

**FINAL**  
**Quality Control Plan**  
***INTERIM SOIL REMOVAL ACTION Continuation***  
***Soil Excavation and Disposal***  
***Plum Brook Ordnance Works –TNT Area B***  
***Sandusky, Ohio***

***Contract No. W91237-06-C-0003***

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## DEFINITIONS AND ACRONYMS

BTEX	Benzene, Toluene, Ethylbenzene, Xylene
COC	Contaminant of Concern
COCs	Contaminants of Concern
DERP-FUDS	Defense Environmental Restoration Program for Formerly Used Defense Sites
DNT	Dinitrotoluene
DRO	Diesel Range Organics
EPA	Environmental Protection Agency
GSA	General Service Administration
HAZWOPER	Hazardous Waste Operations and Emergency Response
HI	Hazard Index
HTF	Hypersonic Tunnel Facility
HTRW	Hazardous, Toxic, and Radioactive Waste
HSWA	Hazardous and Solid Waste Amendments
IDW	Investigation Derived Waste
ILCR	Incremental Lifetime Cancer Risk
IQCT	Independent Quality Control Team
ISRA	Interim Soil Removal Action
IT	International Technology Corporation
MCL	Maximum Contaminant Level
MSDS	Material Safety Data Sheet
MSL	Mean Sea Level

## **DEFINITIONS AND ACRONYMS (continued)**

NASA	National Aeronautics and Space Administration
NCP	National Contingency Plan or National Oil and Hazardous Substance Pollution Contingency Plan
NIOSH	National Institute for Occupational Safety and Health
NPDES	National Pollutant Discharge Elimination System
NTCRA	Non-Time Critical Removal Action
ORO	Oil Range Organics
OSHA	Occupational Safety & Health Administration
PAH	Polynuclear Aromatic Hydrocarbons
PBOW	Plum Brook Ordnance Works
PBS	Plum Brook Station
PCBs	Polychlorinated Biphenyls
POC	Point of Contact
PQL	Practical Quantitation Limit
PPE	Personal Protective Equipment
PRGs	Preliminary Remediation Goals
QA	Quality Assurance
QC	Quality Control
QAP	Quality Assurance Plan
QCP	Quality Control Plan
RAB	Restoration Advisory Board
RBCs	Risk Based Concentrations

## **DEFINITIONS AND ACRONYMS (continued)**

RCRA	Resource Conservation and Recovery Act
RI/FS	Remedial Investigation/Feasibility Study
RPDs	Relative Percent Differences
SARA	Superfund Ammendments and Reauthorization Act
SOW	Scope of Work
SSHO	Site Safety and Health Officer
SSHP	Site-Specific Safety and Health Plan
SVOCs	Semi-Volatile Organic Compounds
TAL	Target Analyte List
TCLP	Toxicity Characteristic Leaching Procedure
TNB	Trinitrobenzene
TNT	Trinitrotoluene
TOC	Total Organic Carbon
TPH	Total Petroleum Hydrocarbons
TSDF	Treatment, Storage, and Disposal Facility
TSS	Total Suspended Solids
UCL	Upper Confidence Limit
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds

# Quality Control Plan

## ***INTERIM SOIL REMOVAL ACTION Continuation Soil Excavation and Disposal Plum Brook Ordnance Works –TNT Area B Sandusky, Ohio***

***Contract No. W91237-06-C-0003***

### **1.0 Purpose**

This McTech Corp Quality Control Plan (QCP) is based on the professional competence of the employees performing the project tasks and consists of checklists and documentation to ensure that all project activities are of high standards. McTech Corp has high standards for its employees and subcontractors involved in all projects. Project tasks are assigned in accordance with clearly demonstrated capabilities. Quality Control (QC) is implemented within the project framework by a distinct QC organization functioning under established guidelines. This QCP ensures the development of a high quality technical product that requires little revision prior to the Final Quality Assurance Review.

The Huntington District of the United States Army Corps of Engineers (USACE) has achieved International Organization for Standardization (ISO) 9000 certification. McTech Corp is dedicated to providing quality services to the USACE in order to assist them in continuing to meet the ISO 9000 standards.

### **2.0 Scope of QC Services**

The general QC program is designed to ensure quality performance, traceable results, and confidence in the documents prepared for all projects completed by the firm. This project will adhere to the following guidelines established by the Department of the Army, Corps of Engineers:

EM-200-1-3, "*Requirements for the Preparation of Sampling and Analysis Plans*," U.S. Army Corps of Engineers, February 2001

EM-200-1-6, "*Chemical Quality Assurance for Hazardous, Toxic and Radioactive Waste Projects (HTRW)*," U.S. Army Corps of Engineers, October 1997

ER-1110-1-263, "*Chemical Data Quality Management for Hazardous Waste Remedial*

*Activities*,” U.S. Army Corps of Engineers, April 1998

CELRHR 5-2-7, “*Quality Management Plan*,” U.S. Army Corps of Engineers, May, 1999

ER 385-1-92, “*Safety and Health Document Requirements*,” U.S. Army Corps of Engineers, March 1994

EM 385-1-1, “*Safety and Health Requirements Manual*,” U.S. Army Corps of Engineers, November 2003

EM 200-1-2, “*Technical Project Planning Process*,” U.S. Army Corps of Engineers, August 1998

EM 200-1-1, “*Validation of Analytical Chemistry Labs*,” U.S. Army Corps of Engineers, July 1994

ER 1165-2-132, “*HTRW Guidance for Civil Works Projects*,” U.S. Army Corps of Engineers, June 1992

All field procedures and reporting requirements as identified in the Scope of Work are monitored and reviewed as shown in the attached checklists. Draft and final documents are subject to internal peer review and senior review. All project deliverables are subject to review by the USACE.

## **2.1 Training**

All field personnel performing intrusive work and on this project have received forty- (40) hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training. All field personnel performing intrusive work and soil treatment meet the training requirements as cited in 29 Code of Federal Regulations (CFR) 1910.120. At least two personnel on-site have received first aid and cardiopulmonary resuscitation (CPR) training. Appendix B of the Site Specific Safety and Health Plan (SSHP) contains copies of all training certifications and dates of refresher training for employees who may work on this project.

## **2.2 Project Planning**

Project planning encompasses the preparation of a series of procedures that specify the manner in which project activities will be conducted. The purpose of these procedures is to provide step-by-step control on how and when tasks will be completed. In general, the following procedures are followed for USACE projects:

- The project is assigned to a Project Manager experienced in the type of work to be completed.

- The Project Manager reviews the Scope of Work (SOW) to determine the extent of work required and to determine the best personnel to be assigned to the project.
- The Project Manager discusses their personnel requirements with an Administrator who authorizes the use of those personnel.
- The Project Manager then notifies the on-site project manager that a project is in the planning status and informs the on-site manager what personnel he/she would like to use for the project.
- An initial project team will be formed consisting of the Project Manager, on-site project manager, an administrative assistant, and a technical support person.
- The project team will discuss the project objectives, data requirements, and identify the possible regulatory requirements associated with all aspects of the project.
- The project team will gather and evaluate site information. This would include a site reconnaissance and review of any available background data including previous site assessments.
- After plan preparation, an internal Independent Quality Control Team (IQCT) will review the plans and make comments, which will be resolved or incorporated into the plans.
- Draft Plans will be submitted to the USACE.
- During the IQCT and USACE reviews, the Project Manager tentatively schedules equipment, personnel for the project, and subcontractors.
- Upon receipt of comments from the USACE, the technical support person will review comments with the Project Manager.
- Comments from the USACE will be incorporated in the plans or resolved prior to beginning work.
- The Project Manager notifies all appropriate parties of concern (utilities, property owners, and so forth) of the intended project schedule. Coordination with the USACE Point of Contact (POC) and the National Aeronautics and Space Administration (NASA) POC will be very important to the performance of this project.
- The Project Manager has the utilities marked prior to performing any intrusive activities. A digging permit from NASA Plum Brook Station (PBS) is required for this project. Intrusive activities can not be performed without approval from NASA PBS.
- The Project Manager confirms the scheduling of equipment and personnel for the project and then performs the project.
- The Project Manager supplies copies of all field documentation and gives a narrative of field activities to the technical support person who will prepare the report.
- After the report is prepared, an internal Independent Quality Control Team (IQCT) will review the report and make comments, which will be resolved or incorporated into the report.
- A Draft Report will be submitted to the USACE.
- Upon receipt of comments from the USACE, the comments will be resolved or incorporated into the report and the final report will be issued.

### **2.3 Technical Reviews**

This includes issuance of all project-related documents controlled by a technical review system. Plans and reports will be reviewed by the Project Manager and by qualified, independent reviewers to ensure proper documentation. All project submittals will independently be reviewed by, at a minimum, one senior reviewer and one peer reviewer. Reviews will be performed by personnel who are knowledgeable concerning regulatory requirements and/or who are experienced in performing field work associated with this project. All comments resulting from the technical reviews are resolved and/or incorporated in the project submittals.

A Peer Review of the plans and reports is performed to determine their adequacy, completeness, and verification that the work was conducted in accordance with the scope of work, policies and guidelines. A Senior Project Manager will serve as the senior reviewer and shall review all project submittals. The Senior Reviewer will perform a review of all plans for precision, accuracy, representativeness, comparability, completeness, and verification that the work has been conducted in accordance with the SOW, policies, and guidelines.

### **2.4 Document Control**

Project technical and administrative files will be maintained at McTech Corp's office in Cleveland, Ohio.

### **2.5 Quality Evaluation/Audit Surveillance**

Qualified personnel who are independent of project activities will perform quality evaluation at predetermined intervals. The purpose of evaluations and audits is to ensure compliance with technical procedures and to document quality control. A Project Manager will perform quality evaluations of technical procedures and paperwork documentation during the course of the project. The quality evaluations may take the form of site visits to evaluate personnel's field procedures and/or review of field documents. Additionally, an administrative review is performed to ensure that project submittals are performed in a timely manner.

### **2.6 Project Management**

The Project Manager will oversee the project and ensure that all details are followed and that project activities are on track. Any project problems will be directed to the client for quick resolution.

### **2.7 Analytical Laboratory**

The overall QC objective is to ensure that data of known and acceptable quality is generated from both field and laboratory activities. McTech Corp will use REIC Laboratory to perform laboratory analysis for this project. REIC Laboratory is an USACE certified laboratory. Pursuant to the Scope of Work (SOW), no quality assurance samples will be collected. The

laboratory will be responsible for ensuring that their personnel adhere to their laboratory's Quality Assurance Plans (QAP). The number and types of internal quality control checks for each analytical method is defined in the laboratory's QAP.

The Contract Laboratory shall follow EPA guidelines for reporting as outlined in Level 2, QA/QC Levels of Reporting. The Level 2 report shall include the following:

- Case Narrative (information should include the number and type of samples received, analysis of those samples, any problems that occurred, whether quality control was within acceptable limits, etc.)
- Analytical Report (summary of all sample analysis information including surrogates for organic methods.) Detection limits/reporting limits shall be included.
- Chains-of-Custody.
- Summary of Quality Control (a summary shall be included of all quality control specific to the project.) This may include method reagent blanks, midlevel calibration checks, spike and spike duplicates, and sample duplicates. All QC shall include acceptance criteria and relative percent data where applicable.

Any sample failing the method or laboratory quality control limit may be reanalyzed. The analytical laboratory, McTech Corp, and the USACE will jointly make the decision regarding re-analysis.

## **2.8 Field Quality Control**

### **2.8.1 Field Quality Control for Chemical Data Measurement**

Field quality control is as vital to a project as is quality control within the laboratory. Proper execution of each project task is needed in order to yield consistent, reliable information that is representative of the media and conditions being measured. The overall quality assurance objective is to ensure that data of known quality is generated which will be useful in meeting the intended project objectives. The On-site project manager will be responsible for seeing that field personnel adhere to the QCP. Quality Control Field Oversight Checklists to be used for field activities are provided in Appendix B. The field oversight checklists will be completed for each project area. More detailed information concerning QC for the general field activities and sampling procedures is contained in the Plan of Operations developed for this project.

