Final

Work Plan for Preliminary Assessment of the TNT Cave Complex Military Munitions Response Program

Iowa Army Ammunition Plant
Middletown, Iowa

March 2016

Prepared for:
U.S. Army Corps of Engineers, Omaha District
1616 Capitol Avenue
Omaha, NE 68102-4901

Prepared under:
Contract No. W9128F-13-D-0003
Delivery Order No. 0002

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Work Plan for
Preliminary Assessment of the
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Contract W9128F-13-D-0003
Delivery Order No. 0002
ERRG Project No. 2015-082

Prepared for:

U.S. Army Corps of Engineers, Omaha District
1616 Capitol Avenue
Omaha, NE 68102-4901

Prepared by:

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12081 West Alameda Parkway, #129
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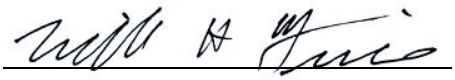
Roger A. Merrick, PMP		February 16, 2016
Project Manager (Print)	Signature	Date

Michael Friedman, PG		February 16, 2016
Corporate Quality Management Representative (Print)	Signature	Date

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List of Appendices

Abbreviations and Acronyms

APP	Accident Prevention Plan
Army	Department of the Army
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
DERP	Defense Environmental Restoration Program
DoD	U.S. Department of Defense
EPA	U.S. Environmental Protection Agency
ERRG	Engineering/Remediation Resources Group, Inc.
FFA	Federal Facility Agreement
GIS	geographic information system
GPS	global positioning system
IAAAP	Iowa Army Ammunition Plant
MC	munitions constituents
MEC	munitions and explosives of concern
MMRP	Military Munitions Response Program
MPPEH	material potentially presenting an explosive hazard
MRSs	munition response sites
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NRCS	Natural Resources Conservation Service
PA	Preliminary Assessment
PWS	Performance Work Statement
RAB	Restoration Advisory Board
RD/RA	remedial design / remedial action
SSHP	Site Specific Health and Safety Plan
TNT	trinitrotoluene

Abbreviations and Acronyms *(continued)*

USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USC	Unites States Code
UXO	unexploded ordnance
§	Section

Section 1. Introduction

The U.S. Army Corps of Engineers (USACE) Omaha District has contracted Engineering/Remediation Resources Group, Inc. (ERRG) under Contract No. W9128F-13-D-0003, Delivery Order 0002, to conduct a Preliminary Assessment (PA) of the TNT (i.e., trinitrotoluene) Cave Complex at the Iowa Army Ammunition Plant (IAAAP), located in Middletown, Iowa. Appendix A includes the Performance Work Statement (PWS) for this delivery order, which includes remedial design / remedial action (RD/RA) work at four munitions response sites (MRSs) in addition to the PA of the TNT Cave Complex. Separate work plans have been be prepared for the RD/RA activities, including removal of contaminated soil and installation and maintenance of land use controls, at the four MRSs. Appendix B includes the site maps, and Figure B-1 shows the location of the IAAAP.

The PA of the TNT Cave Complex will be conducted in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986; and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (Title 40 Code of Federal Regulations [CFR] Part 300). ERRG has prepared this PA Work Plan in accordance with the U.S. Environmental Protection Agency (EPA) Publication 9345.0-01A, "Guidance for Performing Preliminary Assessments Under CERCLA" (EPA, 1991).

1.1. PROJECT AUTHORIZATION

The U.S. Department of Defense (DoD) established the Military Munitions Response Program (MMRP) under the Defense Environmental Restoration Program (DERP) to address munitions and explosives of concern (MEC)—to include unexploded ordnance (UXO), discarded military munitions, and munitions constituents (MC)—located on current and former military installations. Pursuant to USACE's Engineer Regulation 200-3-1 (USACE, 2004) and the Management Guidance for the DERP (Office of the Deputy Under Secretary of Defense [Installations and Environment], September 2001), USACE is conducting MMRP response activities in accordance with the DERP statute (10 United States Code [USC] Section [§] 2701 et seq.), CERCLA (42 USC § 9620), Executive Orders 12580 and 13016, and the NCP (40 CFR Part 300). While not all MEC and MC constitute CERCLA hazardous substances, pollutants, or contaminants, the DERP statute provides DoD with the authority to respond to releases of MEC and MC, and DoD policy states that such responses shall be conducted in accordance with CERCLA and the NCP.

IAAAP was listed as an EPA National Priorities List site in 1990 (EPA ID #IA7213820445). The Department of Army (Army) signed a Federal Facilities Agreement (FFA) on September 20, 1990, for the IAAAP with EPA Region 7 (EPA and Army, 1990). This PA Work Plan serves as a primary document under the FFA.

Therefore, the proposed work is guided by the requirements of CERCLA and the NCP in accordance with the FFA.

1.2. PROJECT OBJECTIVE

The objective of this project is to investigate all available records for the TNT Cave Complex and perform site reconnaissance to evaluate whether the site poses an environmental risk to human health and the environment and requires further investigation. This Work Plan details the procedures to be used to review historical records, interview personnel, and conduct site reconnaissance to visually assess the area for potential past releases and evaluate potential transport pathways.

1.3. WORK PLAN ORGANIZATION

This PA Work Plan is organized as follows:

- Section 1 – Introduction, describes the project authorization, project objective, organization of this PA Work Plan, the physical setting of the TNT Cave Complex, the historical information identified to date, and the current and future land use.
- Section 2 – Background Research, discusses the records review and interviews to be performed during the PA.
- Section 3 – Site Assessment, describes the data collection and documentation procedures for the site reconnaissance.
- Section 4 – PA Report Format, describes the information to be included in the PA Report.
- Section 5 – References, lists documents and guidance used to develop this PA Work Plan.

The following appendices contain information and plans supporting this PA Work Plan:

- Appendix A – Delivery Order PWS
- Appendix B – Site Maps
- Appendix C – U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Soil Types
- Appendix D – April 2014 Restoration Advisory Board (RAB) Presentation
- Appendix E – Emergency Points of Contact
- Appendix F – Personnel Qualifications
- Appendix G – Forms
- Appendix H – Standard Operating Procedures

A separate Accident Prevention Plan (APP), including a Site Safety and Health Plan (SSHP), has been submitted that addresses safety of workers during the PA site reconnaissance, as well as during remedial

action activities at the four MRSs covered by the PWS for this delivery order (ERRG, 2015). The APP/SSHP was prepared following the USACE Safety and Health Requirements Manual guidance (USACE, 2014).

1.4. PROJECT LOCATION

The IAAAP occupies approximately 19,011 acres located roughly 8 miles west of Burlington and directly south of Middletown, Des Moines County, Iowa, and 9 miles northwest of the Skunk and Mississippi Rivers (see Figure B-1). The north side of the IAAAP is bordered by U.S. Highway 34, with upland agricultural farms to the east and west and the Skunk River Valley to the south. Approximately one-third of the IAAAP property is occupied by active or formerly active production or storage facilities. The remaining land is either woodlands or property leased for agricultural usage.

1.5. SITE DESCRIPTION

Very little is currently known about the TNT Cave Complex. The limited site history comes from a presentation provided during a RAB meeting in April 2014 (Appendix D). The presentation noted that the operating contractor for the IAAAP, American Ordnance, LLC, recently found historical site drawings (Numbers 617, 901, and FS-102), as well as property completion reports from 1942, showing a "Pilot House" and "TNT Cave." A photograph in the TNT Cave property completion report also shows a sign on a tree next to the entrance noting "Danger, Explosives." The Pilot House and TNT Cave are collectively referred to as the "TNT Cave Complex." The TNT Cave Complex is located in the southwestern portion of the site near Igloo 43 (Figure B-2) and encompasses an area of approximately 4 acres. According to the RAB presentation, Tetra Tech, Inc. conducted a records search of the site Administrative Record and no additional information was found on the TNT Cave Complex.

The following subsections describe the physical setting of the TNT Cave Complex.

1.5.1. Topography

The topography in the TNT Cave Complex varies from relatively flat grassland in the area associated with the Pilot House (around Igloo 43) to rolling wooded terrain around the presumed location of the TNT Cave (see Figure B-3).

1.5.2. Vegetation

Vegetation at the TNT Cave Complex is predominately grassland around the Pilot House and dense wooded areas dominated by deciduous oak and hickory trees around the TNT Cave.

1.5.3. Site Geology and Soil Type

According to the USDA NRCS Web Soil Survey website[1], the geology of the TNT Cave Complex area varies from Ladoga silt loam in the 2 to 5 percent slope areas around the Pilot House, to a Clinton silt loam in the 5 to 9 percent slope areas and a Lindley loam in the steeper 14 to 19 percent slope areas around the TNT Cave (see Appendix C).

1.5.4. Surface Water

According to the USDA NRCS Web Soil Survey, a small pond is located approximately 150 feet south of the Pilot House in a cluster of deciduous trees (see Figure B-2). Additionally, a small lake created from damming part of Long Creek is located approximately 1,500 feet north of the TNT Cave Complex area. The topography in the general area is relatively flat, and surface water flows in a northeasterly direction based on topographical features (see Figure B-3).

1.5.5. Groundwater

No groundwater wells are located within the TNT Cave Complex.

1.6. SITE HISTORY

Details on the operational history of the TNT Cave Complex are currently limited to information provided in presentation materials from the April 2014 RAB meeting (see Appendix D). In February 2014, American Ordnance, LLC identified a record with the word "cave" on it that referenced Drawing Numbers 901, 902, and 903 for the Pilot Plant Area. The Pilot Plant Area and cave were also designated on the record as Buildings 600-168 and 500-18, respectively. Drawing Number 901 (produced by Day and Zimmerman in 1941 and entitled "Pilot Plant Structural Changes to Existing Farm House") indicates a new cave was placed in the hill for temporary storage of TNT. Drawing Numbers 617 and FS-102 (produced by Day and Zimmerman) appear to show the Pilot Plant location to the east and west of Igloo 22, respectively. Another drawing in the RAB presentation referred to as the "1940's Farmstead Drawing Close Up" shows the Pilot House adjacent to Igloo 43. Property records from 1942 show historic photographs of Building 600-168 as two buildings—a two-story wood-sided house and an adjacent single-story storage building—and Building 500-08 as a wooden support structure at a cave entrance with signs posted on a nearby tree stating "Danger" and "Explosives."

After discovery of these drawings in 2014, IAAAP personnel visited the area looking for signs of the Pilot House and cave. The RAB presentation included photographs from this site visit showing a dilapidated and collapsed shingled roof structure across the railroad tracks in the hillside east northeast of Igloo 43.

[1] http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

Tetra Tech, Inc. maintains the Administrative Record for the IAAAP and conducted a document search after the initial records were found. Their search found no additional references to the Pilot House or TNT Cave. Tetra Tech, Inc. also searched the IAAAP Administrative Record for mention of sampling activities at the TNT Cave Complex, and search results indicated no samples have been collected within several thousand feet of the site.

Finally, historical aerial photographs were reviewed and the farm house is shown in a 1941 photograph, but not in a 1957 photograph, so it appears that the facility was in existence for less than 16 years.

1.7. CURRENT AND FUTURE LAND USE

The TNT Cave Complex is located in K-yard, which is used for ammunition storage, near Igloo 43. No change in land use is currently planned.

Section 2. Background Research

ERRG will request the following information from the IAAAP: available geographic information system (GIS) data of the area, copies of the historical documents presented in Section 1.6, and any additional relevant IAAAP documents that may have been found in the interim. Additionally, ERRG will also conduct its own independent records review of publically available documents. The background research will include a review of agency databases for groundwater and surface water intakes and of the ecological setting, including evaluating groundwater and surface water pathways for sensitive receptors. Specifically, the following data will be collected during the records review: (1) nearby land uses, (2) approximate mean annual precipitation, (3) groundwater uses within a 1-mile radius of the site, and (4) a reference list of all available technical documents.

ERRG personnel will also conduct pre-site visit telephone interviews with the following persons who may be able to provide background information on the TNT Cave Complex:

- Steve Bellrichard, RAB co-chair
- Joe Haffner, Natural Resources Manager
- Zaynab Murry, Restoration Project Manger
- Tetra Tech, Inc. Document Control
- Other IAAAP site personnel based on leads generated from prior interviews

The background research and interview information will be summarized in the PA Report.

Section 3. Site Reconnaissance

This section summarizes the site reconnaissance activities to be conducted during the PA at the TNT Cave Complex. The purpose of the site reconnaissance is to document site physical characteristics and structures and evaluate the potential sources of contamination at the site that could impact human and ecological receptors, as well as surface water and groundwater at the IAAAP. Should any unplanned incidents occur during field work, emergency points of contact are included in Appendix E.

3.1. UXO ESCORT

Because the TNT Cave Complex may have been used for the production of TNT and the igloos in the area are used for munitions storage, a UXO escort (UXO Technician II or higher) will be required during all site reconnaissance activities. The UXO escort will implement MEC avoidance procedures during escort operations and all personnel will work within the guidelines of EM 385-1-97 (USACE, 2013). Project personnel, including UXO support personnel, qualifications are included in Appendix F. The UXO Technician will not attempt to identify or move material potentially presenting an explosive hazard (MPPEH), only mark them with pin flags for others to easily identify and report their location to the Senior UXO Supervisor, who will notify IAAAP personnel.

Prior to starting the site reconnaissance activities, the assigned UXO Technician and field staff will review the PA Work Plan and conduct a safety briefing providing an overview of the APP/SSHP and MEC safety precautions. No intrusive activities (e.g., sampling) will be conducted during the site reconnaissance.

If the UXO Technician discovers MPPEH, he or she will not disturb the item. The item's location will be marked with pin flags, and personnel will be routed around the item.

3.2. FIELD ACTIVITIES

ERRG personnel will perform a site reconnaissance to document the following physical characteristics of the TNT Cave Complex area:

- Site accessibility, including access restrictions and any evidence of site disturbance
- Site setting, including topography, vegetative cover, any nearby structures, any nearby surface water bodies, nearby sensitive environments, and general drainage characteristics
- Presence, extent, distribution, and approximate dimensions of waste area(s) or other potential contaminant sources observed

- General characteristics of the waste material (e.g., establish the likelihood of migration of wastes to nearby soil, surface water, or groundwater and the general physical characteristics of the material)
- Stained soil, denuded ground, or other indicators of an environmental release and documentation of any evidence of offsite migration or erosion of waste materials
- Topographic information to refine the existing data, as necessary for the purpose of estimating transport pathways

TNT was reported to have been produced and stored in this area. It is possible that TNT in its solid form may be in the area. In soils, TNT concentrations in excess of 10 percent are explosive. TNT is also poisonous, and skin contact can cause skin irritation, causing the skin to turn a bright yellow-orange color. TNT is highly explosive and no physical disturbance of soils or debris is allowed as part of the PA activities.

The potential for encountering MPPEH is higher in the area of the TNT Cave, rather than the Pilot House area, because activities (e.g., mowing, loading/unloading the igloos, and associated train cars) are ongoing around the igloos and the wooded area around the TNT Cave has likely been relatively undisturbed since operations were stopped in the 1950s. For these reasons, field activities should begin and be completed around the Pilot House before starting work around the TNT Cave.

ERRG will map the TNT Cave Complex area and photo-document any features encountered that may be associated with the Pilot House or TNT Cave from the 1940s. Photographs of the site features should be documented on the ERRG photo log in Appendix G. Site features will be mapped using a Trimble global positioning system (GPS), or similar, capable of sub-meter accuracy. ERRG will load the existing GIS data obtained from the IAAAP into the GPS prior to the site visit, so the map can be used as a basis for any additional mapping conducted at the site. The additional GPS data will be used later to modify the existing GIS site map with any site features identified during the site reconnaissance. All pertinent site features and observations will be documented in the field logbook following ERRG Standard Operating Procedure FS-001, Field Logbook, in Appendix H. Results from this investigation will be presented in the PA Report.

Section 4. PA Report Format

Once the site reconnaissance and any additional lines of inquiry resulting from the field activities have been completed, ERRG will prepare the PA Report following the general format provided in Table 4-1 in EPA Publication 9345.0-01A (EPA, 1991), which will include:

- Section 1 – Introduction, describes the purpose and scope of the PA.
- Section 2 – Site Background, describes the site, its operational history, environmental setting, geology and hydrogeology, land use and sensitive species, and an evaluation of historical data.
- Section 3 – Preliminary Assessment Activities, summarizes the background research, site reconnaissance activities, and observations made during the PA.
- Section 4 – Analysis of Environmental Pathways, presents a preliminary analysis of potential environmental pathways at the site required to evaluate environmental risks posed to human health and the environment and the need for further investigation.
- Section 5 – Summary and Conclusions, summarizes the major aspects of the site and its history that relate to the potential for releases of hazardous substances and risks posed to human health and the environment, identifies principal pathways and targets of concern, and discusses additional qualitative considerations or unusual circumstances that should be brought to the attention of the USACE and EPA.
- Section 6 – References, lists the guidance and historical documents used to prepare the PA Report.
- Appendices, including a photographic log and figures showing pertinent site features.

Section 5. References

Engineering/Remediation Resources Group, Inc. (ERRG), 2015. "Draft Accident Prevention Plan for Remedial Design/Remedial Action at Operable Unit 5 and Preliminary Assessment at TNT Cave Complex, Military Munitions Response Program, Iowa Army Ammunition Plant, Middletown, Iowa." September 2015.

U.S. Army Corps of Engineers (USACE), 2004. Engineer Regulation 200-3-1, "Environmental Quality, Formerly Used Defense Sites (FUDS) Program Policy." May 10 (including Errata Sheet No. 1). Available Online at: <http://www.publications.usace.army.mil/>.

USACE, 2013. Engineer Manual 385-1-97, "Explosives – Safety and Health Requirements." May 17. Available Online at: <http://www.publications.usace.army.mil/>.

USACE, 2014. Engineer Manual 385-1-1, "Safety and Health Requirements Manual." November 30. Available Online at: <http://www.publications.usace.army.mil/>.

U.S. Environmental Protection Agency (EPA), 1991. "Guidance for Performing Preliminary Assessments Under CERCLA." EPA/540/G-91-013, Publication 9345.0-01A. September. Available Online at: <http://www2.epa.gov/superfund/hrs-toolbox>.

EPA and U.S. Department of the Army (EPA and Army), 1990. "Federal Facility Agreement, Iowa Army Ammunition Plant, Middletown, Iowa." Administrative Docket No. VII-F-90-0029. September.

Appendix A. Delivery Order Performance Work Statement

(Due to the size this appendix will be provided on CD only.)

ORDER FOR SUPPLIES OR SERVICES

1. CONTRACT/PURCH. ORDER/ AGREEMENT NO.	2. DELIVERY ORDER/ CALL NO.	3. DATE OF ORDER/CALL (YYYYMMMDD)	4. REQ./ PURCH. REQUEST NO.	5. PRIORITY
W9128F-13-D-0003	0002	2015 Jul 30	W59XQG52026440	

6. ISSUED BY CODE W9128F
U.S. ARMY CORPS OF ENGINEERS, OMAHA DIST
CONTRACTING OFFICE
1616 CAPITOL AVENUE
OMAHA NE 68102-4901

7. ADMINISTERED BY *(if other than 6)* CODE
SEE ITEM 6

8. DELIVERY FOB
[X] DESTINATION
[ ] OTHER
(See Schedule if other)

9. CONTRACTOR CODE 1P9Q7 FACILITY
NAME AND ADDRESS
ENGINEERING/REMEDIATION RESOURCES GROUP,
BRADLEY HALL
4585 PACHECO BLVD STE 200
MARTINEZ CA 94553-2228

10. DELIVER TO FOB POINT BY (Date) (YYYYMMMDD)
SEE SCHEDULE

11. MARK IF BUSINESS IS
[X] SMALL
[X] SMALL DISADVANTAGED
[X] WOMEN-OWNED

12. DISCOUNT TERMS
Net 30 Days

13. MAIL INVOICES TO THE ADDRESS IN BLOCK
SEE SECTION G - GENERAL INFO

14. SHIP TO CODE 966752
COE PROGRAMS MANAGEMENT BRANCH
LINDA DIBEL
USAED, OMAHACENWO-PM-P
1616 CAPITOL AVE
OMAHA NE 68102-4901

15. PAYMENT WILL BE MADE BY CODE 964145
US ARMY CORPS OF ENGRS FINANCE CENTER
5722 INTEGRITY DRIVE
MILLINGTON TN 38054-5005

MARK ALL PACKAGES AND PAPERS WITH IDENTIFICATION NUMBERS IN BLOCKS 1 AND 2.

16. TYPE OF ORDER			
	DELIVERY/ CALL	X	This delivery order/call is issued on another Government agency or in accordance with and subject to terms and conditions of above numbered contract.
	PURCHASE		Reference your quote dated Furnish the following on terms specified herein. REF:

ACCEPTANCE. THE CONTRACTOR HEREBY ACCEPTS THE OFFER REPRESENTED BY THE NUMBERED PURCHASE ORDER AS IT MAY PREVIOUSLY HAVE BEEN OR IS NOW MODIFIED, SUBJECT TO ALL OF THE TERMS AND CONDITIONS SET FORTH, AND AGREES TO PERFORM THE SAME.

NAME OF CONTRACTOR | SIGNATURE | TYPED NAME AND TITLE | DATE SIGNED (YYYYMMMDD)

[ ] If this box is marked, supplier must sign Acceptance and return the following number of copies:

17. ACCOUNTING AND APPROPRIATION DATA/ LOCAL USE
See Schedule

18. ITEM NO.	19. SCHEDULE OF SUPPLIES/ SERVICES	20. QUANTITY ORDERED/ ACCEPTED*	21. UNIT	22. UNIT PRICE	23. AMOUNT
	SEE SCHEDULE				

* *If quantity accepted by the Government is same as quantity ordered, indicate by X. If different, enter actual quantity accepted below quantity ordered and encircle.*

24. UNITED STATES OF AMERICA
TEL: 402-995-2071
EMAIL: Jeffrey.W.Wyant@usace.army.mil
BY: JEFFREY W WYANT
Jeffrey W. Wyant
CONTRACTING / ORDERING OFFICER

25. TOTAL $583,716.10
26. DIFFERENCES

27a. QUANTITY IN COLUMN 20 HAS BEEN
[ ] INSPECTED [ ] RECEIVED [ ] ACCEPTED, AND CONFORMS TO THE CONTRACT EXCEPT AS NOTED

b. SIGNATURE OF AUTHORIZED GOVERNMENT REPRESENTATIVE | c. DATE (YYYYMMMDD) | d. PRINTED NAME AND TITLE OF AUTHORIZED GOVERNMENT REPRESENTATIVE

e. MAILING ADDRESS OF AUTHORIZED GOVERNMENT REPRESENTATIVE

f. TELEPHONE NUMBER | g. E-MAIL ADDRESS

28. SHIP NO. | 29. DO VOUCHER NO. | 30. INITIALS

[ ] PARTIAL [ ] FINAL

31. PAYMENT
[ ] COMPLETE [ ] PARTIAL [ ] FINAL

32. PAID BY

33. AMOUNT VERIFIED CORRECT FOR

34. CHECK NUMBER

35. BILL OF LADING NO.

36. I certify this account is correct and proper for payment.
a. DATE (YYYYMMMDD) | b. SIGNATURE AND TITLE OF CERTIFYING OFFICER

37. RECEIVED AT	38. RECEIVED BY	39. DATE RECEIVED (YYYYMMMDD)	40. TOTAL CONTAINERS	41. S/R ACCOUNT NO.	42. S/R VOUCHER NO.

DD Form 1155, DEC 2001 PREVIOUS EDITION IS OBSOLETE.

Section B - Supplies or Services and Prices

ITEM NO	SUPPLIES/SERVICES	MAX QUANTITY	UNIT	UNIT PRICE	MAX AMOUNT
0001		544,723.08	Job	$1.00	$544,723.08

RD/RA through RC
FFP
Remedial Design/Remedial Action through Response Complete in accordance with the attached PWS.
FOB: Destination
MILSTRIP: W59XQG52026440
PURCHASE REQUEST NUMBER: W59XQG52026440

MAX NET AMT	$544,723.08
ACRN AA	$544,723.08

CIN: W59XQG520264400001

ITEM NO	SUPPLIES/SERVICES	MAX QUANTITY	UNIT	UNIT PRICE	MAX AMOUNT
0002		28,891.50	Job	$1.00	$28,891.50

Preliminary Assesment - TNT Cave
FFP
Preliminary Assessment - TNTCave in accordance with the attached PWS.
FOB: Destination
MILSTRIP: W59XQG52026440
PURCHASE REQUEST NUMBER: W59XQG52026440

MAX NET AMT	$28,891.50
ACRN AA	$28,891.50

CIN: W59XQG520264400001

ITEM NO	SUPPLIES/SERVICES	MAX QUANTITY	UNIT	UNIT PRICE	MAX AMOUNT
0003		10,101.52	Job	$1.00	$10,101.52

Site Inspection Work Plan - TNT Cave
FFP
Site Inspection Work Plan - TNT Cave in accordance with the attached PWS.
FOB: Destination
MILSTRIP: W59XQG52026440
PURCHASE REQUEST NUMBER: W59XQG52026440

	MAX NET AMT	$10,101.52
ACRN AA CIN: W59XQG520264400001		$10,101.52

Section C - Descriptions and Specifications

PWS 3 JUNE 2015

Performance Work Statement
30 March 2015
Revised 3 June 2015

Remedial Design/Remedial Action (RD/RA)
Through Response Complete (RC)
Iowa Army Ammunition Plant (IAAP)

1.0 Background and Introduction

This requirement is for environmental remediation services for Operable Unit 5 at the following installation: Iowa Army Ammunition Plant (IAAAP), located in Middletown, IA.

This requirement involves Munitions Response Sites (MRSs) falling under the Military Munitions Response Program (MMRP). The Department of Defense (DoD) established the MMRP under the Defense Environmental Restoration Program (DERP) to address unexploded ordnance (UXO), discarded military munitions (DMM), and munitions constituents (MC) located on current and former defense sites.

The IAAAP consists of 19,011 acres located adjacent to Middletown in Des Moines County, Iowa. It is approximately eight miles west of Burlington, the largest city in Des Moines County, with an estimated population of 25,436 people. The IAAAP is an active Joint Munitions Command facility currently operated by the civilian contractor, American Ordnance LLC. The current mission of the IAAAP is to load, assemble and pack (LAP) ammunition items, including projectiles, mortar rounds, warheads, demolition charges, and munitions components such as fuses, primers, and boosters.

