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Disposal of Discarded Munitions Debris & Components; Demolition of RVAAP- 35 Building 1037 - Laundry Waste Water Sump and Laundry Flame Proofing Building; and Evaluation and Recommendations for Closure of Clean-Hard Fill Sites
Revision 0
Ravenna Army Ammunition Plant (RVAAP)

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This Project Completion Report describes the activities performed to complete the on-site operations of the 5X certification and off-site disposal of munitions debris (MD) and munitions constituents (MC) and the evaluation and recommendations for Closure of Clean-Hard Fill Sites at Ravenna Army Ammunition Plant (RVAAP).

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FINAL PROJECT COMPLETION REPORT
Disposal of Discarded Munitions Debris & Components; Demolition of RVAAP- 35 Building 1037 – Laundry Waste Water Sump and Laundry Flame Proofing Building; and Evaluation and Recommendations for Closure of Clean-Hard Fill Sites
Revision 0

Ravenna Army Ammunition Plant (RVAAP)
Ravenna, Ohio

Contract No. W52H09-08-C-5015

Prepared for:

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PROJECT COMPLETION REPORT

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BRACO – Base Realignment and Closure Technical Support Office

OHARNG – Ohio Army National Guard - Camp Ravenna

PIKA – PIKA International Inc.

RVAAP – Ravenna Army Ammunition Plant

USACE – United States Army Corps of Engineers – Louisville District

USAEC – United States Army Environmental Command

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LIST OF ACRONYMS

AOC	Area of Concern
APP	Accident Prevention Plan
BRACO	Base Realignment and Closure Technical Support Office
CELRL	United States Army Corps of Engineers – Louisville District
DA	Department of Army
DDESB	Department of Defense Explosives Safety Board
DoD	Department of Defense
DoDI	Department of Defense Instruction
ECM	Earth Covered Magazine
ESQD	Explosive Safety Quantity-Distance
ESS	Explosives Safety Submission
EZ	Exclusion Zone
FM	Facility Manager
GOCO	Government Owned Contractor Operator
GPS	Global Positioning System
IAW	In Accordance With
IRP	Installation Restoration Program
LL	Load Line
MEC	Munitions and Explosives of Concern
MD	Munitions Debris
MDAS	Material Documented as Safe
MDEH	Material Documented as Explosive Hazard
MPPEH	Munitions Potentially Presenting an Explosive Hazard
NGB	National Guard Bureau
OAC	Ohio Administrative Code

Ohio EPA	Ohio Environmental Protection Agency
OHARNG	Ohio Army National Guard
OSHA	Occupational Safety and Health Administration
PCB	Polychlorinate Biphenyl
PIKA	PIKA International, Inc.
PjM	Project Manager
RVAAP	Ravenna Army Ammunition Plant
SOW	Scope of Work
SSHP	Site-Specific Safety and Health Plan
SUXOS	Senior UXO Supervisor
SZ	Support Zone
TACOM	United States Army Tank-Automotive and Armaments Command
TM	Technical Manual
TP	Technical Pamphlet
USACE	United States Army Corps of Engineers
USAEC	United States Army Environmental Center
USP&FO	United States Property and Fiscal Officer
UXO	Unexploded Ordnance
UXOSO	UXO Safety Officer
WBG	Winklepeck Burning Grounds
WZ	Work Zone

1.0 INTRODUCTION

This report describes the activities performed to complete the Disposal of Discarded Munitions Debris and Components, Demolition of the Laundry Flame Proofing Building and Evaluation and Recommendations for Closure of Clean-Hard Fill Sites at the Ravenna Army Ammunition Plant (RVAAP) in Ravenna, Ohio. A copy of the scope of work (SOW) is presented in Appendix A.

The report describes the procedures, operational sequence, and resources PIKA International, Inc. (PIKA) used for the following tasks:

- Inspection, "Safe Certification and offsite disposal or recycling of Material Possibly Presenting an Explosive Hazard (MPPEH) being stored at the RVAAP in earth covered magazines (ECM) 7-C-3, 7-C-4 and 1501.
- Demolition and removal of RVAAP– 35 Building 1037 – Laundry Waste Water Sump and Laundry Flame Proofing Building.
- Inspect and prepare recommendations and cost estimate to close out the RVAAP clean-hard fill sites.

PIKA performed this project under Contract Number W52H09-08-C-5015 with US Army Tank-Automotive and Armaments Command (TACOM), Rock Island, Illinois. A copy of the SOW for this project is provided in Appendix A.

1.1 OBJECTIVE

The objective of this project was to conduct 100% Inspection of Material Potentially Presenting an Explosive Hazard (MPPEH) that are stored in ECMs 7-C-3, 7-C-4 and 1501 and categorize them according to the process required to acquire a "Safe" certification; disposal of items categorized as Material Designated as Safe (MDAS); provide a cost estimate for disposal of items categorized as Material Designated as Explosive Hazard (MDEH) under separate contract; demolition and removal of

RVAAP– 35 Building 1037 – Laundry Waste Water Sump and Laundry Flame Proofing Building; and prepare recommendations and cost estimates to for closure of the RVAAP clean-hard fill sites under separate contract.

1.2 RVAAP LOCATION

When the RVAAP Installation Restoration Program (IRP) began in 1989, the RVAAP was identified as a 21,419 acre installation. The property boundary was resurveyed by the Ohio Army National Guard (OHARNG) over a two year period (2002 and 2003) and the actual total acreage of the property was found to be 21,683 acres. As of February 2006, a total of 20,403 acres has been transferred to the National Guard Bureau (NGB) and subsequently licensed to the OHARNG for use as a military training site known as the Camp Ravenna. The current RVAAP consists of 1,280 acres scattered throughout Camp Ravenna.

Camp Ravenna is in northeastern Ohio within Portage and Trumbull Counties, approximately 4.8 kilometers (3 miles) east northeast of the city of Ravenna and approximately 1.6 kilometers (1 mile) northwest of the city of Newton Falls. The RVAAP portions of the property are solely located within Portage County. Camp Ravenna/RVAAP is a parcel of property approximately 17.7 kilometers (11 miles) long and 5.6 kilometers (3.5 miles) wide bounded by State Route 5, the Michael J. Kirwan Reservoir, and the CSX System Railroad on the south; Garret, McCormick, and Berry roads on the west; the Norfolk Southern Railroad on the north; and State Route 534 on the east. Camp Ravenna is surrounded by several communities: Windham on the north; Garrettsville 9.6 kilometers (6 miles) to the northwest; Newton Falls 1.6 kilometers (1 mile) to the south east; Charlestown to the southwest; and Wayland 4.8 kilometers (3 miles) to the south.

When RVAAP was operational, the Camp Ravenna did not exist and the entire 21,683-acre parcel was a government-owned contractor operated (GOCO) industrial facility. The RVAAP IRP encompasses investigation and cleanup of past activities over the entire 21,683 acres of the former RVAAP, references to the RVAAP in this document are considered to be inclusive of the historical extent of RVAAP, unless

otherwise specifically stated. A regional map indicating the General Location and Orientation of the RVAAP is presented in Appendix B as Figure 1. A facility map of the RVAAP is presented in Appendix B as Figure 2.

1.3 RVAAP HISTORY

Production at the facility began in December 1941 with the primary missions of depot storage and ammunition loading. The installation was divided into two separate units, the Portage Ordnance Depot and the Ravenna Ordnance Plant. The Portage Ordnance Depot's primary mission was depot storage of munitions and components, while the Ravenna Ordnance Plant's mission was loading and packing major caliber artillery ammunition and the assembly of munitions initiating components that included fuzes, boosters and percussion elements. In August 1943, the installation was redesignated the Ravenna Ordnance Center and again in November 1945 as the Ravenna Arsenal.

The plant was placed in standby status in 1950 and operations were limited to renovation, demilitarization and normal maintenance of equipment, along with storage of ammunition and components. The plant was reactivated during the Korean Conflict to load and pack major caliber shells and components. All production ended in August 1957, and in October 1957 the installation was again placed in a standby condition. In October 1960 the ammonium nitrate line was renovated for demilitarization operations which involved melting explosives out of bomb casings for subsequent recycling. These operations commenced in January 1961. In July 1961 the plant was again deactivated. In November 1961 the installation was divided into the Ravenna Ordnance Plant and an industrial section, with the entire installation designated as the RVAAP. In May 1968, RVAAP began loading, assembling, and packing munitions on three Load Lines (LLs) and two component lines in support of the Southeast Asia Conflict. These facilities were deactivated in August 1972. The demilitarization of the M71A1 90MM projectile extended from June 1973 until March 1974. Demilitarization of various munitions was conducted from October 1982 through 1992.

Until 1993 RVAAP maintained the capability to load, assemble, and pack military ammunition. As part of the RVAAP mission, the inactive facilities were maintained in a standby status by keeping equipment in a condition to permit resumption of production within prescribed limitations. In September 1993 the RVAAP was placed in inactive caretaker status, and subsequently changed to modified caretaker status. The load lines and associated real estate were determined to be excess the US Army.

A total of 20,403 acres of the former 21,683 acre RVAAP was transferred to the United States Property and Fiscal Officer (USP&FO) for Ohio for use by OHARNG as a military training site. The current RVAAP consists of 1,280 acres in several distinct parcels scattered throughout Camp Ravenna. The RVAAP and Camp Ravenna are co-located on contiguous parcels of property.

1.4 Project Description and General Scope

During the course of the IRP at the RVAAP, various MPPEH items were found and stored in ECMs 7-C-3, 7-C-4 and 1501 for future disposal. The items were recovered by various contractors during previous Munitions and Explosives of Concern (MEC) clearance and removal operations at the Atlas Scrap Yard, Load Line 1 and the Winklepeck Burning Grounds (WBG) at the RVAAP. The SOW provided for the inspection and categorization, “Safe” certification, recycle and disposal of items certified as MDAS and preparation of a cost estimate for disposal/recycling of items categorized as MDEH under a separate contract. Additionally, the SOW provided for the Demolition of RVAAP – 35 Building 1037 – Laundry Waste Water Sump and Flame Proofing Building along with the inspection of the four (4) RVAAP clean-hard fill sites in order to evaluate the current site conditions and provide a cost for planned future closure under a separate contract. A copy of the SOW is presented in Appendix A.

2.0 INSPECTION AND CLASSIFICATION, CERTIFICATION, RECYCLING AND DISPOSAL OF MPPEH

The following documents were prepared and approved prior to starting inspection and categorization of the MPPEH items:

- July 10, 2009, "Final Project Work Plan for the Disposal of Discarded Munitions Debris & Components; Demolition of RVAAP- 35 Building 1037 – Laundry Waste Water Sump and Laundry Flame Proofing Building; Evaluation and Recommendations for Closure of Clean-Hard Fill Sites.

- May 4, 2009 "RVAAP Final Explosives Safety Submission for the Disposal of Discarded Munitions Debris & Components; Demolition of RVAAP- 35 Building 1037.

- July 10, 2009, Final Accident Prevention Plan for the Disposal of Discarded Munitions Debris & Components; Demolition of RVAAP- 35 Building 1037 – Laundry Waste Water Sump and Laundry Flame Proofing Building; Evaluation and Recommendations for Closure of Clean-Hard Fill Sites.

The sequence of operations for the inspection and categorization of MPPEH items at the RVAAP as approved in the work plan was:

- Mobilization and Site Preparation - Conducted 24-28 August 2009;

- Inspection and categorizing of MPPEH items stored in ECMs 7-C-3, 7-C-4 and 1501 – Conducted 31 August to 9 October 2009;

- Transportation of items categorized as MDAS to a smelter for offsite recycling as scrap metal – Conducted 15 October 2009; and

- Inventory, mark and re-store items categorized as MDEH – Conducted concurrently with inspection operations 31 August to 9 October 2009.

All work executed was accomplished in a manner which ensured the health and safety of the workforce and the public at large. As such, all work was completed in accordance with (IAW) the SOW (Appendix A), the Department of Defense Explosives Safety Board (DDESB) approved Explosive Safety Submission, the approved Site-Specific WP with its integral Accident Prevention Plan (APP), and applicable Federal, State and Local rules, laws and regulations.

Details pertaining to each of the MPPEH inspection and categorization field operations are provided in the subsections that follow. A Figure showing the location of ECMs 7-C-3, 7-C-4 and 1501 within the RVAAP is presented as Figure 2 in Appendix B. Photographic documentation of the field operations are provided in the Weekly Reports that are contained in Appendix C.

2.1 MOBILIZATION AND SITE PREPARATION

2.1.1 Mobilization of Manpower

Mobilization activities were conducted from 24 to 28 August 2009. All PIKA personnel that were mobilized to the site met requirements for Occupational Safety and Health Administration (OSHA) hazardous waste operations training and medical surveillance requirements as specified in the Accident Prevention Plan/Site-Specific Safety and Health Plan (APP/SSHP). Site personnel were also trained to perform the specific tasks to which they were assigned. UXO personnel utilized on this project met the requirement for respective positions as presented in the DDESB approved "UXO Personnel Trainining and Experience Hierarchy" found in Technical Pamphlet (TP) number 18 – Minimum Qualifications for Unexploded Ordnance (UXO) Technicians and Personnel, 2004."

2.1.2 Preliminary Activities

During the initial mobilization, PIKA site management personnel were engaged with the following preliminary activities:

- Coordination with the RVAAP Facility Manager (FM) to finalize access requirements, location of any temporary facilities to be used, and communications requirements;
- Extensive coordination with OHARNG to ensure site activities did not impact scheduled training exercises;
- Contact and coordination with RVAAP FM and local fire, medical, and other emergency services to ensure availability of services, and the appropriate response actions;
- Contact and coordination with local vendors for accommodations as well as vendors/suppliers for routine purchases to ensure smooth project start up; and
- Inspection of each work area to identify possible environmental constraints, terrain limitations, and other interferences.

2.1.3 Equipment

All equipment was inspected as it arrived to ensure its' proper working order. All instruments and equipment that required routine maintenance and/or calibration were checked initially upon its arrival and then checked again prior to its use each day. As part of the initial equipment set-up and testing, PIKA also installed and tested its communication equipment that includes the following:

- Cellular Phone Service to maintain communication with RVAAP security personnel.
- Hand-held portable radios used to maintain communications between the office trailer, Project Manager/Senior UXO Supervisor (PjM/SUXOS), and the field teams.

- Cellular telephones equipped with Direct Connect Service (very high frequency band) used as back up communications between the office trailer, SUXOS, and the field teams.

2.1.4 Site-Specific Training

As part of the mobilization process, PIKA performed site-specific training for all on-site personnel assigned to this project. The purpose of this training was to ensure that all on-site personnel fully understood the operational procedures and methods to be used by PIKA at RVAAP. Individual assigned responsibilities and safety and environmental concerns associated with site operations were also covered in the training. The SUXOS/UXOSO conducted the training sessions which included the topics identified below.

- Field equipment operation, including the safety and health precautions, field inspection and maintenance procedures that were to be used.
- Interpretation of relevant sections of the Final Work Plan and APP/SSHP as they relate to the tasks being performed.
- Personnel awareness of potential site and operational hazards associated with site-specific tasks and operations.
- Public relations to ensure that personnel did not make any public statements to the media without prior coordination with and approval from the RVAAP FM.
- Environmental concerns and sensitivity including endangered/threatened species and historic, archeological, and cultural issues.
- Additional OSHA required training per the approved APP.
- Identification features, hazards, and disposal methods of MEC/UXO found or potentially encountered.

2.1.5 Work Zone Set Up

PIKA did not install any facilities with the exception of work zones (WZ). In general the regulated work zones were include an exclusion zone (EZ), and support zone (SZ) for site access control to C-Block ECMs 7-C-3 and 7-C-4 during field operations.

Due to the relatively short duration of this project, as well as the proximity of the project site to the PIKA RVAAP field office, services such as water, telephone, and gas were not be installed at the work site. Potable water for decontamination of personnel and equipment were stored in portable poly containers. Cellular and two-way radios were used for communications and emergency notifications. Temporary sanitary facilities were mobilized to the site and maintained by local vendors.

Upon delineation of the work zones, site access control points were established in the C-Block area and site control and security was implemented. This consisted of establishing barriers such as barricades, warning cones and yellow tape to control points of site access control. The UXOSO was responsible for site access.

2.1.6 Emergency Response and General Notifications

PIKA contacted all local emergency services to verify the availability of requisite services and to confirm the means used to summon the services prior to the initiation of field activities. General notifications were made to key project personnel at this time as well. This includes the following contacts:

- RVAAP Security Dispatcher (Post 1) – (330)-358-2017
- Ravenna City Fire Department – (330) 296-5783
- Ravenna Police Dept. – (330) 297-6486
- RVAAP Caretaker Contractor (Vista Science Corp.) – (330) 358-3005
- Hospital – Robinson Memorial Hospital (330) 297-0811
- Police – Portage County Sheriff Office (330) 296-5100

- Police – Trumbull County Sheriff Office (330) 675-2508
- Ohio State Patrol – (330) 297-1441
- William O'Donnell – BRACO Project Manager (703) 601-1570
- Mark Patterson – RVAAP CORP/Facility Manager (330) 358-7311
- Ohio EPA – Eileen Mohr (330) 963-1221
- OHARNG – LTC Meade (614) 336-6560

2.1.7 Tenant Relocation

PIKA worked with the RVAAP FM to minimize any effect of performing the tasks outlined in this WP. The on-site inspection and categorization of MPPEH operations required a 378 foot diameter EZ. Per the Explosive Safety Submission (ESS), all non-essential personnel to the MPPEH operations, which include emergency response vehicles, any employees working within the area complied with the approved Explosive Safety Quantity-Distance (ESQD) arc.

2.2 OPERATION SEQUENCE FOR INSPECTION AND CLASSIFICATION, CERTIFICATION, RECYCLING AND DISPOSAL OF MPPEH

The following is the general operational sequence PIKA undertook to conduct the inspection and categorization, certification, recycle and disposal of MPPEH at ECM 7-C-3, 7-C-4, and 1501 at RVAAP.

1. Visual Inspection and Categorization of MPPEH;
2. Inspection and Certification of Munitions Debris (MD) and non-MD scrap; and
3. Disposition of MDAS.

2.2.1 Visual Inspection and Categorization of MPPEH Stored In ECM 7-C-4 and ECM 1501

Containers used to store all MPPEH in ECMs 7-C-3, 7-C-4 and 1501 located at RVAAP were 100% inspected and certified "Safe" IAW Department of Defense (DoD) Instruction (DoDI) 4140.62 and Chapter 14 of Engineering Manual (EM) 1110-1-4009. The inspection operations were conducted from 31 August to 9 October 2009. During inspection operations, each container was removed from the applicative ECM for the inspection and categorization operations. MPPEH were then twice visually inspected and categorized according to process required to acquire a "Safe" certification. These classifications were:

1. Material Documented as Safe (MDAS) – No further processing required and certified as "Safe" for offsite recycling as scrap metal. These items were placed directly into a lockable roll off container for subsequent transport to the smelter for recycling.
2. Material Documented as Explosive Hazard (MDEH) requiring flashing for "Safe" certification – These items were inventoried, marked and re-stored in ECM 7-C-3 for disposal at a later date under a separate contract.
3. MDEH requiring explosive venting, desensitization and disposal procedure for "Safe" certification. These items were inventoried, marked and re-stored in ECM 7-C-4 for disposal at a later date under a separate contract.

2.2.2 Inspection and Certification of MDAS and Scrap Metal

The items that were inspected and categorized as MDAS were 100% inspected for absence of explosive materials and properly secured in a lockable container using the inspection/certification process described below:

- UXO Technician II performed a 100% inspection of each item and determine if the item contains explosives hazards.

- UXO Technician III performed a 100% re-inspection of all items to determine if free of explosives hazards.

- UXOQCS conducted daily audits of the procedures used by UXO teams and individuals for processing MD and non-MD scrap. The UXOQCS then performed a 10% random sampling of all MD and non-MD scrap to ensure that no items with explosives hazards exist as required for completion of the Requisition and Turn-In Document, DD Form 1348-1A. Additionally, the UXOQCS verified that the metal inspection process has been followed.

- The SUXOS performed a 100% re-inspection of all items and completed a Requisition and Turn-In Document, DD Form 1348-1A for all MD to be transferred for final disposition.

    - "This certifies and verifies that Munitions Debris and/or Explosive Contaminated Property listed has been 100 percent properly inspected and to the best of our knowledge and belief, are free of explosive hazards"

- The SUXOS signed as the certifier and the UXOQCS signed as the verifier. The form was properly annotated with the following declaration and accompany the shipment.

Photographic documentation of the MPPEH inspection and categorization operations; including pictures of the items certified as MDAS are provided in the weekly reports contained in Appendix C.

2.2.3 Disposition of MDAS

On 15 October 2009 a total of 13,120 pounds of MDAS were transported to Belson Steel Center Scrap smelter facility located in Bourbonnais, IL for off-site recycling as scrap metal. Transfer and transport of all MDAS was performed under chain-of-custody control using MPPEH/Range Residue Inspection, Certification, and Chain-of-Custody Forms. Copies of all the MPPEH/Range Residue Inspection, Certification,

and Chain-of-Custody Forms, including the completed DD Form 1348-1A, Bill of Lading and letter from the Belson Steel certifying proper handling and destruction of the materials are included Appendix D.

2.3 STORAGE OF MDEH

As indicated in Section 2.2.1, all items inspected and certified as MDEH requiring flashing for "Safe" certification were inventoried, marked and re-stored in ECM 7-C-3 for disposal at a later date under a separate contract. All MDEH requiring explosive venting, desensitization and disposal procedure for "Safe" certification were marked and re-stored in ECM 7-C-4 for disposal at a later date under a separate contract.

A total of ten (10), one cubic yard Gaylord boxes and one wooden ammunition storage box of MDEH requiring flashing for "Safe" certification were generated during the inspection and certification operations. The ten Gaylord boxes primarily contain 152 mm projectile tracer elements (28,296 total) with lesser amounts of fragments and pieces of various munitions and a total of 139 igniter tubes. The wooden ammunition storage box contains a variety individual items including fuzes, burster tubes and projectiles. A copy of the Magazine Data Cards detailing the inventory of MDEH stored in ECM 7-C-3 is provided in Appendix E. Pictures of the containers and their contents are provided in the weekly reports provided in Appendix C.

Based upon the individual weight of the 152 projectile tracer elements (1.49-pounds (lb) each), it is estimated that there is a total of 42,161 lbs of MDEH that will require thermal flashing to acquire "Safe" certification. In accordance with the SOW a cost estimate for processing and disposal/recycling of the MDEH requiring thermal flashing under separate contract is provided in Appendix F.

A total of one, one cubic yard Gaylord box of 105 mm cartridge casings and nine (9) total wooden ammunition storage boxes containing various projectiles and fuzes categorized as MDEH requiring explosive venting, desensitization and disposal procedure for "Safe" certification were generated during the inspection and

certification operations. A copy of the Magazine Data Cards detailing the inventory of this MDEH stored in ECM 7-C-4 is provided in Appendix E. Pictures of the containers and their contents are provided in the weekly reports provided in Appendix C. In accordance with the SOW a cost estimate for processing and disposal/recycling of the MDEH requiring explosive venting, desensitization and disposal under separate contract is provided in Appendix G.

2.4 DEMOBILIZATION

Upon completion of the MPPEH inspection and categorization tasks covered under this SOW, PIKA demobilized from the site. The demobilization activities consisted of the following steps:

1. Remove/demobilize all PIKA equipment.
2. Demobilize any other remaining equipment and supplies.
3. Provide RVAAP FM with original copy of Magazine Data Cards for MPEH stored in ECM 7-C-3 and 7-C-4.

3.0 DEMOLITION OF RVAAP – 35 BUILDING 1037 – LAUNDRY WASTE WATER SUMP AND LAUNDRY FLAME PROOFING BUILDING

3.1 TASK DESCRIPTION

The approved SOW includes demolition, removal and 5X certification of RVAAP – 35 Building 1037 Laundry Waste Water Sump and Laundry Flame Proofing Building (referred to as the Flame Proofing Building from this point on throughout the report). The objective of this task was to certify the structure and all components to a 5X designation as per Industrial Operations Command Publication 385-1, Classification and Remediation of Explosive Contamination (IOCP 385-1), demolish and removed the Flame Proofing Building; including floor slab, footers and settling basin. The objective was met through the completion of the following tasks as per the approved SOW:

- Remove and dispose of transite siding in accordance with State and local asbestos removal requirements.
- Demolish and remove all piping, the building structure, floor slab and foundations, and associated settling basin; including drain to nearby manhole.
- Backfill with existing soil and re-grade to allow for positive drainage and unimpeded mowing, seed and mulch.
- Prior to backfilling, install 6-12-inches of clean sand to serve as a boundary layer indicating the level of concrete floor of the settling tank.

A copy of the SOW is provided in Appendix A.

3.2 FLAME PROOFING BUILDING SITE DESCRIPTION

The Area of Concern (AOC) known as the 1037 Building - laundry waste water sump (RVAAP- 35) is a small building located on the north side of RVAAP Building 1037. Building 1037 was used from World War II up until 1992 as the RVAAP laundry and flame proofing building. Building 1037 has since been converted into the RVAAP administration building. A figure showing the location of the laundry flame proofing building is presented in Figure 2, Appendix B. A site map showing the layout of the laundry flame proofing building is presented in Figure 3, Appendix B.

During laundry operations, a flame retardant was routinely added to the rinse cycle for fire proofing work coveralls that were used by personnel involved with RVAAP load and pack and demilitarization operations. All laundry rinse water was discharged to the laundry waste water sump prior to entering the sanitary sewer. The waste water sump consists of a large (13-ft by 16-ft) concrete settling basin (constructed below ground surface) located just outside the northern end of Building 1037. The settling basin was used to capture solids, including potentially explosives contaminated residue prior to entering the sanitary sewer. Periodically the basin would be cleaned by removing accumulated solids for disposal by open burning at the Winklepeck Burning Grounds. In approximately 1954, the basin was emptied and backfilled (in place) with clean soil for closure and has since been identified as an AOC (i.e., RVAAP- 35). The concrete basin was replaced by a small, above ground, stainless steel settling tank. The settling tank is housed inside a small annex attached to the north side of Building 1037 known as the Laundry Flame Proofing Building. The Flame Proofing Building is constructed on concrete slab and is six (6) feet wide by thirteen (13) feet long. Building construction consists of wood framing with flat panel transite siding and tar roofing.

3.3 FLAME PROOFING BUILDING DEMOLITION OPERATIONS

The following documents were prepared and approved prior to starting inspection and categorization of the MPPEH items:

- Due to the demolition nature of this task, the Work Plans component of the SOW was included as part of the PIKA project "Removal of Buildings and Concrete Floor Slabs at RVAAP- 08 Load Line 1, & Other Miscellaneous Buildings and Removal & Disposal of Pallets". As such, the field activities and operational procedures associated with demolition of the Laundry Flame Proofing Building were conducted as detailed in the "*Final Work Plan for the Removal of Buildings and Concrete Floor Slabs at RVAAP- 08 Load Line 1, & Other Miscellaneous Buildings and Removal & Disposal of Pallets (PIKA, January 16, 2009)* ".
- Feb 19, 2009, Explosives Safety Submission for the Thermal Decomposition and Demolition of RVAAP- 08 thru 11, RVAAP- 39 thru 44; Bldg 1039; RVAAP-46; RVAAP- 13; Bldg S-4605; and Flame Proofing Bldg Attendant to RVAAP-35 Amendment 4, Revision 1.

The sequence of operations for demolition and 5X certification of the Laundry Flame Proofing Building as approved in the work plan was:

- Building Hazard Analysis Survey;
- Survey Building corners;
- Asbestos Abatement;
- Demolition and removal of walls, slab, footers, and settling basin;
- Site restoration.

The Laundry Flame Proofing Building field operations were initiated on 24 September 2009 and completed on 8 October 2009. Photo documentation of the 5X certification and demolition activities are provided in Appendix C. Specific details of the 5X certification and demolition activities are described in the subsections that follow.

3.3.1 Building Hazard Analysis

Prior to initiating the demolition activities, the PIKA Senior Unexploded Ordnance Supervisor (SUXOS) and UXO Safety Officer (UXOSO) performed (14 September 2009) hazard analysis inspections of the Laundry Flame Proofing Building IAW the RVAAP ESS document. The hazard analysis consisted of an extensive building walkthrough to confirm historical research data including thorough visual inspection of wall, floor and structural wood surfaces, etc. to look for residual explosives contamination and other potential explosive hazards. No explosive hazards were identified by the SUXOS during the building hazard Analysis. A copy of the building hazard analysis survey report is provided in Appendix H.

3.3.2 Survey of Building Corners

Prior to initiating the demolition operations, the corners of laundry flame proofing building, and settling basin were surveyed using a Trimble Geo XH Global Positioning System (GPS) to chronicle their locations for future reference. Copies of the GPS coordinates are provided in Appendix I.

3.3.3 Asbestos Abatement

To facilitate demolition and removal operations, the asbestos containing siding material (flat panel transite) was removed from the Flame Proofing building on September 25, 2009. A total of 168 square feet of transite siding were removed from the laundry flame proofing building.

All the asbestos removal operations were performed by a State of Ohio licensed asbestos worker/supervisor (Keith Bickel, Diamond Environmental). Since the abatement work did not involve removal of friable asbestos materials, the Ohio Environmental Protection Agency (EPA) and Ohio Health Department 10 day notification of asbestos removal and demolition operations was not required. Upon removal, the flat traniste siding panels were wrapped in 12 mil poly sheeting, sealed and transported to Minerva Enterprises, Inc. located in Waynesburg, Ohio for disposal as non-friable asbestos containing material. Copies of all the asbestos disposal records are provided in Appendix J. During abatement operations, perimeter air samples were collected to verify emissions were below the OSHA

Permissible Exposure Limits for asbestos (i.e., less than 0.013 f/cm^3). A copy of the asbestos air perimeter monitoring results is provided in Appendix K. Photo documentation of the asbestos removal operations are provided in the weekly report contained in Appendix C.

3.3.4 Building Walls, Floor Slabs, Footers, and Sumps Removal Operations

Following the asbestos abatement operations the building was demolished using long boomed hardened excavator equipped with bucket attachment. Building demolition operations took place on 26 September 2009. During building demolition operations all resultant debris was staged on plastic sheeting for subsequent 5X certification sampling and load out. As per the SOW, the existing backfill in the building sump was staged adjacent to the excavation for re-use as backfill during site restoration operations. Once all surface debris was removed the floor slab, footers, and associated settling basin were completely removed. During the floor slab, footer and basin removal operations the underlying soils were visually inspected by UXO personnel for the presence of bulk explosives. No bulk explosives were noted during any of the demolition and removal operations.

Throughout demolition, surface debris (wood, concrete and block) were visually inspected and documented by the SUXO to ensure no explosive hazard exists. A copy of the visual inspection record is provided in Appendix L. Additionally, composite laboratory samples along with EXPRAY testing of the building material were conducted for explosives as per the RVAAP ESS document to further verify no explosive hazard exists. Sampling was achieved by collecting aliquots of the resultant wood, concrete, and soil from the piled debris at the building following demolition using decontaminated stainless steel trowels and bowls. All 5X certification sampling results verified no explosive hazards existed with any of the building materials.

Based upon visual inspection and the laboratory analytical results, the resultant building materials (160 cubic yards total) were disposed off-site as construction and demolition debris at Minerva Enterprises, Inc. located in Waynesburg, Ohio. Copies of all the construction and demolition debris disposal records are provided in Appendix N.

3.3.5 Site Restoration

Prior to initiating site restoration operations, approximately 1-foot of clean sand was installed along the bottom of the Flame Proofing building settling tank excavation to serve as boundary layer indicating the level of the former concrete floor for future environmental investigation operations. The sand material was tested for the RVAAP full suite analysis as per Ohio EPA requirements for RVAAP backfill materials. A copy of the sample results for the sand material is provided in Appendix O.

During site restoration the excavated site soils were re-used as backfill. An additional 94.58 tons of off-site backfill were required to bring the excavation to pre-existing grade. The off-site backfill was delivered from Freedom Materials located in Ravenna, Ohio. Freedom Materials is a local vendor with access to material from a virgin point of origin source previously approved by the Ohio EPA. A copy of the backfill sample results are provided in Appendix O.

Upon completion of the backfilling operations, all disturbed areas were re-graded to ensure positive drainage and unimpeded mowing and seeded and mulched using a residential seed mixture to match the surrounding lawn at building 1037. Final site restoration operations were completed 8 October 2009. Pictures of the site restoration operations are provided in Appendix C.

4.0 INSPECTION AND RECOMMENDATION FOR CLOSURE OF RVAAP CLEAN HARD-FILL SITES

As per the approved SOW, PIKA conducted a regulatory review and a non-intrusive inspection of the existing clean hard-fill sites located at RVAAP. Upon the completion of the visual inspection, PIKA developed a most practical recommendation to include cost estimates for the performance of the close out operations. The findings of the inspection are detailed in the subsections that follow.

4.1 Site History

During the 1999 and 2000 timeframe the RVAAP was conducting building demolition and removal operations at Load Line 12 and (LL12) and LL1. Due to the large volume of debris being accumulated from the demolition operations, the Industrial Operations Command (currently US Army TACOM) and RVAAP proposed the placement of resultant "clean hard fill" at an appropriate approved location within the RVAAP. The Ohio Administrative Code (OAC) 375-400-05 defines clean hard fill as reinforced and non-reinforced concrete, asphalt concrete, brick, block tile and/or stone which can be reutilized as construction material. Clean hard fill is not contaminated by solid, infectious, or hazardous wastes. As such clean hard fill can be used at the site of generation or a different site as legitimate fill operations for construction purposes to bring a site up to a consistent grade. To that end, a total of four (4) areas were selected and approved by both the Ohio EPA and the Portage County Health Department for use as clean hard fill sites at the RVAAP. The first area is known as the George Road Clean Hard Fill Site is located just west of George Road approximately 1,000 feet south of Newton Falls Road. The George Road Site was a previously disturbed area which had the existing soil backfill removed in order to receive clean hard fill materials. The remaining three (3) sites are all located within LL1 at three former Change House Building locations. Each of the former Change House buildings were constructed in a depression that ranges from 15 to 20 feet below the surrounding grade making them ideal candidates for receiving clean hard fill. The LL1 Clean Hard Fill Sites are identified as; the CB-12 Clean Hard Fill

Site; CB-23 Clean Hard Fill Site; and the CB-22 Clean Hard Fill Site. Figure 4 in Appendix B identifies the locations of all the clean hard fill sites within the RVAAP. For details pertaining to the selection and approval of the RVAAP clean hard fill sites refer to the *Sampling and Analysis Report, Clean Hard fill from Load Line 12 and the George Road Fill Site (MKM, January 2000)*.

An overview of the inspection results, proposed closure activities and closure cost estimates for each of the RVAAP clean hard fill site are provided in the subsections that follow.

4.1.1 George Road Clean Hard Fill Site

The George Road Clean Hard Fill Site is an approximate 1.5 to 2-acre area located west of George Road approximately 1,000 feet south of Newton Falls Road (see figure X, Appendix B). Access to the site is very limited as the main entrance off of George Road is blocked by an overflow of large chunks of concrete and very heavy brush and small trees. Additionally, the perimeter of the site is walled off by the berm of excavated soils that were staged here when the site was originally prepped for receiving the clean hard fill material. The berm is also extremely overgrown with heavy brush, small trees and ground level vegetation that limit access to the site. A site map of the George Road Clean Hard Fill Site is presented as Figure 5, Appendix B.

Inspection of the George Road Clean Hard Fill Site revealed that the area is filled with very large sections of concrete footers, slabs, and piers. A site walk within the fill area can not be done due to the very uneven terrain, large crevasses and areas of exposed rebar. However, it is obvious that due to the large crevasses and openings observed across the site, the area poses a safety hazard and should be covered as recommended in OAC 3745-400-05 which stipulates “Use of clean hard fill may create a nuisance or a safety hazard. The application of cover over the clean hard fill may be one way to address the nuisance safety hazard”.

To facilitate installation of a soil cover the top layer of concrete will require processing (pulverize) in order to fill in the openings to form a flat uniform surface

across the site. It is recommended that at least 2-feet of clean soils be installed over the site during closure operations.

Based on current site conditions, closure of the George Road Clean Hard Fill site will include the following tasks:

1) Construct assess road – This task involves clearing the piled debris and thick vegetation off the main entrance road. Additionally, an apron to the main entrance road will be installed adjacent to George Road to facilitate access for haul trucks during delivery of required off-site cover soil.
2) Concrete Processing - This task includes pulverizing the top layer of concrete in order to fill in crevasses and voids and re-grade as needed to provide a uniform surface for placement of cover soils. The top layer of concrete will be sized accordingly using track mounted excavators equipped with pulverizer attachments. During processing operations exposed rebar will be removed to at least three (3) feet below the surface.
3) Installation of geo-textile – As an added safety precaution, a geo-textile fabric with a minimum of 300-lb tensile strength will be installed over the surface of processed concrete prior to applying the soil cover.
4) Survey Site Boundaries – the final limits of the George Road Clean Hard Fill Site will be surveyed prior to installation of the soil cover for future reference as needed.
5) Installation of soil cover – This task includes the installation of a 2-foot soil cover over the entire site. The soil cover material may be supplied from an off site source and/or re-use of the bermed material around the perimeter of the site. Due to limited site access and heavy vegetation which exists along the bermed material; the amount of site soils that are actually available for re-use could not be completely evaluated.
6) Site Restoration – This task includes seeding and mulching the entire site using the RVAAP-Camp Ravenna Ohio Army National Guard approved seed mixes.

A draft cost estimate for conducting closure operations at the George Road Clean Hard Fill Site is provided in Appendix S. It should be noted that due to very limited access to the site a follow-up site visit with stakeholders will be required to clarify the scope of work for closure of this site relative to potential re-use of existing bermed soils for cover material and disposition requirements for the large volume of vegetation and trees associated with this option to ensure the most cost efficient measures are implemented. For discussion purposes the current estimate reflects closure costs assuming all cover soils are provided from an off-site source.

4.1.2 CB12 and CB23 Clean Hard Fill Sites

The CB12 and CB23 Clean Hard Fill Sites are located on the western side of RVAAP LL1 at former Change House buildings CB12 and CB 23 (see Figure 6, Appendix B). The Change Houses were constructed approximately 15 to 20 feet below surrounding grade and were approved for use as clean hard fill sites as previously described. Both sites are approximately one-half acre in size and are currently filled to capacity with a mixture of brick and concrete clean hard fill materials. Pictures of the CB12 and CB23 Clean Hard Fill Sites are provided in Appendix Q.

Inspection of the CB12 and CB23 Clean Hard Fill Sites revealed that access to each site off of the LL1 perimeter road is unobstructed, however heavy vegetation exists along the northern, eastern and southern boundaries. Both sites will require some sizing and re-grading of the fill materials to ensure uniform surface for installation of cover soils; particularly at CB23 as a portion of the former change structure remains intact and is visible from the Change House Alley on the western side of the site (see pictures in Appendix Q).

Due to the uneven terrain, exposed rebar, and potential for hidden voids and openings at the sites, both areas pose a potential safety hazard and should be covered as recommended in OAC 3745-400-05 which stipulates “Use of clean hard fill may create a nuisance or a safety hazard. The application of cover over the clean hard fill may be one way to address the nuisance safety hazard”. To facilitate

installation of a soil cover the top layer of concrete will require some processing (pulverize) and/or re-grading in order to fill in the openings to form a flat uniform surface across the site. It is recommended that at least 2-feet of clean soils be installed over the site during closure operations.

Based on current site conditions, closure of the CB12 and CB23 Clean Hard Fill sites will include the following tasks:

1) Concrete Processing - This task includes removing vegetation from the edges of the site to expose the limits of the sites and pulverizing the top layer of concrete in order to fill in crevasses and voids and re-grade as needed to provide a uniform surface for placement of cover soils. At CB23 this task will also involve pulverizing the remaining portion of the Change House. The top layer of concrete will be sized accordingly using track mounted excavators equipped with pulverizer attachments. During processing operations exposed rebar will be removed to at least three (3) feet below the surface.
2) Survey Site Boundaries – the final limits of the CB12 and CB23 Clean Hard Fill Sites will be surveyed prior to installation of the soil cover for future reference as needed.
3) Installation of geo-textile – As an added safety precaution, a geo-textile fabric with a minimum of 300-lb tensile strength will be installed over the surface of processed concrete prior to applying the soil cover.
4) Installation of soil cover – This task includes the installation of a 2-foot soil cover over both sites. The soil will be graded in manner to ensure positive drainage and allow for unimpeded mowing. The soil cover material will be tested for the RVAAP full suite analysis as per Ohio EPA requirement at the rate of one multi-increment sample per every 4,000 cubic yards.
5) Site Restoration – This task includes seeding and mulching the entire site using the RVAAP-Camp Ravenna Ohio Army National Guard approved seed mixes.

A cost estimate for closure of the CB12 and CB23 Clean Hard Fill Sites as described above are provided in Appendix S.

4.1.3 CB22 Clean Hard Fill Site

The CB22 Clean Hard Fill Site is located on the western side of RVAAP LL1 at former Change House buildings CB22 (see Figure 6, Appendix B). The Change House was constructed approximately 15 to 20 feet below surrounding grade and was approved for use as clean hard fill sites as previously described. The site is just over one-half acre in size and is currently filled to capacity exclusively with very large pieces concrete clean hard fill materials including sections of building slabs and footers, piers, and steam stanchion footers. Pictures of the CB22 Clean Hard Fill Site are provided in Appendix R.

Inspection of the CB22 Clean Hard Fill Site revealed that access to the site off of the LL1 perimeter road is unobstructed and that deposition of the materials at the site was conducted in a fairly uniform manner so as to maximize use of the cavity during filling operations. Due to the nature of the material deposited at the site (i.e., large concrete chunks) there exists many voids and openings across the site. Pictures of the CB22 Clean Hard Fill Site are provided in Appendix Q.

Due to the uneven terrain, exposed rebar, and the many voids and openings at the site, the area poses a potential safety hazard and should be covered as recommended in OAC 3745-400-05 which stipulates “Use of clean hard fill may create a nuisance or a safety hazard. The application of cover over the clean hard fill may be one way to address the nuisance safety hazard”. It is recommended that at least 2-feet of clean soils be installed over the site during closure operations.

To facilitate installation of a soil cover the top layer of concrete will require extensive processing (pulverize) in order to fill in the voids and openings to form a flat uniform surface across the site. Additionally, approximately 1,900 cubic yards of concrete materials that currently reside in the Change House Alley will need consolidated back into the main cavity prior to installation of the soil cover.

Based on current site conditions, closure of the CB22 Clean Hard Fill site will include the following tasks:

1) Concrete Processing - This task includes consolidating material from the Change House Alley back into the main cavity and pulverizing the top layer of concrete in order to fill in crevasses and voids to provide a uniform surface for placement of cover soils. The top layer of concrete will be sized accordingly using track mounted excavators equipped with pulverizer attachments. During processing operations exposed rebar will be removed to at least three (3) feet below the surface.
2) Survey Site Boundaries – the final limits of the CB22 Clean Hard Fill Site will be surveyed prior to installation of the soil cover for future reference as needed.
3) Installation of geo-textile – As an added safety precaution, a geo-textile fabric with a minimum of 300-lb tensile strength will be installed over the surface of processed concrete prior to applying the soil cover.
4) Installation of soil cover – This task includes the installation of a 2-foot soil cover over both sites. The soil will be graded in manner to ensure positive drainage and allow for unimpeded mowing. The soil cover material will be tested for the RVAAP full suite analysis as per Ohio EPA requirement at the rate of one multi-increment sample per every 4,000 cubic yards.
5) Site Restoration – This task includes seeding and mulching the site using the RVAAP-Camp Ravenna Ohio Army National Guard approved seed mixes.

A cost estimate for closure of the CB22 Clean Hard Fill Site as described above is provided in Appendix S.

APPENDIX A

Scope of Work

Performance Work Statement
For
Disposal of Discarded Munitions Debris & Components, Demolition
of the Laundry Flame Proofing Building
and Evaluation/Recommendations for Closure of Clean-Hard Fill Sites at the
Ravenna Army Ammunition Plant (RVAAP)
July 23, 2008

1.0 Scope:

The project consists of the following:

1) 5X certification, and offsite disposal or recycling of Munitions Constituents (MC) and Discarded Military Munitions (DMM) that are stored at the Ravenna Army Ammunition Plant (RVAAP),
2) Prepare recommendations and cost estimates to close all clean-hard fill sites at the RVAAP and;
3) demolish and dispose of the flame-proofing building and settling tank attached to the north side of Building 1037.

2.0 Applicable Documents: Work will be performed IAW the following documents:

2.1 An RVAAP approved Work Plan (WP), including Site-Specific Safety and Health Plan (SSHP). These documents are to tier under the installation wide WP and SSHP.

3.0 General Requirements:
All documents will conform to the requirements of the RVAAP Deliverable Document Formatting Guidelines.

3.1 Prepare a draft and final version of the WP and SSHP describing all aspects of the site activities associated with the implementation of this Performance Work Statement (PWS) The SSHP will address the identification, assessment and control of the hazards associated with site operations.

3.1.1 The contractor shall prepare an explosive safety submission (ESS) or modify an existing ESS as appropriate, for this project. The US Army Technical Center for Explosive Safety (USATCES) and the Department of Defense Explosive Safety Board (DDESB) must approve the ESS or any changes to an existing ESS.

3.1.2 The contractor will maintain adequate site control at all times during execution of this project.

3.1.3 The contractor's effort will begin within thirty-(30)-days after the award of the contract. All physical work will be completed within 12 months thereafter. Contract closeout will take place immediately after final acceptance of its work by the HQ Tank-Automotive Command (TACOM) Contracting Officer (CO) and approval of the final report by the OEPA as described in the Director's Final Findings and Orders.

3.1.4 Changes or modifications to this SOW are not permitted without written approval of the CO.

3.2 **Tasks specific to the MD/MC disposal include, but are not limited to:**

3.2.1 The contractor shall prepare an explosive safety submission (ESS) or modify an existing ESS as appropriate, for this project. The US Army Technical Center for Explosive Safety (USATCES) and the Department of Defense Explosive Safety Board (DDESB) must approve the ESS or any changes to an existing ESS.

3.2.2 Perform a one-hundred percent inspection of the materials and categorize them according to the processing required for 5X certification. These classifications will include but are not limited to: 1) no further processing 2) thermal flashing required, and 3) Munitions and Explosives of Concern (MEC) that requires venting and/or explosive desensitization

3.2.3 MEC or other material found to require specialized processing such as explosive desensitizing to achieve 5X is outside the scope of this contract. Material of this nature will be moved to a magazine for secure storage and disposal at a later date. The contractor will also submit a cost estimate and proposal for the disposal of this material to the Contracting Officer.

3.2.4 The contractor shall prepare and deliver a final report in accordance with paragraph 5.3.

3.3 **Tasks specific to investigations and recommendations for the closure of the clean, hard fill sites include but are not limited to**:

3.3.1 The Work Plan must address testing and disposal of any contaminants such as PCB and lead that would incur regulatory compliance and removing any physical hazards such as exposed re-bar. The contractor should also address consolidating materials to central locations, stabilizing the fill sites, capping and seeding the disturbed areas.

3.3.2 The contractor will evaluate the various options and provide justifications for its recommendations to close the sites to provide an aesthetically pleasing topography, as agreed between the contractor and COR to be described in the work plan that can accommodate future land uses.

3.3.3 Prepare a cost estimate of the various closure options.

3.3.4 The contractor shall prepare and deliver a final report in accordance with paragraph 5.3.

3.4 Tasks specific to investigations and recommendations for the demolition and disposal of the flame-proofing building and adjacent sump attendant to Building 1037 include, but are not limited to:

3.4.1 Establish and record GPS coordinates of the sump corners to facilitate any future investigations.

3.4.2 Remove and dispose of transite siding and any miscellaneous asbestos materials.

3.4.3 Demolish, certify 5X and dispose of all piping, the building structure, floor and

foundations. This includes drains to the nearby manhole.

3.4.4 Prior to backfill, install 6 -12 inches of clean sand to serve as a boundary layer indicating the level of the concrete floor of the settling tank and effluent drain(s). Backfill with existing soil and re-grade all disturbed areas to allow unimpeded mowing with a residential grade lawn mower.

3.4.5 Install a secure cover over manhole number 1-3 to serve as a safety cover and prevent entrance by unauthorized individuals.

3.4.6 The contractor shall prepare and deliver a final report in accordance with paragraph 5.3.

4.0 Exclusions

Sampling for environmental compliance, other than disposal of materials listed above, will be performed under a separate contract.

5.0 Reports

5.1 All reports, other than progress reports and manpower reports, will be prepared in both draft and final form for review.

5.2 The contractor will prepare weekly and monthly reports documenting the project activities and submit to: the Contracting Officer, the Contracting Officer's Representative (COR), the BRAC Branch Chief, and the Ravenna Facility Manager. The contractor will provide detailed photographic documentation of all site activities within these reports and a separate CD summary of the photos with the final report.

5.3 The contractor will prepare a draft and final project completion report detailing and documenting all activities and shipments.

5.4 The contractor will supply a schedule for inclusion in the RVAAP master schedule. The contractor will participate in the bi-weekly schedule update meeting with the USACE and the weekly contractor meeting held at RVAAP building 1037.

5.5 Contractor Manpower Report

The Office of the Assistant Secretary of the Army (Manpower & Reserve Affairs) operates and maintains a secure Army data collection site the contractor will report ALL contractor manpower (including subcontractor manpower) required for performance of the contract. The contractor is required to completely fill in all the information in the format using the following web address https://contractormanpower.army.pentagon.mil. The required information includes: (1) Contracting Office, Contracting Officer's Technical Representative; (2) Contract number, including task and delivery order number; (3) Beginning and ending dates covered by the reporting period; (4) Contractor name, address, phone number, e-mail address, identity of contractor employee entering data; (5) Estimated direct labor hours (including subcontractors); (6) Estimated direct labor dollars paid this reporting period (including subcontractors); (7) Total Payments (including subcontractors); (8) Predominant Federal Service Code (FSC) reflecting services provided by contractor (and separate predominant FSC for each subcontractor, if different); (9) Estimated data collection cost; (10) Organizational title associated with the Unit

Identification Code (UIC) for the Army Requiring Activity (the Army Requiring Activity is responsible for providing the contractor with its UIC for the purposes of reporting this information); (11) Locations where contractor and subcontractors perform the work (specified by zip code in the United States and nearest city, country, when in an overseas location, using standardized nomenclature provided on website); (12) Presence of deployment or contingency contract language; and (13) Number of contractor and subcontractor employees deployed in theater this reporting period (by country). As part of its submission, the contractor will also provide the estimated total cost (if any) incurred to comply with this reporting requirement. Reporting period will be the period of performance not to exceed 12 months ending September 30 of each government fiscal year and must be reported by 31 October of each calendar year. Contractors may use a direct XML data transfer to the database server or fill in the fields on the website. The XML direct transfer is a format for transferring files from a contractor's systems to the secure web site without the need for separate data entries for each required data element at the web site. The specific formats for the XML direct transfer may be downloaded from the web site.

6.0 Inspection / Final Acceptance

6.1 The COR will monitor contractor performance on this PWS.

6.2 The final acceptance of this project will take place upon receipt by the contractor of written approval from the Contracting Officer.

7.0 Safety And Environmental:

7.1. The contractor is responsible for complying with all federal, state, and local rules, laws and regulations, to include the Occupational Safety and Health Act (OSHA, Title 29 CFR Parts 1926 and 1910), U.S. Environmental Protection Agency (USEPA), Ohio EPA, and Army regulations.

7.2. All hazardous wastes and contaminated material generated by the execution of this project (if any) will be disposed of IAW all applicable federal, state, and local rules, laws and regulations.

