. Include in this treatment, specific species that are of concern, specific ecological effects that might otherwise accrue (if the remedy is not applied), and how demonstrated adverse effects are</p>	References to ecological concerns have been deleted.

Comment Response Matrix			
January 2007 comments on the Draft Proposed Plan for Trench 6, Trench 7, and the Cap Extension Area Inert Disposal Area (IDA), Operable Unit Four (OU-4), Iowa Army Ammunition Plant , Middletown, IA			
Commenter: Christine Moser			
Comments dated: March 23, 2007			
Comment No.	Page/Reference	Comment	Response
2 (con't)		known to be present or are anticipated to arise. Note that hazard quotients (HQ) above 1.0 do not demonstrate a problem requiring action because they do not measure risk, and are highly inaccurate (background conditions can easily have a HQ greater than 1.0).	
3	Pages 5 and 6, L. Tannenbaum Summary of Site Risks	<p>The two bullet points at the end of the page 5, and the one bullet point at the top of page 6 are unacceptably vague. Aside from cancer as an endpoint not being mentioned (see Comment #1 above), the receptors to which the risk levels apply are not mentioned, the exposure pathways involved are not specified (e.g., inhalation), and the meaning of such risk levels as 10^{-5} and 10^{-6} are not indicated. Also, how is the bullet point at the top of page 6 to be understood? Why would (cumulative) risk of 10^{-5} need to be treated/ contained? Ordinarily for Superfund sites, a cumulative cancer risk level of 10^{-5} is acceptable.</p> <p><u>Recommendation:</u> Please rework the identified bullet points to address the points made in the Comment. Please recall the Proposed Plan's reading audience. It is likely that the readership will not know what phraseology such as "cumulative risk less than 10^{-6}", means.</p>	Text has been re-worked to reflect a human health risk assessment primarily focused on on-site worker exposure and cumulative cancer risk. The treatment/containment of soils exhibiting risk of 10^{-5} reflects agreements reached in the OU-1 ROD.
4	Page 6, L. Tannenbaum Summary of Site Risks	<p>Only "current" exposure routes are mentioned in this section. Why aren't future exposures mentioned?</p> <p><u>Recommendation:</u> In the revised Proposed Plan, please mention as appropriate, future exposures (applicable receptors, scenarios, pathway). If there are no relevant future exposures, please have the text indicate same.</p>	Reasonably anticipated land use and exposures at the IDA will not change from current. Text added to indicate no anticipated change in local land use.

Comment Response Matrix			
January 2007 comments on the Draft Proposed Plan for Trench 6, Trench 7, and the Cap Extension Area Inert Disposal Area (IDA), Operable Unit Four (OU-4), Iowa Army Ammunition Plant , Middletown, IA			
Commenter: Christine Moser			
Comments dated: March 23, 2007			
Comment No.	Page/Reference	Comment	Response
5	Page 12, L. Tannenbaum Glossary of Terms	<p>The term "Hazard Index" (HI) is addressed in this glossary, but the term does not appear in the text of the Proposed Plan. Note also that the definition provided for HI is less than complete; in not indicating whether human or ecological receptors are intended, the definition can be quite misleading. Remedial action is not "usually warranted in ecological risk assessments" when a HI above 1.0 occurs. Were the glossary needed, it would have to be expanded to incorporate human and ecological aspects.</p> <p><u>Recommendation:</u> Please remove the glossary entry for HI as it is not needed. Please make sure that other terms in the glossary that do not appear in the body of the Proposed Plan are also removed.</p>	Text deleted.

RESPONSE TO EPA COMMENTS
21 MARCH 2007
18 MAY 2007

Draft Proposed Plan for Trench 6, Trench 7, and the Cap Extension Area Inert Disposal Area (IDA), Operable Unit Four (OU-4)

<p align="center">Comment Response Matrix</p> <p align="center">January 2007 comments on the Draft Proposed Plan for Trench 6, Trench 7, and the Cap Extension Area Inert Disposal Area (IDA), Operable Unit Four (OU-4), Iowa Army Ammunition Plant , Middletown, IA</p>			
<p>Commenter: Scott Marquess</p>			
<p>Comments dated: March 21, 2007</p>			
Comment No.	Page/Reference	Comment	Response
<p align="center"><i>Specific Comments</i></p>			
1.	Page 2 Introduction	Do we really have metals in GW and SW?	No. Text was revised to remove the statement.
2.	Introduction	Need to describe the interim and final soil remedies and 1997 removal a little more thoroughly	Text has been added to describe the interim and final soil remedies that had taken place in IAAAP (pages 2-3). OU-1 ROD (1998) prescribed excavation of soil exceeding RGs followed by thermal desorption for the explosives contaminated soil, and stabilization and solidification of metals contaminated soils. The SVOC contaminated soils were to be disposed off-site. An ESD issued in 2003 chose biological treatment as the remedy for explosives contaminated soil, and that for metals contaminated soil was stabilization/solidification. The mixed soil (metals and explosives contaminated) was to be treated both biologically and by stabilization/solidification processes. To this date about 216,000 cy of soils have been excavated for treatment and/or disposal.
3.	Page 3 Site Background Inert Landfill	What were the masses/volumes of soils excavated from Line 1 and Line 800?	The masses and volumes of excavated soils have been included in the text (page 3) as follows: The soil volumes excavated from the Line 1 Impoundment (L1I) and Line 800 (or Pink Water Lagoon, PWL) were approximately 12,225 cubic yards and 84,880 cubic yards, respectively. And the contaminant masses excavated from the L1I and PWL were approximately 1,786 kilograms (kg) and 36,215 kg, respectively.
4.	Page 4 Site Background Inert Landfill	The cover consists of WHAT, IN GENERAL TERMS?	The description of the ILF cap has been added on page 3. The cap consists from bottom to top of a 12-inch compacted clay liner, a geomembrane liner, a geocomposite drainage