The Contractor shall be responsible for fully executing the firm fixed price type task order under a Performance-Based Acquisition (PBA) approach by conducting required environmental restoration services for which the United States Department of the Army (the "Army") is statutorily responsible; addressing any and all environmental, explosive safety, scheduling, and regulatory issues; and, assuming contractual liability and responsibility for the achievement of the performance objectives for the cleanup sites at the Iowa AAP (the "Installation") identified in this Performance Work Statement (PWS), including any sites with off-installation contamination for which the Army is responsible. For sites addressed under the MMRP, unknown contaminants will be limited to MC and those chemicals reasonably associated with the identified munitions and munitions related activities.

The contractor must possess all the required expertise, knowledge, equipment and tools required to meet or exceed the government's objectives identified in this PWS in accordance with established industry standards. The Contractor must have the capability and experience to perform, or provide, a wide range of assessments, remedial design, remedial construction, and remediation services required for munitions and explosives of concern (MEC). Work will include, for example, assessments, remedial design, remedial action (construction), remediation of contaminated sites, remedial action (operations), and long-term management.

Under this contract, the contractor will perform munitions response actions for munitions and explosives of concern (MEC), which includes UXO, DMM, and MC if found in high enough concentrations to cause an explosive threat, non-explosive concentrations of MC and incidental contaminants related to Military Munitions (MM).

It is the Contractor's responsibility to comply with all applicable federal, state and local laws and regulations and to fulfill the performance objectives of this PWS in a manner that is consistent with any applicable orders or permits, all existing cleanup agreements or guidance for the Installation, and relevant DoD and Army policy, for the duration of the contract.

The Contractor must perform all the necessary environmental remediation work as required to meet the performance objectives of this PWS. Remediation is being conducted pursuant to Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA), and National Oil and Hazardous Substances Contingency Plan (NCP) requirements, with regulatory coordination, as appropriate, of the Iowa Department of Natural Resources (IDNR) and the United States Environmental Protection Agency (USEPA) Region VII.

Due to surface water contaminated with explosives leaving the installation boundaries, the IAAAP was placed on the national priorities list (NPL) in August 1990. In September 1990, a federal facility agreement (FFA) was signed by the USEPA, Region VII and the US Army; it became effective in December 1990.

To perform munitions responses, the DoD primarily follows CERCLA. However, CERCLA has no special provisions for dealing with explosive safety. The DoD Ammunition and Explosives Safety Standards, DoD Manual 6055.09-M Aug 2010, as amended, must be adhered to in the remediation of sites with MEC contamination.

Certain pollutants or contaminants (P/C) may be an issue at sites covered by this PWS. Cleanup of P/C may be warranted if the P/C present an imminent and substantial endangerment to the public health or welfare that result in an unacceptable risk. P/C, as defined in CERCLA, typically do not have a federally promulgated maximum contaminant limit (MCL). For any such P/C, or any other chemical, that does not have a federally promulgated MCL, but does have a finalized reference dose (RfD) or slope factor listed in USEPA's Integrated Risk Information System (IRIS) database, that RfD or slope factor should be incorporated in the NCP risk assessment process. However, funding will not be provided for responses that are not in full compliance with CERCLA, the DERP, and DoD and Army policy. Additionally, state standards will only be analyzed through the CERCLA applicable or relevant and appropriate requirement (ARAR) process.

2.0 Types of Services Required

This PWS includes broad-spectrum environmental services. These services may include, but are not limited to assessments, remedial design, remedial action (construction), remediation of contaminated sites, remedial action (operations), and long-term management, and incidental construction associated with environmental remediation activities.

3.0 Performance Objectives and Standards

The Contractor shall be required to furnish all plant, labor, materials and equipment necessary to meet the performance objectives and standards identified in Table 1 below.

Table 1: Performance Objectives Summary

Performance Objective	*Performance Standards*
Approved Project Management Plan (PMP): • Draft PMP within 30 calendar days of contract award, • Final PMP within 30 calendar days of receipt of COR comments on the drafts.	Army approval through the Contracting Officer's Representative (COR).

Achieve RC at the following site(s) by 31 Dec 2017 • IAAP-001-R-01- Central Test Area (CTA) • IAAP-002-R-01 – Line 6 Ammo Production – Inside Blast Radius (LL6) • IAAP-004-R-01 – Possible Demolition Site (PDS) • IAAP-006-R-01 – Incendiary Disposal Area (INDA) Upon achievement of RC, perform any necessary Long-Term Management (LTM) at the above site(s) for the duration of the contract or until achievement of Site Close-Out (SC), whichever comes first.	Compliance with FFA and associated schedule. DDESB approval of contractor prepared ESS. Army approval through the COR and Regulator concurrence (e.g., receipt of documentation confirming RC; LTM exit or ramp down strategy; LTM reports incorporating requirements of the exit or ramp down strategy).
Approved Preliminary Assessment (PA) of the "TNT Cave" by 31 Dec 2017	Army approval through the Contracting Officer's Representative (COR).
Approved Site Inspection (SI) Work Plan (WP) for the "TNT Cave" by 31 Dec 2017	Army approval through the Contracting Officer's Representative (COR).

Remedy in Place, Remedial Action (Operations), Response Complete, and Long-Term Management are terms used for the Defense Environmental Restoration Program. These terms are defined in Attachment C.

RC will be attained upon the finalization of appropriate written documentation certifying that site remediation has met identified response objectives and no further action is necessary, subject to any requirement for RA(O) and/or LTM. Contractors should note that when RA(O), LTM and/or a CERCLA 121(c) review is necessary as a result of the Contractor's remediation activities at a site, the Contractor shall be responsible for the following:

- Performing the required RA(O) and/or LTM at that site for the duration of the contract.
- Conducting any CERCLA 121(c) reviews required at that site for the duration of the contract.
- CERCLA 121(c) reviews conducted during the duration of the contract constitute a Government Inspection of Services. The Contractor will correct any problems and/or deficiencies noted within CERCLA 121(c) reviews or any Contractor furnished service or submittal. Any service or submittal performed that does not meet contract requirements shall be corrected or re-performed by the Contractor and at no additional cost to the Government. Corrective action must be certified and approved by the COR. If the Contractor performs any task unsatisfactorily and all defects are not corrected, the Government reserves the right to terminate the contract for default. In addition, the Government reserves its rights under Federal Acquisition Regulation (FAR) clause 52.246-4, "Inspection of Services – Fixed Price, for further remedies concerning a Contractor's failure to perform in conformance with contract requirements. If the Contractor is conducting RA(O) or LTM, or completing a CERCLA 121(c) review, for a remedy that they did not implement or modify (i.e., an on-going pump and treat system inherited as part of the PBA scope), correction of substantive remedy deficiencies noted during RA(O), LTM or within a CERCLA 121(c) review which may require modification of that remedy are considered outside the scope of this contract effort.

There may be multiple milestones and/or deliverables for each performance objective (see Section 4.3 of this PWS). Payments will be based on successful completion of the milestones. Final decisions regarding the adequacy of milestone and deliverable completion resides with the COR (see Section 7.2 of this PWS), with appropriate acceptance and approval of necessary site remediation documentation by regulators, consistent with applicable regulatory drivers listed in Section 1.0 of this PWS and consistent with the Performance Requirements Summary in

Table 2 below. For the duration of the contract, the Contractor shall remain responsible for correction of remedy deficiencies noted during RA(O), LTM, and CERCLA 121(c) reviews.

Table 2: Performance Requirements Summary

Desired Outcomes	Required Services	Performance Standards	Monitoring Method	Incentive/Disincentives For Meeting or Not Meeting the Acceptable Quality Level
Quality Control/Assurance & Safety				
Safety	Maintain high safety standards	Zero Class A Safety violations (CONUS only) where the contractor is determined at fault.	Submission of accident reports, adverse safety inspection reports, and similar documents.	Issuance of a cure notice and possible termination of task order or contract for continuous or uncorrected safety violations. Adverse past performance reports. The contractor may be in danger of not having its option period exercised
Performance	Compliance with PWS and referenced applicable regulations	No more than five Corrective Action Reports (CARs) received by the contractor within a given task order	COR Submission of CARs, COR report of failure to delivery acceptable product or service in accordance with Performance-Based Milestones/ Objectives.	Issuance of a cure notice and possible termination of task order or contract for continuous or uncorrected performance deficiencies, or for failure to complete Performance-Based Milestones/Objectives. Adverse past performance reports. The contractor may be in danger of not having its option period exercised

4.0 Project Management

The PBA approach requires careful coordination of project activities to ensure that all stakeholders are kept informed of the project status, existing or potential problems, and any changes required to prudently manage the project and meet the needs of the Installation's project stakeholders and decision-makers. The Contractor shall be responsible for the following project management activities:

4.1 Project Management Plan

The Contractor shall develop and maintain a detailed Project Management Plan (PMP). The PMP, based on the schedule prepared as part of the Contractor proposal, shall specify the schedule, technical approach and resources required for the planning, execution, and completion of the performance objectives. The first draft of the PMP shall be due within thirty (30) calendar days of contract award and shall include a payment milestone plan. Elements of this draft PMP shall be part of the offeror's proposal submittal. The draft PMP, proposed payment milestones, and subsequent revisions shall be subject to Army review and approval, through the COR. The final PMP shall be due within 30 calendar days of receipt of COR comments on the draft PMP. A payment milestone will be established for Army approval of the final PMP through the COR.

4.2 Project Schedule

As part of the PMP, the Contractor shall develop and maintain an Activity-Based Schedule that fully supports the technical approach and outlines activities and milestones defined at the appropriate detail level and logically sequenced to support and manage completion of the performance objectives in this PWS. Additionally, the due dates for all payable deliverables shall be identified. A payment plan shall be included with the schedule that may allow for payments to the Contractor based on successful completion of interim milestones proposed by the

Contractor. It is the Army's intent to make all payments after verification of milestone completion in accordance with this schedule. Unless otherwise noted in Table 1 of this PWS, all performance objectives must be completed within the allowable contract period of performance provided all contract options have been exercised. The Contractor shall need to take into account the existing or future schedules developed under the applicable regulatory drivers listed in Section 1.0 of this PWS. The Contractor shall also need to coordinate activities with the COR to ensure that the proposed project schedule does not conflict with other contractor activities on site, or interrupt Installation mission activities.

As part of the PMP, the Contractor shall identify and implement a means for providing project status reports to the COR. The PMP shall address the frequency and content of status reports.

The Contractor shall update the PMP to reflect progress towards achievement of the performance objectives and delineate proposed actions to accomplish future project milestones.

4.3 Milestone Presentations

Milestone presentations shall be made to the COR at the completion of each milestone below to provide analysis and lessons learned, and to present approaches for completion of future milestones. The Contractor may propose a revision of the milestones below to reflect their PMP and provide for interim milestones. Interim milestones will only be accepted if they represent significant progress toward milestone completion, and completion of these interim steps can be measured and demonstrated.

As noted in Section 3.0 of this PWS, payments will be tied to the successful completion of the following milestones or an interim milestone plan approved by the COR. To that end, all proposed interim milestones should be associated with easily demonstrated metrics tied to performance measurements (e.g., final acceptance of a report rather than submission of a draft). All milestones must have a defined means for demonstrating completion in order to facilitate certification and approval (see Section 7.2 of this PWS, *Certification and Approval of Project Milestones and Deliverables*).

Major Milestones

- Approval of the Project Management Plan (PMP)
- Approval of the Explosives Safety Submission (ESS)
- Achievement of RC at IAAP-001-R-01- Central Test Area (CTA) by 31 Dec 2017
- Achievement of RC at IAAP-002-R-01 – Line 6 Ammo Production – Inside Blast Radius (LL6) by 31 Dec 2017
- Achievement of RC at IAAP-004-R-01 – Possible Demolition Site (PDS) by 31 Dec 2017
- Achievement of RC at IAAP-006-R-01 – Incendiary Disposal Area (INDA) by 31 Dec 2017
- Approval of annual LTM reports
- Approval of an exit or ramp-down strategy for LTM
- Approval of the PA report (TNT Cave)
- Approval of the SI WP (TNT Cave)

4.4 Environmental Requirements

The Contractor shall identify applicable federal, state and local laws and regulations; applicable Installation-specific orders, agreements, or rules; and perform its work in accordance with said authorities. The Contractor shall ensure that all activities performed by its personnel, subcontractors and suppliers are executed in accordance with said authorities. Any incident of noncompliance noted by the Contractor shall immediately be brought to the attention of the COR and Installation telephonically and then by written notice. Nothing in this contract shall relieve the Contractor of its responsibility to comply with applicable laws and regulations. The Contractor shall obtain all permits, licenses, approvals, and/or certificates required or necessary to accomplish the work. When the work to be performed requires facility clearances, such as digging or drilling permits, the Contractor shall obtain such clearances and/or permits, with the assistance of the installation point of contact, prior to any drilling or excavating operations. The Contractor shall coordinate all such work with Installation maintenance personnel prior to

performing work. Contractors on environmental sites are required to perform their own utility checks based on Installation-supplied utility maps. The Contractor shall comply with all Installation- or site-specific time and procedural requirements (federal, state, and local) described in the permits obtained. The Army technical experts will also independently review Contractor work to ensure compliance with all applicable requirements.

The Army is in the process of establishing Geographic Information System (GIS)-based tracking systems to ensure the Land Use Controls (LUCs) are enforced. The LUCs will be incorporated into the post-wide database and compliance with LUCs shall be reported in the Monitoring Reports for each site. IAAAP also relies on Environmental Work Instructions (EWI) managed by the Government Owned Contractor Operated (GOCO) contractor for incorporating land use controls in project planning to ensure restrictions on activities are integrated into the planning process. The LUC policy applies to all units and activities, Military and Civilian Support Activities, tenant organizations and agencies and Government and Civilian Contractors. The Contractor is required to comply with the LUC policy in all RA(O), LTM and CERCLA 121(c) review activities. The Contractor shall supply information relevant to LUCs to be incorporated into the post wide database, but will not have to incorporate as part of this contract.

The Contractor shall adhere to all applicable federal, DoD, and Army geospatial data standards for tasks and deliverables in this PWS. Spatial data must be compliant with the Spatial Data Standards for Facilities, Infrastructure, and Environment v2.6. Spatial data must meet the requirements of the associated Quality Assurance Plan (QAP). If no QAP exists for the data layers developed, the Contractor shall meet the minimum requirements listed in Attachment D. Each geospatial data set shall be accompanied by metadata conforming to the Federal Geographic Data Committee (FGDC) Content Standard for Digital Geospatial Metadata (CSDGM) and the Army Installation Geospatial Information & Services (IGI&S) Metadata Standard, v1. The horizontal accuracy of any geospatial data created by the contractor shall be tested and reported in accordance with the National Standard for Spatial Data Accuracy (NSSDA) and the results shall be recorded in the metadata. All data must have a datum of WGS84 and a defined projection. Army technical experts will independently review Contractor work to ensure compliance with all spatial data requirements. Installation subject matter experts will review Contractor work and validate geospatial data. The Contractor shall provide validated data to the COR for submission by the Installation to the Army Mapper database. The Contractor shall provide quarterly GIS data transfers to the Army.

The Contractor shall review and fully understand "Executive Order 13423 -- Strengthening Federal Environmental, Energy, and Transportation Management," in particular those requirements pertaining to environmental management system (EMS). The Contractor shall also be required to review and adhere to the installation's environmental management system, including the environmental policy and significant aspects / impacts.

The Contractor shall consider and implement green response/remediation strategies and applications to maximize sustainability, reduce energy and water usage, promote carbon neutrality, promote industrial materials reuse and recycling, and protect and preserve land resources, consistent with DOD's Policy on Consideration of Green and Sustainable Remediation Practices in the Defense Environmental Restoration Program. The contractor shall present green remediation options and approaches in its work plans, maintain records of "green-related" activities, and report this information to the COR in its project status reports.

4.4.1 MEC-Related Guidance

MEC-related guidance includes, but may not be limited to, the following:

- MEC includes UXO, as defined in 10 U.S.C. 101(e)(5); DMM, as defined in 10 U.S.C. 2710(e)(2); or Munitions Constituents (MC), as defined in 10 U.S.C. 2710(e)(3), present in high enough concentrations to pose an explosive hazard.
- MEC distinguishes specific categories of military munitions that may pose unique explosives safety risks. Because MEC being actively managed may be determined to be hazardous waste, 29 Code of Federal Regulations (CFR), Hazardous Waste Operations and Emergency Response, Section 1910.120, may apply.

- Per the guidelines set forth in DoDI 4140.62 and DDESB Technical Paper 18, UXO qualified personnel will be responsible for determining the explosive safety status of any material recovered that may pose an explosive hazard (i.e., material potentially presenting an explosive hazard (MPPEH)).
- Should MEC be encountered during this response, UXO-qualified personnel will evaluate the explosive hazard and remove it, including by open detonation in place. This response will be conducted per the CERCLA and the NCP, applicable state and federal regulation, and applicable DoD, U.S. Army policies and procedures.

4.5 Health and Safety Requirements

Prior to beginning any fieldwork, the Contractor shall implement a written Safety and Health Program compliant with federal, state, and local laws and regulations and approved by the COR. The Contractor shall ensure that its subcontractors, suppliers and support personnel comply with the approved Site Safety and Health Plan (SSHP). The Army reserves the right to stop work under this contract for any violations of the SSHP at no additional cost to the Army. Once the Army verifies through the COR that the violation has been corrected, the Contractor shall be able to continue work. As a minimum, the SSHP shall contain the following elements: site description and contaminant characterization, safety and health hazard(s) assessment and risk analysis, safety and health staff organization and responsibilities, site specific training and medical surveillance parameters, personal protective equipment (PPE) and decontamination facilities and procedures to be used, monitoring and sampling required, safety and health work precautions and procedures, site control measures, on-site first aid and emergency equipment, emergency response plans and contingency procedures (on-site and off-site), logs, reports, and record keeping. Training and medical screening per 29 CFR 1910.120(e) is required for the contract.

Additionally, the Contractor must adhere to all DoD and DA policies, procedures and regulations for munitions response. This includes but is not limited to DOD Man 6055.09M, Ammunition and Explosives Safety Standards; Army Regulation 385-10, the Army Safety Program; Department of the Army Pamphlet 385-63, Range Safety; and Department of the Army Pamphlet 385-64, Ammunition and Explosives Safety Standards.

The site is not suspected to contain CWM; however, if suspect CWM is encountered during any phase of site activities the Contractor shall immediately halt operations and contact the COR for assistance and guidance.

All activities involving work in areas potentially containing MEC hazards shall be conducted in full compliance with Department of Army, state, and local requirements regarding personnel, equipment and procedures, and DoD Standard Operating Procedures and safety regulations.

4.5.1 Personnel Qualifications and Work Week

Personnel involved in certain munitions response activities will, as required, meet the qualifications of DDESB, Technical Paper (TP) 18 - Minimum Qualifications for UXO Technicians and UXO-Qualified Personnel. Due to the inherent risks associated with munitions response activities, personnel performing munitions response activities that present an explosive risk shall be subject to work hour limitations, unless specifically authorized by the COR.

4.5.2 Safety Documentation and Reporting

Army Engineer Manual (EM) 385-1-1, part 01.D "Accident Reporting and Recordkeeping" is required for the work identified in this PWS.

4.6 Quality Management

The Contractor must ensure that the quality of all work performed or produced under this contract meets Army approval, through the COR. Quality control/assurance plans must be prepared and approved by the COR prior to performance of physical work.

4.7 Quality Control

4.7.1 Quality Control shall be provided whenever sampling or analysis for chemical constituents is required in order to achieve milestones. Quality control for traditional soils or geotechnical testing shall also be included. All sampling and analysis shall comply with the requirements of the most recently approved DoD Quality Systems Manual (QSM). The laboratory (ies) to be used by the Contractor shall be DoD Environmental Laboratory Accreditation Program (DoD ELAP) certified or equivalent. The Contractor may establish an on-site testing laboratory at the project site if determined necessary by the Contractor. However, on-site testing laboratory (ies) shall be DoD ELAP certified or equivalent and meet the requirements of USEPA, specific state regulator requirements, and all requirements of the most recently approved DoD Quality Systems Manual (QSM).

4.7.2 Following contract award and during project implementation, the Contractor shall develop and submit documentation of project-specific quality assurance (QA) and QC activities prepared in accordance with the Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP). The Government will review and return the quality systems documentation, with comments, indicating acceptance or rejection. If necessary, the Contractor shall revise the documentation to address all comments and shall submit the revised documentation to the Government for acceptance. In addition, the Contractor shall develop and submit Quality Control Summary Reports to summarize the quality control details of the contract project. The problems and successes of the work done to control the quality of the chemical measuring activities and other chemically related cleanup activities shall be included in the summary reports.

4.8 Project Repository and Administrative Record

The Contractor shall update at least monthly a multimedia (i.e., both paper and electronic format) project repository of all project-related information to ensure that pertinent documentation and data are available for project reviews, and to provide a clear record of the PBA approach to support final decisions and remediation completion. This repository is the property of the Army and available to the Army upon request by the COR or KO. A project repository is currently maintained at www.iaaap.adminrecord.com.

"Project-related information" includes all previous environmental restoration documentation of a technical nature developed by the Army and previous Army contractors for the sites specified in this PWS, and all the documentation developed by the Contractor in order to achieve the performance objectives specified in this PWS. Documents generated prior to the PBA are not expected to be stored in electronic format; however, all documents generated by the Contractor shall be maintained in multi-media form.

The Contractor shall also update the repositories for the Administrative Record for CERCLA activities established at www.iaaap.adminrecord.com, as needed. The project repository and Administrative Record shall be updated by the Contractor, and made available to the public, for the duration of the contract. Final electronic document files must be in text-searchable PDF format and be accompanied by defined metadata for upload into the Army Repository of Environmental Documents (READ). The Army, through the COR, will provide the metadata field requirements for READ to the Contractor.

4.8.1 Army Environmental Database and Environmental Restoration Information System

If a site identified in this PWS has achieved Response Complete (i.e., appropriate documentation is finalized), the Contractor shall be responsible for providing the COR with the data and documentation necessary for the closeout of each site in the Army Environmental Database - Restoration Module (AEDB-R). In addition, the Contractor shall upload all generated analytical data into the Environmental Restoration Information System (ERIS) on a quarterly basis. The Army, through the COR, will provide data specifications for AEDB-R and ERIS to the Contractor. The Contractor shall comply with all applicable requirements for data validation and submission.

4.9 Additional Site Plans

Prior to beginning any field work the Contractor shall prepare any additional plans or documents (e.g., sampling and analysis plans, quality assurance project plan, waste minimization plans, health and safety plans) consistent with the applicable regulatory drivers listed in Section 1.0 of this PWS, and any other agreements, orders, or regulations that apply to the Installation and sites. These plans and documents shall be subject to Army review and approval, through the COR.

4.10 Protection of Property

The Contractor shall be responsible for any damage caused to property of the United States (Federal property) by the activities of the Contractor under this contract and shall exercise due diligence in the protection of all property located on the premises against fire or damage from any and all other causes. Any property of the United States damaged or destroyed by the Contractor incident to the exercise of the privileges herein granted shall be promptly repaired or replaced by the Contractor to a condition satisfactory to the COR or reimbursement is made by the Contractor sufficient to restore or replace the property to a condition satisfactory to the COR in accordance with FAR Clause 52.245-2.

4.11 Project Stakeholders

For the purposes of this PWS, project stakeholders include the Army, IDNR, USEPA Region VII, and the Restoration Advisory Board (RAB). Required level of involvement may differ from site to site and the Contractor shall be responsible for obtaining comments with appropriate approval or concurrence on project deliverables consistent with applicable regulatory drivers and agreements for each site.

4.12 Regulatory Involvement

All regulatory coordination shall be approved by the Army through the COR. The Contractor shall provide the necessary support to initiate, schedule, and address all regulatory aspects of the project (e.g., organizing discussions with regulators concerning site response objectives and completion requirements, obtaining regulator comments on site documents and appropriately addressing them, and obtaining written documentation of remediation completion from the regulators for all of the sites identified in this PWS). The COR, or designee, will attend and represent the Army at all meetings with the regulators. With approval of the COR, the contractor may also informally discuss remediation issues with regulators and provide an after-action report back to the COR. The Army will be the signature authority for all regulatory agreements and remediation documentation.

4.13 Public Involvement

All public participation coordination shall be approved by the COR. The Contractor shall provide the necessary support to initiate, schedule, and address all public participation aspects of the project (e.g., preparation of briefings, presentations, fact sheets, newsletters, articles/public notices to news media, and notifications to RAB members). The Contractor shall be responsible for requesting and addressing all public comments consistent with the applicable regulatory drivers listed in Section 1.0 of this PWS. The COR, or designee, will attend and represent the Army at all meetings with the public.

Contractors should note that the Installation has an active RAB and detailed information concerning the RAB's organization and activities will be provided to the Contractor. Activities required to support the RAB meetings are included in this effort.

The Contractor shall not make available or publicly disclose any data or report generated under this contract unless specifically authorized by the COR. If any person or entity requests information from the Contractor about the subject of this scope of work or work being conducted hereunder, the Contractor shall refer them to the COR. All reports and other information generated under this scope of work shall become the property of the Government, and distribution to any other source by the Contractor is prohibited unless authorized by the COR.

4.14 Deliverable Requirements

All documents must be produced with at least internal draft, draft, draft-final, and final versions. The Army will receive internal draft documents and will provide comments to the Contractor following the FFA schedule. Once initial comments are addressed, the Army will review draft documents concurrently with submission to appropriate regulatory agencies. The Contractor shall ensure that review periods are consistent with the applicable regulatory drivers noted in Section 1.0 of this PWS. All documents shall be identified as draft until completion of stakeholder coordination, when they will be finalized. One copy of the final document shall be placed in both the project repository and Administrative Record (for CERCLA documents) following the FFA schedule.

The Contractor shall follow the substantive requirements for all subject areas of the US Army Corps of Engineers (USACE) guidance applicable to deliverables required for achievement of performance objectives identified in this PWS.

The Munitions Response Site Prioritization Protocol (MRSPP) requirements in 32 CFR Section 179 require the DoD in consultation with representatives of the states and Indian tribes, to assign each MRS a relative priority for response actions. The initial MRSPP score for MRSs is developed during the SI phase. These MRSPP scores must be reviewed annually and must be revised whenever new data are obtained. Pursuant to this requirement, the Contractor shall review and revise MRSPP scores based on new information, and submit to the Army. In addition, the Contractor shall also include any information that may have influenced the MRS priority or MRS sequencing decision in the Administrative Record and the Information Repository. Furthermore, the FY02 Defense Authorization Act creating the MMRP requires DoD to develop and maintain an inventory of defense sites that are known or suspected to contain UXO, DMM or MC. Pursuant to this requirement, the Contractor shall submit updates to the Installation Munitions Response (MR) map that reflect changes to the location, boundaries and/or extent of the MMRP sites in .pdf format.