### **2.8.2 QC for Field Activities**

Field quality control for site activities is important to the proper completion of a project. The Project Manager, and/or the On-site project manager is responsible for ensuring that personnel and subcontractors perform work in accordance with the specifications of the SOW and the

approved plans. The Quality Control Officer will be responsible for performing quality control oversight and reporting findings to the On-site project manager and the Project Manager. General Quality Control Field Oversight Checklists to be used for field activities are provided in Appendix B.

The Project Manager or the On-site project manager will be responsible for overseeing the work performed by McTech Corp personnel and McTech Corp's subcontractors. The Quality Control Officer will be responsible for ensuring that Quality Control measures are followed to ensure proper completion of the project. The Quality Control Officer may stop work at any time that the quality of work being performed or any materials being used are found to be of inferior quality. Materials will not be accepted for delivery at the site if they do not meet contract specifications. Written records will be kept of all materials brought on-site, their condition at time of delivery, storage methods, and condition of the material at time of use. The work performed by subcontractors will be inspected to ensure that it meets contract requirements. Work not meeting contract specifications will be immediately stopped and remedied.

### **2.8.3 Daily Quality Control Reports**

During the field investigation and excavation activities, Quality Control Reports (QCR) will be prepared daily, dated, and signed by the On-site project manager or the QC Officer. McTech Corp will utilize the USACE QCR Report Form (see Appendix A). The following information will be recorded on the QCR:

- Weather information
- Field instrument measurements
- Departures from the approved plans (any deviation that may affect data quality objectives must be conveyed to the USACE immediately)
- Personnel on-site and their job activities
- Any problems encountered
- Instructions from government personnel
- A copy of the chain-of-custody and any other project forms generated on-site should be attached to the daily report

## **2.9 Corrective Action**

Corrective action procedures may be required in the event a discrepancy is discovered in the field, during an audit, and/or by the laboratory. Laboratory discrepancies that are unrelated to field procedures will be addressed by the laboratory's personnel and will be corrected in accordance with their QAP. The McTech Corp Project Manager will address discrepancies relating to field procedures. Any deviations from approved plans shall be fully documented. The USACE POC shall be notified if deviations to the approved plans are necessary. No deviations

to approved plans shall be made without the prior approval of the USACE POC. No deviations from the approved plans that compromise data quality or personnel safety shall be allowed.

## **2.10 Site Security**

NASA PBS is responsible for overall security at the site. Pursuant to the Scope of Work, coordination with PBS personnel will be conducted by USACE to ensure that McTech Corp is allowed access to/from the site to perform all activities during this removal action. McTech Corp and its subcontractors shall be required to enter/exit through the PBS security gate. McTech Corp is responsible for ensuring that McTech Corp employees and subcontractors follow all rules set forth by the PBS security. Security requirements, as set forth by PBS, shall not be compromised. McTech Corp personnel and subcontractors are required by NASA to review a safety video prior to performing any on-site activities.

The On-site project manager or QC Officer will be responsible for checking all equipment, storage containers, excavated areas, and so forth prior to leaving the site each day. Caution tape or fence shall be constructed around excavation pits and storage areas. Work materials shall be picked up and properly stored each day.

## **3.0 General Project Information**

### **3.1 Project Type**

INTERIM SOIL REMOVAL ACTION Continuation; Nitroaromatic Contaminated Soil Excavation and Disposal

### **3.2 Project Location**

TNT B of Plum Brook Ordnance Works located in Sandusky, Ohio

### **3.3 Customer/Sponsor**

USACE, Huntington District (Contract No. W91237-06-C-0003)

### **3.4 Project Description**

#### **3.4.1 Background and Purpose**

The purpose the project is to the continuation of a Non-Time Critical Removal Action (NTCRA) within the former trinitrotoluene manufacturing Area B (TNT B) of Plum Brook Ordnance Works (PBOW) located in Sandusky, Ohio. The United States Army Corps of Engineers (USACE) is the responsible authority under the Defense Environmental Restoration Program (DERP) at the former TNT B. Based on the results of the completed *TNT B Remedial Investigation, Former Plum Brook Ordnance Works, Sandusky, Ohio, Volume I – Final Report of*

*Findings*, (IT Corporation, USACE, August 2000) and *Volume IV – Final Feasibility Study*, (IT Corporation, USACE, July 2001) and Interim Soil Removal Action (ISRA) (WTI 2006), the USACE will continue a NTCRA at TNT B. The removal action will be taken to minimize threats to, and provide adequate protection to, human health and the environment from exposure to soil at TNT B containing any of the thirteen contaminants of concern (COCs) at concentrations that exceed preliminary remediation goals (PRGs) as identified in *Final Action Memorandum for the TNT B Interim Removal Action* (USACE, 2003). The removal action will consist of the excavation of 5 areas totaling approximately 6,718 cubic yards of material, backfilling of the excavation pits with clean material and off-site disposal of waste. Based on the analytical results from the test pits excavated within the contaminated limits, it is assumed that the soil removed will not be hazardous and will not require stabilization, treatment or hazardous waste disposal and can be disposed of at a non-hazardous waste landfill. However, if the levels of contamination in the soil render it unacceptable to the landfill and if ex-situ stabilization of soil is required prior to disposal; a modification to the SOW and this Quality Control Plan will be necessary.

### **3.4.2 Site Location and History**

The former PBOW is located approximately 4 miles south of Sandusky, Ohio and 59 miles west of Cleveland, Ohio. Although the PBOW site is primarily situated in Perkins and Oxford Townships, the eastern edge of the site extends into Huron and Milan Townships. The site is bounded on the north by Bogart Road, on the south by Mason Road, on the west by County Road 43, and on the east by U.S. Highway 250. The surrounding area is mostly agricultural and residential.

The 9,009 acre PBOW site was built by the United States Army in early 1941 as a manufacturing plant for 2,4,6-TNT, DNT, and pentolite. Production of explosives at PBOW began in December 1941 and continued until 1945. It is estimated that more than 1 billion pounds of nitroaromatic explosives were manufactured during the 4 year period that the facility was in operation. Three separate explosive manufacturing areas were designated, which include TNT Area A (TNT A), TNT Area B (TNT B), and TNT Area C (TNT C). Twelve process lines were used in the manufacture of TNT, which included four lines at TNT A, three lines at TNT B, and five lines at TNT C. The work to be performed under this project deals primarily with the TNT B area.

The TNT B manufacturing site consisted of widely scattered buildings of wood frame construction with asbestos and sheet metal coverings. It also included a series of buried and/or overhead flumes and pipes used to transport various liquids associated with the manufacturing process. After plant operations ceased, TNT B's manufacturing lines were decontaminated by the War Department in late 1945. During decontamination, all structures, equipment, and manufacturing debris were either removed and salvaged or removed and burned by the War Department in 1945. After the property was certified as decontaminated by the United States Army, the property was initially transferred to the Ordnance Department and then to the War Assets Administration.

In 1949, the PBOW was transferred to the General Services Administration (GSA). In 1955, the GSA completed further decontamination of TNT B. This effort is thought to have focused on surface contamination detected by visual inspection. It is unknown whether the underground flumes were addressed by this decontamination effort.

NASA acquired the property on March 15, 1963 and currently utilizes the site. The GSA performed further decontamination efforts during the 1963 transfer. The decontamination process included removing contaminated surface soils above the drain tiles, flumes, etc., destruction of all buildings by fire, and the removal of all soil, debris, sumps, and concrete foundations. All materials, including the soil in those areas, were flashed. The area was then rough graded. The decontamination process also included the burning of excavated nitroaromatic filled flumes.

NASA currently operates the PBS of the John Glenn Research Center at Lewis Field. Most of the aerospace testing facilities built at the site in the 1960's are in standby or inactive status. On April 18, 1978, NASA declared approximately 2,152 acres of PBOW as excess. The Perkins Township Board of Education acquired 46 acres of the excess acreage and uses this area as a bus transportation area. The remaining excess acreage in the Southwest area was sold to various private concerns. NASA currently controls approximately 6,400 acres of land which includes approximately 5,400 acres within the fence line. Of the acreage inside the fence line, NASA has a use agreement with the Ohio National Guard for 604 acres and the remainder is utilized for aerospace research as a satellite operation of the Glenn Research Center. The acreage outside the fence remains part of the test facility exclusion zone and is leased to various farmers and the Erie County Conservations League.

The PBOW TNT B consists of an area containing approximately 55 acres at the south-central portion of PBOW immediately north of West Sheid Road. Significant evidence of former PBOW facilities exists at TNT B in the form of roads, hydrants, and ditches. All of the buildings that existed during explosives manufacturing were demolished and removed. Two NASA facilities are located at the TNT B site and are currently active. These facilities include the Hypersonic Tunnel Facility (HTF) and the Nitrogen Dewar Tanks. The HTF is located in the northwest portion of TNT B and consists of a single building, above and below ground piping and utilities, and paved parking areas. The Nitrogen Dewar Tanks are located in the center of TNT B with aboveground piping and underground utilities leading to the northwest towards the HTF and to the northeast offsite.

### **3.4.3 Overview of Remedy and Proposed Action**

The results of the RI/FS and resulting *Final Action Memorandum for the TNT B Interim Removal Action* (USACE, 2003) provided the basis for taking initial action at this site. The proposed approach for a remedy at TNT B was to excavate, stabilize, remove, and dispose of contaminated soil from the 13 former building locations.

To provide a basis for taking further action at this site, an ISRA was conducted by WTI to address the extent of contamination at TNT B. The ISRA report addressed each of the 13 areas identified in the RI/FS as requiring excavation. Results from the initial ISRA showed that the excavation limits identified at TNT B by the RI/FS were grossly underestimated and additional excavation was necessary. However, due to funding constraints, complete excavation of the contaminated areas was not possible. To date, the contamination has been completely removed from only 8 of the 13 former building locations. Currently, due to additional funding constraints for this fiscal year, USACE has been able to fund the 5 remaining areas for additional excavation and disposal. Proposed excavations for these areas are based on the horizontal / vertical contamination limits identified during the trenching / test pitting investigation efforts conducted by WTI after the initial ISRA was completed. The findings for each of the 13 areas are detailed in the *Final ISRA TNT B* (WTI May 2006). This report should be used in conjunction with the Plan of Operations for the 5 remaining former building locations.

The proposed approach for this continued ISRA is to excavate the 5 former building locations (Buildings 412, 452, 456, 463 and North East Nail House) to the limits identified in the *Final ISRA TNT B* (WTI May 2006). Excavation to these limits will remove the soil that contains concentrations of the COCs that exceed the PRGs identified in the *Final Action Memorandum for the TNT B Interim Removal Action* (USACE, 2003). Refer to Section 3.1, Table 1 of the Plan of Operations for a list of the COCs and established PRGs.

The estimated volume of contaminated soil to be removed from these areas is 6,718 cubic yards. Once these excavations are complete, the 5 former building locations will be assumed “clean”, based upon confirmation sampling from test pit and trenching activities, and will not require additional excavation. The volumes for these areas were calculated based on the establishment of a perimeter by using test pits and sampling (from both field screening and lab confirmation) to confirm when vertical and horizontal contamination limits were reached. Based on the analytical results from test pits excavated within the contaminated limits, it is assumed that the soil being removed will not be hazardous and therefore, not require stabilization, treatment or hazardous disposal, but can be disposed of at a non-hazardous landfill. In addition, analytical results from previous excavation indicate that the soil may possibly be used for daily cover at the landfill.

Once the soil has been excavated, it will be stockpiled in the same area used during the initial ISRA efforts and sampled (based on the landfill requirements of 1 sample per every 500 cubic yards) for disposal. Refer to Table 5 Section 5.3 for sampling requirements. The stockpiled soil shall be placed on a 6-mil plastic liner so as not to allow possible migration of contaminants into the ground. The stockpile shall also be covered completely with 6-mil plastic liner to eliminate rain-fall run-off issues that may allow for migration of contaminants.