7.3 Storage containers will be certified 5x and recycled or disposed of by the most economical means.

\

INVENTORY of MD & MC

Quantity:

47 105mm cartridge cases. (Approximately 25 contain primers

6 Gaylord boxes (approximately 6 cu-yds) of tracer elements from 152 mm Fleschette rounds.

Gaylord boxes of miscellaneous MEC

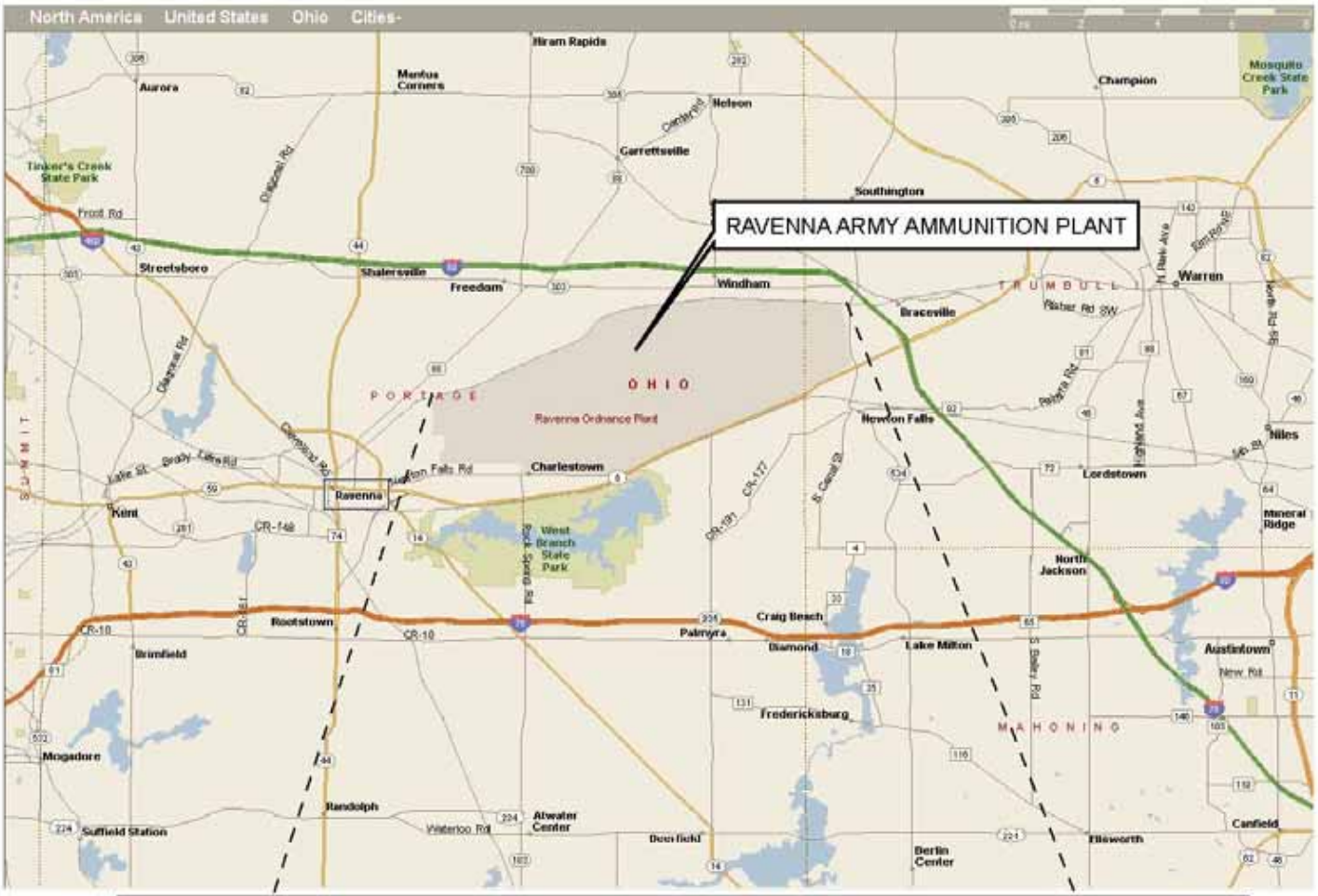
1 152mm ammo box containing pieces and parts of various fuzes

55-gal drum with pieces and parts of various fuzes

Empty 175mm projectile

APPENDIX B

Figures



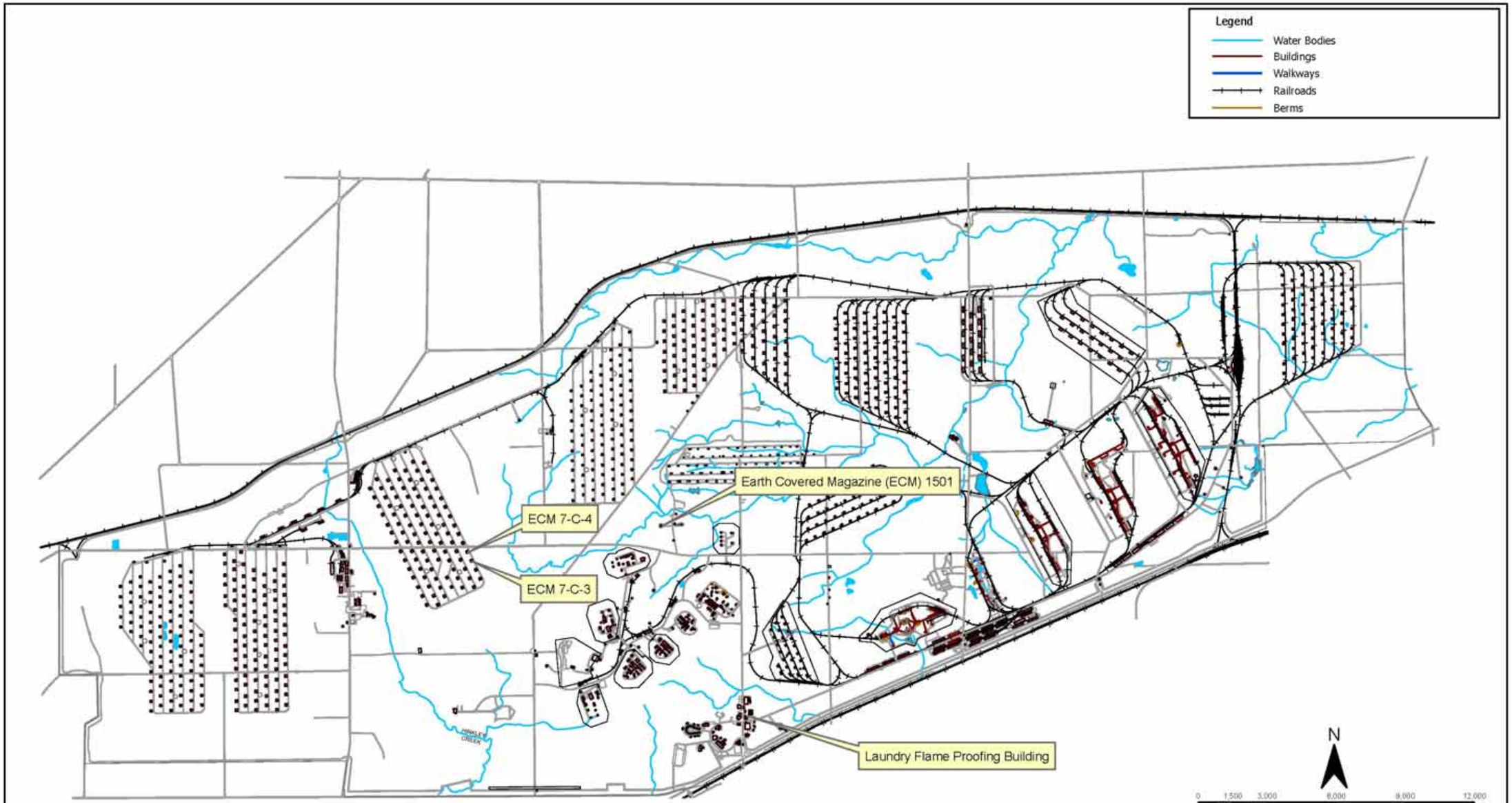
PIKA INTERNATIONAL, INC.

PIKA INTERNATIONAL, INC.
12723 CAPRICORN DR., STE #500
STAFFORD, TX 77477

Ravenna Army Ammunition Plant
Ravenna, OH

Figure 1
Ravenna Army Ammunition Plant Location Map

Drawn On: 10/30/2007 Drawn By: QX Reviewed By: SAK



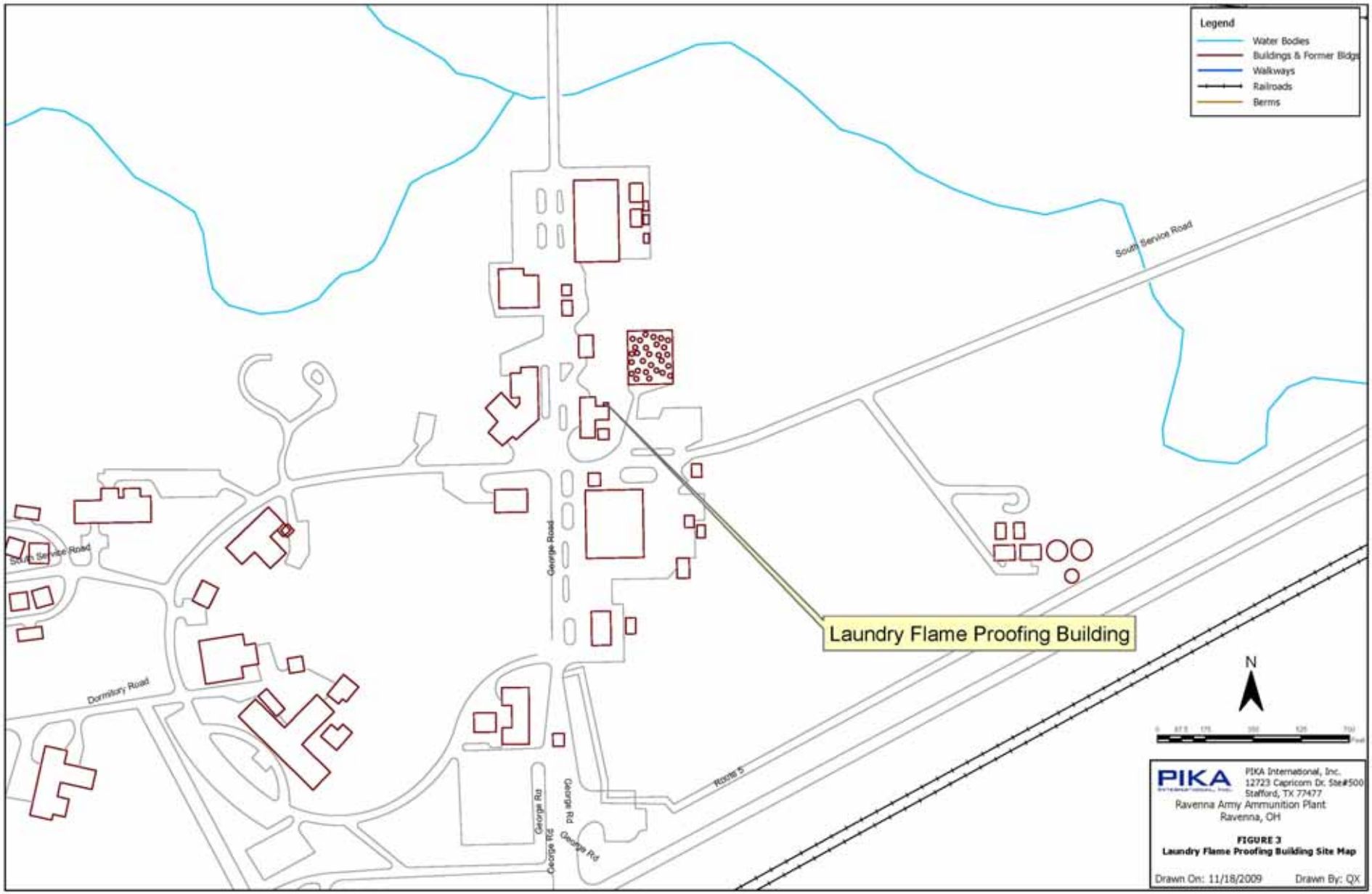
PIKA INTERNATIONAL, INC.

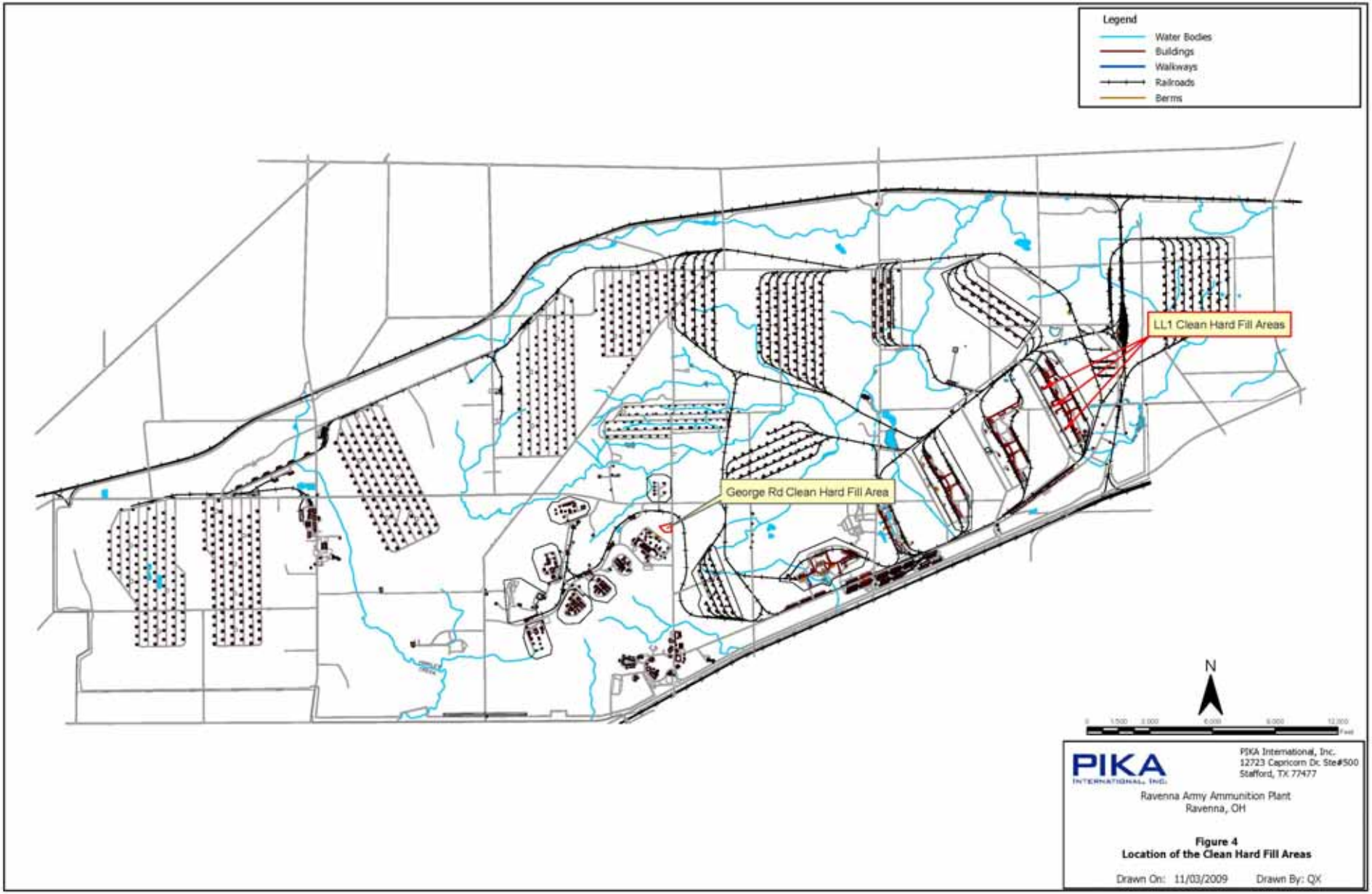
PIKA International, Inc.
12723 Capricorn Dr. Ste#500
Stafford, TX 77477

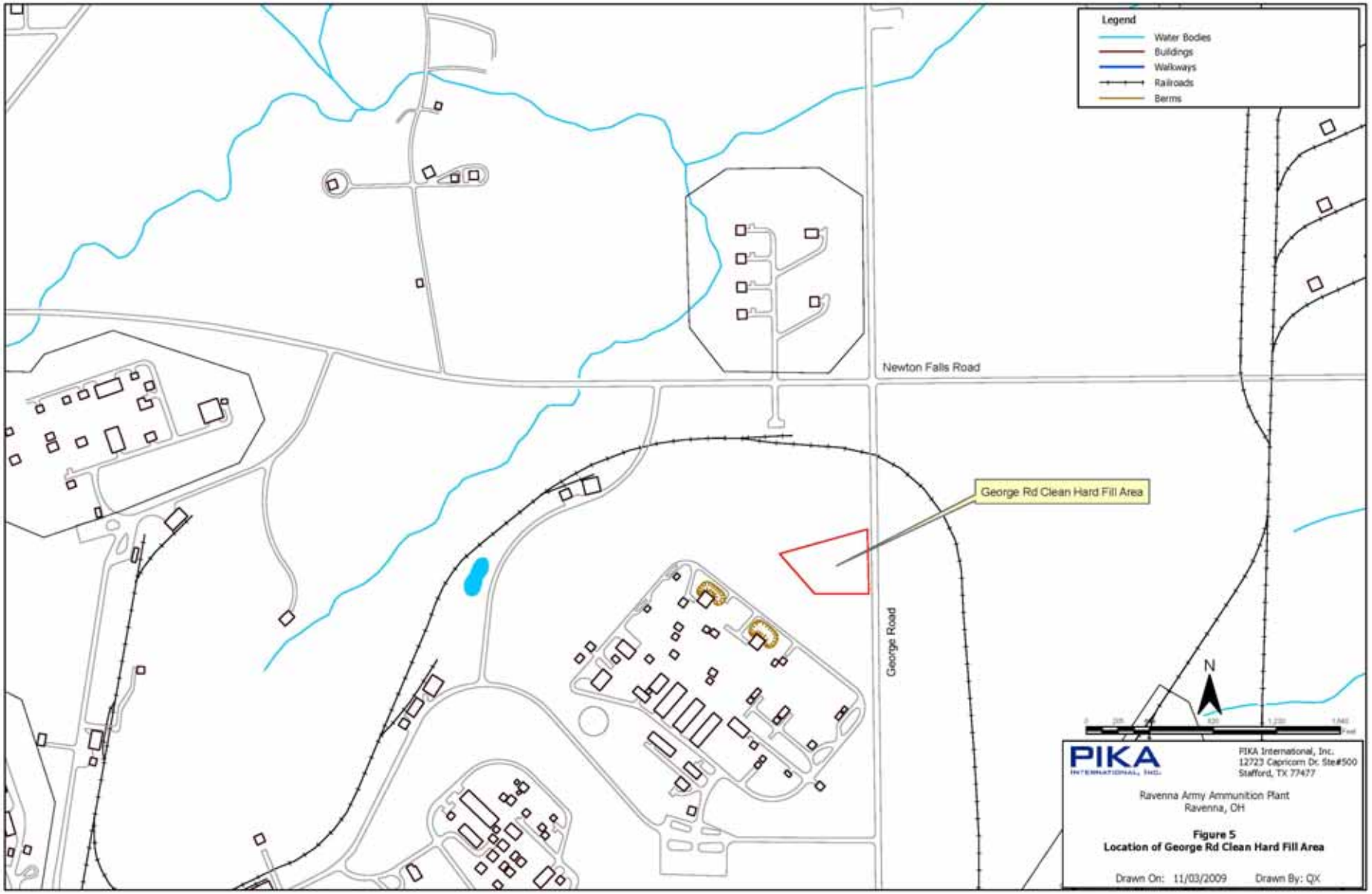
Ravenna Army Ammunition Plant
Ravenna, OH

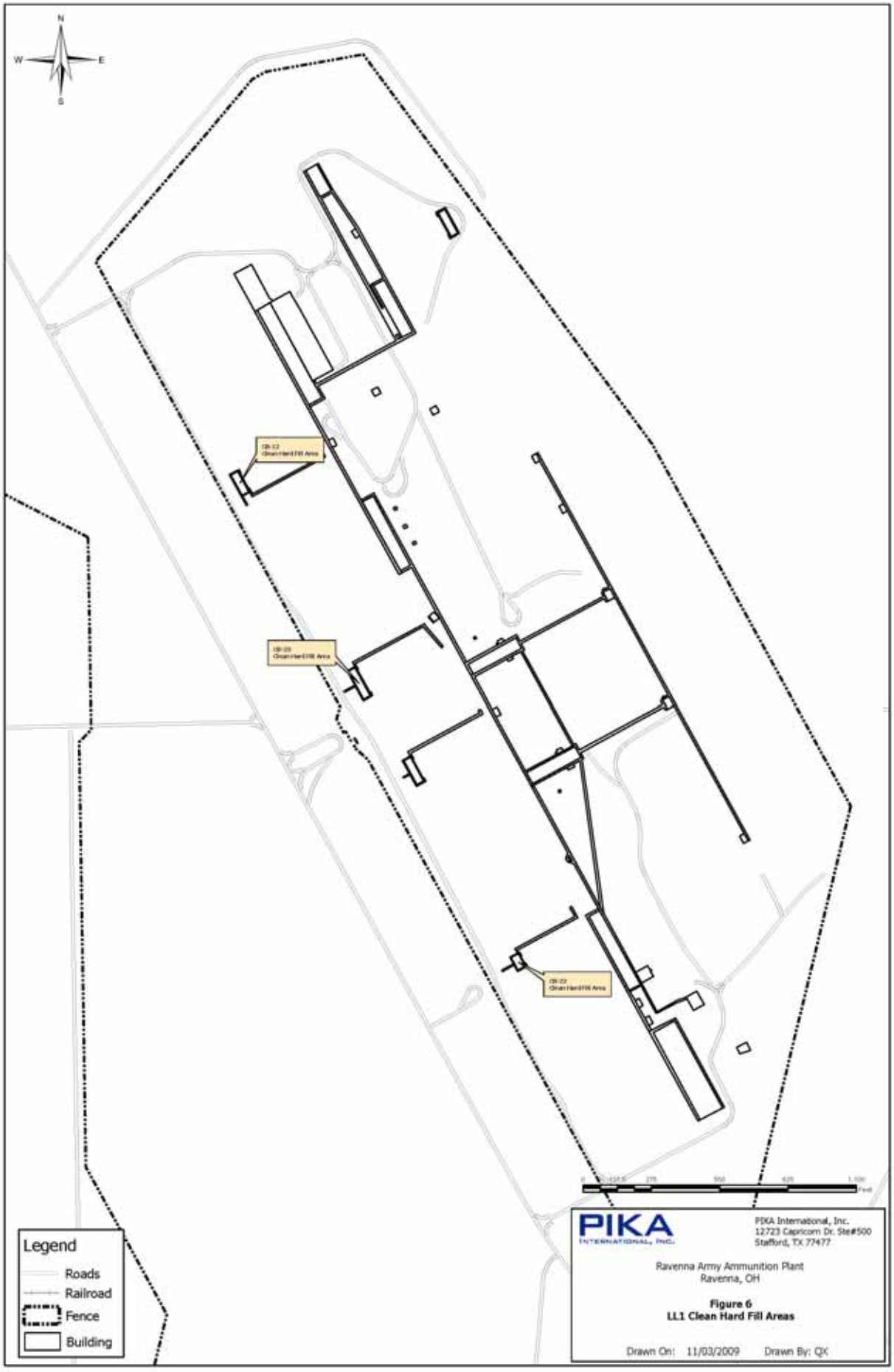
Figure 2
Location of the Laundry Flame Proofing Building and ECMs 7-C-3,7-C-4 and 1501

Drawn On: 11/03/2009 Drawn By: QX


Legend
Water Bodies
Buildings & Former Bldgs
Walkways
Railroads
Berms
South Service Road
South Service Road
George Road
Laundry Flame Proofing Building
Dormitory Road
Route 5
George Rd
George Rd
George Rd
N
PIKA
PIKA International, Inc.
12723 Capricorn Dr. Ste#500
Stafford, TX 77477
Ravenna Army Ammunition Plant
Ravenna, OH
FIGURE 3
Laundry Flame Proofing Building Site Map
Drawn On: 11/18/2009
Drawn By: QX


Legend
Water Bodies
Buildings
Walkways
Railroads
Berms
LL1 Clean Hard Fill Areas
George Rd Clean Hard Fill Area
N
PIKA
INTERNATIONAL, INC.
PIKA International, Inc.
12723 Capricorn Dr. Ste#500
Stafford, TX 77477
Ravenna Army Ammunition Plant
Ravenna, OH
Figure 4
Location of the Clean Hard Fill Areas
Drawn On: 11/03/2009
Drawn By: QX


Legend
Water Bodies
Buildings
Walkways
Railroads
Berms
Newton Falls Road
George Rd Clean Hard Fill Area
George Road
N
PIKA
INTERNATIONAL, INC.
PIKA International, Inc.
12723 Capricorn Dr. Ste#500
Stafford, TX 77477
Ravenna Army Ammunition Plant
Ravenna, OH
Figure 5
Location of George Rd Clean Hard Fill Area
Drawn On: 11/03/2009
Drawn By: QX


N
W
E
S
Legend
Roads
Railroad
Fence
Building
PIKA
INTERNATIONAL, INC.
PIKA International, Inc.
12723 Capricorn Dr. Ste#500
Stafford, TX 77477
Ravenna Army Ammunition Plant
Ravenna, OH
Figure 6
LL1 Clean Hard Fill Areas
Drawn On: 11/03/2009
Drawn By: QX

APPENDIX C

Weekly Reports

WEEKLY REPORT

Prime Contract No:	W52H09-08-C-5015		**Report No.**	1
PIKA Project #:	08-04-176		**Date:**	08-31-09 to 09-04-09
Project:	Disposal of Discarded MD and MC, Demo. Of Laundry Flame Proofing Bldg & Evaluation and Recommendations for Closure of Clean Hard Fill Sites, Ravenna Army Ammunition Plant, Ravenna, Ohio			

Summary of Activities

- Initiated Inspection and Sorting of Material Possibly Presenting and Explosive Hazard (MPPEH) at RVAAP Earth Covered Magazines (ECM) 7-C-3 and 1501.
- Initiated evaluation of RVAAP clean hard fill sites.

Others:

- Conducted daily safety briefings.

Remarks (include directions received from client's representative or regulators, visitors, compliance notices received, pertinent information) None.

Work Completed:

	This Week	Cumulative to-date
Mobilization	-	100%
Inspection and Sorting of MPPEH	10%	10%
Disposal of MD	-	-
Demolition of Laundry Flame Proofing Bldg	-	-
Evaluation of RVAAP Clean Hard Fill Sites	10%	10%
Demobilization	-	-

Health and Safety-

Conducted health and safety meetings and task order meetings every morning, prior to commencement of daily activities.

Were there any lost time accidents this week? No [x] Yes [ ].

If "yes", refer attached summary of incident or OSHA report.

Quality Control

Inspections Performed	Non-Conformances	Corrective Action (CA)	Follow-up on CA
Internal site inspection	None	None	Not Applicable

Major Problems and Resolution: None.

Schedule for Next Week

- Continue inspection and sorting of MPPEH.
- Continue evaluation of RVAAP clean hard fill sites.

Refer attached **Schedule** for percentage of work completed and projected completion dates.

SUXOS	Mel Lau	Site Safety Officer	Lew Kovarik
Project Manager	Brian Stockwell		

Photo Log

Overview of containers of MPPEH in ECM 7-C-3.

Close-up of drummed fuze components (left) and Gaylord box containing tracer elements from 152 mm projectiles (right).

Picture showing close-up of Gaylord boxes containing 105 mm projectile casings.

Conducting inspection operations outside the approved intra-line distance.

Transferring inspected and certified items (i.e., no explosives hazard) into lockable rolloff for subsequent recycling as scrap metal.

Recording recovered MEC items for proper storage and subsequent handling under separate contract. See attached magazine data card for listing of recovered MEC items to date.

Picture showing certified munitions scrap recovered to date.

All certified munitions scrap secured in a lockable container for later transport to the off-site recycling facility.

PIKA INTERNAL SITE QUALITY CONTROL INSPECTION

SITE LOCATION MPPEH **PROJECT NUMBER** 08-04-176

DATE INSPECTED 03Sep09 **INSPECTOR'S NAME** Lee Baer

PIKA ON SITE REP. Ken Kovarik

#	ITEM INSPECTED	YES	NO	N/A
1.	Is Spill Kit available and fully stocked?	X		
2.	Are all waste containers properly stored and labeled?			✓
3.	Have all assigned employees had HAZWOPER training?	X		
4.	Is at least one on site employee trained in First Aid?	X		
5.	Have all on site employees documented that they have read the RVAAP Facility Wide Safety and Health Plan?	X		
6.	Have all on site employees documented that they read the Site Specific Health and Safety Plan?	X		
7.	Have all employees documented that they have read the Site Specific Work Plan?	X		
8.	Are route maps to the local hospital posted in the office trailer?	X		
9.	Can each on site employee explain how to obtain emergency services?	X		
10.	Have all on site employees been briefed on what types of ordnance that might be found on site and what to do if found?	X		
11.	Are adequate communications available on site and are they tested daily?	X		
12.	Are daily tail gate safety meetings conducted and properly documented?	X		
13.	Have all on site employees been issued all required PPE and properly trained in its proper use, cleaning and storage?	X		
14.	Have all assigned employees documented that they have read the Facility Wide Sampling Plan?	X		
15.	Have all assigned employees documented that they have read the Site Specific Sampling Plan?	X		
16.	Are all of the required meters/instruments on site and are back ups available?			X
17.	Are appropriate erosion control measures in place?			X
18.	Are dust control measures being implemented			X
19.	Are copies of the Work Plan and SSHP available in site trailer?	X		
20	Are all required on site signs properly posted?	X		

1. DODIC	2. NSN	3. LOT NO. MPPEH INSP MEC AWAITING DISPOSAL	4. LOCATION 7-C-4	B.	D. Address
5. DESCRIPTION 105MM CARTRIDGE CASINGS			A. Hazard Class 1.1.	C.	E.

6	7	8	9. QUANTITY		10	11
DATE	DOCUMENT NO.	ACTION/PURPOSE	A. GAIN	B. LOSS	BALANCE	PRINTED NAME
8/31/09		FROM 7-C-3	50	—	50	Lew Kovarik

DA FORM 3020-R, AUG 89

MAGAZINE DATA CARD

1. DODIC	2. NSN	3. LOT NO. MPPEH INSP MEC Awaiting Flashing	4. LOCATION 7-C-3	B.	D. Address 8451 ST RT 5 RAVENNA Oh
5. DESCRIPTION MEC Awaiting Flashing BOX I			A. Hazard Class 1.1	C.	E.

6	7	8	9. QUANTITY		10	11
DATE	DOCUMENT NO.	ACTION/PURPOSE	A. GAIN	B. LOSS	BALANCE	PRINTED NAME
9/2/09	75 mm APHE	Received	4	Ø	4	Lew Kovarik
9/2/09	75mm HE (Tracer)	Received	4	Ø	4	Lew Kovarik
9/2/09	B.D. Fuzes	Received	2	Ø	2	Lew Kovarik
9/2/09	20mm T.P.	Received	1	Ø	1	Lew Kovarik
9/2/09	Fuze Booster Cups	Received	2	Ø	2	Lew Kovarik
9/2/09	Cartridge Igniter	Received	2	Ø	2	Lew Kovarik
9/2/09	P.D. Fuzes	Received	7	Ø	7	Lew Kovarik

DA FORM 3020-R, AUG 89

MAGAZINE DATA CARD

1. DODIC	2. NSN	3. LOT NO. MPPEH Insp MEC Awaiting Disposal	4. LOCATION 7-C-4	B.	D. Address 8451 STAT 5 RAVENNA, OH
5. DESCRIPTION MEC Awaiting Disposal BOX 1			A. Hazard Class 1.1	C.	E.

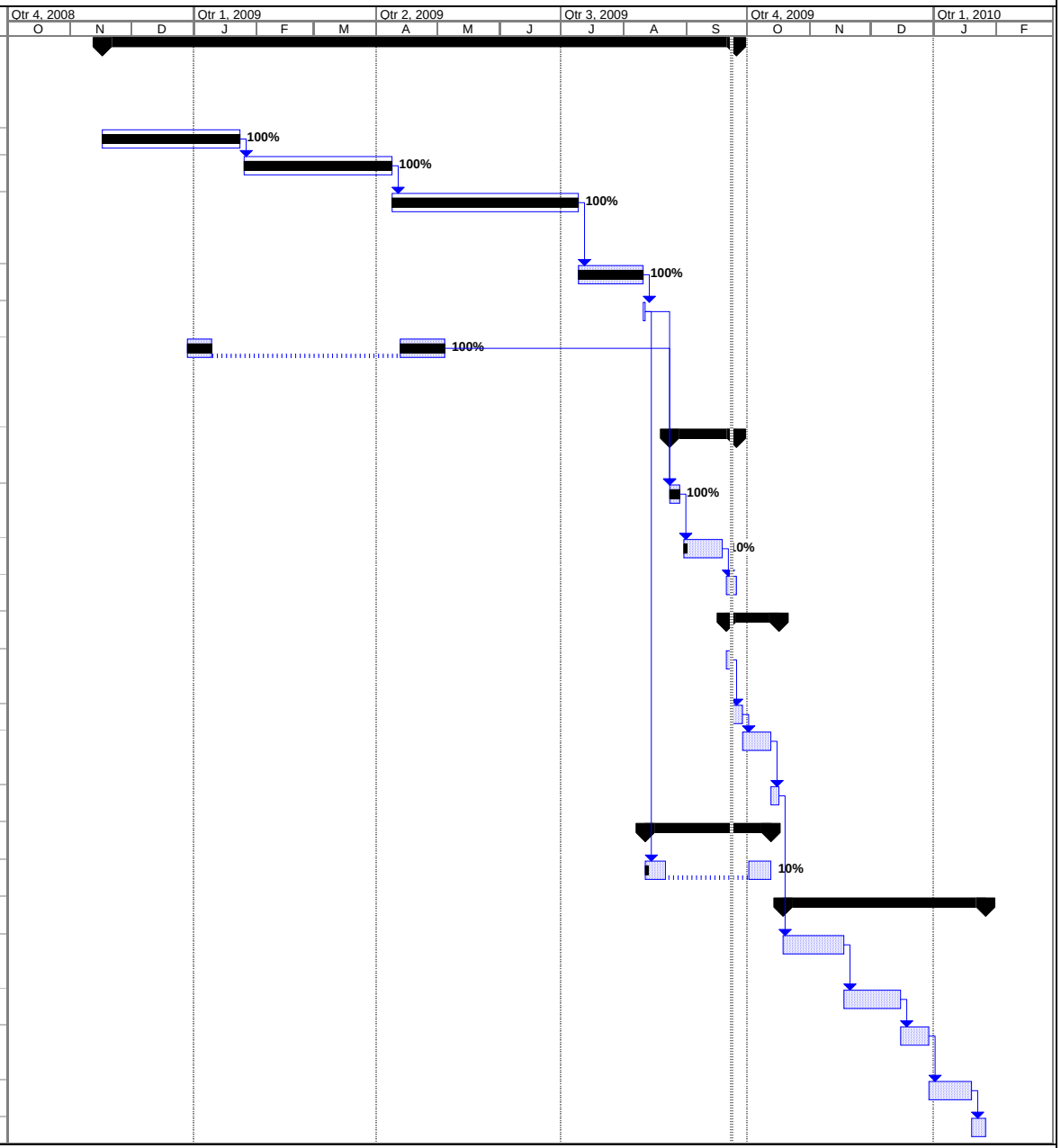
6	7	8	9. QUANTITY		10	11
DATE	DOCUMENT NO.	ACTION/PURPOSE	A. GAIN	B. LOSS	BALANCE	PRINTED NAME
9/2/09	75mm APHE	Received	2	Ø	2	Lew Kovarik
9/2/09	40mm HE (Potus)	Received	1	Ø	1	Lew Kovarik
9/2/09	37MM HE	Received	1	Ø	1	Lew Kovarik
9/2/09	Bomb Fuzes	Received	4	Ø	4	Lew Kovarik
9/2/09	DASE DET Fuzes	Received	2	Ø	2	Lew Kovarik
9/2/09	P.D. Fuzes	Received	2	Ø	2	Lew Kovarik

DA FORM 3020-R, AUG 89

MAGAZINE DATA CARD

PROJECT SCHEDULE
DISPOSAL OF MD & MC, DEMO OF LAUNDRY FLAME PROOFING BUILDING & EVALUATION OF RVAAP CLEAN HARD FILL SITES

ID	Task Name	Duration	Start	Finish	Predecessors
1	**Disposal of MD & MC, Demo of Laundry Flame Proofing Bldg & Eval of RVAAP CHF Areas**	**225 days**	**Mon 11/17/08**	**Fri 9/25/09**	
2	Draft Work Plans	50 days	Mon 11/17/08	Fri 1/23/09	
3	Review of Draft Work Plans	53 days	Mon 1/26/09	Wed 4/8/09	2
4	Comment Response and Submit Final WPs	66 days	Thu 4/9/09	Thu 7/9/09	3
5	Review of final Work Plans	22 days	Fri 7/10/09	Mon 8/10/09	4
6	Submit Final Work Plans	1 day	Tue 8/11/09	Tue 8/11/09	5
7	MEC inspection ESS and Amendment 4 to RVAAP Demo ESS	26 days	Mon 12/29/08	Mon 5/4/09	
8	**Inspection and Disposal of MD and MC**	**25 days**	**Mon 8/24/09**	**Fri 9/25/09**	
9	Mobilization and site setup	5 days	Mon 8/24/09	Fri 8/28/09	6,7
10	Inspection and Sorting of MPPEH	15 days	Mon 8/31/09	Fri 9/18/09	9
11	Disposal of MD (off-site recycling)	5 days	Mon 9/21/09	Fri 9/25/09	10
12	**Demolition of Laundry Flame Proofing Building**	**20 days**	**Mon 9/21/09**	**Fri 10/16/09**	
13	Bldg Hazard Assessments and Paint Sampling	2 days	Mon 9/21/09	Tue 9/22/09	
14	Asbestos removal	4 days	Wed 9/23/09	Mon 9/28/09	13
15	Demolition and removal of Laundry Flame Proofing bldg	10 days	Tue 9/29/09	Mon 10/12/09	14
16	Site Restoration	4 days	Tue 10/13/09	Fri 10/16/09	15
17	**Evaluation of RVAAP CHF areas**	**44 days**	**Wed 8/12/09**	**Mon 10/12/09**	
18	Site visits and reg review	15 days	Wed 8/12/09	Mon 10/12/09	6
19	**Construction Completion Report**	**72 days**	**Mon 10/19/09**	**Tue 1/26/10**	
20	Prep Draft Construction Completion Report	22 days	Mon 10/19/09	Tue 11/17/09	16
21	Army Review of Draft Report	20 days	Wed 11/18/09	Tue 12/15/09	20
22	Comment resolution and Submit Final Report	10 days	Wed 12/16/09	Tue 12/29/09	21
23	Army Review of Final Report	15 days	Wed 12/30/09	Tue 1/19/10	22
24	Submit Final Report	5 days	Wed 1/20/10	Tue 1/26/10	23



Project: MPPEH Inspection, Bldg Dem & Evaluation of CHF Sites
Date: Wed 9/23/09

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

WEEKLY REPORT

Prime Contract No:	W52H09-08-C-5015		**Report No.**	2
PIKA Project #:	08-04-176		**Date:**	09-07-09 to 09-11-09
Project:	Disposal of Discarded MD and MC, Demo. Of Laundry Flame Proofing Bldg & Evaluation and Recommendations for Closure of Clean Hard Fill Sites, Ravenna Army Ammunition Plant, Ravenna, Ohio			

Summary of Activities

- Continued Inspection and Sorting of Material Possibly Presenting and Explosive Hazard (MPPEH).
- Focused inspection work on the numerous 152 mm projectile tracer elements.
- A total of 9,000 tracer elements inspected for the week.
- Continued evaluation of RVAAP clean hard fill sites.

Others:

- Conducted daily safety briefings.

Remarks (include directions received from client's representative or regulators, visitors, compliance notices received, pertinent information) None.

Work Completed:

	This Week	Cumulative to-date
Mobilization	-	100%
Inspection and Sorting of MPPEH	30%	40%
Disposal of MD	-	-
Demolition of Laundry Flame Proofing Bldg	-	-
Evaluation of RVAAP Clean Hard Fill Sites	20%	30%
Demobilization	-	-

Health and Safety-

Conducted health and safety meetings and task order meetings every morning, prior to commencement of daily activities.

Were there any lost time accidents this week? No [x] Yes [ ].

If "yes", refer attached summary of incident or OSHA report.

Quality Control

Inspections Performed	Non-Conformances	Corrective Action (CA)	Follow-up on CA
Internal site inspection	None	None	Not Applicable

Major Problems and Resolution: None.

Schedule for Next Week

- Continue inspection and sorting of 152 mm projectile tracer elements.
- Continue evaluation of RVAAP clean hard fill sites.

Refer attached **Schedule** for percentage of work completed and projected completion dates.

SUXOS	Mel Lau	Site Safety Officer	Lew Kovarik
Project Manager	Brian Stockwell		

Photo Log

Removing Gaylord box containing 152 mm projectile tracer elements for inspection.

Close-up of 152 mm projectile tracer elements to be inspected.

New box filled with inspected 152 mm projectile tracer elements categorized as Material Documented as an Explosive Hazard (MDEH). This material to be stored in ECM 7-C-3 and will require thermal flashing for "Safe" certification under separate contract.

PIKA INTERNAL SITE QUALITY CONTROL INSPECTION

SITE LOCATION MMPEH **PROJECT NUMBER** 08-04-176

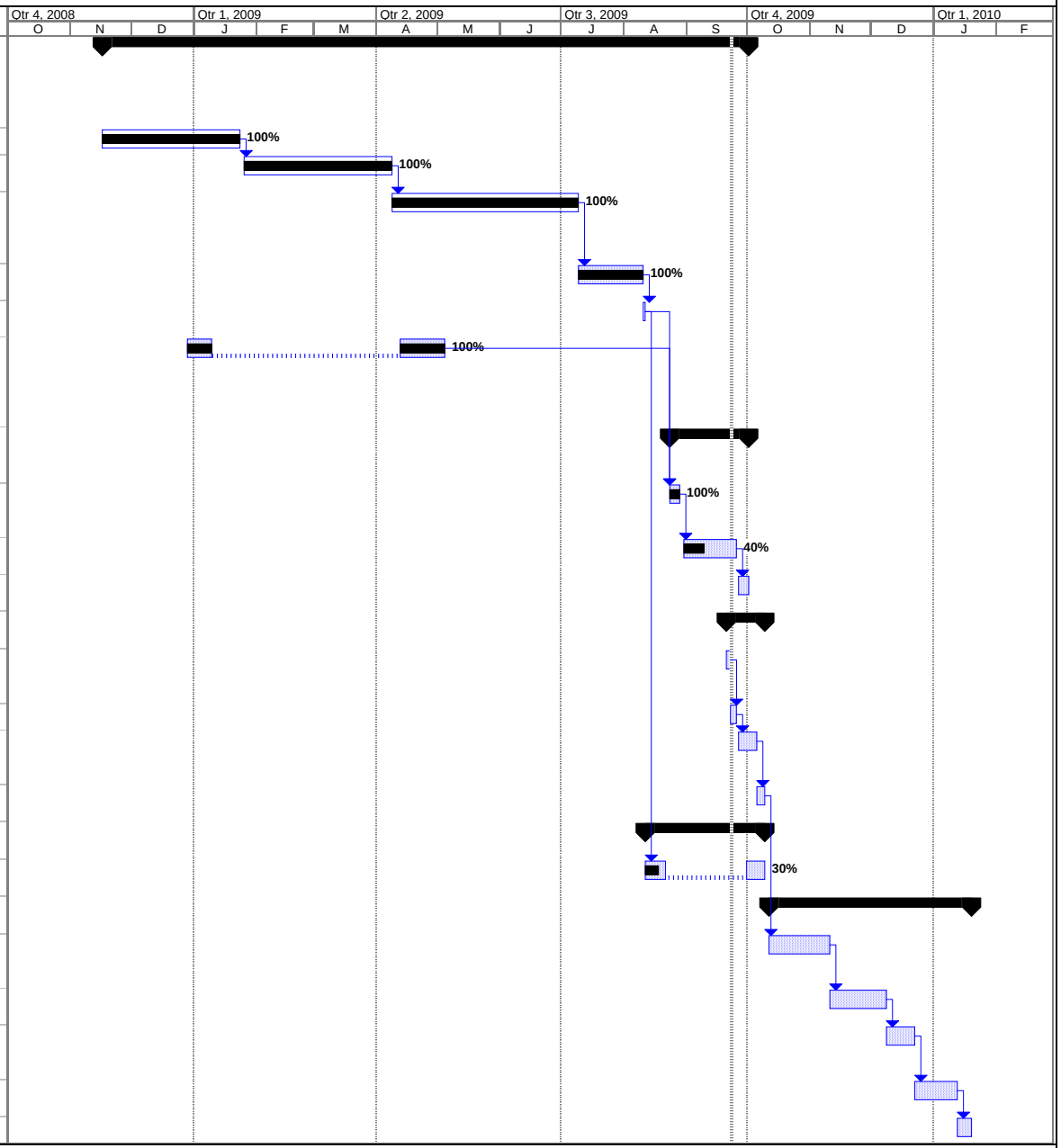
DATE INSPECTED 9/10/09 **INSPECTOR'S NAME** Sue Boas

PIKA ON SITE REP. Mel Lau

#	ITEM INSPECTED	YES	NO	N/A
1.	Is Spill Kit available and fully stocked?	X		
2.	Are all waste containers properly stored and labeled?			X
3.	Have all assigned employees had HAZWOPER training?	X		
4.	Is at least one on site employee trained in First Aid?	X		
5.	Have all on site employees documented that they have read the RVAAP Facility Wide Safety and Health Plan?	X		
6.	Have all on site employees documented that they read the Site Specific Health and Safety Plan?	X		
7.	Have all employees documented that they have read the Site Specific Work Plan?	X		
8.	Are route maps to the local hospital posted in the office trailer?	X		
9.	Can each on site employee explain how to obtain emergency services?	X		
10.	Have all on site employees been briefed on what types of ordnance that might be found on site and what to do if found?	X		
11.	Are adequate communications available on site and are they tested daily?	X		
12.	Are daily tail gate safety meetings conducted and properly documented?	✓		
13.	Have all on site employees been issued all required PPE and properly trained in its proper use, cleaning and storage?	X		
14.	Have all assigned employees documented that they have read the Facility Wide Sampling Plan?	X		
15.	Have all assigned employees documented that they have read the Site Specific Sampling Plan?	X		
16.	Are all of the required meters/instruments on site and are back ups available?			✓
17.	Are appropriate erosion control measures in place?			X
18.	Are dust control measures being implemented			✓
19.	Are copies of the Work Plan and SSHP available in site trailer?	✓		
20	Are all required on site signs properly posted?	X		

PROJECT SCHEDULE
DISPOSAL OF MD & MC, DEMO OF LAUNDRY FLAME PROOFING BUILDING & EVALUATION OF RVAAP CLEAN HARD FILL SITES

ID	Task Name	Duration	Start	Finish	Predecessors
1	**Disposal of MD & MC, Demo of Laundry Flame Proofing Bldg & Eval of RVAAP CHF Areas**	**230 days**	**Mon 11/17/08**	**Thu 10/1/09**	
2	Draft Work Plans	50 days	Mon 11/17/08	Fri 1/23/09	
3	Review of Draft Work Plans	53 days	Mon 1/26/09	Wed 4/8/09	2
4	Comment Response and Submit Final WPs	66 days	Thu 4/9/09	Thu 7/9/09	3
5	Review of final Work Plans	22 days	Fri 7/10/09	Mon 8/10/09	4
6	Submit Final Work Plans	1 day	Tue 8/11/09	Tue 8/11/09	5
7	MEC inspection ESS and Amendment 4 to RVAAP Demo ESS	26 days	Mon 12/29/08	Mon 5/4/09	
8	**Inspection and Disposal of MD and MC**	**30 days**	**Mon 8/24/09**	**Thu 10/1/09**	
9	Mobilization and site setup	5 days	Mon 8/24/09	Fri 8/28/09	6,7
10	Inspection and Sorting of MPPEH	20 days	Mon 8/31/09	Fri 9/25/09	9
11	Disposal of MD (off-site recycling)	5 days	Sun 9/27/09	Thu 10/1/09	10
12	**Demolition of Laundry Flame Proofing Building**	**16 days**	**Mon 9/21/09**	**Fri 10/9/09**	
13	Bldg Hazard Assessments and Paint Sampling	2 days	Mon 9/21/09	Tue 9/22/09	
14	Asbestos removal	3 days	Wed 9/23/09	Fri 9/25/09	13
15	Demolition and removal of Laundry Flame Proofing bldg	7 days	Sun 9/27/09	Mon 10/5/09	14
16	Site Restoration	4 days	Tue 10/6/09	Fri 10/9/09	15
17	**Evaluation of RVAAP CHF areas**	**44 days**	**Wed 8/12/09**	**Fri 10/9/09**	
18	Site visits and reg review	15 days	Wed 8/12/09	Fri 10/9/09	6
19	**Construction Completion Report**	**72 days**	**Mon 10/12/09**	**Tue 1/19/10**	
20	Prep Draft Construction Completion Report	22 days	Mon 10/12/09	Tue 11/10/09	16
21	Army Review of Draft Report	20 days	Wed 11/11/09	Tue 12/8/09	20
22	Comment resolution and Submit Final Report	10 days	Wed 12/9/09	Tue 12/22/09	21
23	Army Review of Final Report	15 days	Wed 12/23/09	Tue 1/12/10	22
24	Submit Final Report	5 days	Wed 1/13/10	Tue 1/19/10	23



Project: MPPEH Inspection, Bldg Dem & Evaluation of CHF Sites
Date: Wed 9/23/09

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

WEEKLY REPORT

Prime Contract No:	W52H09-08-C-5015		**Report No.**	3
PIKA Project #:	08-04-176		**Date:**	09-14-09 to 09-18-09
Project:	Disposal of Discarded MD and MC, Demo. Of Laundry Flame Proofing Bldg & Evaluation and Recommendations for Closure of Clean Hard Fill Sites, Ravenna Army Ammunition Plant, Ravenna, Ohio			

Summary of Activities

- Continued Inspection and Sorting of Material Possibly Presenting and Explosive Hazard (MPPEH).
- Focused inspection work on the numerous 152 mm projectile tracer elements.
- An additional 9,000 tracer elements inspected for the week.
- Continued evaluation of RVAAP clean hard fill sites. Visited each site with construction contractor to provide cost estimates for closing the sites.

Others:

- Conducted daily safety briefings.

Remarks (include directions received from client's representative or regulators, visitors, compliance notices received, pertinent information) Visitors: Mark Patterson – RVAAP Facility Manager and Christy Esler – VISTA Technologies.

Work Completed:

	This Week	Cumulative to-date
Mobilization	-	100%
Inspection and Sorting of MPPEH	15%	55%
Disposal of MD	-	-
Demolition of Laundry Flame Proofing Bldg	-	-
Evaluation of RVAAP Clean Hard Fill Sites	15%	45%
Demobilization	-	-

Health and Safety-

Conducted health and safety meetings and task order meetings every morning, prior to commencement of daily activities.

Were there any lost time accidents this week? No [x] Yes [ ].

If "yes", refer attached summary of incident or OSHA report.

Quality Control

Inspections Performed	Non-Conformances	Corrective Action (CA)	Follow-up on CA
Internal site inspection	None	None	Not Applicable

Major Problems and Resolution: None.

Schedule for Next Week

- Continue inspection and sorting of 152 mm projectile tracer elements.
- Continue evaluation of RVAAP clean hard fill sites.

Refer attached **Schedule** for percentage of work completed and projected completion dates.

SUXOS	Mel Lau	Site Safety Officer	Lew Kovarik
Project Manager	Brian Stockwell		

Photo Log

Picture showing Gaylord boxes of 155 mm tracer elements staged in ECM 7-C-3 to be inspected.

Staging container of 155 mm tracer elements outside the approved intra-line distance for inspection.

UXO Technician III inspecting 152 mm tracer elements.

New container filled with inspected 152 mm projectile tracer elements categorized as Material Documented as an Explosive Hazard (MDEH). This material to be stored in ECM 7-C-3 and will require thermal flashing for "Safe" certification under separate contract.

Picture showing overview of Load Line 1 (LL1) CB12 clean hard fill area.

Picture showing overview of LL1 CB22 clean hard fill area.

Picture showing overview of LL1 CB23 clean hard fill area.

View looking across the George Road clean hard fill area.