Draft Proposed Plan for Trench 6, Trench 7, and the Cap Extension Area Inert Disposal Area (IDA), Operable Unit Four (OU-4)

Comment Response Matrix			
January 2007 comments on the Draft Proposed Plan for Trench 6, Trench 7, and the Cap Extension Area Inert Disposal Area (IDA), Operable Unit Four (OU-4), Iowa Army Ammunition Plant , Middletown, IA			
Commenter: Scott Marquess			
Comments dated: March 21, 2007			
Comment No.	Page/Reference	Comment	Response
			layer, an 18-inch infiltration layer, and 6 inches of vegetated topsoil.
5.	Page 4 Site Background Trench 6	Describe lower liner system in GENERAL.	The description of the lower liner system has been added on page 4. The liner system in Trench 6 consists, from bottom to top, of a geomembrane, a geonet for leak detection, a second geomembrane, and a geocomposite drainage layer for leachate collection.
6.	Page 4 Site Background Trench 6	Contaminant Mass?	As added on page 4, the amount of contaminated soils that has been disposed in Trench 6 is approximately 68,000 cy with an approximate contaminant mass of 20,000 kg.
7.	Page 5 Site Background Trench 7	Describe liner system in general.	The description of the liner system has been added on page 5. The liner system in Trench 7 consists, from bottom to top, of a geomembrane, a geonet for leak detection, a second geomembrane, and a geocomposite drainage layer for leachate collection.
8.	Page 6 Scope and role of remedial action	Describe cover system briefly	The cap description has been added on page 6. The caps shall consist, from bottom to top, of a geosynthetic clay liner, a geomembrane liner, a geocomposite drainage layer, an 18 inch infiltration layer, and 6 inches of revegetated topsoil
9.	Page 7 Summary of site risks	This just repeats info stated elsewhere...	This section describes the range of cumulative cancer risks associated with CEA, Trench 6 and Trench 7. The section also addresses groundwater and land use control for the IDA.
10.	Page 7 Summary of site risks	Are you really planning to install a 2.5 ft thick cap?	The text has been corrected to show a planned thickness of the cap of 2 ft.

Draft Proposed Plan for Trench 6, Trench 7, and the Cap Extension Area Inert Disposal Area (IDA), Operable Unit Four (OU-4)

Comment Response Matrix			
January 2007 comments on the Draft Proposed Plan for Trench 6, Trench 7, and the Cap Extension Area Inert Disposal Area (IDA), Operable Unit Four (OU-4), Iowa Army Ammunition Plant , Middletown, IA			
Commenter: Scott Marquess			
Comments dated: March 21, 2007			
Comment No.	Page/Reference	Comment	Response
11.	Page 8 Summary of Remedial alternatives	What is the VOLUME?	As added on page 8, the approximate volume is 48,000 cy.
12.	Page 9 Summary of Remedial alternatives	Is this one contiguous cap – show cap design (approx) on fig	The caps on Trench 6 and CEA are separate. CEA is adjacent to ILF. Figure 3 shows detail of the cap design.
13.	Page 9 Summary of Remedial alternatives	What are the sed ponds? Haven't been mentioned yet. Maybe add in background sect.	Text (Page 9) describing the sediment ponds has been added.
14.	Page 10 Summary of remedial alternatives	Fig 3 is not too helpful	Figure 3 has been modified to show the different layers in cap design.
15.	Page 11 Remedial alternative evaluation	Not an Iowa but a fed requirement	Agreed. The correction has been made.
16.	Page 12 Summary of the preferred remedial alternative	This should match the previous description	The summary of the preferred alternative has been modified to keep it consistent with previous description.
18.	Page 13 Summary of the preferred remedial	Where/how (to treat sediments)? In Trench 6 or 7? Explain "accordingly".	The text has been added (page 13) to clarify that the sediments in the sedimentation ponds will be characterized. Should the sediment concentrations be above the OU-1 RGs the sediments will be excavated and disposed of in Trench 6