The Contractor shall propose deliverables and payment milestones as part of its proposal, and if approved by the Army, included as part of the PMP. Final decisions regarding the adequacy of milestone and deliverable completion resides with the COR (see *Section 4.3 of this PWS, Milestone Presentations*) and will be based on the appropriate acceptance and approval of required documentation by Regulatory Agencies, consistent with CERCLA and the NCP.

5.0 Expertise and Necessary Personnel

The Contractor shall provide the necessary personnel and equipment to execute this PWS successfully. The Contractor is responsible for determining the requirements for licensed professionals and certifications.

The Contractor shall furnish all plant, labor, materials and equipment necessary to meet the performance objectives. The Contractor shall provide personnel trained as required by the Occupational Safety and Health Administration (OSHA) and all other applicable federal and state regulations. The Contractor shall provide all support activities necessary to ensure the safe and effective accomplishment of all work. For all work performed under this contract, the Contractor shall also develop and implement quality control measures consistent with all applicable federal and state regulatory requirements and standards.

5.1 Key Personnel

The Army requires that the following positions, at a minimum, be designated as "key personnel," subject to the terms and conditions for such set forth in the basic contract.

POSITION	PERSONNEL
Project Manager	[to be proposed by offeror]
Senior UXO Supervisor	[to be proposed by offeror]
UXO Safety Officer	[to be proposed by offeror]

UXO Quality Control Specialist	[to be proposed by offeror]
Chemist	[to be proposed by offeror]
Risk Assessor	[to be proposed by offeror]
Archeologist	[to be proposed by offeror]

The Contractor shall notify the COR of any changes in key personnel. The change of key personnel is subject to approval by the KO, although such approval will not be unreasonably withheld provided replacement personnel are of the same quality as originally proposed.

6.0 Performance

6.1 Place of Performance

Work will be performed at the Installation and off-site Contractor offices as agreed to by both parties for proper performance of this contract.

6.2 Period of Performance

The period of performance will not exceed 3 years from the date of award, inclusive of all options.

7.0 Additional Requirements

7.1 Resources

7.1.a Army Furnished Resources

The Army, through the COR, shall make available the following resources to the Contractor:

- Records, reports, data, analyses, and information, in their current format (e.g., paper copy, electronic, tape, disks, CDs), to facilitate development of an accurate assessment of current, former, and historical site activities and operations; waste generation and contaminant characteristics; parameters of interest; and site environmental conditions.
- Access to personnel to conduct interviews on Installation operations and activities.
- Access to DoD and Army policy and guidance documents.
- All Army owned property used for remediation purposes must be maintained by the Contractor in accordance with applicable maintenance requirements, and may not be replaced by the Army should new equipment be required.

7.1.b Contractor Furnished Resources

The Contractor must possess all the required expertise, knowledge, equipment and tools required to meet or exceed the Army's objectives identified in this PWS in accordance with established industry standards.

In addition, the Contractor shall be responsible for the following:

- Coordination with the Army/COR and the Installation for access to the Installation, to execute this PWS and comply with the procedures described during the Contractors' meeting at the Installation.
- Coordination with the Army/COR and the Installation in order to gain access to available infrastructure (e.g., buildings, roadways, waste management units, other Installation facilities) and utilities (e.g., electric power and telephone lines, natural gas and water supply distribution pipelines, and wastewater discharge conveyances), to execute this PWS.
- The provision and cost of the utilities associated with implementation of remedies, including installation of individual meters for necessary utilities.
- All waste generated under this contract shall be the responsibility of the Contractor.

- Any other necessary resources needed to achieve the performance objectives.

7.2 Certification and Approval of Project Milestones and Deliverables

The COR will be responsible for contract management, inspection, oversight, review, and approval activities. Certification and approval of project milestones by the COR is necessary before distribution of payments. Final acceptance of milestone completion shall include appropriate acceptance of site remediation documentation by regulators. For the duration of the contract, the Contractor shall remain responsible for correction of remedy deficiencies noted during RA(O), LTM, and CERCLA 121(c) reviews.

Certification by the Army is contingent upon the Contractor performing in accordance with the terms and conditions of the contract, this PWS, and all amendments/options.

Representatives of USAEC, USACE, the installation, and the Contractor shall meet with the COR at a site and time designated by the COR after receipt of each status report to:
- Formally review the quantity and quality of services;
- Inspect work for compliance with this PWS, the associated Contractor's final proposal, and project documentation;
- Accept or reject milestones and deliverables completed since the previous review.

7.3 Government Rights

The Army has unlimited rights to all documents/material produced under this contract. All documents and materials, to include the source codes of any software, produced under this contract shall be Army owned and are the property of the Army with all rights and privileges of ownership/copyright belonging exclusively to the Army. These documents and materials cannot be used or sold by the Contractor without written permission from the CO. All materials supplied to the Army shall be the sole property of the Army and cannot be used for any other purpose. This right does not abrogate any other Army rights under the applicable Data Rights clause(s).

7.4 Stop Work

The Contractor, authorized Installation personnel, and the COR have the responsibility to stop work immediately if the work is considered to be a serious threat to the safety or health of workers, other personnel, or to the environment. Authorized Installation personnel include Installation safety officers, Environmental Division personnel, and command personnel with responsibility for overall Installation operations. When work is stopped due to a hazard/threat to worker safety, health, or the environment, the situation and resolution must be documented and submitted to the KO. Work must be stopped if chemical and biological warfare agents are encountered.

7.5 Environmental Responsibility Considerations

- The Army will retain responsibility for any assessed natural resource damages that are attributed to historic releases of hazardous substances (prior to contract with the Contractor) and any injuries that are necessary and incidental to the reasonable implementation of a selected response or remedial action. The Contractor shall be responsible for any/all additional natural resource injuries and associated Natural Resource Damages claims brought as a result of its actions (e.g. release of hazardous substance or unreasonable disturbance of natural resources as a result of construction activities).
- The Army will retain all responsibility for third party liability for CWM, MEC, or radiological material that are either targeted for or may be discovered during the course of remediation.
- Response cost claims, property damage and personal injury claims brought due to contamination and hazardous substance releases that have occurred historically (prior to contract with the Contractor) and are not due to Contractor remediation activities are excluded from Contractor responsibility. The Contractor shall be responsible for and indemnify the Army for:

- Any response cost claims for any environmental remediation services which the Contractor has assumed responsibility for under this PWS;
- All costs associated with correction of a failure of any remedy implemented or operated and maintained by the Contractor to the extent such failure was caused by the willful or negligent acts or omissions of the Contractor in the course of performing the environmental services;
- All personal injury or property damage claims to the extent caused by the acts or omissions of the Contractor in the course of performing the environmental services;
- All natural resource damages pursuant to 42 U.S.C. Section 9607(a)(4)(C), to the extent that such damages were caused or contributed to by the actions of the Contractor or its successors in interest; and
- All costs associated with or arising from any negligent acts or omissions or willful misconduct of the Contractor in the course of performing the environmental services or implementing remedial actions.

7.6 Inspections

The Army technical experts will independently review Contractor work to ensure compliance with all applicable requirements.

CERCLA 121(c) or Remedy reviews conducted during the duration of the contract constitute a Government Inspection of Services. The Contractor will correct any problems and/or deficiencies noted within CERCLA 121(c) or Remedy reviews or any Contractor furnished service or submittal.

Any service or submittal performed that does not meet contract requirements shall be corrected or re-performed by the Contractor and at no additional cost to the Government. Corrective action must be certified and approved by the COR consistent with the basic contract. If the Contractor performs any task unsatisfactorily and all defects are not corrected, the Government reserves the right to terminate the contract for default. In addition, the Government reserves its rights under FAR clause 52.246-4, "Inspection of Services – Fixed Price, for further remedies concerning a Contractor's failure to perform in conformance with contract requirements. If the Contractor is conducting RA(O), LTM, or completing a CERCLA 121(c) or Remedy review for a remedy that they did not implement or modify (i.e., an on-going pump and treat system inherited as part of the PBA scope), correction of substantive remedy deficiencies noted during RA(O), LTM or within a CERCLA 121(c) or Remedy review which may require modification of that remedy are considered outside the scope of this contract effort.

7.7 Organizational Conflicts of Interest

7.7.1 Disclosure. The Contractor shall provide a disclosure statement with its proposal, which concisely describes all relevant facts concerning any past or present organizational conflicts of interest relating to the work in each PWS. In the same statement, the Contractor shall provide the information required in the following paragraph to assure the Government that the conflicts of interest have been mitigated and/or neutralized to the maximum extent possible. If a conflict of interest is discovered after contract award, the Contracting Officer will make a decision whether to terminate or rescind the PWS and/or contract at that time.

7.7.2 Potential Conflicts of Interest. This request for proposals is open to any offeror to compete as a prime contractor, subcontractor or in any teaming arrangement. In order to avoid any organizational conflicts of interest, or even the appearance of any organizational conflicts of interest, any contractor performing environmental services work at the follow-on installation(s) under each contract will need to avoid, neutralize and/or mitigate - prior to contract award - significant potential conflicts of interest that may prejudice effective competition. The KO has determined that at a minimum contractors currently performing work on the identified installation(s) under each contract must ensure that all data pertaining to contamination at the sites compiled by or in the possession of such contractors shall be made available to all potential contractors in a timely fashion to the maximum extent possible by providing such data in to a data depository.

7.8 Access and Security

In order to ensure the security and orderly running of the Installation, any contractor personnel who wish to gain access to the Installation shall follow procedures established by the Installation. The Contractor should account for potential delays due to DoD security requirements in its pricing.

7.9 Travel

Travel to/from the Installation and to other CONUS locations for such purposes as to attend meetings, briefings and/or presentations may be required incidental to this remedial action, the costs for which shall be included in the total price for the PWS.

8.0 Contracting Officer's Representative:

Name: Laura Percifield
Organization: CENWO-PM-HA
Address: 1616 Capitol Avenue
City, State, Zip Code: Omaha, NE 68102
Telephone: (402) 995-2761
Email: Laura.J.Percifield@usace.army.mil

Attachment A: Reference Documents

The Army believes that documentation provided with the solicitation represents the most recent and appropriate documentation available for the Installation and sites identified in this contract. However, if there is a conflict between this information and other site documentation (the existing reports), the Contractor is solely responsible for reviewing all available information and forming their independent, professional conclusions/interpretation of site conditions and requirements to meet the objectives of this contract. This information is not intended as a substitute for complete analysis of technical data available, nor is it intended to be a guide on how the Contractor should address achievement of the performance objectives/standards.

Specific documents may be made available following a request to the Contracting Officer, if the documentation can be distributed in a timely manner. Electronic format is not guaranteed.

Table 3: Available Reference Documents.

Title	Author	Date
Remedial Investigation Report – OU5 - IAAAP - MMRP	URS	June 2011
Feasibility Study Report – OU5 - IAAAP – MMRP	CB&I	Nov 2012
Proposed Plan – OU5 - IAAAP - MMRP	CB&I	May 2013
Record of Decision – OU5 - IAAP - MMRP	CB&I	Sept 2014
Federal Facility Agreement (FFA)	EPA vs. Army	Sep 1990
Draft Pilot House Complex (includes TNT Cave) RAB Presentation	Iowa AAP	Apr 2014

Attachment B: List of Acronyms

AEDB-R	Army Environmental Database - Restoration Module
AEDB-CC	Army Environmental Database - Compliance-Related Cleanup Module
APP	Accident Prevention Plan
AR	Administrative Record
ARAR	Applicable or Relevant and Appropriate Requirement
CAIS	Chemical Agent Identification Sets
CAR	Corrective Action Report
CCC	Clean Cost Cap
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CLIN	Contract Line Item Number
CMI(O)	Corrective Measures Implementation (Operations)
CMS	Corrective Measures Study
CONUS	Continental United States
COR	Contracting Officer's Representative
CPAR	Contractor Performance Assessment Report
CR	Compliance Restoration
CRP	Community Relations Plan
CSDGM	Content Standard for Digital Geospatial Metadata
CWM	Chemical Warfare Materiel
DA	Department of the Army
DDESB	Department of Defense Explosives Safety Board
DERP	Defense Environmental Restoration Program
DID	Data Item Description
DMM	Discarded Military Munitions
DoD	Department of Defense
DTSC	Department of Toxic Substances Control
EI	Environmental Insurance
EM	Engineer Manual
EMS	Environmental Management System
EOD	Explosive Ordnance Disposal
ERIS	Environmental Restoration Information System
ESP	Explosive Site Plan
ESS	Explosives Safety Submission
FAR	Federal Acquisition Regulation
FFA	Federal Facility Agreement
FFPR	Firm Fixed Price Remediation
FGDC	Federal Geographic Data Committee
FS	Feasibility Study

FSC	Financial Size Category
GIS	Geographic Information System
HRR	Historical Records Review
IAP	Installation Action Plan
IRIS	Integrated Risk Information System
KO	Contracting Officer
LTM	Long-Term Management
LUC	Land Use Control
MC	Munitions Constituents
MCL	Maximum Contaminant Level
MD	Munitions Debris
MEC	Munitions and Explosives of Concern
MM	Military Munitions
MMRP	Military Munitions Response Program
MPPEH	Material Potentially Presenting an Explosive Hazard
MR	Munitions Response
MRS	Munitions Response Sites
MRSPP	Munitions Response Site Prioritization Protocol
NCP	National Oil and Hazardous Substances Contingency Plan
NELAP	National Environmental Laboratory Accreditation Program
NPL	National Priorities List
NSSDA	National Standard for Spatial Data Accuracy
NTP	Notice to Proceed
OSHA	Occupational Safety and Health Administration
PBA	Performance-Based Acquisition
P/C	Pollutants and/or Contaminants
PMP	Project Management Plan
POP	Period of Performance
PPE	Personal Protective Equipment
PWS	Performance Work Statement
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QASP	Quality Assurance Surveillance Plan
RAB	Restoration Advisory Board
RA(O)	Remedial Action (Operations)
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RCWM	Recovered Chemical Warfare Materiel
RDX	Cyclotrimethylenetrinitramine
READ	Repository of Environmental Army Documents
RfD	Reference Dose
RFI	RCRA Facility Investigation

RFP	Request for Proposal
RI	Remedial Investigation
RIP	Remedy In Place
ROD	Record of Decision
ROE	Right of Entry
RPO	Real Property Officer
SARA	Superfund Amendments and Reauthorization Act
SC	Site Closeout
SDSFIE	Spatial Data Standards for Facilities, Infrastructure, and Environment
SI	Site Inspection
SME	Subject Matter Expert
SSHP	Site Safety and Health Plan
TNT	Trinitrotoluene
TP	Technical Paper
TRC	Technical Review Committee
UFP	Uniform Federal Policy
USACE	United States Army Corps of Engineers
USAEC	United States Army Environmental Command
USC	United States Code
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
UTM	Universal Transverse Mercator
UXO	Unexploded Ordnance

Attachment C: Definitions

Activity-Based Schedule: Activities and milestones defined at the detail level and logically sequenced to support, and manage completion of the performance objectives.

Contractor's Project Costs: Costs incurred by the Contractor (including costs covered by insurance and the PMP) in executing the work required to achieve the performance objectives identified in the PWS for all sites identified in this contract/task order.

Chemical Warfare Materiel (CWM): An item configured as a munitions containing a chemical substance that is intended to kill, seriously injure, or incapacitate a person through its physiological effects. CWM also includes V- and G- services nerve agent, H-series blister agent, and lewisite in other than munitions configurations. Due to their hazards, prevalence, and military-unique application, Chemical Agent Identification Sets (CAIS) are also considered CWM. CWM does not include riot control agency, chemical herbicides, smoke and flame producing items, or soil, water, debris, or other media contaminated with chemical agent.

Deliverables: Documentation or data that support the completion of milestones or achievement of the performance objectives identified in this PWS.

Discarded Military Munitions (DMM) **–** Military munitions that have been abandoned without proper disposal or removed from storage in a military magazine or other storage area for the purpose of disposal. The term does not include unexploded ordnance, military munitions that are being held for future use or planned disposal, or military munitions that have been properly disposed of consistent with applicable environmental laws and regulations.

Explosive Ordnance Disposal (EOD) – The detection, identification, on-site evaluation, rendering safe, recovery, and final disposal of unexploded explosive ordnance. It may also include explosive ordnance that has become hazardous by damage or deterioration.

Long-Term Management (LTM): The remedial phase including maintenance, monitoring, record keeping, remedy reviews, etc. initiated after response (removal or remedial) objectives have been met (i.e., after Response Complete). LTM includes development and implementation of an exit or ramp-down strategy for LTM activities at each site.

Milestones: Significant events or activities that occur in the course of the Contractor achieving the performance objectives identified in this PWS.

Military Munitions (MM) – All ammunition products and components produced or used by or for the DoD or the U.S. Armed Services for national defense and security, including MM under the control of the DoD, the U.S. Coast Guard, the U.S. Department of Energy, and National Guard personnel. The term military munitions includes: confined gaseous, liquid, and solid propellants, explosives, pyrotechnics, chemical and riot control agents, smokes, and incendiaries used by DoD components, including bulk explosives and chemical warfare agents, chemical munitions, rockets, guided and ballistic missiles, bombs, warheads, mortar rounds, artillery ammunition, small arms ammunition, grenades, mines, torpedoes, depth charges, cluster munitions and dispensers, demolition charges, and devices and components thereof. MM do not include wholly inert items, improvised explosive devices, and nuclear weapons, nuclear devices, and nuclear components thereof. However, the term does include non-nuclear components of nuclear devices, managed under DOE's nuclear weapons program, after all required sanitization operations under the Atomic Energy Act of 1954, as amended, have been completed.

Munitions Constituents (MC): Any materials originating from unexploded ordnance, DMM, or other military munitions, including explosive and non-explosive materials, and emission, degradation, or breakdown elements of such ordnance or munitions.

Munitions Debris (MD) – Remnants of munitions (e.g., fragments, penetrators, projectiles, shell casings, links, fins) remaining after munitions use, demilitarization, or disposal.

Munitions and Explosives of Concern (MEC): This term, which distinguishes specific categories of military munitions that may pose unique explosives safety risks, means UXO, as defined in 10 .SC 101(e)(5)(A) through (C); DMM, as defined in 10 USC 2710(e)(2); or MC (e.g., TNT, RDX), as defined in 10 USC 2710(e)(3), present in high enough concentrations to pose an explosive hazard.

Munitions response – A response action, including investigation, removal actions, and remedial actions, to address the explosives safety, human health, and/or environmental risks presented by munitions and explosives of concern (MEC) and/or MC.

PMP Documents: The original PMP (including project schedule), revisions, and status reports.

Project Documents (CERCLA): Documentation and data required by CERCLA remediation and RA(O) and/or LTM activities. These documents include the additional site plans referenced in Section 5.0 of this PWS.

Project Price: The approved proposed price for achieving completion of remediation services in accordance with the PWS, the payment of which will be tied to one or more project milestones. The Project Price does not include the cost of the PMP, insurance premiums or surplus line taxes, if applicable.

Project-related information: All previous environmental restoration documentation of a technical nature developed by the Army and previous Army contractors and subcontractors during their work at the sites specified in this PWS, and all the documentation developed by the Contractor in order to achieve the performance objectives specified in this PWS.

Remedial Action (Operations) (RA(O)): The remedial phase during which the remedy is in place and operating to achieve the cleanup objective identified in the Record of Decision (ROD) or other formal decision document. Any system operation (long-term operations) or monitoring (long-term monitoring) requirements during this time are considered RA(O). RA(O) includes development and implementation of an exit or ramp-down strategy for LTM activities at each site.

Remedy In Place (RIP): A final remedial action has been constructed and implemented and is operating as planned in the remedial design. An example of a remedy in place is a pump-and-treat system that is installed, is operating as designed, and will continue to operate until cleanup levels have been attained. Because operation of the remedy is ongoing, the site cannot be considered Response Complete.

Response Complete (RC): The remedy is in place and the required remedial action-operations (RA-O) have been completed. If there is no RA(O) phase and all response action objectives have been achieved and documented, then the remedial action-construction end date will also be the RC date.

Site Close-Out: Site Close-Out signifies when the Army has completed active management and monitoring at an environmental cleanup site, no additional environmental cleanup funds will be expended at the site and the Army has obtained regulator concurrence. For practical purposes, Site Close-Out occurs when cleanup goals have been achieved that allow unrestricted use of the property (i.e., no further LTM, including institutional controls, is required). Site Close-Out may include, but not be limited to, the dismantling, removal, recycling, reclamation and/or disposal of all remedial activity systems and ancillary equipment above and underground to return the site to its natural state.

*Unexploded ordnance (UXO)**:*** Military munitions that have been primed, fuzed, armed, or otherwise prepared for action; have been fired, dropped, launched, projected, or placed in such a manner as to constitute a hazard to operations, installations, personnel, or material; and remain unexploded either by malfunction, design, or any other cause.

Attachment D: Minimum Requirements for Data Layers Without An Established Quality Assurance Plan

- Installation geospatial data shall be provided in a personal geodatabase compliant with the Spatial Data Standards for Facilities, Infrastructure, and Environment (SDSFIE), version 2.6
- If a geospatial data layer contains a discriminator per SDSFIE v2.6, the discriminator must be populated
- All features shall be attributed with the Installation Code from the Headquarters Installation Information System (HQIIS)
- Each data layer shall be accompanied by metadata conforming to the Federal Geographic Data Committee (FGDC) Content Standard for Digital Geospatial Metadata (CSDGM) and the Army Metadata Standard
- The FGDC National Standard for Spatial Data Accuracy (NSSDA) shall be used to evaluate and report the positional accuracy of all data layers submitted
- All data shall be provided with a defined projection and must have a datum of WGS84
- All data shall be topologically sound and geometrically correct. This includes no null or empty features, no non-simple features and no duplicate features.
- All data shall meet the basic topology rule set for installation geospatial data. Exceptions to the topology rules are possible. In case of an exception, a justification must be provided in the data layer documentation.
    - Point features
        - Must be located inside polygons of parent feature class
    - Line features
        - Must not self overlap
        - Must not self intersect
        - Must be single part
        - Must not have pseudo-nodes
        - Must not have dangles
    - Polygon features
        - Must not overlap
        - Must not have gaps

Section E - Inspection and Acceptance

INSPECTION AND ACCEPTANCE TERMS

Supplies/services will be inspected/accepted at:

CLIN	INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
0001	Destination	Government	Destination	Government
0002	Destination	Government	Destination	Government
0003	Destination	Government	Destination	Government

Section F - Deliveries or Performance

DELIVERY INFORMATION

CLIN	DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
0001	POP 30-JUL-2015 TO 29-JUL-2018	N/A	COE PROGRAMS MANAGEMENT BRANCH LINDA DIBEL USAED, OMAHACENWO-PM-P 1616 CAPITOL AVE OMAHA NE 68102-4901 402-995-2791 FOB: Destination	966752
0002	POP 30-JUL-2015 TO 29-JUL-2018	N/A	(SAME AS PREVIOUS LOCATION) FOB: Destination	966752
0003	POP 30-JUL-2015 TO 29-JUL-2018	N/A	(SAME AS PREVIOUS LOCATION) FOB: Destination	966752

Section G - Contract Administration Data

GENERAL INFORMATION

Please reference Contract **W9128F-13-D-0003 Task Order 0002** on all submittals and invoices. Contractor is required to include the contract number on the invoice, so that receipt and payment may be expeditiously processed.

PROGRESS PAYMENTS ARE AUTHORIZED, SUBJECT TO APPROVAL FROM CONTRACTING OFFICER'S REPRESENTATIVE. ELECTRONIC FUNDS TRANSFER WILL BE THE METHOD OF PAYMENT. PLEASE ENSURE ALL ACCOUNT INFORMATION IS CURRENT AND PROVIDED TO THE FINANCE AND ACCOUNTING CENTER, MILLINGTON, TN.

Points of Contact:
Contracting: Rhonda Shick (402) 995-2652 or via email at Rhonda.E.Shick@usace.army.mil
Project Manager: Laura Percifield (402) 995-2761 or via email at Laura.J.Percifield@usace.army.mil

INVOICING/PAYMENT

Electronic funds transfer capability (a.k.a. direct deposit) is required for receipt of payment for services rendered under the resulting contract. Bill only for services rendered and send the invoices to the attention of Ms. Linda Dibel. Contractor is required to include the contract number on all invoices so that receipt and payment for the supplies may be expeditiously processed. Submit invoices to:

U.S. Army Corps of Engineers, Omaha District
ATTN: Linda Dibel CENWO-PM-P
1616 Capitol Avenue
Omaha, NE 68102-4901
E-mail: Linda.S.Dibel@usace.army.mil

CONTRACT TYPE
This is a Fixed Fee Task Order.

(End of General Information)

ACCOUNTING AND APPROPRIATION DATA

AA: 21520200000 088061 3230666F1449300814000 ENVR 25066
AMOUNT: $583,716.10
CIN W59XQG520264400001: $583,716.10

Section I - Contract Clauses

CLAUSES INCORPORATED BY REFERENCE

252.232-7003	Electronic Submission of Payment Requests and Receiving Reports	JUN 2012

CLAUSES INCORPORATED BY FULL TEXT

OMBUDSMAN (24 Sept 2014)

Task and Delivery Order Ombudsman. IAW FAR 16.505(B)(6) referrring to FAR Part 16 "Ordering". The head of the agency has designated a task-order contract and delivery-order contract ombudsman. The ombudsman must review complaints from contractors and ensure they are afforded a fair opportunity to be considered, consistent with the procedures in the contract. The ombudsman is a senior agency official who is independent of the contracting officer and may be the agency's competition advocate.

Primary:

USACE RPARC
Mr. Denver S. Heath
US Army Corps of Engineers
Southwestern Division
1100 Commerce St. Room 824
Dallas, TX 75242-1317
Phone: 1-469-487-7151
E-Mail Denver.S.Heath@usace.army.mil

Alternate:

USACE HQ DOC
Colonel Kevin P. Stoddard
Deputy Director of Contracting
US Army Corps of Engineers
441 G Street NW
Washington, DC 20314-1000
Phone: 202-761-4707
E-mail: Kevin.P.Stoddard@usace.army.mil
(End of clause)

UAI 15.504-100 Award to Successful Offeror

Only a warranted Contracting Officer (either a Procuring Contracting Officer (PCO), or an Administrative Contracting Officer (ACO)), acting within their delegated limits, has the authority to issue modifications or otherwise change the terms and conditions of this contract. If an individual other than the Contracting Officer attempts to make changes to the terms and

conditions of this contract you shall not proceed with the change and shall immediately notify the Contracting Officer.