Field screening efforts shall be used to verify the “clean” limits of the 5 former building locations as well as prior to sampling of the stockpiled soil. Although the “clean” limits have been established in the initial ISRA report, use of field screening tests will aid in verifying the excavated walls are still “clean”.

The former building location excavations will be backfilled with clean fill material and graded as necessary to achieve proper drainage, and reseeded. Backfill material will be acquired from an off site source and sampled prior to use. Refer to Section 5.1 Table 2 of the *Plan of Operations* (McTech July 2006) for sampling requirements.

#### **3.4.4 Overview of Tasks**

McTech will provide all equipment, labor, materials and supervision necessary for the ISRA as described by the SOW at TNT B. Activities generally consist of excavation, sampling and disposal of contaminated soil, backfilling with clean material and site restoration. Stabilization of soil, if necessary, will be accomplished with an Addendum to the Plan of Operations, pursuant to a modification of the SOW.

It should be noted that regarding Tasks 1-3, that although plans for the initial ISRA were submitted and approved, due to the change in contractor, a full set of new plans rather than addendums as noted in the SOW are required.

The following tasks are required to be performed under this SOW:

- Task 1** Preparation and submission of a Site Specific Safety and Health Plan.
- Task 2** Preparation and submission of a Quality Control Plan.
- Task 3** Preparation and submission of a Plan of Operations, which shall include information on the disposal of Investigation Derived Waste, Erosion Control, Spill Containment, Sampling and Analysis, Environmental Protection and Materials Handling.
- Task 4** Notification/ scheduling of field activities and coordination of utility marking with NASA officials prior to site mobilization.
- Task 5** Site surveying is necessary for identifying limits of excavation.
- Task 6** Excavation of contaminated material
- Task 7** Disposal of Investigation Derived Waste
- Task 8** Confirmation by field screening each of the excavation pits.
- Task 9** Preparation and submission of the Draft and Final ISRA Report.
- Task 10** Public meeting support will be provided to the USACE for the work defined by this delivery order.

The tasks outlined in this section are described in detail in the Plan of Operations (McTech Corp, July 2006). This work shall be conducted by the Contractor in an environmentally acceptable manner conforming to existing federal, state, and local regulations under USACE Huntington District (CELRH) supervision.

### **3.4.5 Summary of Field Activities**

In accordance with contract requirements, McTech Corp will notify the USACE POC and provide a schedule of events prior to beginning field activities. McTech Corp has retained Mountain State Company to perform surveying of the five areas to be excavated. After Mountain State performs the surveys, McTech Corp will submit the survey information with digging permit forms to the NASA PBS Point of Contact (POC). McTech Corp will not perform excavation activities until NASA issues digging permits. McTech Corp will mobilize to the site and perform clearing and grubbing operations as necessary. Cleared and grubbed material will be placed in windrows on the site for wildlife habitats. Only a small amount of clearing and grubbing is expected to be necessary.

Personnel will prepare a staging area/storage area utilizing 3 layers of 6-mil plastic and concrete barriers. McTech Corp intends to have clean backfill material brought to the site and stored until needed for backfilling the excavations. Excavated materials will be taken to a central location for sampling prior to disposal. It should be noted that low levels of polychlorinated biphenyls (PCBs) were detected in some areas of the site; however, pursuant to the SOW, PCBs are not considered a concern during confirmation sampling and disposal due to their low concentrations in the soil. The walls and the floor of each excavation will be field tested to determine if excavation has been sufficiently removed of nitroaromatic contaminated soil. Confirmation sampling was performed during the initial excavation and test pit activities and will not have to be repeated unless the field screening indicates levels above the PRGs. Refer to the *Interim Soil Removal Action (ISRA) Final Report (WTI 2006)*. Excavated areas will be backfilled with clean soil after confirmation sampling indicates that the contaminants were detected at levels less than the PRGs. Backfilled areas will be seeded and mulched in accordance with the Plan of Operations. Soil samples will be collected of all stockpiled soils for waste characterization purposes (full TCLP analysis). Non-hazardous waste from the site will be transported to the Erie County Landfill for subsequent disposal. Hazardous soil, if present, will remain stockpiled until an addendum to the SOW is approved.

### **3.5 Project Personnel**

The collection of quality data and the completion of any given project are strongly affected by the project organization. A project that is properly organized with personnel responsibilities well-delineated results in a successful project conclusion. A listing of functional areas and qualified personnel are given for this project.

- A. Government Technical POC** —This is the technical POC representing the USACE who will serve as a liaison between the USACE and the contractor.

<u>USACE POC</u>		<u>Phone Number</u>
Lisa Humphreys		(304) 399-5953
	Cellular	(304) 360-2558

- B. NASA Technical POC**— This is the technical POC representing NASA.

<u>NASA POC</u>		<u>Phone Number</u>
Robert Lallier		(419) 621-3234

- C. Contractor's Project Manager** – McTech Corp’s Project Manager provides technical insight and provides supervision for the project. The Project Manager has overall responsibility to see that the project is completed in accordance with the Scope of Work.

<u>McTech Corp Project Manager</u>		<u>Phone Number</u>
Kimberlie Chambers	Cellular	(304) 215-0099
	Alternate	(218) 330-6436

- D. On-site Project Manager**—The On-site Project Manager will be in charge of field activities in coordination with the Contractor’s Project Manager.

<u>C&amp;K Industrial Services On-site Project Manager</u>		<u>Phone Number</u>
Gary Cooper		(216) 642-0055
	Cellular phone	(216) 956-9253

- E. Site Safety and Health Officer (SSHO)** – The SSHO is responsible for safety on site. This person has the authority to stop work if unsafe conditions warrant.

<u>C&amp;K Industrial Services, Inc. SSHO</u>		<u>Phone Number</u>
Gary Cooper		(216) 642-0055
	Cellular	(216) 956-9253

- F. Quality Control Officer (QCO)**—This person is responsible for QC at the site. This person has the authority to stop the work if QC is not being met. The QCO is an employee of McTech Corp and is trained in QC.

<u>McTech Corp QCO</u>		<u>Phone Number</u>
Michael Malloy		(216) 391-7700
	Cellular	(216) 857-4517

- G. Field Personnel** – These personnel are responsible for assisting the Project Managers in completing the tasks required under this contract.

<u>McTech Corp Field Personnel</u>	<u>Phone Number</u>
Dan Cashbaugh	(216) 391-7700
Mike Piunno	
James B. Russell	

- H. Independent Quality Control Team (IQCT)**— An internal quality control team will independently review the work plans and reports to ensure that they meet requirements of the Scope of Work.

<u>McTech Corp IQCT</u>	<u>Phone Number</u>
Mark Perkins	(216) 391-7700
George Karas	(216) 642-0055

- I. REIC Laboratory**—Samples will be sent to the following USACE certified laboratory. REIC Laboratory is located in Beaver, West Virginia.

<u>REIC Laboratory Contact</u>	<u>Phone Number</u>
Grant Wilton	(800) 999-0105

- J. Erie County Landfill**— Non-hazardous soil removed from the site will be disposed of at the Erie County Landfill.

<u>Erie County Landfill Contact</u>	<u>Phone Number</u>
Fred Dobbert	(419) 433-3624

- K. Molnar Construction, Inc.**—This company will be used for the transportation of any non-hazardous materials removed from the site. Additionally, this company will provide and transport clean backfill material to the site from their facility.

<u>Molnar Construction Contact</u>	<u>Phone Number</u>
Matt Molnar	(419) 732-2763
	Cellular (419) 656-3423

- L. Mountain State**—Personnel from Mountain State will perform a survey of the areas to be excavated.

<u>Mountain State Contact</u>	<u>Phone Number</u>
Jim Young	(304) 949-4762

- M. C&K Industrial Services, Inc.**—Non-hazardous IDW containing liquids will be managed by C&K Industrial Services, Inc. located in Cleveland, Ohio.

<u>C&amp;K Industrial Services Inc.</u>	<u>Phone Number</u>
Scott Dean	(216) 642-0055
	Cellular (216) 952-1375

### 3.5.1 Lines of Authority

The McTech Corp Project Manager has overall responsibility for this project. The QCO and the SSHO have the authority to suspend the project in order to address quality control and safety issues. Refer to Appendix B of the QCP for a copy of the letter authorizing the QCO and the SSHO to perform their duties. Appendix D contains resumes of the Project Manager, QCO and the SSHO.

## 4.0 Internal Quality Control

The project will be conducted under the guidance of a Project Manager. The Project Manager will be responsible for ensuring a quality product in the functional area through internal checks and reviews. An internal quality control team will independently review the work plans and reports. This work will be conducted with full communication between team members. Review of problems shall be in writing. Comments from the independent quality control team will be resolved or incorporated in the work plans and reports generated for this project. Only quality products will be released from the review team after signoffs.

### 4.1 Independent Quality Control Team

In addition to the review of the plans/report by the Project Manager, two independent reviewers (1 senior reviewer and 1 peer reviewer) shall review all project submittals. The Senior Reviewer will perform a review of all plans for precision, accuracy, representativeness, comparability, completeness, and verification that the work has been conducted in accordance with the SOW, policies, and guidelines. All comments resulting from the various reviews will be resolved and/or incorporated in the project submittals. The Senior Reviewer for this project is:

<u>Senior Review</u>	<u>Phone Number</u>
Mark Perkins	(216) 391-7700

A Peer Review of the plans will be performed to determine their adequacy, completeness, and verification that the work was conducted in accordance with the scope of work, policies and guidelines.

<u>Peer Review</u>	<u>Phone Number</u>
George Karas	(216) 642-0055

Appendix D contains resumes for members of the IQCT team.

## 5.0 Quality Control Inspections

The Quality Control Officer shall be responsible for performing a three-phase quality control inspection of all definable work features. Notifications, meetings and plan preparation are not

considered definable features of work. The three phases shall include a preparatory phase, an initial phase, and a follow-up phase inspection.

## **5.1 Definable Features of Work**

Notifications, meetings and plan preparation are a definable feature of work for which the three phase inspection forms are not appropriate. Quality control reviews will be performed by McTech Corp's IQCT on all plans, reports, maps and other paperwork submitted to the USACE to ensure their compliance with SOW requirements. The following are the definable features of work, which require a three-phase inspection:

**Task 6**           Excavation of Contaminated Material

**Task 7**           Disposal of Investigation Derived Waste

**Task 8**           Confirmation by field screening each of the excavation pits.

### **5.1.1 Preparatory Phase Inspections**

The preparatory phase inspection is performed prior to beginning each definable feature of work. Refer to Appendix A for a copy of a preparatory phase checklist. Field conditions, changes in the SOW, or safety concerns may require different or additional information being included on the preparatory phase inspection forms. The information anticipated to be necessary to complete a preparatory inspection for each task is as follows:

#### **Task 6 – Excavation of Contaminated Material**

*(Ensure all ORIGINAL waste shipment records go to ATTN: Lisa Humphreys  
USACE HUNTINGTON DISTRICT)*

#### Contract number, project location, and date

*Contract No. W91237-06-C-0003, Plum Brook Ordnance Works, Sandusky, OH, July  
2006*

#### Personnel present on-site (including McTech Corp personnel, subcontractors and suppliers)

*McTech Corp and subcontractor personnel, as well as all site visitors will be listed  
daily, as appropriate*

#### Summary of submittals

*Quality Control Plan*

*Plan of Operations*

*Site Specific Safety and Health Plan*

#### Listing of materials and supplies required on-site

*Waste containers*  
*Heavy equipment*  
*6 mil plastic*  
*Hand tools*  
*Sample collection supplies*  
*Water for dust control*  
*Level D PPE*

Listing of any materials required for the project but not on-site

*Not applicable*

Check of materials on-site to ensure that they meet contract specification

*Not applicable*

Check of material storage to ensure that materials will not be damaged because of storage procedures

*Establish distinct storage areas*

Listing and/or discussion of procedures for accomplishing the definable feature of work

*Check to ensure limits of excavation have been adequately staked by surveyors*

Ensure that any regulatory permits have been acquired in advance of work to be performed

