

**Final
Quality Control Plan**

**Remedial Action - Construction
Phase I
Plum Brook Ordnance Works – TNT Area A
Sandusky, Ohio**

Contract Number: W91237-11-C-0008

Prepared for:

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DEFINITIONS AND ACRONYMS

2-ADNT	2-amino-4,6-dinitrotoluene
4-ADNT	4-amino-2,6-DNT
AHA	Activity Hazard Analysis
AOC	Area of Concern
APP	Accident Prevention Plan
CELRH	USACE Huntington District
CFR	Code of Federal Regulations
COC	Contaminant of Concern
COTR	Contracting Officer Technical Representative
CPR	Cardio-Pulmonary Resuscitation
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CY	Cubic Yards
DD	Decision Document
DERP	Defense Environmental Restoration Program
DOD	Department of Defense
DNT	2,4-Dinitrotoluene and 2,6-Dinitrotoluene
FUDS	Formerly Used Defense Sites
HAZWOPER	Hazardous Waste Operations and Emergency Response
HI	Hazard Index

HQ	Hazard Quotient
HTRW	Hazardous, Toxic, and Radioactive Waste
IDW	Investigation Derived Waste
ILCR	Incremental Lifetime Cancer Risk
IQCT	Independent Quality Control Team
ISO	International Organization for Standardization
LDR	Land Disposal Restrictions
mg/L	Milligrams per Liter
mg/kg	Milligrams per Kilogram
NASA	National Aeronautics and Space Administration
NCP	National Contingency Plan
NTE	Not-To-Exceed
OEPA	State of Ohio Environmental Protection Agency
OSHA	Occupational Safety and Health Administration
PBOW	Plum Brook Ordnance Works
PBS	Plum Brook Station
PCB	Polychlorinated Biphenyl
POC	Point of Contact
PPE	Personal Protective Equipment
QA	Quality Assurance
QAP	Quality Assurance Plan
QAR	Quality Assurance Report

QC	Quality Control
QCFOCs	Quality Control Field Oversight Checklists
QCO	Quality Control Officer
QCP	Quality Control Plan
QCR	Quality Control Review
QSM	Quality Systems Manual
RA-C	Remedial Action-Construction
RCRA	Resource Conservation and Recovery Act
RG	Remedial Goal
RI/FS	Remedial Investigation/Feasibility Study
SOW	Scope of Work
SSHO	Site Safety and Health Officer
SSHP	Site-Specific Safety and Health Plan
TCLP	Toxicity Characteristic Leaching Procedure
TMG	TMG Services, Inc.
TNT	2,4,6-Trinitrotoluene
TNTA	TNT Area A
TNTB	TNT Area B
TNTC	TNT Area C
TSCA	Toxic Substances Control Act
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency

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1.0 PURPOSE

This TMG Services, Inc. (TMG) 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. 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 (QAR).

The Huntington District of the United States Army Corps of Engineers (USACE) has achieved International Organization for Standardization (ISO) 9000 certification. TMG is dedicated to providing quality services to the USACE in order to support 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, September 2008

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

Department of Defense Quality Systems Manual for Environmental Laboratories, Version 3 Final, January 2006

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 (SOW) found in Appendix A of the Plan of Operations (TMG, July 2011) 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 soil sampling on this project have received 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training and 8-hour HAZWOPER refreshers in accordance with 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. The SSHP is located in Appendix A of the Accident Prevention Plan (TMG, July 2011).

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:

Note that for this project the Senior Project Manager is the same as the On-Site Project Manager.

- The Senior Project Manager assigns the project to an On-Site Project Manager experienced in the type of work to be completed.
- The Senior Project Manager Project Manager is experienced in the type of work to be completed.

- The Senior Project Manager and On-Site Superintendent review the SOW to determine the extent of work required and to determine the best personnel to be assigned to the project.
- The On-Site Project Manager discusses their personnel requirements with a TMG Administrator who authorizes the use of those personnel.
- The Senior Project Manager then notifies the On-site Project Superintendent that a project is in the planning status and informs the On-site Project Superintendent what personnel he/she would like to use for the project.
- An initial project team will be formed consisting of the Senior Project Manager, Safety and Health Manager, On-Site Project Manager, On-site Project Superintendent, Site-Safety and Health Officer (SSHO), Quality Control Officer (QCO), 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.
- Using this information, draft plans will be prepared as appropriate.
- 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 e.g. QCP, APP, SSHP, etc.
- Draft plans will be submitted to the USACE.
- During the IQCT and USACE reviews, the On-Site Project Manager tentatively schedules equipment, personnel for the project and subcontractors.
- Upon receipt of comments from the USACE, the Senior Project Manager and On-Site Project Manager will review comments from USACE with the technical support personnel to develop an appropriate response to the comment. These responses will be submitted to USACE for approval.
- Comments from the USACE will be incorporated in the plans or resolved prior to beginning work.
- The On-Site 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 successful performance of this project.
- The On-Site Project Manager has the utilities marked prior to performing any intrusive activities. A Dig Permit is required on this project. The permit application will be prepared by TMG and submitted to NASA for approval. NASA approval must be obtained before excavation can begin.
- The On-Site Project Manager confirms the scheduling of equipment and personnel for the project and then performs the project.
- The On-Site Project Manager in coordination with the QCO and SSHO supplies copies of all field documentation which gives a narrative of field activities to the technical support personnel who will prepare the draft report.