PIKA INTERNAL SITE QUALITY CONTROL INSPECTION

SITE LOCATION MAPEH **PROJECT NUMBER** 08-04-176

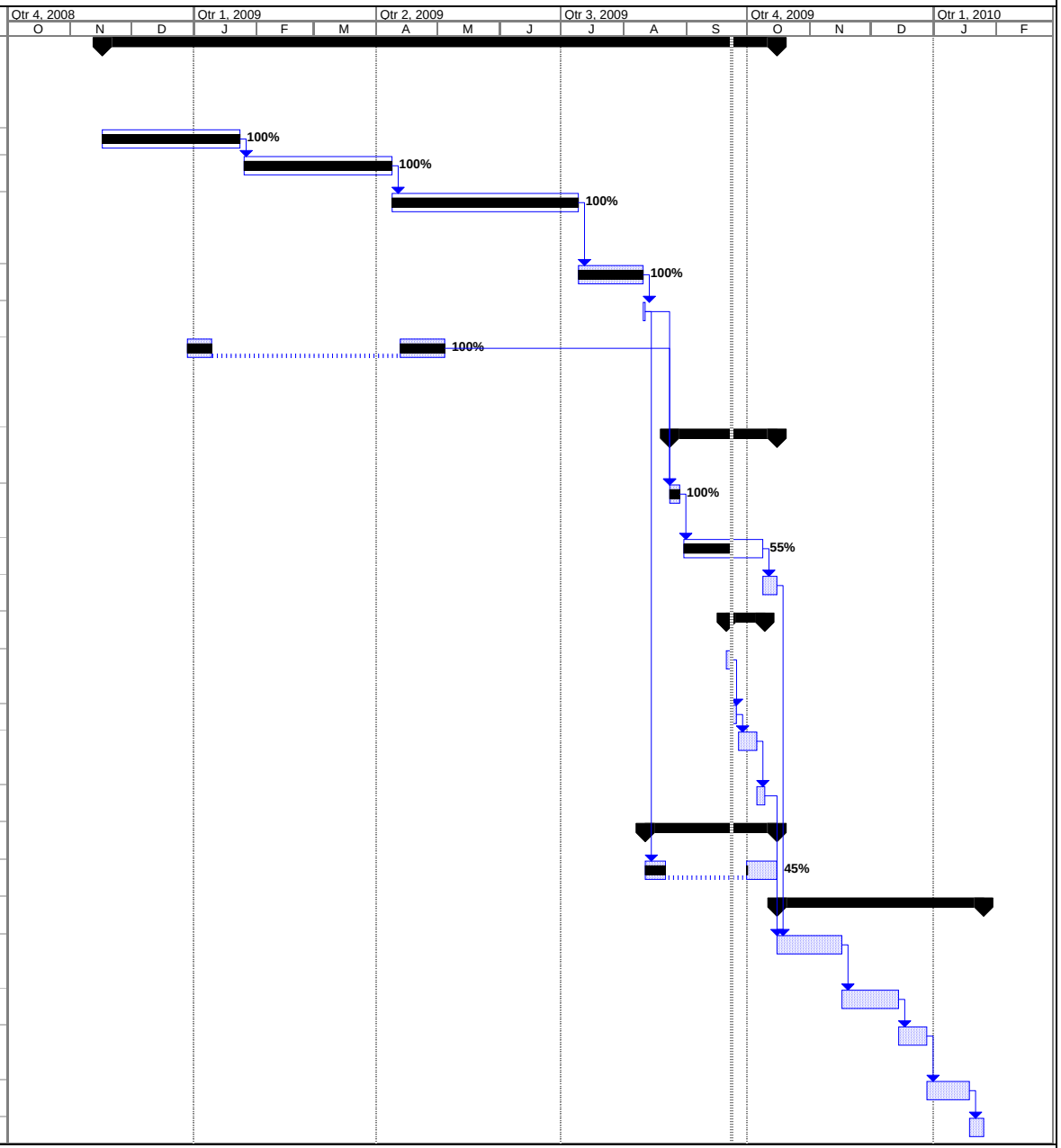
DATE INSPECTED 09/17/09 **INSPECTOR'S NAME** Sue Bolen

PIKA ON SITE REP. Lew Kovarik

#	ITEM INSPECTED	YES	NO	N/A
1.	Is Spill Kit available and fully stocked?	X		
2.	Are all waste containers properly stored and labeled?			X
3.	Have all assigned employees had HAZWOPER training?	X		
4.	Is at least one on site employee trained in First Aid?	X		
5.	Have all on site employees documented that they have read the RVAAP Facility Wide Safety and Health Plan?	X		
6.	Have all on site employees documented that they read the Site Specific Health and Safety Plan?	X		
7.	Have all employees documented that they have read the Site Specific Work Plan?	X		
8.	Are route maps to the local hospital posted in the office trailer?	X		
9.	Can each on site employee explain how to obtain emergency services?	X		
10.	Have all on site employees been briefed on what types of ordnance that might be found on site and what to do if found?	X		
11.	Are adequate communications available on site and are they tested daily?	X		
12.	Are daily tail gate safety meetings conducted and properly documented?	X		
13.	Have all on site employees been issued all required PPE and properly trained in its proper use, cleaning and storage?	X		
14.	Have all assigned employees documented that they have read the Facility Wide Sampling Plan?	X		
15.	Have all assigned employees documented that they have read the Site Specific Sampling Plan?	X		
16.	Are all of the required meters/instruments on site and are back ups available?			X
17.	Are appropriate erosion control measures in place?			X
18.	Are dust control measures being implemented			X
19.	Are copies of the Work Plan and SSHP available in site trailer?	X		
20	Are all required on site signs properly posted?	X		

PROJECT SCHEDULE
DISPOSAL OF MD & MC, DEMO OF LAUNDRY FLAME PROOFING BUILDING & EVALUATION OF RVAAP CLEAN HARD FILL SITES

ID	Task Name	Duration	Start	Finish	Predecessors
1	**Disposal of MD & MC, Demo of Laundry Flame Proofing Bldg & Eval of RVAAP CHF Areas**	**240 days**	**Mon 11/17/08**	**Thu 10/15/09**	
2	Draft Work Plans	50 days	Mon 11/17/08	Fri 1/23/09	
3	Review of Draft Work Plans	53 days	Mon 1/26/09	Wed 4/8/09	2
4	Comment Response and Submit Final WPs	66 days	Thu 4/9/09	Thu 7/9/09	3
5	Review of final Work Plans	22 days	Fri 7/10/09	Mon 8/10/09	4
6	Submit Final Work Plans	1 day	Tue 8/11/09	Tue 8/11/09	5
7	MEC inspection ESS and Amendment 4 to RVAAP Demo ESS	26 days	Mon 12/29/08	Mon 5/4/09	
8	**Inspection and Disposal of MD and MC**	**40 days**	**Mon 8/24/09**	**Thu 10/15/09**	
9	Mobilization and site setup	5 days	Mon 8/24/09	Fri 8/28/09	6,7
10	Inspection and Sorting of MPPEH	30 days	Mon 8/31/09	Thu 10/8/09	9
11	Disposal of MD (off-site recycling)	5 days	Fri 10/9/09	Thu 10/15/09	10
12	**Demolition of Laundry Flame Proofing Building**	**16 days**	**Mon 9/21/09**	**Fri 10/9/09**	
13	Bldg Hazard Assessments and Paint Sampling	2 days	Mon 9/21/09	Tue 9/22/09	
14	Asbestos removal	3 days	Wed 9/23/09	Fri 9/25/09	13
15	Demolition and removal of Laundry Flame Proofing bldg	7 days	Sun 9/27/09	Mon 10/5/09	14
16	Site Restoration	4 days	Tue 10/6/09	Fri 10/9/09	15
17	**Evaluation of RVAAP CHF areas**	**48 days**	**Wed 8/12/09**	**Thu 10/15/09**	
18	Site visits and reg review	19 days	Wed 8/12/09	Thu 10/15/09	6
19	**Construction Completion Report**	**72 days**	**Fri 10/16/09**	**Mon 1/25/10**	
20	Prep Draft Construction Completion Report	22 days	Fri 10/16/09	Mon 11/16/09	16,11
21	Army Review of Draft Report	20 days	Tue 11/17/09	Mon 12/14/09	20
22	Comment resolution and Submit Final Report	10 days	Tue 12/15/09	Mon 12/28/09	21
23	Army Review of Final Report	15 days	Tue 12/29/09	Mon 1/18/10	22
24	Submit Final Report	5 days	Tue 1/19/10	Mon 1/25/10	23



Project: MPPEH Inspection, Bldg Dem & Evaluation of CHF Sites
Date: Wed 9/23/09

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

WEEKLY REPORT

Prime Contract No:	W52H09-08-C-5015		**Report No.**	4
PIKA Project #:	08-04-176		**Date:**	09-21-09 to 09-25-09
Project:	Disposal of Discarded MD and MC, Demo. Of Laundry Flame Proofing Bldg & Evaluation and Recommendations for Closure of Clean Hard Fill Sites, Ravenna Army Ammunition Plant, Ravenna, Ohio			

Summary of Activities

- Continued Inspection and Sorting of Material Possibly Presenting and Explosive Hazard (MPPEH).
- Continued inspection work on the numerous 152 mm projectile tracer elements.
- An additional 10,296 tracer elements inspected for the week. A total of 28,296 inspected to date.
- Also inspected and certified approximately 1,000 lbs of scrap metal and Material Documented as Safe (MDAS).
- Removed transite siding from the Laundry Flame Proofing Building to facilitate demolition operations.

Others:

- Conducted daily safety briefings.

Remarks (include directions received from client's representative or regulators, visitors, compliance notices received, pertinent information) Visitors: Mark Patterson – RVAAP Facility Manager and Christy Esler – VISTA Technologies.

Work Completed:

	This Week	Cumulative to-date
Mobilization	-	100%
Inspection and Sorting of MPPEH	15%	70%
Disposal of MD	-	-
Demolition of Laundry Flame Proofing Bldg	15%	15%
Evaluation of RVAAP Clean Hard Fill Sites	10%	55%
Demobilization	-	-

Health and Safety-

Conducted health and safety meetings and task order meetings every morning, prior to commencement of daily activities.

Were there any lost time accidents this week? No [x] Yes [ ].

If "yes", refer attached summary of incident or OSHA report.

Quality Control

Inspections Performed	Non-Conformances	Corrective Action (CA)	Follow-up on CA
Internal site inspection	None	None	Not Applicable

Major Problems and Resolution: None.

Schedule for Next Week

- Continue inspection and sorting of MPPEH.
- Initiate demolition of the Laundry Flame Proofing Building.

Refer attached **Schedule** for percentage of work completed and projected completion dates.

SUXOS	Mel Lau	Site Safety Officer	Lew Kovarik
Project Manager	Brian Stockwell		

Photo Log

Removing container of 152 mm tracer elements for inspection.

Inspecting 155 mm tracer elements outside the approved intra-line distance for inspection.

Containers of inspected 152 mm projectile tracer elements staged in ECM 7-C-3. This material is categorized as Material Documented as an Explosive Hazard (MDEH) and will require thermal flashing for "Safe" certification under separate contract.

Transferring inspected and certified scrap metal and MDAS into lockable rolloff for subsequent recycling at off site smelter facility.

View of lockable rolloff container secured for the day.

Picture showing laundry flame proofing building (small annex to brick building). Flame proofing building sump is visible in foreground.

Applying amended water to traniste siding prior to removal.

Asbestos worker removing panel bolts.

Picture showing traniste panels removed from laundry flame proofing building.

PIKA INTERNAL SITE QUALITY CONTROL INSPECTION

SITE LOCATION MPPEH **PROJECT NUMBER** 08-04-176

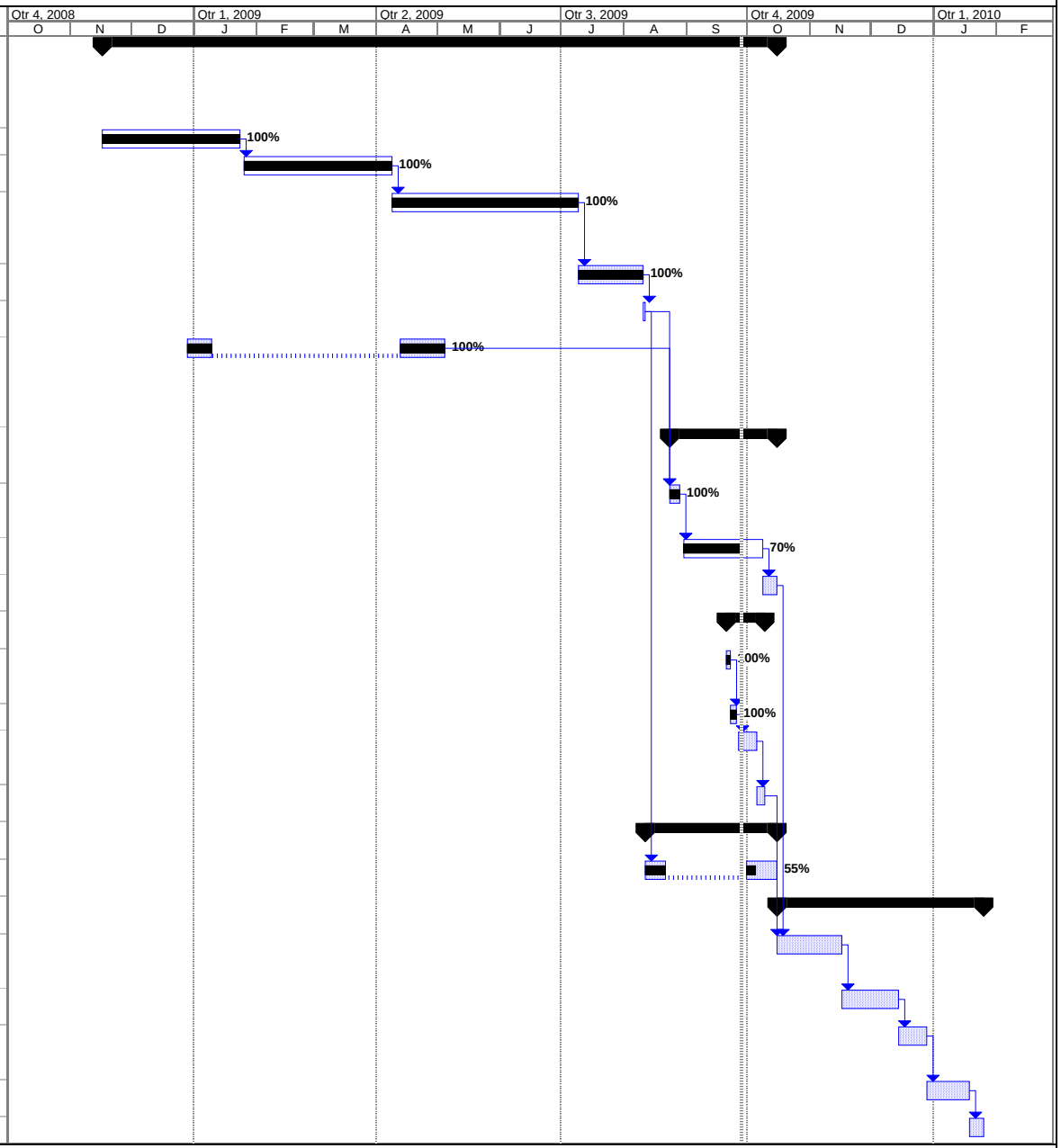
DATE INSPECTED 24 Sept 09 **INSPECTOR'S NAME** Sue Boes

PIKA ON SITE REP. Lew Kovarik

#	ITEM INSPECTED	YES	NO	N/A
1.	Is Spill Kit available and fully stocked?	X		
2.	Are all waste containers properly stored and labeled?			X
3.	Have all assigned employees had HAZWOPER training?	X		
4.	Is at least one on site employee trained in First Aid?	X		
5.	Have all on site employees documented that they have read the RVAAP Facility Wide Safety and Health Plan?	X		
6.	Have all on site employees documented that they read the Site Specific Health and Safety Plan?	X		
7.	Have all employees documented that they have read the Site Specific Work Plan?	X		
8.	Are route maps to the local hospital posted in the office trailer?	✓		
9.	Can each on site employee explain how to obtain emergency services?	X		
10.	Have all on site employees been briefed on what types of ordnance that might be found on site and what to do if found?	X		
11.	Are adequate communications available on site and are they tested daily?	X		
12.	Are daily tail gate safety meetings conducted and properly documented?	X		
13.	Have all on site employees been issued all required PPE and properly trained in its proper use, cleaning and storage?	X		
14.	Have all assigned employees documented that they have read the Facility Wide Sampling Plan?	X		
15.	Have all assigned employees documented that they have read the Site Specific Sampling Plan?	X		
16.	Are all of the required meters/instruments on site and are back ups available?			X
17.	Are appropriate erosion control measures in place?			X
18.	Are dust control measures being implemented			X
19.	Are copies of the Work Plan and SSHP available in site trailer?	X		
20	Are all required on site signs properly posted?	✓		

PROJECT SCHEDULE
DISPOSAL OF MD & MC, DEMO OF LAUNDRY FLAME PROOFING BUILDING & EVALUATION OF RVAAP CLEAN HARD FILL SITES

ID	Task Name	Duration	Start	Finish	Predecessors
1	**Disposal of MD & MC, Demo of Laundry Flame Proofing Bldg & Eval of RVAAP CHF Areas**	**240 days**	**Mon 11/17/08**	**Thu 10/15/09**	
2	Draft Work Plans	50 days	Mon 11/17/08	Fri 1/23/09	
3	Review of Draft Work Plans	53 days	Mon 1/26/09	Wed 4/8/09	2
4	Comment Response and Submit Final WPs	66 days	Thu 4/9/09	Thu 7/9/09	3
5	Review of final Work Plans	22 days	Fri 7/10/09	Mon 8/10/09	4
6	Submit Final Work Plans	1 day	Tue 8/11/09	Tue 8/11/09	5
7	MEC inspection ESS and Amendment 4 to RVAAP Demo ESS	26 days	Mon 12/29/08	Mon 5/4/09	
8	**Inspection and Disposal of MD and MC**	**40 days**	**Mon 8/24/09**	**Thu 10/15/09**	
9	Mobilization and site setup	5 days	Mon 8/24/09	Fri 8/28/09	6,7
10	Inspection and Sorting of MPPEH	30 days	Mon 8/31/09	Thu 10/8/09	9
11	Disposal of MD (off-site recycling)	5 days	Fri 10/9/09	Thu 10/15/09	10
12	**Demolition of Laundry Flame Proofing Building**	**16 days**	**Mon 9/21/09**	**Fri 10/9/09**	
13	Bldg Hazard Assessments and Paint Sampling	2 days	Mon 9/21/09	Tue 9/22/09	
14	Asbestos removal	3 days	Wed 9/23/09	Fri 9/25/09	13
15	Demolition and removal of Laundry Flame Proofing bldg	7 days	Sun 9/27/09	Mon 10/5/09	14
16	Site Restoration	4 days	Tue 10/6/09	Fri 10/9/09	15
17	**Evaluation of RVAAP CHF areas**	**48 days**	**Wed 8/12/09**	**Thu 10/15/09**	
18	Site visits and reg review	19 days	Wed 8/12/09	Thu 10/15/09	6
19	**Construction Completion Report**	**72 days**	**Fri 10/16/09**	**Mon 1/25/10**	
20	Prep Draft Construction Completion Report	22 days	Fri 10/16/09	Mon 11/16/09	16,11
21	Army Review of Draft Report	20 days	Tue 11/17/09	Mon 12/14/09	20
22	Comment resolution and Submit Final Report	10 days	Tue 12/15/09	Mon 12/28/09	21
23	Army Review of Final Report	15 days	Tue 12/29/09	Mon 1/18/10	22
24	Submit Final Report	5 days	Tue 1/19/10	Mon 1/25/10	23



Project: MPPEH Inspection, Bldg Dem & Evaluation of CHF Sites
Date: Mon 9/28/09

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

WEEKLY REPORT

Prime Contract No:	W52H09-08-C-5015		**Report No.**	5
PIKA Project #:	08-04-176		**Date:**	09-28-09 to 10-02-09
Project:	Disposal of Discarded MD and MC, Demo. Of Laundry Flame Proofing Bldg & Evaluation and Recommendations for Closure of Clean Hard Fill Sites, Ravenna Army Ammunition Plant, Ravenna, Ohio			

Summary of Activities

- Completed inspection work on the numerous 152 mm projectile tracer elements.
- A total of 28,296 tracer elements (42,161 lbs total) inspected, certified as Material Documented as an Explosive Hazard (MDEH) and staged in ECM 7-C-3 for subsequent flashing and disposal under a separate contract.
- Continued inspection of remaining MPPEH items.
- Completed demolition of Laundry Flame Proofing Building and associated sump.
- Backfilled sump excavation and initiated site restoration operations.
- Collected 5X certification samples for Laundry Flame Proofing Building/sump demolition debris.
- Began write up of evaluation and cost estimate for closure of the RVAAP clean hard fill areas.

Others:

- Conducted daily safety briefings.

Remarks (include directions received from client's representative or regulators, visitors, compliance notices received, pertinent information) Visitors: Mark Patterson – RVAAP Facility Manager and Christy Esler – VISTA Technologies.

Work Completed:

	This Week	Cumulative to-date
Mobilization	-	100%
Inspection and Sorting of MPPEH	15%	85%
Disposal of MD	-	-
Demolition of Laundry Flame Proofing Bldg and site restoration	60%	75%
Evaluation of RVAAP Clean Hard Fill Sites	10%	65%

Demobilization	-	-

Health and Safety-

Conducted health and safety meetings and task order meetings every morning, prior to commencement of daily activities.

Were there any lost time accidents this week? No [x] Yes [ ].

If "yes", refer attached summary of incident or OSHA report.

Quality Control

Inspections Performed	Non-Conformances	Corrective Action (CA)	Follow-up on CA
Internal site inspection	None	None	Not Applicable

Major Problems and Resolution: None.

Schedule for Next Week

- Complete inspection and sorting of MPPEH.
- Initiate re-grading, seeding and mulching Laundry Flame Proofing Bldg excavation area.
- Load out demolition debris from Laundry Flame Proofing Building and sump.

Refer attached **Schedule** for percentage of work completed and projected completion dates.

SUXOS	Mel Lau	Site Safety Officer	Lew Kovarik
Project Manager	Brian Stockwell		

Photo Log

Inspecting remaining items for safe certification and subsequent disposition.

Depositing Material Documented as Safe (MDAS) into rolloff for off site recycling.

Picture showing MDAS to date.

Picture showing Gaylord boxes of inspected 152 mm projectile tracer elements categorized as Material Documented as an Explosive Hazard (MDEH). Material will require thermal flashing for "Safe" certification under separate contract.

Picture showing remaining containers of MPPEH items to be inspected.

Laundry Flame Proofing Building prior to demolition. Portion of sump visible on right. Sump was filled with clean soils during past closure activities by the facility. Sump soils to be re-used for backfill during restoration operations.

Initiating demolition of Laundry Flame Proofing Building and associated sump.

View of building and sump during demolition operations.

Close-up of staging area for demolition debris. Clean soils (background) from inside sump staged for re-use as backfill as per scope of work.

Picture showing resultant excavation following removal of floor slab and adjacent sump.

Picture showing the layer of clean sand installed (per scope of work) for use as a marker during future investigation and sampling operations under separate contract.

Backfilling excavation area.

Picture showing excavation backfilled and rough graded.

Expray testing building piping to verify no explosives present. Expray results are negative.

PIKA INTERNAL SITE QUALITY CONTROL INSPECTION

SITE LOCATION MPPEH **PROJECT NUMBER** 08-04-176

DATE INSPECTED 01 Oct 09 **INSPECTOR'S NAME** Sue Boles

PIKA ON SITE REP. Lew Kovarik

#	ITEM INSPECTED	YES	NO	N/A
1.	Is Spill Kit available and fully stocked?	X		
2.	Are all waste containers properly stored and labeled?			X
3.	Have all assigned employees had HAZWOPER training?	X		
4.	Is at least one on site employee trained in First Aid?	X		
5.	Have all on site employees documented that they have read the RVAAP Facility Wide Safety and Health Plan?	X		
6.	Have all on site employees documented that they read the Site Specific Health and Safety Plan?	X		
7.	Have all employees documented that they have read the Site Specific Work Plan?	X		
8.	Are route maps to the local hospital posted in the office trailer?	X		
9.	Can each on site employee explain how to obtain emergency services?	X		
10.	Have all on site employees been briefed on what types of ordnance that might be found on site and what to do if found?	X		
11.	Are adequate communications available on site and are they tested daily?	X		
12.	Are daily tail gate safety meetings conducted and properly documented?	X		
13.	Have all on site employees been issued all required PPE and properly trained in its proper use, cleaning and storage?	X		
14.	Have all assigned employees documented that they have read the Facility Wide Sampling Plan?	X		
15.	Have all assigned employees documented that they have read the Site Specific Sampling Plan?	X		
16.	Are all of the required meters/instruments on site and are back ups available?			X
17.	Are appropriate erosion control measures in place?			X
18.	Are dust control measures being implemented			X
19.	Are copies of the Work Plan and SSHP available in site trailer?	X		
20	Are all required on site signs properly posted?	X		

PROJECT SCHEDULE
DISPOSAL OF MD & MC, DEMO OF LAUNDRY FLAME PROOFING BUILDING & EVALUATION OF RVAAP CLEAN HARD FILL SITES

ID	Task Name	Duration	Start	Finish	Predecessors
1	**Disposal of MD & MC, Demo of Laundry Flame Proofing Bldg & Eval of RVAAP CHF Areas**	**240 days**	**Mon 11/17/08**	**Thu 10/15/09**	
2	Draft Work Plans	50 days	Mon 11/17/08	Fri 1/23/09	
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7	MEC inspection ESS and Amendment 4 to RVAAP Demo ESS	26 days	Mon 12/29/08	Mon 5/4/09	
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9	Mobilization and site setup	5 days	Mon 8/24/09	Fri 8/28/09	6,7
10	Inspection and Sorting of MPPEH	30 days	Mon 8/31/09	Thu 10/8/09	9
11	Disposal of MD (off-site recycling)	5 days	Fri 10/9/09	Thu 10/15/09	10
12	**Demolition of Laundry Flame Proofing Building**	**16 days**	**Mon 9/21/09**	**Fri 10/9/09**	
13	Bldg Hazard Assessments and Paint Sampling	2 days	Mon 9/21/09	Tue 9/22/09	
14	Asbestos removal	3 days	Wed 9/23/09	Fri 9/25/09	13
15	Demolition and removal of Laundry Flame Proofing bldg	7 days	Sun 9/27/09	Mon 10/5/09	14
16	Site Restoration	4 days	Tue 10/6/09	Fri 10/9/09	15
17	**Evaluation of RVAAP CHF areas**	**48 days**	**Wed 8/12/09**	**Thu 10/15/09**	
18	Site visits and reg review	19 days	Wed 8/12/09	Thu 10/15/09	6
19	**Construction Completion Report**	**72 days**	**Fri 10/16/09**	**Mon 1/25/10**	
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21	Army Review of Draft Report	20 days	Tue 11/17/09	Mon 12/14/09	20
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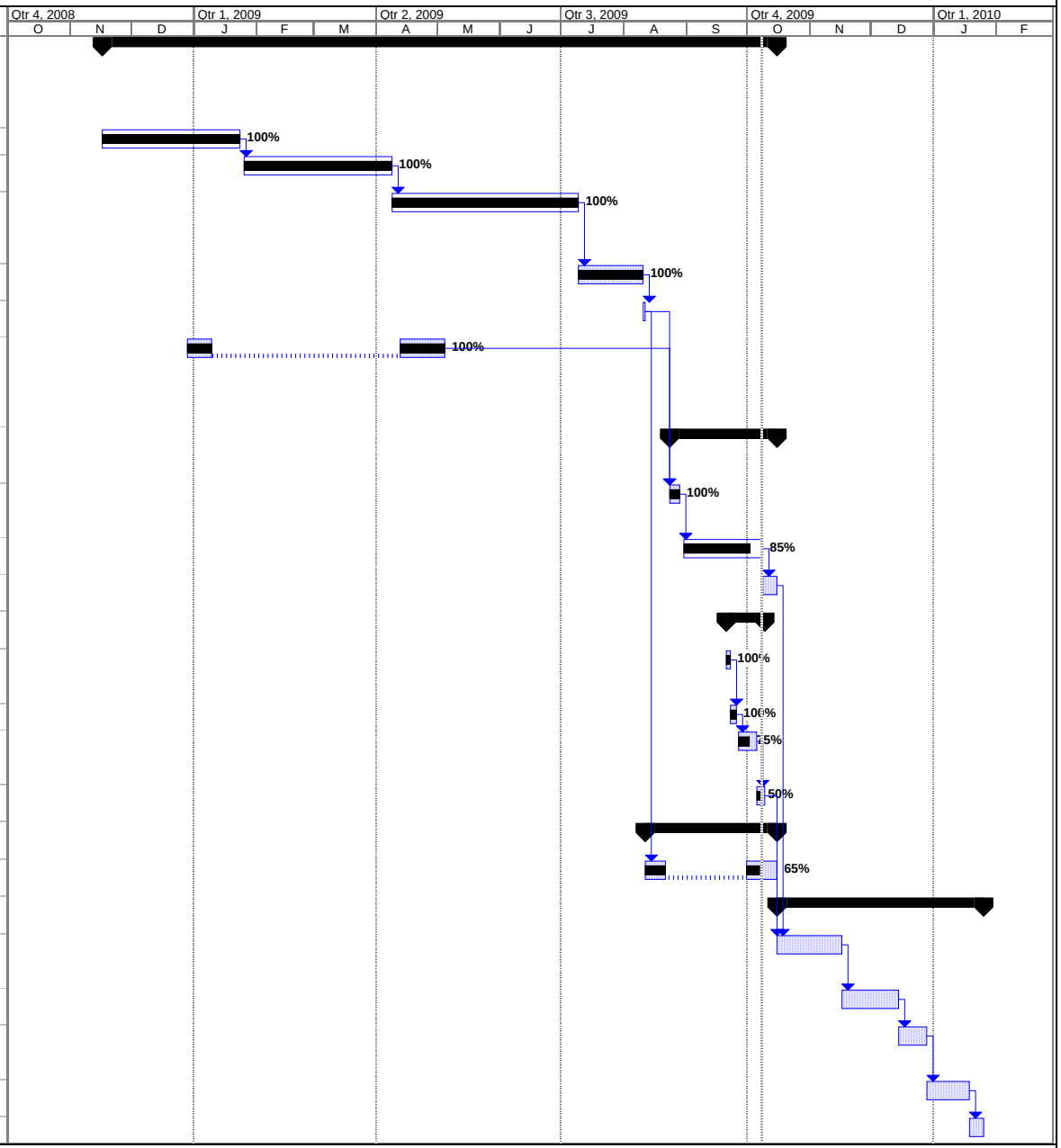

Project: MPPEH Inspection, Bldg Dem & Evaluation of CHF Sites
Date: Thu 10/8/09

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

WEEKLY REPORT

Prime Contract No:	W52H09-08-C-5015		**Report No.**	6
PIKA Project #:	08-04-176		**Date:**	10-5-09 to 10-9-09
Project:	Disposal of Discarded MD and MC, Demo. Of Laundry Flame Proofing Bldg & Evaluation and Recommendations for Closure of Clean Hard Fill Sites, Ravenna Army Ammunition Plant, Ravenna, Ohio			

Summary of Activities

- Completed inspection and categorization of remaining MPPEH items.
- Completed restoration of Laundry Flame Proofing Building area.
- Loaded out demolition debris from Laundry Flame Proofing Building.

Others:

- Conducted daily safety briefings.

Remarks (include directions received from client's representative or regulators, visitors, compliance notices received, pertinent information) Visitors: Mark Patterson – RVAAP Facility Manager and Christy Esler – VISTA Technologies, & Eileen Mohr – Ohio EPA.

Work Completed:

	This Week	Cumulative to-date
Mobilization	-	100%
Inspection and Sorting of MPPEH	15%	100%
Disposal of MD	-	-
Demolition of Laundry Flame Proofing Bldg and Site Restoration	-	100%
Demo debris load out and Site Restoration at Laundry Flame Proofing Building	55%	100%
Evaluation of RVAAP Clean Hard Fill Sites	-	65%
Demobilization	-	-

Health and Safety-

Conducted health and safety meetings and task order meetings every morning, prior to commencement of daily activities.

Were there any lost time accidents this week? No [x] Yes [ ].

If "yes", refer attached summary of incident or OSHA report.

Quality Control

Inspections Performed	Non-Conformances	Corrective Action (CA)	Follow-up on CA
Internal site inspection	None	NA	Not Applicable
Final Inspection of ECM 7-C-2, 7-C-3, 7-C-4 and 1501 by RVAAP Facility Manager	None	NA	NA

Major Problems and Resolution: None.

Schedule for Next Week

- Load out Material Documented as Safe (MDAS) for off-site recycling.

Refer attached **Schedule** for percentage of work completed and projected completion dates.

SUXOS	Mel Lau	Site Safety Officer	Lew Kovarik
Project Manager	Brian Stockwell		

Photo Log

Pictures showing a total of 10 Gaylord boxes containing 155 tracer elements categorized as Material Documented as an Explosive Hazard (MDEH). The material is staged in ECM 7-C-3 and will require thermal flashing for "Safe" certification under separate contract.

Pictures showing one (total) ammunition box containing various fuzes, projectiles, igniters and booster cups categorized as MDEH. The material is also staged in ECM 7-C-3 and will require thermal flashing for "Safe" certification under separate contract.

Picture showing all Material Documented as Safe (MDAS). Material is staged in a lockable rolloff container for transport to off-site smelter for recycling.

Pictures showing one (total) Gaylord box of 105 mm cartridge casings and 9 total ammunition boxes containing various projectiles and fuzes categorized as Munitions and Explosives of Concern (MEC). These items are staged in ECM 7-C-4 and will require explosive venting under separate contract.

Loading out demolition debris from Laundry Flame Proofing Building.

Picture showing Laundry Flame Proofing Building area following removal of demolition debris and final grading, seeding and mulching.

PIKA INTERNAL SITE QUALITY CONTROL INSPECTION

SITE LOCATION MPPEH **PROJECT NUMBER** 08-04-176

DATE INSPECTED 08 Oct 09 **INSPECTOR'S NAME** Sue Bales

PIKA ON SITE REP. Mel Law

#	ITEM INSPECTED	YES	NO	N/A
1.	Is Spill Kit available and fully stocked?	X		
2.	Are all waste containers properly stored and labeled?			X
3.	Have all assigned employees had HAZWOPER training?	X		
4.	Is at least one on site employee trained in First Aid?	X		
5.	Have all on site employees documented that they have read the RVAAP Facility Wide Safety and Health Plan?	X		
6.	Have all on site employees documented that they read the Site Specific Health and Safety Plan?	X		
7.	Have all employees documented that they have read the Site Specific Work Plan?	X		
8.	Are route maps to the local hospital posted in the office trailer?	X		
9.	Can each on site employee explain how to obtain emergency services?	X		
10.	Have all on site employees been briefed on what types of ordnance that might be found on site and what to do if found?	X		
11.	Are adequate communications available on site and are they tested daily?	X		
12.	Are daily tail gate safety meetings conducted and properly documented?	X		
13.	Have all on site employees been issued all required PPE and properly trained in its proper use, cleaning and storage?	X		
14.	Have all assigned employees documented that they have read the Facility Wide Sampling Plan?	X		
15.	Have all assigned employees documented that they have read the Site Specific Sampling Plan?	X		
16.	Are all of the required meters/instruments on site and are back ups available?			X
17.	Are appropriate erosion control measures in place?			X
18.	Are dust control measures being implemented			X
19.	Are copies of the Work Plan and SSHP available in site trailer?	X		
20	Are all required on site signs properly posted?	X		

PROJECT SCHEDULE
DISPOSAL OF MD & MC, DEMO OF LAUNDRY FLAME PROOFING BUILDING & EVALUATION OF RVAAP CLEAN HARD FILL SITES

ID	Task Name	Duration	Start	Finish	Predecessors
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11	Disposal of MD (off-site recycling)	5 days	Fri 10/9/09	Thu 10/15/09	10
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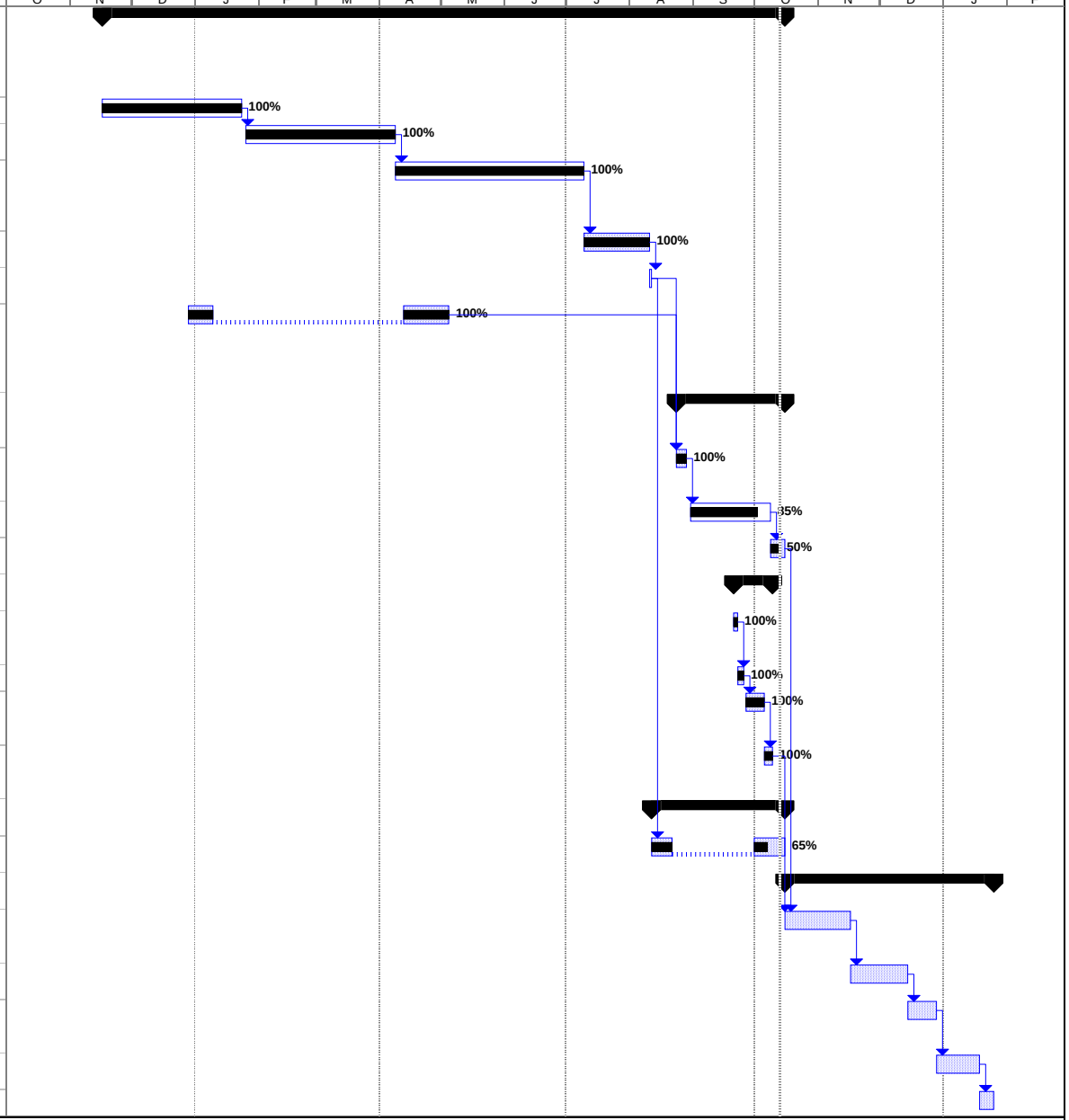
23	Army Review of Final Report	15 days	Tue 12/29/09	Mon 1/18/10	22
24	Submit Final Report	5 days	Tue 1/19/10	Mon 1/25/10	23



Project: MPPEH Inspection, Bldg Dem & Evaluation of CHF Sites
Date: Tue 10/13/09

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

WEEKLY REPORT

Prime Contract No:	W52H09-08-C-5015		**Report No.**	7
PIKA Project #:	08-04-176		**Date:**	10-12-09 to 10-16-09
Project:	Disposal of Discarded MD and MC, Demo. Of Laundry Flame Proofing Bldg & Evaluation and Recommendations for Closure of Clean Hard Fill Sites, Ravenna Army Ammunition Plant, Ravenna, Ohio			

Summary of Activities

- Transported Material Documented as Safe (MDAS) to smelter for off site recycling as scrap.
- Copies of the Bill of Lading, 1348 Form, PIKA Chain of Custody and Certificate of Disposal Letter are attached to this report.

Others:

- Conducted daily safety briefings.

Remarks (include directions received from client's representative or regulators, visitors, compliance notices received, pertinent information) Visitors: None.

Work Completed:

	This Week	Cumulative to-date
Mobilization	-	100%
Inspection and Sorting of MPPEH	-	100%
Disposal of MD	100%	100%
Demolition of Laundry Flame Proofing Bldg and Site Restoration	-	100%
Demo debris load out and Site Restoration at Laundry Flame Proofing Building	-	100%
Evaluation of RVAAP Clean Hard Fill Sites	10%	75%
Demobilization	-	-

Health and Safety-

Conducted health and safety meetings and task order meetings every morning, prior to commencement of daily activities.

Were there any lost time accidents this week? No [x] Yes [ ].

If "yes", refer attached summary of incident or OSHA report.

Quality Control

Inspections Performed	Non-Conformances	Corrective Action (CA)	Follow-up on CA
None	None	NA	Not Applicable

Major Problems and Resolution: None.

Schedule for Next Week

- Initiate preparation of Project Completion Report.

Refer attached **Schedule** for percentage of work completed and projected completion dates.

SUXOS	Mel Lau	Site Safety Officer	Lew Kovarik
Project Manager	Brian Stockwell		

STRAIGHT BILL OF LADING – ORIGINAL – NOT NEGOTIABLE

Shipper's No. MPPEH INSP-001

Carrier Dart Trucking SCAC ____ Carrier's No. ____

RECEIVED, subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications and rules that have been established by the carrier and are available to the shipper, on request; and all applicable state and federal regulations;

at Ravenna AAP, date 10/15/09 from Ravenna AAP

the Property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to delivery at said destination, if on its route, or otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said Property over all or any portion of said route to destination and as to each party at any time interested in all or any of said Property that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on the back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO:	FROM:
Consignee: Belson Steel Center	Shipper: Ravenna AAP / PIKA Inc.
Street: 2685 North Rte 50	Street: 8451 St. Rte 5
Destination: Bourbonnais Zip 60914	Origin: Ravenna, OH Zip 44266

Route

Delivering Carrier | Vehicle Number | U.S. DOT Hazmat Reg. Number

Number and Type of Packages	HM	I.D. Number	Description of Articles	Hazard Class	Pkg. Grp.	Total Quantity (mass, volume, or activity)	Weight (subject to correction)	Class or Rate
1 Rolloff	N		Munition Debris			20CY		

Rec 10/15/09 Belson Steel Center Acceptance [signature]

Remit COD to:
Address:
City: State: Zip:

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

COD AMT: $

COD FEE: Prepaid ☐ Collect ☐ $

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding $ Per

TOTAL CHARGES: $

FREIGHT CHARGES: ☐ Prepaid ☐ Collect

NOTE: Liability Limitation for loss or damage in this shipment may be applicable. See 49 U.S.C. 14706(c)(1)(A) and (B).

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Per

PLACARDS REQUIRED

PLACARDS SUPPLIED ☐ BY SHIPPER ☐ BY CARRIER

DRIVER'S SIGNATURE:

SHIPPER: PIKA
PER: [signature] DATE: 10/15/09

CARRIER: Wayne Chiles
PER: Dart DATE: 10-15-09

EMERGENCY RESPONSE TELEPHONE NUMBER: ( )

Monitored at all times the Hazardous Material is in transportation including storage incidental to transportation (172.604).

9-BLS-B4 434 (Rev. 1/07)

PIKA
INTERNATIONAL, INC.

Level of Contamination: 5X

DATE: 10/15/09 TRUCK / CONTAINER NO. 220394

SHIPMENT NO. MPPEH INSP-001

ITEM DESCRIPTION: MUNITIONS DEBRIS

Source: Atlas Scrap Yard, Loadline 1, and Winklepeck Burning Grounds, Ravenna AAP, Ravenna, Oh 44266

According to the U.S. Army Pamphlet Industrial Operations Command (IOCP 385-1), the 5X level of contamination exists "when no significant amounts (not enough to present explosive safety hazard) of contaminants remain. The article, equipment, or building does not pose an explosive safety hazard and is safe for welding, drilling, sawing, etc., and sale to general public." The item(s) identified by Truck and Shipment No. above have been sampled and inspected by the site PIKA International, Inc. (PIKA) Unexploded Ordnance (UXO) Quality Assurance (QA) Specialist to ensure no explosive safety hazard exists. Therefore, to the best of our knowledge, the condition of the items identified above by Truck and Shipment No. are 5X.

Mel Lau
Senior UXO Supervisor
PIKA International, Inc.

Lew Kovarik
UXO Quality Assurance Specialist
PIKA International, Inc.

12723 Capricorn Dr., Suite 500 | Stafford, TX 77477 | 281-340-5525 tel | 281-340-5533 fax
www.pikainc.com

DD FORM 1348-1A, JUL 91 ISSUE RELEASE/RECEIPT DOCUMENT

PREVIOUS EDITION MAY BE USED

1 2 3	4 5 6	7	8–22	23 24	25–29	30–44	45	46–50	51	52 53	54–56	57–59	60	61 62	63 64	65 66	67–69	70	71	72 73	74–80
DOC IDENT	RI FROM	M & S		UNIT ISS	QUANTITY		SER	SUPPLEMENTARY ADDRESS	SIG	FUND	DISTRIBUTION	PROJECT	PRI	REQD DEL	DATE	ADV	RI	O/P	COND	MGT	UNIT PRICE (DOLLARS / CTS)

1. TOTAL PRICE (DOLLARS / CTS):

2. SHIP FROM:
PIKA International
Ravenna AAP
Ravenna, Oh 44266

3. SHIP TO:
Belson Steel
2685 N. Route 50
Bourbonnais, IL
60914

4. MARK FOR:

24. DOCUMENT NUMBER & SUFFIX (30-44):

25. NATIONAL STOCK NO. & ADD (8-22):

26. RIC (4-6) UI (23-24) QTY (25-29) CON CODE (71) DIST (55-56) UP (74-80):

5. DOC DATE	6. NMFC	7. FRT RATE	8. TYPE CARGO	9. PS

10. QTY. REC'D	11. UP	12. UNIT WEIGHT	13. UNIT CUBE	14. UFC	15. SL

16. FREIGHT CLASSIFICATION NOMENCLATURE:

17. ITEM NOMENCLATURE: Scrap Steel

18. TY CONT	19. NO CONT	20. TOTAL WEIGHT	21. TOTAL CUBE
			20 cu yds

22. RECEIVED BY: [signature] 10/15/09
MARC POZAN

23. DATE RECEIVED:

27. ADDITIONAL DATA

" This certifies and verifies that the Material Potentially Presenting an Explosive Hazard (MPPEH), Munition Debris (MD), and/or Explosive Contaminated Property listed has been 100 percent properly inspected and, to the best of our knowledge and belief, are free of explosive hazards."

[signature]
Mel Lau, SUXOS
PIKA International, Inc
Ravenna AAP Ravenna, Oh
(330)352-9887

[signature]
Lew Kovarik, UXOQCS
PIKA International, Inc.
Ravenna AAP, Ravenna, Oh
(330)352-5305

MPPEH/RANGE RESIDUE INSPECTION, CERTIFICATION, AND CHAIN OF CUSTODY FORM

Project Location: 7-C-1, Ravenna AAP, Ravenna, Oh 44266		Contract No:		DO No:	Page 1 of 1
Line	Description	Source (e.g., Grid or Range	Container/Serial Number	Container Type	Unit Wt.
1	MUNITIONS DEBRIS	Winklepeck Burning Grounds, Atlas Scrap Yard and Loadline 1	220394	20 cu yd	
2					
3					
4					
5					

Inspector's certification: Senior Unexploded Ordnance Supervisor		
Printed/typed name: Mel Lau	Signature: Mel Lau	Date: 10-15-09
Verifier certification: Unexploded Ordnance Safety/QA/QC Officer		
Printed/typed name: Lew Kovarik	Signature: Lew Kovarik	Date: 10-15-09

Transporter(s)	Transporter 1 acknowledgment of receipt of materials properly sealed/secured.		
	Printed/typed name: Wayne CHILTON	Signature: Wayne Chilton	Date: 10-15-09
	Transporter 2 acknowledgment of receipt of materials properly sealed/secured.		
	Printed/typed name:	Signature:	Date:
Final Disposition	Facility owner or operator: Certification of receipt of AEDA/Range Residue materials, except as noted above. Acknowledgment of receipt of materials properly sealed/secured.		
	Printed/typed name: Marc Lozano 10/15/09	Signature:	Date: 10-15-09

Belson Steel Center Scrap, Inc.

1685 N. Route 50
Bourbonnais, Illinois 60914
Phone (815) 932-7416
Fax (815) 932-7436

October 16, 2009

PIKA International Inc.
Lew Kovarik
VIA FACSIMILE
330-358-2924

To Whom It May Concern:

Belson Steel Center Scrap, Inc received 13,120 lbs of munitions scrap on 10/15/09. All material was processed beyond re-use, delivered to Nucor Steel, Bourbonnais, IL and melted in an electric arc furnace.

Regards,

Dave Dillon
Vice-President of Sales
Belson Steel Center Scrap, Inc.

Cc: Marc Pozan (globalstel@aol.com)
Don Emilian (demilian@mac.com)

APPENDIX D

MDAS Disposal Records

STRAIGHT BILL OF LADING – ORIGINAL – NOT NEGOTIABLE

Shipper's No. MPPEH INSP-001

Carrier Dart Trucking SCAC ________ Carrier's No. ________

RECEIVED, subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications and rules that have been established by the carrier and are available to the shipper, on request; and all applicable state and federal regulations;

at Ravenna AAP, date 10/15/09 from Ravenna AAP

the Property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to delivery at said destination, if on its route, or otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said Property over all or any portion of said route to destination and as to each party at any time interested in all or any of said Property that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on the back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO:	FROM:
Consignee: Belson Steel Center	Shipper: Ravenna AAP / PIKA Inc.
Street: 2685 North Rte 50	Street: 8451 St. Rte 5
Destination: Bourbonnais Zip 60914	Origin: Ravenna, OH Zip 44266

Route

Delivering Carrier | Vehicle Number | U.S. DOT Hazmat Reg. Number

Number and Type of Packages	HM	I.D. Number	Description of Articles	Hazard Class	Pkg. Grp.	Total Quantity (mass, volume, or activity)	Weight (subject to correction)	Class or Rate
1 Rolloff	N		Munition Debris			20 CY		

Rec 10/15/09 Belson Steel Center Scrap (signature)

Remit COD to:
Address:
City: State: Zip:

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

COD AMT: $

COD FEE: Prepaid ☐ Collect ☐ $

TOTAL CHARGES: $

FREIGHT CHARGES: ☐ Prepaid ☐ Collect

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding $ Per

NOTE: Liability Limitation for loss or damage in this shipment may be applicable. See 49 U.S.C. 14706(c)(1)(A) and (B).

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Per

PLACARDS REQUIRED

PLACARDS SUPPLIED ☐ BY SHIPPER ☐ BY CARRIER

DRIVER'S SIGNATURE:

SHIPPER: PIKA
PER: (signature) DATE: 10/15/09

CARRIER: Wayne Chiles (signature)
PER: Dart DATE: 10-15-09

EMERGENCY RESPONSE TELEPHONE NUMBER: ( )

Monitored at all times the Hazardous Material is in transportation including storage incidental to transportation (172.604).

9-BLS-B4 434 (Rev. 1/07)

PIKA
INTERNATIONAL, INC.

Level of Contamination: 5X

DATE: 10/15/09 TRUCK / CONTAINER NO. 220394

SHIPMENT NO. MPPEH INSP-001

ITEM DESCRIPTION: MUNITIONS DEBRIS

Source: Atlas Scrap Yard, Loadline 1, and Winklepeck Burning Grounds, Ravenna AAP, Ravenna, Oh 44266

According to the U.S. Army Pamphlet Industrial Operations Command (IOCP 385-1), the 5X level of contamination exists "when no significant amounts (not enough to present explosive safety hazard) of contaminants remain. The article, equipment, or building does not pose an explosive safety hazard and is safe for welding, drilling, sawing, etc., and sale to general public." The item(s) identified by Truck and Shipment No. above have been sampled and inspected by the site PIKA International, Inc. (PIKA) Unexploded Ordnance (UXO) Quality Assurance (QA) Specialist to ensure no explosive safety hazard exists. Therefore, to the best of our knowledge, the condition of the items identified above by Truck and Shipment No. are 5X.

Mel Lau
Senior UXO Supervisor
PIKA International, Inc.

Lew Kovarik
UXO Quality Assurance Specialist
PIKA International, Inc.

12723 Capricorn Dr., Suite 500 | Stafford, TX 77477 | 281-340-5525 tel | 281-340-5533 fax
www.pikainc.com

1. TOTAL PRICE	2. SHIP FROM	3. SHIP TO
	PIKA International Ravenna AAP Ravenna, Oh 44266	Belson Steel 2685 N. Route 50 Bourbonnais, IL 60914

4. MARK FOR

5. DOC DATE | 6. NMFC | 7. FRT RATE | 8. TYPE CARGO | 9. PS

10. QTY. REC'D | 11. UP | 12. UNIT WEIGHT | 13. UNIT CUBE | 14. UFC | 15. SL

16. FREIGHT CLASSIFICATION NOMENCLATURE

17. ITEM NOMENCLATURE
Scrap Steel

18. TY CONT | 19. NO CONT | 20. TOTAL WEIGHT | 21. TOTAL CUBE: 20 cu yds

22. RECEIVED BY: [signature] 10/15/09
MARC POZAN

23. DATE RECEIVED

24. DOCUMENT NUMBER & SUFFIX (30-44)

25. NATIONAL STOCK NO. & ADD (8-22)

26. RIC (4-6) UI (23-24) QTY (25-29) CON CODE (71) DIST (55-56) UP (74-80)

27. ADDITIONAL DATA

"This certifies and verifies that the Material Potentially Presenting an Explosive Hazard (MPPEH), Munition Debris (MD), and/or Explosive Contaminated Property listed has been 100 percent properly inspected and, to the best of our knowledge and belief, are free of explosive hazards."