*Check to ensure digging permit is in place*

*Ensure manifests are prepared prior to the transportation of any material*

Identification of any type of testing that is required for the project (includes information on testing facility, frequency of testing, methods involved)

*Sampling and analysis of contaminated soil is required prior to disposal and must be performed in accordance with the Plan of Operations.*

Review of activity hazard analysis to ensure safety of personnel

*Refer to Appendix A of the SSHP*

**Task 7 – Disposal of Investigation Derived Waste**

Contract number, project location, and date

*Contract No. W91237-06-C-0003, Plum Brook Ordnance Works, Sandusky, OH, July 2006*

Personnel present on-site (including McTech Corp personnel, subcontractors and suppliers)

*McTech Corp and subcontractor personnel, as well as all site visitors will be listed daily, as appropriate*

Summary of submittals

*Site Specific Safety and Health Plan; Quality Control Plan; Plan of Operations*

Listing of materials and supplies required on-site

*PPE*

*Waste containers and labels*

*Sampling supplies and containers*

*Water*

Listing of any materials required for the project but not on-site

*Not applicable*

Check of materials on-site to ensure that they meet contract specification

*Check labeling and integrity of all storage containers.*

*Ensure adequate supply of PPE, sampling supplies and containers*

Check of material storage to ensure that materials will not be damaged because of storage procedures

*All sampling equipment and containers should be stored in a weather proof, protected area*

Listing and/or discussion of procedures for accomplishing the definable feature of work

*Detailed procedures are found in the Plan of Operations. Work shall be performed in accordance with SOW, Plan of Operation, USACE, NASA and EPA requirements.*

Ensure that any regulatory permits have been acquired in advance of work to be performed

*Ensure manifests are prepared prior to the transportation of any material*

Identification of any type of testing that is required for the project (includes information on testing facility, frequency of testing, methods involved)

*Sampling and analysis of all liquid and solid IDW waste is required and must be performed in accordance with the Plan of Operations.*

Review of activity hazard analysis to ensure safety of personnel

*Refer to Appendix A of the SSHP*

**Task - 8 Confirmation sampling by field screening each of the excavation pits**

Contract number, project location, and date

*Contract No. W91237-06-C-0003, Plum Brook Ordnance Works, Sandusky, OH, July 2006*

Personnel present on-site (including McTech Corp personnel, subcontractors and suppliers)

*McTech Corp and subcontractor personnel, as well as all site visitors will be listed daily, as appropriate*

Summary of submittals

*Site Specific Safety and Health Plan; Quality Control Plan; Plan of Operations*

Listing of material and supplies required on-site

*Field screening equipment and supplies to screen for nitroaromatic contamination*

Listing of any materials required for the project but not on-site

*Not applicable*

Check of materials on-site to ensure that they meet contract specification

*Confirm field screening equipment and supplies to screen for nitroaromatic contamination*

Check of material storage to ensure that materials will not be damaged because of storage procedures

*Protect weather sensitive materials from the elements*

Listing and/or discussion of procedures for accomplishing the definable feature of work

*Ensure field screening equipment is operational and on-site personnel have been trained in its operation*

Ensure that any regulatory permits have been acquired in advance of work to be performed

*Not applicable*

Identification of any type of testing that is required for the project (includes information on testing facility, frequency of testing, methods involved)

*Field screening of each excavation is required and must be performed in accordance with the SOW and Plan of Operations.*

Review of activity hazard analysis to ensure safety of personnel

*Refer to Appendix A of the SSHP*

### **5.1.2 Initial Phase Inspections**

The initial phase inspection is performed at the beginning of each definable feature of work. Refer to Appendix A for a copy of an initial phase checklist. Field conditions, changes in the SOW, or safety concerns may require different or additional information being included on the

initial phase inspection forms. The information anticipated to be necessary to complete an initial inspection for each task is as follows:

**Task 6 – Excavation of Contaminated Material**

*(Ensure all ORIGINAL waste shipment records go to ATTN: Lisa Humphreys  
USACE HUNTINGTON DISTRICT)*

Contract number, project location, and date

*Contract No. W91237-06-C-0003, Plum Brook Ordnance Works, Sandusky, OH, July 2006*

Personnel present on-site (including McTech Corp personnel, subcontractors and suppliers)

*McTech Corp and subcontractor personnel, as well as all site visitors will be listed daily, as appropriate*

Identify full compliance with procedures identified in the initial phase inspection for each definable feature of work

*Establish work areas and exclusion zones  
Stockpile contaminated soil for sampling and laboratory analysis prior to disposal*

Inspect preliminary work to determine if it is complete and correct (note any deficiencies and complete a deficiency report showing what corrective action will be taken, if applicable)

*Ensure that contaminated soil is confined to the exclusion zone  
Review laboratory analysis of stockpiled soil and submit to landfill prior to transportation*

Establish and document the level of workmanship

*Review and file manifests and daily work logs  
Document field activities with photographs*

Review job safety conditions using the activity hazard analysis

*Refer to Appendix A of the SSHP*

Identify any type of testing required and that is being performed

*Stockpiled soil must be sampled and analyzed according to the Plan of Operations and all USACE and EPA requirements*

## **Task 7 – Disposal of Investigation Derived Waste**

### Contract number, project location, and date

*Contract No. W91237-06-C-0003, Plum Brook Ordnance Works, Sandusky, OH, July 2006*

### Personnel present on-site (including McTech Corp personnel, subcontractors and suppliers)

*McTech Corp and subcontractor personnel, as well as all site visitors will be listed daily, as appropriate*

### Identify full compliance with procedures identified in the initial phase inspection for each definable feature of work

*Establish work areas and exclusion zones*

*Ensure that waste containers are properly labeled*

*Containerize all liquid decontamination waste for sampling and laboratory analysis prior to disposal*

*Containerize all solid waste (PPE, etc.) for sampling and laboratory analysis prior to disposal*

### Inspect preliminary work to determine if it is complete and correct (note any deficiencies and complete a deficiency report showing what corrective action will be taken, if applicable)

*Ensure that removed waste materials have been properly covered and secured*

*Containerize IDW on a daily basis*

*Ensure that waste materials are confined to the exclusion zone*

*Review laboratory analysis of liquid and solid waste prior to transportation and disposal*

### Establish and document the level of workmanship

*Review and file chain of custodies and daily work logs*

*Document field activities with photographs*

### Review job safety conditions using the activity hazard analysis

*Refer to Appendix A of the SSHP*

### Identify any type of testing required and that is being performed

*All liquid and solid waste must be sampled and analyzed according to the Plan of Operations and USACE and EPA requirements*

## **Task - 8 Confirmation sampling by field screening each of the excavation pits**

### Contract number, project location, and date

*Contract No. W91237-06-C-0003, Plum Brook Ordnance Works, Sandusky, OH, July 2006*

Personnel present on-site (including McTech Corp personnel, subcontractors and suppliers)

*McTech Corp and subcontractor personnel, as well as all site visitors will be listed daily, as appropriate*

Identify full compliance with procedures identified in the initial phase inspection for each definable feature of work

*Ensure that each excavation area is screened for nitroaromatics using field screening equipment and supplies outlined in the Plan of Operations*

Inspect preliminary work to determine if it is complete and correct (note any deficiencies and complete a deficiency report showing what corrective action will be taken, if applicable)

*Verify nitroaromatic field screening results are non-hazardous prior to backfilling excavation*

Establish and document the level of workmanship

*Review and file field screening results and daily work logs  
Document field activities with photographs*

Review job safety conditions using the activity hazard analysis

*Refer to Appendix A of the SSHP*

Identify any type of testing required and that is being performed

*Field screening for nitroaromatic contamination conducted in accordance with the SOW and Plan of Operations*

### **5.1.3 Follow-up Phase Inspections**

The follow-up phase inspection is performed as daily checks to ensure the continued compliance with contract requirements. Refer to Appendix A for a copy of a follow-up phase checklist. Field conditions, changes in the SOW, or safety concerns may require different or additional information being included on the follow-up phase inspection forms. The information anticipated to be necessary to complete a follow-up inspection for each task is as follows:

#### **Task 6 – Excavation of Contaminated Material**

*(Ensure all ORIGINAL waste shipment records go to ATTN: Lisa Humphreys  
USACE HUNTINGTON DISTRICT)*

Contract number, project location, and date

*Contract No. W91237-06-C-0003, Plum Brook Ordnance Works, Sandusky, OH, July 2006*

Personnel present on-site (including McTech Corp personnel, subcontractors and suppliers)

*McTech Corp and subcontractor personnel, as well as all site visitors will be listed daily, as appropriate*

Identify full compliance with procedures identified in the follow-up phase inspection for each definable feature of work

*Ensure that all portions of the site have been backfilled and graded*

*Ensure that all McTech Corp and subcontractor supplies and equipment have been removed from the site*

Inspect work to determine if it is complete and correct (note any deficiencies and complete a deficiency report showing what corrective action will be taken, if applicable)

*Visibly inspect the site to verify that all portions of the site have been backfilled and graded*

*Visibly inspect the site to verify all McTech Corp and subcontractor supplies and equipment have been removed from the site*

Establish and document the level of workmanship

*Collect all logs, manifests, and other project documents, review and place in file*

*Review project photographs, ensure proper labeling, and place in file*

Review job safety conditions using the activity hazard analysis

*Place daily safety logs in the file and update company safety records as required*

Identify that required testing meets minimum standards

*Not applicable*

**Task 7 – Disposal of Investigation Derived Waste**

Contract number, project location, and date

*Contract No. W91237-06-C-0003, Plum Brook Ordnance Works, Sandusky, OH, July 2006*

Personnel present on-site (including McTech Corp personnel, subcontractors and suppliers)

*McTech Corp and subcontractor personnel, as well as site visitors will be listed daily, as appropriate*

Identify full compliance with procedures identified in the follow-up phase inspection for each definable feature of work

*Ensure that all of the contaminated materials have been removed from PBOW and disposed of according to the SOW*

Inspect work to determine if it is complete and correct (note any deficiencies and complete a deficiency report showing what corrective action will be taken, if applicable)

*Visibly inspect the site to verify all contaminated materials have been removed from PBOW and disposed of according to the SOW*

Establish and document the level of workmanship

*Collect all logs, manifests, and other project documents, review and place in file  
Review project photographs, ensure proper labeling, and place in file*

Review job safety conditions using the activity hazard analysis

*Place daily safety logs in the file and update company safety records as required*

Identify that required testing meets minimum standards

*Not applicable*

#### **Task - 8 Confirmation sampling by field screening each of the excavation pits**

Contract number, project location, and date

*Contract No. W91237-06-C-0003, Plum Brook Ordnance Works, Sandusky, OH, July 2006*

Personnel present on-site (including McTech Corp personnel, subcontractors and suppliers)

*McTech Corp and subcontractor personnel, as well as all site visitors will be listed daily, as appropriate*

Identify full compliance with procedures identified in the follow-up phase inspection for each definable feature of work

*Ensure field screening result are completed for each excavation area  
Ensure that all McTech Corp and subcontractor supplies and equipment have been removed from the site*

Inspect work to determine if it is complete and correct (note any deficiencies and complete a deficiency report showing what corrective action will be taken, if applicable)

*Verify field screening result for each excavation area are non-hazardous  
Visibly inspect the site to verify all McTech Corp and subcontractor supplies and equipment have been removed from the site*

Establish and document the level of workmanship

*Collect all logs, manifests, field screening results and other project documents, review and place in file*

*Review project photographs, ensure proper labeling, and place in file*

Review job safety conditions using the activity hazard analysis

*Place daily safety logs in the file and update company safety records as required*

Identify that required testing meets minimum standards

*Not applicable*

## **6.0 Project Schedule**

The proposed project schedule is as follows:

Submission of 7 copies of the Draft Site-Specific Safety and Health Plan (SSHP), the Draft Quality Control Plan (QCP), and the Draft Plan of Operations	June 21, 2006
Submission of 7 copies of the Final SSHP, QCP, and Plan of Operations	5 days after receipt of comments but prior to beginning intrusive fieldwork
Submission of ISRA Summary Report	120 days after notice to proceed
Submission of Final ISRA Summary Report	150 days after notice to proceed

## **APPENDIX A    Inspection Forms**

## Deficiency Report

Project Name: \_\_\_\_\_ Contract \_\_\_\_\_

Location: \_\_\_\_\_ Date: \_\_\_\_\_

Reference specifications paragraph: \_\_\_\_\_

Reference Contract Drawing Sheet: \_\_\_\_\_

Deficiency: \_\_\_\_\_

Corrective Action: \_\_\_\_\_

\_\_\_\_\_  
Project Manager/Date

\_\_\_\_\_  
QC Officer/Date

**PREPARATORY PHASE CHECKLIST**

Project Name: \_\_\_\_\_ Contract # \_\_\_\_\_

Location: \_\_\_\_\_ Date: \_\_\_\_\_

Definable Feature: \_\_\_\_\_ Spec. Section \_\_\_\_\_

**PERSONNEL PRESENT**

Name	Position
Company/Government	

**SUBMITTALS** YES NO N/A  
1. Review submittals and/or submittal log 4288. Have all submittals been approved? \_\_\_\_\_  
If No, what items have not been submitted?