Section J - List of Documents, Exhibits and Other Attachments

SCA WD 05-2175 REV 17 7/8/15

WD 05-2175 (Rev.-17) was first posted on www.wdol.gov on 07/14/2015

REGISTER OF WAGE DETERMINATIONS UNDER THE SERVICE CONTRACT ACT
By direction of the Secretary of Labor

U.S. DEPARTMENT OF LABOR
EMPLOYMENT STANDARDS ADMINISTRATION
WAGE AND HOUR DIVISION
WASHINGTON D.C. 20210

Daniel W. Simms
Director

Division of
Wage Determinations

Wage Determination No.: 2005-2175
Revision No.: 17
Date Of Revision: 07/08/2015

Note: Executive Order (EO) 13658 establishes an hourly minimum wage of $10.10 for 2015 that applies to all contracts subject to the Service Contract Act for which the solicitation is issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.10 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

States: Illinois, Iowa

Area: Iowa Counties of Des Moines, Henry, Lee, Louisa, Muscatine, Scott
Illinois Counties of Bureau, Carroll, Henderson, Henry, Jo Daviess, Mercer, Rock Island, Warren, Whiteside

Fringe Benefits Required Follow the Occupational Listing

OCCUPATION CODE - TITLE	FOOTNOTE	RATE
01000 - Administrative Support And Clerical Occupations		
01011 - Accounting Clerk I		14.43
01012 - Accounting Clerk II		17.85
01013 - Accounting Clerk III		21.24
01020 - Administrative Assistant		19.43
01040 - Court Reporter		19.13
01051 - Data Entry Operator I		11.60
01052 - Data Entry Operator II		16.71
01060 - Dispatcher, Motor Vehicle		14.89
01070 - Document Preparation Clerk		12.85
01090 - Duplicating Machine Operator		12.85
01111 - General Clerk I		11.10
01112 - General Clerk II		12.11
01113 - General Clerk III		14.50
01120 - Housing Referral Assistant		17.43
01141 - Messenger Courier		10.77
01191 - Order Clerk I		12.50
01192 - Order Clerk II		16.10
01261 - Personnel Assistant (Employment) I		13.56
01262 - Personnel Assistant (Employment) II		15.16
01263 - Personnel Assistant (Employment) III		16.91
01270 - Production Control Clerk		20.22
01280 - Receptionist		11.05
01290 - Rental Clerk		10.64
01300 - Scheduler, Maintenance		13.15
01311 - Secretary I		13.15
01312 - Secretary II		14.71
01313 - Secretary III		17.43
01320 - Service Order Dispatcher		14.86
01410 - Supply Technician		19.43
01420 - Survey Worker		13.09
01531 - Travel Clerk I		12.64
01532 - Travel Clerk II		13.66
01533 - Travel Clerk III		14.78

01611 - Word Processor I	11.89
01612 - Word Processor II	13.67
01613 - Word Processor III	15.29
05000 - Automotive Service Occupations	
05005 - Automobile Body Repairer, Fiberglass	18.83
05010 - Automotive Electrician	18.27
05040 - Automotive Glass Installer	17.62
05070 - Automotive Worker	17.62
05110 - Mobile Equipment Servicer	16.17
05130 - Motor Equipment Metal Mechanic	18.91
05160 - Motor Equipment Metal Worker	17.62
05190 - Motor Vehicle Mechanic	18.83
05220 - Motor Vehicle Mechanic Helper	15.60
05250 - Motor Vehicle Upholstery Worker	16.98
05280 - Motor Vehicle Wrecker	17.62
05310 - Painter, Automotive	17.90
05340 - Radiator Repair Specialist	17.62
05370 - Tire Repairer	14.88
05400 - Transmission Repair Specialist	18.48
07000 - Food Preparation And Service Occupations	
07010 - Baker	12.48
07041 - Cook I	11.67
07042 - Cook II	12.48
07070 - Dishwasher	9.99
07130 - Food Service Worker	9.99
07210 - Meat Cutter	15.36
07260 - Waiter/Waitress	10.43
09000 - Furniture Maintenance And Repair Occupations	
09010 - Electrostatic Spray Painter	17.90
09040 - Furniture Handler	14.47
09080 - Furniture Refinisher	18.27
09090 - Furniture Refinisher Helper	15.92
09110 - Furniture Repairer, Minor	17.12
09130 - Upholsterer	18.27
11000 - General Services And Support Occupations	
11030 - Cleaner, Vehicles	9.77
11060 - Elevator Operator	10.67
11090 - Gardener	12.78
11122 - Housekeeping Aide	10.67
11150 - Janitor	10.67
11210 - Laborer, Grounds Maintenance	11.29
11240 - Maid or Houseman	9.11
11260 - Pruner	11.66
11270 - Tractor Operator	12.29
11330 - Trail Maintenance Worker	11.29
11360 - Window Cleaner	11.14
12000 - Health Occupations	
12010 - Ambulance Driver	15.66
12011 - Breath Alcohol Technician	15.66
12012 - Certified Occupational Therapist Assistant	21.24
12015 - Certified Physical Therapist Assistant	21.24
12020 - Dental Assistant	14.69
12025 - Dental Hygienist	30.53
12030 - EKG Technician	23.32
12035 - Electroneurodiagnostic Technologist	23.32
12040 - Emergency Medical Technician	15.66
12071 - Licensed Practical Nurse I	14.65
12072 - Licensed Practical Nurse II	15.66
12073 - Licensed Practical Nurse III	16.87
12100 - Medical Assistant	13.06
12130 - Medical Laboratory Technician	16.83
12160 - Medical Record Clerk	11.85
12190 - Medical Record Technician	12.93
12195 - Medical Transcriptionist	16.02
12210 - Nuclear Medicine Technologist	33.83
12221 - Nursing Assistant I	9.79
12222 - Nursing Assistant II	11.11
12223 - Nursing Assistant III	12.12
12224 - Nursing Assistant IV	13.49

12235 - Optical Dispenser		14.30
12236 - Optical Technician		13.38
12250 - Pharmacy Technician		11.79
12280 - Phlebotomist		13.52
12305 - Radiologic Technologist		21.91
12311 - Registered Nurse I		22.29
12312 - Registered Nurse II		27.27
12313 - Registered Nurse II, Specialist		26.28
12314 - Registered Nurse III		32.99
12315 - Registered Nurse III, Anesthetist		31.82
12316 - Registered Nurse IV		39.53
12317 - Scheduler (Drug and Alcohol Testing)		19.06
13000 - Information And Arts Occupations		
13011 - Exhibits Specialist I		18.48
13012 - Exhibits Specialist II		23.58
13013 - Exhibits Specialist III		27.60
13041 - Illustrator I		18.21
13042 - Illustrator II		22.91
13043 - Illustrator III		27.60
13047 - Librarian		24.98
13050 - Library Aide/Clerk		11.50
13054 - Library Information Technology Systems Administrator		22.56
13058 - Library Technician		13.29
13061 - Media Specialist I		16.28
13062 - Media Specialist II		18.21
13063 - Media Specialist III		20.31
13071 - Photographer I		13.34
13072 - Photographer II		17.10
13073 - Photographer III		21.83
13074 - Photographer IV		26.69
13075 - Photographer V		28.08
13110 - Video Teleconference Technician		12.06
14000 - Information Technology Occupations		
14041 - Computer Operator I		16.48
14042 - Computer Operator II		18.43
14043 - Computer Operator III		21.18
14044 - Computer Operator IV		24.24
14045 - Computer Operator V		26.85
14071 - Computer Programmer I	(see 1)	20.59
14072 - Computer Programmer II	(see 1)	26.66
14073 - Computer Programmer III	(see 1)	
14074 - Computer Programmer IV	(see 1)	
14101 - Computer Systems Analyst I	(see 1)	
14102 - Computer Systems Analyst II	(see 1)	
14103 - Computer Systems Analyst III	(see 1)	
14150 - Peripheral Equipment Operator		16.48
14160 - Personal Computer Support Technician		24.24
15000 - Instructional Occupations		
15010 - Aircrew Training Devices Instructor (Non-Rated)		25.84
15020 - Aircrew Training Devices Instructor (Rated)		34.10
15030 - Air Crew Training Devices Instructor (Pilot)		37.51
15050 - Computer Based Training Specialist / Instructor		22.55
15060 - Educational Technologist		26.08
15070 - Flight Instructor (Pilot)		37.51
15080 - Graphic Artist		20.42
15090 - Technical Instructor		17.36
15095 - Technical Instructor/Course Developer		21.23
15110 - Test Proctor		14.37
15120 - Tutor		14.37
16000 - Laundry, Dry-Cleaning, Pressing And Related Occupations		
16010 - Assembler		8.94
16030 - Counter Attendant		8.94
16040 - Dry Cleaner		11.61
16070 - Finisher, Flatwork, Machine		8.94
16090 - Presser, Hand		8.94
16110 - Presser, Machine, Drycleaning		8.94
16130 - Presser, Machine, Shirts		8.94
16160 - Presser, Machine, Wearing Apparel, Laundry		8.94

16190 - Sewing Machine Operator	12.46
16220 - Tailor	13.33
16250 - Washer, Machine	9.87
19000 - Machine Tool Operation And Repair Occupations	
19010 - Machine-Tool Operator (Tool Room)	20.29
19040 - Tool And Die Maker	23.91
21000 - Materials Handling And Packing Occupations	
21020 - Forklift Operator	16.18
21030 - Material Coordinator	20.22
21040 - Material Expediter	20.22
21050 - Material Handling Laborer	13.08
21071 - Order Filler	11.69
21080 - Production Line Worker (Food Processing)	16.18
21110 - Shipping Packer	14.48
21130 - Shipping/Receiving Clerk	14.48
21140 - Store Worker I	16.96
21150 - Stock Clerk	19.39
21210 - Tools And Parts Attendant	16.18
21410 - Warehouse Specialist	16.18
23000 - Mechanics And Maintenance And Repair Occupations	
23010 - Aerospace Structural Welder	22.95
23021 - Aircraft Mechanic I	22.01
23022 - Aircraft Mechanic II	22.95
23023 - Aircraft Mechanic III	23.91
23040 - Aircraft Mechanic Helper	18.43
23050 - Aircraft, Painter	22.13
23060 - Aircraft Servicer	19.81
23080 - Aircraft Worker	20.51
23110 - Appliance Mechanic	18.76
23120 - Bicycle Repairer	16.37
23125 - Cable Splicer	28.42
23130 - Carpenter, Maintenance	21.59
23140 - Carpet Layer	18.26
23160 - Electrician, Maintenance	25.82
23181 - Electronics Technician Maintenance I	21.42
23182 - Electronics Technician Maintenance II	22.39
23183 - Electronics Technician Maintenance III	23.42
23260 - Fabric Worker	19.46
23290 - Fire Alarm System Mechanic	19.64
23310 - Fire Extinguisher Repairer	18.73
23311 - Fuel Distribution System Mechanic	23.58
23312 - Fuel Distribution System Operator	19.82
23370 - General Maintenance Worker	17.60
23380 - Ground Support Equipment Mechanic	22.01
23381 - Ground Support Equipment Servicer	19.81
23382 - Ground Support Equipment Worker	20.51
23391 - Gunsmith I	18.98
23392 - Gunsmith II	20.67
23393 - Gunsmith III	22.59
23410 - Heating, Ventilation And Air-Conditioning Mechanic	20.67
23411 - Heating, Ventilation And Air Contditioning Mechanic (Research Facility)	21.90
23430 - Heavy Equipment Mechanic	20.30
23440 - Heavy Equipment Operator	28.17
23460 - Instrument Mechanic	23.63
23465 - Laboratory/Shelter Mechanic	21.04
23470 - Laborer	11.44
23510 - Locksmith	20.51
23530 - Machinery Maintenance Mechanic	21.53
23550 - Machinist, Maintenance	18.72
23580 - Maintenance Trades Helper	16.35
23591 - Metrology Technician I	23.63
23592 - Metrology Technician II	24.64
23593 - Metrology Technician III	25.65
23640 - Millwright	23.24
23710 - Office Appliance Repairer	19.62
23760 - Painter, Maintenance	18.64
23790 - Pipefitter, Maintenance	24.66

23810 - Plumber, Maintenance	22.82
23820 - Pneudraulic Systems Mechanic	22.30
23850 - Rigger	22.30
23870 - Scale Mechanic	20.40
23890 - Sheet-Metal Worker, Maintenance	23.06
23910 - Small Engine Mechanic	18.15
23931 - Telecommunications Mechanic I	25.05
23932 - Telecommunications Mechanic II	29.00
23950 - Telephone Lineman	27.64
23960 - Welder, Combination, Maintenance	18.91
23965 - Well Driller	21.48
23970 - Woodcraft Worker	22.30
23980 - Woodworker	18.73
24000 - Personal Needs Occupations	
24570 - Child Care Attendant	9.74
24580 - Child Care Center Clerk	13.55
24610 - Chore Aide	10.02
24620 - Family Readiness And Support Services Coordinator	12.80
24630 - Homemaker	13.51
25000 - Plant And System Operations Occupations	
25010 - Boiler Tender	25.87
25040 - Sewage Plant Operator	20.30
25070 - Stationary Engineer	25.87
25190 - Ventilation Equipment Tender	20.89
25210 - Water Treatment Plant Operator	20.30
27000 - Protective Service Occupations	
27004 - Alarm Monitor	18.39
27007 - Baggage Inspector	11.17
27008 - Corrections Officer	23.27
27010 - Court Security Officer	21.16
27030 - Detection Dog Handler	15.08
27040 - Detention Officer	23.27
27070 - Firefighter	17.91
27101 - Guard I	11.17
27102 - Guard II	15.08
27131 - Police Officer I	22.23
27132 - Police Officer II	24.70
28000 - Recreation Occupations	
28041 - Carnival Equipment Operator	10.71
28042 - Carnival Equipment Repairer	11.11
28043 - Carnival Equpment Worker	9.51
28210 - Gate Attendant/Gate Tender	13.69
28310 - Lifeguard	11.01
28350 - Park Attendant (Aide)	15.32
28510 - Recreation Aide/Health Facility Attendant	11.10
28515 - Recreation Specialist	16.35
28630 - Sports Official	12.20
28690 - Swimming Pool Operator	13.31
29000 - Stevedoring/Longshoremen Occupational Services	
29010 - Blocker And Bracer	23.34
29020 - Hatch Tender	23.34
29030 - Line Handler	22.13
29041 - Stevedore I	22.27
29042 - Stevedore II	24.40
30000 - Technical Occupations	
30010 - Air Traffic Control Specialist, Center (HFO) (see 2)	35.77
30011 - Air Traffic Control Specialist, Station (HFO) (see 2)	24.66
30012 - Air Traffic Control Specialist, Terminal (HFO) (see 2)	27.16
30021 - Archeological Technician I	18.88
30022 - Archeological Technician II	21.11
30023 - Archeological Technician III	26.16
30030 - Cartographic Technician	25.49
30040 - Civil Engineering Technician	23.42
30061 - Drafter/CAD Operator I	17.21
30062 - Drafter/CAD Operator II	20.58
30063 - Drafter/CAD Operator III	22.95
30064 - Drafter/CAD Operator IV	28.25
30081 - Engineering Technician I	18.52

30082 - Engineering Technician II		20.79
30083 - Engineering Technician III		23.25
30084 - Engineering Technician IV		28.85
30085 - Engineering Technician V		35.57
30086 - Engineering Technician VI		42.64
30090 - Environmental Technician		23.77
30210 - Laboratory Technician		21.58
30240 - Mathematical Technician		25.49
30361 - Paralegal/Legal Assistant I		16.09
30362 - Paralegal/Legal Assistant II		18.32
30363 - Paralegal/Legal Assistant III		21.73
30364 - Paralegal/Legal Assistant IV		26.28
30390 - Photo-Optics Technician		25.49
30461 - Technical Writer I		21.11
30462 - Technical Writer II		25.82
30463 - Technical Writer III		31.37
30491 - Unexploded Ordnance (UXO) Technician I		22.74
30492 - Unexploded Ordnance (UXO) Technician II		27.51
30493 - Unexploded Ordnance (UXO) Technician III		32.97
30494 - Unexploded (UXO) Safety Escort		22.74
30495 - Unexploded (UXO) Sweep Personnel		22.74
30620 - Weather Observer, Combined Upper Air Or Surface Programs	(see 2)	22.95
30621 - Weather Observer, Senior	(see 2)	25.49
31000 - Transportation/Mobile Equipment Operation Occupations		
31020 - Bus Aide		10.37
31030 - Bus Driver		13.49
31043 - Driver Courier		12.48
31260 - Parking and Lot Attendant		10.44
31290 - Shuttle Bus Driver		13.26
31310 - Taxi Driver		10.70
31361 - Truckdriver, Light		12.98
31362 - Truckdriver, Medium		13.49
31363 - Truckdriver, Heavy		18.94
31364 - Truckdriver, Tractor-Trailer		18.94
99000 - Miscellaneous Occupations		
99030 - Cashier		8.75
99050 - Desk Clerk		9.74
99095 - Embalmer		30.13
99251 - Laboratory Animal Caretaker I		9.18
99252 - Laboratory Animal Caretaker II		9.55
99310 - Mortician		31.54
99410 - Pest Controller		14.27
99510 - Photofinishing Worker		11.95
99710 - Recycling Laborer		16.15
99711 - Recycling Specialist		17.57
99730 - Refuse Collector		15.43
99810 - Sales Clerk		11.36
99820 - School Crossing Guard		11.44
99830 - Survey Party Chief		28.51
99831 - Surveying Aide		14.77
99832 - Surveying Technician		20.48
99840 - Vending Machine Attendant		12.90
99841 - Vending Machine Repairer		14.61
99842 - Vending Machine Repairer Helper		13.00

ALL OCCUPATIONS LISTED ABOVE RECEIVE THE FOLLOWING BENEFITS:

HEALTH & WELFARE: $4.27 per hour or $170.80 per week or $740.13 per month

VACATION: 2 weeks paid vacation after 1 year of service with a contractor or successor; 3 weeks after 5 years, 4 weeks after 15 years, and 5 weeks after 20 years.
  Length of service includes the whole span of continuous service with the present contractor or successor, wherever employed, and with the predecessor contractors in

the performance of similar work at the same Federal facility. (Reg. 29 CFR 4.173)

HOLIDAYS: A minimum of twelve paid holidays per year: New Year's Day, Martin Luther King Jr's Birthday, Washington's Birthday, Good Friday, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day, the Day before Christmas, and Christmas Day. (A contractor may substitute for any of the named holidays another day of with pay in accordance with a plan communicated to the employees involved.) (See 29 CFR 4.174)

THE OCCUPATIONS WHICH HAVE NUMBERED FOOTNOTES IN PARENTHESES RECEIVE THE FOLLOWING:

1) COMPUTER EMPLOYEES: Under the SCA at section 8(b), this wage determination does not apply to any employee who individually qualifies as a bona fide executive, administrative, or professional employee as defined in 29 C.F.R. Part 541. Because most Computer System Analysts and Computer Programmers who are compensated at a rate not less than $27.63 (or on a salary or fee basis at a rate not less than $455 per week) an hour would likely qualify as exempt computer professionals, (29 C.F.R. 541. 400) wage rates may not be listed on this wage determination for all occupations within those job families. In addition, because this wage determination may not list a wage rate for some or all occupations within those job families if the survey data indicates that the prevailing wage rate for the occupation equals or exceeds $27.63 per hour conformances may be necessary for certain nonexempt employees. For example, if an individual employee is nonexempt but nevertheless performs duties within the scope of one of the Computer Systems Analyst or Computer Programmer occupations for which this wage determination does not specify an SCA wage rate, then the wage rate for that employee must be conformed in accordance with the conformance procedures described in the conformance note included on this wage determination.

Additionally, because job titles vary widely and change quickly in the computer industry, job titles are not determinative of the application of the computer professional exemption. Therefore, the exemption applies only to computer employees who satisfy the compensation requirements and whose primary duty consists of:
(1) The application of systems analysis techniques and procedures, including consulting with users, to determine hardware, software or system functional specifications;
(2) The design, development, documentation, analysis, creation, testing or modification of computer systems or programs, including prototypes, based on and related to user or system design specifications;
(3) The design, documentation, testing, creation or modification of computer programs related to machine operating systems; or
(4) A combination of the aforementioned duties, the performance of which requires the same level of skills. (29 C.F.R. 541.400).

2) AIR TRAFFIC CONTROLLERS AND WEATHER OBSERVERS - NIGHT PAY & SUNDAY PAY: If you work at night as part of a regular tour of duty, you will earn a night differential and receive an additional 10% of basic pay for any hours worked between 6pm and 6am. If you are a full-time employed (40 hours a week) and Sunday is part of your regularly scheduled workweek, you are paid at your rate of basic pay plus a Sunday premium of 25% of your basic rate for each hour of Sunday work which is not overtime (i.e. occasional work on Sunday outside the normal tour of duty is considered overtime work).

HAZARDOUS PAY DIFFERENTIAL: An 8 percent differential is applicable to employees employed in a position that represents a high degree of hazard when working with or in close proximity to ordinance, explosives, and incendiary materials. This includes work such as screening, blending, dying, mixing, and pressing of sensitive ordance, explosives, and pyrotechnic compositions such as lead azide, black powder and photoflash powder. All dry-house activities involving propellants or explosives. Demilitarization, modification, renovation, demolition, and maintenance operations on sensitive ordnance, explosives and incendiary materials. All operations involving regrading and cleaning of artillery ranges.

A 4 percent differential is applicable to employees employed in a position that represents a low degree of hazard when working with, or in close proximity to ordance, (or employees possibly adjacent to) explosives and incendiary materials

which involves potential injury such as laceration of hands, face, or arms of the employee engaged in the operation, irritation of the skin, minor burns and the like; minimal damage to immediate or adjacent work area or equipment being used. All operations involving, unloading, storage, and hauling of ordance, explosive, and incendiary ordnance material other than small arms ammunition. These differentials are only applicable to work that has been specifically designated by the agency for ordance, explosives, and incendiary material differential pay.

** UNIFORM ALLOWANCE **

If employees are required to wear uniforms in the performance of this contract (either by the terms of the Government contract, by the employer, by the state or local law, etc.), the cost of furnishing such uniforms and maintaining (by laundering or dry cleaning) such uniforms is an expense that may not be borne by an employee where such cost reduces the hourly rate below that required by the wage determination. The Department of Labor will accept payment in accordance with the following standards as compliance:

The contractor or subcontractor is required to furnish all employees with an adequate number of uniforms without cost or to reimburse employees for the actual cost of the uniforms. In addition, where uniform cleaning and maintenance is made the responsibility of the employee, all contractors and subcontractors subject to this wage determination shall (in the absence of a bona fide collective bargaining agreement providing for a different amount, or the furnishing of contrary affirmative proof as to the actual cost), reimburse all employees for such cleaning and maintenance at a rate of $3.35 per week (or $.67 cents per day). However, in those instances where the uniforms furnished are made of "wash and wear" materials, may be routinely washed and dried with other personal garments, and do not require any special treatment such as dry cleaning, daily washing, or commercial laundering in order to meet the cleanliness or appearance standards set by the terms of the Government contract, by the contractor, by law, or by the nature of the work, there is no requirement that employees be reimbursed for uniform maintenance costs.

The duties of employees under job titles listed are those described in the "Service Contract Act Directory of Occupations", Fifth Edition, April 2006, unless otherwise indicated. Copies of the Directory are available on the Internet. A links to the Directory may be found on the WHD home page at http://www.dol.gov/esa/whd/ or through the Wage Determinations On-Line (WDOL) Web site at http://wdol.gov/.

REQUEST FOR AUTHORIZATION OF ADDITIONAL CLASSIFICATION AND WAGE RATE {Standard Form 1444 (SF 1444)}

Conformance Process:

The contracting officer shall require that any class of service employee which is not listed herein and which is to be employed under the contract (i.e., the work to be performed is not performed by any classification listed in the wage determination), be classified by the contractor so as to provide a reasonable relationship (i.e., appropriate level of skill comparison) between such unlisted classifications and the classifications listed in the wage determination. Such conformed classes of employees shall be paid the monetary wages and furnished the fringe benefits as are determined. Such conforming process shall be initiated by the contractor prior to the performance of contract work by such unlisted class(es) of employees. The conformed classification, wage rate, and/or fringe benefits shall be retroactive to the commencement date of the contract. {See Section 4.6 (C)(vi)} When multiple wage determinations are included in a contract, a separate SF 1444 should be prepared for each wage determination to which a class(es) is to be conformed.

The process for preparing a conformance request is as follows:

1) When preparing the bid, the contractor identifies the need for a conformed occupation(s) and computes a proposed rate(s).

2) After contract award, the contractor prepares a written report listing in order proposed classification title(s), a Federal grade equivalency (FGE) for each proposed classification(s), job description(s), and rationale for proposed wage rate(s), including information regarding the agreement or disagreement of the

authorized representative of the employees involved, or where there is no authorized representative, the employees themselves. This report should be submitted to the contracting officer no later than 30 days after such unlisted class(es) of employees performs any contract work.

3) The contracting officer reviews the proposed action and promptly submits a report of the action, together with the agency's recommendations and pertinent information including the position of the contractor and the employees, to the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, for review. (See section 4.6(b)(2) of Regulations 29 CFR Part 4).

4) Within 30 days of receipt, the Wage and Hour Division approves, modifies, or disapproves the action via transmittal to the agency contracting officer, or notifies the contracting officer that additional time will be required to process the request.

5) The contracting officer transmits the Wage and Hour decision to the contractor.

6) The contractor informs the affected employees.

Information required by the Regulations must be submitted on SF 1444 or bond paper.

When preparing a conformance request, the "Service Contract Act Directory of Occupations" (the Directory) should be used to compare job definitions to insure that duties requested are not performed by a classification already listed in the wage determination. Remember, it is not the job title, but the required tasks that determine whether a class is included in an established wage determination. Conformances may not be used to artificially split, combine, or subdivide classifications listed in the wage determination.