- After the draft report is prepared, an internal 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 draft report and the final report will be issued.

2.3 Technical Reviews

Technical reviews include issuance of all project-related documents controlled by a technical review system. Plans and reports will be reviewed by the Senior Project Manager and by qualified, independent reviewers to ensure proper documentation. All project submittals will be independently reviewed by a minimum of 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 will be resolved and/or incorporated in the project submittals.

All plans and reports will be subjected to peer and senior review to determine their adequacy, completeness and verification that the work was conducted in accordance with the SOW, policies and guidelines. A senior reviewer shall review all project submittals.

2.4 Document Control

Project technical and administrative files will be maintained at TMG's Cleveland Office. Additionally, copies of all work plan documents will be kept in the field office trailer for reference during the construction efforts.

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. The Senior 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 by the Senior Project Manager to ensure that project submittals are performed in a timely manner.

2.6 Project Management

The Senior 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 Contracting Officer Technical Representative (COTR) 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. TMG will use Microbac Laboratories (Microbac) located in Marietta, Ohio to perform laboratory analysis for this project. Microbac meets the Department of Defense (DOD) Quality System Manual (QSM) requirements. Refer to Appendix D for a copy of Microbac's DOD QSM certification.

Pursuant to the SOW, no quality assurance (QA) samples will be collected. The laboratory will be responsible for ensuring that their personnel adhere to their laboratory's Quality Assurance Plans (QAP), which is located in Appendix D of the Plan of Operations (TMG, July 2011). 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 United States Environmental Protection Agency (USEPA) guidelines for reporting as outlined in Level 4, QA/QC Levels of Reporting. The Level 4 report shall include the following:

- Case Narrative (information shall include the number and type of samples received, analysis of those samples, any problems that occurred and whether quality control was within acceptable limits, etc.)
- Analytical Report (raw data and summary of all sample analysis information including surrogates for organic methods). Detection limits/reporting limits shall be included.
- Chain-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, mid-level calibration checks, spike and spike duplicates, sample duplicates, laboratory control samples along with laboratory control sample duplicates (if applicable) and surrogate recoveries (if applicable). All QC shall include acceptance criteria and relative percent data where applicable.

Any sample failing the method or laboratory quality control limit may only be re-analyzed if reasons are agreed upon by the analytical laboratory, TMG, USACE POC and Ohio EPA jointly making the decision. The sample failing the method or laboratory QC limit will be resampled if the sample requiring re-analysis has exceeded the hold-time specified for the method. This decision must be also made jointly by the laboratory, TMG, USACE and the Ohio EPA.

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; this data will be responsible for

seeing that field personnel adhere to the QCP. Quality Control Field Oversight Checklists (QCFOC) to be used for field activities are provided in Appendix B. The QCFOCs will be completed for each project area.

Quality controls utilized in sample collection include, but are not limited to following the approved plans and procedures for sample collection, proper documentation of sample collection activities and site conditions, reporting and resolving any problems during sampling activities along with proper handling, preserving, packaging and shipment of samples. No quality control samples will be collected for this project.

2.8.2 Quality Control for Field Activities

Field quality control for site activities is important to the proper completion of a project. The Senior Project Manager, On-Site Project Manager and/or the On-Site Project Superintendent are 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 (QCO) will be responsible for performing quality control oversight and reporting findings to the On-site Project Manager. General QCFOCs to be used for field activities are provided in Appendix B.

Please note that the Senior Project Manager is the same as the On-Site Project Manager. The Senior Project Manager, On-Site Project Manager and/or the On-site Project Superintendent will be responsible for overseeing the work performed by TMG personnel and TMG's subcontractors. The QCO will be responsible for ensuring that QC measures are followed to ensure proper completion of the project. The QCO may stop work any time 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 along with their condition at time of delivery, storage methods and condition of the material at the time of use. The work performed by subcontractors will be inspected to ensure that it meets requirements of the contract SOW. Work not meeting requirements of the contract SOW will be immediately stopped and remedied.