2. Are all materials on hand? YES NO N/A  
If No, what items are missing? \_\_\_\_\_

3. Check approved submittals against delivered material.

Comments: \_\_\_\_\_

**MATERIAL STORAGE** YES NO N/A  
1. Are materials stored properly? \_\_\_\_\_  
If No, what action is being taken?

**1. Review each paragraph of specifications and applicable specification**

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**2. Discuss procedures for accomplishing work required by specification**

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**3. Clarify or comment on any differences**

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**PRELIMINARY WORK AND PERMITS**

**1. Ensure that preliminary work is correct and that permits, if required, are on file  
If not, what action is being taken?**

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**TESTING**

**1. Identify test to be performed, frequency, and by whom.**

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---

**2. When is test required?**

---

**3. Where is testing required?**

---

**4. Is testing in compliance with approved plans**

---

**5. Has the testing facility been approved or certified**

---

**SAFETY**

**YES NO**

**Has the SSHP been approved (including the Activity Hazard Analysis)**

\_\_\_\_\_

**Have all on-site personnel reviewed the SSHP and QCP?**

\_\_\_\_\_

---

**QC Officer signature & date**

**INITIAL PHASE CHECKLIST**

**Project Name:** \_\_\_\_\_ **Contract #** \_\_\_\_\_

**Location:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Definable Feature:** \_\_\_\_\_ **Spec. Section** \_\_\_\_\_

**PERSONNEL PRESENT**

**Name** \_\_\_\_\_ **Position** \_\_\_\_\_  
**Company/Government** \_\_\_\_\_

Identify full compliance with procedures identified at preparatory phase. Coordinate plans, specifications, and submittals.

**Comment:** \_\_\_\_\_  
\_\_\_\_\_

**Preliminary Work-** Ensure preliminary work is complete and correct. If not, what action is being taken?

**Comment:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**What Level of Workmanship was established.**

**Comments:** \_\_\_\_\_  
\_\_\_\_\_

<b>TESTING</b>	<b>YES</b>	<b>NO</b>	<b>N/A</b>
Is percentage of QC testing being performed?	_____	_____	_____
Is required material testing being performed?	_____	_____	_____
Does the testing meet minimum standards?	_____	_____	_____
If not, what action was taken _____			

<b>DEFICIENCIES</b>	<b>YES</b>	<b>NO</b>	<b>N/A</b>
Have any deficiencies been encountered?	_____	_____	_____
Was a deficiency report completed, showing deficiency and corrective action?	_____	_____	_____

**SAFETY**

**YES    NO    N/A**

**Have safety meetings been held and documented?**

\_\_\_\_\_

**Comments:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**QC Officer signature & date**

FOLLOW-UP PHASE CHECKLIST

Project Name: \_\_\_\_\_ Contract # \_\_\_\_\_

Location: \_\_\_\_\_ Date: \_\_\_\_\_

Definable Feature: \_\_\_\_\_ Spec. Section \_\_\_\_\_

PERSONNEL PRESENT

Name \_\_\_\_\_ Position \_\_\_\_\_  
Company/Government \_\_\_\_\_

Identify full compliance with procedures identified at preparatory and initial phase. Coordinate plans, specifications, and submittals.

Comment: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Preliminary Work- Ensure preliminary work is complete and correct. If not, what action is being taken?

Comment: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Is level of workmanship being met?

Comments: \_\_\_\_\_

TESTING

	YES	NO	N/A
Is percentage of QC testing being performed?	_____	_____	_____
Is required material testing being performed?	_____	_____	_____
Does the testing meet minimum standards?	_____	_____	_____

If not, what action was taken \_\_\_\_\_

DEFICIENCIES

	YES	NO	N/A
Have any deficiencies been encountered?	_____	_____	_____
Was a deficiency report completed, showing deficiency and corrective action?	_____	_____	_____

**SAFETY**

**YES**

**NO**

**Have safety meetings been held and documented?**

\_\_\_\_\_

\_\_\_\_\_

**Comments:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
**QC Officer signature & date**

CONTRACTOR'S QUALITY CONTROL REPORT (QCR) (ER 1180-1-6)

DATE: \_\_\_\_\_ REPORT NO. \_\_\_\_\_

CONTRACT NUMBER AND NAME OF CONTRACTOR \_\_\_\_\_

DESCRIPTION AND LOCATION OF THE WORK: \_\_\_\_\_

WEATHER CLASSIFICATION: \_\_\_\_\_

CLASS A No interruptions of any kind from weather conditions occurring on this or previous shifts.

CLASS B Weather occurred during this shift that caused a complete stoppage of all work.

CLASS C Weather occurred during this shift that caused a partial stoppage of work.

CLASS D Weather overhead excellent or suitable during shift. Work completely stopped due to results of previous adverse weather.

CLASS E Weather overhead excellent or suitable during shift but work partially stopped due to previous adverse manner.

OTHER Explain. CLASSIFICATION:

CLASS \_\_\_\_\_

TEMPERATURE:

MAX \_\_\_\_\_ MIN \_\_\_\_\_

PRECIPITATION:

INCHES \_\_\_\_\_

CONTRACTOR/SUBCONTRACTORS AND AREA OF RESPONSIBILITY FOR WORK PERFORMED TODAY: (Attach list of items of equipment either idle or working as appropriate.)

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_
- e. \_\_\_\_\_
- f. \_\_\_\_\_
- g. \_\_\_\_\_

1. WORK PERFORMED TODAY: (Indicate location and description of work performed. Refer to work performed by prime and /or subcontractors by letter in Table above.)

**2. TYPE AND RESULTS OF INSPECTION:** (Indicate whether: P-Preparatory, I-Initial, or F-Follow-up and include satisfactory work completed or deficiencies with action to be taken.)

**3. TESTS REQUIRED BY PLANS AND/OR SPECIFICATIONS PERFORMED AND RESULTS OF TESTS:**

**4. VERBAL INSTRUCTIONS RECEIVED:** (List any instructions given by Government personnel on construction deficiencies, retesting required, etc., with action to be taken.)

**5. REMARKS:** (Cover any conflicts in plans, specifications or instructions: acceptability of incoming materials; offsite surveillance activities; progress of work, delays, causes and extent thereof; days of no work with reasons for same.)

**6. SAFETY:** (Include any infractions of approved safety plan, safety manual or instructions from Government personnel. Specify corrective actions taken.)

---

**INSPECTOR**

**CONTRACTOR'S CERTIFICATION:** I certify that the above report is complete and correct and that all material and equipment used, work performed and tests conducted during this reporting period were in strict compliance with the contract plans and specifications except as noted above.

---

**CONTRACTOR'S APPROVED AUTHORIZED REPRESENTATIVE**

## **APPENDIX B    General Checklists**

## Quality Control Field Oversight Checklist General Procedures

The following checklist is provided for use in the field to assure that general QC procedures are followed. The Project Manager or his designee should complete and sign a checklist for the project site.

Project Site \_\_\_\_\_

Date: \_\_\_\_\_

Personnel on-site: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Signature: \_\_\_\_\_

	Yes	No	N/A
1. Did the Field Supervisor or Project Manager discuss the following items with the field crew prior to beginning field activities?			
Site Security issues	_____	_____	_____
Contents of the Plan of Operations	_____	_____	_____
Contents of Site-Specific Safety and Health Plan	_____	_____	_____
Contents of Quality Control Plan	_____	_____	_____
2. Was the USACE notified in writing 2 weeks prior to mobilizing to the site?	_____	_____	_____
3. Was the USACE provided a time schedule for field work?	_____	_____	_____
4. Were digging permits obtained from NASA prior to mobilizing to the site for excavation activities?	_____	_____	_____
5. Did Waste Ron personnel and subcontractors view the safety/orientation video prior to beginning work?	_____	_____	_____

	Yes	No	N/A
6. Were digging permits limits strictly adhered to?	_____	_____	_____
7. Were excavation limits survey by a qualified surveyor prior to performing excavation activities?	_____	_____	_____
8. Were all drawings done in English units and of engineering quality with sufficient detail to show interrelations of major features on the site map (i.e. north arrows, keys, scales, etc.)?	_____	_____	_____
9. Were all drawings done in Microstation 95 (or the newest version) and in conformance with the current USACE CADD standards?	_____	_____	_____
10. If drawings are larger than 8.5" by 11" were they folded to 8.5" x 11" size?	_____	_____	_____
11. At a minimum, photos shall be taken of the following site activities.			
A. Surveying	_____	_____	_____
B. Sites prior to excavation (including Borrow Area)	_____	_____	_____
C. Excavation	_____	_____	_____
D. Stabilization of soil	_____	_____	_____
E. Loading of soil for transportation	_____	_____	_____
F. Sampling activities	_____	_____	_____
G. Decontamination activities	_____	_____	_____
H. Storage/handling of IDW	_____	_____	_____
I. Backfilling of the excavation pits	_____	_____	_____
J. Seed and mulching of all disturbed areas	_____	_____	_____
12. If water was generated during excavation, was it properly containerized, sampled, analyzed, and disposed in accordance with state and federal regulations?	_____	_____	_____
13. Prior to disposal, were excavated and stabilized soils properly stored until analytical results were available?	_____	_____	_____
14. Was clean fill material placed in the excavation pits? (Note: Borrow materials must be tested prior to use as fill)	_____	_____	_____
15. Were excavation areas rough graded as necessary to achieve proper drainage and reseeded/mulched?	_____	_____	_____
16. Was all IDW containerized and sampled?	_____	_____	_____

	Yes	No	N/A
17. Were all IDW drums labeled as to project name, contents, date of collection, and generator? (Note: waste from different sites shall not be mixed)	_____	_____	_____
18. Were the IDW drums secured with tarps, ropes and placed on pallets?	_____	_____	_____
19. Was the USACE POC notified prior to the disposal of the IDW?	_____	_____	_____
20. Did all Contractor personnel document all correspondence, phone conversations and meetings with the USACE?	_____	_____	_____
21. Was water used at the site to control dust during excavation activities?	_____	_____	_____
22. Were flagmen or temporary signage used when working near roads?	_____	_____	_____

## Quality Control Field Oversight Checklist HTRW Sampling Procedures

The following checklist is provided for use in the field to assure that general QC procedures are followed. The Project Manager should complete and sign a checklist for the project site.