[signature]
Mel Lau, SUXOS
PIKA International, Inc
Ravenna AAP Ravenna, Oh
(330)352-9887

[signature]
Lew Kovarik, UXOQCS
PIKA International, Inc.
Ravenna AAP, Ravenna, Oh
(330)352-5305

DD FORM 1348-1A, JUL 91 ISSUE RELEASE/RECEIPT DOCUMENT

PREVIOUS EDITION MAY BE USED

MPPEH/RANGE RESIDUE INSPECTION, CERTIFICATION, AND CHAIN OF CUSTODY FORM

Project Location: 7-C-1, Ravenna AAP, Ravenna, Oh 44266		Contract No:		DO No:	Page 1 of 1
Line	Description	Source (e.g., Grid or Range	Container/Serial Number	Container Type	Unit Wt.
1	MUNITIONS DEBRIS	Winklepeck Burning Grounds, Atlas Scrap Yard and Loadline 1	220394	20 cu yd	
2					
3					
4					
5					

Inspector's certification: Senior Unexploded Ordnance Supervisor		
Printed/typed name: Mel Lau	Signature: Mel Lau	Date: 10-15-09
Verifier certification: Unexploded Ordnance Safety/QA/QC Officer		
Printed/typed name: Lew Kovarik	Signature: Lew Kovarik	Date: 10-15-09

Transporter(s)	Transporter 1 acknowledgment of receipt of materials properly sealed/secured.		
	Printed/typed name: Wayne CHILTON	Signature: Wayne Chilton	Date: 10-15-09
	Transporter 2 acknowledgment of receipt of materials properly sealed/secured.		
	Printed/typed name:	Signature:	Date:
Final Disposition	Facility owner or operator: Certification of receipt of AEDA/Range Residue materials, except as noted above. Acknowledgment of receipt of materials properly sealed/secured.		
	Printed/typed name: Marc Lozano 10/15/09	Signature:	Date: 10-15-09

Belson Steel Center Scrap, Inc.

1685 N. Route 50
Bourbonnais, Illinois 60914
Phone (815) 932-7416
Fax (815) 932-7436

October 16, 2009

PIKA International Inc.
Lew Kovarik
VIA FACSIMILE
330-358-2924

To Whom It May Concern:

Belson Steel Center Scrap, Inc received 13,120 lbs of munitions scrap on 10/15/09. All material was processed beyond re-use, delivered to Nucor Steel, Bourbonnais, IL and melted in an electric arc furnace.

Regards,

Dave Dillon
Vice-President of Sales
Belson Steel Center Scrap, Inc.

Cc: Marc Pozan (globalstel@aol.com)
Don Emilian (demilian@mac.com)

APPENDIX E

Magazine Data Cards

1. DODIC	2. NSN	3. LOT NO. MPPEH INSP MEC Awaiting Flashing	4. LOCATION 7-C-3	B.	D. Address 8451 ST RT 5 Ravenna Oh
5. DESCRIPTION MEC Awaiting Flashing Box 1			A. Hazard Class 1.1	C.	E.

6 DATE	7 DOCUMENT NO.	8 ACTION/PURPOSE	9. QUANTITY A. GAIN	B. LOSS	10 BALANCE	11 PRINTED NAME
9/2/09	75mm APHE	Received	4	Ø	4	Lew Kovarik
9/2/09	75mm HE (Tracer)	Received	4	Ø	4	Lew Kovarik
9/2/09	B.D. Fuzes	Received	2	Ø	2	Lew Kovarik
9/2/09	20mm T.P.	Received	1	Ø	1	Lew Kovarik
9/2/09	Fuze Booster Cups	Received	2	Ø	2	Lew Kovarik
9/2/09	Cartridge Ignitor	Received	2	Ø	2	Lew Kovarik
9/2/09	P.D Fuzes	Received	7	Ø	7	Lew Kovarik
9/3/09		Inventory	—	—	checked	Lew Kovarik
9/11/09		Inventory	—	—	checked	[signature]
9-17-09		Inventory	—	—	checked	[signature]
9-24-09		Inventory	—	—	checked	[signature]
10-01-09		Inventory	—	—	checked	[signature]
10-08-09		Inventory	—	—	checked	[signature]
10-08-09	Items	Transferred to	Mark Patterson			[signature]

DA FORM 3020-R, AUG 89

MAGAZINE DATA CARD

1. DODIC	2. NSN	3. LOT NO. MPPEH Inspection Mech Awaiting Flashing		4. LOCATION 7-C-3	B.	D. Address 8451 SR 5 Ravenna OH
5. DESCRIPTION Box A Tracer Element for 152 mm proj				A. Hazard Class	C.	E.
6 DATE	7 DOCUMENT NO.	8 ACTION/PURPOSE	9. QUANTITY A. GAIN	B. LOSS	10 BALANCE	11 PRINTED NAME
9-9-09		Received	3000		3000	Mech Ta
9-11-09		Inventory	—	—	checked	Mech Ta
9-17-09		Inventory	—	—	checked	Mech Ta
9-24-09		Inventory	—	—	checked	Mech Ta
10-01-09		Inventory	—	—	checked	Mech Ta
10-08-09		Inventory	—	—	checked	Mech Ta
10-08-09	Items	Transferred To	Mark	Pat Horse		Mark Patt

DA FORM 3020-R, AUG 89

MAGAZINE DATA CARD

1. DODIC	2. NSN	3. LOT NO. MPPEH Inspection Mech Awaiting Flashing	4. LOCATION	B.	D. Address 8451 St Rt 5 Ravenna, Ohio
			7C-3		
5. DESCRIPTION Box B Tracer Element For 152mm prog			A. Hazard Class 1.4	C.	E.

6	7	8	9. QUANTITY		10	11
DATE	DOCUMENT NO.	ACTION/PURPOSE	A. GAIN	B. LOSS	BALANCE	PRINTED NAME
9-10-09		Received	3000		3000	Mark Patterson
9-11-09		Inventory	—	—	checked	Mark Patterson
9-17-09		Inventory	—	—	checked	Mark Patterson
9-24-09		Inventory	—	—	checked	Mark Patterson
10-01-09		Inventory	—	—	checked	Mark Patterson
10-08-09		Inventory	—	—	checked	Mark Patterson
10-08-09	Items Transferred TO		Mark	Patterson		Mark Patterson

DA FORM 3020-R, AUG 89

MAGAZINE DATA CARD

1. DODIC	2. NSN	3. LOT NO. MPPEH Inspection Mec Auditing Flashing	4. LOCATION 7-C-3	B.	D. Address 8451 SR 75 Ravenna OH
5. DESCRIPTION Box C Tracer Element For 152mm Projo			A. Hazard Class 1.4	C.	E.

6	7	8	9. QUANTITY		10	11
DATE	DOCUMENT NO.	ACTION/PURPOSE	A. GAIN	B. LOSS	BALANCE	PRINTED NAME
9-11-09		Received	3000	—	3000	Mark Patterson
9-17-09		Inventory	—	—	Checked	Mark Patterson
9-24-09		Inventory	—	—	checked	Mark Patterson
10-01-09		Inventory	—	—	checked	Mark Patterson
10-08-09		Inventory	—	—	checked	Mark Patterson
10-08-09	Items	Transferred To	Mark	Patterson		Mark Patterson

DA FORM 3020-R, AUG 89

MAGAZINE DATA CARD

1. DODIC	2. NSN	3. LOT NO. Mflett Inspection Mec Awaiting Flashing	4. LOCATION 7-C-3	B.	D. Address 8451 57 RTS Ravanna Ohio
5. DESCRIPTION Box D Tracer Elomat For 152mm Proj			A. Hazard Class 1.4	C.	E.

6 DATE	7 DOCUMENT NO.	8 ACTION/PURPOSE	9. QUANTITY A. GAIN	9. QUANTITY B. LOSS	10 BALANCE	11 PRINTED NAME
9-15-09		Received	3000	—	3000	Mark Fa
9-17-09		Inventory	—	—	Checked	Mark Fa
9-24-09		Inventory	—	—	checked	Mark Fa
10-01-09		Inventory	—	—	Checked	Mark Fa
10-08-09		Inventory	—	—	checked	Mark Fa
10-08-09	2 Items	Transferred	To Mark	Patterson		Mark Patterson

DA FORM 3020-R, AUG 89

MAGAZINE DATA CARD

1. DODIC	2. NSN	3. LOT NO. MPPEH Inspection Mec Awaiting Flashing	4. LOCATION 7-C-3	B.	D. Address 8451 SR 5 Ravenna Oh.
5. DESCRIPTION Box E Tracer Element For 152mm Proj			A. Hazard Class 1.4	C.	E.

6 DATE	7 DOCUMENT NO.	8 ACTION/PURPOSE	9. QUANTITY A. GAIN	B. LOSS	10 BALANCE	11 PRINTED NAME
9-16-09		Received	3000	—	3000	[signature]
9-17-09		Inventory	—	—	Checked	[signature]
9-24-09		Inventory	—	—	Checked	[signature]
10-01-09		Inventory	—	—	Checked	[signature]
10-08-09		Inventory	—	—	Checked	[signature]
10-08-09	Items	Transferred To	Mark	Patterson		[signature]

DA FORM 3020-R, AUG 89

MAGAZINE DATA CARD

1. DODIC	2. NSN	3. LOT NO. MPEH Inspection Mec Awaiting Flashing	4. LOCATION 7-C-3	B.	D. Address 8467 ST RT 5 Ravenna
5. DESCRIPTION Box F Tracer Element For 152mm Proj			A. Hazard Class 1.4	C.	E.

6	7	8	9. QUANTITY		10	11
DATE	DOCUMENT NO.	ACTION/PURPOSE	A. GAIN	B. LOSS	BALANCE	PRINTED NAME
9-17-09		Received	3000	-	3000	
9-24-09		Inventory	-	-	checked	
10-01-09		Inventory	-	-	Checked	
10-08-09		Inventory	-	-	checked	
10-08-09	Items	Transferred To	Mark	Patterson		

DA FORM 3020-R, AUG 89

MAGAZINE DATA CARD

1. DODIC	2. NSN	3. LOT NO. MPPEP Inspection	4. LOCATION	B.	D. Address 8451 57 AVE
		Mec Awaiting Flashing	7-C-3		RAVENNA

5. DESCRIPTION		A. Hazard Class	C.	E.
Box G Tracer Element For 152mm Proj		1.4		

6	7	8	9. QUANTITY		10	11
DATE	DOCUMENT NO.	ACTION/PURPOSE	A. GAIN	B. LOSS	BALANCE	PRINTED NAME
9-21-09		Received	3000	—	3000	Mark Z
9-24-09		Inventory	—	—	checked	Mark Z
10-01-09		Inventory	—	—	checked	Mark Z
10-08-09		Inventory	—	—	checked	Mark Z
10-08-09	Items Transferred To		Mark	Patterson		Mark Patterson

DA FORM 3020-R, AUG 89

MAGAZINE DATA CARD

1. DODIC	2. NSN	3. LOT NO. MPPEH Inspection MEC-Awaiting Flashing	4. LOCATION 7-C-3	B.	D. Address 8451 67 RTS Raymond
5. DESCRIPTION Box H Tracer Flemay For 152mm proj			A. Hazard Class 1.4	C.	E.

6	7	8	9. QUANTITY		10	11
DATE	DOCUMENT NO.	ACTION/PURPOSE	A. GAIN	B. LOSS	BALANCE	PRINTED NAME
9-22-09		Received	3000	—	3000	Mark Z
9-24-09		Inventory	—	—	Checked	Mark Z
10-01-09		Inventory	—	—	Checked	Mark Z
10-08-09		Inventory	—	—	Checked	Mark Z
10-08-09	Items Transferred	To	Mark	Patterson		Mark Patterson

DA FORM 3020-R, AUG 89

MAGAZINE DATA CARD

1. DODIC	2. NSN	3. LOT NO. MPPER Inspection Mec Awaiting Flashing	4. LOCATION 7-C-3	B.	D. Address 8451 ST RTS Lavonia
5. DESCRIPTION Box I Tracer Element For 152 mm Proj			A. Hazard Class 1.4	C.	E.

6	7	8	9. QUANTITY		10	11
DATE	DOCUMENT NO.	ACTION/PURPOSE	A. GAIN	B. LOSS	BALANCE	PRINTED NAME
9-23-09		Received	3000	-	3000	[signature]
9-24-09		Inventory	-	-	Checked	[signature]
10-01-09		Inventory	-	-	Checked	[signature]
10-08-09		Inventory	-	-	Checked	[signature]
10-08-09	Items	Transferred To	Mack	Patterson		[signature]

DA FORM 3020-R, AUG 89

MAGAZINE DATA CARD

1. DODIC	2. NSN	3. LOT NO. MPPEH Inspection MEC Awaiting Flashing	4. LOCATION 7-C-3	B.	D. Address 8451 ST RT. RAVENNA OH
5. DESCRIPTION Box J Tracer Element For 152 mm proje			A. Hazard Class 1.4	C.	E.

6	7	8	9. QUANTITY		10	11
DATE	DOCUMENT NO.	ACTION/PURPOSE	A. GAIN	B. LOSS	BALANCE	PRINTED NAME
9-24-09		Received	1296	—	1296	[illegible]
10-01-09		Inventory	—	—	Checked	[illegible]
10-08-09		Inventory	—	—	Checked	[illegible]
10-08-09	Items Transferred TO	Mark	Patterson			Mark Patterson

DA FORM 3020-R, AUG 89

MAGAZINE DATA CARD

1. DODIC	2. NSN	3. LOT NO. MPPEH Inspection Mec Awaiting Flashing	4. LOCATION 7-C-3	B.	D. Address 8151 ST RT Ravenna, OH
5. DESCRIPTION Box K Mec Awaiting Flashing			A. Hazard Class 1.4	C.	E.

6	7	8	9. QUANTITY		10	11
DATE	DOCUMENT NO.	ACTION/PURPOSE	A. GAIN	B. LOSS	BALANCE	PRINTED NAME
10-06-09	MK 29 Mod 2	Received	16	0	16	Mel Lay
10-06-09	MK 10 Base Fuze	Received	63	0	63	Mel Lay
10-06-09	VT Fuses	Received	29	0	29	Mel Lay
10-06-09	Flash Tubes	Received	139	0	139	Mel Lay
10-08-09		Inventory	—	—	Checked	Mark K
10-08-09	Items Transferred To		Mark	Patterson		Mark Patterson

DA FORM 3020-R, AUG 89

MAGAZINE DATA CARD

1. DODIC	2. NSN	3. LOT NO. MPPEH INSP MEC AWAITING DISPOSAL	4. LOCATION 7-C-4	B.	D. Address
5. DESCRIPTION 105mm Cartridge CASINGS			A. Hazard Class 1.1	C.	E.

6	7	8	9. QUANTITY		10	11
DATE	DOCUMENT NO.	ACTION/PURPOSE	A. GAIN	B. LOSS	BALANCE	PRINTED NAME
8/31/09		From 7-C-3	50	—	50	Lew Kovarik
9/3/09		Inventory	—	—	50	Lew Kovarik
9/11/09		Inventory	—	—	50	[illegible]
9-17-09		Inventory	—	—	50	[illegible]
9-24-09		Inventory	—	—	50	[illegible]
10-01-09		Inventory	—	—	50	[illegible]
10-08-09		Inventory	—	—	50	[illegible]
10-08-09	4 Items Transferred To		Mark	Patterson		Mark Lake

DA FORM 3020-R, AUG 89

MAGAZINE DATA CARD

1. DODIC	2. NSN	3. LOT NO. MPPEH ITSP MEC Awaiting Disposal	4. LOCATION 7-C-4	B.	D. Address 8451 STAT 5 Ravenna, Oh
5. DESCRIPTION MEC Awaiting Disposal BOX 1			A. Hazard Class 1.1	C.	E.

6	7	8	9. QUANTITY		10	11
DATE	DOCUMENT NO.	ACTION/PURPOSE	A. GAIN	B. LOSS	BALANCE	PRINTED NAME
9/2/09	75mm APHE	Received	2	0	2	Lew Kovarik
9/2/09	40mm HE (Potus)	Received	1	0	1	Lew Kovarik
9/2/09	37MM HE	Received	1	0	1	Lew Kovarik
9/2/09	Bomb Fuzes	Received	4	0	4	Lew Kovarik
9/2/09	DASC Det Fuzes	Received	2	0	2	Lew Kovarik
9/2/09	P.D. Fuzes	Received	2	0	2	Lew Kovarik
9/3/09		Inventory	—	—	checked	Lew Kovarik
9/11/09		Inventory	—	—	Checked	Mark Patterson
9-17-09		Inventory	—	—	Checked	Mark Patterson
9-24-09		Inventory	—	—	checked	Mark Patterson
10-01-09		Inventory	—	—	Checked	Mark Patterson
10-08-09		Inventory	—	—	Checked	Mark Patterson
10-08-09	ITEMS	Transferred To	Mark	Patterson		Mark Patterson

DA FORM 3020-R, AUG 89

MAGAZINE DATA CARD

1. DODIC	2. NSN	3. LOT NO. Rocket Ridge MEC Awaiting Disposal	4. LOCATION 7-C-4	B.	D. Address 8451 St RT 5 RAVENNA, OH 44266
5. DESCRIPTION MEC Awaiting Disposal Box 1			A. Hazard Class 1.1	C.	E.

6	7	8	9. QUANTITY		10	11
DATE	DOCUMENT NO.	ACTION/PURPOSE	A. GAIN	B. LOSS	BALANCE	PRINTED NAME
9/4/09	75mm HE PROJO	Rocket Ridge	1	—	1	Lew Kovarik
8/4/09	90mm HE PROJO	Rocket Ridge	1	—	1	Lew Kovarik
8/4/09	75mm AP HE PROJ	Rocket Ridge	1	—	1	Lew Kovarik
8/4/09	37mm HE PROJO	Rocket Ridge	1	—	1	Lew Kovarik
8/4/09	20mm PROJO	Rocket Ridge	3	—	3	Lew Kovarik
8/6/09		Inventory	Ø	Ø	checked	Lew Kovarik
8/13/09		Inventory	Ø	Ø	checked	Lew Kovarik
8/20/09		Inventory	Ø	Ø	checked	Lew Kovarik
8/27/09		Inventory	Ø	Ø	checked	Lew Kovarik
9/3/09		Inventory	—	—	checked	Lew Kovarik
9/11/09		Inventory	—	—	checked	Mark Zo
9-17-09		Inventory	—	—	checked	Mark Zo
9-24-09		Inventory	—	—	checked	Mark Zo
10-01-09		Inventory	—	—	checked	Mark Zo
10-08-09		Inventory	—	—	checked	Mark Zo
10-08-09	Items	Transferred To	MARK	Pt Harson		Mark Zo

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MAGAZINE DATA CARD

1. DODIC	2. NSN	3. LOT NO. Rocket Ridge MEC Awaiting Disposal	4. LOCATION 7-C-4	B.	D. Address 8451 ST RT 5 Ravenna, OH 44266
5. DESCRIPTION MEC Awaiting Disposal Box 2			A. Hazard Class 1.3	C.	E.

6	7	8	9. QUANTITY		10	11
DATE	DOCUMENT NO.	ACTION/PURPOSE	A. GAIN	B. LOSS	BALANCE	PRINTED NAME
8/4/09	PIBD Fuzes	Rocket Ridge	76	0	76	Lew Bowman
8/6/09		Inventory	0	0	checked	Lew Bowman
8/13/09		Inventory	0	0	checked	Lew Bowman
8/20/09		Inventory	0	0	checked	Lew Bowman
8/27/09		Inventory	0	0	checked	Lew Bowman
9/3/09		Inventory	0	0	checked	Lew Bowman
9/11/09		Inventory	—	—	checked	Mark Fye
9-17-09		Inventory	—	—	checked	Mark
9-24-09		Inventory	—	—	checked	Mark E.
10-01-09		Inventory	—	—	checked	Mark E.
10-08-09		Inventory	—	—	checked	Mark E.
10-08-09	Items Transferred To		Mark	Patterson		Mark Patterson

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MAGAZINE DATA CARD

1. DODIC	2. NSN	3. LOT NO. Rocket Ridge MEC Awaiting Disposal	4. LOCATION 7-C-4	B.	D. Address 8451-ST RT 5 Ravenna Oh 44266
5. DESCRIPTION MEC Awaiting Disposal Box 3			A. Hazard Class 1.3	C.	E.

6 DATE	7 DOCUMENT NO.	8 ACTION/PURPOSE	9. QUANTITY A. GAIN	B. LOSS	10 BALANCE	11 PRINTED NAME
8/4/09	Bomb Fuzes	Rocket Ridge	5	Ø	5	Lew Kovarik
8/4/09	P.D. Fuzes T-Bar	Rocket Ridge	4	Ø	4	Lew Kovarik
8/4/09	VT Fuzes	Rocket Ridge	2	Ø	2	Lew Kovarik
8/4/09	BIBD Fuzes	Rocket Ridge	7	Ø	7	Lew Kovarik
8/6/09		Inventory	Ø	Ø	checked	Lew Kovarik
8/13/09		Inventory	Ø	Ø	checked	Lew Kovarik
8/20/09		Inventory	Ø	Ø	checked	Lew Kovarik
8/27/09		Inventory	Ø	Ø	checked	Lew Kovarik
9/3/09		Inventory	—	—	checked	Lew Kovarik
9/11/09		Inventory	—	—	checked	[signature]
9-17/09		Inventory	—	—	checked	[signature]
9-24-09		Inventory	—	—	checked	[signature]
10-01-09		Inventory	—	—	checked	[signature]
10-08-09		Inventory	—	—	checked	[signature]
10-08-09	Items Transferred To		Mark	Patterson		Mark Patterson

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MAGAZINE DATA CARD

1. DODIC	2. NSN	3. LOT NO. MPPEH Inspection Mec Awaiting Disposal		4. LOCATION 7-C-4	B.	D. Address
5. DESCRIPTION Mec Awaiting Disposal Box # 4				A. Hazard Class 1.1	C.	E.
6 DATE	7 DOCUMENT NO.	8 ACTION/PURPOSE	9. QUANTITY A. GAIN	B. LOSS	10 BALANCE	11 PRINTED NAME
10-06-09	MK? Base Fuse	Received	2	-0-	2	Mel Laz
10-06-09	T-Bar Fuze	Received	3	-0-	3	Mel Laz
10-06-09	VT Fuzes	Received	4	-0-	4	Mel Laz
10-06-09	40mm primers only	Received	3	-0-	3	Mel Laz
10-06-09	Base Fuze MK?	Received	2	-0-	2	Mel Laz
10-06-09	MK29 3"	Received	6	-0-	6	Mel Laz
10-08-09		Inventory	—	—	Checked	[signature]
10-08-09	ITems	Transferred to	Mark	Pattison		[signature]

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MAGAZINE DATA CARD

1. DODIC	2. NSN	3. LOT NO.	4. LOCATION	B.	D. Address 8451 & 8455
			7-C-4		Rooms

5. DESCRIPTION			A. Hazard Class	C.	Z.
Box 5 Mec Awaiting Disposal			1.1		

6	7	8	9. QUANTITY		10	11
DATE	DOCUMENT NO.	ACTION/PURPOSE	A. GAIN	B. LOSS	BALANCE	PRINTED NAME
10-07-09	40mm Frag Ball	Transferred From 7-C-2	7	-0-	7	
10-07-09	Fuze Booster Cup	Transferred From 7-C-2	1	-0-	1	
10-07-09	Slap Flap	Transferred From 7-C-2	2	-0-	2	
10-07-09	Propo Booster Tube	Transferred From 7-C-2	1	-0-	1	
10-07-09	PD Fuze	Transferred From 7-C-2	1	-0-	1	
10-08-09		Inventory	—	—	checked	
10-08-09	Items Transfer To		Merit	Patterson		

DA FORM 3020-R, AUG 89

MAGAZINE DATA CARD

APPENDIX F

Thermal Flashing Cost Estimate

Flashing of Scrap Metal using Thermal Convection System (TCS), Ravenna Army Ammunition Plant

						94.03%	15.91%	10.00%	
		Labor	Material	Sub Contracts	Other Direct Costs	OH	G&A	Profit	Total
Task 1	ESS Amendment	$ 5,471.15	$ -	$ -	$ -	$ 5,144.52	$ 1,688.95	$ 1,230.46	**$ 13,535.09**
Task 2	Amend Work Plan and Site Safety & Health Plan	$ 6,359.93	$ -	$ -	$ -	$ 5,980.24	$ 1,963.32	$ 1,430.35	**$ 15,733.85**
Task 3	Permitting	$ 6,083.92	$ -	$ -	$ 447.00	$ 5,720.71	$ 1,949.23	$ 1,420.09	**$ 15,620.94**
Task 4	Thermal Convection/Verification of Scrap Metal	$ 18,835.26	$ 750.00	$ -	$ 81,835.66	$ 17,710.80	$ 18,953.86	$ 13,808.56	**$ 151,894.13**
Task 5	Final Report	$ 3,520.86	$ -	$ -	$ -	$ 3,310.66	$ 1,086.89	$ 791.84	**$ 8,710.26**
	TOTAL	**$ 40,271.12**	**$ 750.00**	**$ -**	**$ 82,282.66**	**$ 37,866.93**	**$ 25,642.26**	**$ 18,681.30**	**$ 205,494.27**

	Description	Quantity	Units	Unit cost	Labor	Material	Sub Contracts	Other Direct Costs	94.03% OH	15.91% G&A	10.00% Profit	Total	
Flashing of Scrap Metal using Thermal Convection System (TCS), Ravenna Army Ammunition Plant													
Task 1	**ESS Amendment**												**$ 13,535.09**
	Personnel - Draft ESS												$ 8,115.41
	Sr. Project Manager	8.00	hour	$ 54.75	$ 437.96	$ -	$ -	$ -	$ 411.82	$ 135.20	$ 98.50	$ 1,083.48	
	Project Engineer	24.00	hour	$ 39.49	$ 947.73	$ -	$ -	$ -	$ 891.15	$ 292.57	$ 213.14	$ 2,344.59	
	Technical Writer	40.00	hour	$ 34.67	$ 1,386.94	$ -	$ -	$ -	$ 1,304.14	$ 428.15	$ 311.92	$ 3,431.16	
	CAD/GIS Operator	16.00	hour	$ 21.22	$ 339.46	$ -	$ -	$ -	$ 319.19	$ 104.79	$ 76.34	$ 839.78	
	Project Administrator	8.00	hour	$ 21.04	$ 168.31	$ -	$ -	$ -	$ 158.27	$ 51.96	$ 37.85	$ 416.39	
	Personnel - Final ESS												$ 5,419.67
	Sr. Project Manager	4.00	hour	$ 54.75	$ 218.98	$ -	$ -	$ -	$ 205.91	$ 67.60	$ 49.25	$ 541.74	
	Project Engineer	16.00	hour	$ 39.49	$ 631.82	$ -	$ -	$ -	$ 594.10	$ 195.04	$ 142.10	$ 1,563.06	
	Technical Writer	24.00	hour	$ 34.67	$ 832.17	$ -	$ -	$ -	$ 782.49	$ 256.89	$ 187.15	$ 2,058.70	
	CAD/GIS Operator	16.00	hour	$ 21.22	$ 339.46	$ -	$ -	$ -	$ 319.19	$ 104.79	$ 76.34	$ 839.78	
	Project Assistant	8.00	hour	$ 21.04	$ 168.31	$ -	$ -	$ -	$ 158.27	$ 51.96	$ 37.85	$ 416.39	
	Total for Task 1				**$ 5,471.15**	**$ -**	**$ -**	**$ -**	**$ 5,144.52**	**$ 1,688.95**	**$ 1,230.46**	**$ 13,535.09**	
Task 2	**Amend Work Plan and Site Safety & Health Plan**												**$ 15,733.85**
	Personnel - Draft WP												$ 11,153.96
	Sr. Project Manager	8.00	hour	$ 54.75	$ 437.96	$ -	$ -	$ -	$ 411.82	$ 135.20	$ 98.50	$ 1,083.48	
	Project Engineer	28.00	hour	$ 39.49	$ 1,105.69	$ -	$ -	$ -	$ 1,039.68	$ 341.33	$ 248.67	$ 2,735.36	
	Corporate Health and Safety	16.00	hour	$ 53.44	$ 854.96	$ -	$ -	$ -	$ 803.92	$ 263.93	$ 192.28	$ 2,115.10	
	Technical Writer	56.00	hour	$ 34.67	$ 1,941.72	$ -	$ -	$ -	$ 1,825.80	$ 599.41	$ 436.69	$ 4,803.63	
	Project Administrator	8.00	hour	$ 21.04	$ 168.31	$ -	$ -	$ -	$ 158.27	$ 51.96	$ 37.85	$ 416.39	
	Personnel - Final WP												$ 4,579.89
	Sr. Project Manager	4.00	hour	$ 54.75	$ 218.98	$ -	$ -	$ -	$ 205.91	$ 67.60	$ 49.25	$ 541.74	
	Project Engineer	16.00	hour	$ 39.49	$ 631.82	$ -	$ -	$ -	$ 594.10	$ 195.04	$ 142.10	$ 1,563.06	
	Technical Writer	24.00	hour	$ 34.67	$ 832.17	$ -	$ -	$ -	$ 782.49	$ 256.89	$ 187.15	$ 2,058.70	
	Project Assistant	8.00	hour	$ 21.04	$ 168.31	$ -	$ -	$ -	$ 158.27	$ 51.96	$ 37.85	$ 416.39	
	Total for Task 2				**$ 6,359.93**	**$ -**	**$ -**	**$ -**	**$ 5,980.24**	**$ 1,963.32**	**$ 1,430.35**	**$ 15,733.85**	
Task 3	**Permitting**												**$ 15,620.94**
	Personnel												$ 15,051.01
	Sr. Project Manager	40.00	hour	$ 54.75	$ 2,189.82	$ -	$ -	$ -	$ 2,059.09	$ 676.00	$ 492.49	$ 5,417.41	
	Project Engineer	16.00	hour	$ 39.49	$ 631.82	$ -	$ -	$ -	$ 594.10	$ 195.04	$ 142.10	$ 1,563.06	
	Technical Writer	40.00	hour	$ 34.99	$ 1,399.42	$ -	$ -	$ -	$ 1,315.88	$ 432.00	$ 314.73	$ 3,462.04	
	Regulatory Compliance Specialist	40.00	hour	$ 46.57	$ 1,862.85	$ -	$ -	$ -	$ 1,751.64	$ 575.06	$ 418.95	$ 4,608.50	
	Travel (meeting with Regulators)												$ 569.93
	POV	300.00	miles	$ 0.55	$ -	$ -	$ -	$ 165.00	$ -	$ 26.25	$ 19.13	$ 210.38	
	Per Diem	2.00	day	$ 116.00	$ -	$ -	$ -	$ 232.00	$ -	$ 36.91	$ 26.89	$ 295.80	
	Gasoline for Auto Rental	2.00	day	$ 25.00	$ -	$ -	$ -	$ 50.00	$ -	$ 7.96	$ 5.80	$ 63.75	
	Total for Task 3				**$ 6,083.92**	**$ -**	**$ -**	**$ 447.00**	**$ 5,720.71**	**$ 1,949.23**	**$ 1,420.09**	**$ 15,620.94**	
Task 4	**Thermal Convection/Verification of Scrap Metal**												**$ 151,894.13**
	Personnel												$ 46,596.60
	Sr. Project Manager	40.00	hour	$ 54.75	$ 2,189.82	$ -	$ -	$ -	$ 2,059.09	$ 676.00	$ 492.49	$ 5,417.41	
1	Project Engineer	120.00	hour	$ 39.49	$ 4,738.66	$ -	$ -	$ -	$ 4,455.76	$ 1,462.83	$ 1,065.72	$ 11,722.97	
1	Sr. UXO Supervisor	120.00	hour	$ 37.98	$ 4,557.70	$ -	$ -	$ -	$ 4,285.60	$ 1,406.97	$ 1,025.03	$ 11,275.29	
1	Site Safety Officer (TIII)	120.00	hour	$ 33.62	$ 4,034.40	$ -	$ -	$ -	$ 3,793.55	$ 1,245.43	$ 907.34	$ 9,980.71	
1	Equipment Operator	120.00	hour	$ 27.62	$ 3,314.69	$ -	$ -	$ -	$ 3,116.80	$ 1,023.25	$ 745.47	$ 8,200.21	
	Travel												$ 17,506.02

	Description	Quantity	Units	Unit cost	Labor	Material	Sub Contracts	Other Direct Costs	94.03% OH	15.91% G&A	10.00% Profit	Total	
Flashing of Scrap Metal using Thermal Convection System (TCS), Ravenna Army Ammunition Plant													
	Airfare	4.00	roundtrip	$ 500.00	$ -	$ -	$ -	$ 2,000.00	$ -	$ 318.20	$ 231.82	$ 2,550.02	
	Car Rental	0.75	month	$ 465.43	$ -	$ -	$ -	$ 349.07	$ -	$ 55.54	$ 40.46	$ 445.07	
	2 Pickup Truck	0.75	month	$ 1,782.70	$ -	$ -	$ -	$ 1,337.03	$ -	$ 212.72	$ 154.97	$ 1,704.72	
	Per Diem	84.00	day	$ 116.00	$ -	$ -	$ -	$ 9,744.00	$ -	$ 1,550.27	$ 1,129.43	$ 12,423.70	
	Gasoline for Auto Rental	3.00	week	$ 100.00	$ -	$ -	$ -	$ 300.00	$ -	$ 47.73	$ 34.77	$ 382.50	
	Equipment												$ 86,835.27
	Mob/Demob of Equipment (estm)	1.00	LS	$ 3,000.00	$ -	$ -	$ -	$ 3,000.00	$ -	$ 477.30	$ 347.73	$ 3,825.03	
	Manlift	1.00	week	$ 533.75	$ -	$ -	$ -	$ 533.75	$ -	$ 84.92	$ 61.87	$ 680.54	
	Extendable Boom forklift	1.00	month	$ 2,680.63	$ -	$ -	$ -	$ 2,680.63	$ -	$ 426.49	$ 310.71	$ 3,417.82	
	Generator	1.00	month	$ 1,125.86	$ -	$ -	$ -	$ 1,125.86	$ -	$ 179.12	$ 130.50	$ 1,435.49	
	Rental of TCS	1.00	month	$ 40,909.00	$ -	$ -	$ -	$ 40,909.00	$ -	$ 6,508.62	$ 4,741.76	$ 52,159.38	
	Rental of Car Bottom Chamber	1.00	month	$ 9,091.00	$ -	$ -	$ -	$ 9,091.00	$ -	$ 1,446.38	$ 1,053.74	$ 11,591.12	
	Propane for Furnace	3000.00	gal	$ 2.00	$ -	$ -	$ -	$ 6,000.00	$ -	$ 954.60	$ 695.46	$ 7,650.06	
	Crane with Riggers	1.00	mob/demob	$ 1,685.25	$ -	$ -	$ -	$ 1,685.25	$ -	$ 268.12	$ 195.34	$ 2,148.71	
	Office Trailer	1.00	month	$ 357.61	$ -	$ -	$ -	$ 357.61	$ -	$ 56.90	$ 41.45	$ 455.96	
	Storage Container	1.00	month	$ 90.74	$ -	$ -	$ -	$ 90.74	$ -	$ 14.44	$ 10.52	$ 115.69	
	Port-A-John	1.00	month	$ 80.06	$ -	$ -	$ -	$ 80.06	$ -	$ 12.74	$ 9.28	$ 102.08	
	Dumpster	1.00	month	$ 51.66	$ -	$ -	$ -	$ 51.66	$ -	$ 8.22	$ 5.99	$ 65.86	
	Diesel for Equipment (500 gal/month)	1.00	month	$ 2,500.00	$ -	$ -	$ -	$ 2,500.00	$ -	$ 397.75	$ 289.78	$ 3,187.53	
	Materials												$ 956.26
	Miscellaneous Operating and Safety Supplies	3.00	week	$ 250.00	$ -	$ 750.00	$ -	$ -	$ -	$ 119.33	$ 86.93	$ 956.26	
	TOTAL for Task 4				**$ 18,835.26**	**$ 750.00**	**$ -**	**$ 81,835.66**	**$ 17,710.80**	**$ 18,953.86**	**$ 13,808.56**	**$ 151,894.13**	
Task 5	**Final Report**												**$ 8,710.26**
	Personnel Draft Final Report												$ 5,407.53
	Sr. Project Manager	8.00	hour	$ 54.75	$ 437.96	$ -	$ -	$ -	$ 411.82	$ 135.20	$ 98.50	$ 1,083.48	
	Project Engineer/Scientist	40.00	hour	$ 39.49	$ 1,579.55	$ -	$ -	$ -	$ 1,485.25	$ 487.61	$ 355.24	$ 3,907.66	
	Project Administrator	8.00	hour	$ 21.04	$ 168.31	$ -	$ -	$ -	$ 158.27	$ 51.96	$ 37.85	$ 416.39	
	Personnel - Final Report												$ 3,302.73
	Sr. Project Manager	4.00	hour	$ 54.75	$ 218.98	$ -	$ -	$ -	$ 205.91	$ 67.60	$ 49.25	$ 541.74	
	Project Engineer/Scientist	24.00	hour	$ 39.49	$ 947.73	$ -	$ -	$ -	$ 891.15	$ 292.57	$ 213.14	$ 2,344.59	
	Project Administrator	8.00	hour	$ 21.04	$ 168.31	$ -	$ -	$ -	$ 158.27	$ 51.96	$ 37.85	$ 416.39	
	TOTAL for Line 5				**$ 3,520.86**	**$ -**	**$ -**	**$ -**	**$ 3,310.66**	**$ 1,086.89**	**$ 791.84**	**$ 8,710.26**	

APPENDIX G

MEC Demolition Cost Estimate

Disposal of Munitions and Explosives of Concern (MEC), Discarded Military Munitions (DMM) and Munitions Components (MC), Ravenna Army Ammunition Plant

						94.03%	15.91%	10.00%	
		Labor	**Material**	**Sub Contracts**	**Other Direct Costs**	**OH**	**G&A**	**Profit**	**Total**
Task 1	ESS Amendment	$ 6,164.62	$ -	$ -	$ -	$ 5,796.59	$ 1,903.03	$ 1,386.42	**$ 15,250.67**
Task 2	Amend Work Plan and Site Safety & Health Plan	$ 7,363.45	$ -	$ -	$ -	$ 6,923.85	$ 2,273.11	$ 1,656.04	**$ 18,216.45**
Task 3	Notifications	$ 534.89	$ -	$ -	$ -	$ 502.96	$ 165.12	$ 120.30	**$ 1,323.27**
Task 4	MEC Demolition & 5X Certification and MD Removal	$ 24,471.11	$ 9,006.49	$ 4,914.50	$ 28,016.37	$ 23,010.18	$ 14,226.51	$ 10,364.52	**$ 114,009.68**
Task 5	Site Sampling	$ -	$ -	$ 10,490.00	$ -	$ -	$ 1,668.96	$ 1,215.90	**$ 13,374.85**
Task 6	Site Restoration	$ 3,463.89	$ 333.86	$ -	$ 4,387.23	$ 3,257.10	$ 1,820.44	$ 1,326.25	**$ 14,588.77**
Task 7	Final Report	$ 3,594.66	$ -	$ -	$ -	$ 3,380.06	$ 1,109.68	$ 808.44	**$ 8,892.83**
	TOTAL	**$ 45,592.62**	**$ 9,340.35**	**$ 15,404.50**	**$ 32,403.60**	**$ 42,870.74**	**$ 23,166.84**	**$ 16,877.87**	**$ 185,656.52**

	Description	Quantity	Units	Unit cost	Labor	Material	Sub Contracts	Other Direct Costs	94.03% OH	15.91% G&A	10.00% Profit	Total	
Disposal of Munitions and Explosives of Concern (MEC), Discarded Military Munitions (DMM) and Munitions Components (MC), Ravenna Army Ammunition Plant													
Task 1	**ESS Amendment**												**$ 15,250.67**
	Personnel - Draft ESS												$ 9,830.99
	Sr. Project Manager	8.00	hour	$ 54.75	$ 437.96	$ -	$ -	$ -	$ 411.82	$ 135.20	$ 98.50	$ 1,083.48	
	Project Engineer	24.00	hour	$ 39.49	$ 947.73	$ -	$ -	$ -	$ 891.15	$ 292.57	$ 213.14	$ 2,344.59	
	Technical Writer	60.00	hour	$ 34.67	$ 2,080.42	$ -	$ -	$ -	$ 1,956.22	$ 642.23	$ 467.89	$ 5,146.75	
	CAD/GIS Operator	16.00	hour	$ 21.22	$ 339.46	$ -	$ -	$ -	$ 319.19	$ 104.79	$ 76.34	$ 839.78	
	Project Administrator	8.00	hour	$ 21.04	$ 168.31	$ -	$ -	$ -	$ 158.27	$ 51.96	$ 37.85	$ 416.39	
	Personnel - Final ESS												$ 5,419.67
	Sr. Project Manager	4.00	hour	$ 54.75	$ 218.98	$ -	$ -	$ -	$ 205.91	$ 67.60	$ 49.25	$ 541.74	
	Project Engineer	16.00	hour	$ 39.49	$ 631.82	$ -	$ -	$ -	$ 594.10	$ 195.04	$ 142.10	$ 1,563.06	
	Technical Writer	24.00	hour	$ 34.67	$ 832.17	$ -	$ -	$ -	$ 782.49	$ 256.89	$ 187.15	$ 2,058.70	
	CAD/GIS Operator	16.00	hour	$ 21.22	$ 339.46	$ -	$ -	$ -	$ 319.19	$ 104.79	$ 76.34	$ 839.78	
	Project Assistant	8.00	hour	$ 21.04	$ 168.31	$ -	$ -	$ -	$ 158.27	$ 51.96	$ 37.85	$ 416.39	
	Total for Task 1				**$ 6,164.62**	**$ -**	**$ -**	**$ -**	**$ 5,796.59**	**$ 1,903.03**	**$ 1,386.42**	**$ 15,250.67**	
Task 2	**Amend Work Plan and Site Safety & Health Plan**												**$ 18,216.45**
	Personnel - Draft WP												$ 13,094.82
	Sr. Project Manager	16.00	hour	$ 54.75	$ 875.93	$ -	$ -	$ -	$ 823.64	$ 270.40	$ 197.00	$ 2,166.96	
	Project Engineer	40.00	hour	$ 39.49	$ 1,579.55	$ -	$ -	$ -	$ 1,485.25	$ 487.61	$ 355.24	$ 3,907.66	
	Corporate Health and Safety	24.00	hour	$ 53.44	$ 1,282.44	$ -	$ -	$ -	$ 1,205.88	$ 395.89	$ 288.42	$ 3,172.64	
	Technical Writer	40.00	hour	$ 34.67	$ 1,386.94	$ -	$ -	$ -	$ 1,304.14	$ 428.15	$ 311.92	$ 3,431.16	
	Project Administrator	8.00	hour	$ 21.04	$ 168.31	$ -	$ -	$ -	$ 158.27	$ 51.96	$ 37.85	$ 416.39	
	Personnel - Final WP												$ 5,121.63
	Sr. Project Manager	8.00	hour	$ 54.75	$ 437.96	$ -	$ -	$ -	$ 411.82	$ 135.20	$ 98.50	$ 1,083.48	
	Project Engineer	16.00	hour	$ 39.49	$ 631.82	$ -	$ -	$ -	$ 594.10	$ 195.04	$ 142.10	$ 1,563.06	
	Technical Writer	24.00	hour	$ 34.67	$ 832.17	$ -	$ -	$ -	$ 782.49	$ 256.89	$ 187.15	$ 2,058.70	
	Project Assistant	8.00	hour	$ 21.04	$ 168.31	$ -	$ -	$ -	$ 158.27	$ 51.96	$ 37.85	$ 416.39	
	Total for Task 2				**$ 7,363.45**	**$ -**	**$ -**	**$ -**	**$ 6,923.85**	**$ 2,273.11**	**$ 1,656.04**	**$ 18,216.45**	
Task 3	**Notifications**												**$ 1,323.27**
	Personnel												$ 1,323.27
	Sr. Project Manager	4.00	hour	$ 54.75	$ 218.98	$ -	$ -	$ -	$ 205.91	$ 67.60	$ 49.25	$ 541.74	
	Project Engineer	8.00	hour	$ 39.49	$ 315.91	$ -	$ -	$ -	$ 297.05	$ 97.52	$ 71.05	$ 781.53	
	Total for Task 3				**$ 534.89**	**$ -**	**$ -**	**$ -**	**$ 502.96**	**$ 165.12**	**$ 120.30**	**$ 1,323.27**	
Task 4	**MEC Demolition & 5X Certification and MD Removal**												**$ 114,009.68**
	Mobilization/Demobilization, Site Set-up and Training												**$ 18,003.27**
	Personnel												$ 10,865.73
	Sr. Project Manager	4.00	hour	$ 54.75	$ 218.98	$ -	$ -	$ -	$ 205.91	$ 67.60	$ 49.25	$ 541.74	
	Project Engineer	24.00	hour	$ 39.49	$ 947.73	$ -	$ -	$ -	$ 891.15	$ 292.57	$ 213.14	$ 2,344.59	
	Senior UXO Supervisor	24.00	hour	$ 37.98	$ 911.54	$ -	$ -	$ -	$ 857.12	$ 281.39	$ 205.01	$ 2,255.06	
	UXO Safety/QC Specialist (UXO TIII)	24.00	hour	$ 33.62	$ 806.88	$ -	$ -	$ -	$ 758.71	$ 249.09	$ 181.47	$ 1,996.14	
	1 UXO Technician III	24.00	hour	$ 33.62	$ 806.88	$ -	$ -	$ -	$ 758.71	$ 249.09	$ 181.47	$ 1,996.14	
	1 UXO Technician II	24.00	hour	$ 29.17	$ 700.13	$ -	$ -	$ -	$ 658.33	$ 216.13	$ 157.46	$ 1,732.05	
	Travel												$ 7,137.55
	Airfare	5.00	roundtrip	$ 500.00	$ -	$ -	$ -	$ 2,500.00	$ -	$ 397.75	$ 289.78	$ 3,187.53	
	Car Rental	0.25	month	$ 465.43	$ -	$ -	$ -	$ 116.36	$ -	$ 18.51	$ 13.49	$ 148.36	
	2 Pickup Truck	0.25	month	$ 1,782.70	$ -	$ -	$ -	$ 445.68	$ -	$ 70.91	$ 51.66	$ 568.24	
	Per Diem	21.00	day	$ 116.00	$ -	$ -	$ -	$ 2,436.00	$ -	$ 387.57	$ 282.36	$ 3,105.92	

	Description	Quantity	Units	Unit cost	Labor	Material	Sub Contracts	Other Direct Costs	94.03% OH	15.91% G&A	10.00% Profit	Total	
Disposal of Munitions and Explosives of Concern (MEC), Discarded Military Munitions (DMM) and Munitions Components (MC), Ravenna Army Ammunition Plant													
	Gasoline for Auto Rental	1.00	week	$ 100.00	$ -	$ -	$ -	$ 100.00	$ -	$ 15.91	$ 11.59	$ 127.50	
	Site Work - MEC Demolition, 5X Certification & MD Removal												**$ 96,006.40**
	Personnel												$ 51,407.41
	Sr. Project Manager	12.00	hour	$ 54.75	$ 656.95	$ -	$ -	$ -	$ 617.73	$ 202.80	$ 147.75	$ 1,625.22	
	Project Engineer	60.00	hour	$ 39.49	$ 2,369.33	$ -	$ -	$ -	$ 2,227.88	$ 731.42	$ 532.86	$ 5,861.49	
	Senior UXO Supervisor	120.00	hour	$ 37.98	$ 4,557.70	$ -	$ -	$ -	$ 4,285.60	$ 1,406.97	$ 1,025.03	$ 11,275.29	
	UXO Safety/QC Specialist (UXO TIII w/ 8% Haz. Pay)	120.00	hour	$ 36.31	$ 4,357.15	$ -	$ -	$ -	$ 4,097.03	$ 1,345.06	$ 979.92	$ 10,779.17	
1	UXO Technician III)w/ 8% Haz. Pay)	120.00	hour	$ 36.31	$ 4,357.15	$ -	$ -	$ -	$ 4,097.03	$ 1,345.06	$ 979.92	$ 10,779.17	
1	UXO Technician II (w/ 8% Haz. Pay)	120.00	hour	$ 31.51	$ 3,780.69	$ -	$ -	$ -	$ 3,554.98	$ 1,167.11	$ 850.28	$ 9,353.06	
1	Licensed Surveyor	16.00	hour	$ 85.00	$ -	$ -	$ 1,360.00	$ -	$ -	$ 216.38	$ 157.64	$ 1,734.01	
	Travel												$ 16,582.91
	Car Rental	0.75	month	$ 465.43	$ -	$ -	$ -	$ 349.07	$ -	$ 55.54	$ 40.46	$ 445.07	
2	Pickup Truck	0.75	month	$ 1,782.70	$ -	$ -	$ -	$ 1,337.03	$ -	$ 212.72	$ 154.97	$ 1,704.72	
	Per Diem	95.00	day	$ 116.00	$ -	$ -	$ -	$ 11,020.00	$ -	$ 1,753.28	$ 1,277.33	$ 14,050.61	
	Gasoline for Auto Rental	3.00	week	$ 100.00	$ -	$ -	$ -	$ 300.00	$ -	$ 47.73	$ 34.77	$ 382.50	
	Equipment												$ 12,000.70
	Mob/Demob of Equipment (estm)	1.00	LS	$ 2,000.00	$ -	$ -	$ -	$ 2,000.00	$ -	$ 318.20	$ 231.82	$ 2,550.02	
	Mob/Demob of Magazine (estm)	1.00	LS	$ 2,000.00	$ -	$ -	$ -	$ 2,000.00	$ -	$ 318.20	$ 231.82	$ 2,550.02	
	Base Station + Rover	0.25	month	$ 4,200.00	$ -	$ -	$ -	$ 1,050.00	$ -	$ 167.06	$ 121.71	$ 1,338.76	
	Extended Forklift	0.75	month	$ 2,241.75	$ -	$ -	$ -	$ 1,681.31	$ -	$ 267.50	$ 194.88	$ 2,143.69	
	45kW Generator	0.75	month	$ 1,494.50	$ -	$ -	$ -	$ 1,120.88	$ -	$ 178.33	$ 129.92	$ 1,429.13	
	Office Trailer	0.75	month	$ 357.61	$ -	$ -	$ -	$ 268.21	$ -	$ 42.67	$ 31.09	$ 341.97	
	Storage Container	0.75	month	$ 90.74	$ -	$ -	$ -	$ 68.05	$ -	$ 10.83	$ 7.89	$ 86.77	
	Port-A-John	0.75	month	$ 80.06	$ -	$ -	$ -	$ 60.05	$ -	$ 9.55	$ 6.96	$ 76.56	
	Dumpster	0.75	month	$ 51.66	$ -	$ -	$ -	$ 38.74	$ -	$ 6.16	$ 4.49	$ 49.40	
	Diesel for Equipment (500 gal/month)	0.75	month	$ 1,500.00	$ -	$ -	$ -	$ 1,125.00	$ -	$ 178.99	$ 130.40	$ 1,434.39	
	Materials												$ 6,787.25
	Emergency Shower	1.00	pack	$ 122.94	$ -	$ 122.94	$ -	$ -	$ -	$ 19.56	$ 14.25	$ 156.75	
	Eye Wash Station	1.00	each	$ 233.72	$ -	$ 233.72	$ -	$ -	$ -	$ 37.18	$ 27.09	$ 297.99	
	Leather Gloves	20.00	each	$ 5.28	$ -	$ 105.68	$ -	$ -	$ -	$ 16.81	$ 12.25	$ 134.75	
	Fire Extinguishers	2.00	each	$ 113.80	$ -	$ 227.59	$ -	$ -	$ -	$ 36.21	$ 26.38	$ 290.18	
	First Aid Kits	2.00	each	$ 20.74	$ -	$ 41.48	$ -	$ -	$ -	$ 6.60	$ 4.81	$ 52.89	
	MSDS Station	1.00	each	$ 52.63	$ -	$ 52.63	$ -	$ -	$ -	$ 8.37	$ 6.10	$ 67.10	
	Spill Kits	1.00	each	$ 52.15	$ -	$ 52.15	$ -	$ -	$ -	$ 8.30	$ 6.04	$ 66.49	
	Safety and Caution Signs	5.00	each	$ 18.09	$ -	$ 90.47	$ -	$ -	$ -	$ 14.39	$ 10.49	$ 115.35	
	Back Support Belts	4.00	each	$ 19.86	$ -	$ 79.42	$ -	$ -	$ -	$ 12.64	$ 9.21	$ 101.26	
	Trauma Bag	2.00	each	$ 99.38	$ -	$ 198.77	$ -	$ -	$ -	$ 31.62	$ 23.04	$ 253.43	
	Sandbags for Demo Operations	600.00	each	$ 3.90	$ -	$ 2,337.83	$ -	$ -	$ -	$ 371.95	$ 270.98	$ 2,980.75	
	Delivery of Sandbags	1.00	LS	$ 320.25	$ -	$ 320.25	$ -	$ -	$ -	$ 50.95	$ 37.12	$ 408.32	
	55 Gallon Metal Drums	4.00	each	$ 102.00	$ -	$ 408.00	$ -	$ -	$ -	$ 64.91	$ 47.29	$ 520.20	
	EXPRAY Kit	1.00	ea	$ 252.36	$ -	$ 252.36	$ -	$ -	$ -	$ 40.15	$ 29.25	$ 321.76	
	Shipping of Supplies (estm)	1.00	LS	$ 800.00	$ -	$ 800.00	$ -	$ -	$ -	$ 127.28	$ 92.73	$ 1,020.01	
	Demolition Explosives												$ 4,696.12
	Perforators 22g (50/box)	3.00	box	$ 350.00	$ -	$ 1,050.00	$ -	$ -	$ -	$ 167.06	$ 121.71	$ 1,338.76	
	Blasting Caps	2.00	box	$ 225.00	$ -	$ 450.00	$ -	$ -	$ -	$ 71.60	$ 52.16	$ 573.75	
	80-gr Detonation Cord	1.00	roll	$ 500.00	$ -	$ 500.00	$ -	$ -	$ -	$ 79.55	$ 57.96	$ 637.51	
	50-gr Detonation Cord	2000.00	ft	$ 0.34	$ -	$ 683.20	$ -	$ -	$ -	$ 108.70	$ 79.19	$ 871.09	
	Shipping of Explosives	1.00	LS	$ 1,000.00	$ -	$ 1,000.00	$ -	$ -	$ -	$ 159.10	$ 115.91	$ 1,275.01	
	Analytical, Transportation & Disposal of Non-Hazardous Sand - Post Demo												$ 4,532.02
	Full TCLP	1.00	sample	$ 580.00	$ -	$ -	$ 580.00	$ -	$ -	$ 92.28	$ 67.23	$ 739.51	
	PH	1.00	sample	$ 13.00	$ -	$ -	$ 13.00	$ -	$ -	$ 2.07	$ 1.51	$ 16.58	
	Reactive Cyanide	1.00	sample	$ 36.00	$ -	$ -	$ 36.00	$ -	$ -	$ 5.73	$ 4.17	$ 45.90	
	Reactive Sulfide	1.00	sample	$ 36.00	$ -	$ -	$ 36.00	$ -	$ -	$ 5.73	$ 4.17	$ 45.90	