2.8.3 Daily Quality Control Reports

Quality Control Reports (QCR) will be prepared daily and document all activities that occur on site. Daily QCRs will be dated and signed by the On-site Project Manager or the QCO. TMG will utilize the USACE QCR form (see Appendix A). The following information will be recorded on the Daily QCR:

- Work performed
- Preparatory, initial and follow-up phase inspections.
- Safety
- Samples taken and tests performed
- Weather information
- Field instrument calibration and 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 of a discrepancy discovered in the field, during an audit 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 On-Site Project Manager will address discrepancies relating to field procedures. Any deviations from approved plans shall be fully documented. The USACE COTR shall be notified if deviations to the approved plans are necessary. No deviations to approved plans shall be made without the prior written approval of the USACE COTR. No deviations from the approved plans that compromise data quality or personnel safety shall be allowed. All deviations and corrective actions will be documented in the Deficiency Report located in Appendix A of this QCP.

2.10 Site Security

NASA PBS provides site-wide security and conducts site-wide checks and patrols 24-hours per day, 7 days per week. Pursuant to the SOW, coordination with PBS personnel will be conducted by USACE to ensure that TMG is allowed access to/from the site to perform all activities during the construction phase. TMG and its subcontractors shall be required to enter/exit through the PBS security gate. TMG is responsible for ensuring that TMG employees and subcontractors follow all rules set forth by the PBS security. Security requirements, as set forth by PBS, shall not be compromised. TMG personnel and subcontractors are required by NASA to review a safety video prior to performing any on-site activities.

The On-site Project Manager 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

Remedial Action - Construction (RA-C), Phase I

3.2 Project Location

TNT Area A (TNTA) of Plum Brook Ordnance Works (PBOW) located in Sandusky, Ohio

3.3 Customer/Sponsor

USACE, Huntington District (CELRH) (Contract No. W91237-11-C-0008)

3.4 Project Description

3.4.1 Background and Purpose

The purpose of this contract is for the excavation and disposal of non-hazardous soil within TNTA of the PBOW site, located in Sandusky, Ohio. USACE Huntington District (LRH) is the responsible authority under the Defense Environmental Restoration Program (DERP) at the former TNTA. Based on the results of the completed Remedial Investigation/Feasibility Study (RI/FS) for soils, the USACE will conduct a RA-C in the TNTA. The remediation will be performed to prevent human exposure at the site containing any of the 9 constituents of for soils at concentrations that exceed remediation goals. The remediation goals are chemical- and receptor-specific risk based remedial criteria that capture all the exposure assumptions and toxicological data used in the risk assessment.

Phase I of the TNTA RA-C will consist of the excavation of approximately 17,157 cubic yards (CY) of material, excavation confirmatory sampling, stockpiling and disposal characterization of excavated soils, backfilling of the excavation pits with clean material (if remedial goals have been met), off-site disposal of non-hazardous soil, staging of hazardous soil on the treatment pad, and maintenance of the hazardous soil windrows and treatment pad. The remediation is protective of human health and the environment and complies within the requirements of the United States Environmental Protection Agency (USEPA) and the State of Ohio Environmental Protection Agency (OEPA). These requirements are applicable, relevant and appropriate towards the remedial action; it's cost effective, utilizes permanent solutions and treatment of resource recovery technologies to the maximum extent practicable and satisfies the requirement for treatment as a principle element of the remedy. No soil contaminants will be left at levels to which direct exposure would be considered unacceptable.

The Plan of Operations (TMG, July 2011) provides complete details of the activities that are to be performed. Section 3.4.5 of this QCP provides a summary of the activities to be performed during this RA-C.

3.4.2 Site Location and History

The site of 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. PBOW 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 in early 1941 as a manufacturing plant for 2,4,6-trinitrotoluene (TNT), dinitrotoluene (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 operating period. The three explosive manufacturing areas were designated TNT Area A (TNTA), TNT Area B (TNTB) and TNT Area C (TNTC). Twelve process lines were used in the manufacture of TNT, four lines at TNTA, three lines at TNTB and five lines at TNTC. The SOW for this contract deals with the TNTA area.

The TNTA area occupies approximately 114 acres of land in the Northeastern part of PBOW, with Columbus Avenue bisecting the site. NASA's Engineering Building, associated areas and one of the former TNT process buildings (Building 121 Mono House) cover a small portion of the site. The rest of TNTA is partially wooded (less than 25%) and consists predominantly of large, open areas of grasslands. Controlled burning is used in the vicinity of TNTA. Much of the southeastern portion of TNTA around the Engineering Building is mown lawn. Several aboveground features that indicate former PBOW facilities were present are still evident at TNTA. These include roads, fire hydrants, water valves, a water valve control well, railroad track line foundations and former building pad foundations. Several below-ground features are also present, including manholes, drains and underground utility lines (indicated by aboveground water valves).

TNTA is slightly hilly, generally increasing in elevation from southeast to northwest. Small ditches transect the site, eventually draining into a small east-west tributary to Lindsley Ditch. The smaller ditches are dry during periods with little rainfall.