Project Site \_\_\_\_\_

Date: \_\_\_\_\_

Personnel on-site: \_\_\_\_\_

Signature: \_\_\_\_\_

What type and how many samples were collected? \_\_\_\_\_

Describe the sampling procedure. \_\_\_\_\_

		Yes	No	N/A
1.	Were representative samples collected?	_____	_____	_____
2.	Were samples properly placed into sample containers?	_____	_____	_____
3.	Was the following information recorded on the sample labels?			
	Site location	_____	_____	_____
	Project number	_____	_____	_____
	Sample Identification number assigned in field	_____	_____	_____
	Description of the sample	_____	_____	_____
	Time and date sample was taken	_____	_____	_____
	Notation of whether preservatives were added to the sample	_____	_____	_____
	Type of preservative	_____	_____	_____
	Type of analysis requested	_____	_____	_____

**Quality Control Field Oversight Checklist**  
**HTRW Sampling Procedures**  
 Continued

	Yes	No	N/A
4. Were samples chilled with ice immediately after collection?	_____	_____	_____
5. Was a COC form filled out on-site?	_____	_____	_____
6. Was the following information recorded on the COC form?			
Project number	_____	_____	_____
Project manager	_____	_____	_____
Site location	_____	_____	_____
Client contact	_____	_____	_____
Description of the sample	_____	_____	_____
Time and date sample was taken	_____	_____	_____
Notation of whether preservatives were added to the sample	_____	_____	_____
Type of preservative	_____	_____	_____
Type of sample such as a grab or composite	_____	_____	_____
Matrix of sample	_____	_____	_____
Amount of sample being transported to the laboratory	_____	_____	_____
Sample number or ID assigned in the field	_____	_____	_____
The appropriate analytical parameters to be tested	_____	_____	_____
7. Were COC seals placed on each sample container (except samples for volatiles analysis)?	_____	_____	_____
8. Was the COC form signed and dated?	_____	_____	_____

**Quality Control Field Oversight Checklist**  
**HTRW Sampling Procedures**  
 Continued

		Yes	No	N/A
9.	Were the following packing and shipping procedures performed?			
	All containers, except the volatile organic analysis (VOA) vials, are to be taped shut.	_____	_____	_____
	Was the drain plug taped shut on the picnic cooler from the inside and outside, and a large plastic bag used as a liner for the cooler?	_____	_____	_____
	Was inert packing material placed in the bottom of the liner?	_____	_____	_____
	Were the sample containers placed upright in the lined picnic cooler in such a way that they do not touch and will not touch during shipping?	_____	_____	_____
	Were plastic ice packs or ice placed in double plastic bags placed around, among, and on top of the sample bottles?	_____	_____	_____
	Was the paperwork going to the laboratory placed inside a sealed plastic bag, which was taped to the inside lid of the cooler?	_____	_____	_____
	Was the cooler taped shut with strapping tape?	_____	_____	_____
	Was at least two signed custody seals placed on the cooler (one in front, the other on the side)?	_____	_____	_____
10.	Was the proper sampling procedure followed as outlined in the Sampling and Analysis Section of the Plan of Operations?	_____	_____	_____
11.	Was sampling equipment properly decontaminated between samples?	_____	_____	_____
12.	Was a decontamination area located where the cleaning activities would not cross-contaminate clean and/or drying equipment?	_____	_____	_____

**Quality Control Field Oversight Checklist**  
**HTRW Sampling Procedures**  
 Continued

		Yes	No	N/A
13.	Was cleaned equipment properly stored?	_____	_____	_____
14.	Were the cleaning and decontamination procedures conducted in accordance with the project plans?	_____	_____	_____
15.	Were sampling locations properly selected?	_____	_____	_____
16.	Were photographs taken of sampling/decon activities?	_____	_____	_____
17.	Was sampling equipment constructed of Teflon, polyethylene, glass, or stainless steel?	_____	_____	_____
18.	Were samples collected in proper order? (least suspected contamination to most contaminated?)	_____	_____	_____
19.	Were clean disposable latex or vinyl gloves worn during sampling and field screening tests?	_____	_____	_____
20.	Were gloves changed between sampling events and screening tests?	_____	_____	_____
21.	Were equipment rinse blanks collected after field cleaning?	_____	_____	_____
22.	Were proper sample containers used for samples?	_____	_____	_____
23.	Were duplicate and split samples collected?	_____	_____	_____
24.	Were samples properly field preserved?	_____	_____	_____
25.	Were field and/or trip blanks utilized?	_____	_____	_____
26.	Were field screening tests utilized for nitroaromatics and lead (where appropriate) prior to collection of the excavation pit confirmation samples?	_____	_____	_____
27.	Were the procedures for the field test kits, as described in the Plan of Operations followed?	_____	_____	_____
28.	Was all information generated during the field screening activities recorded in accordance with the Plan of Operations requirements?	_____	_____	_____

## Quality Control Field Oversight Checklist General Procedures

The following checklist is provided for use in the field to assure that general QC procedures are followed. The Project Manager or his designee should complete and sign a checklist for the project site.

Project Site \_\_\_\_\_

Date: \_\_\_\_\_

Personnel on-site: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Signature: \_\_\_\_\_

	Yes	No	N/A
1. Did the Field Supervisor or Project Manager discuss the following items with the field crew prior to beginning field activities?			
Site Security issues	_____	_____	_____
Contents of the Plan of Operations	_____	_____	_____
Contents of Site-Specific Safety and Health Plan	_____	_____	_____
Contents of Quality Control Plan	_____	_____	_____
3. Was the USACE notified in writing 2 weeks prior to mobilizing to the site?	_____	_____	_____
3. Was the USACE provided a time schedule for field work?	_____	_____	_____
6. Were digging permits obtained from NASA prior to mobilizing to the site for excavation activities?	_____	_____	_____
7. Did McTech Corp personnel and subcontractors view the safety/orientation video prior to beginning work?	_____	_____	_____

	Yes	No	N/A
6. Were digging permits limits strictly adhered to?	_____	_____	_____
7. Were excavation limits survey by a qualified surveyor prior to performing excavation activities?	_____	_____	_____
14. Were all drawings done in English units and of engineering quality with sufficient detail to show interrelations of major features on the site map (i.e. north arrows, keys, scales, etc.)?	_____	_____	_____
15. Were all drawings done in Microstation 95 (or the newest version) and in conformance with the current USACE CADD standards?	_____	_____	_____
16. If drawings are larger than 8.5" by 11" were they folded to 8.5" x 11" size?	_____	_____	_____
17. At a minimum, photos shall be taken of the following site activities.			
A. Surveying	_____	_____	_____
B. Sites prior to excavation (including Borrow Area)	_____	_____	_____
C. Excavation	_____	_____	_____
D. Stabilization of soil	_____	_____	_____
E. Loading of soil for transportation	_____	_____	_____
F. Sampling activities	_____	_____	_____
G. Decontamination activities	_____	_____	_____
H. Storage/handling of IDW	_____	_____	_____
I. Backfilling of the excavation pits	_____	_____	_____
J. Seed and mulching of all disturbed areas	_____	_____	_____
18. If water was generated during excavation, was it properly containerized, sampled, analyzed, and disposed in accordance with state and federal regulations?	_____	_____	_____
19. Prior to disposal, were excavated and stabilized soils properly stored until analytical results were available?	_____	_____	_____
14. Was clean fill material placed in the excavation pits? (Note: Borrow materials must be tested prior to use as fill)	_____	_____	_____
15. Were excavation areas rough graded as necessary to achieve proper drainage and reseeded/mulched?	_____	_____	_____
16. Was all IDW containerized and sampled?	_____	_____	_____

	Yes	No	N/A
23. Were all IDW drums labeled as to project name, contents, date of collection, and generator? (Note: waste from different sites shall not be mixed)	_____	_____	_____
24. Were the IDW drums secured with tarps, ropes and placed on pallets?	_____	_____	_____
25. Was the USACE POC notified prior to the disposal of the IDW?	_____	_____	_____
26. Did all Contractor personnel document all correspondence, phone conversations and meetings with the USACE?	_____	_____	_____
27. Was water used at the site to control dust during excavation activities?	_____	_____	_____
28. Were flagmen or temporary signage used when working near roads?	_____	_____	_____

## Quality Control Field Oversight Checklist HTRW Sampling Procedures

The following checklist is provided for use in the field to assure that general QC procedures are followed. The Project Manager should complete and sign a checklist for the project site.

Project Site \_\_\_\_\_

Date: \_\_\_\_\_

Personnel on-site: \_\_\_\_\_

Signature: \_\_\_\_\_

What type and how many samples were collected? \_\_\_\_\_

Describe the sampling procedure. \_\_\_\_\_

	Yes	No	N/A
1. Were representative samples collected?	_____	_____	_____
2. Were samples properly placed into sample containers?	_____	_____	_____
3. Was the following information recorded on the sample labels?			
Site location	_____	_____	_____
Project number	_____	_____	_____
Sample Identification number assigned in field	_____	_____	_____
Description of the sample	_____	_____	_____
Time and date sample was taken	_____	_____	_____
Notation of whether preservatives were added to the sample	_____	_____	_____
Type of preservative	_____	_____	_____
Type of analysis requested	_____	_____	_____

**Quality Control Field Oversight Checklist**  
**HTRW Sampling Procedures**  
 Continued

	Yes	No	N/A
4. Were samples chilled with ice immediately after collection?	_____	_____	_____
5. Was a COC form filled out on-site?	_____	_____	_____
6. Was the following information recorded on the COC form?			
Project number	_____	_____	_____
Project manager	_____	_____	_____
Site location	_____	_____	_____
Client contact	_____	_____	_____
Description of the sample	_____	_____	_____
Time and date sample was taken	_____	_____	_____
Notation of whether preservatives were added to the sample	_____	_____	_____
Type of preservative	_____	_____	_____
Type of sample such as a grab or composite	_____	_____	_____
Matrix of sample	_____	_____	_____
Amount of sample being transported to the laboratory	_____	_____	_____
Sample number or ID assigned in the field	_____	_____	_____
The appropriate analytical parameters to be tested	_____	_____	_____
7. Were COC seals placed on each sample container (except samples for volatiles analysis)?	_____	_____	_____
8. Was the COC form signed and dated?	_____	_____	_____

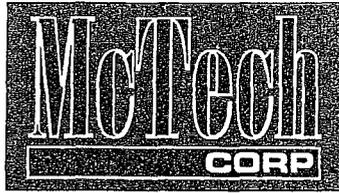
**Quality Control Field Oversight Checklist**  
**HTRW Sampling Procedures**  
 Continued

	Yes	No	N/A
9.			
Were the following packing and shipping procedures performed?			
All containers, except the volatile organic analysis (VOA) vials, are to be taped shut.	_____	_____	_____
Was the drain plug taped shut on the picnic cooler from the inside and outside, and a large plastic bag used as a liner for the cooler?	_____	_____	_____
Was inert packing material placed in the bottom of the liner?	_____	_____	_____
Were the sample containers placed upright in the lined picnic cooler in such a way that they do not touch and will not touch during shipping?	_____	_____	_____
Were plastic ice packs or ice placed in double plastic bags placed around, among, and on top of the sample bottles?	_____	_____	_____
Was the paperwork going to the laboratory placed inside a sealed plastic bag, which was taped to the inside lid of the cooler?	_____	_____	_____
Was the cooler taped shut with strapping tape?	_____	_____	_____
Was at least two signed custody seals placed on the cooler (one in front, the other on the side)?	_____	_____	_____
10.			
Was the proper sampling procedure followed as outlined in the Sampling and Analysis Section of the Plan of Operations?	_____	_____	_____
11.			
Was sampling equipment properly decontaminated between samples?	_____	_____	_____
12.			
Was a decontamination area located where the cleaning activities would not cross-contaminate clean and/or drying equipment?	_____	_____	_____

**Quality Control Field Oversight Checklist**  
**HTRW Sampling Procedures**  
 Continued

		Yes	No	N/A
13.	Was cleaned equipment properly stored?	_____	_____	_____
14.	Were the cleaning and decontamination procedures conducted in accordance with the project plans?	_____	_____	_____
15.	Were sampling locations properly selected?	_____	_____	_____
16.	Were photographs taken of sampling/decon activities?	_____	_____	_____
17.	Was sampling equipment constructed of Teflon, polyethylene, glass, or stainless steel?	_____	_____	_____
18.	Were samples collected in proper order? (least suspected contamination to most contaminated?)	_____	_____	_____
19.	Were clean disposable latex or vinyl gloves worn during sampling and field screening tests?	_____	_____	_____
20.	Were gloves changed between sampling events and screening tests?	_____	_____	_____
21.	Were equipment rinse blanks collected after field cleaning?	_____	_____	_____
22.	Were proper sample containers used for samples?	_____	_____	_____
23.	Were duplicate and split samples collected?	_____	_____	_____
24.	Were samples properly field preserved?	_____	_____	_____
25.	Were field and/or trip blanks utilized?	_____	_____	_____
29.	Were field screening tests utilized for nitroaromatics and lead (where appropriate) prior to collection of the excavation pit confirmation samples?	_____	_____	_____
30.	Were the procedures for the field test kits, as described in the Plan of Operations followed?	_____	_____	_____
31.	Was all information generated during the field screening activities recorded in accordance with the Plan of Operations requirements?	_____	_____	_____

**APPENDIX C    Authorized Letters to QCO and SSHO**



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8100 Grand Avenue • Cleveland, Ohio 44104-3110  
Phone: (216) 391-7700 • Toll Free: (800) 391-7445 • Fax: (216) 391-6951  
www.mctechreadymix.com

## Letter of Notification

**To:** Michael Malloy, McTech Corp  
**From:** Kimberlie Chambers  
**CC:** Mark Perkins, McTech Corp  
**Date:** 6/20/2006  
**Re:** Quality Control Officer – INTERIM SOIL REMOVAL ACTION Continuation,  
Soil Excavation and Disposal, Plum Brook Ordnance Works –TNT Area B, Sandusky, Ohio,  
Contract No. W91237-05-D-0015, Work Order No. 0008

McTech Project Number: MT-0001-05-06

---

### Quality Control Officer Notification

Dear Mr. Malloy,

Please be informed, you are hereby appointed as McTech Corp's Quality Control Officer (QCO) for the above referenced project.