	Description	Quantity	Units	Unit cost	Labor	Material	Sub Contracts	Other Direct Costs	94.03% OH	15.91% G&A	10.00% Profit	Total	
Disposal of Munitions and Explosives of Concern (MEC), Discarded Military Munitions (DMM) and Munitions Components (MC), Ravenna Army Ammunition Plant													
	Explosives	1.00	sample	$ 188.00	$ -	$ -	$ 188.00	$ -	$ -	$ 29.91	$ 21.79	$ 239.70	
	Propellants	1.00	sample	$ 270.00	$ -	$ -	$ 270.00	$ -	$ -	$ 42.96	$ 31.30	$ 344.25	
	Ignitability	1.00	sample	$ 30.00	$ -	$ -	$ 30.00	$ -	$ -	$ 4.77	$ 3.48	$ 38.25	
	MI Sample Processing	1.00	sample	$ 60.00	$ -	$ -	$ 60.00	$ -	$ -	$ 9.55	$ 6.95	$ 76.50	
	Transportation & Disposal												
	Tansportation of Non-Hazardous Soil	1.00	loads	$ 380.00	$ -	$ -	$ 380.00	$ -	$ -	$ 60.46	$ 44.05	$ 484.50	
	Disposal of Non-Hazardous Soil	5.00	tons	$ 42.00	$ -	$ -	$ 210.00	$ -	$ -	$ 33.41	$ 24.34	$ 267.75	
	Transportation of scrap to the Smelter Facility (Joliet)	1.00	loads	$ 1,751.50	$ -	$ -	$ 1,751.50	$ -	$ -	$ 278.66	$ 203.02	$ 2,233.18	
	TOTAL for Task 4				**$ 24,471.11**	**$ 9,006.49**	**$ 4,914.50**	**$ 28,016.37**	**$ 23,010.18**	**$ 14,226.51**	**$ 10,364.52**	**$ 114,009.68**	
Task 5	**Site Sampling**												**$ 13,374.85**
	Soil Samples												$ 5,559.04
	Full-Suite Explosives SW846 8330	8.00	sample	$ 145.00	$ -	$ -	$ 1,160.00	$ -	$ -	$ 184.56	$ 134.46	$ 1,479.01	
	Propellants	8.00	sample	$ 215.00	$ -	$ -	$ 1,720.00	$ -	$ -	$ 273.65	$ 199.37	$ 2,193.02	
	TAL Metals	8.00	sample	$ 125.00	$ -	$ -	$ 1,000.00	$ -	$ -	$ 159.10	$ 115.91	$ 1,275.01	
	MI Sample Processing	8.00	sample	$ 60.00	$ -	$ -	$ 480.00	$ -	$ -	$ 76.37	$ 55.64	$ 612.00	
	Water Samples												$ 3,710.28
	Full-Suite Explosives SW846 8330	6.00	sample	$ 145.00	$ -	$ -	$ 870.00	$ -	$ -	$ 138.42	$ 100.84	$ 1,109.26	
	Propellants	6.00	sample	$ 215.00	$ -	$ -	$ 1,290.00	$ -	$ -	$ 205.24	$ 149.52	$ 1,644.76	
	TAL Metals	6.00	sample	$ 125.00	$ -	$ -	$ 750.00	$ -	$ -	$ 119.33	$ 86.93	$ 956.26	
	Data Validation												$ 4,105.53
	Explosives	14.00	sample	$ 50.00	$ -	$ -	$ 700.00	$ -	$ -	$ 111.37	$ 81.14	$ 892.51	
	Propellants	14.00	sample	$ 70.00	$ -	$ -	$ 980.00	$ -	$ -	$ 155.92	$ 113.59	$ 1,249.51	
	Total Metals	14.00	sample	$ 110.00	$ -	$ -	$ 1,540.00	$ -	$ -	$ 245.01	$ 178.50	$ 1,963.52	
	TOTAL for Task 5				**$ -**	**$ -**	**$ 10,490.00**	**$ -**	**$ -**	**$ 1,668.96**	**$ 1,215.90**	**$ 13,374.85**	
Task 6	**Site Restoration**												**$ 14,588.77**
	Personnel												$ 8,569.33
	Project Engineer	30.00	hour	$ 39.49	$ 1,184.66	$ -	$ -	$ -	$ 1,113.94	$ 365.71	$ 266.43	$ 2,930.74	
	UXO Safety/QC Specialist	30.00	hour	$ 33.62	$ 1,008.60	$ -	$ -	$ -	$ 948.39	$ 311.36	$ 226.83	$ 2,495.18	
	1 Equipment Operators	46.00	hour	$ 27.62	$ 1,270.63	$ -	$ -	$ -	$ 1,194.77	$ 392.25	$ 285.76	$ 3,143.41	
	Travel												$ 3,975.73
	Airfare	1.00	roundtrip	$ 500.00	$ -	$ -	$ -	$ 500.00	$ -	$ 79.55	$ 57.96	$ 637.51	
	Car Rental	0.25	month	$ 465.43	$ -	$ -	$ -	$ 116.36	$ -	$ 18.51	$ 13.49	$ 148.36	
	1 Pickup Truck	0.25	month	$ 891.35	$ -	$ -	$ -	$ 222.84	$ -	$ 35.45	$ 25.83	$ 284.12	
	Per Diem	19.00	day	$ 116.00	$ -	$ -	$ -	$ 2,204.00	$ -	$ 350.66	$ 255.47	$ 2,810.12	
	Gasoline for Auto Rental	0.75	week	$ 100.00	$ -	$ -	$ -	$ 75.00	$ -	$ 11.93	$ 8.69	$ 95.63	
	Equipment												$ 1,618.03
	Skidsteer	1	week	$ 410.99	$ -	$ -	$ -	$ 410.99	$ -	$ 65.39	$ 47.64	$ 524.01	
	Office Trailer	0.25	month	$ 357.61	$ -	$ -	$ -	$ 89.40	$ -	$ 14.22	$ 10.36	$ 113.99	
	45kW Generator	0.25	month	$ 1,494.50	$ -	$ -	$ -	$ 373.63	$ -	$ 59.44	$ 43.31	$ 476.38	
	Port-A-John	0.25	month	$ 80.06	$ -	$ -	$ -	$ 20.02	$ -	$ 3.18	$ 2.32	$ 25.52	
	Diesel for Equipment (500 gal/month)	0.25	month	$ 1,500.00	$ -	$ -	$ -	$ 375.00	$ -	$ 59.66	$ 43.47	$ 478.13	
	Materials												$ 425.68
	Seeding (IIA)	0.50	acre	$ 222.04	$ -	$ 111.02	$ -	$ -	$ -	$ 17.66	$ 12.87	$ 141.55	
	Straw Bales	50.00	ea	$ 3.74	$ -	$ 186.81	$ -	$ -	$ -	$ 29.72	$ 21.65	$ 238.19	
	Backfill Material	5.00	tons	$ 7.21	$ -	$ 36.03	$ -	$ -	$ -	$ 5.73	$ 4.18	$ 45.94	
	Total for Task 6				**$ 3,463.89**	**$ 333.86**	**$ -**	**$ 4,387.23**	**$ 3,257.10**	**$ 1,820.44**	**$ 1,326.25**	**$ 14,588.77**	

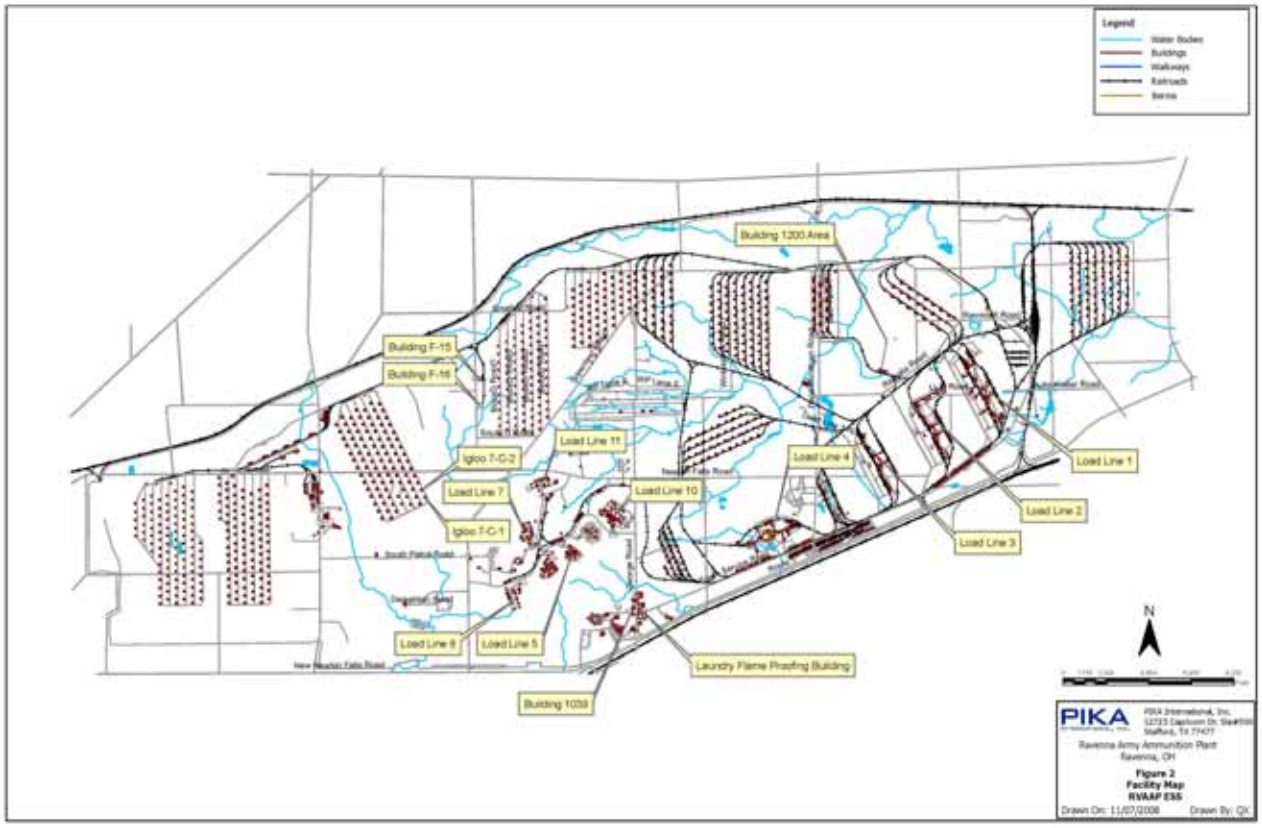
	Description	Quantity	Units	Unit cost	Labor	Material	Sub Contracts	Other Direct Costs	94.03% OH	15.91% G&A	10.00% Profit	Total	
Disposal of Munitions and Explosives of Concern (MEC), Discarded Military Munitions (DMM) and Munitions Components (MC), Ravenna Army Ammunition Plant													
Task 7	**Final Report**												**$ 8,892.83**
	Personnel Draft Final Report												$ 6,189.06
	Sr. Project Manager	8.00	hour	$ 54.75	$ 437.96	$ -	$ -	$ -	$ 411.82	$ 135.20	$ 98.50	$ 1,083.48	
	Project Engineer/Scientist	48.00	hour	$ 39.49	$ 1,895.46	$ -	$ -	$ -	$ 1,782.30	$ 585.13	$ 426.29	$ 4,689.19	
	Project Administrator	8.00	hour	$ 21.04	$ 168.31	$ -	$ -	$ -	$ 158.27	$ 51.96	$ 37.85	$ 416.39	
	Personnel - Final Report												$ 2,703.76
	Sr. Project Manager	4.00	hour	$ 54.75	$ 218.98	$ -	$ -	$ -	$ 205.91	$ 67.60	$ 49.25	$ 541.74	
	Project Engineer/Scientist	20.00	hour	$ 39.49	$ 789.78	$ -	$ -	$ -	$ 742.63	$ 243.81	$ 177.62	$ 1,953.83	
	Project Administrator	4.00	hour	$ 21.04	$ 84.16	$ -	$ -	$ -	$ 79.13	$ 25.98	$ 18.93	$ 208.20	
	TOTAL for Line 7				**$ 3,594.66**	**$ -**	**$ -**	**$ -**	**$ 3,380.06**	**$ 1,109.68**	**$ 808.44**	**$ 8,892.83**	

APPENDIX H

Flame Proofing Building Hazard Analysis Report

Property Owner:	Department of the Army BRAC Technical Support Office Rock Island Arsenal, Rock Island, IL	Site	Laundry Flame Proofing Building
		Building Number	Annex to 1037
Facility Address:	Ravenna Army Ammunition Plant 8451 St. Route 5 Ravenna, OH 44266	Function	Laundry Flame Proofing
		Date of Inspection:	9-14-09

Flame Proofing Building Location



Building 8-51 Exterior

Historical Archive Search Results and Preliminary Visual Inspection

The Area of Concern (AOC) known as the 1037 Building - laundry waste water sump (RVAAP- 35) is a small building located on the north side of RVAAP Building 1037. Building 1037 was used from World War II up until 1992 as the RVAAP laundry and flame proofing building. Building 1037 has since been converted into the RVAAP administration building. All laundry rinse water was discharged to the laundry waste water sump prior to entering the sanitary sewer. The waste water sump consists of a large (13-ft by 16-ft) concrete settling basin (constructed below ground surface) located just outside the northern end of Building 1037. The settling basin was used to capture solids, including potentially explosives contaminated residue prior to entering the sanitary sewer. Periodically the basin would be cleaned by removing accumulated solids for disposal by open burning at the Winklepeck Burning Grounds. In approximately 1954, the basin was emptied and backfilled (in place) with clean soil for closure and has since been identified as an AOC (i.e., RVAAP-35).

Area of Building Footprint (sq. ft.): 6-feet wide by 13 feet long (80 square feet total)

Wall Inspection Information

Wall Material	Concrete	Cinder Block	Brick	Metal	Wood Frame	Transite
Interior Walls	☐	☐	☐	☐	☒	☐
Exterior Walls	☐	☐	☐	☐	☐	☒

Are Surfaces Painted : ☐Yes ☒ No If Yes, Was Peeling of Paint Observed: ☐Yes ☐ No

Observations/Comments: None

Visible Explosives Present : ☐Yes ☒ No If Yes identify location below.

Location: Not Applicable

Thickness of Material/Wall/Slab > 1/8" ☒Yes ☐No If Yes answer below:

Are Cracks, Crevices, Openings bigger than a hairline: ☐Yes ☒No

Entrapment of Explosive Residues in Cracks, Crevices, or Openings observed: ☐Yes ☒No

Other suspect surfaces present that are not accessible for Visual Inspection: ☐Yes ☒No

For hollow wall construction (i.e. tile), is internal examination needed around wall penetrations or suspect areas? ☐Yes ☐No ☒NA If yes, identify location and report findings below:
Observations/Notes: None

Roof Inspection Information

Roof Type	☐ Transite Panels	☒ Shingled	☐ Tar	☐ Concrete	☐ Other
Roof Frame	☒ Wood	☐ Steel			
Roof Condition :	☐ Intact	☒ Holes or Openings Observed	☐ Collapsed and Unsafe		
Visible Explosives Present:	☐Yes	☒ No	If Yes, identify location below.		
Location: Not Applicable					
Thickness of wall material > 1/8”	☒Yes	☐No	☐ NA	If Yes answer below:	
Are Cracks, Crevices, Openings bigger than a hairline:	☒Yes	☐No			

Entrapment of Explosive Residues in Cracks, Crevices, or Openings observed: ☐Yes ☒No
Suspect surfaces present that are not accessible for Visual Inspection: ☐Yes ☒No
Other Observations/Notes: None

Floor Inspection Information

Floor Type	☒Concrete	☐Wood	☐Steel	☐Other
Floor Liner	☐Lead	☐Rubber	☐Composite	☒None
Visible Explosives Present:	☐Yes	☒No	If yes identify location below.	
Location: Not Applicable				
Thickness of Slab > 1/8"	☒Yes	☐No	Thickness of liner > 1/8" ☐Yes ☐No ☒NA	If Yes to either answer below:
Are Slab Cracks, Crevices, Openings bigger than a hairline:	☐Yes	☒No		
Are floor liner Cracks, Crevices, Openings bigger than a hairline:	☐Yes	☒No	☐NA	
Entrapment of Explosive Residues in Cracks, Crevices, or Openings observed in floor slab.	☐Yes	☒No		
Entrapment of Explosive Residues in Cracks, Crevices, or Openings observed in floor liner.	☐Yes	☐No	☒NA	
Suspect surfaces present that are not accessible for Visual Inspection.	☐Yes	☒No		

Other Observations/Notes: None

Process Equipment and Piping Inspection Information

☒Process Piping	☐Process Equipment	☒ Stainless Steel Basin - empty	☐ Sump Water	☐ None

Has Sump Water been Analyzed by Lab: ☐ Yes ☐No ☒ NA

** Attach sump water sample results to Inspection form as applicable

Visible Explosives Present on Process Equipment/Piping: ☐Yes ☒No

Visible Explosives Present in Basin: ☐Yes ☒No ☐NA

Observations/Notes: EXPRAY results for equipment and piping were negative.

Non-process Equipment and Piping Inspection Information			
Not Applicable			
☐ Steam	☐ Water	☐ Floor Drain	☐Other
☐ Other Fixtures:			
☐ Underground Sump:			
Visible Explosives Present ☐Yes ☐No			
Observations/Notes: **Not Applicable**			

Non Explosive Hazards of Concern – Check all that apply	
☐	Residual Peeling Paint Chips on the Walls, Equipment and Piping, and Structural Members
☐	Observation of animal droppings and miscellaneous debris on floor of buildings
☒	Asbestos Containing Material (Transite, Utility Pipe Insulation, lighting fixtures, etc.)
☐	Overhead Conveyors and Belt Systems, and Elevators
☐	Mercury Switches
☐	PCB Light Ballast
☐	Physical Safety Hazard from Removed or Damaged Building Structural Members
☐	Other (please explain)

Type of Demo Required Based on above Observations (please explain):

☐ **Thermal Decomposition** ☒ **Demo with Engineering Controls** ☐ **Conventional Demo**

Conclusions:

Very small structure. No staining or other signs of any past release etc.. Facility appears to have been thoroughly cleaned and flushed during closure. Backfill in sump area appears "clean" as well. Recommend demolition with hardened equipment as per RVAAP ESS.

Comments			
Data Engineer		***UXO Safety Officer***	

APPENDIX I

Flame Proofing Building GPS Data

LAUNDRY FLAME PROOFING BUILDING AND SUMP GPS COORDINATES

File	Point	Description	GPS Height	Vert Prec	POINT X	POINT Y	Easting	Northing
Laundry Bldg	Sump-1	BLDG Corner	906.583	0.4	-81.08467675870	41.17182494000	81d05'04.84"W	41d10'18.57"N
	Sump-2	BLDG Corner	908.945	0.2	-81.08471610690	41.17182703780	81d05'04.98"W	41d10'18.58"N
	Sump-3	BLDG Corner	910.618	0.2	-81.08471393290	41.17179378710	81d05'04.97"W	41d10'18.46"N
	Sump-4	BLDG Corner	909.418	0.2	-81.08467146770	41.17179267090	81d05'04.82"W	41d10'18.45"N
	Laundry-1	BLDG Corner	910.700	0.2	-81.08466685080	41.17177476750	81d05'04.8"W	41d10'18.39"N
	Laundry-2	BLDG Corner	908.321	0.3	-81.08472240310	41.17177814180	81d05'05"W	41d10'18.4"N

APPENDIX J

Asbestos Disposal Records

REGULATED ASBESTOS MATERIAL WASTE SHIPMENT RECORD

GENERATOR SECTION

I. Facility Name: RAVENNA ARMY AMMUNITION PLANT
Address: 8451 STATE ROUTE 5
City: RAVENNA State: OHIO Zip Code: 44266
Owner's Name:
Telephone: ( ) Fax: ( )

II. Operator's Name: DIAMOND ENVIRONMENTAL
Address: 3684 ST. RT. 303
City: RAVENNA State: OHIO Zip Code: 44266
Telephone: (330) 422-0799 Fax: (330) 422-0788

III. Waste Disposal Site (WDS) Name: Minerva Enterprises

"on-site" disposal ☒ Yes ☐ No

Physical Location:
Address: 9000 Minerva Road
City: Waynesburg State: OHIO Zip Code: 44688
Telephone: (330) 866-3435 Fax: (330) 866-3435

Mailing Address:
City: ~~Ravenna~~ Waynesburg State: OH Zip Code: 44688
Telephone: (330) 866-3435 Fax: (330) 866-3435

IV. Responsible Agency (Local, District, State, or EPA Office where notification was sent)
Name: NA - PANELS REMOVED INTAKE FROM WOOD FRAME
Address:
City: State: Zip Code:

V. Description of Materials	VI. Containers		VII. Total Quantity (cubic yards)
	Number	Type	
TRANSITE			168 SF

VIII. Special Handling Instructions and Additional Information
Material wrapped in 12mil plastic.
Material wetted prior to wrap
Material labeled.

IX. Generator's Certification: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

Keith R. Bickel 9-25-09 Keith R. Bickel
Signature Date Type or Print Name and Title

REGULATED ASBESTOS MATERIAL WASTE SHIPMENT RECORD

TRANSPORTER SECTION

X. Transporter 1 (Acknowledgement of receipt of materials)

Name: DIAMOND ENVIRONMENTAL

Address: 3624 ST. RT. 303

City: RAVENNA State: OHIO Zip Code: 44266

Telephone: (330) 422-0799 Fax: (330) 422-0798

Keith R Bickel 9-25-09 KEITH R. BICKEL

Signature Date Type or Print Name and Title

Rejected Materials (if any)	Destination

XI. Transporter 2 (Acknowledgement of receipt of materials)

Name:

Address:

City: State: Zip Code:

Telephone: ( ) Fax: ( )

Signature Date Type or Print Name and Title

Rejected Materials (if any)	Destination

DISPOSAL SITE SECTION

XII. Discrepancy indication space

XIII. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12

Steve Chandler 9-25-09 Steve Chandler

Signature Date Type or Print Name and Title

Form Revised (11/12/97)

APPENDIX K

Asbestos Removal Air Monitoring Reports

Date 25-Sep-09
Client PIKA International
Project Laundry Flame Proofing Building

DIAMOND ENVIRONMENTAL,LLC.
AIRBORNE FIBER MONITORING REPORT
DESCRIPTIVE INFORMATION

Diamond Project # 9-0110
Client Project ID#

SAMPLE I.D.	SAMPLE TYPE	WORKER'S NAME	SOCIAL SECURITY #	LOCATION	ACTIVITY	RESPIRATOR TYPE
09252009-01	PRM			North of Laundry Flame Proofing Building	REM	HM-APR
09252009-02	FB					
09252009-03	FB					

ANALYTICAL INFORMATION

FILTER COLLECTION AREA 385 mm2

GRATICULE FIELD AREA 0.00785 mm2

SAMPLE I.D.	PUMP #	CALIB. FLOW RATE (L/min)			Running Time (min)			VOLUME (Liters)	FIBERS/ FIELDS	FIBERS/ mm2 (Blank Corr)	LOQ FIBERS/ cm3	FIBERS/ cm3 (Blank Corr)
		BEGINNING	END	AVERAGE	START	STOP	DURATION					
09252009-01	LV-1	2.00	2.00	2.00	0829	1133	184	368	7.5/100	9.55	0.013	< 0.013
09252009-02									0/100	< 0.01		
09252009-03									0/100	< 0.01		

Comments :

KEY TO ABBREVIATIONS

SAMPLE TYPE		ACTIVITY		RESPIRATOR
PRS=personal	ENV=environmental	REM=removal	PREP=site prep	HM=half mask
PRM=perimeter	HEX=hepa exhaust	CLN=clean-up	IC=inside cont.	FF=full face
BGD=backgroun	CL=clearance	GLBG=glovebag	OC=outside cont.	P=powered
FB=field blank	FC=final clearance	BGLO=bag load out		APR=air purifying resp.
	EL=excursion limit	LB=lab blank		SA=supplied air

Sampled by Keith Bickel

Analyzed by Keith Bickel

Note: Sampling media used is 25mm MCE filter unless otherwise noted.
LOQ = Limit Of Quantitation: The method assumes the lowest quantitative concentration is 10 fibers/100 fields and is volume dependent. Samples below the LOQ are non-quantifiable and therefore are non-reliable.

APPENDIX L

Building Demolition Visual Inspection Reports

PIKA
INTERNATIONAL, INC.

Concrete Materials Inspection Form

PIKA International Inc.
Ravenna Army Ammunition Plant
Ravenna Ohio

Date: 9/27/09 **Time:** 1400 **Load Line #:** NA

Building/Structure Materials Originated From:

BLDG 1037 LAUNDRY WASTE SUMP

Residual Explosives Noted:

Yes	No
	(No)

If yes, has material been segregated for decon IAW DDESB approved RVAAP ESS.

Yes	No

If No, collect composite sample of material for laboratory analysis of explosives and attach results to inspection form.

Photo's Taken and Attached:	Yes	No
	(Yes)	

If No, Explain in space below:

Inspection Description:

- **Visual Inspection During Demolition** 9/27/09
- **Visual Inspection of Stockpiled Material** 9/27/09
- **Visual Inspection During Load out for Off-site Disposal** _____

Melvin Metz
SUXOS Print Name/Signature **Date**

Lee
UXO QA Specialist Print Name/Signature **Date**

APPENDIX M

Building Debris Waste Characterization Results

SUMMARY TABLE
WASTE CHARACTRAZITION SAMPLES

ANALYTE**, UNITS, METHOD NO.	LL1-4 Cleanup Goals mg/kg	Region 9 PRG mg/kg	Surface Soil Background Criteria mg/kg	LABLDG-WC-001
Sample Date				9/28/2009
EXPLOSIVES mg/kg				
1,3,5-Trinitrobenzene	--	183	--	BQL
1,3-Dinitrobenzene	--	0.61	--	BQL
2,4,6-Trinitrotoluene	1646	16	--	BQL
2,4-Dinitrotoluene	--	12	--	BQL
2,6-Dinitrotoluene	--	6.1	--	BQL
2-Amino-4,6-Dinitrotoluene	--	--	--	BQL
2-Nitrotoluene	--	0.88	--	BQL
3-Nitrotoluene	--	73	--	BQL
4-Amino-2,6-Dinitrotoluene	--	--	--	BQL
4-Nitrotoluene	--	12	--	BQL
HMX	--	306	--	BQL
Nitrobenzene	--	2	--	BQL
PETN	--		--	BQL
RDX	838	4.4	--	BQL
Tetryl	--	61	--	BQL
Propellants mg/kg				
Nitrocellulose	--	--	--	BQL
Nitroglycerine	--	35	--	BQL
Nitroguanidine	--	611	--	BQL

Notes:
ug/kg = micrograms per kilogram (parts per billion)
mg/kg = milligrams per liogram (parts per million)
Organics:
BQL = Below Quantitation Limit
J = Estimated result. Result is less than Reporting Limit
B = Method blank contamination. The associated method blank contains the target analyte at a reportable level.
Inorganics:
ND = Indicates that the compound was analyzed for but not detected
J = Method blank contamination. The associated method blank contains the target analyte at a reportable level.
B = Estimated result. Result is less than Reporting Limit

GPL Laboratories, LLLP

Sample Summary Report

Pika International, Inc.

Work Order: 909121

Client Sample ID	Lab Sample ID	Analytical Method	Matrix	Date Sampled	Date Recieved
LABLDG-WC-001	909121-001-001-1/1	SW8330	SOIL	09/28/2009	09/29/2009
	909121-001-002-1/1	SW8330			
	909121-001-002-1/1	CLP_SOLIDS			
	909121-001-002-1/1	IAAP			

Client Name:	Pika International, Inc.	Sample Matrix:	SOIL
Client Sample ID:	LABLDG-WC-001	Lab Sample ID:	909121-001-001-1/1
Sample Date/Time:	09/28/2009 12:00	Percent Moisture:	NA
Receipt Date/Time:	09/29/2009 12:22	Preparation Method:	EXT_SW8330
Prepared Date/Time:	09/30/2009 00:00	Analytical Method:	SW8330

#	Parameter	CAS	Reported Result	Q	Method Detection Limit	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	1,3,5-Trinitrobenzene	99-35-4	BQL	U	0.03	0.10	1	mg/kg	09/30/09	18:44
2)	1,3-Dinitrobenzene	99-65-0	BQL	U	0.005	0.10	1	mg/kg	09/30/09	18:44
3)	2,4,6-Trinitrotoluene	118-96-7	BQL	U	0.02	0.10	1	mg/kg	09/30/09	18:44
4)	2,4-Dinitrotoluene	121-14-2	BQL	U	0.035	0.10	1	mg/kg	09/30/09	18:44
5)	2,6-Dinitrotoluene	606-20-2	BQL	U	0.018	0.10	1	mg/kg	09/30/09	18:44
6)	2-Amino-4,6-Dinitrotoluene	35572-78-2	BQL	U	0.025	0.10	1	mg/kg	09/30/09	18:44
7)	4-Amino-2,6-Dinitrotoluene	19406-51-0	BQL	U	0.015	0.10	1	mg/kg	09/30/09	18:44
8)	HMX	2691-41-0	BQL	U	0.03	0.20	1	mg/kg	09/30/09	18:44
9)	Nitrobenzene	98-95-3	BQL	U	0.016	0.10	1	mg/kg	09/30/09	18:44
10)	Nitroglycerine	55-63-0	BQL	U	1.6	10	1	mg/kg	09/30/09	18:44
11)	RDX	121-82-4	BQL	U	0.18	0.20	1	mg/kg	09/30/09	18:44
12)	Tetryl	479-45-8	BQL	U	0.035	0.20	1	mg/kg	09/30/09	18:44
13)	m-Nitrotoluene	99-08-1	BQL	U	0.055	0.20	1	mg/kg	09/30/09	18:44
14)	o-Nitrotoluene	88-72-2	BQL	U	0.022	0.20	1	mg/kg	09/30/09	18:44
15)	p-Nitrotoluene	99-99-0	BQL	U	0.09	0.20	1	mg/kg	09/30/09	18:44

#	Surrogate Parameter	CAS	Percent Recovery	Control Limits	Dil Fact	Analysis Date/Time	
16)	4-Nitroaniline	100-01-6	101 %	30 - 130	1	09/30/09	18:44

Client Name:	Pika International, Inc.	Sample Matrix:	SOIL
Client Sample ID:	LABLDG-WC-001	Lab Sample ID:	909121-001-002-1/1
Sample Date/Time:	09/28/2009 12:00	Percent Moisture:	NA
Receipt Date/Time:	09/29/2009 12:22	Preparation Method:	EXT_SW8330
Prepared Date/Time:	09/30/2009 00:00	Analytical Method:	SW8330

#	Parameter	CAS	Reported Result	Q	Method Detection Limit	Reporting Limit	Dil Fact	Units	Analysis Date/Time
1)	Nitroguanidine	556-88-7	BQL	U	0.024	0.12	1	mg/kg	09/30/09 12:18

Client Name:	Pika International, Inc.	Sample Matrix:	SOIL
Client Sample ID:	LABLDG-WC-001	Lab Sample ID:	909121-001-002-1/1
Sample Date/Time:	09/28/2009 12:00	Percent Moisture:	16.12
Receipt Date/Time:	09/29/2009 12:22	Preparation Method:	NA
Prepared Date/Time:		Analytical Method:	CLP_SOLIDS

#	Parameter	CAS	Reported Result	Q	Method Detection Limit	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Percent Solids**	**10-02-6**	**84**		**1**	**1.0**	1	%	**10/01/09**	**08:32**

Analytical Summary Report

Client Name:	Pika International, Inc.	Sample Matrix:	SOIL
Client Sample ID:	LABLDG-WC-001	Lab Sample ID:	909121-001-002-1/1
Sample Date/Time:	09/28/2009 12:00	Percent Moisture:	16.12
Receipt Date/Time:	09/29/2009 12:22	Preparation Method:	NA
Prepared Date/Time:		Analytical Method:	IAAP

#	Parameter	CAS	Reported Result	Q	Method Detection Limit	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Nitrocellulose**	**9004-70-0**	**24**		**7.1**	**7.1**	**1**	**mg/kg**	**10/02/09**	**15:19**

Qualifier Definitions

Pika International, Inc.

Work Order: 909121

All Departments

U	Indicates that the compound was analyzed for but not detected
BQL	Below Quantitation Limit

Organics

B	Indicates that the analyte was found in the associated blank as well as in the sample
D	Indicates that the analyte was reported from a diluted analysis
E	Indicates that the concentration detected exceeded the calibration range of the instrument
J	Value is less than the reporting limit but greater than the MDL
P	Indicates that there is greater than 25% difference for detected pesticide/Arochlor results between the two GC columns

Metals

J	Indicates that the reported value was less than the reporting limit but greater than or equal to the IDL/MDL
E	Indicates that the reported value is estimated because of the possible presence of interference (i.e. the serial dilution not within control limits)
H	Indicates that the element was found in the associated blank as well as in the sample and the value is greater than or equal to the reporting limit
D	Indicates that the analyte was reported from a diluted analysis
N	Spiked sample recovery not within control limits
*	Duplicate analysis not within control limits

GPL LABORATORIES, LLC

7210A Corporate Court
Frederick, MD 21703
(301) 694-5310
Fax (301) 620-0731

Contract/Billing Reference:

1 of 1 Pgs.

Project:	RVAAP
Client:	Pika International Inc
Send Results to:	Brian Brockwell
Address:	8451 State Route 5 Ravenna, OH 44266
Phone:	330-358-7135

	Explosives	Propellants
Turnaround Time	3 days from ground time	
# of Containers	1	1
Container Type	8 oz	8 oz
Preservative Used	–	–
Type of Analysis	Explosives	Propellants

Lab Cooler No.

Sample ID#	Date Sampled	Time Sampled	Sample Matrix	Sampler's Initials	Explosives	Propellants								CLIENT COMMENTS
LABLDG-WCo	8/28/01	1200	S	ST	X	X								Laundry BLDG

Relinquished By:	Date/Time	Received By:	Relinquished By:	Received for Laboratory By:	Date/Time
S Tomasina	8/28/01 1400			[signature]	8/29/01 1130

Relinquished By:	Date/Time	Received By:	Date/Time	Shipper:	Airbill No.:

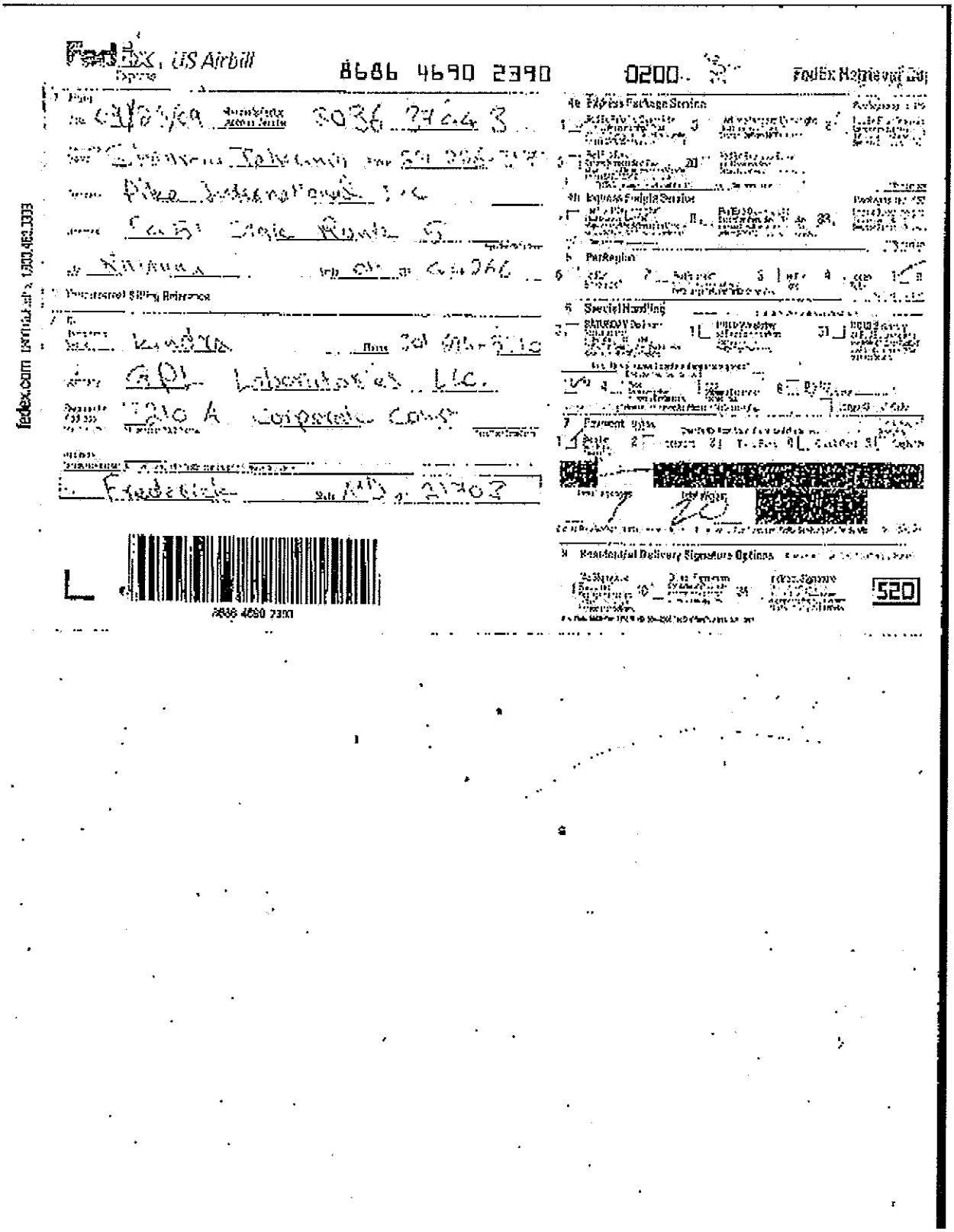
Relinquished By:	Date/Time	Received By:	Lab Comments:	Temp:
				2

G.P. W.O. 909121

Chain of Custody

Pika International, Inc.

SDG: 909121



GPL Laboratories, LLLP

Figure 1
SAMPLE RECEIPT CHECKLIST

W.O. No: 909121   Carrier Name. Fed Ex

Client Name: Pika   Prepared (Logged In) By: TP 9/29/09 (Initials Date)

Date Received. 9/29/09   Project: RVAAP

Time Received: 1110   Site: NA

Received By: [illegible]   VOA Holding Blank I.D. No:

	YES	NO
Airbill/Manifest Present? No. 8656 4670 2390	✓	
Shipping Container in Good Condition?	✓	
Custody Seals Present on Shipping Container? Condition: Broken ___ Intact-not dated or signed ___ Intact-dated and signed ✓	✓	
Usage of Tamper Evident Type		✓
Chain-of-Custody Present?	✓	
Chain-of-Custody Agrees with Sample Labels?	✓	
Chain-of-Custody Signed?	✓	
Packing Present in Shipping Container? Type of Packing Bubble bags	✓	
Custody seals on Sample Bottles? Condition: Good ___ Broken ___		✓
Total Number of Sample Bottles 2		
Total Number of Samples 1		
Samples Intact?	✓	
Sufficient Sample Volume for Indicated Test?	✓	

	YES	NO
Trip Blanks: No. of Sets ___		✓
Field Blanks: No. of Sets ___		✓
Equip. Blank: No. of Sets ___		✓
Field Duplicate: No. of Sets ___		✓
MS/MSD: No of Sets ___		✓
VOA Vials Have Zero Headspace? If no, smaller or greater than a Green Pea (see comments)		✓
Preservatives Added to Sample?		✓
pH Check Required?		✓
Performed By? NA		✓
Ice Present in Shipping Container?	✓	

Container #	Temp.	Container #	Temp.
1	3°		

Project Manager Contacted? Name: [illegible] Date Contacted: 9/29/09

Any NO response must be detailed in the comments section below. If items are not applicable to particular samples or contracts, they should be marked N/A

COMMENTS:

Checklist Completed By: TP

Date: 9/29/09

SOP No: F.2V18

APPENDIX N

Building Debris Waste Disposal Records

C & D Summary Table
Laundry Flame Proofing Building
Bldg 1037

MIXED C & D						
DATE	**TRUCK #**	**CARRIER**	**DISPOSAL FACILITY**	**Cubic Yards**	**BUILDING #1037**	**BOL #**
10/07/09	77	BDB Trucking	Minerva Enterprises	50	Bldg 1037	BLDG1037-001
10/07/09	45	BDB Trucking	Minerva Enterprises	30	Bldg 1037	BLDG1037-002
10/07/09	77	BDB Trucking	Minerva Enterprises	50	Bldg 1037	BLDG1037-003
10/07/09	45	BDB Trucking	Minerva Enterprises	30	Bldg 1037	BLDG1037-004
				160		

MINERVA ENTERPRISES, IN 9000 Minerva Rd. P.O. Box 709 Waynesburg, OH 44688 Ph: 330-868-3435 Fax: 330-868-3488	Customer Name **PIKA International Inc.**	Ticket #: Date: Time:	**214920** **10/07/2008** 9:29:55 AM

Customer #:	**483**	Gross Weight:	0
Transporterr:	BDB Trucking	Tare Weight:	0
Truck Type:	Trailer dump	Net Weight(tons):	**0**
Truck License #:	**77**	Volume Recieved(yards):	50
Location:	OH, Ravenna	Waste Type:	Mixed C&D
Generator:	Ravenna Army Am	Minerva Job #:	10619
ME REP/P.O.#:	sit		

Accepted: Yes If No, this material was rejected for the following reasons. _____

Driver: _____ Minerva Enterprises Representative: S. Tornero

I certify that all materials meet Stark County/ohio EPA specifications.

This certifies that the waste specified on this ticket has been properly disposed of in accordance with all local, state and federal regulations.

STRAIGHT BILL OF LADING – ORIGINAL – NOT NEGOTIABLE

Shipper's No. BLDG 1037-001

Carrier BNB SCAC _____ Carrier's No. 77

RECEIVED, subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications and rules that have been established by the carrier and are available to the shipper, on request; and all applicable state and federal regulations,

at BLDG 1037 / RVAAP, date 10/7/09 from RAVENNA AAP

the Property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to delivery at said destination, if on its route, or otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said Property over all or any portion of said route to destination and as to each party at any time interested in all or any of said Property that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on the back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO:
Consignee Minerva Enterprises, Inc.
Street 9000 Minerva Rd. P.O. Box 709
Destination Waynesburg OH Zip 44688

FROM: RAVENNA AAP
Shipper PIKA INC
Street 8451 ST RT 5
Origin RAVENNA OH Zip 44266

Route

Delivering Carrier | Vehicle Number | U.S. DOT Hazmat Reg. Number

Number and Type of Packages	HM	I.D. Number	Description of Articles	Hazard Class	Pkg. Grp.	Total Quantity (mass, volume, or activity)	Weight (subject to correction)	Class or Rate
1	N		Concrete C+D			10T		

Remit COD to:
Address:
City: State: Zip:

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding $ Per

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

COD AMT: $

TOTAL CHARGES: $

COD FEE: Prepaid ☐ Collect ☐ $

FREIGHT CHARGES: ☐ Prepaid ☐ Collect

NOTE: Liability Limitation for loss or damage in this shipment may be applicable. See 49 U.S.C. 14706(c)(1)(A) and (B).

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Per

PLACARDS REQUIRED

PLACARDS SUPPLIED ☐ BY SHIPPER ☐ BY CARRIER

DRIVER'S SIGNATURE:

SHIPPER: PIKA
PER: DATE: 10/7/09

CARRIER:
PER: DATE: 10/7/09

EMERGENCY RESPONSE TELEPHONE NUMBER: ( )

Monitored at all times the Hazardous Material is in transportation including storage incidental to transportation (172.604).

9-BLS-B4 434 (Rev. 1/07)

PIKA
INTERNATIONAL, INC.

Level of Contamination: 5X

DATE: 10/7/09 TRUCK / CONTAINER NO. 77

SHIPMENT NO. BLDG 1037-001

ITEM DESCRIPTION: CONCRETE

Source: BLDG 1037 Laundry Waste Sump, Ravenna AAP, Ravenna, Oh 44266

According to the U.S. Army Pamphlet Industrial Operations Command (IOCP 385-1), the 5X level of contamination exists "when no significant amounts (not enough to present explosive safety hazard) of contaminants remain. The article, equipment, or building does not pose an explosive safety hazard and is safe for welding, drilling, sawing, etc., and sale to general public." The item(s) identified by Truck and Shipment No. above have been sampled and inspected by the site PIKA International, Inc. (PIKA) Unexploded Ordnance (UXO) Quality Assurance (QA) Specialist to ensure no explosive safety hazard exists. Therefore, to the best of our knowledge, the condition of the items identified above by Truck and Shipment No. are 5X.

Mel Lau
Senior UXO Supervisor
PIKA International, Inc.

Lew Kovarik
UXO Quality Assurance Specialist
PIKA International, Inc.

12723 Capricorn Dr., Suite 500 | Stafford, TX 77477 | 281-340-5525 tel | 281-340-5533 fax
www.pikainc.com

MINERVA ENTERPRISES, IN 9000 Minerva Rd. P.O. Box 709 Waynesburg, OH 44688 Ph: 330-868-3435 Fax: 330-868-3488	Customer Name **PIKA International Inc.**	Ticket # Date: Time:	**214824** **10/07/2009** 9:56:14 AM

Customer #:	483	Gross Weight:	0
Transporter:	BDB Trucking	Tare Weight:	0
Truck Type:	Trailer dump	Net Weight(tons):	0
Truck License #:	45	Volume Recieved(yards):	30
Location:	OH, Ravenna	Waste Type:	Mixed C&D
Generator:	Ravenna Army Am	Minerva Job #:	10619
ME REP/P.O.#:	sjt		

Accepted: Yes If No, this material was rejected for the following reasons. _____

Driver: _____ Minerva Enterprises Representative: S. Romero

I certify that all materials meet Stark County/ohio EPA specifications.

This certifies that the waste specified on this ticket has been properly disposed of in accordance with all local, state and federal regulations.

STRAIGHT BILL OF LADING – ORIGINAL – NOT NEGOTIABLE

Shipper's No. BLDG 1037-002

Carrier BDB SCAC Carrier's No. 45

RECEIVED, subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications and rules that have been established by the carrier and are available to the shipper, on request; and all applicable state and federal regulations;

at BLDG 1037 RVAAP, date 10-7-09 from RAVENNA AAP

the Property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to delivery at said destination, if on its route, or otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said Property over all or any portion of said route to destination and as to each party at any time interested in all or any of said Property that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on the back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO: MINERVA Enterprises INC	**FROM:** RAVENNA AAP
Consignee 9000 MINERVA Rd P.O. Box 709	Shipper PIKA INC
Street	Street 5451 ST RT 5
Destination WAYNESBURG OH Zip 44688	Origin RAVENNA OH Zip 44266
Route	

Delivering Carrier | Vehicle Number | U.S. DOT Hazmat Reg. Number

Number and Type of Packages	HM	I.D. Number	Description of Articles	Hazard Class	Pkg. Grp.	Total Quantity (mass, volume, or activity)	Weight (subject to correction)	Class or Rate
1	N		Concrete C+D			1 DT		

Remit COD to:
Address:
City: State: Zip:

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding $ Per

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

COD AMT: $

TOTAL CHARGES: $

COD FEE: Prepaid ☐ Collect ☐ $

FREIGHT CHARGES: ☐ Prepaid ☐ Collect

NOTE: Liability Limitation for loss or damage in this shipment may be applicable. See 49 U.S.C. 14706(c)(1)(A) and (B).

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Per

PLACARDS REQUIRED

PLACARDS SUPPLIED ☐ BY SHIPPER ☐ BY CARRIER

DRIVER'S SIGNATURE:

SHIPPER: PIKA

PER: DATE: 10-7-09

CARRIER:

PER: DATE: 10-7-09

EMERGENCY RESPONSE TELEPHONE NUMBER: ( )

Monitored at all times the Hazardous Material is in transportation including storage incidental to transportation (172.604).

9-BLS-B4 434 (Rev. 1/07)

PIKA
INTERNATIONAL, INC.

Level of Contamination: 5X

DATE: 10/7/09 TRUCK / CONTAINER NO. 45

SHIPMENT NO. BLDG 1037-002

ITEM DESCRIPTION: CONCRETE

Source: BLDG 1037 Laundry Waste Sump, Ravenna AAP, Ravenna, Oh 44266

According to the U.S. Army Pamphlet Industrial Operations Command (IOCP 385-1), the 5X level of contamination exists "when no significant amounts (not enough to present explosive safety hazard) of contaminants remain. The article, equipment, or building does not pose an explosive safety hazard and is safe for welding, drilling, sawing, etc., and sale to general public." The item(s) identified by Truck and Shipment No. above have been sampled and inspected by the site PIKA International, Inc. (PIKA) Unexploded Ordnance (UXO) Quality Assurance (QA) Specialist to ensure no explosive safety hazard exists. Therefore, to the best of our knowledge, the condition of the items identified above by Truck and Shipment No. are 5X.

Mel Lau
Senior UXO Supervisor
PIKA International, Inc.

Lew Kovarik
UXO Quality Assurance Specialist
PIKA International, Inc.

12723 Capricorn Dr., Suite 500 | Stafford, TX 77477 | 281-340-5525 tel | 281-340-5533 fax
www.pikainc.com

MINERVA ENTERPRISES, IN 9000 Minerva Rd. P.O. Box 709 Waynesburg, OH 44688 Ph: 330-868-3435 Fax: 330-868-3488	Customer Name **PIKA International Inc.**	Ticket #: **214947** Date: **10/07/2009** Time: 12:48:51 PM

Customer #:	483	Gross Weight:	0
Transporter:	BDB Trucking	Tare Weight:	0
Truck Type:	Trailer dump	Net Weight(tons):	0
Truck License #:	77	Volume Recieved(yards):	50
Location:	OH, Ravenna	Waste Type:	Mixed C&D
Generator:	Ravenna Army Am	Minerva Job #:	10619
ME REP/P.O.#:	sjt		

Accepted: Yes If No, this material was rejected for the following reasons. _____

Driver: _____ Minerva Enterprises Representative: S. Torrero

I certify that all materials meet Stark County/ohio EPA specifications.

This certifies that the waste specified on this ticket has been properly disposed of in accordance with all local, state and federal regulations.