Appendix B. Site Maps

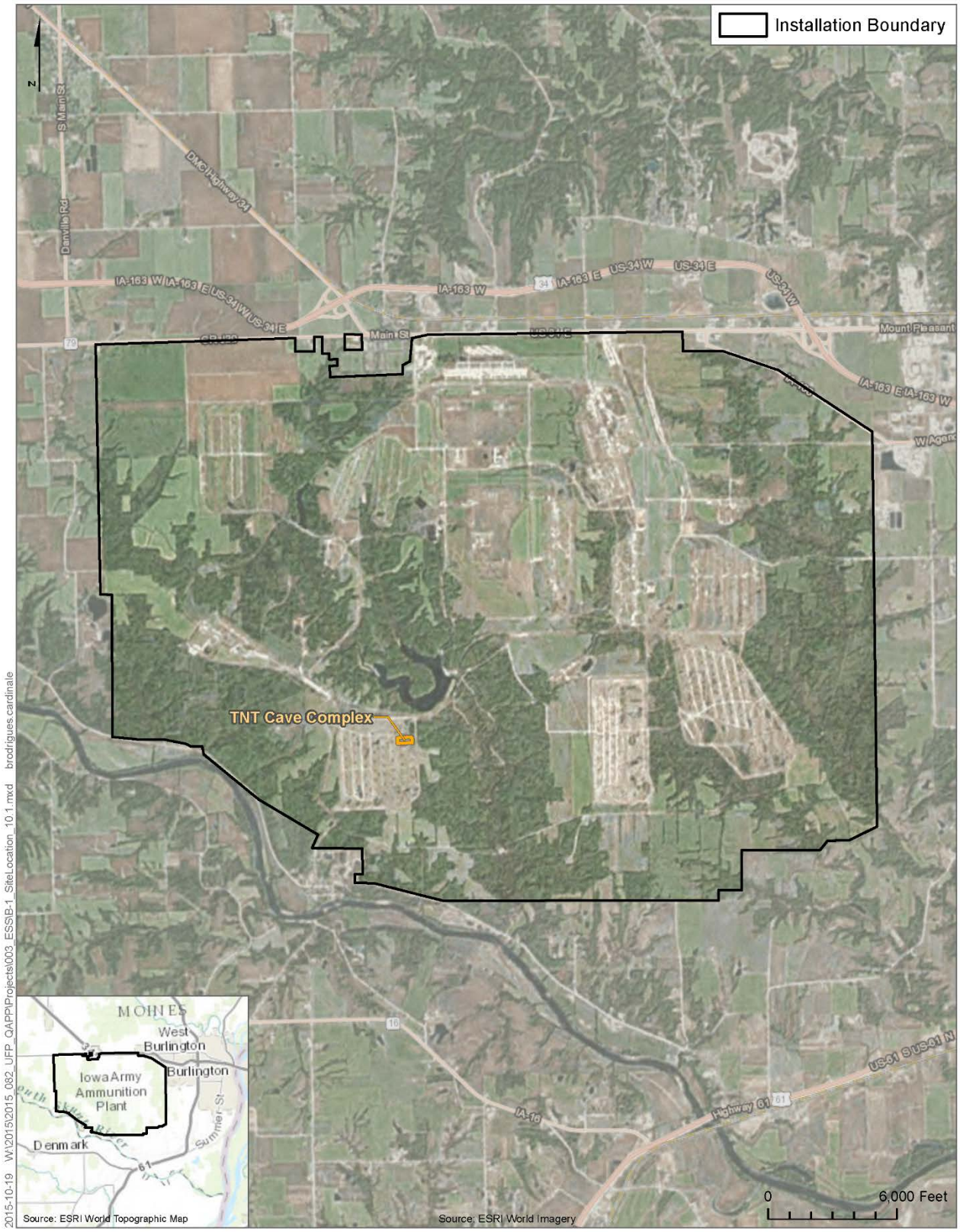


Figure B-1. Site Location Map
Iowa Army Ammunition Plant, Middletown, Iowa

Figure B-2. TNT Cave Complex Site Location
Iowa Army Ammunition Plant, Middletown, Iowa

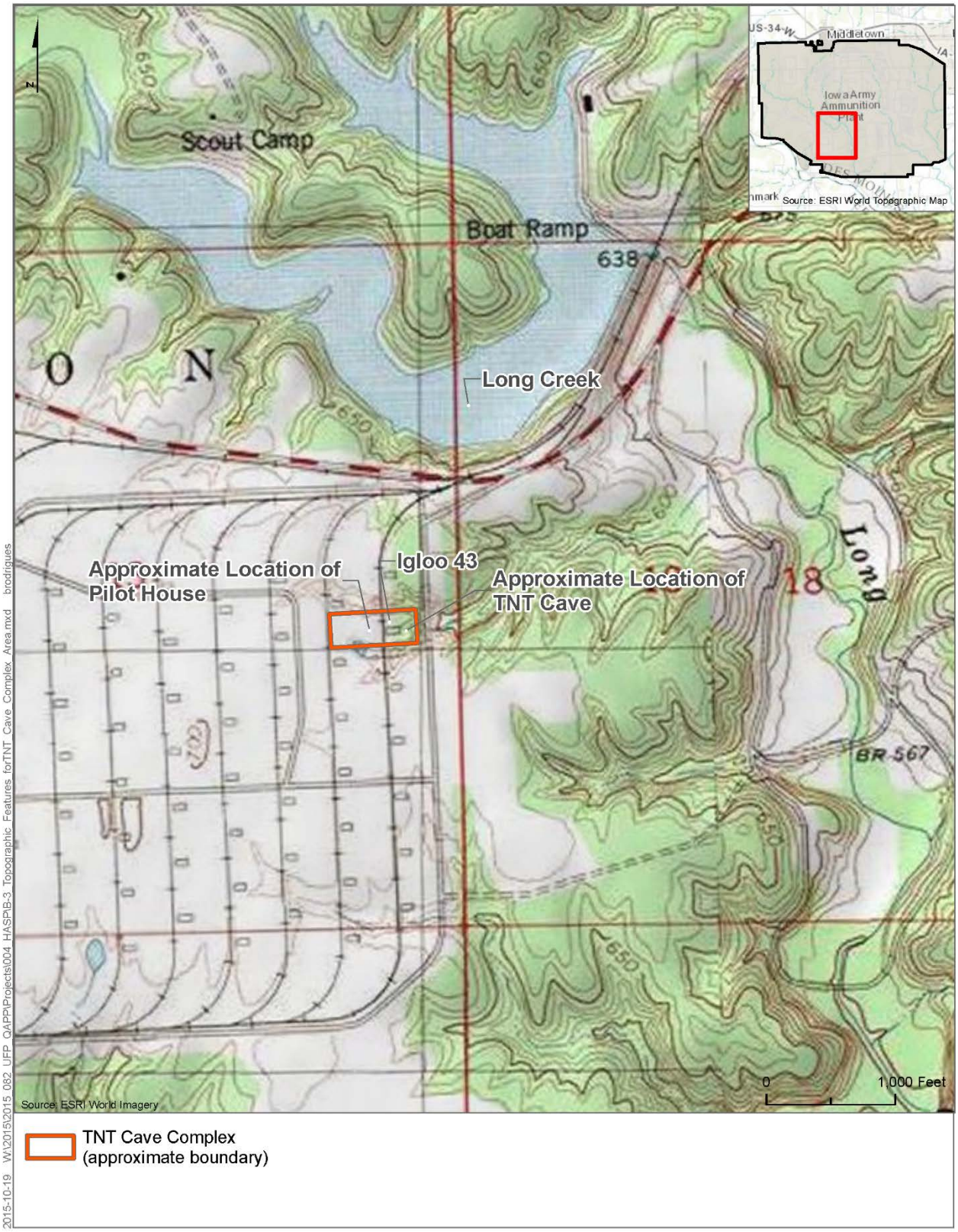


Figure B-3. Topographic Features for TNT Cave Complex Area
Iowa Army Ammunition Plant, Middletown, Iowa

Appendix C. USDA NRCS Soil Types

Soil Map—Des Moines County, Iowa
(TNT Cave Complex Soil Types)

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Des Moines County, Iowa
Survey Area Data: Version 19, Sep 4, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 17, 2010—Oct 6, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Des Moines County, Iowa (IA057)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
65E	Lindley loam, 14 to 18 percent slopes	1.1	16.8%
76B	Ladoga silt loam, 2 to 5 percent slopes	1.3	19.5%
80C	Clinton silt loam, 5 to 9 percent slopes	3.9	59.3%
W	Water	0.3	4.5%
Totals for Area of Interest		**6.5**	**100.0%**

Appendix D. April 2014 RAB Presentation

Pilot House Complex (Includes TNT Cave)

Possible IAAAP Restoration Site

Steve Bellrichard

RAB Co-Chair

Iowa AAP

April 2014

Purpose / Agenda

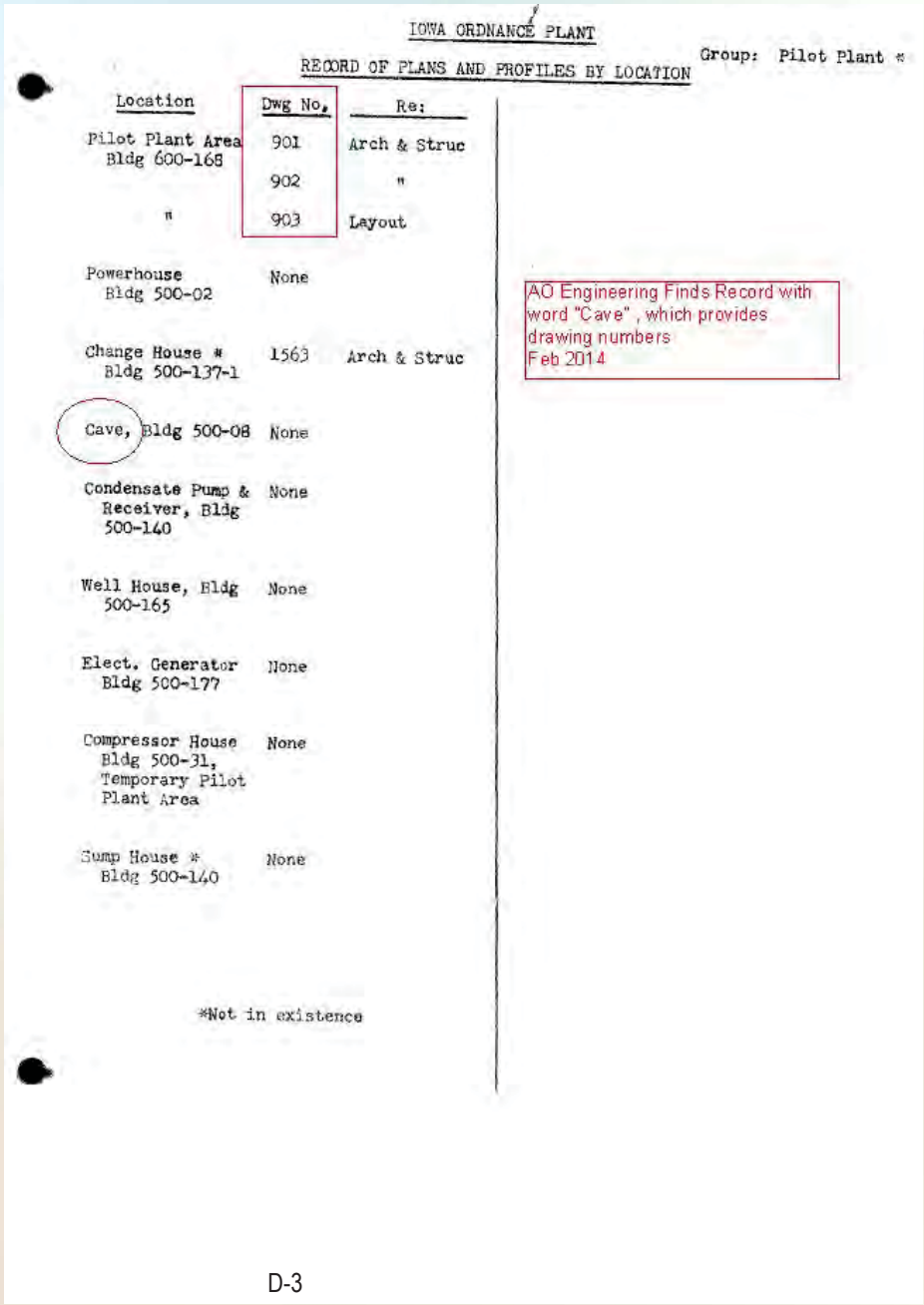
Provide RAB

Investigation Results

And

Pathforward

AO Engineering Finds Record with word "Cave"



IOWA ORDNANCE PLANT

RECORD OF PLANS AND PROFILES BY LOCATION

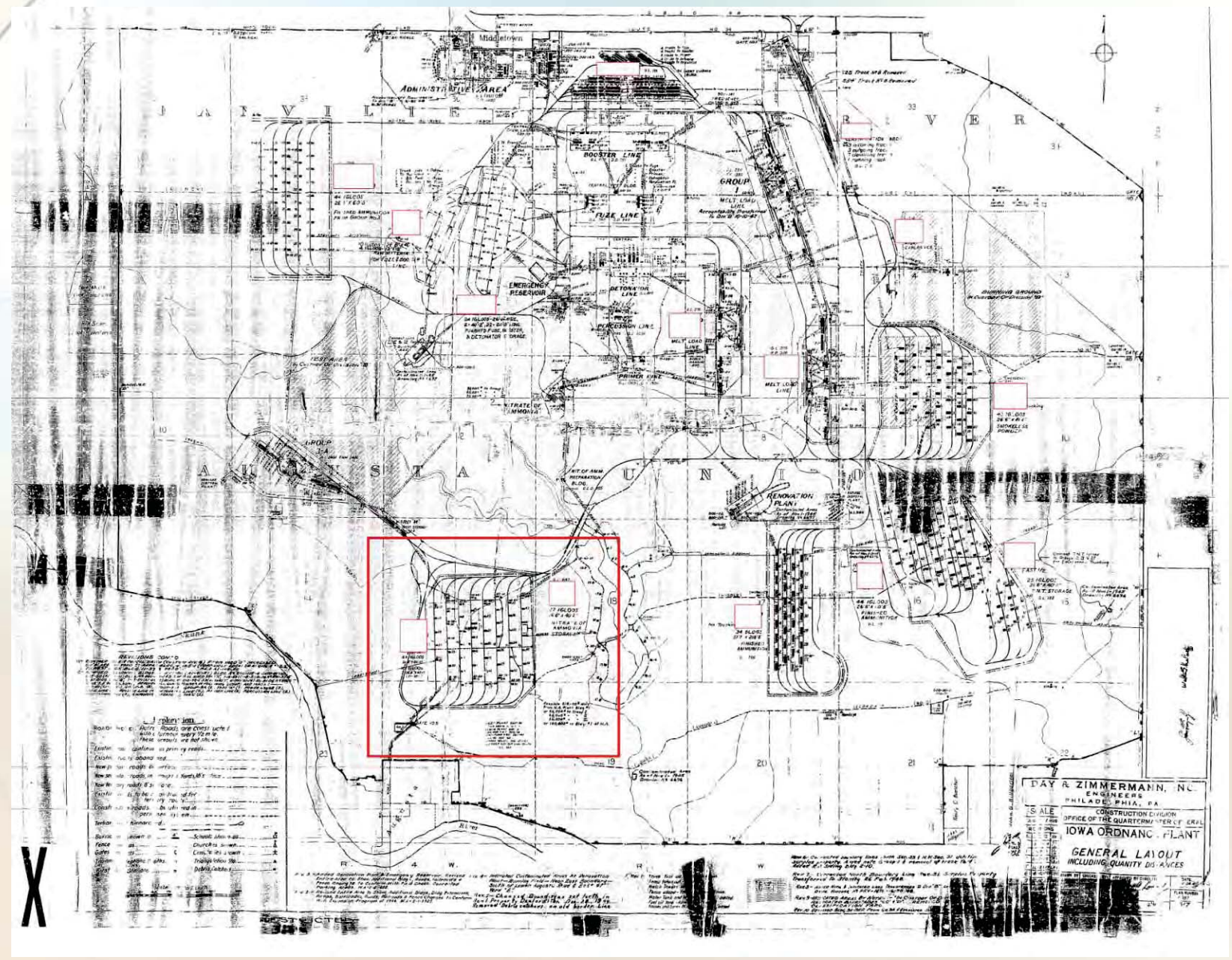
Group: Pilot Plant *

Location	Dwg No.	Re:
Pilot Plant Area Bldg 600-168	901	Arch & Struc
	902	"
"	903	Layout
Powerhouse Bldg 500-02	None	
Change House * Bldg 500-137-1	1563	Arch & Struc
Cave, Bldg 500-08	None	
Condensate Pump & Receiver, Bldg 500-140	None	
Well House, Bldg 500-165	None	
Elect. Generator Bldg 500-177	None	
Compressor House Bldg 500-31, Temporary Pilot Plant Area	None	
Sump House * Bldg 500-140	None	

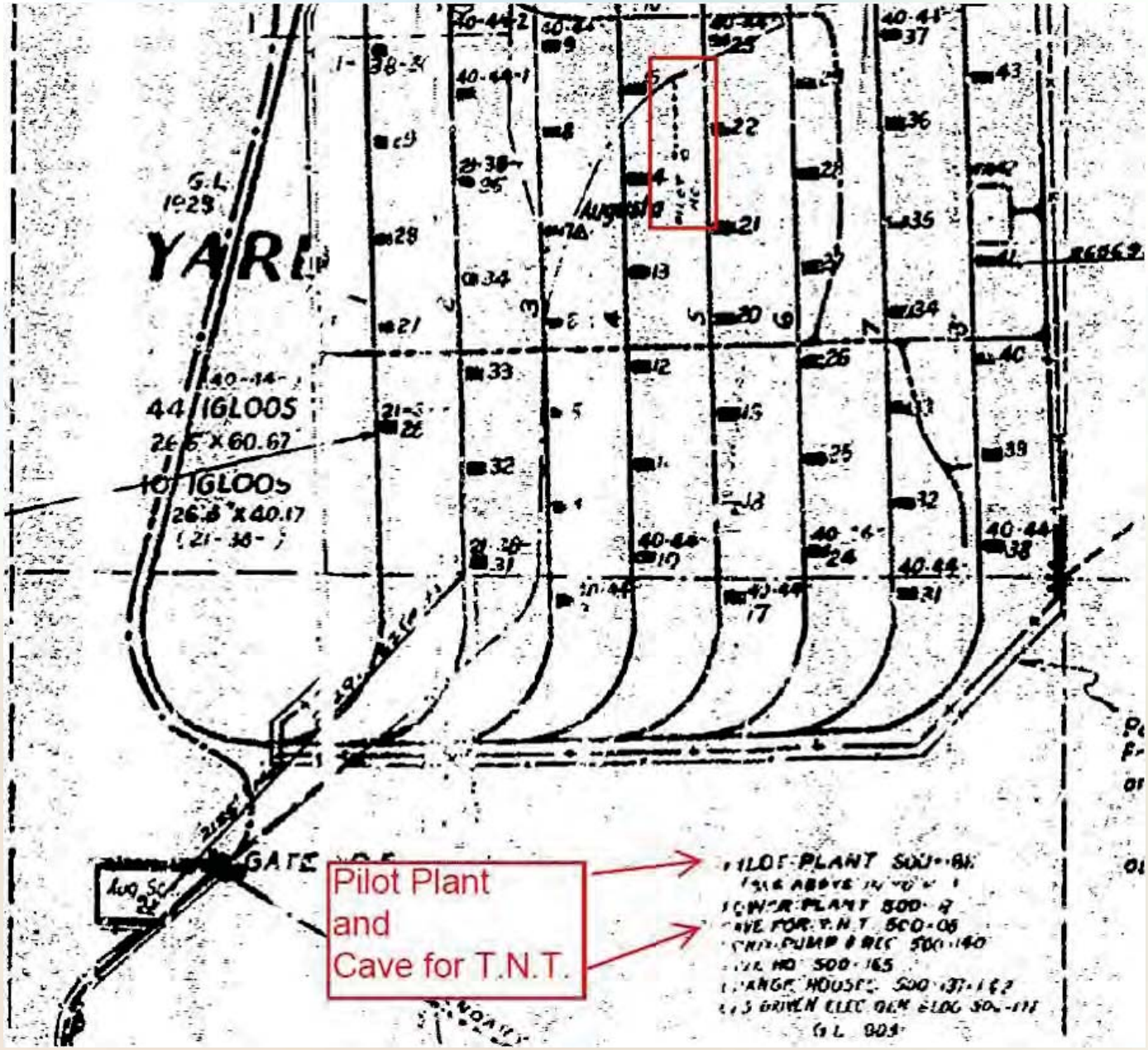
*Not in existence

AO Engineering Finds Record with word "Cave", which provides drawing numbers
Feb 2014

Drawing No. 617



Drawing No. 617 (Close Up)



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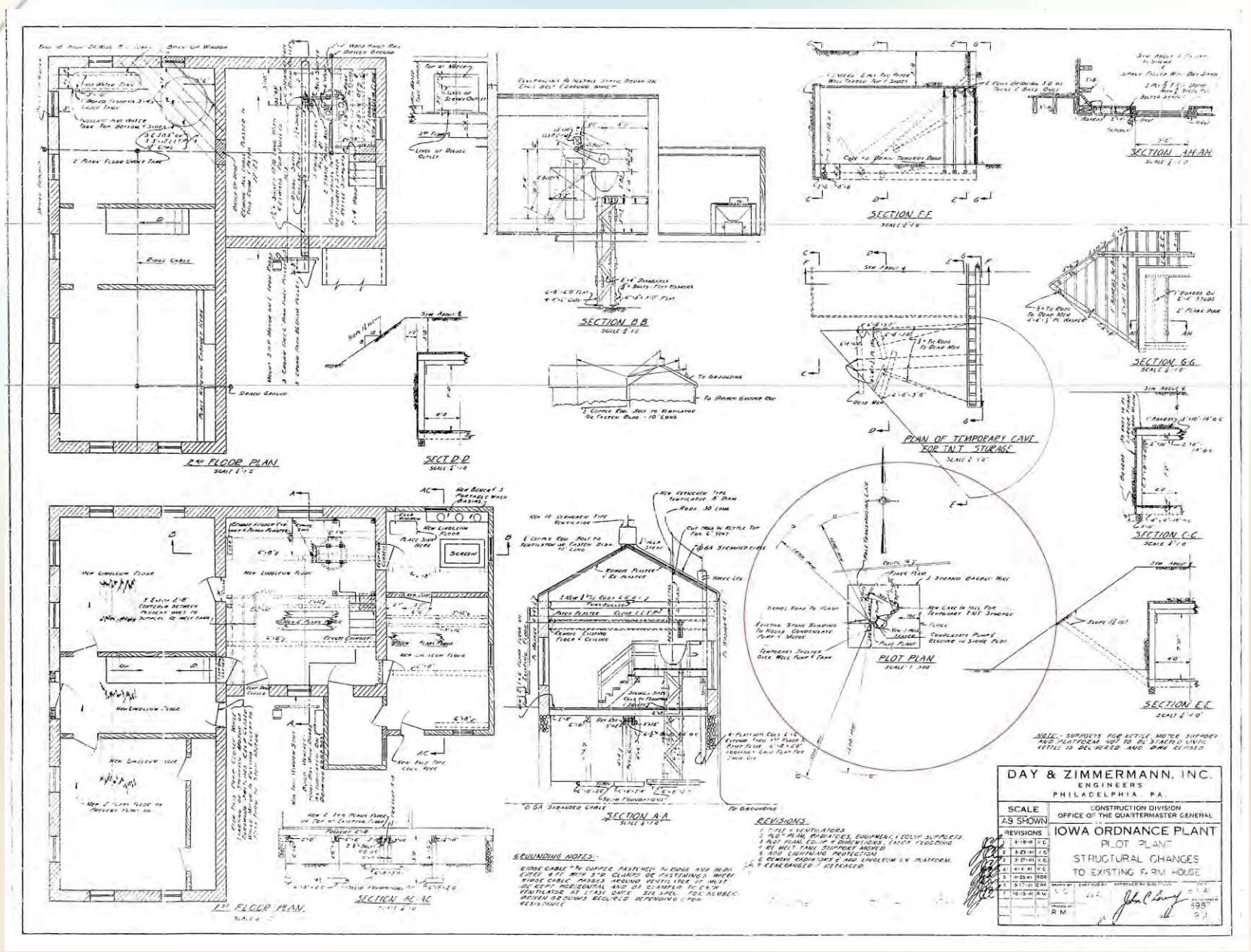