In this role, you are responsible for maintaining quality control during the course of this project. You are granted the authority to stop work of this project at any time should a quality control issue arise. As the McTech Corp QCO, you are responsible for all manners of quality control concerning the tasks of this project and are to ensure all work is done in accordance with the Quality Control Plan prepared for this project.

Should you have any questions, please do not hesitate to contact me at 304-215-0099.

Regards,

A handwritten signature in cursive script that reads "Kimberlie K. Chambers".

Kimberlie K. Chambers  
Environmental Project Manager  
McTech Corp



---

8100 Grand Avenue • Cleveland, Ohio 44104-3110  
Phone: (216) 391-7700 • Toll Free: (800) 391-7445 • Fax: (216) 391-6951  
www.mctechreadymix.com

## Letter of Notification

**To:** Gary Cooper, C&K Industrial Services  
**From:** Kimberlie Chambers  
**CC:** Mark Perkins, McTech Corp; Santina Milczewski, McTech Corp; Scott Dean, C&K Industrial Services  
**Date:** 6/20/2006  
**Re:** Site Safety and Health Officer –INTERIM SOIL REMOVAL ACTION Continuation, Soil Excavation and Disposal, Plum Brook Ordnance Works –TNT Area B, Sandusky, Ohio, Contract No. W91237-05-D-0015, Work Order No. 0008  
  
McTech Project Number: MT-0001-05-06

---

### Site Safety and Health Officer Notification

Dear Mr. Cooper,

Please be informed, you are hereby appointed as McTech Corp's Site Safety and Health Officer (SSHO) for the above referenced project.

In this role, you are responsible for maintaining on-site safety and health. You are granted the authority to stop work of this project at any time should safety or health issues arise. As the McTech SSHO, you are responsible for all manners of safety and health concerning the tasks of this project and are to ensure all work is done in accordance with the Site-specific Safety and Health Plan prepared for this project.

Should you have any questions, please do not hesitate to contact me at 304-215-0099.

Regards,

A handwritten signature in cursive script that reads "Kimberlie K. Chambers".

Kimberlie K. Chambers  
Environmental Project Manager  
McTech Corp

**APPENDIX D Resumes of the IQCT**

# ***GEORGE C. KARAS***

Resume  
January 1, 2006

Office: 5502 Schaaf Road, Cleveland, Ohio 44131  
Telephone: 216-642-1311 Facsimille: 216-642-1312  
E Mail: George@Enviroserve.com

## ***EDUCATION and CERTIFICATIONS***

Bachelor of Business Administration-Finance and Economics

Masters of Business Administration

Hazardous Materials Transportation Courses

Hazardous Waste Operations OSHA Safety Training Courses

Hazardous Waste Operations OSHA Supervisor Training Courses

Certified Hazardous Materials Manager

## ***PROFESSIONAL PROFILE***

Directly involved in the inception and start up of five successful industrial service companies.

Responsible for the design and implementation of operating policies and procedures regarding all aspects of basic business fundamentals.

Responsible for the hiring of all types and levels of employees, including professionals.

Identified, developed, and maintained strategic business partnerships and client relationships.

Ultimately responsible for profitability of various operations.

Present business interests generate over 40 million in annual revenues and provide employment for over 350 employees.

## ***CAREER EXPERIENCE and BUSINESS INTERESTS***

### **SCA Services**

1972 to 1979

A local solid waste hauling and disposal company.

Various field and administrative positions on a part-time basis while attending high school and college.

### **C&K Refuse Systems, Inc.**

1980 to 1984

A local solid waste hauling firm subsequently sold to BFI.

Co-Founder and officer

### **C&K Industrial Services, Inc.**

1980 to present

A specialized industrial waste clean-up contractor with offices in Cleveland, Columbus, Cincinnati, Pittsburgh, Terre Haute and Birmingham.

Co-Founder and officer

### **EnviroServe, Ltd.**

1990 to present

A specialized hazardous waste materials transportation and hazardous waste clean up contractor with offices in Cleveland and Wheeling.

Co-Founder and officer

### **Karas Realty, Ltd.**

1999 to present

A real estate holding company. Includes a warehousing operation that provides long term secure machinery storage service to industrial clients.

Co-Founder and officer

### **Western Reserve Water Systems, Inc.**

2002 to present

A water treatment equipment and service company providing industrial and commercial customers process water designed to their specifications.

Co-Founder and officer

**MARK F. PERKINS**  
**20029 Sussex Avenue**  
**Shaker Heights, Ohio 44122**

**EXPERIENCE**

**McTech Corp. (dba) Tech Ready Mix**  
8100 Grand Avenue  
Cleveland, Ohio 44104  
**PRESIDENT**  
1998-PRESENT

Oversee day-to-day operations. Accountable for bidding, marketing, production finance and customer service. Approve all financial obligations. Develop business opportunities.

**Ascon Consulting Company, Inc.**  
30675 Solon Road, Suite 200, Solon, Ohio 44139  
**PRESIDENT AND CEO**  
1994-1997

Monitoring of laboratory certification process for asbestos and lead air monitoring projects, asbestos and lead survey Projects. Administrative duties included accounting, sales and closures of all projects. Day-to-day supervision of staff.

**Choice Construction Company**  
30675 Solon Road, Solon, Ohio 44139  
**GENERAL SUPERINTENDENT**  
1991-1997

**Immediate Supervisor: William Carter**

Managed all types of Construction projects: General Contracting and Highway. Limited involvement since 1994. Projects completed in Northeast Ohio.

Gateway Development Project  
Rock & Roll Hall of Fame & Museum  
Virginia Kendall  
NASA Lewis Research Center  
Cuyahoga Metropolitan Housing Authority  
(CMHA) Projects

Burke Lakefront Airport  
Jaite Mill Demolition  
Willard Park Garage  
Camp Mueller

**Seawright – F.A.C.E., Inc.**  
Cedar Road, Cleveland, Ohio 44118  
**CONSTRUCTION LABORER**  
1989-1991

**Immediate Supervisor: Argolyn Perkins**

Worked on various street repaving projects throughout Cleveland and Northeast Ohio. Completed tasks in all phases of construction labor on public projects for Ohio Dept. of Transportation and Cuyahoga County Engineer.

**EDUCATION**

Central State University, Wilberforce, Ohio – Business Management, 1987

**QUALIFICATIONS**

Hands on experience from Construction Laborer to Extensive level Construction Estimating  
American Concrete Institute (ACI) Certified Field Technician  
Ohio Ready Mix Concrete Association (ORMCA) Safety Training  
Occupational Safety and Health Administration (OSHA) 10-Hour Safety Certification

## KIMBERLIE K. CHAMBERS

### OBJECTIVE

---

Progressive career advancement and development by expanding my professional abilities and personal growth through challenging opportunities within the environmental field.

### EXPERIENCE

---

#### **2006-Present    McTech Corp    Cleveland, OH**

##### *Environmental Project Manager*

Project manager for Soil and Groundwater Remediation Projects, DER-FUDS, Brownfield Restoration and Redevelopment, Soil and Ground Water Remediation System Design and Implementation, Federal, State and Local Government Project Management

#### **2005-2006    WTI    Poca, WV**

##### *Environmental Specialist*

Project manager for Superfund and NPL sites, Phase I and II Investigations, Groundwater Monitoring, Environmental Compliance and Regulatory Negotiations, Underground Storage Tank Removals, Water Treatment Plant Operation. Technical plan and report writing, plans include: Safety and Health, Quality Control, Work, Sampling and Analysis, Accident Prevention, Operations. Reports include: Limited Site Investigation, Remedial Investigation, Underground Storage Tank Closure, Groundwater Monitoring, Asbestos and Lead Abatement.

#### **2004    United States Postal Service    Washington, DC**

##### *Environmental Analyst*

Managed and directed the collaborative development of the United States Postal Service National Environmental Strategy (2005-2009).

Managed and guided the development of an Environmental Management System, based on the ISO 14001 standard, at Postal Headquarters, Environmental Management Policy.

Authored letters, guidance materials and other documents for top Postal Executive's signatures.

Provided continuous coordination and collaboration with core functional areas at Postal Service Headquarters, Areas and Districts throughout the nation

Managed numerous consultants as well as a 3 million dollar consultant budget

#### **1998-2005    United States Postal Service    Minneapolis, MN**

##### *Environmental Compliance Specialist*

Developed sampling plans and provided interpretation and summary of analytical data including laboratory results from air, asbestos, lead, water, soil and waste testing.

Performed Environmental Assessments of properties the Postal Service proposed for acquisition.

Managed Phase I and Phase II investigations and clean ups of petroleum, asbestos and lead contaminated properties.

Prepared and provided quarterly and annual monitoring reports of contaminated sites to the Minnesota Pollution control Agency as well as well permit and monitoring reports to the Minnesota Department of Health.

Ensured compliance at 971 Postal facilities in Minnesota and Wisconsin including maintenance of NPDES permits, air quality permits, hazardous waste generator

licenses, SARA Title III Title II reports, SPCC plans, storage tank operation and maintenance plans.  
Implemented changes to make possible the applications for the conditional exclusion of no exposure certifications.  
Conducted 337 multimedia compliance reviews in 7 states and 3 EPA regions in at Postal facilities including million square foot processing plants and vehicle maintenance facilities.  
Developed and delivered environmental training courses to employees.  
Applied for and received in excess of \$370,000 in reimbursements from the State of Minnesota for remediation at regulated tank sites.  
Managed asbestos abatements at 208 Postal facilities in 1999 saving 1.1 million dollars in asbestos abatement costs.  
Managed energy savings projects at 154 Postal facilities generating over 3 million dollars in energy savings.

**1994-1998 MN Department of Transportation St. Paul MN**

*Pollution Control Specialist*

Collected samples of soil waste and waste including unknown hazardous material at existing facilities and at proposed highway construction expansion sites.  
Provided analysis, interpretation and made recommendations based on site conditions and analytical results.  
Profiled waste streams and applied waste minimization practices to reduce Minnesota Department of Transportation hazardous waste generator requirements by 90%.  
Conducted business and multimedia audits of waste transport, storage and disposal companies for the State of Minnesota.  
Authored Minnesota Department of Transportation an Minnesota Pollution Control Agency publications and guidance documents  
Planned and presented a conferences sponsored by the Minnesota Pollution Control Agency.