STRAIGHT BILL OF LADING – ORIGINAL – NOT NEGOTIABLE

Shipper's No. BLDG 1037-003

Carrier BDB SCAC _____ Carrier's No. 77

RECEIVED, subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications and rules that have been established by the carrier and are available to the shipper, on request; and all applicable state and federal regulations:

at BLDG 1037 RVAAP, date 10-7-09 from RAVENNA AAP

the Property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to delivery at said destination, if on its route, or otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said Property over all or any portion of said route to destination and as to each party at any time interested in all or any of said Property that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on the back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO:		FROM:	
Consignee	Minerva Enterprises INC	Shipper	PIKA INC
Street	9000 Minerva Rd Box 709	Street	5451 ST RT 5
Destination	Wadsworth OH Zip 44688	Origin	RAVENNA OH Zip 44266
Route			

Delivering Carrier | Vehicle Number | U.S. DOT Hazmat Reg. Number

Number and Type of Packages	HM	I.D. Number	Description of Articles	Hazard Class	Pkg. Grp.	Total Quantity (mass, volume, or activity)	Weight (subject to correction)	Class or Rate
1	X		Concrete C+D			1 OT		

Remit COD to:
Address:
City: State: Zip:

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding $ Per

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

COD AMT: $

TOTAL CHARGES: $

COD FEE: Prepaid ☐ Collect ☐ $

FREIGHT CHARGES: ☐ Prepaid ☐ Collect

NOTE: Liability Limitation for loss or damage in this shipment may be applicable. See 49 U.S.C. 14706(c)(1)(A) and (B).

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Per

PLACARDS REQUIRED

PLACARDS SUPPLIED ☐ BY SHIPPER ☐ BY CARRIER

DRIVER'S SIGNATURE:

SHIPPER: PIKA

PER: DATE: 10-7-09

CARRIER:

PER: DATE: 10-7-09

EMERGENCY RESPONSE TELEPHONE NUMBER: ( )

Monitored at all times the Hazardous Material is in transportation including storage incidental to transportation (172.604).

9-BLS-B4 434 (Rev. 1/07)

PIKA
INTERNATIONAL, INC.

Level of Contamination: 5X

DATE: 10/7/09

TRUCK / CONTAINER NO. 77

SHIPMENT NO. BLDG 1037-003

ITEM DESCRIPTION: CONCRETE

Source: BLDG 1037 Laundry Waste Sump, Ravenna AAP, Ravenna, Oh 44266

According to the U.S. Army Pamphlet Industrial Operations Command (IOCP 385-1), the 5X level of contamination exists "when no significant amounts (not enough to present explosive safety hazard) of contaminants remain. The article, equipment, or building does not pose an explosive safety hazard and is safe for welding, drilling, sawing, etc., and sale to general public." The item(s) identified by Truck and Shipment No. above have been sampled and inspected by the site PIKA International, Inc. (PIKA) Unexploded Ordnance (UXO) Quality Assurance (QA) Specialist to ensure no explosive safety hazard exists. Therefore, to the best of our knowledge, the condition of the items identified above by Truck and Shipment No. are 5X.

Mel Lau
Senior UXO Supervisor
PIKA International, Inc.

Lew Kovarik
UXO Quality Assurance Specialist
PIKA International, Inc.

12723 Capricorn Dr., Suite 500 | Stafford, TX 77477 | 281-340-5525 tel | 281-340-5533 fax
www.pikainc.com

MINERVA ENTERPRISES, IN 9000 Minerva Rd. P.O. Box 709 Weynesburg, OH 44693 Ph: 330-868-3435 Fax: 330-868-3488	Customer Name **PIKA International Inc.**	Ticket #: Date: Time:	214949 10/07/2009 1:06:21 PM

Customer #:	483	Gross Weight:	0
Transporter:	BDB Trucking	Tare Weight:	0
Truck Type:	Trailer dump	Net Weight(tons):	0
Truck License #:	45	Volume Recieved(yards):	30
Location:	OH, Ravenna	Waste Type:	Mixed C&D
Generator:	Ravenna Army Am	Minerva Job #:	10619
ME REP/P.O.#:	ydh		

Accepted: Yes If No, this material was rejected for the following reasons. _____

Driver: _____ Minerva Enterprises Representative: _____

I certify that all materials meet Stark County/ohio EPA specifications.

This certifies that the waste specified on this ticket has been properly disposed of in accordance with all local, state and federal regulations.

STRAIGHT BILL OF LADING – ORIGINAL – NOT NEGOTIABLE

Shipper's No. BDB 1037-004

Carrier BDB SCAC _____ Carrier's No. 45

RECEIVED, subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications and rules that have been established by the carrier and are available to the shipper, on request; and all applicable state and federal regulations:

at BDB 1037 RVAAP, date 10-7-09 from RAVENNA AAP

the Property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to delivery at said destination, if on its route, or otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said Property over all or any portion of said route to destination and as to each party at any time interested in all or any of said Property that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on the back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO:	**FROM:**
Consignee MINERVA ENTERPRISE INC	Shipper RAVENNA AAP
Street 9000 Minerva Rd Box 709	Street PIKA INC.
Destination WAYNESBURG OH Zip 44688	Origin 5451 ST RT 5 RAVENNA OH Zip 44266
Route	

Delivering Carrier | Vehicle Number | U.S. DOT Hazmat Reg. Number

Number and Type of Packages	HM	I.D. Number	Description of Articles	Hazard Class	Pkg. Grp.	Total Quantity (mass, volume, or activity)	Weight (subject to correction)	Class or Rate
1	N		Concrete C+D			1 DT		
			Yolanda Hem			10/7/09		

Remit COD to:
Address:
City: State: Zip:

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding $ Per

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

COD AMT: $

TOTAL CHARGES: $

COD FEE: Prepaid ☐ Collect ☐ $

FREIGHT CHARGES: ☐ Prepaid ☐ Collect

NOTE: Liability Limitation for loss or damage in this shipment may be applicable. See 49 U.S.C. 14706(c)(1)(A) and (B).

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Per

PLACARDS REQUIRED

PLACARDS SUPPLIED ☑ BY SHIPPER ☐ BY CARRIER

DRIVER'S SIGNATURE:

SHIPPER: PIKA
PER: DATE: 10-7-09

CARRIER: BDB
PER: DATE: 10-7-09

EMERGENCY RESPONSE TELEPHONE NUMBER: ( )

Monitored at all times the Hazardous Material is in transportation including storage incidental to transportation (172.604).

9-BLS-B4 434 (Rev. 1/07)

PIKA
INTERNATIONAL, INC.

Level of Contamination: 5X

DATE: 10/7/09 TRUCK / CONTAINER NO. 45

SHIPMENT NO. BLDG 1037-004

ITEM DESCRIPTION: CONCRETE

Source: BLDG 1037 Laundry Waste Sump, Ravenna AAP, Ravenna, Oh 44266

According to the U.S. Army Pamphlet Industrial Operations Command (IOCP 385-1), the 5X level of contamination exists "when no significant amounts (not enough to present explosive safety hazard) of contaminants remain. The article, equipment, or building does not pose an explosive safety hazard and is safe for welding, drilling, sawing, etc., and sale to general public." The item(s) identified by Truck and Shipment No. above have been sampled and inspected by the site PIKA International, Inc. (PIKA) Unexploded Ordnance (UXO) Quality Assurance (QA) Specialist to ensure no explosive safety hazard exists. Therefore, to the best of our knowledge, the condition of the items identified above by Truck and Shipment No. are 5X.

Mel Lau
Senior UXO Supervisor
PIKA International, Inc.

Lew Kovarik
UXO Quality Assurance Specialist
PIKA International, Inc.

12723 Capricorn Dr., Suite 500 | Stafford, TX 77477 | 281-340-5525 tel | 281-340-5533 fax
www.pikainc.com

APPENDIX O

Sand and Off-Site Backfill Sample Results

SUMMARY TABLE
BACK-FILL SAND SAMPLE RESULTS

ANALYTE**, UNITS, METHOD NO.	LL1-4 Cleanup Goals mg/kg	Region 9 PRG mg/kg	Surface Soil Background Criteria mg/kg	LABLDG-BFSAND-001	
Sample Date				9/28/2009	
EXPLOSIVES mg/kg					
1,3,5-Trinitrobenzene	--	183	--	ND	
1,3-Dinitrobenzene	--	0.61	--	ND	
2,4,6-Trinitrotoluene	1646	16	--	ND	
2,4-Dinitrotoluene	--	12	--	ND	
2,6-Dinitrotoluene	--	6.1	--	ND	
2-Amino-4,6-Dinitrotoluene	--	--	--	ND	
2-Nitrotoluene	--	0.88	--	ND	
3-Nitrotoluene	--	73	--	ND	
4-Amino-2,6-Dinitrotoluene	--	--	--	ND	
4-Nitrotoluene	--	12	--	ND	
HMX	--	306	--	ND	
Nitrobenzene	--	2	--	ND	
PETN	--		--	ND	
RDX	838	4.4	--	ND	
Tetryl	--	61	--	ND	
Propellants mg/kg					
Nitrocellulose	--	--	--	ND	
Nitroglycerine	--	35	--	ND	
Nitroguanidine	--	611	--	ND	
TAL METALS 6010B mg/kg					
Arsenic	31	0.39	15.4	15.5	
Lead	1995	400	26.1	7.3	
Selenium	--	39	1.4	ND	
Thallium	--	0.52	0.00	ND	
Silver	--	39	0.00	ND	
Aluminum	34942	7614	17700	2210	
Barium	3483	538	88.4	9.0	
Beryllium	--	15	0.88	0.15	B
Calcium	--	--(n)	15800	19600	
Cadmium	109	3.7	0.00	ND	
Cobalt	--	30	10.4	3.4	
Chromium	16	30	17.4	32.3	
Copper	--	313	17.7	11.8	
Iron	--	2346	23100	11800	
Potassium	--	--(n)	927	276	B,E
Magnesium	--	--(n)	3030	6210	
Manganese	1800	176	1450	234	
Sodium	--	--(n)	123	ND	
Nickel	--	156	21.1	21.5	
Antimony	2458	3.1	0.96	ND	
Vanadium	--	7.8	31.1	4.5	
Zinc	--	2346	61.8	43.8	
7471A mg/kg					
Mercury	--	--	0.04	ND	
Cyanide 9012 mg/kg					
Cyanide	--	--	0.00	ND	
Perchlorate 6860 ug/kg					
Perchlorate	--	--	0.00	ND	

SUMMARY TABLE
BACK-FILL SAND SAMPLE RESULTS

ANALYTE**, UNITS, METHOD NO.	LL1-4 Cleanup Goals mg/kg	Region 9 PRG mg/kg	Surface Soil Background Criteria mg/kg	LABLDG-BFSAND-001	
VOCS 8260B ug/kg					
Chloromethane	--	4.7	--	ND	
Bromomethane	--	0.39	--	ND	
Vinyl chloride	--	0.079	--	ND	
Chloroethane	--	3	--	ND	
Methylene Chloride	--	9.1	--	3.7	J
Acetone	--	1412	--	ND	
Carbon disulfide	--	36	--	ND	
1,1-Dichloroethene	--	12	--	ND	
1,1-Dichloroethane	--	51	--	ND	
1,2-Dichloroethene (total)	--	6.9	--	ND	
Chloroform	--	0.22	--	ND	
1,2-Dichloroethane	--	0.28	--	ND	
2-Butanone	--	2231	--	ND	
1,1,1-Trichloroethane	--	1200	--	ND	
Carbon tetrachloride	--	0.25	--	ND	
Bromodichloromethane	--	0.82	--	ND	
1,2-Dichloropropane	--	0.34	--	ND	
cis-1,3-Dichloropropene	--	0.78	--	ND	
Trichloroethene	--	0.48	--	ND	
Dibromochloromethane	--	1.1	--	ND	
1,1,2-Trichloroethane	--	0.73	--	ND	
Benzene	--	0.64	--	ND	
trans-1,3-Dichloropropene	--	0.78	--	ND	
Bromoform	--	62	--	ND	
4-Methyl-2-pentanone	--	528	--	ND	
2-Hexanone	--	530	--	ND	
Tetrachloroethene	--	0.48	--	ND	
1,1,2,2-Tetrachloroethane	--	0.41	--	ND	
Toluene	--	520	--	ND	
Chlorobenzene	--	15	--	ND	
Ethylbenzene	--	395	--	ND	
Styrene	--	1700	--	ND	
Xylenes (Total)	--	27	--	ND	
SVOC 8270 TCLP ug/kg					
Phenol	--	1833	--	ND	
Bis(2-chloroethyl) ether	--	0.22	--	ND	
2-Chlorophenol	--	6.3	--	ND	
1,3-Dichlorobenzene	--	53	--	ND	
1,4-Dichlorobenzene	--	3.4	--	ND	
1,2-Dichlorobenzene	--	600	--	ND	
2-Methylphenol	--	306	--	ND	
2,2-oxybis (1-chloropropane)	--	2.9	--	ND	
4-Methylphenol	--	31	--	ND	
N-Nitroso-di-n-propylamine	--	0.069	--	ND	
Hexachloroethane	--	35	--	ND	
Nitrobenzene	--	2	--	ND	
Isophorone	--	512	--	ND	
2-Nitrophenol	--	--	--	ND	
2,4-Dimethylphenol	--	122	--	ND	
Bis(2-chloroethoxy)methane	--	--	--	ND	
2,4-Dichlorophenol	--	18	--	ND	

SUMMARY TABLE
BACK-FILL SAND SAMPLE RESULTS

ANALYTE**, UNITS, METHOD NO.	LL1-4 Cleanup Goals mg/kg	Region 9 PRG mg/kg	Surface Soil Background Criteria mg/kg	LABLDG-BFSAND-001
1,2,4-Trichlorobenzene	--	6.2	--	ND
Naphthalene	--	5.6	--	ND
4-Chloroaniline	--	24	--	ND
Hexachlorobutadiene	--	6.2	--	ND
4-Chloro-3-methylphenol	--	--	--	ND
2-Methylnaphthalene	--	--	--	ND
Hexachlorocyclopentadiene	--	37	--	ND
2,4,6-Trichlorophenol	--	0.61	--	ND
2,4,5-Trichlorophenol	--	611	--	ND
2-Chloronaphthalene	--	494	--	ND
2-Nitroaniline	--	18.3	--	ND
Dimethyl phthalate	--	100000	--	ND
Acenaphthylene	--	--	--	ND
2,6-Dinitrotoluene	--	6.1	--	ND
3-Nitroaniline	--	1.8	--	ND
Acenaphthene	--	368	--	ND
2,4-Dinitrophenol	--	12	--	ND
2-Nitrophenol	--	--	--	ND
Dibenzofuran	--	15	--	ND
2,4-Dinitrotoluene	--	12	--	ND
Diethyl phthalate	--	4888	--	ND
4-Chlorophenyl phenyl ether	--	--	--	ND
Fluorene	--	275	--	ND
4-Nitroaniline	--	23	--	ND
4,6-Dinitro-2-methylphenol	--	0.61	--	ND
n-Nitrosodiphenylamine	--	99	--	ND
4-Bromophenyl phenyl ether	--	--	--	ND
Hexachlorobenzene	--	0.3	--	ND
Pentachlorophenol	--	3	--	ND
Phenanthrene	--	--	--	ND
Anthracene	--	2189	--	ND
Carbazole	--	24	--	ND
Di-n-butyl phthalate	--	611	--	ND
Fluoranthene	--	229	--	ND
Pyrene	--	232	--	ND
Butyl benzyl phthalate	--	1222	--	ND
3,3'-Dichlorobenzidine	--	1.1	--	ND
Benzo(a)anthracene	105	0.62	--	ND
Chrysene	--	62	--	ND
Bis(2-ethylhexyl) phthalate	--	35	--	ND
Di-n-octyl phthalate	--	244	--	ND
Benzo(b)fluoranthene	105	0.62	--	ND
Benzo(k)fluoranthene	--	6.2	--	ND
Benzo(a)pyrene	10	0.062	--	ND
Indeno(1,2,3-cd)pyrene	--	0.62	--	ND

SUMMARY TABLE
BACK-FILL SAND SAMPLE RESULTS

ANALYTE**, UNITS, METHOD NO.	LL1-4 Cleanup Goals mg/kg	Region 9 PRG mg/kg	Surface Soil Background Criteria mg/kg	LABLDG-BFSAND-001
Dibenz(a,h)anthracene	10	0.062	--	ND
Benzo(g,h,i)perylene	--	--	--	ND
PESTICIDES 8081A TCLP ug/kg				
alpha-BHC	--	0.09	--	ND
beta-BHC	--	0.32	--	ND
delta-BHC	--	--	--	ND
gamma-BHC	--	0.44	--	ND
Heptachlor	--	0.11	--	ND
Aldrin	--	0.029	--	ND
Heptachlor epoxide	--	0.053	--	ND
Endosulfan I	--	37	--	ND
Dieldrin	--	0.030	--	ND
4,4'-DDE	--	1.7	--	ND
Endrin	--	1.8	--	ND
Endosulfan II	--	37	--	ND
4,4'-DDD	--	2.4	--	ND
Endosulfan sulfate	--	37	--	ND
4,4'-DDT	--	1.7	--	ND
Methoxychlor	--	31	--	ND
Endrin ketone	--	--	--	ND
Endrin aldehyde	--	--	--	ND
alpha-Chlordane	--	1.6	--	ND
gamma-Chlordane	--	1.6	--	ND
Toxaphene	--	0.44	--	ND
PCBs 8082 ug/kg				
Aroclor-1016	--	0.39	--	ND
Aroclor-1221	--	0.22	--	ND
Aroclor-1232	--	0.22	--	ND
Aroclor-1242	--	0.22	--	ND
Aroclor-1248	--	0.22	--	ND
Aroclor-1254	35	0.22	--	ND
Aroclor-1260	--	0.22	--	ND

ug/L = micrograms per liter (parts per billion)
ug/kg = micrograms per kilogram (parts per billion)
mg/kg = milligrams per liogram (parts per million)
Organics:
ND = Indicates that the compound was analyzed for but not detected
J = Estimated result. Result is less than Reporting Limit
B = Method blank contamination. The associated method blank contains the target analyte at a reportable level.
Inorganics:
ND = Indicates that the compound was analyzed for but not detected
J = Method blank contamination. The associated method blank contains the target analyte at a reportable level.
B = Estimated result. Result is less than Reporting Limit
E = Matrix Interference

Field Sampling Report

PIKA INTERNATIONAL, INC.

Project Name: RVAAP

Location ID: LABLDG-BF SAND-001

Ravenna Army Ammunition Plant
Ravenna Ohio

Date: 09/28/2009 Weather Cloudy Temperature 70

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop	X	Trowel	
	Pump		Bacon Bomb		Bowl	X	Hand Auger	
	Micro-purge				Push Probe		Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 0900 hrs

Sample Type: Composite (MI) - Grab
If MI, # of increments taken: _____

Location: Plotted on Map - Staked in Field (Estimated) - Measured - Surveyed

Sample Depth: 0-6" FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings:	
Background:	ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Turbidity	N.T.U.

Analytical Parameters

VOC		TPH GRO	
SVOC (PAHs)		TPH DRO	
Explosives		Chromium +6	
Propellants		Nitrate	
TAL Metals		Sulfate	
Pesticides/PCBs		Asbestos	
RVAAP Full Suite	X	Arsenic	
TOC		Chromium	
Grain Size			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / No	NA
Duplicate ID	Yes / No	NA
Equipment Rinse ID	Yes / No	NA
Trip Blank ID	Yes / No	NA

Sample Description

COLOR: Brown ODOR: None

STAINING: None TEXTURE: massive

SORTING: well sorted PLACTICITY: None

MOISTURE: Moist Sand

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID: _____

Name: _____

Agency/Company: _____

Address: _____

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Shahram Taherinia (Please Print)

Signature: _____

Reviewed by: Sue Boles (Please Print)

Signature: Sue Boles Date: 10/14/09

PIKA International, Inc.

Client Sample ID: LABLDG-BFSAND-001

HPLC

Lot-Sample #...: A9I290275-002 Work Order #...: LLN3Q1A6 Matrix.....: SO
Date Sampled...: 09/28/09 09:00 Date Received..: 09/29/09
Prep Date.....: 10/06/09 Analysis Date..: 10/08/09
Prep Batch #...: 9279433
Dilution Factor: 1
% Moisture.....: 0.43 Method.....: SW846 8330

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,3-Dinitrobenzene	ND	0.25	mg/kg	0.050
2,4-Dinitrotoluene	ND	0.25	mg/kg	0.020
2,6-Dinitrotoluene	ND	0.25	mg/kg	0.030
Nitrobenzene	ND	0.25	mg/kg	0.050
Nitroglycerin	ND	0.50	mg/kg	0.13
1,3,5-Trinitrobenzene	ND	0.25	mg/kg	0.020
2,4,6-Trinitrotoluene	ND	0.25	mg/kg	0.020
HMX	ND	0.25	mg/kg	0.030
RDX	ND	0.25	mg/kg	0.040
Tetryl	ND	0.25	mg/kg	0.050
2-Nitrotoluene	ND	0.25	mg/kg	0.080
3-Nitrotoluene	ND	0.25	mg/kg	0.070
4-Nitrotoluene	ND	0.25	mg/kg	0.080
4-Amino-2,6-dinitrotoluene	ND	0.25	mg/kg	0.020
2-Amino-4,6-dinitrotoluene	ND	0.30	mg/kg	0.10
PETN	ND	0.50	mg/kg	0.16

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
3,4-Dinitrotoluene	100	(50 - 150)

PIKA International, Inc.

Client Sample ID: LABLDG-BFSAND-001

HPLC

Lot-Sample #...: A9I290275-002	Work Order #...: LLN3Q1A8	Matrix.....: SO	
Date Sampled...: 09/28/09 09:00	Date Received..: 09/29/09		
Prep Date.....: 10/06/09	Analysis Date..: 10/08/09		
Prep Batch #...: 9279435			
Dilution Factor: 1			
% Moisture.....: 0.43	Method.....: SW846 8330 (Modif		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Nitroguanidine	ND	0.25	mg/kg	0.020

PIKA International, Inc.

Client Sample ID: LABLDG-BFSAND-001

General Chemistry

Lot-Sample #...: A9I290275-002 Work Order #...: LLN3Q Matrix.....: SO
Date Sampled...: 09/28/09 09:00 Date Received..: 09/29/09
% Moisture.....: 0.43

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Cyanide, Total	ND	0.50	mg/kg	SW846 9012A	10/01/09	9274341
		Dilution Factor: 1		MDL.....: 0.10		
Nitrocellulose	ND	5.0	mg/kg	MCAWW 353.2	10/22-10/30/09	9295257
		Dilution Factor: 1		MDL.....: 0.78		
Percent Solids	99.6	10.0	%	MCAWW 160.3 MOD	10/09-10/10/09	9282315
		Dilution Factor: 1		MDL.....: 10.0		
Total phosphorus	170	50	mg/kg	MCAWW 365.2	10/12/09	9285441
		Dilution Factor: 5		MDL.....: 12		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

PIKA International, Inc.

Client Sample ID: LABLDG-BFSAND-001

TOTAL Metals

Lot-Sample #...: A9I290275-002 Matrix.....: SO
Date Sampled...: 09/28/09 09:00 Date Received..: 09/29/09
% Moisture.....: 0.43

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9274015						
Aluminum	2210	20.1	mg/kg	SW846 6010B	10/01-10/08/09	LLN3Q1AE
		Dilution Factor: 1		Analysis Time..: 13:56	Analyst ID.....: 000079	
		Instrument ID..: I5		MDL.....: 7.1		
Arsenic	15.5	1.0	mg/kg	SW846 6010B	10/01-10/08/09	LLN3Q1A1
		Dilution Factor: 1		Analysis Time..: 13:56	Analyst ID.....: 000079	
		Instrument ID..: I5		MDL.....: 0.37		
Lead	7.3	1.0	mg/kg	SW846 6010B	10/01-10/08/09	LLN3Q1A2
		Dilution Factor: 1		Analysis Time..: 13:56	Analyst ID.....: 000079	
		Instrument ID..: I5		MDL.....: 0.23		
Antimony	ND	10.0	mg/kg	SW846 6010B	10/01-10/08/09	LLN3Q1AF
		Dilution Factor: 1		Analysis Time..: 13:56	Analyst ID.....: 000079	
		Instrument ID..: I5		MDL.....: 0.77		
Barium	9.0	1.0	mg/kg	SW846 6010B	10/01-10/08/09	LLN3Q1AG
		Dilution Factor: 1		Analysis Time..: 13:56	Analyst ID.....: 000079	
		Instrument ID..: I5		MDL.....: 0.38		
Selenium	ND	1.0	mg/kg	SW846 6010B	10/01-10/08/09	LLN3Q1A3
		Dilution Factor: 1		Analysis Time..: 13:56	Analyst ID.....: 000079	
		Instrument ID..: I5		MDL.....: 0.48		
Beryllium	0.15 B	1.0	mg/kg	SW846 6010B	10/01-10/08/09	LLN3Q1AH
		Dilution Factor: 1		Analysis Time..: 13:56	Analyst ID.....: 000079	
		Instrument ID..: I5		MDL.....: 0.051		
Thallium	ND	2.0	mg/kg	SW846 6010B	10/01-10/08/09	LLN3Q1A4
		Dilution Factor: 1		Analysis Time..: 13:56	Analyst ID.....: 000079	
		Instrument ID..: I5		MDL.....: 0.76		
Cadmium	ND	1.0	mg/kg	SW846 6010B	10/01-10/08/09	LLN3Q1AJ
		Dilution Factor: 1		Analysis Time..: 13:56	Analyst ID.....: 000079	
		Instrument ID..: I5		MDL.....: 0.029		
Calcium	19600	100	mg/kg	SW846 6010B	10/01-10/08/09	LLN3Q1AK
		Dilution Factor: 1		Analysis Time..: 13:56	Analyst ID.....: 000079	
		Instrument ID..: I5		MDL.....: 49.2		

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PIKA International, Inc.

Client Sample ID: LABLDG-BFSAND-001

TOTAL Metals

Lot-Sample #...: A9I290275-002 Matrix.....: SO

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Chromium	32.3	2.0	mg/kg	SW846 6010B	10/01-10/08/09	LLN3Q1AL
		Dilution Factor: 1		Analysis Time..: 13:56	Analyst ID.....: 000079	
		Instrument ID..: I5		MDL.....: 0.22		
Cobalt	3.4	2.0	mg/kg	SW846 6010B	10/01-10/08/09	LLN3Q1AM
		Dilution Factor: 1		Analysis Time..: 13:56	Analyst ID.....: 000079	
		Instrument ID..: I5		MDL.....: 0.11		
Copper	11.8	2.0	mg/kg	SW846 6010B	10/01-10/08/09	LLN3Q1AN
		Dilution Factor: 1		Analysis Time..: 13:56	Analyst ID.....: 000079	
		Instrument ID..: I5		MDL.....: 0.45		
Iron	11800	20.1	mg/kg	SW846 6010B	10/01-10/08/09	LLN3Q1AP
		Dilution Factor: 1		Analysis Time..: 13:56	Analyst ID.....: 000079	
		Instrument ID..: I5		MDL.....: 11.0		
Magnesium	6210	100	mg/kg	SW846 6010B	10/01-10/08/09	LLN3Q1AQ
		Dilution Factor: 1		Analysis Time..: 13:56	Analyst ID.....: 000079	
		Instrument ID..: I5		MDL.....: 9.4		
Manganese	234	1.0	mg/kg	SW846 6010B	10/01-10/08/09	LLN3Q1AR
		Dilution Factor: 1		Analysis Time..: 13:56	Analyst ID.....: 000079	
		Instrument ID..: I5		MDL.....: 0.28		
Nickel	21.5	2.0	mg/kg	SW846 6010B	10/01-10/08/09	LLN3Q1AT
		Dilution Factor: 1		Analysis Time..: 13:56	Analyst ID.....: 000079	
		Instrument ID..: I5		MDL.....: 0.33		
Potassium	276 B,E	502	mg/kg	SW846 6010B	10/01-10/08/09	LLN3Q1AU
		Dilution Factor: 1		Analysis Time..: 13:56	Analyst ID.....: 000079	
		Instrument ID..: I5		MDL.....: 27.1		
Silver	ND	2.0	mg/kg	SW846 6010B	10/01-10/08/09	LLN3Q1AV
		Dilution Factor: 1		Analysis Time..: 13:56	Analyst ID.....: 000079	
		Instrument ID..: I5		MDL.....: 0.15		
Sodium	ND	100	mg/kg	SW846 6010B	10/01-10/08/09	LLN3Q1AW
		Dilution Factor: 1		Analysis Time..: 13:56	Analyst ID.....: 000079	
		Instrument ID..: I5		MDL.....: 85.4		

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PIKA International, Inc.

Client Sample ID: LABLDG-BFSAND-001

TOTAL Metals

Lot-Sample #...: A9I290275-002 Matrix.....: SO

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Vanadium	4.5	2.0	mg/kg	SW846 6010B	10/01-10/08/09	LLN3Q1AX
		Dilution Factor: 1		Analysis Time..: 13:56	Analyst ID.....: 000079	
		Instrument ID..: I5		MDL.....: 0.12		
Zinc	43.8	4.0	mg/kg	SW846 6010B	10/01-10/08/09	LLN3Q1A0
		Dilution Factor: 1		Analysis Time..: 13:56	Analyst ID.....: 000079	
		Instrument ID..: I5		MDL.....: 1.5		
Mercury	ND	0.10	mg/kg	SW846 7471A	10/01/09	LLN3Q1A5
		Dilution Factor: 1		Analysis Time..: 14:07	Analyst ID.....: 001576	
		Instrument ID..: H1		MDL.....: 0.014		

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

B Estimated result. Result is less than RL.

E Matrix interference.

PIKA International, Inc.

Client Sample ID: LABLDG-BFSAND-001

HPLC

Lot-Sample #...:	A9I290275-002	Work Order #...:	LLN3Q1D6	Matrix.....:	SO
Date Sampled...:	09/28/09 09:00	Date Received..:	09/29/09		
Prep Date.....:	10/07/09	Analysis Date..:	10/09/09		
Prep Batch #...:	9280540				
Dilution Factor:	1				
% Moisture.....:	0.43	Method.....:	SW846 6860		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perchlorate	ND	0.60	ug/kg	0.21

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

The analyte was not detected at the limit of detection.

PIKA International, Inc.

Client Sample ID: LABLDG-BFSAND-001 (VOC)

GC/MS Volatiles

Lot-Sample #...: A9I290275-001 Work Order #...: LLN3J1AC Matrix.....: SO
Date Sampled...: 09/28/09 09:00 Date Received..: 09/29/09
Prep Date.....: 09/30/09 Analysis Date..: 09/30/09
Prep Batch #...: 9274561
Dilution Factor: 1 Initial Wgt/Vol: 5 g Final Wgt/Vol..: 5 mL
% Moisture.....: 4.5 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Chloromethane	ND	5.2	ug/kg	0.43
Bromomethane	ND	5.2	ug/kg	0.57
Vinyl chloride	ND	5.2	ug/kg	0.41
Chloroethane	ND	5.2	ug/kg	0.90
Methylene chloride	**3.7 J,B**	**5.2**	**ug/kg**	**0.70**
Acetone	ND	21	ug/kg	6.6
Carbon disulfide	ND	5.2	ug/kg	0.46
1,1-Dichloroethene	ND	5.2	ug/kg	0.54
1,1-Dichloroethane	ND	5.2	ug/kg	0.38
1,2-Dichloroethene (total)	ND	10	ug/kg	0.81
Chloroform	ND	5.2	ug/kg	0.30
1,2-Dichloroethane	ND	5.2	ug/kg	0.36
2-Butanone	ND	21	ug/kg	1.5
1,1,1-Trichloroethane	ND	5.2	ug/kg	0.59
Carbon tetrachloride	ND	5.2	ug/kg	0.39
Bromodichloromethane	ND	5.2	ug/kg	0.29
1,2-Dichloropropane	ND	5.2	ug/kg	0.72
cis-1,3-Dichloropropene	ND	5.2	ug/kg	0.36
Trichloroethene	ND	5.2	ug/kg	0.44
Dibromochloromethane	ND	5.2	ug/kg	0.58
1,1,2-Trichloroethane	ND	5.2	ug/kg	0.41
Benzene	ND	5.2	ug/kg	0.24
trans-1,3-Dichloropropene	ND	5.2	ug/kg	0.57
Bromoform	ND	5.2	ug/kg	0.35
4-Methyl-2-pentanone	ND	21	ug/kg	0.57
2-Hexanone	ND	21	ug/kg	0.66
Tetrachloroethene	ND	5.2	ug/kg	0.54
1,1,2,2-Tetrachloroethane	ND	5.2	ug/kg	0.36
Toluene	ND	5.2	ug/kg	0.28
Chlorobenzene	ND	5.2	ug/kg	0.35
Ethylbenzene	ND	5.2	ug/kg	0.27
Styrene	ND	5.2	ug/kg	0.16
Xylenes (total)	ND	10	ug/kg	0.70

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	109	(50 - 150)
1,2-Dichloroethane-d4	106	(50 - 150)
Toluene-d8	108	(50 - 150)
4-Bromofluorobenzene	108	(50 - 150)

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PIKA International, Inc.

Client Sample ID: LABLDG-BFSAND-001

GC/MS Semivolatiles

Lot-Sample #...:	A9I290275-002	Work Order #...:	LLN3Q1CD	Matrix.....:	SO
Date Sampled...:	09/28/09 09:00	Date Received..:	09/29/09		
Prep Date.....:	10/01/09	Analysis Date..:	10/13/09		
Prep Batch #...:	9274030				
Dilution Factor:	5	Initial Wgt/Vol:	30 g	Final Wgt/Vol..:	2 mL
% Moisture.....:	0.43	Method.....:	SW846 8270C		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Phenol	ND	250	ug/kg	130
bis(2-Chloroethyl)-ether	ND	500	ug/kg	10
2-Chlorophenol	ND	250	ug/kg	130
1,3-Dichlorobenzene	ND	250	ug/kg	120
1,4-Dichlorobenzene	ND	250	ug/kg	110
1,2-Dichlorobenzene	ND	250	ug/kg	150
2-Methylphenol	ND	1000	ug/kg	140
2,2'-oxybis(1-Chloro-propane)	ND	500	ug/kg	130
4-Methylphenol	ND	1000	ug/kg	110
N-Nitrosodi-n-propyl-amine	ND	250	ug/kg	120
Hexachloroethane	ND	250	ug/kg	140
Nitrobenzene	ND	500	ug/kg	11
Isophorone	ND	250	ug/kg	110
2-Nitrophenol	ND	250	ug/kg	95
2,4-Dimethylphenol	ND	750	ug/kg	100
bis(2-Chloroethoxy) methane	ND	500	ug/kg	110
2,4-Dichlorophenol	ND	750	ug/kg	100
1,2,4-Trichloro-benzene	ND	250	ug/kg	120
Naphthalene	ND	33	ug/kg	8.0
4-Chloroaniline	ND	750	ug/kg	85
Hexachlorobutadiene	ND	250	ug/kg	130
4-Chloro-3-methylphenol	ND	750	ug/kg	110
2-Methylnaphthalene	ND	33	ug/kg	7.5
Hexachlorocyclopenta-diene	ND	1700	ug/kg	80
2,4,6-Trichloro-phenol	ND	750	ug/kg	110
2,4,5-Trichloro-phenol	ND	750	ug/kg	130
2-Chloronaphthalene	ND	250	ug/kg	110
2-Nitroaniline	ND	1000	ug/kg	110
Dimethyl phthalate	ND	250	ug/kg	110
Acenaphthylene	ND	33	ug/kg	6.0

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PIKA International, Inc.

Client Sample ID: LABLDG-BFSAND-001

GC/MS Semivolatiles

Lot-Sample #...: A9I290275-002 Work Order #...: LLN3Q1CD Matrix.....: SO

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,6-Dinitrotoluene	ND	1000	ug/kg	110
3-Nitroaniline	ND	1000	ug/kg	80
Acenaphthene	ND	33	ug/kg	6.5
2,4-Dinitrophenol	ND	1700	ug/kg	420
4-Nitrophenol	ND	1700	ug/kg	550
Dibenzofuran	ND	250	ug/kg	100
2,4-Dinitrotoluene	ND	1000	ug/kg	90
Diethyl phthalate	ND	250	ug/kg	95
4-Chlorophenyl phenyl ether	ND	250	ug/kg	120
Fluorene	ND	33	ug/kg	6.0
4-Nitroaniline	ND	1000	ug/kg	130
4,6-Dinitro-2-methylphenol	ND	750	ug/kg	65
N-Nitrosodiphenylamine	ND	250	ug/kg	110
4-Bromophenyl phenyl ether	ND	250	ug/kg	110
Hexachlorobenzene	ND	33	ug/kg	11
Pentachlorophenol	ND	750	ug/kg	410
Phenanthrene	ND	33	ug/kg	10
Anthracene	ND	33	ug/kg	6.5
Carbazole	ND	250	ug/kg	95
Di-n-butyl phthalate	ND	250	ug/kg	95
Fluoranthene	ND	33	ug/kg	6.0
Pyrene	ND	33	ug/kg	5.5
Butyl benzyl phthalate	ND	250	ug/kg	95
3,3'-Dichlorobenzidine	ND	500	ug/kg	90
Benzo(a)anthracene	ND	33	ug/kg	4.8
Chrysene	ND	33	ug/kg	4.5
bis(2-Ethylhexyl) phthalate	ND	250	ug/kg	90
Di-n-octyl phthalate	ND	250	ug/kg	90
Benzo(b)fluoranthene	ND	33	ug/kg	6.0
Benzo(k)fluoranthene	ND	33	ug/kg	8.5
Benzo(a)pyrene	ND	33	ug/kg	6.5
Indeno(1,2,3-cd)pyrene	ND	33	ug/kg	7.5
Dibenz(a,h)anthracene	ND	33	ug/kg	6.5
Benzo(ghi)perylene	ND	33	ug/kg	6.5

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PIKA International, Inc.

Client Sample ID: LABLDG-BFSAND-001

GC Semivolatiles

Lot-Sample #...:	A9I290275-002	Work Order #...:	LLN3Q1CE	Matrix.....:	SO
Date Sampled...:	09/28/09 09:00	Date Received..:	09/29/09		
Prep Date.....:	10/01/09	Analysis Date..:	10/02/09		
Prep Batch #...:	9274038				
Dilution Factor:	1	Initial Wgt/Vol:	30.18 g	Final Wgt/Vol..:	10 mL
% Moisture.....:	0.43	Method.....:	SW846 8081A		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
alpha-BHC	ND	1.7	ug/kg	0.73
beta-BHC	ND	1.7	ug/kg	1.1
delta-BHC	ND	1.7	ug/kg	1.2
gamma-BHC (Lindane)	ND	1.7	ug/kg	0.74
Heptachlor	ND	1.7	ug/kg	1.1
Aldrin	ND	1.7	ug/kg	1.2
Heptachlor epoxide	ND	1.7	ug/kg	0.80
Endosulfan I	ND	1.7	ug/kg	0.52
Dieldrin	ND	1.7	ug/kg	0.47
4,4'-DDE	ND	1.7	ug/kg	0.39
Endrin	ND	1.7	ug/kg	0.50
Endosulfan II	ND	1.7	ug/kg	0.82
4,4'-DDD	ND	1.7	ug/kg	0.62
Endosulfan sulfate	ND	1.7	ug/kg	0.87
4,4'-DDT	ND	1.7	ug/kg	0.63
Methoxychlor	ND	3.3	ug/kg	1.5
Endrin ketone	ND	1.7	ug/kg	0.63
Endrin aldehyde	ND	1.7	ug/kg	1.0
alpha-Chlordane	ND	1.7	ug/kg	0.94
gamma-Chlordane	ND	1.7	ug/kg	0.42
Toxaphene	ND	67	ug/kg	19

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	68	(50 - 150)
Decachlorobiphenyl	70	(50 - 150)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

PIKA International, Inc.

Client Sample ID: LABLDG-BFSAND-001

GC Semivolatiles

Lot-Sample #...:	A9I290275-002	**Work Order #...:**	LLN3Q1CF	**Matrix.....:**	SO
Date Sampled...:	09/28/09 09:00	**Date Received..:**	09/29/09		
Prep Date.....:	10/01/09	**Analysis Date..:**	10/07/09		
Prep Batch #...:	9274042				
Dilution Factor:	1	**Initial Wgt/Vol:**	30.18 g	**Final Wgt/Vol..:**	10 mL
% Moisture.....:	0.43	**Method.....:**	SW846 8082		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Aroclor 1016	ND	50	ug/kg	6.7
Aroclor 1221	ND	50	ug/kg	9.9
Aroclor 1232	ND	50	ug/kg	5.2
Aroclor 1242	ND	50	ug/kg	10
Aroclor 1248	ND	50	ug/kg	4.8
Aroclor 1254	ND	50	ug/kg	4.3
Aroclor 1260	ND	50	ug/kg	8.0

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	102	(50 - 150)
Decachlorobiphenyl	99	(50 - 150)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

SUMMARY TABLE
FILL DIRT SAMPLES

ANALYTE**, UNITS, METHOD NO.	WBG Clean-up Goals mg/kg	Region 9 PRG mg/kg	Surface Soil Background Criteria mg/kg	MEC-FILL-OO1	MEC-FILL-OO2	WBG-FILL-OO1	WBG-FILL-OO2
Sample Date				6/21/2007	6/21/2007	12/16/2008	12/16/2008
EXPLOSIVES mg/kg							
1,3,5-Trinitrobenzene	--	183	--	ND	ND	-	-
1,3-Dinitrobenzene	--	0.61	--	ND	ND	-	-
2,4,6-Trinitrotoluene	--	16	--	ND	ND	-	-
2,4-Dinitrotoluene	--	12	--	ND	ND	-	-
2,6-Dinitrotoluene	--	6.1	--	ND	ND	-	-
2-Amino-4,6-Dinitrotoluene	--	--	--	ND	ND	-	-
2-Nitrotoluene	--	0.88	--	ND	ND	-	-
3-Nitrotoluene	--	73	--	ND	ND	-	-
4-Amino-2,6-Dinitrotoluene	--	--	--	ND	ND	-	-
4-Nitrotoluene	--	12	--	ND	ND	-	-
HMX	--	306	--	ND	ND	-	-
Nitrobenzene	--	2	--	ND	ND	-	-
PETN	--	--	--	ND	ND	-	-
RDX	617	4.4	--	ND	ND	-	-
Tetryl	--	61	--	ND	ND	-	-
Propellants mg/kg							
Nitrocellulose	--	--	--	2.3 B	0.91 B	-	-
Nitroglycerine	--	35	--	ND	ND	-	-
Nitroguanidine	--	611	--	0.039 J,B	0.049 J,B	-	-
METALS 6010B mg/kg							
Arsenic	--	0.39	15.40	18.8	4.9	10.8	10.2
Lead	--	400	26.1	10	6.4	-	-
Selenium	--	39	1.4	ND	ND	-	-
Thallium	--	0.52	0.00	ND	ND	-	-
Silver	--	39	0.00	ND	ND	-	-
Aluminum	--	7614	17700	6570	2520	-	-
Barium	--	538	88.40	28.8	13.3	-	-
Beryllium	--	15	0.88	0.43 B	0.30 B	-	-
Calcium	--	--(n)	15800.00	4250	8540	-	-
Cadmium	--	3.7	0.00	ND	ND	-	-
Cobalt	--	30	10.40	8.4	4.5	-	-
Chromium	--	30	17.40	10.5	19.9	16.1	25.1
Copper	--	313	17.70	17.4	9.7	-	-
Iron	--	2346	23100.00	21300	15100	-	-
Potassium	--	--(n)	927.00	1040 J	449 B,J	-	-
Magnesium	--	--(n)	3030.00	3630 J	2550 J,B	-	-
Manganese	--	176	1450.00	316	244	-	-
Sodium	--	--(n)	123.00	ND	ND	-	-
Nickel	--	156	21.10	20.3	17.0	-	-
Antimony	--	3.1	0.96	0.56 B	ND	-	-
Vanadium	--	7.8	31.10	11.3	6.6	-	-
Zinc	--	2346	61.80	50.1	36.9	-	-
7471A mg/kg							
Mercury	--	--	0.04	ND	ND	-	-
Cyanide 9012 mg/kg							
Cyanide	--	--	0.00	ND	ND	-	-
VOCS 8260B ug/kg							
Chloromethane	--	4.7	--	ND	ND	-	-
Bromomethane	--	0.39	--	ND	ND	-	-
Vinyl chloride	--	0.079	--	ND	ND	-	-
Chloroethane	--	3	--	ND	ND	-	-
Methylene Chloride	--	9.1	--	2.7 J,B	5.8 B	-	-

SUMMARY TABLE
FILL DIRT SAMPLES

ANALYTE**, UNITS, METHOD NO.	WBG Clean-up Goals mg/kg	Region 9 PRG mg/kg	Surface Soil Background Criteria mg/kg	MEC-FILL-OO1	MEC-FILL-OO2	WBG-FILL-OO1	WBG-FILL-OO2
Acetone	--	1412	--	ND	ND	-	-
Carbon disulfide	--	36	--	ND	ND	-	-
1,1-Dichloroethene	--	12	--	ND	ND	-	-
1,1-Dichloroethane	--	51	--	ND	ND	-	-
1,2-Dichloroethene (total)	--	6.9	--	ND	ND	-	-
Chloroform	--	0.22	--	ND	ND	-	-
1,2-Dichloroethane	--	0.28	--	ND	ND	-	-
2-Butanone	--	2231	--	ND	ND	-	-
1,1,1-Trichloroethane	--	1200	--	ND	ND	-	-
Carbon tetrachloride	--	0.25	--	ND	ND	-	-
Bromodichloromethane	--	0.82	--	ND	ND	-	-
1,2-Dichloropropane	--	0.34	--	ND	ND	-	-
cis-1,3-Dichloropropene	--	0.78	--	ND	ND	-	-
Trichloroethene	--	0.48	--	ND	0.47 J	-	-
Dibromochloromethane	--	1.1	--	ND	ND	-	-
1,1,2-Trichloroethane	--	0.73	--	ND	ND	-	-
Benzene	--	0.64	--	ND	ND	-	-
trans-1,3-Dichloropropene	--	0.78	--	ND	ND	-	-
Bromoform	--	62	--	ND	ND	-	-
4-Methyl-2-pentanone	--	528	--	ND	ND	-	-
2-Hexanone	--	530	--	ND	ND	-	-
Tetrachloroethene	--	0.48	--	ND	ND	-	-
1,1,2,2-Tetrachloroethane	--	0.41	--	ND	ND	-	-
Toluene	--	520	--	ND	ND	-	-
Chlorobenzene	--	15	--	ND	ND	-	-
Ethylbenzene	--	395	--	ND	ND	-	-
Styrene	--	1700	--	ND	ND	-	-
Xylenes (Total)	--	27	--	ND	ND	-	-
SVOC 8270 ug/kg							
Phenol	--	1833	--	ND	ND	-	-
Bis(2-chloroethyl) ether	--	0.22	--	ND	ND	-	-
2-Chlorophenol	--	6.3	--	ND	ND	-	-
1,3-Dichlorobenzene	--	53	--	ND	ND	-	-
1,4-Dichlorobenzene	--	3.4	--	ND	ND	-	-
1,2-Dichlorobenzene	--	600	--	ND	ND	-	-
2-Methylphenol	--	306	--	ND	ND	-	-
2,2-oxybis (1-chloropropane)	--	2.9	--	ND	ND	-	-
4-Methylphenol	--	31	--	ND	ND	-	-
N-Nitroso-di-n-propylamine	--	0.069	--	ND	ND	-	-
Hexachloroethane	--	35	--	ND	ND	-	-
Nitrobenzene	--	2	--	ND	ND	-	-
Isophorone	--	512	--	ND	ND	-	-
2-Nitrophenol	--	--	--	ND	ND	-	-
2,4-Dimethylphenol	--	122	--	ND	ND	-	-
Bis(2-chloroethoxy)methane	--	--	--	ND	ND	-	-
2,4-Dichlorophenol	--	18	--	ND	ND	-	-
1,2,4-Trichlorobenzene	--	6.2	--	ND	ND	-	-
Naphthalene	--	5.6	--	ND	ND	-	-
4-Chloroaniline	--	24	--	ND	ND	-	-
Hexachlorobutadiene	--	6.2	--	ND	ND	-	-
4-Chloro-3-methylphenol	--	--	--	ND	ND	-	-
2-Methylnaphthalene	--	--	--	ND	24	-	-
Hexachlorocyclopentadiene	--	37	--	ND	ND	-	-
2,4,6-Trichlorophenol	--	0.61	--	ND	ND	-	-
2,4,5-Trichlorophenol	--	611	--	ND	ND	-	-
2-Chloronaphthalene	--	494	--	ND	ND	-	-

SUMMARY TABLE
FILL DIRT SAMPLES

ANALYTE**, UNITS, METHOD NO.	WBG Clean-up Goals mg/kg	Region 9 PRG mg/kg	Surface Soil Background Criteria mg/kg	MEC-FILL-OO1	MEC-FILL-OO2	WBG-FILL-OO1	WBG-FILL-OO2
2-Nitroaniline	--	18.3	--	ND	ND	-	-
Dimethyl phthalate	--	100000	--	ND	ND	-	-
Acenaphthylene	--	--	--	ND	ND	-	-
2,6-Dinitrotoluene	--	6.1	--	ND	ND	-	-
3-Nitroaniline	--	1.8	--	ND	ND	-	-
Acenaphthene	--	368	--	ND	18	-	-
2,4-Dinitrophenol	--	12	--	ND	ND	-	-
2-Nitrophenol	--	--	--	ND	ND	-	-
Dibenzofuran	--	15	--	ND	ND	-	-
2,4-Dinitrotoluene	--	12	--	ND	ND	-	-
Diethyl phthalate	--	4888	--	ND	ND	-	-
4-Chlorophenyl phenyl ether	--	--	--	ND	ND	-	-
Fluorene	--	275	--	ND	ND	-	-
4-Nitroaniline	--	23	--	ND	ND	-	-
4,6-Dinitro-2-methylphenol	--	0.61	--	ND	ND	-	-
n-Nitrosodiphenylamine	--	99	--	ND	ND	-	-
4-Bromophenyl phenyl ether	--	--	--	ND	ND	-	-
Hexachlorobenzene	--	0.3	--	ND	ND	-	-
Pentachlorophenol	--	3	--	ND	ND	-	-
Phenanthrene	--	--	--	ND	52	-	-
Anthracene	--	2189	--	ND	ND	-	-
Carbazole	--	24	--	ND	ND	-	-
Di-n-butyl phthalate	--	611	--	ND	ND	-	-
Fluoranthene	--	229	--	ND	25	-	-
Pyrene	--	232	--	ND	17	-	-
Butyl benzyl phthalate	--	1222	--	ND	ND	-	-
3,3'-Dichlorobenzidine	--	1.1	--	ND	ND	-	-
Benzo(a)anthracene	75	0.62	--	ND	ND	-	-
Chrysene	--	62	--	ND	ND	-	-
Bis(2-ethylhexyl) phthalate	--	35	--	32 J	26 J	-	-
Di-n-octyl phthalate	--	244	--	ND	ND	-	-
Benzo(b)fluoranthene	75	0.62	--	ND	ND	-	-
Benzo(k)fluoranthene	--	6.2	--	ND	ND	-	-
Benzo(a)pyrene	7.5	0.062	--	ND	ND	-	-
Indeno(1,2,3-cd)pyrene	75	0.62	--	ND	ND	-	-
Dibenz(a,h)anthracene	7.5	0.062	--	ND	ND	-	-
Benzo(g,h,i)perylene	--	--	--	ND	19	-	-
PESTICIDES 8081A ug/kg							
alpha-BHC	--	0.09	--	ND	ND	-	-
beta-BHC	--	0.32	--	ND	ND	-	-
delta-BHC	--	--	--	ND	ND	-	-
gamma-BHC	--	0.44	--	ND	ND	-	-
Heptachlor	--	0.11	--	ND	ND	-	-
Aldrin	--	0.029	--	ND	ND	-	-
Heptachlor epoxide	--	0.053	--	ND	ND	-	-
Endosulfan I	--	37	--	ND	ND	-	-
Dieldrin	--	0.030	--	ND	ND	-	-
4,4'-DDE	--	1.7	--	ND	ND	-	-
Endrin	--	1.8	--	ND	ND	-	-
Endosulfan II	--	37	--	ND	ND	-	-
4,4'-DDD	--	2.4	--	ND	ND	-	-
Endosulfan sulfate	--	37	--	ND	ND	-	-
4,4'-DDT	--	1.7	--	ND	ND	-	-
Methoxychlor	--	31	--	ND	ND	-	-
Endrin ketone	--	--	--	ND	ND	-	-
Endrin aldehyde	--	--	--	ND	ND	-	-
alpha-Chlordane	--	1.6	--	ND	ND	-	-

SUMMARY TABLE
FILL DIRT SAMPLES

ANALYTE**, UNITS, METHOD NO.	WBG Clean-up Goals mg/kg	Region 9 PRG mg/kg	Surface Soil Background Criteria mg/kg	MEC-FILL-OO1	MEC-FILL-OO2	WBG-FILL-OO1	WBG-FILL-OO2
gamma-Chlordane	--	1.6	--	ND	ND	-	-
Toxaphene	--	0.44	--	ND	ND	-	-
PCBs 8082 ug/kg							
Aroclor-1016	--	0.39	--	ND	ND	-	-
Aroclor-1221	--	0.22	--	ND	ND	-	-
Aroclor-1232	--	0.22	--	ND	ND	-	-
Aroclor-1242	--	0.22	--	ND	ND	-	-
Aroclor-1248	--	0.22	--	ND	ND	-	-
Aroclor-1254	--	0.22	--	ND	ND	-	-
Aroclor-1260	--	0.22	--	ND	ND	-	-

ug/L = micrograms per liter (parts per billion)
ug/kg = micrograms per kilogram (parts per billion)
mg/kg = milligrams per liogram (parts per million)
Organics:
ND = Indicates that the compound was analyzed for but not detected
J = Estimated result. Result is less than Reporting Limit
B = Method blank contamination. The associated method blank contains the target analyte at a reportable level.
Inorganics:
ND = Indicates that the compound was analyzed for but not detected
J = Method blank contamination. The associated method blank contains the target analyte at a reportable level.
B = Estimated result. Result is less than Reporting Limit
E = Matrix Interference

PIKA International, Inc.