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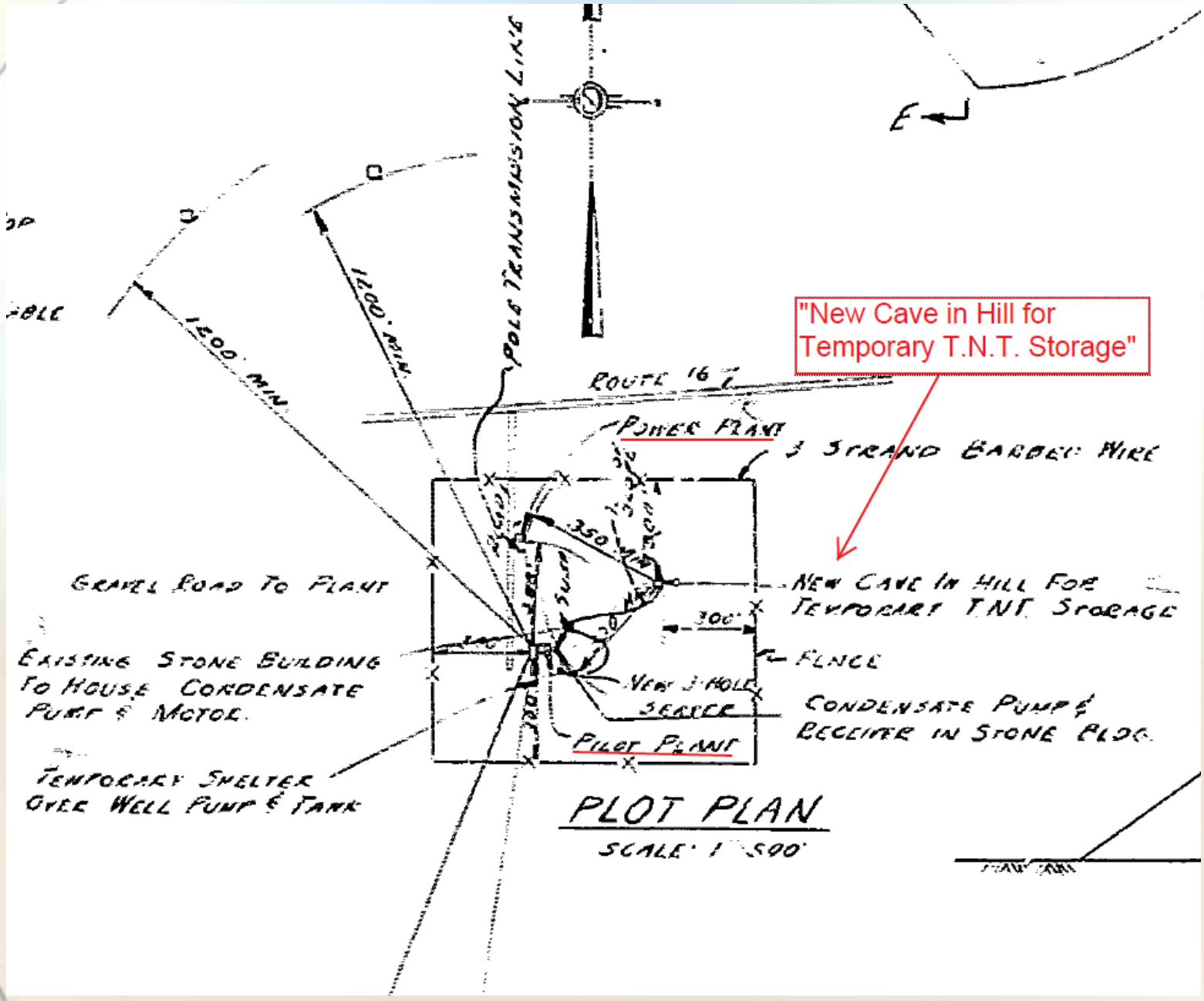
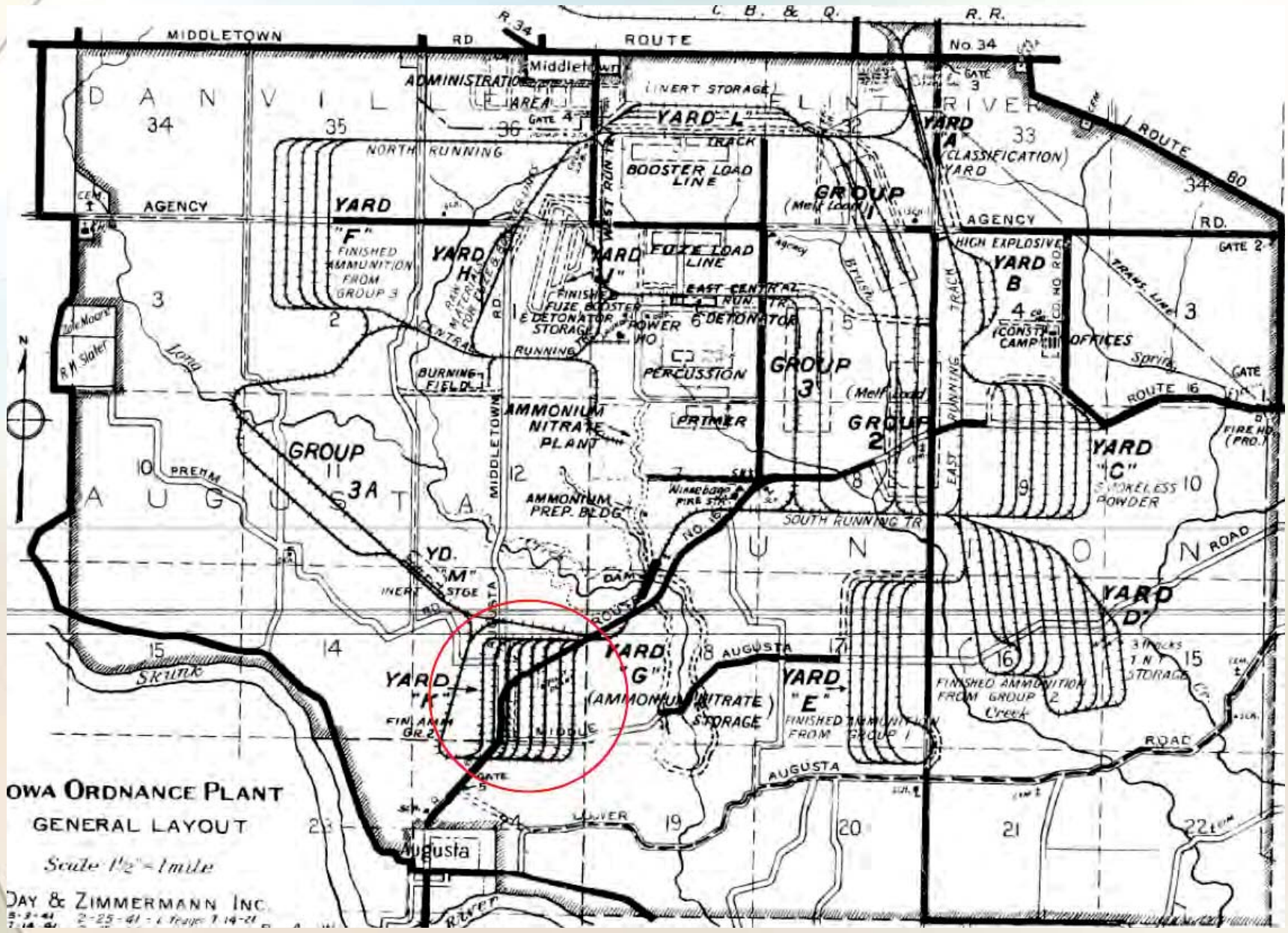
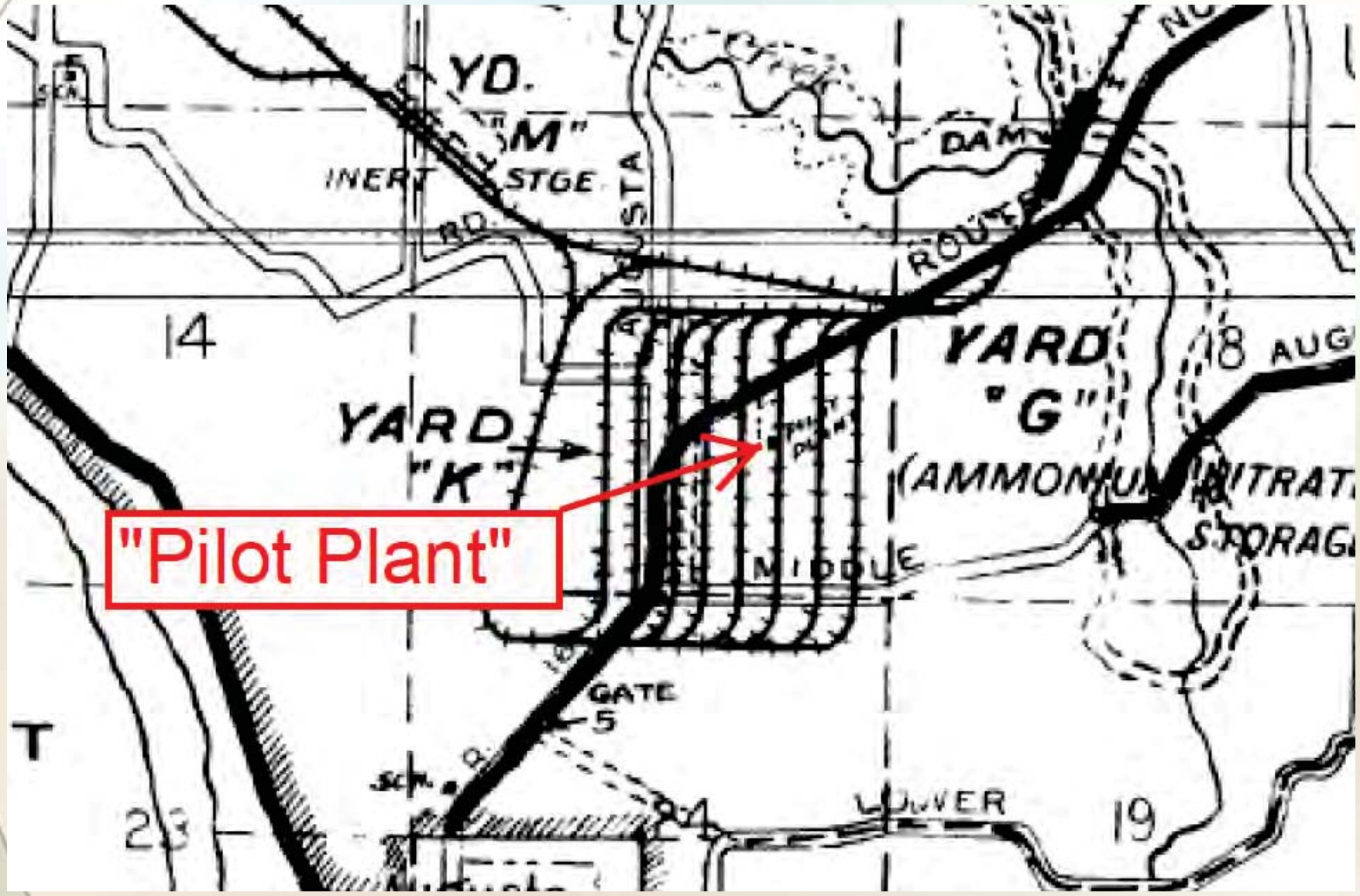


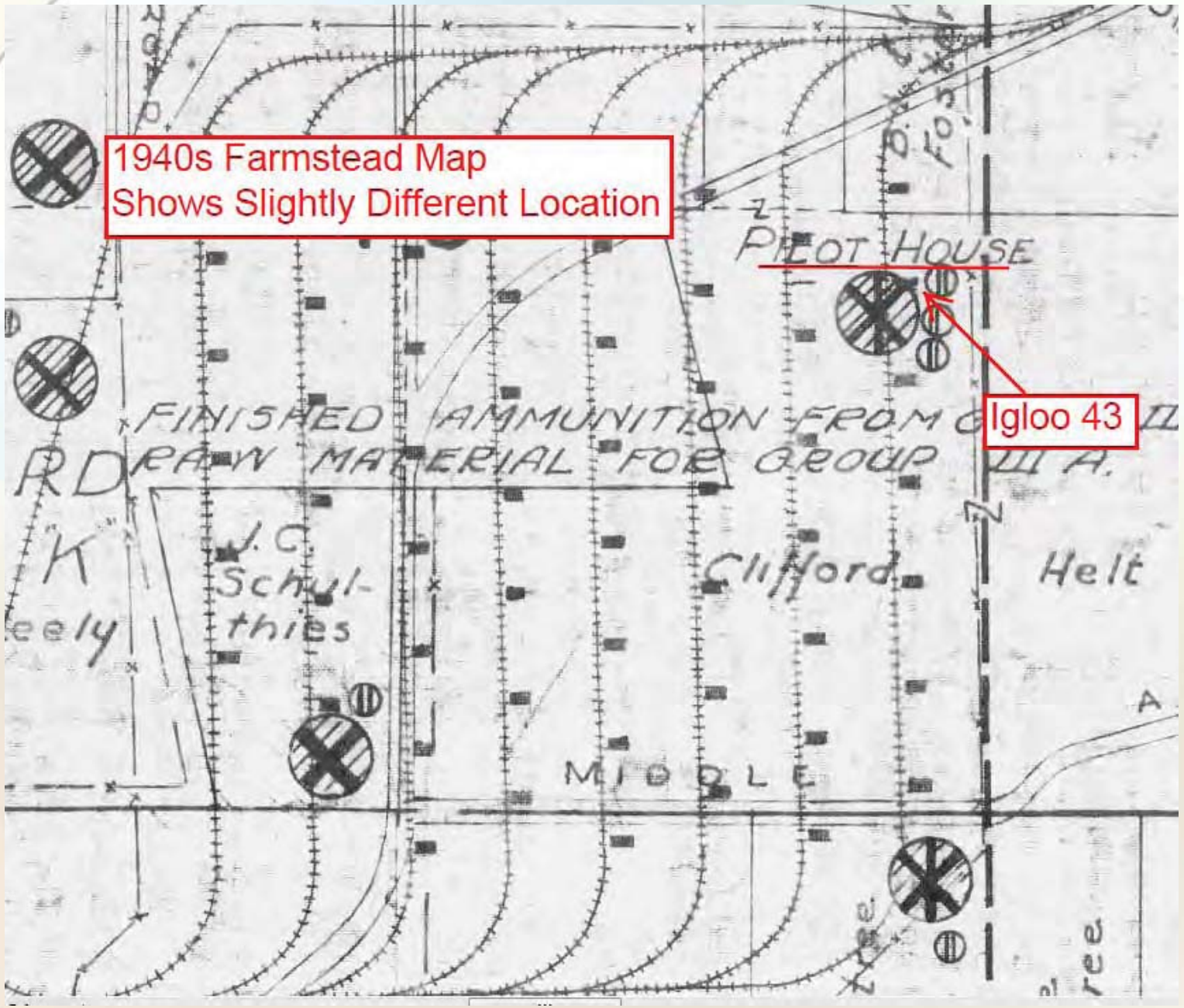
Drawing No. FS-102



Drawing No. FS-102 Close Up



1940's Farmstead Drawing Close Up



Property Records

Completion Report (1942) – up to 8 buildings

Completion Report (1942) Pilot House

WAR DEPARTMENT
O.M.C. Form No. 137 (Old No. 1734)
Revised June 28, 1939

Post Plan No. _____

O.Q.M.G.: Plan No. _____ Building No. 600-168

Place Iowa Ordnance Plant - Yard "K"
Designation of building Pilot Plant Capacity
Total cost, $ 1995 Date completed 8/18/41
Material: Walls Solid Brick Foundation Native Stone
Roof Wood Shingles Floors 1 x 6 Fir with battleship Linoleum.
Total floor area above basement, square feet 2,638
Size: Main building 36.82 x 42.42 Wings 24.92 x 12 Basement
a Central Plant (How heated)
b Steam Radiators (Type of heat)
c (Type of domestic hot water heater)
Height of first floor above ground 3 ft average (conn
How lighted Temporaty wiring
Water connections piping intact
Sewer connections No
Gas connections No

COOKING RANGES INSTALLED (Give quantity and size)
Coal None
Gas None
Electric None
Oil None
Steam None

REFRIGERATORS INSTALLED (Give quantity and size)
Gas None
Electric None
Ice None

METERS INSTALLED (Give quantity and capacity)
Gas None
Electric None
Oil None
Steam None
Water None

Approval of Secretary of War as required by A. R. 30-1435
11/ 6/40 Contract W-ORD-487
11/29/40 Contract W-6978 M-1

ADDITIONS AND INSTALLATIONS
(Below enter chronologically all modifications, additions, introductions of water, sewer, lights, heating, etc.)

DATE		COST	DATE		COST

Instructions.—"a" State whether heated from central heating or by individual heating plants, stoves, furnaces, or fireplaces.
"b" State whether steam, vapor, hot water, or hot air.
"c" State whether gas, coal, oil, or central heating plant.

See reverse side of form.

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Pilot House Property Record Picture

Completion Report (1942) T.N.T. Cave

WAR DEPARTMENT
O.M.C. Form No. 127 (Old No. 272A)
Revised June 28, 1939

Post Plan No. _____

O.O.M.G.: Plan No. _____ Building No. 500-08

Place Iowa Ordnance Plant- Pilot Plant
Designation of building T.N.T. Storage Cave Capacity _____
Total cost, $ [illegible] Date completed 8/18/41
Material: Walls 1x6 plank sheath. Foundation timber sills 6"x8"
Roof 1x6 plank sheath. with 3x6 rafters Floors 4x4 joists covered with 2x6 plank
Total floor area above basement, square feet 140 sq.ft.
Size: Main building 17'7" x 8' Wings none Basement none
a none (How heated) (inside diam.) Height of first floor above ground —
b none (Type of heat) How lighted none
c none (Type of domestic hot water heater) Water connections —
Sewer connections —
Gas connections —

COOKING RANGES INSTALLED (Give quantity and size)		REFRIGERATORS INSTALLED (Give quantity and size)		METERS INSTALLED (Give quantity and capacity)	
Coal	none	Gas	none	Gas	none
Gas	none	Electric	none	Electric	none
Electric	none	Ice	none	Oil	none
Oil	none			Steam	none
Steam	none			Water	none

Approval of Secretary of War as required by A. R. 30-1435 (Give date and file Number)
11/6/40 Contract W-648-eng-57
11/29/40 Contract W-6978 eng-1

ADDITIONS AND INSTALLATIONS
(Below enter chronologically all modifications, additions, introductions of water, sewer, lights, heating, etc.)

DATE		COST	DATE		COST

INSTRUCTIONS.—"a" State whether heated from central heating or by individual heating plants, stoves, furnaces, or fireplaces.
"b" State whether steam, vapor, hot water, or hot air.
"c" State whether gas, coal, oil, or central heating plant.

See reverse side of form.

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T.N.T. Cave Property Record Picture

O.O.M.G.: Plan No. _____ Building No. 500-06

April 2014 Site Visit

April 2014 Site Visit

April 2014 Site Visit

April 2014 Site Visit

April 2014 Site Visit

April 2014 Site Visit

April 2014 Site Visit

April 2014 Site Visit

April 2014 Site Visit

Other Research

- Tetra Tech Document search resulted in no finding.
- Tetra Tech Sampling search resulted in no samples collected within several thousand feet.
- Historical Aerial Photo show farm in 1941 picture, but not in the 1957 photo.

Pathforward

- Solicit RAB Input
- Complete IAAAP Report
- Review DERP Guidance
- Submit Up Chain Per Guidance

Questions?

Appendix E. Emergency Points of Contact

Table E-1. Project Contact Information

Contact Name	Project Role	Contact information
USACE		
Jeffrey Wyant	USACE Contracting Officer	USACE Omaha District 1616 Capitol Avenue Omaha, NE 68102 (402) 995-2071 jeffrey.w.wyant@usace.army.mil
Laura Percifield	USACE Project Manager	USACE Omaha District, (CENWO-PM-HB) 1616 Capitol Avenue Omaha, NE 68102 (402) 995-2761 laura.j.percifield@usace.army.mil
Rhonda Schick	USACE Contract Specialist	USACE Omaha District, (CENWO-CT-E) 1616 Capitol Avenue Omaha, NE 68102 (402) 995-2652 rhonda.e.shick@usace.army.mil
John Kochefko	Lead Ordnance & Explosives Safety Specialist	USACE Omaha District 1616 Capitol Avenue Omaha, NE 68102 (402) 995-2281 john.a.kochefko@usace.army.mil
Regulatory Agency		
Sandeep Mehta	EPA Project Manager	EPA Region 7 11201 Renner Blvd. Mail Code: SUPRIANE Lenexa, KS 66219 (913) 551-7763 mehta.sandeep@epa.gov
Dan Cook	IDNR Project Manager	Iowa Department of Natural Resources Contaminated Sites Section 502 E 9th St Des Moines, IA 50319 (515) 725-8371 Dan.Cook@dnr.iowa.gov
American Ordnance, LLC		
Fire Department / EMS	--	911 or (319) 753-7205
Site Security / MRS Gate Access	--	(319) 753-7414
Burdette Wetzel	Site Utilities	(319) 753-7843 burdette.wetzel@aollc.biz

Table E-1. Project Contact Information *(continued)*

Contact Name	Project Role	Contact information
American Ordnance, LLC *(continued)*		
Millie Nelson	Badging (Note: Also contact Zaynab Murray before site visits)	(319) 753-7710 millie.nelson@aollc.biz
Active Range Status for LL6 Work Scheduling	--	(319) 753-7009
Iowa Army Ammunition Plant		
Jesse Kahler	Restoration Project Manager and RAB Point of Contact	Iowa Army Ammunition Plant 17571 DMC Highway 79 Middletown, IA 52638-5000 (319) 753-7739 jesse.l.kahler.civ@mail.mil
Joe Haffner	Natural Resources Manager	Iowa Army Ammunition Plant 17571 DMC Highway 79 Middletown, IA 52638-5000 (319) 753-7903 joseph.j.haffner.civ@mail.mil
Jen Busard	Environmental Assistant - Document Receipt	Iowa Army Ammunition Plant 17571 DMC Highway 79 Middletown, IA 52638-5000 (319) 753-7616 jbusard@pikainc.com
Contractor		
Bradley Hall	Program Manager	4585 Pacheco Boulevard, Suite 200 Martinez, CA 94553 (925) 969-0750 (Office) (925) 839-2208 (Direct) brad.hall@errg.com
Roger Merrick	Project Manager	12081 W. Alameda Parkway, #129 Lakewood, CO 80228 (720) 214-6736 (Direct) (303) 434-3605 (Cell) roger.merrick@errg.com
Randy Randall	Corporate H&S Manager	15333 NE 90th Street Redmond, WA 98052 (425) 658-5026 (Office) (425) 658-5361 (Direct) randy.randall@errg.com
Michael Friedman	Corporate QC Manager	115 Sansome Street, Suite 200 San Francisco, CA 94104 (415) 395-9974 (Office) (415) 848-7111 (Direct) michael.friedman@errg.com

Table E-1. Project Contact Information *(continued)*

Contact Name	Project Role	Contact information
Contractor *(continued)*		
Gabe Smith	Site Superintendent (Alternate QC Specialist)	15333 NE 90th Street Redmond, WA 98052 (425) 658-5026 (Office) gabe.smith@errg.com
David Williams	SUXOS	4585 Pacheco Boulevard, Suite 200 Martinez, CA 94553 (925) 969-0750 (Office) (928) 261-9184 (Cell) david.williams@errg.com
Michael Brison	UXOSO/SSHO UXOQCS/CQC Specialist	115 Sansome Street, Suite 200 San Francisco, CA 94104 (415) 395-9974 (Office) (530) 249-3308 (Cell) michael.brison@errg.com
James Rossi	Alternate UXOSO/SSHO Alternate UXOQCS/CQC Specialist	4585 Pacheco Boulevard, Suite 200 Martinez, CA 94553 (925) 969-0750 (Office) (707) 845-6046 (Cell) james.rossi@errg.com

Notes:
CQC = Construction Quality Control
EPA = U.S. Environmental Protection Agency
H&S = Health and Safety
INDR = Iowa Department of Natural Resources
QC = quality control
RAB = Restoration Advisory Board
SUXOS = Senior UXO Supervisor
USACE = U.S. Army Corps of Engineers
UXO = unexploded ordnance
UXOQCS = UXO Quality Control Specialist
UXOSO/SSHO = UXO Safety Officer/Site Safety and Health Officer

Appendix F. Personnel Qualifications

(Due to the size this appendix will be provided on CD only.)

Roger A. Merrick, PMP
Project Manager

Discipline/Specialty
Environmental Project Management

Education
- Master of Science, Environmental Science & Engineering, Colorado School of Mines, 1995
- Master of Science, Materials Engineering, University of Alabama at Birmingham, 1992
- BS, Materials Engineering, University of Alabama at Birmingham, 1989

Safety/Certifications
- Certified Project Management Professional (PMP Cert. # 1572524)
- 40-Hour HAZWOPER with 8 Hour HAZWOPER Refresher
- 8 Hour HAZWOPER Supervisor
- First Aid / CPR with AED

Summary of Qualifications

Mr. Merrick has more than 22 years of project management including experience in environmental remediation, waste management (characterization, packaging, and transportation), health and safety compliance, facility decontamination and demolition (D&D), nuclear operations, earned value management system (EVMS) implementation, and quality auditing. He has lead projects that have resulted in significant improvement in both operational and safety performance, as well as cost savings and/or schedule improvements.

Relevant Experience

Engineering/Remediation Resources Group, Inc. (ERRG), November 2012 to Present, Senior Project Manager

Mr. Merrick joined ERRG in 2012 as a Senior Project Manager to expand ERRG's presence in the Rocky Mountain Region. He is responsible for regional business development, proposal preparation, and project execution.

Project Manager, High-Vacuum Dual-Phase Extraction System Design and Operation, Chinle, AZ

Mr. Merrick is currently managing the design and operation of a high-vacuum dual-phase extraction system for an interim remedial action project at a gasoline station located within the Navajo Nation. Stakeholders include the US Army Corps of Engineers (USACE), Environmental Protection Agency (EPA), Navajo Nation EPA, and current property owners. Project planning included developing a work plan, sampling and analysis plan, health and safety plan, and a communication and coordination plan. A pilot test was conducted in January 2014 to evaluate system performance under multiple operational scenarios using the existing monitoring well network. The pilot test data will be used for system optimization before beginning monthly operations and maintenance of the extraction system.

Project Manager, UST Investigation and Removal Project, Winterhaven, CA

Mr. Merrick was responsible for the planning, execution and reporting for the removal of two abandoned underground storage tanks on the Fort Yuma Indian Reservation. Stakeholders include the USACE, Environmental Protection Agency (EPA), and representatives from the Quechan tribe. Project plans prepared included a work plan, a USACE EM-385-1-1 compliant accident prevention plan, and a Tribal Employment Rights Ordinance (TERO) compliance plan. Field work was completed with oversight by both the EPA and Quechan tribal representatives and included performing utility locates, excavation to expose the USTs, triple rinsing the USTs, transportation and disposal of the USTs and rinsate, sampling, and backfilling. A summary report was prepared following the field work that documented the UST removals, sample results, recommendations for additional action, and contained a photo log of the work performed.

Project Manager, Hazardous Material Assessment & Remediation Planning, Norfolk, VA

Mr. Merrick was responsible for conducting a two part hazardous material assessment for an offshore platform owned by the Department of Energy's (DOE) National Renewable Energy Laboratory. First, a physical inspection of the platform was conducted to identify and quantify the amount of hazardous materials present on the platform. These materials included hazardous waste items (RCRA, TSCA, and Universal wastes), compressed gas cylinders, asbestos, and lead based paint. After completing the physical inventory, local regulations were researched to determine possible disposition options for each of the hazardous materials. This information was used as the basis for the final report, which was a conceptual level remediation plan and cost estimate for the materials.

E2 Consulting Engineers, Inc., November 2000 to October 2012

Business Development Manager, Environmental and Engineering Division

Mr. Merrick was responsible for marketing, teaming arrangements and proposal preparation for E2's Environmental and Engineering (E&E) Division for clients such as the EPA, USACE, Air Force, DOE, municipalities, and utility companies. He managed proposal preparation process for prime contracting opportunities and provided proposal support to partners when E2 was a team subcontractor.

Project Manager, California Gulch Operable Unit 11 (OU11), Leadville, CO

This EPA Region 9 Superfund project involved remediation of nearly 150 acres of pasture land, 50+ river front locations contaminated with mine tailings, and stabilizing over 3000 feet of eroding Arkansas River streambanks. Mr. Merrick's responsibilities included work plan and cost estimate development, procurement and subcontractors management, tracking budget / schedule, preparation of monthly status reports, review and approval of all technical project documents, and managing construction oversight staff. Mr. Merrick provided project oversight including conformance to remedial design specifications, conducting independent verification sampling (over 1200 samples), and preparation of post-remedial design report / as-built drawings.

Purity Oil EPA Superfund Site Remedial Action Oversight Engineer, Fresno, CA

Mr. Merrick conducted oversight for full-scale neutralization activities as described in the Remedial Action Work Plan for Soils Operable Unit. Activities included performing oversight and documentation of the excavation by the potentially responsible party's (PRP's) contractor along the site boundary, chasing visually stained soil from Tall Trees Trailer Park to the Bruno's property boundary and in the Golden State Market backyard. Mr. Merrick also verified soil amendment processing, soil pH results, lift placement thickness, and density test results for neutralized material to ensure they conformed to the approved work plan requirements. He conducted oversight of PRP sampling activities to ensure compliance with sampling densities defined in the Sampling and Analysis Plan/Quality Assurance Project Plan based on specified locations, depths, and frequencies.