**1988-1994 MN Department of Transportation St. Cloud, MN**

*Traffic Engineering Technician*

Designed Traffic Control Plans using Computer Aided Drafting.  
Participated in public meetings.  
Inspected contractor work.

**EDUCATION**

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1993 St. Cloud State University St. Cloud, MN  
*Bachelor Degree in Earth Science*  
Geology, Hydrology, Chemistry

**TRAINING AND CERTIFICATION (ALL CURRENT)**

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2006 Visible Emissions Evaluation  
2005 First Aid/CPR  
2002 Certified Hazardous Materials Manager (CHMM 11519)  
2001 Registered Environmental Manager (REM 11203)  
1999 40 hour lead inspector/risk manager  
1999 40 hour asbestos inspector/management planner  
1996 Certified Environmental Auditor (CEA 7961)  
1995 EPA certified to sample hazardous materials  
1994 40 hour Hazardous Water Site Operations (HAZWOPER).

**OTHER**

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Vice Chairman of the Sylvan Township Planning Commission  
Member of the Minnesota Planning Association  
Girl Scout leader for the Girl Scouts of St. Croix Valley

**Michael A. Malloy, E.I.**

**1416 W. 110<sup>th</sup> Street, Apt. 304  
Cleveland, Ohio 44102**

**Cell: (216) 857-4517  
email: [mmalloy@mctechreadymix.com](mailto:mmalloy@mctechreadymix.com)**

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**Education**

*Fenn College of Engineering, Cleveland State University; Cleveland, Ohio*  
Bachelor of Science in Civil Engineering  
Graduation Date: *May 2006*

**Relevant Courses of Study**

- Macroeconomics (Spring 2002)
- Concrete Design (Fall 2005)
- Structural Analysis I (Fall 2005)
- Foundation Design (Fall 2005)
- Steel Design (Summer 2005)
- Engineering Economy (Spring 2005)
- Hydraulic Engineering (Fall 2005)
- Wastewater Treatment Plant Design (Fall 2005)

**Certifications**

- First Aid and CPR Certified
- 30 Hour OSHA- Construction Industry Course
- 40 Hour Hazwoper Course
- 8 hr. Confined Spaces Hands-On Course
- USACE Quality Control Management Training

**Activities and Interests**

Cleveland Engineering Society Tutoring Program (Fall 2002)

- Tutored Second Graders in need of help with math and science.

American Society of Civil Engineers Student Chapter (2002- Present)

- Participated in Ohio Contractor for a Day every fall.

Hispanic Engineers National Achievement Awards Corporation, HENAAC; Pasadena, California (2004)

- College Bowl 3<sup>rd</sup> Place Prize Winner.

**Internships**

Ohio Department of Transportation (Summer 2004)

Project Engineering Aide/ Project Inspector

- Studied plans and specifications for RTA Bridge at W. 65<sup>th</sup> and Madison.
- Wrote daily reports and correspondence between parties involved.
- Inspection of work and safety procedures performed by contractor.

Lux Traffic Management; London, England (Summer 2002)

Technician

- Assisted in planning stages of traffic management in the city of London by seeking jobs, preparing drawings, and gaining approval from authorities.
- Planned, installed, maintained, and removed multiple job sites safely and efficiently.

**Michael A. Malloy**

**1416 W. 110<sup>th</sup> Street, Apt.304  
Cleveland, Ohio 44102**

**Cell: (216) 857-4517  
email: mmalloy@mctechreadymix.com**

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**Jobs Requiring Strong Work Ethic**

Mario's International Spas and Hotels (Summer 2005 – Present)

Kitchen Assistant and “Independent Contractor”

- Maintenance of kitchen and restaurant appearance during peak hours and banquets.
- Weekly maintenance of three beauty salons in Cleveland area.

Aurora Landscaping and 43 Landscaping (Summer 2005)

Worker

- Construction of residential pavers, decks, patios and retaining walls.
- Installation of sprinkler systems using trenchers.
- Complete landscaping services for new subdivisions.

**Career Ambitions**

- Professional Engineering License.
- Masters Degree.
- Proficiency with all engineering and planning software.
- To be president of company or start up my own business.

**Hobbies**

- Enjoy learning about ancient and modern history.
- Active in sports, especially soccer.

*References gladly provided upon request.*

7714 Straight Fork Road  
Hamlin, WV 25523

**Gary Cooper**  
PROJECT SUPERVISOR  
234-15-4463

(304) 524-2646

Years with WTI: 11

Years of Environmental &  
Construction Practice: 12

**Professional Affiliations:**

**Education:**

Hamlin High School 1988  
USMC 1991-1995

**General Qualifications**

Mr. Cooper has more than 12 years of environmental and construction experience. As a project supervisor for WTI, he is responsible for overseeing on-site activities for WTI projects. Mr. Cooper specializes in general contracting, earth moving, remediation and demolition projects. He manages field crews for WTI, and is responsible for submitting regular status reports and maintaining all field correspondence with clients.

Before joining WTI, Mr. Cooper worked for Roberts & Sons pipe lining and construction, after the Marine Corps. Mr. Cooper had welding training, Diesel Mechanic training in the Corp.

**References Available Upon Request**

**Experience Highlights**

**Project Manager**

-US Army (1995-1998)  
Pulling UST's  
Contract Value \$7 Mil

- *USACE (1998)*  
Landfill Caps  
Minden, WV  
Contract Value \$1.5 Mil

-ECI (1999)  
Land Fill Cap  
South Point, OH  
Contract Value \$1 Mil

-*USACE (2005)*  
*Site Remediation/Cleanup*  
Project Superintendent  
Fiarmonth, WV  
Contract Value - \$1 million

-USACE (2005 to Current)  
Site Remediation/Investigation  
Project Supervisor  
Sandusky, OH  
Contract Value \$1.8 Mil

## **APPENDIX E    QC Documentation**

# Quality Control Certification

## Quality Control Plan

***INTERIM SOIL REMOVAL ACTION Continuation  
Soil Excavation and Disposal  
Plum Brook Ordnance Works –TNT Area B  
Sandusky, Ohio***

***Contract No. W91237-06-C-0003***

This document is provided to certify that the Project Manager and the Independent Quality Control Team (IQCT) have reviewed the Quality Control Plan. All comments resulting from the various reviews have been resolved and/or incorporated.

Assignment

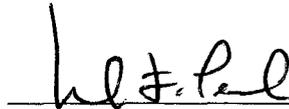
Name

Signature

Date

**Senior Review**

Mark Perkins



7-13-06

**Peer Review**

George Karas



7-12-06

## Comments on Quality Control Plan

### ***INTERIM SOIL REMOVAL ACTION Continuation Soil Excavation and Disposal Plum Brook Ordnance Works –TNT Area B Sandusky, Ohio***

***Contract No. W91237-06-C-0003***

The following comments were provided by the Huntington District of the USCAE. All comments resulting from this review have been resolved and/or incorporated.

#### ***Electronic Comments from Lisa Humphreys 7/7/06***

Responses provided by Kimberlie Chambers 7/9/06

1. The Contract number needs to be revised throughout work plans and there isn't a work order number on these ... W91237-06-C-0003 .... you already knew this and have probably already made that change on all of the plans ...

Concur, the new contract number replaced the old contract number in all instances and in all plans.

2. My last name is misspelled .. should be Humphreys, not Humprhreys ... I'm sure it's just a typo ... just do a word find and replace all ....

Concur, this spelling error was corrected throughout the document.

#### ***Electronic Comments from Frank Albert 7/7/06***

Responses provided by Kimberlie Chambers 7/9/06

1. Defn's – SARA – Ammendments has been misspelled

Concur, corrected spelling by deleting first (m).

2. 2.2, page 3, 4<sup>th</sup> bullet from top. "manger" should be *manager*, for "on-site project man(a)ger"

Concur, corrected spelling by an (a).

3. 3.4.1. The D&M reference is incorrect. This removal action is based upon RI, IT Corp. August 2000 and FS, IT Corp. July 2001. The correct references and full names for each are contained in Sec. 8.0 of the SOW.

Concur, the D&M Reference was replace with the IT reference.

4. 3.4.1, last sentence. There is a period missing, but I wondered if other words were missing. Recommend you also note that the stabilization would be for lead-contaminated soil, and that you anticipate, based upon the field screening, that the levels of nitroaromatic contamination will be below regulatory/haz levels.

Concur, the following paragraph was added, "Based on the analytical results from the test pits excavated within the contaminated limits, it is assumed that the or hazardous waste disposal and can be disposed of at a non-hazardous waste landfill. However, if the levels of contamination in the soil render it unacceptable to the landfill and if ex-situ stabilization of soil is required prior to disposal; a modification to the Scope of Work (SOW) and this Plan of Operations will be necessary."

5. 3.4.3, 2<sup>nd</sup> para., last sentence. There is reference to "**this** Plan of Operations..."...should likely be "**..the** Plan of Operations..."

Concur, "this" was changed to "the".

6. 3.4.5, 2<sup>nd</sup> paragraph.

- a. 1<sup>st</sup> sentence. 6-mill should be 6-mil

Concur, "mill" was changed to "mil"

- b. 3<sup>rd</sup> sentence. "soil piles containing nitroaromatics" is repeated in this sentence.

Concur, this language is found in the fourth sentence and it should be deleted. Segregation is not necessary per the SOW due to the fact that all of the soil is assumed to be non-hazardous.

- c. 5<sup>th</sup> sentence. the phrasing "...to remove the **contaminated nitroaromatics**" should be revised. Did you mean "...the nitroaromatic-contaminated soil"?

Concur, this language is found in the sixth sentence and was changed to "the nitroaromatic contaminated soil".

7. 3.5. The company for Mr. Gary Cooper was not provided, as was the case for the other members of the project team.

Concur, C&K Industrial Services, Inc. has been added for Gary Cooper and McTech Corp has been added for other project personnel.

8. 4.1, bottom of section. It is noted that Appendix C should be **D**, and that the resumes for the PM, QCO, and SSHO were not provided.

Concur, Appendix C was changed to Appendix D. Resumes for the PM QCO and SSHO were added to Appendix D. The following was added to section 3.5.1 since that is the section in which these personnel are mentioned, "Appendix D contains resumes for the Project Manager, QCO and the SSHO."

9. 5.1.1. it is noted that throughout 5.1.1 and beyond, Ordinance (Ordnance) has been misspelled.

Concur, "ordinance" was replaced with "ordnance" throughout the document.

10. 5.1.1, Task 7 and Task 8, Summary of Submittals. The term *Site-specific Quality Control Plan* is included; this should probably be the SSHP.

Concur, "Quality Control" was changed to "Safety and Health".

11. 5.1.2, Task 6, 7 and 8, Identify full compliance with procedures identified.... There is reference in these to the "preparatory phase inspection", which should be revised to the "initial phase inspection"

Concur, "preparatory" was changed to "initial" in this section.

12. 5.1.3, Task 6, 7 and 8, Identify full compliance with procedures identified.... There is reference in these to the "**preparatory** phase inspection", which should be revised to the "**follow-up** phase inspection"

Concur, "preparatory" was changed to "follow-up" in this section.

**Comments on Quality Control Plan  
Quality Control Plan**

***INTERIM SOIL REMOVAL ACTION Continuation  
Soil Excavation and Disposal  
Plum Brook Ordnance Works –TNT Area B  
Sandusky, Ohio***

***Contract No. W91237-06-C-0003***

The following comments were provided by the McTech Corp Project Manager and the Independent Quality Control Team (IQCT). All comments resulting from this review have been resolved and/or incorporated.

General:

Check spacing and reconcile the Table of contents once all changes have been made.

*Response: concur, spacing and Table of Contents were revised as necessary.*

Specific:

Section 1.1, last paragraph, second to last sentence: Delete the word “stabilized as no soil will be stabilized under this SOW.

*Response: concur, deleted.*

Section 3.4.5, last paragraph, last and second to last sentence: Change the word “waste” to “soil” because that is what is really being discussed.

*Response: concur, changed.*