Client Sample ID: MEC-FILL-001

HPLC

Lot-Sample #...: A7F220161-001 **Work Order #...:** J1KJ51A6 **Matrix.....:** SO
Date Sampled...: 06/21/07 11:45 **Date Received..:** 06/21/07
Prep Date.....: 06/29/07 **Analysis Date..:** 07/06/07
Prep Batch #...: 7180647
Dilution Factor: 1
% Moisture.....: 2.0 **Method.....:** SW846 8330

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,3,5-Trinitrobenzene	ND	0.25	mg/kg	0.020
1,3-Dinitrobenzene	ND	0.25	mg/kg	0.050
2,4,6-Trinitrotoluene	ND	0.25	mg/kg	0.020
2,4-Dinitrotoluene	ND	0.25	mg/kg	0.020
2,6-Dinitrotoluene	ND	0.25	mg/kg	0.030
2-Amino-4,6-dinitrotoluene	ND	0.25	mg/kg	0.10
2-Nitrotoluene	ND	0.25	mg/kg	0.080
3-Nitrotoluene	ND	0.25	mg/kg	0.070
4-Amino-2,6-dinitrotoluene	ND	0.25	mg/kg	0.020
4-Nitrotoluene	ND	0.25	mg/kg	0.080
HMX	ND	0.25	mg/kg	0.030
Nitrobenzene	ND	0.25	mg/kg	0.050
Nitroglycerin	ND	0.50	mg/kg	0.13
PETN	ND	0.50	mg/kg	0.16
RDX	ND	0.25	mg/kg	0.040
Tetryl	ND	0.25	mg/kg	0.050

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
3,4-Dinitrotoluene	91	(84 - 114)

PIKA International, Inc.

Client Sample ID: MEC-FILL-001

HPLC

Lot-Sample #...:	A7F220161-001	Work Order #...:	J1KJ51A5	Matrix.....:	SO
Date Sampled...:	06/21/07 11:45	Date Received..:	06/21/07		
Prep Date.....:	06/29/07	Analysis Date..:	07/06/07		
Prep Batch #...:	7183230				
Dilution Factor:	1				
% Moisture.....:	2.0	Method.....:	SW846 8330 (Modif		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Nitroguanidine	0.039 J,B	0.25	mg/kg	0.032

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

PIKA International, Inc.

Client Sample ID: MEC-FILL-001

TOTAL Metals

Lot-Sample #...: A7F220161-001 Matrix.....: SO
Date Sampled...: 06/21/07 11:45 Date Received..: 06/21/07
% Moisture.....: 2.0

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 7177021						
Aluminum	6570	20.4	mg/kg	SW846 6010B	06/26-06/29/07	J1KJ51AC
		Dilution Factor: 1		MDL.....: 5.1		
Arsenic	18.8	1.0	mg/kg	SW846 6010B	06/26-06/29/07	J1KJ51AX
		Dilution Factor: 1		MDL.....: 0.35		
Lead	10.0	1.0	mg/kg	SW846 6010B	06/26-06/29/07	J1KJ51A0
		Dilution Factor: 1		MDL.....: 0.24		
Antimony	0.56 B	10.2	mg/kg	SW846 6010B	06/26-06/29/07	J1KJ51AD
		Dilution Factor: 1		MDL.....: 0.34		
Barium	28.8	1.0	mg/kg	SW846 6010B	06/26-06/29/07	J1KJ51AE
		Dilution Factor: 1		MDL.....: 0.20		
Selenium	ND	1.0	mg/kg	SW846 6010B	06/26-06/29/07	J1KJ51A1
		Dilution Factor: 1		MDL.....: 0.31		
Beryllium	0.43 B	1.0	mg/kg	SW846 6010B	06/26-06/29/07	J1KJ51AF
		Dilution Factor: 1		MDL.....: 0.030		
Thallium	ND	2.0	mg/kg	SW846 6010B	06/26-06/29/07	J1KJ51A2
		Dilution Factor: 1		MDL.....: 0.54		
Cadmium	ND	1.0	mg/kg	SW846 6010B	06/26-06/29/07	J1KJ51AG
		Dilution Factor: 1		MDL.....: 0.028		
Calcium	4250	102	mg/kg	SW846 6010B	06/26-06/29/07	J1KJ51AH
		Dilution Factor: 1		MDL.....: 8.6		
Chromium	10.5	2.0	mg/kg	SW846 6010B	06/26-06/29/07	J1KJ51AJ
		Dilution Factor: 1		MDL.....: 0.13		
Cobalt	8.4	2.0	mg/kg	SW846 6010B	06/26-06/29/07	J1KJ51AK
		Dilution Factor: 1		MDL.....: 0.35		
Copper	17.4	2.0	mg/kg	SW846 6010B	06/26-06/29/07	J1KJ51AL
		Dilution Factor: 1		MDL.....: 0.34		
Iron	21300	20.4	mg/kg	SW846 6010B	06/26-06/29/07	J1KJ51AM
		Dilution Factor: 1		MDL.....: 8.9		

(Continued on next page)

PIKA International, Inc.

Client Sample ID: MEC-FILL-001

TOTAL Metals

Lot-Sample #...: A7F220161-001 Matrix.....: SO

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Magnesium	3630 J	102	mg/kg	SW846 6010B	06/26-06/29/07	J1KJ51AN
		Dilution Factor: 1		MDL.....: 2.1		
Manganese	316	1.0	mg/kg	SW846 6010B	06/26-06/29/07	J1KJ51AP
		Dilution Factor: 1		MDL.....: 0.043		
Nickel	20.3	2.0	mg/kg	SW846 6010B	06/26-06/29/07	J1KJ51AQ
		Dilution Factor: 1		MDL.....: 0.29		
Potassium	1040 J	510	mg/kg	SW846 6010B	06/26-06/29/07	J1KJ51AR
		Dilution Factor: 1		MDL.....: 3.2		
Silver	ND	2.0	mg/kg	SW846 6010B	06/26-06/29/07	J1KJ51AT
		Dilution Factor: 1		MDL.....: 0.30		
Sodium	ND	102	mg/kg	SW846 6010B	06/26-06/29/07	J1KJ51AU
		Dilution Factor: 1		MDL.....: 33.7		
Vanadium	11.3	2.0	mg/kg	SW846 6010B	06/26-06/29/07	J1KJ51AV
		Dilution Factor: 1		MDL.....: 0.099		
Zinc	50.1	4.1	mg/kg	SW846 6010B	06/26-06/29/07	J1KJ51AW
		Dilution Factor: 1		MDL.....: 0.57		
Mercury	ND	0.10	mg/kg	SW846 7471A	06/26-06/27/07	J1KJ51A3
		Dilution Factor: 1		MDL.....: 0.013		

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

PIKA International, Inc.

Client Sample ID: MEC-FILL-001

General Chemistry

Lot-Sample #...: A7F220161-001 Work Order #...: J1KJ5 Matrix.....: SO
Date Sampled...: 06/21/07 11:45 Date Received..: 06/21/07
% Moisture.....: 2.0

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Cyanide, Total	ND	0.51	mg/kg	SW846 9012A	06/27/07	7178623
		Dilution Factor: 1		MDL.....: 0.11		
Nitrocellulose	2.3 B	5.0	mg/kg	MCAWW 353.2	07/02-07/03/07	7180649
		Dilution Factor: 1		MDL.....: 0.78		
Percent Solids	98.0	10.0	%	MCAWW 160.3 MOD	06/28-06/29/07	7179405
		Dilution Factor: 1		MDL.....: 10.0		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

B Estimated result. Result is less than RL.

PIKA International, Inc.

Client Sample ID: MEC-FILL-001(VOC)

GC/MS Volatiles

Lot-Sample #...: A7F220161-002 Work Order #...: J1KKH1AC Matrix.....: SO
Date Sampled...: 06/21/07 11:45 Date Received..: 06/21/07
Prep Date.....: 06/26/07 Analysis Date..: 06/26/07
Prep Batch #...: 7177351
Dilution Factor: 1
% Moisture.....: 8.0 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Chloromethane	ND	5.4	ug/kg	0.45
Bromomethane	ND	5.4	ug/kg	0.59
Vinyl chloride	ND	5.4	ug/kg	0.42
Chloroethane	ND	5.4	ug/kg	0.93
Methylene chloride	**2.7 J,B**	**5.4**	**ug/kg**	**0.73**
Acetone	ND	22	ug/kg	6.8
Carbon disulfide	ND	5.4	ug/kg	0.48
1,1-Dichloroethene	ND	5.4	ug/kg	0.56
1,1-Dichloroethane	ND	5.4	ug/kg	0.39
1,2-Dichloroethene (total)	ND	11	ug/kg	0.84
Chloroform	ND	5.4	ug/kg	0.32
1,2-Dichloroethane	ND	5.4	ug/kg	0.37
2-Butanone	ND	22	ug/kg	1.5
1,1,1-Trichloroethane	ND	5.4	ug/kg	0.61
Carbon tetrachloride	ND	5.4	ug/kg	0.40
Bromodichloromethane	ND	5.4	ug/kg	0.30
1,2-Dichloropropane	ND	5.4	ug/kg	0.75
cis-1,3-Dichloropropene	ND	5.4	ug/kg	0.37
Trichloroethene	ND	5.4	ug/kg	0.46
Dibromochloromethane	ND	5.4	ug/kg	0.60
1,1,2-Trichloroethane	ND	5.4	ug/kg	0.42
Benzene	ND	5.4	ug/kg	0.25
trans-1,3-Dichloropropene	ND	5.4	ug/kg	0.59
Bromoform	ND	5.4	ug/kg	0.36
4-Methyl-2-pentanone	ND	22	ug/kg	0.59
2-Hexanone	ND	22	ug/kg	0.68
Tetrachloroethene	ND	5.4	ug/kg	0.56
1,1,2,2-Tetrachloroethane	ND	5.4	ug/kg	0.37
Toluene	ND	5.4	ug/kg	0.29
Chlorobenzene	ND	5.4	ug/kg	0.36
Ethylbenzene	ND	5.4	ug/kg	0.28
Styrene	ND	5.4	ug/kg	0.16
Xylenes (total)	ND	11	ug/kg	0.73

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	79	(50 - 150)
1,2-Dichloroethane-d4	91	(50 - 150)
Toluene-d8	93	(50 - 150)
4-Bromofluorobenzene	85	(50 - 150)

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PIKA International, Inc.

Client Sample ID: MEC-FILL-001(VOC)

GC/MS Volatiles

Lot-Sample #...: A7F220161-002 Work Order #...: J1KKH1AC Matrix.....: SO

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

PIKA International, Inc.

Client Sample ID: MEC-FILL-001

GC/MS Semivolatiles

Lot-Sample #...: A7F220161-001 **Work Order #...:** J1KJ51CA **Matrix.....:** SO
Date Sampled...: 06/21/07 11:45 **Date Received..:** 06/21/07
Prep Date.....: 06/28/07 **Analysis Date..:** 07/08/07
Prep Batch #...: 7179088
Dilution Factor: 1
% Moisture.....: 2.0 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Phenol	ND	51	ug/kg	26
bis(2-Chloroethyl)-ether	ND	100	ug/kg	2.0
2-Chlorophenol	ND	51	ug/kg	27
1,3-Dichlorobenzene	ND	51	ug/kg	23
1,4-Dichlorobenzene	ND	51	ug/kg	21
1,2-Dichlorobenzene	ND	51	ug/kg	30
2-Methylphenol	ND	200	ug/kg	29
2,2'-oxybis(1-Chloro-propane)	ND	100	ug/kg	27
4-Methylphenol	ND	200	ug/kg	22
N-Nitrosodi-n-propyl-amine	ND	51	ug/kg	23
Hexachloroethane	ND	51	ug/kg	29
Nitrobenzene	ND	100	ug/kg	2.2
Isophorone	ND	51	ug/kg	21
2-Nitrophenol	ND	51	ug/kg	19
2,4-Dimethylphenol	ND	150	ug/kg	20
bis(2-Chloroethoxy) methane	ND	100	ug/kg	22
2,4-Dichlorophenol	ND	150	ug/kg	20
1,2,4-Trichloro-benzene	ND	51	ug/kg	24
Naphthalene	ND	6.8	ug/kg	1.6
4-Chloroaniline	ND	150	ug/kg	17
Hexachlorobutadiene	ND	51	ug/kg	27
4-Chloro-3-methylphenol	ND	150	ug/kg	21
2-Methylnaphthalene	ND	6.8	ug/kg	1.5
Hexachlorocyclopenta-diene	ND	340	ug/kg	16
2,4,6-Trichloro-phenol	ND	150	ug/kg	21
2,4,5-Trichloro-phenol	ND	150	ug/kg	26
2-Chloronaphthalene	ND	51	ug/kg	22
2-Nitroaniline	ND	200	ug/kg	22
Dimethyl phthalate	ND	51	ug/kg	21
Acenaphthylene	ND	6.8	ug/kg	1.2

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PIKA International, Inc.

Client Sample ID: MEC-FILL-001

GC/MS Semivolatiles

Lot-Sample #...: A7F220161-001 **Work Order #...:** J1KJ51CA **Matrix.....:** SO

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,6-Dinitrotoluene	ND	200	ug/kg	21
3-Nitroaniline	ND	200	ug/kg	16
Acenaphthene	ND	6.8	ug/kg	1.3
2,4-Dinitrophenol	ND	340	ug/kg	85
4-Nitrophenol	ND	340	ug/kg	110
Dibenzofuran	ND	51	ug/kg	20
2,4-Dinitrotoluene	ND	200	ug/kg	18
Diethyl phthalate	ND	51	ug/kg	19
4-Chlorophenyl phenyl ether	ND	51	ug/kg	24
Fluorene	ND	6.8	ug/kg	1.2
4-Nitroaniline	ND	200	ug/kg	27
4,6-Dinitro-2-methylphenol	ND	150	ug/kg	13
N-Nitrosodiphenylamine	ND	51	ug/kg	21
4-Bromophenyl phenyl ether	ND	51	ug/kg	21
Hexachlorobenzene	ND	6.8	ug/kg	2.1
Pentachlorophenol	ND	150	ug/kg	84
Phenanthrene	ND	6.8	ug/kg	2.0
Anthracene	ND	6.8	ug/kg	1.3
Carbazole	ND	51	ug/kg	19
Di-n-butyl phthalate	ND	51	ug/kg	19
Fluoranthene	ND	6.8	ug/kg	1.2
Pyrene	ND	6.8	ug/kg	1.1
Butyl benzyl phthalate	ND	51	ug/kg	19
3,3'-Dichlorobenzidine	ND	100	ug/kg	18
Benzo(a)anthracene	ND	6.8	ug/kg	0.97
Chrysene	ND	6.8	ug/kg	0.92
bis(2-Ethylhexyl) phthalate	**32 J**	**51**	**ug/kg**	**18**
Di-n-octyl phthalate	ND	51	ug/kg	18
Benzo(b)fluoranthene	ND	6.8	ug/kg	1.2
Benzo(k)fluoranthene	ND	6.8	ug/kg	1.7
Benzo(a)pyrene	ND	6.8	ug/kg	1.3
Indeno(1,2,3-cd)pyrene	ND	6.8	ug/kg	1.5
Dibenz(a,h)anthracene	ND	6.8	ug/kg	1.3
Benzo(ghi)perylene	ND	6.8	ug/kg	1.3

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PIKA International, Inc.

Client Sample ID: MEC-FILL-001

GC/MS Semivolatiles

Lot-Sample #...: A7F220161-001 Work Order #...: J1KJ51CA Matrix.....: SO

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	53	(42 - 110)
2-Fluorobiphenyl	49	(43 - 110)
Terphenyl-d14	81	(37 - 137)
Phenol-d5	47	(40 - 102)
2-Fluorophenol	42	(37 - 104)
2,4,6-Tribromophenol	48	(35 - 116)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

PIKA International, Inc.

Client Sample ID: MEC-FILL-001

GC Semivolatiles

Lot-Sample #...:	A7F220161-001	**Work Order #...:**	J1KJ51CC	**Matrix.....:**	SO
Date Sampled...:	06/21/07 11:45	**Date Received..:**	06/21/07		
Prep Date.....:	06/28/07	**Analysis Date..:**	07/03/07		
Prep Batch #...:	7179087				
Dilution Factor:	1				
% Moisture.....:	2.0	**Method.....:**	SW846 8081A		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
alpha-BHC	ND	1.7	ug/kg	0.31
beta-BHC	ND	1.7	ug/kg	0.41
delta-BHC	ND	1.7	ug/kg	0.38
gamma-BHC (Lindane)	ND	1.7	ug/kg	0.35
Heptachlor	ND	1.7	ug/kg	0.30
Aldrin	ND	1.7	ug/kg	0.31
Heptachlor epoxide	ND	1.7	ug/kg	0.43
Endosulfan I	ND	1.7	ug/kg	0.34
Dieldrin	ND	1.7	ug/kg	0.35
4,4'-DDE	ND	1.7	ug/kg	0.36
Endrin	ND	1.7	ug/kg	0.35
Endosulfan II	ND	1.7	ug/kg	0.43
4,4'-DDD	ND	1.7	ug/kg	0.51
Endosulfan sulfate	ND	1.7	ug/kg	0.39
4,4'-DDT	ND	1.7	ug/kg	0.41
Methoxychlor	ND	3.4	ug/kg	0.52
Endrin ketone	ND	1.7	ug/kg	0.71
Endrin aldehyde	ND	1.7	ug/kg	0.91
alpha-Chlordane	ND	1.7	ug/kg	0.36
gamma-Chlordane	ND	1.7	ug/kg	0.32
Toxaphene	ND	68	ug/kg	32

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	83	(31 - 131)
Decachlorobiphenyl	91	(18 - 145)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

PIKA International, Inc.

Client Sample ID: MEC-FILL-001

GC Semivolatiles

Lot-Sample #...: A7F220161-001 Work Order #...: J1KJ51CD Matrix.....: SO
Date Sampled...: 06/21/07 11:45 Date Received..: 06/21/07
Prep Date.....: 06/29/07 Analysis Date..: 07/05/07
Prep Batch #...: 7180122
Dilution Factor: 1
% Moisture.....: 2.0 Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Aroclor 1016	ND	51	ug/kg	6.8
Aroclor 1221	ND	51	ug/kg	10
Aroclor 1232	ND	51	ug/kg	5.3
Aroclor 1242	ND	51	ug/kg	10
Aroclor 1248	ND	51	ug/kg	4.9
Aroclor 1254	ND	51	ug/kg	4.4
Aroclor 1260	ND	51	ug/kg	8.2

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	121	(10 - 127)
Decachlorobiphenyl	126	(40 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

PIKA International, Inc.

Client Sample ID: MEC-FILL-002

HPLC

Lot-Sample #...:	A7F220161-004	**Work Order #...:**	J1KKT1AH	**Matrix.....:**	SO
Date Sampled...:	06/21/07 12:00	**Date Received..:**	06/21/07		
Prep Date.....:	06/29/07	**Analysis Date..:**	07/06/07		
Prep Batch #...:	7180647				
Dilution Factor:	0.99				
% Moisture.....:	0.87	**Method.....:**	SW846 8330		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,3,5-Trinitrobenzene	ND	0.25	mg/kg	0.020
1,3-Dinitrobenzene	ND	0.25	mg/kg	0.050
2,4,6-Trinitrotoluene	ND	0.25	mg/kg	0.020
2,4-Dinitrotoluene	ND	0.25	mg/kg	0.020
2,6-Dinitrotoluene	ND	0.25	mg/kg	0.030
2-Amino-4,6-dinitrotoluene	ND	0.25	mg/kg	0.099
2-Nitrotoluene	ND	0.25	mg/kg	0.079
3-Nitrotoluene	ND	0.25	mg/kg	0.069
4-Amino-2,6-dinitrotoluene	ND	0.25	mg/kg	0.020
4-Nitrotoluene	ND	0.25	mg/kg	0.079
HMX	ND	0.25	mg/kg	0.030
Nitrobenzene	ND	0.25	mg/kg	0.050
Nitroglycerin	ND	0.50	mg/kg	0.13
PETN	ND	0.50	mg/kg	0.16
RDX	ND	0.25	mg/kg	0.040
Tetryl	ND	0.25	mg/kg	0.050

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
3,4-Dinitrotoluene	86	(84 - 114)

PIKA International, Inc.

Client Sample ID: MEC-FILL-002

HPLC

Lot-Sample #...:	A7F220161-004	Work Order #...:	J1KKT1AG	Matrix.....:	SO
Date Sampled...:	06/21/07 12:00	Date Received..:	06/21/07		
Prep Date.....:	06/29/07	Analysis Date..:	07/06/07		
Prep Batch #...:	7183230				
Dilution Factor:	1				
% Moisture.....:	0.87	Method.....:	SW846 8330 (Modif		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Nitroguanidine	0.049 J,B	0.25	mg/kg	0.032

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

PIKA International, Inc.

Client Sample ID: MEC-FILL-002

TOTAL Metals

Lot-Sample #...: A7F220161-004 Matrix.....: SO
Date Sampled...: 06/21/07 12:00 Date Received..: 06/21/07
% Moisture.....: 0.87

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 7177021						
Aluminum	2520	20.2 Dilution Factor: 1	mg/kg	SW846 6010B MDL.....: 5.0	06/26-06/29/07	J1KKT1AN
Arsenic	4.9	1.0 Dilution Factor: 1	mg/kg	SW846 6010B MDL.....: 0.34	06/26-06/29/07	J1KKT1A9
Lead	6.4	1.0 Dilution Factor: 1	mg/kg	SW846 6010B MDL.....: 0.24	06/26-06/29/07	J1KKT1AA
Antimony	ND	10.1 Dilution Factor: 1	mg/kg	SW846 6010B MDL.....: 0.33	06/26-06/29/07	J1KKT1AP
Barium	13.3	1.0 Dilution Factor: 1	mg/kg	SW846 6010B MDL.....: 0.20	06/26-06/29/07	J1KKT1AQ
Selenium	ND	1.0 Dilution Factor: 1	mg/kg	SW846 6010B MDL.....: 0.30	06/26-06/29/07	J1KKT1AC
Beryllium	0.30 B	1.0 Dilution Factor: 1	mg/kg	SW846 6010B MDL.....: 0.029	06/26-06/29/07	J1KKT1AR
Thallium	ND	2.0 Dilution Factor: 1	mg/kg	SW846 6010B MDL.....: 0.53	06/26-06/29/07	J1KKT1AD
Cadmium	ND	1.0 Dilution Factor: 1	mg/kg	SW846 6010B MDL.....: 0.027	06/26-06/29/07	J1KKT1AT
Calcium	8540	101 Dilution Factor: 1	mg/kg	SW846 6010B MDL.....: 8.5	06/26-06/29/07	J1KKT1AU
Chromium	19.9	2.0 Dilution Factor: 1	mg/kg	SW846 6010B MDL.....: 0.13	06/26-06/29/07	J1KKT1AV
Cobalt	4.5	2.0 Dilution Factor: 1	mg/kg	SW846 6010B MDL.....: 0.34	06/26-06/29/07	J1KKT1AW
Copper	9.7	2.0 Dilution Factor: 1	mg/kg	SW846 6010B MDL.....: 0.33	06/26-06/29/07	J1KKT1AX
Iron	15100	20.2 Dilution Factor: 1	mg/kg	SW846 6010B MDL.....: 8.8	06/26-06/29/07	J1KKT1A0

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PIKA International, Inc.

Client Sample ID: MEC-FILL-002

TOTAL Metals

Lot-Sample #...: A7F220161-004 Matrix.....: SO

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Magnesium	2550 J	101	mg/kg	SW846 6010B	06/26-06/29/07	J1KKT1A1
		Dilution Factor: 1		MDL.....: 2.1		
Manganese	244	1.0	mg/kg	SW846 6010B	06/26-06/29/07	J1KKT1A2
		Dilution Factor: 1		MDL.....: 0.042		
Nickel	17.0	2.0	mg/kg	SW846 6010B	06/26-06/29/07	J1KKT1A3
		Dilution Factor: 1		MDL.....: 0.28		
Potassium	449 B,J	504	mg/kg	SW846 6010B	06/26-06/29/07	J1KKT1A4
		Dilution Factor: 1		MDL.....: 3.1		
Silver	ND	2.0	mg/kg	SW846 6010B	06/26-06/29/07	J1KKT1A5
		Dilution Factor: 1		MDL.....: 0.29		
Sodium	ND	101	mg/kg	SW846 6010B	06/26-06/29/07	J1KKT1A6
		Dilution Factor: 1		MDL.....: 33.3		
Vanadium	6.6	2.0	mg/kg	SW846 6010B	06/26-06/29/07	J1KKT1A7
		Dilution Factor: 1		MDL.....: 0.098		
Zinc	36.9	4.0	mg/kg	SW846 6010B	06/26-06/29/07	J1KKT1A8
		Dilution Factor: 1		MDL.....: 0.56		
Mercury	ND	0.10	mg/kg	SW846 7471A	06/26-06/27/07	J1KKT1AE
		Dilution Factor: 1		MDL.....: 0.013		

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

PIKA International, Inc.

Client Sample ID: MEC-FILL-002

General Chemistry

Lot-Sample #...: A7F220161-004 Work Order #...: J1KKT Matrix.....: SO
Date Sampled...: 06/21/07 12:00 Date Received..: 06/21/07
% Moisture.....: 0.87

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Cyanide, Total	ND	0.50	mg/kg	SW846 9012A	06/27/07	7178623
		Dilution Factor: 1		MDL.....: 0.11		
Nitrocellulose	0.91 B	5.0	mg/kg	MCAWW 353.2	07/02-07/03/07	7180649
		Dilution Factor: 1		MDL.....: 0.78		
Percent Solids	99.1	10.0	%	MCAWW 160.3 MOD	06/28-06/29/07	7179405
		Dilution Factor: 1		MDL.....: 10.0		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

B Estimated result. Result is less than RL.

PIKA International, Inc.

Client Sample ID: MEC-FILL-002(VOC)

GC/MS Volatiles

Lot-Sample #...: A7F220161-005 **Work Order #...:** J1KKX1AC **Matrix.....:** SO
Date Sampled...: 06/21/07 12:00 **Date Received..:** 06/21/07
Prep Date.....: 06/26/07 **Analysis Date..:** 06/26/07
Prep Batch #...: 7177351
Dilution Factor: 1
% Moisture.....: 5.8 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Chloromethane	ND	5.3	ug/kg	0.44
Bromomethane	ND	5.3	ug/kg	0.57
Vinyl chloride	ND	5.3	ug/kg	0.41
Chloroethane	ND	5.3	ug/kg	0.91
Methylene chloride	**5.8 B**	**5.3**	**ug/kg**	**0.71**
Acetone	ND	21	ug/kg	6.7
Carbon disulfide	ND	5.3	ug/kg	0.47
1,1-Dichloroethene	ND	5.3	ug/kg	0.55
1,1-Dichloroethane	ND	5.3	ug/kg	0.38
1,2-Dichloroethene (total)	ND	11	ug/kg	0.82
Chloroform	ND	5.3	ug/kg	0.31
1,2-Dichloroethane	ND	5.3	ug/kg	0.36
2-Butanone	ND	21	ug/kg	1.5
1,1,1-Trichloroethane	ND	5.3	ug/kg	0.59
Carbon tetrachloride	ND	5.3	ug/kg	0.39
Bromodichloromethane	ND	5.3	ug/kg	0.30
1,2-Dichloropropane	ND	5.3	ug/kg	0.73
cis-1,3-Dichloropropene	ND	5.3	ug/kg	0.36
Trichloroethene	**0.47 J**	**5.3**	**ug/kg**	**0.45**
Dibromochloromethane	ND	5.3	ug/kg	0.58
1,1,2-Trichloroethane	ND	5.3	ug/kg	0.41
Benzene	ND	5.3	ug/kg	0.24
trans-1,3-Dichloropropene	ND	5.3	ug/kg	0.57
Bromoform	ND	5.3	ug/kg	0.35
4-Methyl-2-pentanone	ND	21	ug/kg	0.57
2-Hexanone	ND	21	ug/kg	0.67
Tetrachloroethene	ND	5.3	ug/kg	0.55
1,1,2,2-Tetrachloroethane	ND	5.3	ug/kg	0.36
Toluene	ND	5.3	ug/kg	0.29
Chlorobenzene	ND	5.3	ug/kg	0.35
Ethylbenzene	ND	5.3	ug/kg	0.28
Styrene	ND	5.3	ug/kg	0.16
Xylenes (total)	ND	11	ug/kg	0.71

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	83	(50 - 150)
1,2-Dichloroethane-d4	94	(50 - 150)
Toluene-d8	107	(50 - 150)
4-Bromofluorobenzene	75	(50 - 150)

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PIKA International, Inc.

Client Sample ID: MEC-FILL-002(VOC)

GC/MS Volatiles

Lot-Sample #...: A7F220161-005 Work Order #...: J1KKX1AC Matrix.....: SO

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated result. Result is less than RL.

PIKA International, Inc.

Client Sample ID: MEC-FILL-002

GC/MS Semivolatiles

Lot-Sample #...: A7F220161-004 **Work Order #...:** J1KKT1CA **Matrix.....:** SO
Date Sampled...: 06/21/07 12:00 **Date Received..:** 06/21/07
Prep Date.....: 06/28/07 **Analysis Date..:** 07/08/07
Prep Batch #...: 7179088
Dilution Factor: 1
% Moisture.....: 0.87 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Phenol	ND	50	ug/kg	25
bis(2-Chloroethyl)-ether	ND	100	ug/kg	2.0
2-Chlorophenol	ND	50	ug/kg	26
1,3-Dichlorobenzene	ND	50	ug/kg	23
1,4-Dichlorobenzene	ND	50	ug/kg	21
1,2-Dichlorobenzene	ND	50	ug/kg	29
2-Methylphenol	ND	200	ug/kg	28
2,2'-oxybis(1-Chloro-propane)	ND	100	ug/kg	26
4-Methylphenol	ND	200	ug/kg	22
N-Nitrosodi-n-propyl-amine	ND	50	ug/kg	23
Hexachloroethane	ND	50	ug/kg	28
Nitrobenzene	ND	100	ug/kg	2.2
Isophorone	ND	50	ug/kg	21
2-Nitrophenol	ND	50	ug/kg	19
2,4-Dimethylphenol	ND	150	ug/kg	20
bis(2-Chloroethoxy) methane	ND	100	ug/kg	22
2,4-Dichlorophenol	ND	150	ug/kg	20
1,2,4-Trichloro-benzene	ND	50	ug/kg	24
Naphthalene	ND	6.7	ug/kg	1.6
4-Chloroaniline	ND	150	ug/kg	17
Hexachlorobutadiene	ND	50	ug/kg	26
4-Chloro-3-methylphenol	ND	150	ug/kg	21
2-Methylnaphthalene	**24**	**6.7**	**ug/kg**	**1.5**
Hexachlorocyclopenta-diene	ND	330	ug/kg	16
2,4,6-Trichloro-phenol	ND	150	ug/kg	21
2,4,5-Trichloro-phenol	ND	150	ug/kg	25
2-Chloronaphthalene	ND	50	ug/kg	22
2-Nitroaniline	ND	200	ug/kg	22
Dimethyl phthalate	ND	50	ug/kg	21
Acenaphthylene	ND	6.7	ug/kg	1.2

(Continued on next page)

PIKA International, Inc.

Client Sample ID: MEC-FILL-002

GC/MS Semivolatiles

Lot-Sample #...: A7F220161-004 Work Order #...: J1KKT1CA Matrix.....: SO

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,6-Dinitrotoluene	ND	200	ug/kg	21
3-Nitroaniline	ND	200	ug/kg	16
Acenaphthene	**18**	**6.7**	**ug/kg**	**1.3**
2,4-Dinitrophenol	ND	330	ug/kg	84
4-Nitrophenol	ND	330	ug/kg	110
Dibenzofuran	ND	50	ug/kg	20
2,4-Dinitrotoluene	ND	200	ug/kg	18
Diethyl phthalate	ND	50	ug/kg	19
4-Chlorophenyl phenyl ether	ND	50	ug/kg	24
Fluorene	ND	6.7	ug/kg	1.2
4-Nitroaniline	ND	200	ug/kg	26
4,6-Dinitro-2-methylphenol	ND	150	ug/kg	13
N-Nitrosodiphenylamine	ND	50	ug/kg	21
4-Bromophenyl phenyl ether	ND	50	ug/kg	21
Hexachlorobenzene	ND	6.7	ug/kg	2.1
Pentachlorophenol	ND	150	ug/kg	83
Phenanthrene	**52**	**6.7**	**ug/kg**	**2.0**
Anthracene	ND	6.7	ug/kg	1.3
Carbazole	ND	50	ug/kg	19
Di-n-butyl phthalate	ND	50	ug/kg	19
Fluoranthene	**25**	**6.7**	**ug/kg**	**1.2**
Pyrene	**17**	**6.7**	**ug/kg**	**1.1**
Butyl benzyl phthalate	ND	50	ug/kg	19
3,3'-Dichlorobenzidine	ND	100	ug/kg	18
Benzo(a)anthracene	ND	6.7	ug/kg	0.96
Chrysene	ND	6.7	ug/kg	0.91
bis(2-Ethylhexyl) phthalate	**26 J**	**50**	**ug/kg**	**18**
Di-n-octyl phthalate	ND	50	ug/kg	18
Benzo(b)fluoranthene	ND	6.7	ug/kg	1.2
Benzo(k)fluoranthene	ND	6.7	ug/kg	1.7
Benzo(a)pyrene	ND	6.7	ug/kg	1.3
Indeno(1,2,3-cd)pyrene	ND	6.7	ug/kg	1.5
Dibenz(a,h)anthracene	ND	6.7	ug/kg	1.3
Benzo(ghi)perylene	**19**	**6.7**	**ug/kg**	**1.3**

(Continued on next page)

PIKA International, Inc.

Client Sample ID: MEC-FILL-002

GC/MS Semivolatiles

Lot-Sample #...: A7F220161-004 Work Order #...: J1KKT1CA Matrix.....: SO

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	56	(42 - 110)
2-Fluorobiphenyl	59	(43 - 110)
Terphenyl-d14	77	(37 - 137)
Phenol-d5	54	(40 - 102)
2-Fluorophenol	44	(37 - 104)
2,4,6-Tribromophenol	36	(35 - 116)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

PIKA International, Inc.

Client Sample ID: MEC-FILL-002

GC Semivolatiles

Lot-Sample #...: A7F220161-004 **Work Order #...:** J1KKT1CC **Matrix.....:** SO
Date Sampled...: 06/21/07 12:00 **Date Received..:** 06/21/07
Prep Date.....: 06/28/07 **Analysis Date..:** 07/03/07
Prep Batch #...: 7179087
Dilution Factor: 5
% Moisture.....: 0.87 **Method.....:** SW846 8081A

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
alpha-BHC	ND	8.6	ug/kg	1.5
beta-BHC	ND	8.6	ug/kg	2.0
delta-BHC	ND	8.6	ug/kg	1.9
gamma-BHC (Lindane)	ND	8.6	ug/kg	1.7
Heptachlor	ND	8.6	ug/kg	1.5
Aldrin	ND	8.6	ug/kg	1.5
Heptachlor epoxide	ND	8.6	ug/kg	2.1
Endosulfan I	ND	8.6	ug/kg	1.7
Dieldrin	ND	8.6	ug/kg	1.7
4,4'-DDE	ND	8.6	ug/kg	1.8
Endrin	ND	8.6	ug/kg	1.7
Endosulfan II	ND	8.6	ug/kg	2.1
4,4'-DDD	ND	8.6	ug/kg	2.5
Endosulfan sulfate	ND	8.6	ug/kg	1.9
4,4'-DDT	ND	8.6	ug/kg	2.0
Methoxychlor	ND	17	ug/kg	2.6
Endrin ketone	ND	8.6	ug/kg	3.5
Endrin aldehyde	ND	8.6	ug/kg	4.5
alpha-Chlordane	ND	8.6	ug/kg	1.8
gamma-Chlordane	ND	8.6	ug/kg	1.6
Toxaphene	ND	340	ug/kg	160

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	84 DIL	(31 - 131)
Decachlorobiphenyl	101 DIL	(18 - 145)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

Elevated reporting limits. The reporting limits are elevated due to matrix interference.

PIKA International, Inc.

Client Sample ID: MEC-FILL-002

GC Semivolatiles

Lot-Sample #...: A7F220161-004 Work Order #...: J1KKT1CD Matrix.....: SO
Date Sampled...: 06/21/07 12:00 Date Received..: 06/21/07
Prep Date.....: 06/29/07 Analysis Date..: 07/05/07
Prep Batch #...: 7180122
Dilution Factor: 1
% Moisture.....: 0.87 Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Aroclor 1016	ND	50	ug/kg	6.8
Aroclor 1221	ND	50	ug/kg	10
Aroclor 1232	ND	50	ug/kg	5.2
Aroclor 1242	ND	50	ug/kg	10
Aroclor 1248	ND	50	ug/kg	4.8
Aroclor 1254	ND	50	ug/kg	4.3
Aroclor 1260	ND	50	ug/kg	8.1

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	87	(10 - 127)
Decachlorobiphenyl	116	(40 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Field Sampling Report

PIKA INTERNATIONAL, INC.

Project Name: Winklepeck Burning Grounds RD/RA

Location ID: WBG-fill-001

Ravenna Army Ammunition Plant
Ravenna Ohio

Date: 12/16/2008 **Weather** Cloudy **Temperature** 20

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop	X	Trowel	
	Pump		Bacon Bomb		Bowl	X	Hand Auger	
	Micro-purge				Push Probe		Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	**Well Purging Form** Yes - No							

Sample Collection: 1030 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - (Estimated) - Measured - Surveyed

Sample Depth: 0-6" FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings:		VOC		TPH GRO		Corrosivity			
Background:	ppm	SVOC (PAHs)		TPH DRO		Reactivity Sulfide/Cyanide			
		Explosives		Chromium +6		Ignitability			
Sample:	ppm	Propellants		Nitrate					
Water Level	FT	TAL Metals		Sulfate		**QA Samples**			
Temperature	°C	Pesticides/PCBs		Asbestos		MS/MSD	Yes / No		NA
Sp. Conductance:	uMHOs	Cyanides		Arsenic	X	Duplicate ID	Yes / No		NA
pH	units	TOC		Chromium	X	Equipment Rinse ID	Yes / No		NA
Turbidity	N.T.U.	Grain Size				Trip Blank ID	Yes / No		NA

Sample Description

DK Brown, well sorted, NO odor
NO Stains, massive, non plastic
wet clayey silt with trace of gravels

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Shahram Taherini (Please Print)

Signature:

Reviewed by: Sue Boles (Please Print)

Signature: Sue Boles Date: 12/18/08

Field Sampling Report

PIKA INTERNATIONAL, INC.

Project Name: Winklepeck Burning Grounds RD/RA

Location ID: WBG-fill-002

Ravenna Army Ammunition Plant
Ravenna Ohio

Date: 12/16/2008 **Weather** Cloudy **Temperature** 20

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop	X	Trowel	
	Pump		Bacon Bomb		Bowl	X	Hand Auger	
	Micro-purge				Push Probe		Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1100 hrs **Sample Type:** Composite - (MI) - Grab If MI, # of increments taken: 30 **Location:** Plotted on Map - Staked in Field (Estimated) - Measured - Surveyed

Sample Depth: 0-6" FT (below surface) **Decon:** (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings:		VOC		TPH GRO		Corrosivity			
Background:	ppm	SVOC (PAHs)		TPH DRO		Reactivity Sulfide/Cyanide			
		Explosives		Chromium +6		Ignitability			
Sample:	ppm	Propellants		Nitrate					
Water Level	FT	TAL Metals		Sulfate		QA Samples			
Temperature	°C	Pesticides/PCBs		Asbestos		MS/MSD	Yes / No		NA
Sp. Conductance:	uMHOs	Cyanides		Arsenic	X	Duplicate ID	Yes / No		NA
pH	units	TOC		Chromium	X	Equipment Rinse ID	Yes / No		NA
Turbidity	N.T.U.	Grain Size				Trip Blank ID	Yes / No		NA

Sample Description

Dk Brown, well sorted, NO Odor
NO Stains, Massive, non plastic
wet, clayey Silt with trace fr
gravel

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Shahram Taherinia (Please Print)

Signature:

Reviewed by: Sue Boles (Please Print)

Signature: Sue Boles Date: 12/18/08

PIKA International, Inc.

Client Sample ID: WBG-FILL-001

TOTAL Metals

Lot-Sample #...: A8L170134-001 **Matrix.....:** SO
Date Sampled...: 12/16/08 10:30 **Date Received..:** 12/17/08
% Moisture.....: 1.3

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 8353023						
Arsenic	**10.8**	**1.0**	**mg/kg**	**SW846 6010B**	**12/18-12/19/08**	**K4T8P1AG**
		Dilution Factor: 1		MDL.....: 0.30		
Chromium	**16.1**	**2.0**	**mg/kg**	**SW846 6010B**	**12/18-12/19/08**	**K4T8P1AF**
		Dilution Factor: 1		MDL.....: 0.20		

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

PIKA International, Inc.

Client Sample ID: WBG-FILL-002

TOTAL Metals

Lot-Sample #...: A8L170134-002 **Matrix.....:** SO
Date Sampled...: 12/16/08 11:00 **Date Received..:** 12/17/08
% Moisture.....: 1.3

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 8353023						
Arsenic	**10.2**	**1.0**	**mg/kg**	**SW846 6010B**	**12/18-12/19/08**	**K4T881AF**
		Dilution Factor: 1		MDL.....: 0.30		
Chromium	**25.1**	**2.0**	**mg/kg**	**SW846 6010B**	**12/18-12/19/08**	**K4T881AE**
		Dilution Factor: 1		MDL.....: 0.20		

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Appendix P

George Road Clean Hard Fill Site Photo Log

George Road Clean Hard Fill Site Pictures

Main entrance to George Road Clean Hard Fill Site.

View looking from north to south across George Road Clean Hard Fill Site.

View looking across George Road Clean Hard Fill Site from south to north.

View showing bermed soils along eastern perimeter.

Close-up view of bermed soils.

View looking down into fill area from soil berm on south end of the site.

Appendix Q

CB12 and CB23 Clean Hard Fill Site Photo Log

Overview of CB12 Clean Hard Fill Site.

View looking up from CB12 Change House Alley on east side of the site.

Overview of CB23 Clean Hard Fill Site.

Close-up of CB23 looking south to north.

View looking up at east side of CB23 Clean Hard Fill Site. Picture also shows portion of Change House partially intact.

Appendix R

CB22 Clean Hard Fill Site Photo Log

CB22 Clean Hard Fill Site Pictures

View looking across top of CB22 Clean Hard Fill Site.

View from bottom (Change House Alley area) of CB22 Clean Hard Fill Site.

Close-up view from bottom (Change House Alley area) of CB22 Clean Hard Fill Site after fall foliage has gone.

Appendix S

Clean Hard Fill Closure Cost Estimates

Closure of Clean Hardfill Areas (CB-22, CB-23, CB-12 and George Road), Ravenna Army Ammunition Plant

						94.03%	15.91%	10.00%	
		Labor	Material	Sub Contracts	Other Direct Costs	OH	G&A	Profit	Total
Task 1	Work Plan and Site Safety & Health Plan (for all sites)	$ 13,855.56	$ -	$ -	$ -	$ 13,028.38	$ 4,277.23	$ 3,116.12	**$ 34,277.28**
Task 2	Closure of CB-22	$ 10,434.30	$ 833.30	$ 180,867.00	$ 6,808.71	$ 9,811.37	$ 33,212.87	$ 24,196.76	**$ 266,164.31**
Task 2a	Processing of Concrete, Installation of Geo-Fabric Material and Soil Cap	$ 5,213.42	$ 225.00	$ 179,507.00	$ 3,798.26	$ 4,902.18	$ 30,809.05	$ 22,445.49	$ 246,900.39
Task 2b	Site Restoration	$ 1,784.18	$ 608.30	$ 1,360.00	$ 3,010.45	$ 1,677.67	$ 1,342.90	$ 978.35	$ 10,761.85
Task 2c	Final Report	$ 3,436.70	$ -	$ -	$ -	$ 3,231.53	$ 1,060.92	$ 772.91	$ 8,502.06
Task 3	Closure of CB-23	$ 9,984.67	$ 860.00	$ 103,327.00	$ 6,490.99	$ 9,388.58	$ 20,691.15	$ 15,074.24	**$ 165,816.63**
Task 3a	Processing of Concrete, Installation of Geo-Fabric Material and Soil Cap	$ 4,763.78	$ 200.00	$ 101,967.00	$ 3,480.55	$ 4,479.38	$ 18,279.11	$ 13,316.98	$ 146,486.81
Task 3b	Site Restoration	$ 1,784.18	$ 660.00	$ 1,360.00	$ 3,010.45	$ 1,677.67	$ 1,351.12	$ 984.34	$ 10,827.76
Task 3c	Final Report	$ 3,436.70	$ -	$ -	$ -	$ 3,231.53	$ 1,060.92	$ 772.91	$ 8,502.06
Task 4	Closure of CB-12	$ 9,260.46	$ 810.00	$ 69,649.00	$ 5,860.15	$ 8,707.61	$ 15,001.10	$ 10,928.83	**$ 120,217.14**
Task 4a	Processing of Concrete, Installation of Geo-Fabric Material and Soil Cap	$ 4,039.57	$ 150.00	$ 68,289.00	$ 2,961.12	$ 3,798.41	$ 12,606.78	$ 9,184.49	$ 101,029.38
Task 4b	Site Restoration	$ 1,784.18	$ 660.00	$ 1,360.00	$ 2,899.03	$ 1,677.67	$ 1,333.40	$ 971.43	$ 10,685.70
Task 4c	Final Report	$ 3,436.70	$ -	$ -	$ -	$ 3,231.53	$ 1,060.92	$ 772.91	$ 8,502.06
Task 5	Closure of George Road	$ 20,319.56	$ 2,450.00	$ 332,230.00	$ 12,991.25	$ 19,106.48	$ 61,587.18	$ 44,868.45	**$ 493,552.92**
Task 5a	Processing of Concrete, Installation of Geo-Fabric Material and Soil Cap	$ 13,756.45	$ 700.00	$ 330,870.00	$ 9,254.81	$ 12,935.19	$ 58,471.87	$ 42,598.83	$ 468,587.16
Task 5b	Site Restoration	$ 3,126.41	$ 1,750.00	$ 1,360.00	$ 3,736.43	$ 2,939.76	$ 2,054.39	$ 1,496.70	$ 16,463.69
Task 5c	Final Report	$ 3,436.70	$ -	$ -	$ -	$ 3,231.53	$ 1,060.92	$ 772.91	$ 8,502.06
	TOTAL	**$ 63,854.54**	**$ 4,953.30**	**$ 686,073.00**	**$ 32,151.10**	**$ 60,042.42**	**$ 134,769.53**	**$ 98,184.39**	**$ 1,080,028.28**

	Description	Quantity	Units	Unit cost	Labor	Material	Sub Contracts	Other Direct Costs	94.03% OH	15.91% G&A	10.00% Profit	Total	
Closure of Clean Hardfill Areas (CB-22, CB-23, CB-12 and George Road), Ravenna Army Ammunition Plant													
Task 1	**Work Plan and Site Safety & Health Plan (for all sites)**												**$ 34,277.28**
	Personnel - Draft WP												$ 22,025.18
	Sr. Project Manager	24.00	hour	$ 54.75	$ 1,313.89	$ -	$ -	$ -	$ 1,235.45	$ 405.60	$ 295.50	$ 3,250.45	
	Project Engineer	60.00	hour	$ 39.49	$ 2,369.33	$ -	$ -	$ -	$ 2,227.88	$ 731.42	$ 532.86	$ 5,861.49	
	Corporate Health and Safety	24.00	hour	$ 53.44	$ 1,282.44	$ -	$ -	$ -	$ 1,205.88	$ 395.89	$ 288.42	$ 3,172.64	
	Technical Writer	100.00	hour	$ 36.01	$ 3,600.72	$ -	$ -	$ -	$ 3,385.76	$ 1,111.55	$ 809.80	$ 8,907.83	
	Project Administrator	16.00	hour	$ 21.04	$ 336.63	$ -	$ -	$ -	$ 316.53	$ 103.92	$ 75.71	$ 832.78	
	Personnel - Final WP												$ 12,252.10
	Sr. Project Manager	16.00	hour	$ 54.75	$ 875.93	$ -	$ -	$ -	$ 823.64	$ 270.40	$ 197.00	$ 2,166.96	
	Project Engineer	40.00	hour	$ 39.49	$ 1,579.55	$ -	$ -	$ -	$ 1,485.25	$ 487.61	$ 355.24	$ 3,907.66	
	Technical Writer	60.00	hour	$ 36.01	$ 2,160.43	$ -	$ -	$ -	$ 2,031.45	$ 666.93	$ 485.88	$ 5,344.70	
	Project Assistant	16.00	hour	$ 21.04	$ 336.63	$ -	$ -	$ -	$ 316.53	$ 103.92	$ 75.71	$ 832.78	
	Total for Task 1				**$ 13,855.56**	**$ -**	**$ -**	**$ -**	**$ 13,028.38**	**$ 4,277.23**	**$ 3,116.12**	**$ 34,277.28**	
Task 2	**Closure of CB-22**												**$ 266,164.31**
Task 2a	**Processing of Concrete, Installation of Geo-Fabric Material and Soil Cap**												**$ 246,900.39**
	Mobilization/Demobilization, Site Set-up and Training												**$ 24,779.33**
	Personnel												$ 23,286.49
	Sr. Project Manager	4.00	hour	$ 54.75	$ 218.98	$ -	$ -	$ -	$ 205.91	$ 67.60	$ 49.25	$ 541.74	
	Project Engineer/Site Safety/QC Officer	24.00	hour	$ 39.49	$ 947.73	$ -	$ -	$ -	$ 891.15	$ 292.57	$ 213.14	$ 2,344.59	
	Mob/Demob for Subcontractor	1.00	LS	$ 16,000.00	$ -	$ -	$ 16,000.00	$ -	$ -	$ 2,545.60	$ 1,854.56	$ 20,400.16	
	Travel												$ 1,492.83
	Airfare	1.00	roundtrip	$ 500.00	$ -	$ -	$ -	$ 500.00	$ -	$ 79.55	$ 57.96	$ 637.51	
	1 Pickup Truck	0.25	month	$ 891.35	$ -	$ -	$ -	$ 222.84	$ -	$ 35.45	$ 25.83	$ 284.12	
	Per Diem	3.00	day	$ 116.00	$ -	$ -	$ -	$ 348.00	$ -	$ 55.37	$ 40.34	$ 443.70	
	Gasoline for Auto Rental	1.00	week	$ 100.00	$ -	$ -	$ -	$ 100.00	$ -	$ 15.91	$ 11.59	$ 127.50	
	Site Work for CB-22												**$ 222,121.07**
	Personnel												$ 216,527.06
	Sr. Project Manager	9.00	hour	$ 54.75	$ 492.71	$ -	$ -	$ -	$ 463.30	$ 152.10	$ 110.81	$ 1,218.92	
	Project Engineer/Site Safety/QC Officer	90.00	hour	$ 39.49	$ 3,553.99	$ -	$ -	$ -	$ 3,341.82	$ 1,097.12	$ 799.29	$ 8,792.23	
	Processing and Moving Concrete	1.00	LS	$ 37,808.00	$ -	$ -	$ 37,808.00	$ -	$ -	$ 6,015.25	$ 4,382.33	$ 48,205.58	
	Installation of Geo-Fabric Material	1.00	LS	$ 5,544.00	$ -	$ -	$ 5,544.00	$ -	$ -	$ 882.05	$ 642.61	$ 7,068.66	
	Installation of Soil Cap	1.00	LS	$ 118,620.00	$ -	$ -	$ 118,620.00	$ -	$ -	$ 18,872.44	$ 13,749.24	$ 151,241.69	
	Travel												$ 3,292.57
	1 Pickup Truck	0.56	month	$ 891.35	$ -	$ -	$ -	$ 501.39	$ -	$ 79.77	$ 58.12	$ 639.27	
	Per Diem	16.00	day	$ 116.00	$ -	$ -	$ -	$ 1,856.00	$ -	$ 295.29	$ 215.13	$ 2,366.42	
	Gasoline for Auto Rental	2.25	week	$ 100.00	$ -	$ -	$ -	$ 225.00	$ -	$ 35.80	$ 26.08	$ 286.88	
	Equipment												$ 57.42
	Port-A-John	0.56	month	$ 80.06	$ -	$ -	$ -	$ 45.04	$ -	$ 7.17	$ 5.22	$ 57.42	
	Materials												$ 286.88
	Miscellaneous Operating & Safety Supplies	2.25	week	$ 100.00	$ -	$ 225.00	$ -	$ -	$ -	$ 35.80	$ 26.08	$ 286.88	
	Analytical (Pre-characterization of Backfill Material)												$ 1,287.76
	Full-Suite Explosives SW846 8330	1.00	sample	$ 145.00	$ -	$ -	$ 145.00	$ -	$ -	$ 23.07	$ 16.81	$ 184.88	
	TAL Metals	1.00	sample	$ 125.00	$ -	$ -	$ 125.00	$ -	$ -	$ 19.89	$ 14.49	$ 159.38	
	Propellants	1.00	sample	$ 215.00	$ -	$ -	$ 215.00	$ -	$ -	$ 34.21	$ 24.92	$ 274.13	
	PCBs	1.00	sample	$ 70.00	$ -	$ -	$ 70.00	$ -	$ -	$ 11.14	$ 8.11	$ 89.25	
	SVOCs	1.00	sample	$ 170.00	$ -	$ -	$ 170.00	$ -	$ -	$ 27.05	$ 19.70	$ 216.75	