Comment Response Matrix			
January 2007 comments on the Draft Proposed Plan for Trench 6, Trench 7, and the Cap Extension Area Inert Disposal Area (IDA), Operable Unit Four (OU-4), Iowa Army Ammunition Plant , Middletown, IA			
Commenter: Scott Marquess			
Comments dated: March 21, 2007			
Comment No.	Page/Reference	Comment	Response
	alternative		or treated in Trench 7 then disposed in Trench 6, as applicable. If required, sedimentation pond waters will be treated with the existing temporary treatment systems prior to sediment excavation.
19.	Page 13 Community participation	What paper, what date?	The name of the newspaper and the date of announcement have been added in the text. An announcement of the availability of this Proposed Plan will be published in the Hawk Eye newspaper on May 21, 2007.
20.	Page 13 Community participation	Where/when	Texts have been included as such “The public meeting will be held at the Winegard Board Room of Riverpark Place, 610 N. 4 th Street, Burlington, Iowa on June 6, 2007”.

Comment Response Matrix			
Proposed Plan for Trench 6, Trench 7, and the Cap Extension Area of the Inert Disposal Area (IDA)			
Commenter: USEPA			
Comments dated: May 18, 2007			
Comment No.	Page/Reference	Comment	Response
<i>Specific Comments</i>			
1	Pg. 1, 1 st sent. in the inset box located in the upper right of the page.	Insert the words “and EPA” after “Army”.	The text has been revised as requested.
2	“Introduction” sect., 4 th para..	Insert the sentence “The IDA includes the Inert Landfill (ILF), Trench 6 Landfill, Trench 7, the Cap Extension Area (CEA) and associated sedimentation ponds.” after the sentence that ends with “approximately 20 acres.”	The text has been revised as requested.
3	“Introduction” sect., 5 th para.	Insert the sentence “The ILF and associated contaminated soils was capped as part of a removal action in 1998.” after the sentence that ends with “with each facility.”	The text has been revised as requested.
4	“IAAAP History” section, 3 rd para.	The question, “What about IROD??” was inserted into the middle of the paragraph.	The paragraph has been revised to include the Interim Action Record of Decision (IROD) in the discussion of ROD history and background.
5	“IAAAP History” section, 3 rd para.	Insert the sentence “ Biological treatment of contaminated soils was identified as a contingent remedy.” after the sentence that ends with “metals contaminated soils.”	The text has been revised as requested.
6	“IAAAP History” section, 4 th para.	Insert the sentence “In the ESD biological treatment of explosives-only contaminated soils was identified as the remedial alternative.” after the sentence that ends with “issued in 2003.”	The text has been revised as requested.

Comment Response Matrix			
Proposed Plan for Trench 6, Trench 7, and the Cap Extension Area of the Inert Disposal Area (IDA)			
Commenter: USEPA			
Comments dated: May 18, 2007			
Comment No.	Page/Reference	Comment	Response
7	“IAAAP History” section, last para.	Insert the word “completed” after the words “have been” in the first sentence.	The text has been revised as requested.
8	“IAAAP History” section, last para.	Insert the words “under the ILF cap, within Trench 6, Trench 7, or the CEA.” at the end of the last sentence of the paragraph.	The text has been revised as requested.
9	“Inert Landfill” sect., 4 th sent. from end of only para..	Insert the word “The” prior to the word “Contaminant”.	The text has been revised as requested.
10	“Site Characteristics” section, 2 nd para.	Insert the words “protecting on-site workers” after the words “risk calculation for.”	The text has been revised as requested.
11	“Site Characteristics” section, 1 st bullet item after 2 nd para.	Insert the words “exceeding groundwater protection standards” after the words “less than 10 ⁻⁶ ”.	The text has been revised as requested.
12	“Summary of Site Risks” sect., 1 st para.	Insert the words “associated with on-site worker exposures” after the words “explosives contamination.”	The text has been revised as requested.
13	“Summary of Site Risks” sect., 1 st bullet item after 1 st para.	Insert the words “exceeding groundwater protection standards” after the words “less than 10 ⁻⁶ ”.	The text has been revised as requested.
14	“Remedial Action Objectives” sect. 1 st bullet after 1 st para.	Insert the words “and land use controls” after the words “Provide adequate caps”.	The text has been revised as requested.
15	“Remedial Alternative Evaluation” sect., 1 st para.	Insert the words “and EPA” after the words “the Army”.	The text has been revised as requested.

Comment Response Matrix			
Proposed Plan for Trench 6, Trench 7, and the Cap Extension Area of the Inert Disposal Area (IDA)			
Commenter: USEPA			
Comments dated: May 18, 2007			
Comment No.	Page/Reference	Comment	Response
16	Summary of the Preferred Remedial Alternative” sect., 1 st para.	Insert the words “consisting of;” after the words “Alternative 2”.	The text has been revised as requested.