Waste Transportation Project Manager, Richland, WA

The Waste Transportation Project at the DOE Hanford facility involved transporting radioactively contaminated waste from remediation sites to the low-level waste disposal facility using 31 cubic yard side dump tractor-trailers outfitted with auto-tarping systems. Mr. Merrick was the Project Manager responsible for proposal development (technical approach, budget development and activity sequencing), transition management, subcontractor selection and management, prime contract submittals preparation and approval, operational startup, meeting project H&S and QA requirements, leading weekly client status meetings, performance measurement tracking, invoice preparation, and supervision of eight professional and hourly employees.

Environmental & Engineering Manager, New Orleans, LA

Mr. Merrick managed engineering staff responsible for identifying and starting up 13 debris reduction sites; identifying / permitting two new construction and demolition (C&D) landfills and coordinating with state regulators to define waste acceptance criteria for the Hurricane Katrina Debris Cleanup Mission under the USACE contract. Startup of debris reduction and landfill sites required planning and conducting modified Phase I site assessments and baseline sampling; specifying site preparation and operating requirements; and preparing traffic control plans / site layout maps. Mr. Merrick worked with Louisiana Department of Environmental Quality to redefine the

characterization process for sediments washed into New Orleans' Lower 9th Ward, which improved safety by eliminating double handling and saved over $1.3M.

Waste Manager, Columbus Closure Project, West Jefferson, OH

Mr. Merrick was one of three Key Personnel identified in the prime contract with the DOE. He was heavily involved in the preparation of the project proposal, preparation and approval of the project baseline budget and schedule, and implemented the waste management program from cradle to grave. He tracked project performance against established baseline using EVMS techniques and prepared monthly progress / variance report for client review. Mr. Merrick also managed the waste management team responsible for safely characterizing, packaging, shipping and disposing of over 1,750,000 cubic feet of radioactive, hazardous, mixed and sanitary waste for a $42.8M demolition project. All activities were carried out in compliance with the requirements of the Nuclear Regulatory Commission (NRC), DOE, Ohio EPA, and disposal sites' waste acceptance criteria with no fines, penalties or notices of violation. Mr. Merrick identified and implemented cost savings measures totaling nearly $9M for waste transportation and disposal.

Waste Management Lead, Rocky Flats Closure Project, Golden, CO

Mr. Merrick managed E2 waste management team for the Environmental Restoration (ER) project at Rocky Flats. His responsibilities included preparing cost estimates for new task orders; managing budgets for ongoing tasks; reviewing and approving subcontractor/client invoices; overseeing a staff of seven waste generators, a waste administrator and a senior waste engineer; and coordinating waste management activities with the ER contractor. Mr. Merrick ensured that waste was packaged in DOT compliance packages and in accordance with disposal sites' WAC. Prior to off-site shipment, integrated with transportation division to conduct pre-shipment inspections to ensure packages were secured, marked, labeled and placarded per DOT shipping requirements.

Operations Assessment Team Leader, Rocky Flats Closure Project, Golden, CO

Mr. Merrick led specialized multi-organizational (i.e., prime contractor, DOE, labor union) assessments to ensure operations were performed per OSHA standards and within the operating contract requirements. He assessed H&S compliance for nuclear & non-nuclear operations, monitored authorization basis compliance of nuclear & non-nuclear demolition activities and waste transportation operations, and evaluated operational compliance with environmental permits.

U.S. Department of Energy, June 1992 to November 2000

Facility Representative, Rocky Flats Field Office, Golden, CO

Mr. Merrick was responsible for contractor oversight on a multi-functional team to ensure safe demolition, waste storage/handling, and transportation operations; compliance with the Resource Conservation and Recovery Act (RCRA) operating permit; conformity to OSHA requirements; and adherence to nuclear safety procedures, DOE Orders and procedural requirements.

Program Manager, DOE Headquarters, Washington, D.C.

Mr. Merrick performed a series of rotational work assignments at DOE Headquarters and in various Field Offices. His assignments included: Staff Engineer evaluating new nuclear reactor fuel rod design; Program Manager for Regional Waste Management Facilities; and Team Lead for ER projects. Mr. Merrick worked with senior scientists from the national laboratories to determine failure mode in newly developed nuclear fuel rod processing technique. He also analyzed and approved for submission to Congress multi-million dollar operating budgets for several DOE waste management facilities. Mr. Merrick led a team of contractors, regulators and federal employees through the design and completion of the first two ER projects performed at a former nuclear weapons production facility.

David O. Williams

Graduated NAVSCOLEOD: 1985
40 Hour HAZWOPER: 1998
30 Hour Construction Safety: 2009
8 Hour Refresher: March 2015
8 Hour Supervisor: March 2014
Construction Quality Management for Contractors: 2011
Confined Space Entry; 1999
Technical Escort: 1987

Military EOD Experience

Jun 98-Dec 02	EOD Officer, MCAS Yuma AZ. Directed all EOD operations onboard MCAS Yuma, Barry Goldwater Ranges, Chocolate Mountain Ranges, and the surrounding community.
Jun 97-Jun 98	EOD Officer, MCB Camp Lejeune, NC. Directed all EOD operations on board Camp Lejeune and within the 7 surrounding counties.
May 94-Jun 97	EOD Officer, MWSS 272, MCAS New River, NC. Planned and supervised range sweep and inerting operations.
Jul 91-May 94	3rd Marine Aircraft Wind (3rd MAW) EOD Officer and EOD officer, MWSS 373, MCAS El Toro, CA. Advised the Commanding General on all matters pertaining to EOD operations. Planned and supervised inerting operations and range sweeps that included ICM ranges.
Mar 91-Jul 91	EOD Team Leader, 9th Engineering Support Battalion, Okinawa, Japan. Supervised EOD response team. Planned, executed, and managed range clearance and inerting operations.
Sept 90-Mar 91	EOD Team Leader, 7th Engineer Support Battalion, Saudi Arabia. EOD response team leader in support of Operations Desert Shield and Desert Storm.
Jul 90-Sept 90	EOD Team Leader, 9th Engineering Support Battalion, Okinawa, Japan. Supervised EOD response team. Planned, executed, and managed range clearance and inerting operations.
Dec 87-Feb 90	EOD Instructor, CORE Division, NAVEODSCOL, Eglin AFB, FL
Jan 85-Dec 87	EOD Specialist, HAMS 31, MCAS Beaufort, SC. EOD response team member.

Total Military EOD Experience: 18 Years, 7 Months

Civilian EOD Experience

Oct 13 – Nov 13	Senior UXO Supervisor, ERRG – Eagles Nest TCRA and CNWS Eagles Nest/24A NTCRA, Concord, CA
Aug 13 – Sep 13	Senior UXO Supervisor, ERRG – TCRA; CNWS PERMAC, Concord, CA
Oct 10 – Feb 13	Senior UXO Supervisor, ERRG, MCAS Yuma Ranges Chocolate Mts.
Feb 10- May 10	Senior UXO Supervisor, BSE. Supervised the surface and Sub-surface clearance of target access roads and target impact area and supervised the construction of a conex town to simulate an Afghanistan village.
Oct 09-Jan 10	Senior UXO Supervisor, BSE. Supervised the surface clearance of the Bomb Box and other impact areas exposed from controlled burns; and supervised the processing of MPPEH and certification of MDAS within the RHA.
Jul 09-Oct 09	Senior UXO Supervisor, BSE. Supervised the surface clearance of target 101 and 103 and processing of MPPEH and certification of MDAS within the RHA.
Jun 09-Jul 09	Senior UXO Supervisor, BSE. Supervised the surface range clearance of Impact Area 2, San Clemente Is, CA.
May 09-May 09	Senior UXO Supervisor, BSE. Supervised the surface range clearance of Range 101, El Centro, CA.
Apr 09-Apr 09	Senior UXO Supervisor, BSE. Supervised the surface range clearance of Impact Area 2, San Clemente Is, CA.
Sep 08-Mar 09	Senior UXO Supervisor, BSE. Supervised the ordnance clearance of two target circles and the processing of material held in a residue holding area (RHA). This included sand filled bombs, depth bombs and torpedoes, inert MK 82 and MK 83 practice bombs, HVAR rockets, MK 76 and BDU 48 practice bombs, 3.25 inch and 2.75 inch practice rockets, 30mm, 25mm, and 20mm projectiles.
Jun 08-Sept 08	Senior UXO Supervisor, BSE. Supervised the clearance of two HE impact areas and an open burn/open detonation area. Responsibilities included identifying and obtaining heavy equipment support, company support equipment and supply requisition, and coordinating with Island personnel to ensure adequate berthing and messing facilities would be available. Supervised 19 UXO personnel, heavy equipment operators, and

	transportation personnel. Properly identified old ordnance items that had underwent disposal attempts and ensured their safe handling.
Feb 08-May 08	Senior UXO Supervisor, BSEN. Supervise the processing and shipment of target debris, 2.75 rocket motors, and crushing of BDU 33 practice bombs.
Jan 08-Feb 08	Senior UXO Supervisor, BSE. Supervised the clearance of a WWII era bombing circle near range 68, NAF El Centro, CA.
Dec 07-Jan 08	Senior UXO Supervisor, BSE. Supervised the de-mil and shipment of ordnance and range residue at San Clemente Island to include Mk 80 series bombs, utility trailers, HAWK missile radar units, and target vehicles.
Oct 07-Dec 07	Senior UXO Supervisor, BSE. Supervised the clearance of target 68, NAF El Centro, CA.
Sep 07-Oct 07	Senior UXO Supervisor, BSE. Supervised the de-mil and shipment of Naval ordnance at San Clemente Island to include 5 inch and155mm projectiles and 2.75 inch, and 5 inch rockets.
Jul 07-Sep 07	Senior UXO Supervisor, REST CORP. Supervised the de-mil and shipment of inert 500, 1000, and 2000 lb practice bombs.
Dec 06-Mar 07	Senior UXO Supervisor, REST CORP. Supervised the de-mil and shipment of inert 500 lb bombs, MK 76's, and over 1,450 tons of target debris as part of the Rebuilding of Yodaville Urban Training Complex, MCAS Yuma, AZ.
Nov 06-Dec 06	Senior UXO Supervisor, REST CORP. Supervised the clearance of a strafing target and two bombing circles at NAF El Centro, CA.
Sep 05-Mar 06	Senior UXO Supervisor, REST CORP. Supervised the de-mil of inert 500- 2,000 lb bombs at the UTTR, Hill AFB, UT.
Apr 05-May 05	UXO Quality Control. Carried out the quality control plan for range clearance of NAF El Centro range 103.
Feb 05-Apr 05	Senior UXO Supervisor, REST CORP. Supervised the de-mil of BDU; 50's at the UTTR, Hill AFB, UT.
Jan 05-Jan 05	UXO Quality Control, REST CORP. Carried out the quality control plan for rang sweep operations at San Clemente Island, CA.
Jan 05-Jan 05	UXO Quality Control, REST CORP. Carried out the quality control plan for the processing of range residue at Federal Metals, Los Angeles, CA.
Jan 05-Jan 05	UXO Quality Control. Carried out the quality control plan for de-mil of BDU 33/MK 76's at NAF El Centro.

Naval School
Explosive Ordnance Disposal

This certifies that

Sergeant
David O. Williams, USMC

having successfully completed
the prescribed course of study for

BASIC EXPLOSIVE ORDNANCE DISPOSAL

is awarded this
Certificate

this 10th day of January A.D. 1985

J. E. DLAKE, SR., CDR, USN
COMMANDING OFFICER

Michael E. Brison

Graduated Basic EOD/UXO School: JUN 1998
40 Hour HAZWOPER: JUN 2001
30 Hour Construction Safety: MAY 2011
8 Hour Refresher: SEP 2015
8 Hour Supervisor: SEP 2009
USACE CQM for Contractors: FEB 2015
CPR: FEB 2015
First Aid: FEB 2015

Military EOD Experience

JUN 98-NOV 99	EOD Team Member, 347th EOD/CES, Moody AFB
NOV 99-JUL 01	EOD Journeyman, 39th EOD/CES, Incirlik AB

Total Military EOD Experience: 3 Years, 1 Month

Civilian UXO Experience

JUL 01-SEP 01	UXO Technician II, EOD Technologies Inc., Ft Campbell, KT, Grubbing and Subsurface Clearance
OCT 01-FEB 02	UXO Technician II, Ellis Environmental Group LLC., Culebra, Puerto Rico, GPS Data Collection, Grubbing, Surface Clearance, Subsurface Clearance, and Demolition Procedures
MAR 02-APR 02	UXO Technician II, American Technologies Inc., Camp Good News, MA, GEO/GPS Data Collection, Grubbing, Subsurface Investigation
APR 02-MAY 02	UXO Technician II, American Technologies Inc., Jefferson Proving Grounds, Madison, IN, GEO/GPS Data Collection, Subsurface Clearance, and Demolition Procedures
MAY 02-AUG 02	UXO Technician II, American Technologies Inc., Camp Perry, Port Clinton, OH, GPS Data Collection and Processing, Underwater Ordnance Reduction, Surface Clearance, MEC Scrap Processing, and Demolition Procedures
AUG 02-OCT 02	UXO Technician II, USA Environmental Inc., Ft. Benning, Columbus, GA, Subsurface Clearance and Demolition Procedures
JAN 03-OCT 03	UXO Technician II, American Technologies Inc., Serria Army Depot, Herlong, CA, Escort Duties, Surface Clearance, Proceessing of over 600,000 LBS of MEC Scrap, Demolition Procedures, and Storage of Unexploded Ordnance

OCT 03-MAY 04	UXO Technician II, USA Environmental Inc., Ft. Ord, Monterey, CA, Escort Duties, Surface Clearance, Subsurface Clearance, Processing of MEC Scrap, and Demolition Procedures
MAY 04-AUG 04	UXO Technician II, American Technologies Inc., Serria Army Depot, Herlong, CA, Escort Duties, Subsurface Clearance, Demolition Procedures, and Storage of Unexploded Ordnance
AUG 04-AUG 04	UXO Technician III, Clearwater Environmental, Fort Richardson, Anchorage, AK, Escort Duties, Ordnance Avoidance, and Subsurface Investigation
SEP 04-MAR 05	UXO Technician II/III, American Technologies Inc., Serria Army Depot, Herlong, CA, Escort Duties, Subsurface Clearance, Demolition Procedures, and Storage of Unexploded Ordnance
MAR 05-OCT 05	UXO Technician II, URS Corporation, F.E Warren AFB, Cheyenne, WY, Subsurface Investigation, Escort, and GPS Data Collection
OCT 05-JAN 06	UXO Technician II, USA Environmental Inc., Pohakuloa Training Area, Saddle Road, Hawaii, HI, Subsurface Clearance, Demolition, Escort , and GPS Data Collection
FEB 06-OCT 06	UXO Technician II/III, URS Corp., F.E Warren AFB, Cheyenne, WY, Subsurface Investigation, Escorting, GPS Data Collection, Data Processing,
OCT 06-FEB 08	UXO Technician II, American Technologies Inc., Waikoloa Maneuver Area, Kamuela, HI, Subsurface Investigation, Demolition and GPS Data Collection
MAY 07-JUN 07	UXO Technician II, American Technologies Inc., Maui, HI, Subsurface Investigation, Demolition and GPS Data Collection
APR 08-JUN 08	UXO Technician II, American Technologies Inc., Ft. Irwin, Barstow, CA, Subsurface Investigation and Demolition
JUL 08-JUL 08	UXO Technician II, American Technologies Inc., Miami, FL, Landfill Investigation and Mechanical Sifting
MAY 09-MAY 09	UXO Technician III, American Technologies Inc., Camp Keller, Biloxi, MS, Surface and Subsurface Investigation and Construction support
JAN 10 – FEB 10	UXO Technician II, URS Corporation, Barksdale AFB, Shreveport LA, Subsurface Investigation and GPS Data Collection
FEB 10 - MAR 10	UXO Technician II, URS Corporation, Ft Bliss, El Paso, TX, Subsurface Investigation, GPS Data Collection, and Escorting

MAR 10 - APR 10	UXO Technician II, URS Corporation, Gila Bend, AZ, Surface Clearance, Demolition and GPS Data Collection
APR 10 - JAN 11	UXO Technician III, Native Hawaiian Environmental Services LLC, Waikoloa Maneuver Area, Kamuela, HI, Remedial Investigation and Demolition
JAN 11 - MAR 11	UXO Technician III, Native Hawaiian Environmental Services LLC. Makua Training Area, Oahu, HI, Subsurface Clearance and Grubbing
MAR 11 - APR 11	UXO Technician III, Native Hawaiian Environmental Services LLC, Waikele, Oahu, HI, Subsurface Clearance and Grubbing
SEP 11 - NOV 11	UXO Technician III, Pika International, Makana, Maui, HI, Remedial Investigation/Feasibility Study
JAN 12-JAN 12	UXO Technician III, Native Hawaiian Veterans LLC, Pohakuloa Training Area, Saddle Road Hawaii, HI, Construction Support
JAN 12 - JAN 12	UXO Technician III, Native Hawaiian Veterans LLC, Bellows AFB, Oahu, HI, MMRP Remedial Investigation
JAN 12 - FEB 12	UXO Quality Control Specialist/UXO Safety Officer, Native Hawaiian Veterans LLC, MCBH, Oahu, HI, Remedial Investigation/Feasibility Study
FEB12 - FEB 12	UXO Quality Control Specialist, Native Hawaiian Veterans LLC, Maui, HI, Site Investigation
FEB12 - MAR 12	UXO Quality Control Specialist, Native Hawaiian Veterans LLC, MCBH, Oahu, HI, Remedial Investigation/Feasibility Study and Demolition
MAR 12 - AUG 12	UXO Technician III, Zapata Inc., Puu Paa, Waimea, HI, Clearance Operations
AUG 12 – SEP 12	Senior UXO Supervisor, ERRG Inc., Anderson AFB, Guam, Surface Clearance
SEP 12 – SEP 12	UXO Technician III, ERRG Inc., Bridgeport, CA. Ordnance Avoidance/Escort
SEP 12 – NOV 12	UXO Technician III, ERRG Inc., Concord Naval Weapons Station, Concord, CA, Sifting Operation, Subsurface Investigation, and Demolition Operations.
NOV 12 – DEC 12	UXO Technician III, ERRG Inc., Bellows AFS, Oahu, HI, Ordnance Avoidance/Escort

JAN 13 – MAR 13	UXO Technician III, Chimera Enterprises Inc., Aurora, CO, Sifting Operation, Subsurface Investigation, EM 61 Operations, and Demolition Operations.
MAR 13 – MAY 13	UXO Quality Control Specialist/ UXO Safety Officer, ERRG, Inc., Bellows AFS, Oahu, HI, Subsurface Investigation and Demolition Operations.
JUL 13 – OCT 13	UXO Quality Control Specialist, ERRG, Inc., Pali Training Camp, Oahu, HI, Remedial Investigation/Feasibility Study and Demolition
OCT 13 – MAR 14	UXO Quality Control Specialist, ERRG, Inc., Pacific Jungle Combat Training Center, Oahu, HI, Remedial Investigation/Feasibility Study and Demolition
APR 14 – MAY 14	Senior UXO Supervisor, Aerotek Inc., Guam Naval Station, Guam, Remedial Investigation/Feasibility Study
JUN 14 – JUL 14	UXO Technician III, ERRG Inc., Blythe, CA, Surface/subsurface investigation and ordnance avoidance escort
JUL 14 – AUG 14	Senior UXO Supervisor, ERRG Inc., Mt. Home AFB, Mt. Home, Idaho, Subsurface Investigation of DGM Data.
SEP 14 – SEP 14	UXO Quality Control Specialist, ERRG, Inc., Concord Naval Weapons Station, Concord, CA, Sifting Operations
SEP 14 – SEP 14	Senior UXO Supervisor, Aerotek Inc., Guam Naval Station, Guam, Remedial Investigation/Feasibility Study
NOV 14 – NOV 14	Senior UXO Supervisor, ERRG Inc., Mare Island, Vallejo, CA, Underwater Geophysical Survey and Excavation
FEB 15 – FEB 15	UXO Technician III, ERRG Inc., Concord Naval Weapons Station, Concord, CA, Construction Support
MAR 15 – APR 15	UXO Technician III, ERRG Inc., Ft. Shafter, Oahu, HI, Removal Action
Total Civilian UXO Experience: 8 Years, 8 Months	

Naval School
Explosive Ordnance Disposal

Certificate of Completion

Presented to

AMN Michael E. Brison, USAF

For having successfully completed the prescribed course of study for
EXPLOSIVE ORDNANCE DISPOSAL
Phase I & II - Surface (CINs A-431-0069/A-431-0012)
on this, 19th day of June, 1998

CDR J. C. McLAWHORN, USN
Commanding Officer

James L. ROSSI

USACE Number: 1466
Graduated Basic EOD School: March 1992
40 Hour HAZWOPER: June 1994
30 Hour Construction Safety: April 2007
8 Hour Refresher: February 2014
8 Hour Supervisor: February 2014
Environmental & Safety Supervisor Course: April 2007
UXO QC/SO Training: May 2007
Practical Loss Control Leadership Independent Study: April 2008
MRP Site Manager Training Course: February 2011
California Blaster's License: April 2009
Breecher's Course: March 1993
Nuclear Emergency Team Operations: July 1993

Military EOD Experience

Mar 92 - Feb 94

EOD Technician, 1st EOD Plt, 7th ESB, MCB Camp Pendleton, CA.

- Performed render safe and Disposal procedures on Unexploded Ordnance.
- Participated in Range sweeps of Zulu impact area, and Ranges 316, 204B, 310 series.
- Performed Inerting procedures on It 2.2, 1.6, VS-50, VS-50 MkII, OG-9, PG-7, Yug Illum Mortar, and TOE II.
- Supervised 2 Man EOD team during APOPS Man portable line charge testing.
- Performed RSP on 1 misfired line charge and evaluated affects of line charge on mine field.
- Performed stripping and burn op of approx. 250 2.75 Rocket Motor.
- As the Base Duty EOD Tech, responded to calls of assistance involving Unexploded Ordnance, example 3.5 rocket at trash dump, 57mm AA at VFW Thrift Store.
- Participated in Grade III destruction of 15,000 TOE II warheads.

Mar 94 - Dec 94	EOD Technician, MWSS-171 (EOD), MWSG-17, 1st MAW, MCAS Iwakuni, JA. • Performed render safe and Disposal procedures on unexploded ordnance. • Supervised EOD Team during deployment to Thailand. • Swept Thai Grenade Range, Performed RSP on 7 Grenades from Belgium, and US. • Stripped and burned 33, 2.75 rockets. • Stood Base EOD Duty responding to requests of assistance including; Cowakome Army depot i.e. 60mm motor found during construction of a drainage ditch, and problems that accrued during remanufacturing of ordnance items.
Dec 94 - Dec 97	NCOIC/EOD Team Leader, EOD MCAS Iwakuni, Japan. • Performed render safe and disposal procedures on unexploded ordnance. • Responded to A-6 crash. Performed Burn of 50,000 lbs. of 105mm propellant. • ID'd and disposed of items found during expansion of runway into bay. • Responded to call involving possible chemical weapons at Sasebo NB. Inerting ops included CBU-72/B, SUU-49A/B, FAE Bomb, M557, XM247, and M565. • Conducted Mail bomb classes given to Sasebo NB Security personal. • Conducted classes given to EOD team on use and capabilities of various EOD equipment.
Dec 97 - Sep 99	EOD Team Leader, 1st EOD Plt, 7th ESB Camp Pendleton, CA. • Supervised 5 man EOD team. Supervised 4 man EOD team and 37 Dutch engineers during sweep of 29 Palms ranges at CAX. • Supervised 3 EOD teams during 2 CAX exercises at 29 Palms CA. • Performed daily duties as the EOD Team Leader. Including supervision of Training, Admin, Ops, and service of all equipment. • Attended Advanced EOD course.

7 years 6 months EOD experience

CIVILIAN UXO EXPERIENCE	
Oct 03 - Sep 04	USA Environmental - Ft. Ord, CA. Highest position held UXO-TII. Performed Surface and sub-surface sweeps of Ranges 43-48.
Sep 04 - Dec 04	Earth Tech - Camp Beale, CA. Position UXO-TII. Duties include GPS reacquire of dig points, using Trimble 5700/5800 in RTK mode. Detection and excavation of items found.
Dec 04 - Apr 05	Info Pro – Camp Elliot. Working as UXO -TII. Subsurface grid clearance.
Apr 05- 3 Feb 06	Earth Tech - Camp Beale. Working as UXO-TII/III. Duties include Dig Team leader, dig team member, conducting Site Investigation. Reacquire using Trimble 5800 RTK mode and White Surfpro detector.
Feb 06	Emerald State Environmental - Hurricane test range, UT. Working as UXO-TIII performing QC investigation.
Feb 06 – May 06	Northgate Environmental - Camp Picket, VA. Working as UXO-TII. Duties include react, dig team member.
May 06 – Aug 06	Earth Tech - OSWA Carswell AFB, TX. Working as UXO-TIII and reacquisition team leader using Trimble 5800 in RTK Mode.
Aug 06- Dec 06	USA Environmental - Joliet Army Ammunition Plant Joliet, IL. Working as UXO-TII conducting subsurface sweep of 100-foot Grids using White XLT.
Jan 07-Apr 07	Tetra Tech - Beaumont site 1. Working as UXO-TII. Clearance of Grids using Points designated by EM61 geo team. Reacquired with Leica 1200 GPS. Backhoe operator for removal of berms. Operated Tractor w/Mower
May 07-Jun 08	Tetra Tech – Iraq. Working as part of the USACE CMC project. UXO-TIII position Demo/Intrusive/Sweep team Leader. Assigned as the Demo Sup over watching three demo teams responsible for the destruction of 30 short tons per day.
Jul – Aug 08	Tetra Tech NUS (TTNUS) - Concord NWS, CA. Working as UXO-TIII. Duties included UXO Escort and construction support
Sep 08	TTNUS - Mare Island, CA. Filling UXO-TIII position as part of a soil sampling team.