	Description	Quantity	Units	Unit cost	Labor	Material	Sub Contracts	Other Direct Costs	94.03% OH	15.91% G&A	10.00% Profit	Total	
Closure of Clean Hardfill Areas (CB-22, CB-23, CB-12 and George Road), Ravenna Army Ammunition Plant													
	Cyanide	1.00	sample	$ 35.00	$ -	$ -	$ 35.00	$ -	$ -	$ 5.57	$ 4.06	$ 44.63	
	Pesticide	1.00	sample	$ 95.00	$ -	$ -	$ 95.00	$ -	$ -	$ 15.11	$ 11.01	$ 121.13	
	VOCs	1.00	sample	$ 95.00	$ -	$ -	$ 95.00	$ -	$ -	$ 15.11	$ 11.01	$ 121.13	
	MI Processing	1.00	sample	$ 60.00	$ -	$ -	$ 60.00	$ -	$ -	$ 9.55	$ 6.95	$ 76.50	
	Data Validation												$ 669.38
	Full-Suite Explosives SW846 8330	1.00	sample	$ 50.00	$ -	$ -	$ 50.00	$ -	$ -	$ 7.96	$ 5.80	$ 63.75	
	TAL Metals	1.00	sample	$ 110.00	$ -	$ -	$ 110.00	$ -	$ -	$ 17.50	$ 12.75	$ 140.25	
	Propellants	1.00	sample	$ 70.00	$ -	$ -	$ 70.00	$ -	$ -	$ 11.14	$ 8.11	$ 89.25	
	PCBs	1.00	sample	$ 75.00	$ -	$ -	$ 75.00	$ -	$ -	$ 11.93	$ 8.69	$ 95.63	
	SVOCs	1.00	sample	$ 75.00	$ -	$ -	$ 75.00	$ -	$ -	$ 11.93	$ 8.69	$ 95.63	
	Cyanide	1.00	sample	$ 35.00	$ -	$ -	$ 35.00	$ -	$ -	$ 5.57	$ 4.06	$ 44.63	
	Pesticide	1.00	sample	$ 35.00	$ -	$ -	$ 35.00	$ -	$ -	$ 5.57	$ 4.06	$ 44.63	
	VOCs	1.00	sample	$ 75.00	$ -	$ -	$ 75.00	$ -	$ -	$ 11.93	$ 8.69	$ 95.63	
Task 2b	**Site Restoration**												**$ 10,761.85**
	Personnel												$ 6,147.91
	Project Engineer/Site Safety/QC Officer	20.00	hour	$ 39.49	$ 789.78	$ -	$ -	$ -	$ 742.63	$ 243.81	$ 177.62	$ 1,953.83	
1	Equipment Operators	36.00	hour	$ 27.62	$ 994.41	$ -	$ -	$ -	$ 935.04	$ 306.97	$ 223.64	$ 2,460.06	
1	Licensed Surveyor	16.00	hour	$ 85.00	$ -	$ -	$ 1,360.00	$ -	$ -	$ 216.38	$ 157.64	$ 1,734.01	
	Travel												$ 2,464.39
	Airfare	1.00	roundtrip	$ 500.00	$ -	$ -	$ -	$ 500.00	$ -	$ 79.55	$ 57.96	$ 637.51	
1	Pickup Truck	0.25	month	$ 891.35	$ -	$ -	$ -	$ 222.84	$ -	$ 35.45	$ 25.83	$ 284.12	
	Per Diem	10.00	day	$ 116.00	$ -	$ -	$ -	$ 1,160.00	$ -	$ 184.56	$ 134.46	$ 1,479.01	
	Gasoline for Auto Rental	0.50	week	$ 100.00	$ -	$ -	$ -	$ 50.00	$ -	$ 7.96	$ 5.80	$ 63.75	
	Equipment												$ 1,373.96
	Equipment Mob/Demob	1.00	LS	$ 500.00	$ -	$ -	$ -	$ 500.00	$ -	$ 79.55	$ 57.96	$ 637.51	
	Straw Thrower	1.00	week	$ 462.58	$ -	$ -	$ -	$ 462.58	$ -	$ 73.60	$ 53.62	$ 589.79	
	Port-A-John	0.50	month	$ 80.06	$ -	$ -	$ -	$ 40.03	$ -	$ 6.37	$ 4.64	$ 51.04	
	Diesel for Equipment (100 gal/month)	1.00	week	$ 75.00	$ -	$ -	$ -	$ 75.00	$ -	$ 11.93	$ 8.69	$ 95.63	
	Materials												$ 775.59
	Seed (IIA)	1.00	acre	$ 222.04	$ -	$ 222.04	$ -	$ -	$ -	$ 35.33	$ 25.74	$ 283.10	
	Straw Bales	90.00	ea	$ 3.74	$ -	$ 336.26	$ -	$ -	$ -	$ 53.50	$ 38.98	$ 428.74	
	Miscellaneous Operating Supplies	0.50	week	$ 100.00	$ -	$ 50.00	$ -	$ -	$ -	$ 7.96	$ 5.80	$ 63.75	
Task 2c	**Final Report**												**$ 8,502.06**
	Personnel - Draft												$ 6,189.06
	Sr. Project Manager	8.00	hour	$ 54.75	$ 437.96	$ -	$ -	$ -	$ 411.82	$ 135.20	$ 98.50	$ 1,083.48	
	Project Engineer/Scientist	48.00	hour	$ 39.49	$ 1,895.46	$ -	$ -	$ -	$ 1,782.30	$ 585.13	$ 426.29	$ 4,689.19	
	Project Administrator	8.00	hour	$ 21.04	$ 168.31	$ -	$ -	$ -	$ 158.27	$ 51.96	$ 37.85	$ 416.39	
	Personnel - Final												$ 2,313.00
	Sr. Project Manager	4.00	hour	$ 54.75	$ 218.98	$ -	$ -	$ -	$ 205.91	$ 67.60	$ 49.25	$ 541.74	
	Project Engineer/Scientist	16.00	hour	$ 39.49	$ 631.82	$ -	$ -	$ -	$ 594.10	$ 195.04	$ 142.10	$ 1,563.06	
	Project Administrator	4.00	hour	$ 21.04	$ 84.16	$ -	$ -	$ -	$ 79.13	$ 25.98	$ 18.93	$ 208.20	
	TOTAL for Task 2				**$ 10,434.30**	**$ 833.30**	**$ 180,867.00**	**$ 6,808.71**	**$ 9,811.37**	**$ 33,212.87**	**$ 24,196.76**	**$ 266,164.31**	
Task 3	**Closure of CB-23**												**$ 165,816.63**
Task 3a	**Processing of Concrete, Installation of Geo-Fabric Material and Soil Cap**												**$ 146,486.81**
	Mobilization/Demobilization, Site Set-up and Training												**$ 24,779.33**
	Personnel												$ 23,286.49

	Description	Quantity	Units	Unit cost	Labor	Material	Sub Contracts	Other Direct Costs	94.03% OH	15.91% G&A	10.00% Profit	Total	
Closure of Clean Hardfill Areas (CB-22, CB-23, CB-12 and George Road), Ravenna Army Ammunition Plant													
	Sr. Project Manager	4.00	hour	$ 54.75	$ 218.98	$ -	$ -	$ -	$ 205.91	$ 67.60	$ 49.25	$ 541.74	
	Project Engineer/Site Safety/QC Officer	24.00	hour	$ 39.49	$ 947.73	$ -	$ -	$ -	$ 891.15	$ 292.57	$ 213.14	$ 2,344.59	
	Mob/Demob for Subcontractor	1.00	LS	$ 16,000.00	$ -	$ -	$ 16,000.00	$ -	$ -	$ 2,545.60	$ 1,854.56	$ 20,400.16	
	Travel												$ 1,492.83
	Airfare	1.00	roundtrip	$ 500.00	$ -	$ -	$ -	$ 500.00	$ -	$ 79.55	$ 57.96	$ 637.51	
	1 Pickup Truck	0.25	month	$ 891.35	$ -	$ -	$ -	$ 222.84	$ -	$ 35.45	$ 25.83	$ 284.12	
	Per Diem	3.00	day	$ 116.00	$ -	$ -	$ -	$ 348.00	$ -	$ 55.37	$ 40.34	$ 443.70	
	Gasoline for Auto Rental	1.00	week	$ 100.00	$ -	$ -	$ -	$ 100.00	$ -	$ 15.91	$ 11.59	$ 127.50	
	Site Work for CB-23												**$ 121,707.48**
	Personnel												$ 116,550.44
	Sr. Project Manager	8.00	hour	$ 54.75	$ 437.96	$ -	$ -	$ -	$ 411.82	$ 135.20	$ 98.50	$ 1,083.48	
	Project Engineer/Site Safety/QC Officer	80.00	hour	$ 39.49	$ 3,159.10	$ -	$ -	$ -	$ 2,970.51	$ 975.22	$ 710.48	$ 7,815.31	
	Processing Concrete	1.00	LS	$ 33,216.00	$ -	$ -	$ 33,216.00	$ -	$ -	$ 5,284.67	$ 3,850.07	$ 42,350.73	
	Installation of Geo-Fabric Material	1.00	LS	$ 6,336.00	$ -	$ -	$ 6,336.00	$ -	$ -	$ 1,008.06	$ 734.41	$ 8,078.46	
	Installation of Soil Cap	1.00	LS	$ 44,880.00	$ -	$ -	$ 44,880.00	$ -	$ -	$ 7,140.41	$ 5,202.04	$ 57,222.45	
	Travel												$ 2,893.86
	1 Pickup Truck	0.50	month	$ 891.35	$ -	$ -	$ -	$ 445.68	$ -	$ 70.91	$ 51.66	$ 568.24	
	Per Diem	14.00	day	$ 116.00	$ -	$ -	$ -	$ 1,624.00	$ -	$ 258.38	$ 188.24	$ 2,070.62	
	Gasoline for Auto Rental	2.00	week	$ 100.00	$ -	$ -	$ -	$ 200.00	$ -	$ 31.82	$ 23.18	$ 255.00	
	Equipment												$ 51.04
	Port-A-John	0.50	month	$ 80.06	$ -	$ -	$ -	$ 40.03	$ -	$ 6.37	$ 4.64	$ 51.04	
	Materials												$ 255.00
	Miscellaneous Operating & Safety Supplies	2.00	week	$ 100.00	$ -	$ 200.00	$ -	$ -	$ -	$ 31.82	$ 23.18	$ 255.00	
	Analytical (Pre-characterization of Backfill Material)												$ 1,287.76
	Full-Suite Explosives SW846 8330	1.00	sample	$ 145.00	$ -	$ -	$ 145.00	$ -	$ -	$ 23.07	$ 16.81	$ 184.88	
	TAL Metals	1.00	sample	$ 125.00	$ -	$ -	$ 125.00	$ -	$ -	$ 19.89	$ 14.49	$ 159.38	
	Propellants	1.00	sample	$ 215.00	$ -	$ -	$ 215.00	$ -	$ -	$ 34.21	$ 24.92	$ 274.13	
	PCBs	1.00	sample	$ 70.00	$ -	$ -	$ 70.00	$ -	$ -	$ 11.14	$ 8.11	$ 89.25	
	SVOCs	1.00	sample	$ 170.00	$ -	$ -	$ 170.00	$ -	$ -	$ 27.05	$ 19.70	$ 216.75	
	Cyanide	1.00	sample	$ 35.00	$ -	$ -	$ 35.00	$ -	$ -	$ 5.57	$ 4.06	$ 44.63	
	Pesticide	1.00	sample	$ 95.00	$ -	$ -	$ 95.00	$ -	$ -	$ 15.11	$ 11.01	$ 121.13	
	VOCs	1.00	sample	$ 95.00	$ -	$ -	$ 95.00	$ -	$ -	$ 15.11	$ 11.01	$ 121.13	
	MI Processing	1.00	sample	$ 60.00	$ -	$ -	$ 60.00	$ -	$ -	$ 9.55	$ 6.95	$ 76.50	
	Data Validation												$ 669.38
	Full-Suite Explosives SW846 8330	1.00	sample	$ 50.00	$ -	$ -	$ 50.00	$ -	$ -	$ 7.96	$ 5.80	$ 63.75	
	TAL Metals	1.00	sample	$ 110.00	$ -	$ -	$ 110.00	$ -	$ -	$ 17.50	$ 12.75	$ 140.25	
	Propellants	1.00	sample	$ 70.00	$ -	$ -	$ 70.00	$ -	$ -	$ 11.14	$ 8.11	$ 89.25	
	PCBs	1.00	sample	$ 75.00	$ -	$ -	$ 75.00	$ -	$ -	$ 11.93	$ 8.69	$ 95.63	
	SVOCs	1.00	sample	$ 75.00	$ -	$ -	$ 75.00	$ -	$ -	$ 11.93	$ 8.69	$ 95.63	
	Cyanide	1.00	sample	$ 35.00	$ -	$ -	$ 35.00	$ -	$ -	$ 5.57	$ 4.06	$ 44.63	
	Pesticide	1.00	sample	$ 35.00	$ -	$ -	$ 35.00	$ -	$ -	$ 5.57	$ 4.06	$ 44.63	
	VOCs	1.00	sample	$ 75.00	$ -	$ -	$ 75.00	$ -	$ -	$ 11.93	$ 8.69	$ 95.63	
Task 3b	**Site Restoration**												**$ 10,827.76**
	Personnel												$ 6,147.91
	Project Engineer/Site Safety/QC Officer	20.00	hour	$ 39.49	$ 789.78	$ -	$ -	$ -	$ 742.63	$ 243.81	$ 177.62	$ 1,953.83	
	1 Equipment Operators	36.00	hour	$ 27.62	$ 994.41	$ -	$ -	$ -	$ 935.04	$ 306.97	$ 223.64	$ 2,460.06	
	1 Licensed Surveyor	16.00	hour	$ 85.00	$ -	$ -	$ 1,360.00	$ -	$ -	$ 216.38	$ 157.64	$ 1,734.01	
	Travel												$ 2,464.39
	Airfare	1.00	roundtrip	$ 500.00	$ -	$ -	$ -	$ 500.00	$ -	$ 79.55	$ 57.96	$ 637.51	

	Description	Quantity	Units	Unit cost	Labor	Material	Sub Contracts	Other Direct Costs	94.03% OH	15.91% G&A	10.00% Profit	Total	
Closure of Clean Hardfill Areas (CB-22, CB-23, CB-12 and George Road), Ravenna Army Ammunition Plant													
	1 Pickup Truck	0.25	month	$ 891.35	$ -	$ -	$ -	$ 222.84	$ -	$ 35.45	$ 25.83	$ 284.12	
	Per Diem	10.00	day	$ 116.00	$ -	$ -	$ -	$ 1,160.00	$ -	$ 184.56	$ 134.46	$ 1,479.01	
	Gasoline for Auto Rental	0.50	week	$ 100.00	$ -	$ -	$ -	$ 50.00	$ -	$ 7.96	$ 5.80	$ 63.75	
	Equipment												$ 1,373.96
	Equipment Mob/Demob	1.00	LS	$ 500.00	$ -	$ -	$ -	$ 500.00	$ -	$ 79.55	$ 57.96	$ 637.51	
	Straw Thrower	1.00	week	$ 462.58	$ -	$ -	$ -	$ 462.58	$ -	$ 73.60	$ 53.62	$ 589.79	
	Port-A-John	0.5	month	$ 80.06	$ -	$ -	$ -	$ 40.03	$ -	$ 6.37	$ 4.64	$ 51.04	
	Diesel for Equipment (100 gal/month)	1.00	week	$ 75.00	$ -	$ -	$ -	$ 75.00	$ -	$ 11.93	$ 8.69	$ 95.63	
	Materials												$ 841.51
	Seed (IIA)	1.00	acre	$ 250.00	$ -	$ 250.00	$ -	$ -	$ -	$ 39.78	$ 28.98	$ 318.75	
	Straw Bales	90.00	ea	$ 4.00	$ -	$ 360.00	$ -	$ -	$ -	$ 57.28	$ 41.73	$ 459.00	
	Miscellaneous Operating Supplies	0.50	week	$ 100.00	$ -	$ 50.00	$ -	$ -	$ -	$ 7.96	$ 5.80	$ 63.75	
Task 3c	**Final Report**												**$ 8,502.06**
	Personnel - Draft												$ 6,189.06
	Sr. Project Manager	8.00	hour	$ 54.75	$ 437.96	$ -	$ -	$ -	$ 411.82	$ 135.20	$ 98.50	$ 1,083.48	
	Project Engineer/Scientist	48.00	hour	$ 39.49	$ 1,895.46	$ -	$ -	$ -	$ 1,782.30	$ 585.13	$ 426.29	$ 4,689.19	
	Project Administrator	8.00	hour	$ 21.04	$ 168.31	$ -	$ -	$ -	$ 158.27	$ 51.96	$ 37.85	$ 416.39	
	Personnel - Final												$ 2,313.00
	Sr. Project Manager	4.00	hour	$ 54.75	$ 218.98	$ -	$ -	$ -	$ 205.91	$ 67.60	$ 49.25	$ 541.74	
	Project Engineer/Scientist	16.00	hour	$ 39.49	$ 631.82	$ -	$ -	$ -	$ 594.10	$ 195.04	$ 142.10	$ 1,563.06	
	Project Administrator	4.00	hour	$ 21.04	$ 84.16	$ -	$ -	$ -	$ 79.13	$ 25.98	$ 18.93	$ 208.20	
	TOTAL for Task 3				**$ 9,984.67**	**$ 860.00**	**$ 103,327.00**	**$ 6,490.99**	**$ 9,388.58**	**$ 20,691.15**	**$ 15,074.24**	**$ 165,816.63**	
Task 4	**Closure of CB-12**												**$ 120,217.14**
Task 4a	**Processing of Concrete, Installation of Geo-Fabric Material and Soil Cap**												**$ 101,029.38**
	Mobilization/Demobilization, Site Set-up and Training												**$ 25,212.40**
	Personnel												$ 23,719.57
	Sr. Project Manager	4.00	hour	$ 54.75	$ 218.98	$ -	$ -	$ -	$ 205.91	$ 67.60	$ 49.25	$ 541.74	
	Project Engineer/Site Safety/QC Officer	8.00	hour	$ 39.49	$ 315.91	$ -	$ -	$ -	$ 297.05	$ 97.52	$ 71.05	$ 781.53	
	Site Safety Officer	24.00	hour	$ 33.62	$ 806.88	$ -	$ -	$ -	$ 758.71	$ 249.09	$ 181.47	$ 1,996.14	
	Mob/Demob for Subcontractor	1.00	LS	$ 16,000.00	$ -	$ -	$ 16,000.00	$ -	$ -	$ 2,545.60	$ 1,854.56	$ 20,400.16	
	Travel												$ 1,492.83
	Airfare	1.00	roundtrip	$ 500.00	$ -	$ -	$ -	$ 500.00	$ -	$ 79.55	$ 57.96	$ 637.51	
	1 Pickup Truck	0.25	month	$ 891.35	$ -	$ -	$ -	$ 222.84	$ -	$ 35.45	$ 25.83	$ 284.12	
	Per Diem	3.00	day	$ 116.00	$ -	$ -	$ -	$ 348.00	$ -	$ 55.37	$ 40.34	$ 443.70	
	Gasoline for Auto Rental	1.00	week	$ 100.00	$ -	$ -	$ -	$ 100.00	$ -	$ 15.91	$ 11.59	$ 127.50	
	Site Work for CB-23												**$ 75,816.97**
	Personnel												$ 71,385.95
	Sr. Project Manager	6.00	hour	$ 54.75	$ 328.47	$ -	$ -	$ -	$ 308.86	$ 101.40	$ 73.87	$ 812.61	
	Project Engineer/Site Safety/QC Officer	60.00	hour	$ 39.49	$ 2,369.33	$ -	$ -	$ -	$ 2,227.88	$ 731.42	$ 532.86	$ 5,861.49	
	Processing Concrete	1.00	LS	$ 15,418.00	$ -	$ -	$ 15,418.00	$ -	$ -	$ 2,453.00	$ 1,787.10	$ 19,658.10	
	Installation of Geo-Fabric Material	1.00	LS	$ 4,356.00	$ -	$ -	$ 4,356.00	$ -	$ -	$ 693.04	$ 504.90	$ 5,553.94	
	Installation of Soil Cap	1.00	LS	$ 30,980.00	$ -	$ -	$ 30,980.00	$ -	$ -	$ 4,928.92	$ 3,590.89	$ 39,499.81	
	Travel												$ 2,244.35
	1 Pickup Truck	0.38	month	$ 891.35	$ -	$ -	$ -	$ 334.26	$ -	$ 53.18	$ 38.74	$ 426.18	
	Per Diem	11.00	day	$ 116.00	$ -	$ -	$ -	$ 1,276.00	$ -	$ 203.01	$ 147.90	$ 1,626.91	
	Gasoline for Auto Rental	1.50	week	$ 100.00	$ -	$ -	$ -	$ 150.00	$ -	$ 23.87	$ 17.39	$ 191.25	

	Description	Quantity	Units	Unit cost	Labor	Material	Sub Contracts	Other Direct Costs	94.03% OH	15.91% G&A	10.00% Profit	Total	
Closure of Clean Hardfill Areas (CB-22, CB-23, CB-12 and George Road), Ravenna Army Ammunition Plant													
	Equipment												$ 38.28
	Port-A-John	0.38	month	$ 80.06	$ -	$ -	$ -	$ 30.02	$ -	$ 4.78	$ 3.48	$ 38.28	
	Materials												$ 191.25
	Miscellaneous Operating & Safety Supplies	1.50	week	$ 100.00	$ -	$ 150.00	$ -	$ -	$ -	$ 23.87	$ 17.39	$ 191.25	
	Analytical (Pre-characterization of Backfill Material)												$ 1,287.76
	Full-Suite Explosives SW846 8330	1.00	sample	$ 145.00	$ -	$ -	$ 145.00	$ -	$ -	$ 23.07	$ 16.81	$ 184.88	
	TAL Metals	1.00	sample	$ 125.00	$ -	$ -	$ 125.00	$ -	$ -	$ 19.89	$ 14.49	$ 159.38	
	Propellants	1.00	sample	$ 215.00	$ -	$ -	$ 215.00	$ -	$ -	$ 34.21	$ 24.92	$ 274.13	
	PCBs	1.00	sample	$ 70.00	$ -	$ -	$ 70.00	$ -	$ -	$ 11.14	$ 8.11	$ 89.25	
	SVOCs	1.00	sample	$ 170.00	$ -	$ -	$ 170.00	$ -	$ -	$ 27.05	$ 19.70	$ 216.75	
	Cyanide	1.00	sample	$ 35.00	$ -	$ -	$ 35.00	$ -	$ -	$ 5.57	$ 4.06	$ 44.63	
	Pesticide	1.00	sample	$ 95.00	$ -	$ -	$ 95.00	$ -	$ -	$ 15.11	$ 11.01	$ 121.13	
	VOCs	1.00	sample	$ 95.00	$ -	$ -	$ 95.00	$ -	$ -	$ 15.11	$ 11.01	$ 121.13	
	MI Processing	1.00	sample	$ 60.00	$ -	$ -	$ 60.00	$ -	$ -	$ 9.55	$ 6.95	$ 76.50	
	Data Validation												$ 669.38
	Full-Suite Explosives SW846 8330	1.00	sample	$ 50.00	$ -	$ -	$ 50.00	$ -	$ -	$ 7.96	$ 5.80	$ 63.75	
	TAL Metals	1.00	sample	$ 110.00	$ -	$ -	$ 110.00	$ -	$ -	$ 17.50	$ 12.75	$ 140.25	
	Propellants	1.00	sample	$ 70.00	$ -	$ -	$ 70.00	$ -	$ -	$ 11.14	$ 8.11	$ 89.25	
	PCBs	1.00	sample	$ 75.00	$ -	$ -	$ 75.00	$ -	$ -	$ 11.93	$ 8.69	$ 95.63	
	SVOCs	1.00	sample	$ 75.00	$ -	$ -	$ 75.00	$ -	$ -	$ 11.93	$ 8.69	$ 95.63	
	Cyanide	1.00	sample	$ 35.00	$ -	$ -	$ 35.00	$ -	$ -	$ 5.57	$ 4.06	$ 44.63	
	Pesticide	1.00	sample	$ 35.00	$ -	$ -	$ 35.00	$ -	$ -	$ 5.57	$ 4.06	$ 44.63	
	VOCs	1.00	sample	$ 75.00	$ -	$ -	$ 75.00	$ -	$ -	$ 11.93	$ 8.69	$ 95.63	
Task 4b	**Site Restoration**												**$ 10,685.70**
	Personnel												$ 6,147.91
	Project Engineer/Site Safety/QC Officer	20.00	hour	$ 39.49	$ 789.78	$ -	$ -	$ -	$ 742.63	$ 243.81	$ 177.62	$ 1,953.83	
1	Equipment Operators	36.00	hour	$ 27.62	$ 994.41	$ -	$ -	$ -	$ 935.04	$ 306.97	$ 223.64	$ 2,460.06	
1	Licensed Surveyor	16.00	hour	$ 85.00	$ -	$ -	$ 1,360.00	$ -	$ -	$ 216.38	$ 157.64	$ 1,734.01	
	Travel												$ 2,322.33
	Airfare	1.00	roundtrip	$ 500.00	$ -	$ -	$ -	$ 500.00	$ -	$ 79.55	$ 57.96	$ 637.51	
1	Pickup Truck	0.125	month	$ 891.35	$ -	$ -	$ -	$ 111.42	$ -	$ 17.73	$ 12.91	$ 142.06	
	Per Diem	10.00	day	$ 116.00	$ -	$ -	$ -	$ 1,160.00	$ -	$ 184.56	$ 134.46	$ 1,479.01	
	Gasoline for Auto Rental	0.50	week	$ 100.00	$ -	$ -	$ -	$ 50.00	$ -	$ 7.96	$ 5.80	$ 63.75	
	Equipment												$ 1,373.96
	Equipment Mob/Demob	1.00	LS	$ 500.00	$ -	$ -	$ -	$ 500.00	$ -	$ 79.55	$ 57.96	$ 637.51	
	Straw Thrower	1.00	week	$ 462.58	$ -	$ -	$ -	$ 462.58	$ -	$ 73.60	$ 53.62	$ 589.79	
	Port-A-John	0.5	month	$ 80.06	$ -	$ -	$ -	$ 40.03	$ -	$ 6.37	$ 4.64	$ 51.04	
	Diesel for Equipment (100 gal/month)	1.00	week	$ 75.00	$ -	$ -	$ -	$ 75.00	$ -	$ 11.93	$ 8.69	$ 95.63	
	Materials												$ 841.51
	Seed (IIA)	1.00	acre	$ 250.00	$ -	$ 250.00	$ -	$ -	$ -	$ 39.78	$ 28.98	$ 318.75	
	Straw Bales	90.00	ea	$ 4.00	$ -	$ 360.00	$ -	$ -	$ -	$ 57.28	$ 41.73	$ 459.00	
	Miscellaneous Operating Supplies	0.50	week	$ 100.00	$ -	$ 50.00	$ -	$ -	$ -	$ 7.96	$ 5.80	$ 63.75	
Task 4c	**Final Report**												**$ 8,502.06**
	Personnel - Draft												$ 6,189.06
	Sr. Project Manager	8.00	hour	$ 54.75	$ 437.96	$ -	$ -	$ -	$ 411.82	$ 135.20	$ 98.50	$ 1,083.48	
	Project Engineer/Scientist	48.00	hour	$ 39.49	$ 1,895.46	$ -	$ -	$ -	$ 1,782.30	$ 585.13	$ 426.29	$ 4,689.19	
	Project Administrator	8.00	hour	$ 21.04	$ 168.31	$ -	$ -	$ -	$ 158.27	$ 51.96	$ 37.85	$ 416.39	
	Personnel - Final												$ 2,313.00

	Description	Quantity	Units	Unit cost	Labor	Material	Sub Contracts	Other Direct Costs	94.03% OH	15.91% G&A	10.00% Profit	Total	
Closure of Clean Hardfill Areas (CB-22, CB-23, CB-12 and George Road), Ravenna Army Ammunition Plant													
	Sr. Project Manager	4.00	hour	$ 54.75	$ 218.98	$ -	$ -	$ -	$ 205.91	$ 67.60	$ 49.25	$ 541.74	
	Project Engineer/Scientist	16.00	hour	$ 39.49	$ 631.82	$ -	$ -	$ -	$ 594.10	$ 195.04	$ 142.10	$ 1,563.06	
	Project Administrator	4.00	hour	$ 21.04	$ 84.16	$ -	$ -	$ -	$ 79.13	$ 25.98	$ 18.93	$ 208.20	
	TOTAL for Task 4				**$ 9,260.46**	**$ 810.00**	**$ 69,649.00**	**$ 5,860.15**	**$ 8,707.61**	**$ 15,001.10**	**$ 10,928.83**	**$ 120,217.14**	
Task 5	**Closure of George Road**												**$ 493,552.92**
Task 5a	**Processing of Concrete, Installation of Geo-Fabric Material and Soil Cap**												**$ 468,587.16**
	Mobilization/Demobilization, Site Set-up and Training												**$ 24,779.33**
	Personnel												$ 23,286.49
	Sr. Project Manager	4.00	hour	$ 54.75	$ 218.98	$ -	$ -	$ -	$ 205.91	$ 67.60	$ 49.25	$ 541.74	
	Project Engineer/Site Safety/QC Officer	24.00	hour	$ 39.49	$ 947.73	$ -	$ -	$ -	$ 891.15	$ 292.57	$ 213.14	$ 2,344.59	
	Mob/Demob for Subcontractor	1.00	LS	$ 16,000.00	$ -	$ -	$ 16,000.00	$ -	$ -	$ 2,545.60	$ 1,854.56	$ 20,400.16	
	Travel												$ 1,492.83
	Airfare	1.00	roundtrip	$ 500.00	$ -	$ -	$ -	$ 500.00	$ -	$ 79.55	$ 57.96	$ 637.51	
1	Pickup Truck	0.25	month	$ 891.35	$ -	$ -	$ -	$ 222.84	$ -	$ 35.45	$ 25.83	$ 284.12	
	Per Diem	3.00	day	$ 116.00	$ -	$ -	$ -	$ 348.00	$ -	$ 55.37	$ 40.34	$ 443.70	
	Gasoline for Auto Rental	1.00	week	$ 100.00	$ -	$ -	$ -	$ 100.00	$ -	$ 15.91	$ 11.59	$ 127.50	
	Site Work for George Road												**$ 443,807.84**
	Personnel												$ 428,693.90
	Sr. Project Manager	28.00	hour	$ 54.75	$ 1,532.88	$ -	$ -	$ -	$ 1,441.36	$ 473.20	$ 344.74	$ 3,792.19	
	Project Engineer/Site Safety/QC Officer	280.00	hour	$ 39.49	$ 11,056.86	$ -	$ -	$ -	$ 10,396.77	$ 3,413.27	$ 2,486.69	$ 27,353.60	
	Processing Concrete	1.00	LS	$ 102,000.00	$ -	$ -	$ 102,000.00	$ -	$ -	$ 16,228.20	$ 11,822.82	$ 130,051.02	
	Apron Installation and Road Clearing	1.00	LS	$ 34,000.00	$ -	$ -	$ 34,000.00	$ -	$ -	$ 5,409.40	$ 3,940.94	$ 43,350.34	
	Installation of Geo-Fabric Material	1.00	LS	$ 19,800.00	$ -	$ -	$ 19,800.00	$ -	$ -	$ 3,150.18	$ 2,295.02	$ 25,245.20	
	Installation of Soil Cap	1.00	LS	$ 156,000.00	$ -	$ -	$ 156,000.00	$ -	$ -	$ 24,819.60	$ 18,081.96	$ 198,901.56	
	Travel												$ 10,128.51
1	Pickup Truck	1.75	month	$ 891.35	$ -	$ -	$ -	$ 1,559.87	$ -	$ 248.17	$ 180.80	$ 1,988.84	
	Per Diem	49.00	day	$ 116.00	$ -	$ -	$ -	$ 5,684.00	$ -	$ 904.32	$ 658.83	$ 7,247.16	
	Gasoline for Auto Rental	7.00	week	$ 100.00	$ -	$ -	$ -	$ 700.00	$ -	$ 111.37	$ 81.14	$ 892.51	
	Equipment												$ 178.64
	Port-A-John	1.75	month	$ 80.06	$ -	$ -	$ -	$ 140.11	$ -	$ 22.29	$ 16.24	$ 178.64	
	Materials												$ 892.51
	Miscellaneous Operating & Safety Supplies	7.00	week	$ 100.00	$ -	$ 700.00	$ -	$ -	$ -	$ 111.37	$ 81.14	$ 892.51	
	Analytical (Pre-characterization of Backfill Material)												$ 2,575.52
	Full-Suite Explosives SW846 8330	2.00	sample	$ 145.00	$ -	$ -	$ 290.00	$ -	$ -	$ 46.14	$ 33.61	$ 369.75	
	TAL Metals	2.00	sample	$ 125.00	$ -	$ -	$ 250.00	$ -	$ -	$ 39.78	$ 28.98	$ 318.75	
	Propellants	2.00	sample	$ 215.00	$ -	$ -	$ 430.00	$ -	$ -	$ 68.41	$ 49.84	$ 548.25	
	PCBs	2.00	sample	$ 70.00	$ -	$ -	$ 140.00	$ -	$ -	$ 22.27	$ 16.23	$ 178.50	
	SVOCs	2.00	sample	$ 170.00	$ -	$ -	$ 340.00	$ -	$ -	$ 54.09	$ 39.41	$ 433.50	
	Cyanide	2.00	sample	$ 35.00	$ -	$ -	$ 70.00	$ -	$ -	$ 11.14	$ 8.11	$ 89.25	
	Pesticide	2.00	sample	$ 95.00	$ -	$ -	$ 190.00	$ -	$ -	$ 30.23	$ 22.02	$ 242.25	
	VOCs	2.00	sample	$ 95.00	$ -	$ -	$ 190.00	$ -	$ -	$ 30.23	$ 22.02	$ 242.25	
	MI Processing	2.00	sample	$ 60.00	$ -	$ -	$ 120.00	$ -	$ -	$ 19.09	$ 13.91	$ 153.00	
	Data Validation												$ 1,338.76
	Full-Suite Explosives SW846 8330	2.00	sample	$ 50.00	$ -	$ -	$ 100.00	$ -	$ -	$ 15.91	$ 11.59	$ 127.50	
	TAL Metals	2.00	sample	$ 110.00	$ -	$ -	$ 220.00	$ -	$ -	$ 35.00	$ 25.50	$ 280.50	
	Propellants	2.00	sample	$ 70.00	$ -	$ -	$ 140.00	$ -	$ -	$ 22.27	$ 16.23	$ 178.50	
	PCBs	2.00	sample	$ 75.00	$ -	$ -	$ 150.00	$ -	$ -	$ 23.87	$ 17.39	$ 191.25	

	Description	Quantity	Units	Unit cost	Labor	Material	Sub Contracts	Other Direct Costs	94.03% OH	15.91% G&A	10.00% Profit	Total	
Closure of Clean Hardfill Areas (CB-22, CB-23, CB-12 and George Road), Ravenna Army Ammunition Plant													
	SVOCs	2.00	sample	$ 75.00	$ -	$ -	$ 150.00	$ -	$ -	$ 23.87	$ 17.39	$ 191.25	
	Cyanide	2.00	sample	$ 35.00	$ -	$ -	$ 70.00	$ -	$ -	$ 11.14	$ 8.11	$ 89.25	
	Pesticide	2.00	sample	$ 35.00	$ -	$ -	$ 70.00	$ -	$ -	$ 11.14	$ 8.11	$ 89.25	
	VOCs	2.00	sample	$ 75.00	$ -	$ -	$ 150.00	$ -	$ -	$ 23.87	$ 17.39	$ 191.25	
Task 5b	**Site Restoration**												**$ 16,463.69**
	Personnel												$ 9,468.44
	Project Engineer/Site Safety/QC Officer	40.00	hour	$ 39.49	$ 1,579.55	$ -	$ -	$ -	$ 1,485.25	$ 487.61	$ 355.24	$ 3,907.66	
	1 Equipment Operators	56.00	hour	$ 27.62	$ 1,546.85	$ -	$ -	$ -	$ 1,454.51	$ 477.52	$ 347.89	$ 3,826.77	
	1 Licensed Surveyor	16.00	hour	$ 85.00	$ -	$ -	$ 1,360.00	$ -	$ -	$ 216.38	$ 157.64	$ 1,734.01	
	Travel												$ 3,415.55
	Airfare	1.00	roundtrip	$ 500.00	$ -	$ -	$ -	$ 500.00	$ -	$ 79.55	$ 57.96	$ 637.51	
	1 Pickup Truck	0.25	month	$ 891.35	$ -	$ -	$ -	$ 222.84	$ -	$ 35.45	$ 25.83	$ 284.12	
	Per Diem	16.00	day	$ 116.00	$ -	$ -	$ -	$ 1,856.00	$ -	$ 295.29	$ 215.13	$ 2,366.42	
	Gasoline for Auto Rental	1.00	week	$ 100.00	$ -	$ -	$ -	$ 100.00	$ -	$ 15.91	$ 11.59	$ 127.50	
	Equipment												$ 1,348.44
	Equipment Mob/Demob	1.00	LS	$ 500.00	$ -	$ -	$ -	$ 500.00	$ -	$ 79.55	$ 57.96	$ 637.51	
	Straw Thrower	1.00	week	$ 462.58	$ -	$ -	$ -	$ 462.58	$ -	$ 73.60	$ 53.62	$ 589.79	
	Port-A-John	0.25	month	$ 80.06	$ -	$ -	$ -	$ 20.02	$ -	$ 3.18	$ 2.32	$ 25.52	
	Diesel for Equipment (100 gal/month)	0.25	month	$ 300.00	$ -	$ -	$ -	$ 75.00	$ -	$ 11.93	$ 8.69	$ 95.63	
	Materials												$ 2,231.27
	Seed (IIA)	2.00	acre	$ 250.00	$ -	$ 500.00	$ -	$ -	$ -	$ 79.55	$ 57.96	$ 637.51	
	Straw Bales	300.00	ea	$ 4.00	$ -	$ 1,200.00	$ -	$ -	$ -	$ 190.92	$ 139.09	$ 1,530.01	
	Miscellaneous Operating Supplies	0.50	week	$ 100.00	$ -	$ 50.00	$ -	$ -	$ -	$ 7.96	$ 5.80	$ 63.75	
Task 5c	**Final Report**												**$ 8,502.06**
	Personnel - Draft												$ 6,189.06
	Sr. Project Manager	8.00	hour	$ 54.75	$ 437.96	$ -	$ -	$ -	$ 411.82	$ 135.20	$ 98.50	$ 1,083.48	
	Project Engineer/Scientist	48.00	hour	$ 39.49	$ 1,895.46	$ -	$ -	$ -	$ 1,782.30	$ 585.13	$ 426.29	$ 4,689.19	
	Project Administrator	8.00	hour	$ 21.04	$ 168.31	$ -	$ -	$ -	$ 158.27	$ 51.96	$ 37.85	$ 416.39	
	Personnel - Final												$ 2,313.00
	Sr. Project Manager	4.00	hour	$ 54.75	$ 218.98	$ -	$ -	$ -	$ 205.91	$ 67.60	$ 49.25	$ 541.74	
	Project Engineer/Scientist	16.00	hour	$ 39.49	$ 631.82	$ -	$ -	$ -	$ 594.10	$ 195.04	$ 142.10	$ 1,563.06	
	Project Administrator	4.00	hour	$ 21.04	$ 84.16	$ -	$ -	$ -	$ 79.13	$ 25.98	$ 18.93	$ 208.20	
	TOTAL for Task 4				**$ 20,319.56**	**$ 2,450.00**	**$ 332,230.00**	**$ 12,991.25**	**$ 19,106.48**	**$ 61,587.18**	**$ 44,868.45**	**$ 493,552.92**	

INDEPENDENCE EXCAVATING QUOTE

CB22 Clean Hard Fill Site

RVAAP Clean Hard Landfill Closures
CB-22, CB-23, CB-12 & George Road

CB-22

Scope: First use machines to pulverize large pieces of concrete to lay area flat. Next to remove approximately 1066 yards of concrete piers from the change alley slope and place them in the large hole in the flat area. Complete processing. Truck in approximately 1,977 yards of fill to make a minimum 2' cover over flat area and down slope to change alley

Area to be topped:	140' x 180' – Top flat area - 1,866 yards @ 2' cover	$20	$37,320.00
	3,732 yards @ 4' cover	$20	$74,640.00
	50' x 30' - Slope to change alley - 111 yards @ 2' cover	$20	$ 2,220.00
	222 yards @ 4' cover	$20	$ 4,440.00
Concrete to be moved:	120' x 20' x 12' - 1,066 yards	$17	$18,122.00
Processing:	Process the top 2' of concrete – Top flat area – 1,231 yards	$15	$18,465.00
	Slope to change alley - 111 yards	$11	$ 1,221.00

Equipment:
- Cat 345 w/ Hammer Attachment and a 60" 0r 72" bucket.
- 330 size machine with pulverizer
- D-6 Dozer
- Off-Road dump
- Broker Trucking
- Fuel Truck

Personal:
- Superintendent /w truck
- 3 Operators
- 1 Oiler
- Laborer (3 days)

Projected Work Schedule:

Processing: Cat 345 w/Hammer, 330 w/Pulv	3 Days
Move concrete on site: Cat 345 w/Bucket, 330 w/Pulv, D-6 Dozer, Off-Road Truck	1.5 Days
Truck in fill: 1,977 yards w/ 20 trucks, D-6 Dozer	3 Days

Installation of Geo Fabric Material

Material	$ 2,520.00
Labor	$ 3,024.00
Total	**$ 5,544.00**

Mobilization $ 16,000.00

CB-22 TOTAL $ 177,972.00

INDEPENDENCE EXCAVATING QUOTE

CB12 and CB23 Clean Hard Fill Sites

CB-23

Scope: First use machines to pulverize large chunks to lay flat. Pulverize large remaining sections of wall and use material to fill some existing large voids. Lay a slope with pulverized concrete into change house alley. Push brush and trees back to expose edges of fill area. Truck in approximately 2,244 yards of fill for a 2' cap.

Area to be topped:	240' x 120' - Top flat area - 2,133 yards @ 2' of cover	$20	$42,660.00
	50' x 30' - Slope to change alley - 111 yards @ 2' of cover	$20	$ 2,220.00
Processing:	Process the top 2' of concrete – Top flat area – 2,133 yards	$15	$31,995.00
	(Whole area must be processed due to the amount of voids, pieces of remaining wall and large pieces)		
	Slope to change alley - 111 yards	$11	$ 1,221.00

Equipment: Cat 345 w/Hammer Attachment
330 size machine with pulverizer
D-6 Dozer
Broker Trucking

Projected Work Schedule:

Processing:	Cat 345 w/Hammer 330 w/Pulv	3 Days
Truck in fill:	2,244 yards w/ 20 D-6 Dozer	3 Days

Installation of Geo Fabric Material

Material	$ 2,880.00
Labor	$ 3,456.00
Total	**$ 6,336.00**

Mobilization $ 16,000.00

CB-23 TOTAL $ 100,432.00

CB-12

Scope: First use machines to pulverize large chunks to lay area flat. Use machine to pull piles on slopes Back down into flat area. Push trees and brush back to expose edges of fill. Make slope into change house alley flat. Truck in approximately 1,549 yards of fill for a 2' cap.

Area to be topped:	180' x 110' - Top flat area - 1,466 yards @ 2' of cover	$20	$29,320.00
	40' x 28' - Slope to change alley - 83 yards @ 2' of cover	$20	$ 1,660.00
Processing:	Process the top 2' of concrete – Top flat area – 967 yards	$15	$14,505.00
	Slope to change alley – 83 yards	$11	$ 913.00

Equipment: Cat 345 w/Hammer Attachment
330 size machine with pulverizer
D-6 Dozer
Broker Trucking

Projected Work Schedule:	Processing: 450 w/Hammer, 330 w/Pulv	2 Days
	Truck in fill: 1,549 yards w/ 20 trucks, D-6 Dozer	2.5 Days

Installation of Geo Fabric Material	Material	$ 1,980.00
	Labor	$ 2,376.00
	Total	**$ 4,356.00**

Mobilization $ 16,000.00

CB-12 TOTAL $ 66,754.00

INDEPENDENCE EXCAVATING QUOTE

George Road Clean Hard Fill Site

George Road

Scope: Use dozer and hoe to clear the entrance road into the site. Once a clear path has been made, cut an apron for the road next to George Rd and install pipe for continued allowance of drainage in the culvert. Place stone around pipe and in apron area. Create a sump in the corner to allow pumping of excessive water that could be a problem if left. Use machines to pulverize large pieces and slabs of concrete to lay flat. Use the dozer and 330 to clear trees and brush from sides of slope where the mounds of spoils are around the edges from the original excavation. Unclear if vegetation will have to be disposed of. Remove rebar and steel as processing continues. Use dozer and excavator to pull in spoils piles from around the edges to form a 2' cap.

Estimated Quantities

Actual Dimensions Unknown at this time

Area to be topped:	360'x250' - 7,800 yards @ 2' of cover Less the amount of spoils around the edges which is unknown yet.	$20	$156,000.00
Processing:	Quantity estimated for top 2' of concrete – 6,800 yards	$15	$102,000.00
Apron Installation:	Apron area 25' x 35' Remove top soil aprox. 50 yards. Install 45 lf of corrugated pipe. Place aprox. 40t of recycled 1 & 2 and top aprox. 25t recycled 304. Move large pieces of concrete into landfill area. Estimated time and equipment: D-6 dozer, Cat 345 w/ bucket, Broker Trucks, 1 laborer		$ 34,000.00
Dewatering:	Includes 2 Dewatering Wells		$ 28,000.00

Equipment:
Cat 345 w/ Hammer attachment and 60" or 72" bucket
JD 450 w/ NPK Processer
JD 330 w/ Pulverizer
D-6 dozer
Fuel Truck
Broker Trucking

Personal:
Superintendent w/ truck
3 Operators
1 Oiler
1 Laborer (6 days)

Projected Work Schedule:
Apron Installation and Road Clearing - 1 Day
Processing - 10 Days
Brush Clearing and Removal, Sump Placement 3 Days
Truck in Fill - 10 Day

Installation of Geo Fabric Material	Material	$ 9,000.00	
	Labor	$ 10,800.00	
	Total		**$ 19,800.00**
Mobilization			$ 16,000.00

George Road Total $355,800.00

Appendix T

Cumulative Signed Documentation/Correspondence

Sue Boles

From: Brian Stockwell
Sent: Tuesday, February 02, 2010 11:05 AM
To: Sue Boles
Subject: FW: Draft Project Completion Report - Bldg 1037 Sump, DMM, and Clean Hard Fill Sites (UNCLASSIFIED)

for e-mail correspondence append -

Regards,

Brian Stockwell
Project Manager
PIKA International, Inc.
office: (330) 358-7135
cell: (330) 352-6955

From: Elgin, Kathryn S CIV NGOH [mailto:katie.elgin@us.army.mil]
Sent: Tue 2/2/2010 9:30 AM
To: Brian Stockwell
Cc: eileen.mohr@epa.state.oh.us; Todd.Fisher@epa.state.oh.us; mark.c.patterson@us.army.mil; Chanda, Thomas M LRL; Meade, William E LTC NGOH; Morgan, Timothy M CIV NGOH; Glen.Beckham@usace.army.mil
Subject: RE: Draft Project Completion Report - Bldg 1037 Sump, DMM, and Clean Hard Fill Sites (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Brian:
Responses to our comments are acceptable. Thanks.

Restoration Team:
Please note comment number 7. The OHARNG will need to know if the clean hard fill sites once properly closed will be totally off limits or if they will be open to surface activities (training, parking lot use, etc). We will also need to know if there will be any reuse restrictions or future maintenance requirements at these sites. These are important questions/discussion points to think about and integrate into future discussions and the future SOW for the closure of the clean hard fill sites. Thanks,

Katie Elgin
Environmental Specialist 2
OHARNG
Camp Ravenna Joint Military Training Center
(614)336-6136

-----Original Message-----
From: Brian Stockwell [mailto:bstockwell@pikainc.com]
Sent: Tuesday, February 02, 2010 8:32 AM
To: Elgin, Kathryn S CIV NGOH
Cc: eileen.mohr@epa.state.oh.us; Todd.Fisher@epa.state.oh.us; mark.c.patterson@us.army.mil; Chanda, Thomas M LRL; Sue Boles
Subject: RE: Draft Project Completion Report - Bldg 1037 Sump, DMM, and Clean Hard Fill Sites (UNCLASSIFIED)

Hi Katie - attached is the CRT for the above referenced - Mark just had a

couple comments that were primarily grammatical in nature that we have discussed and as such did not need to develop a CRT. Any questions pls let me know - thanks

Regards,

Brian Stockwell
Project Manager
PIKA International, Inc.
office: (330) 358-7135
cell: (330) 352-6955

From: Elgin, Kathryn S CIV NGOH [mailto:katie.elgin@us.army.mil]
Sent: Thu 12/17/2009 10:21 AM
To: Brian Stockwell
Cc: eileen.mohr@epa.state.oh.us; Todd.Fisher@epa.state.oh.us; mark.c.patterson@us.army.mil; Chanda, Thomas M LRL
Subject: Draft Project Completion Report - Bldg 1037 Sump, DMM, and Clean Hard Fill Sites (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Attached are my comments on the above referenced report. Please contact me with any comments. Thanks,

Katie Elgin
Environmental Specialist 2
OHARNG
Camp Ravenna Joint Military Training Center
(614)336-6136
Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Appendix U

Comment Response Table

Comment Resolution Table

Installation: Ravenna Army Ammunition Plant, Ravenna, Ohio
Document: Draft Project Completion Report – Disp. of DMM, Demo at Bldg 1037, and Eval. of Clean Hard Fill Sites
Reviewer(s): Katie Elgin, Envmtl. Specialist, OHARNG
Date: December 17, 2009

Cmt. No.	Page or Sheet	Comment	Recommendation	Response
1	General	Change all references of RTLS to Camp Ravenna (including in the acronym table) throughout the document.		All references to RTLS will be changed to Camp Ravenna; including the acronym list.
2	Pg 10, Line 4	Change MAJ Meade to LTC Meade		MAJ Mead on page 10, line 4 will be corrected to read "LTC Meade"
3	Pg 10, Line 5	Delete Kate Elgin from this section. I do not typically get called in an emergency. The Army will contact LTC Meade or Range Operations.		The contact information for Katie Elgin will be deleted from Line 5 on page 10.
4	Pg 25, Line 26	There is no mention of seeding this area after installation of soil cover at CB12 and CB23 clean hard fill sites. Will this area be seeded?		The site restoration task was inadvertently left out of the listing on page 25. The following information will be added: "5) Site Restoration – This task includes seeding and mulching the site using the RVAAP-Camp Ravenna Ohio Army National Guard approved seed mixes."
5	Figure 2	"Location of Munitions Response Sites and Laundry Flame Proofing Building" Please change the reference to Munitions Response Sites in the title block as it means something different under the MMRP program.		The noted misprint on legend for Figure 2 will corrected to read "Figure 2 Location of the Laundry Flame Proofing Building and ECMs 7-C-3, 7-C-4 and 1501."
6	Figure 3	Change Building layer to Buildings and Former Buildings. Many of the buildings on this map have been demolished.		The definition for the symbol used to denote Buildings will be revised to read "Buildings and Former Buildings".

Comment Resolution Table

Installation: Ravenna Army Ammunition Plant, Ravenna, Ohio
Document: Draft Project Completion Report – Disp. of DMM, Demo at Bldg 1037, and Eval. of Clean Hard Fill Sites
Reviewer(s): Katie Elgin, Envmtl. Specialist, OHARNG
Date: December 17, 2009

7	General – Reuse of Clean Hard Fill Site	Discussion - We need to know if these areas will be totally off limits or will they be open to surface activities (training, parking lot use, etc). Will there be any reuse restrictions? We also need to know what happens if we tear up the soil cover. Is it a violation of any sort?		Noted – Details pertaining to the noted questions will need to be addressed during preparation of the official scope of work yet to be prepared for closure of the clean hard fill areas. Time frame for preparation, funding etc., of this effort is currently unknown.