Sep-Oct 08	Emerald State Environmental - El Toro, CA. Filling Tech II slot as part of a Site investigation. Filled in as SUXOS for the last two days.
Nov 08	TTNUS - NWS Concord, CA. UXO-TIII Escort as part of a soil sampling team.
Dec 08	TTNUS - Fallbrook NWS, CA. UXO-TIII escort as part of a site investigation.
Jan-Feb 09	Emerald State Environmental - NAF El Centro, CA. SUXOS for a scrap operation.
Mar 09 - May 09	TTNUS - MCB Quantico, VA. UXO-TIII for a site investigation.
May 09 - Jun 09	AeroTek - Camp Riply, MN. UXO-TII construction support.
Jul 09 - Sep 09	TTNUS - MOTCO Concord, CA. SUXOS providing on site UXO support.
Oct 09 – Dec 09	TTNUS - NWS Seal Beach, CA. UXO-TIII Escort for soil sample team.
Jan 10 – Mar 10	TTNUS - MCRD Parris Island and MCAS Beaufort, SC. SUXOS supervising site investigations. Duties include: Daily Reports, Upload and Download Data from GPS Units, Oversee Daily Operations of a UXO Team
Mar 10 – Oct 12	TTNUS - MRP Project Manager/Site Manager. Projects included: • UXO Site Manager (1 Yr.) SWMU 1 SI and RI, • UXO Site Manager (1 Yr.) full RI SWMU 77, NAPR, Puerto Rico; • UXO Site Manager RI (1 Yr.) MCRD Parris Island, SC; • Project Manager (2 Yrs.) MOTCO Tidal Area Restoration, (6 Mo.) Inland FIB SI and RI, Concord, CA; • Project Manager (1.5 Yrs.) Annual Survey Lockheed Martin Beaumont Site 1, Beaumont, CA; • UXO Site Manager (1 Yr.) Construction Support Weide AAF, APG, MD
Oct 12 – Present	ERRG Inc. - MEC Operations Manager/Project Manager. Projects include: • Project Manager – Rocket Range SI, MOTCO, Concord, CA • Project Manager/UXOSO/QCS - Eagle's Nest/Site 24A Removal Action • Project Manager - Fort Ord 3rd Party QA • Project Manager - 3rd Party QA P-181 Waipio, HI

- Project Manager - 3rd Party QA Site 1 MAGCC 29 Palms, CA
- UXO Escort UXO-TIII – NWAS China Lake EMD, Ridgecrest, CA

Civilian UXO Experience: 13 yr 0 mo

Total Hours at each UXO Tech Level:

UXO Tech II: 1,704
UXO Tech III: 6,560
SUXOS: 800
MEC PM: 13,936

Naval School
Explosive Ordnance Disposal

Certificate of Completion

Presented To

Staff Sergeant
James L. Rossi, USMC

For having successfully completed
the prescribed course of study for

EXPLOSIVE ORDNANCE DISPOSAL PHASE II

6 March 1992

Date

JOHN J. WALSH, CDR, USN

Commanding Officer

Gabriel Smith

10324 Delphi RD SW #13, Olympia, WA 98512
Home: 360-353-4116 - Cell: 360-451-0975 : gabrielsmith771@yahoo.com

Summary

Hard working and dedicated with 11 years in heavy equipment operation. Expert in skid steer, excavator, dozer, and front end loader operation. Highly motivated to produce quality work on tight deadlines and with safety in mind. Willing and able to learn new skills.

Highlights

- Excavator operation
- Bulldozer operation
- Adept at land clearing
- Exceptional attention to detail
- Articulated truck operation
- Dump truck driving
- Lowboy experience
- Current physical fitness exam

Experience

Heavy Equipment Operator

September 2008 to Current

EQM – Lynwood , WA

Worked directly with an E.P.A. on scene coordinator to remove hazardous waste under the E.P.A.'s Emergency and Rapid Response Services contract in regions 9 and 10. Used excavators, dozers, front end loaders, compactors, and off road haul trucks to remove contaminated soil from the ground and place either in an on site repository or load into highway dump trucks for disposal at an appropriate facility. After removing contaminated soil used equipment to backfill area's and rebuild to better than original condition.

Heavy Equipment Operator/ Lowboy Driver

June 2006 to September 2008

The Phoinix Corporation – Seattle, WA

Used dozers, excavators, track skid steers, and various other equipment to complete government and privately contracted jobs. Worked as a operator/ foreman in McAllister OK to build access roads and drill pads for the natural gas industry. Worked as a operator/ foreman in WA state to rebuild creek beds and settling ponds. Was required often times to move my own equipment using a lowboy tractor trailer.

Heavy Equipment Operator

December 2003 to May 2006

World Excavating – Snohomish, WA

Used excavators, dozers, and dump trucks to complete residential type construction projects. Built septic systems, dug foundations, preformed land clearing, and built small developments. Was required to move my own equipment using dump truck and tilt deck trailer.

Education

HAZWOPER 40 HR trained with current refresher.
Current WA State CDL class A license.
Current DOT medical exam.
High School Diploma

Alex Hess

Field Sampling Lead/Project Geologist

Discipline / Specialty

- Environmental Geology / Field Geologist

Education

- B.S. Geological Sciences, 2011, Central WA University, Ellensburg, WA

Safety / Certifications

- 40-Hour OSHA HAZWOPER Training

Training / Certifications

- Asbestos Building Inspector

Summary of Qualifications

Mr. Hess recently joined ERRG as an Assistant Project Geologist and has four years of professional working experience in environmental geology and geotechnical engineering. His operational skills include proposal writing, work and sampling plan preparation, site assessments, sampling (soil, water and asbestos), geotechnical investigations, and asbestos surveying. He has oil field experience identifying lithologies and recording drilling parameters and a solid understanding of field instruments and the set-up/break-down of drilling equipment.

Relevant Experience

Engineering / Remediation Resources Group, Inc. (ERRG)
July 2015 to Present, Assistant Project Geologist

Soil Safety Program 2015 Spring Remedial Activities, Tacoma Smelter Plume, Baltimore and Optimist Parks, Washington Department of Ecology, Washington

Mr. Hess served as the field technical lead and SSHO during this remedial action to remove metals-contaminated soil from two parks in Washington. Prior to the start of work, he assisted in preparation of the Construction Management Plan, including a HASP, Excavation Plan, Environmental Protection Plan, Waste Management Plan, and SWPPP. In the field, he acted as the SSHO, performed oversight of field tasks, conducted material management, completed field documentation, and executed a variety of project support tasks. He worked closely with the ERRG Site Superintendent and Project Manager to ensure that all project specifications were met, and submitted project documentation in a timely manner.

Yard Program 2015 Spring Remedial Activities, Tacoma Smelter Plume, Various Residential Properties, Washington Department of Ecology, Washington

Mr. Hess served as the field technical lead and SSHO during this remedial action to remove metals-contaminated soil from various residential properties and yards in Washington. Prior to the start of work, he assisted in preparation of the Construction Management Plan, including a HASP, Excavation Plan, Environmental Protection Plan, Waste Management Plan, and SWPPP. In the field, he acted as the SSHO, performed oversight of field tasks, conducted material management, completed field documentation, and executed a variety of project support tasks. He also interfaced with the project engineer, documented site conditions prior to demolition and site preparation, collected samples for approval of import construction materials, coordinated with the project engineer on schedule and RFI submittals, and oversaw soil excavation and site restoration activities.

Adapt Engineering, Seattle, Washington, September 2013 to July 2015, Environmental Scientist/Geotechnical Representative

Mr. Hess was responsible for writing technical reports, including Phase I and II assessments and geotechnical and asbestos investigations; collecting soil, water, and/or asbestos samples for analysis; writing proposals; and preparing work plans with clients and vendors.

Canrig Drilling Technologies, Bakersfield, California, July 2011 to November 2012, Well Logging Geologist

Mr. Hess was directly responsible for making detailed mud logs defining the lithology, gases, and various drilling components. He also accounted for major lithology, instrument changes, and/or oil producing zones to the Lead Project Geologist.

Rose Condit
Project Chemist

Discipline / Specialty
- Environmental Chemistry
- Extensive Laboratory and Field Experience
- Thorough Applied Knowledge of the Interpretation and Analysis of Data

Education
- Bachelor of Science, Chemistry, California Polytechnic State University, 1987

Safety / Certifications
- 40-hour HAZWOPER with 8-hour Refresher
- Innov-X Systems Radiation Safety and Operator Training for portable XRF Spectrum Analyzers

Summary of Qualifications

Ms. Condit has 27 years of combined laboratory and field experience in environmental chemistry dealing with all aspects of environmental analyses and data interpretation. Her role has involved managing the chemistry aspect of diverse projects ranging from commercial projects as small as $5,000 to large government projects and tasks up to $10 million in value. Her field experience includes all types of soil, water and air sampling, subcontract laboratory oversight, remote laboratory setup and operation, and drilling supervision. Her responsibilities have included preparation of sampling and analysis plans, including Uniform Federal Policy-Quality Assurance Project Plan (UFP-QAPP) Worksheets, for government clients such as the USACE.

Relevant Experience

Community Relations Specialist and Anthropologist, CB&I Federal Services, Inc., Denver, Colorado

Project Chemist / Chemical QC Officer, USACE Northwestern Division Stabilization of Explosives and Heavy Metals in Soil, Umatilla, Oregon

As Project Chemical QC Manager, Ms. Condit handled all aspects of chemistry data acquisition for a large explosives and metals stabilization remediation project for the USACE Seattle District with greater than 500 screening and confirmation samples collected. Her responsibilities included writing Sampling and Analysis Plans, selecting and managing the offsite laboratory, managing sample collection, performing on-site screening analysis for explosives and data validation. Ms. Condit interfaced daily with onsite team during stabilization activities to verify landfill leaching requirements were met for each batch of stabilized material. Ms. Condit directed removal and retreatment of any materials not meeting landfill leaching requirements. Ms. Condit also interfaced regularly with the client and EPA Region 9 to ensure all applicable laws and regulations were being met. She was also responsible for writing closure reports for the project.

Project Chemist / Chemical QC Officer, USACE, MMRP Small Arms Range Remediation Site Investigation and Remediation at Vandenberg Air force Base, California

Ms. Condit served as the project chemist for the site investigation through interim removal action completed for lead contaminated soil at two small arms Range MRS at VAFB to meet regulatory requirements. Her responsibilities included writing Field Sampling Plans and Quality Assurance Project Plan participated and oversaw the collection and analysis of more than 500 XRF screening samples; and managed off-site laboratory oversight. Ms. Condit performed data review and validation process and was contributing author to the Interim Removal Action Post Construction Report.

Project Chemist / Chemical QC Officer, Air Force Center for Engineering and the Environment, Skeet Range Remediation at the Former McClellan Air Force Base, California

Ms. Condit served as the project chemist for the removal of lead and PAH contaminated soil to meet Site ROD and regulatory requirements. Her responsibilities included writing Sampling and Analysis Plans, laboratory oversight, oversaw the collection and analysis of more than 500 samples; and performed onsite analysis using XRF. Ms. Condit performed data review and validation process and was contributing author to the RACR.

Program Chemist, Navy, in Various Locations within the Western U.S.

As Program Chemist, Ms. Condit oversees all aspects of chemical data acquisition, validation, and reporting for the projects under this $250 million ID/IQ cost reimbursement contract. She interacts regularly with the Navy in setting program-level policies and procedures. She also reviews and approves all sampling and analysis plans and manages all project chemists working under the program.

Project Chemist, Navy, Former Hunters Point Naval Shipyard, California

Project Chemist for the Navy, for a TCRA at a PCB hot spot with potential radiological contamination, developed a rapid field screening method for PCBs and TPH in soil sampling, gained approval for the method, set up an onsite lab, and was able to get results in 48 hours, quickly profiling the site. In addition to screening for PCB and TPH the project included screening for metals contamination using on-site XRF. The project included collecting and analyzing over 500 screening samples and 250 confirmation samples.

Project Chemist, Hawai'i PBA 1, Hawai'i

Ms. Condit is the project chemist for this $15.3M ACSIM PBA responsible for all aspects of environmental remediation at six MMRP sites at three installations. Ms. Condit has completed work preparing UFP-QAPP, overseeing multi-increment sample collection, laboratory analysis, data validation, and reporting for the MMRP work at the sites.

Lisa P. Stahl
Archaeologist

Discipline / Specialty

- Senior-Level Community Relations Experience
- Historical, Archaeological and Cultural Awareness
- Strategy for Community Involvement for Environmental Project Education

Education

- M.A., Applied Anthropology University of South Florida, Tampa, Florida; 1994
- B.A., Anthropology The American University, Washington, D.C.; 1987

Summary of Qualifications

Ms. Stahl is an Archaeologist /Anthropologist with more than 20 years professional experience in working with a variety of assessment tools and information, stakeholders, and preparing and distributing various outreach materials to a variety of end-users. Ms. Stahl provides support for project activities with historical, archaeological, or cultural aspects. Ms. Stahl also specializes in identifying and facilitating community perspectives into program and policy processes, as well as writing innovative public participation strategies and being aware of historical, archaeological, and cultural considerations.

Relevant Experience

CB&I Federal Services, Inc., Denver, Colorado

Ms. Stahl provides archaeological and community relations support to all stages of remediation projects. Activities include designing and conducting community assessments, preparing and implementing community relations and involvement plans, coordinating the production of outreach materials and events, raising awareness of archaeological/historical and cultural considerations, and working with clients to interact effectively with community representatives and ensure compliance with regulatory requirements regarding community involvement and access to information.

Camp Hale, Colorado, U.S. Army Corps of Engineers, Omaha District

Ms. Stahl is responsible for preparing and implementing the community involvement strategy outlined in the Community Involvement Plan for use during a TCRA, as well as for the overall project investigations. She implemented activities including developing a project website, preparing informational fact sheets, drafting sign language for use during project activities, and identifying and distributing information to community information networks. She provided support on identifying and developing a historic cultural resource management strategy and interpreting cultural resource survey reports for use in identifying/further characterizing investigation areas. She also provided support on other project activities requiring interaction with the public.

New Boston Air Force Station, New Boston, New Hampshire

Ms. Stahl provides support for the archaeological aspect of MMRP investigation and clearance work being conducted at the installation, which is also a National Historic District containing prehistoric, historic, and military sites. Support includes identification of MEC survey procedures to identify and protect archaeological items and sites encountered during field activities, subcontractor oversight, adherence to Memorandum of Agreement stipulations between the SHPO and installation, archaeological data management strategies, and report structure.

Formerly Used Defense Sites, Northwest Region, U.S. Army Corps of Engineers, Omaha District

Ms. Stahl provides preparation support for Site Inspection activities at multiple FUDS locations in the Northwest Region. Support activities include cultural resource awareness, contact with State Historic Preservation Offices regarding sensitive resources within project areas, document preparation, technical editing, and assistance with project coordination.

Brownsville Radio Tower Project, Brownsville, Minnesota

Conducted Section 106 and Tribal consultation for the construction of a new radio tower in compliance with FCC Section 106 requirements and Minnesota's Environmental Assessment Worksheet process. Ensured all necessary information was provided and submitted in accordance with pertinent regulations.

Installation Restoration Program, Guam. U.S. Navy

Conducted community interviews and associated community research to complete an update to the Community Relations Plan for the IR Program. Information was also used to update the Navy's internal handbook, which guides the implementation of the community outreach strategy presented in the plan. Additional community relations support was provided as requested.

Motorola 52nd Street Superfund Site, Phoenix, Arizona. U.S. Environmental Protection Agency

Supports the EPA Community Involvement Coordinator in designing community assessments, drafting and maintaining the site-wide Community Involvement Plan, developing community involvement strategies to meet dynamic field situations, coordinating and preparing outreach materials associated with field activities, and identifying potential community-based outreach challenges. Also provides additional community relations support as requested.

Colonie FUSRAP Site, Colonie, New York. U.S. Army Corps of Engineers

Provided community relations support for remediation activities at the site, including coordinating and supporting community meetings, coordinating the production of outreach informational materials, updating the public web site, maintaining and alerting key community contacts about site milestones and outreach events, supervising the development and maintenance of a site administrative record and information repository, and providing other types of community relations support and advice.

Applied Anthropologist and Public Involvement, Neptune and Company, Los Alamos, New Mexico

Ms. Stahl provided social science support to technical projects such as remediation and decision support for waste disposal options. She developed qualitative and quantitative instruments to identify and explore stakeholder perceptions and perspectives, and assisted a research effort to determine regulatory effectiveness in ecological risk assessment at various U.S. Department of Energy sites. Ms. Stahl also assisted museum education staff in evaluating an experimental exhibition for visitor comprehension and appeal. During this activity, museum staff was educated in basic evaluation techniques.

Nevada Test Site, Las Vegas, Nevada. Department of Energy

Supported a probabilistic assessment of inadvertent human intrusion into waste disposal areas located at the Nevada Test Site. Work involved collaborating with technical personnel in identifying pertinent and appropriate stakeholders and subject matter experts for discussion and involvement in hazardous waste disposal issues, preparing informational fact sheets, technical and non-technical support during panel elicitation sessions and subsequent analyses.

Environmental Restoration Project, Los Alamos, New Mexico. Los Alamos National Laboratory.

Participated in community assessments for the development of a community relations plan. Assisted with risk communication needs for Environmental Restoration Project technical staff.

Publications and Presentations

Farrell, Teri, and Lisa Stahl, 2005. "Using GIS to Develop Interactive Tools of Evaluating Public Concerns. GIS in the Rockies."

Roos, Emmy, and Lisa Stahl, 2003. "Being Ahead of the Game – Public Involvement and Community Relations Before and During Environmental Projects." *International Conference on Radioactive Waste Management and Environmental Remediation.*

Mathai, Lisa, and Elizabeth Akinyi Kearly, 1998. "The Role of Anthropology in Facilitation Community Health Initiatives." *Practicing Anthropology*.

Mathai, Lisa, Merle S. Lefkoff, and Elizabeth J. Kelly, 1995. "Above and Beyond Basic Public Participation." *Proceedings of the International Congress on Hazardous Waste: Impact on Human and Ecological Health.*

Appendix G. Forms

(Due to the size this appendix will be provided on CD only.)

DAILY FIELD ACTIVITY LOG

Prepared by: _____ Client: _____
Day: _____ Date: _____
Project Name: _____ Project No.: _____
Weather: _____ Page: _____ of _____
Site Visitors: _____

Description of Field Activities:

Signed: _____ Date: _____

PHOTOGRAPH LOG

Photographer:_____

Picture Number	Date	Time	Direction Facing	Description

ERRG

Schonstedt Service Log

Project:_____

Date	Serial Number	Serviceable (Yes or No)	Date Battery Change	Printed Name/Organization	QC Insp

Page ___ of ____ Pages

ENGINEER/REMEDIATION RESOURCES GROUP, INC
MEC ACCOUNTABILITY RECORD

Project Name: Project Location:		Contract #				
Date	MEC Item Identification	GPS Coordinate location	Quantity	Condition	Disposition	Initials
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Appendix H. Standard Operating Procedures

(Due to the size this appendix will be provided on CD only.)

Title: **Field Logbook**

Document Number: **FS-001**

Revision Number: **1**

Reason for Revision: **Updated**

Revised: _____ 5/23/2014
Quality Control Manager — Date

Approved: _____ 5/23/2014
Program Manager — Date

1. Purpose

The objective of this Standard Operating Procedure (SOP) is to set criteria for content entry and form of field logbooks.

2. Scope

This procedure is applicable during all Engineering/Remediation Resources Group, Inc. (ERRG) site operations.

3. References

EPA, 2011. "Contract Laboratory Program Guidance for Field Samplers." OSWER 9240.0-47 / EPA 540-R-09-03. Office of Superfund Remediation and Technology Innovation. January. Online Address: <http://www.epa.gov/superfund/programs/clp/download/sampler/CLPSamp-01-2011.pdf>.

Nielsen Environmental Field School, 1997. "Field Notebook Guidelines."

4. Definition of Terms

Site Logbook — Logbook that is an index of all activities performed at the site. Specific entries are summaries of each day's activities and are part of the project file.

Field Logbook — Logbooks used at field sites that contain detailed information on site activities, including dates, times, personnel names, activities conducted, equipment used, weather conditions, etc. Field logbooks are used by a variety of different field personnel and are part of the project file.

5. Responsibilities

5.1. PROCEDURE RESPONSIBILITY

The Quality Control Manager or Technical Manager is responsible for maintenance, management, and revision of this SOP. Questions, comments, or suggestions about this SOP should be sent to the Quality Control Manager or Technical Manager.

5.2. PROJECT RESPONSIBILITY

ERRG employees performing this task, or any portion thereof, are responsible for meeting the requirements of this procedure. ERRG employees conducting technical review of task performance are also responsible for following appropriate portions of this SOP.

For those projects where the activities of this SOP are conducted, the Project Manager, or designee, is responsible for ensuring that those activities are conducted in accordance with this and other appropriate procedures. Project participants are responsible for documenting information in sufficient detail to provide objective documentation (i.e., checkprints, calculations, reports, etc.) that the requirements of this SOP have been met. Such documentation shall be retained as part of the project file.

6. Procedure

6.1. GENERAL

Whenever possible, each site or operation, as applicable, will have one current site logbook, which will serve as an index of all activities performed at the site. Making entries into the site logbook is initiated at the start of the first on-site activity. Summary entries are made for every day that on-site activities take place. The details of all field activities shall be recorded in separate field logbooks. Multiple field logbooks may be used depending upon the number of different types of field personnel conducting activities at the site. These field logbooks and the site logbook shall be made part of the project file.

Information recorded in field logbooks includes observations, data, calculations, time, weather, and descriptions of the data collection activity, methods, instruments, and results. Additionally, the field logbook may contain descriptions of wastes, biota, geologic material, and site features including sketches, maps, or drawings as appropriate.

6.2. EQUIPMENT AND MATERIALS

- Site logbook
- Site-specific plans
- Hard-covered, waterproof field logbook(s)
- Indelible black ink pen
- Ruler or similar scale

6.3. PREPARATION

Site personnel responsible for maintaining field logbooks must be familiar with the SOPs for all tasks to be performed. The field logbook will be assigned to an individual responsible for its care and maintenance. Field logbooks are part of the project file and should remain with project documentation when not in use. Field logbooks shall be bound with lined, consecutively numbered pages. All pages must be numbered prior to initial use of the field logbook.

The following information shall be recorded inside the front cover of the field logbook:

- Person and organization to whom the book is assigned
- Phone number(s)
- Project start date
- Project name
- ERRG project number
- Project Superintendent's name
- Sequential book number (if applicable)

The first five pages of the field logbook shall be reserved for a table of contents. Mark the first page with the heading "Table of Contents" and enter the following:

TABLE OF CONTENTS

Date/Description	Page
(Start Date/Reserved for TOC)	1-5

The remaining pages of the table of contents will be designated as such with "TOC" written on the top center of each page.

6.4. OPERATION

The following requirements must be met when using a field logbook:

- Record work, observations, quantities of materials, calculations, drawings, and related information directly in the field logbook. If data collection forms are specified by an activity-specific work plan, the information on the form need not be duplicated in the field logbook.
- Any forms used to record site information must be referenced in the field logbook.
- Information should be factual and unbiased.
- Do not start a new page until the previous one is full or has been marked with a single diagonal line so that additional entries cannot be made. Use both sides of each page.
- Write in black, indelible ink. Do not write in pencil unless working in wet conditions.
- Do not erase or blot out any entry. Before an entry has been signed and dated, changes may be made; however, care must be taken not to remove what was originally written. Indicate any deletion with a single line through the material to be deleted. A change should be initialed and coded using one of the common data error codes shown in Attachment 1. All error codes should be circled.

- Do not remove any pages from the field logbook.
- Do not use loose paper and copy into the field logbook later.
- Record sufficient information to completely document field activities.
- All entries should be neat and legible.

Specific requirements for field logbook entries include the following:

- Initial and date each page.
- Sign and date the final page of entries for each day.
- Initial and date all changes.
- If multiple site personnel will record information in the field logbook on the same day then each person must sign out the field logbook by inserting the following:

  Above notes written by:

  _____ (Sign Name)

  _____ (Print Name)

  _____ (Date)

- A new person recording information in the field logbook must sign and print his/her name before additional entries are made.
- Draw a diagonal line through the remainder of the final page at the end of the day.
- Record the following information on a daily basis:
  - Date and time
  - Name of the individual making the entry
  - Description of the activity being conducted including well, boring, sampling, and location number as appropriate
  - Unusual site conditions
  - Weather conditions (i.e., temperature, cloud cover, precipitation, wind direction, and speed) and other pertinent data)
  - People on site
  - Level of personal protection to be used
  - Arrival and departure time of site visitors

- Arrival and departure time of equipment
- Sample pickup (chain-of-custody form numbers, carrier, time)
- Sampling activities and sample log sheet numbers
- Start and completion of borehole, trench, and monitoring well installation or sampling activity
- Health and safety issues
- Instrumentation calibration details

Entries into the field logbook shall be preceded with the time of the observation. The field activities should be recorded frequently, particularly events or measurements that are critical to the activity being logged. All measurements made and samples collected must be recorded unless they are documented by automatic methods (e.g., data logger) or on a separate form required by an operating procedure. In such cases, the field logbook must reference the automatic data record or form.

While sampling, record observations such as color and odor. Indicate the locations from which samples are being taken, sample identification numbers, the order of filling bottles, sample volumes, and parameters to be analyzed. If field duplicate samples are being collected, note the duplicate pair sample identification numbers. If samples are collected that will be used for matrix spike and matrix spike/matrix spike duplicate analysis, record that information in the field logbook.

A sketch of the activity location may be warranted. All maps or sketches made in the field logbook should have descriptions of the features shown. Maps and sketches should be oriented so that north is toward the top of the page and will include a direction indicator.

Other events and observations that should be recorded include (but are not limited to) the following:

- Changes in weather that impact field activities
- Subcontractor activities
- Deviations from procedures outlined in any governing documents, including the reason for the deviation
- Problems, downtime, or delays
- Upgrade or downgrade of personal protective equipment

6.5. POST-OPERATION

To guard against the loss of data due to damage or disappearance of field logbooks, copies of completed logbooks shall be securely stored by the project.

At the conclusion of each activity or phase of site work, the individual responsible for the field logbook will ensure that all entries have been appropriately signed and dated, and that corrections were made properly (single lines drawn through incorrect information, then initialed, coded, and dated). The completed field logbook shall be submitted to the project file.

6.6. RESTRICTIONS AND LIMITATIONS

Field logbooks constitute the official record of on-site technical work, investigations, and data collection activities. Their use, control, and ownership are restricted to activities pertaining to specific field operations carried out by ERRG personnel and their subcontractors. They are documents that may be used in court to indicate and defend dates, personnel, procedures, and techniques employed during site activities. Entries made in these field logbooks should be factual, clear, precise, and as objective as possible. Field logbooks, and entries within, are not to be used for personal use.

7. Attachments

- Attachment 1 — Common Data Error Codes.

8. Forms

None.

Attachment 1. Common Data Error Codes

Common Data Error Codes:

- RE - Recording Error
- CE - Calculation Error
- TE - Transcription Error
- SE - Spelling Error
- CL - Changed for Clarity
- DC - Original Sample Description Changed After Further Evaluation
- WO - Write Over
- NI - Not Initialed and Dated at Time of Entry
- OB - Not Recorded at the Time of Initial Observation

All error codes should be circled