There are several areas within TNT A that are potential wetlands. NASA is currently conducting a sitewide wetlands delineation study and is willing to share information relative to the TNT A excavations. The delineation study will define the proximity of the wetlands to the AOCs within the remediation area in TNT A.

Nitroaromatic compounds are the major soil contaminants at TNTA. The presence of nitroaromatic soil contamination is likely due to spills on the surface and leaks from holding areas, flumes and pipelines associated with former TNT manufacturing operations conducted at the facility.

After plant operations ceased, TNTA'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. Subsequently, the property was transferred to the Ordnance Department, then to the War Assets Administration after it was certified by the U.S. Army to be decontaminated. In 1949, PBOW was transferred to the General Services Administration (GSA). In 1955, the GSA completed further decontamination of TNTA. This effort included removal of contaminated surface and subsurface soil around the building

and wastewater disposal lines containing TNT. Thousands of pounds of TNT were discovered in catch basins; this was removed and burned at the burning grounds.

Two property use agreements were entered into by the Army and the National Advisory Committee of Aeronautics, the predecessor of NASA, in 1956 and 1958 respectively. On March 15, 1963, accountability and custody of the entire PBOW property was transferred to NASA by the Department of the Army. NASA performed further decontamination efforts during 1964. The NASA decontamination process included removing contaminated surface soil above the drain tiles, flumes, etc., destruction of all buildings by fire, then removal of all soil, debris, sumps and above-grade portions of concrete foundations. Portions of the concrete foundations located below grade were left buried, and some were previously considered slightly above grade were likewise buried. All materials, including the soil in those areas were flashed; the area was then rough-graded. The decontamination process was also to have included the burning of nitroaromatic-filled flumes that were excavated.

NASA has operated and maintained the former PBOW property since 1963, and the facility is currently known as the NASA Glenn Research Center, Plum Brook Station. NASA operates the property as a space research facility in support of their John Glenn Research Center at Lewis Field, Cleveland, Ohio. Most of the aerospace testing facilities built in the 1960s at the site are currently on 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 the area as a bus transportation area. The General Services Administration retains ownership of the remaining excess acreage and currently has a use agreement with the Ohio National Guard for 604 acres of this land. NASA presently controls approximately 6,400 acres.

PBOW is administered as a Formerly Used Defense Site (FUDS), and any contamination on the property that is a result of these activities is the responsibility of the Army under the DERP-FUDS program. Under CERCLA, the president delegated authority to the DoD (Secretary of Defense) for clean-up of active and formerly used defense sites. In addition, SARA (Section 211) required the Secretary of Defense to implement the DERP, which in turn delegated the authority to the USACE, thereby granting the USACE the authority to conduct removal/remediation projects such as TNTA.

TNTA consist mostly of large, open grasslands with less than 25% wooded areas. These grassy and wooded areas currently have no regular use., with the exception of a model airplane flying club, the Hurieott Flyers, who utilize a portion of the area located behind the Engineering Building. During excavation and transportation of soil to the stockpile pad, TMG will coordinate work in these areas as closely as possible with the club's flying schedule to minimize impact on their recreational flying (i.e., conducting excavation activities in the late fall and winter timeframes). However, the remediation effort will be a priority in this area. Also, the NASA Engineering Building and associated parking lots are located on a small area within TNTA. The small streams and ditches that transect TNTA are not large enough to support game fish and have no identified human uses; however, the streams provide aquatic habitat and a source of water for wildlife, and as noted previously, there are potential wetlands in TNT A.

3.4.3 Overview of Remedy and Proposed Action

In 2001, USACE conducted Remedial Investigation (RI) activities for TNTA soils, surface water and sediment. During the RI, TNTA soil was investigated by process line or building type. As part of the RI, human health and ecological risk assessments were conducted for TNTA. Out of the 27 building areas investigated, 18 building areas were identified as having contaminants above the Remedial Goals (RGs). Nine contaminants of concern (COCs) were identified in surface and subsurface soil. Five of those COCs are nitroaromatics (2-amino-4,6-dinitrotoluene (2-ADNT), 4-amino-2,6-DNT (4-ADNT), 2,4-Dinitrotoluene (2,4-DNT), 2,6-Dinitrotoluene (2,6-DNT), 2-nitrotoluene, 4-nitrotoluene, and 2,4,6-Trinitrotoluene (2,4,6-TNT)) and are clearly site related. The remaining two COCs are polychlorinated biphenyls (PCBs –Aroclor 1260) and lead.

The proposed approach for this RA-C is to excavate all the areas in which the concentration of COCs in soil exceeds the RGs. The estimated total volume of contaminated soil from TNT A is 17,157 CY. Following excavation of the contaminated soil from each AOC, soil samples from the walls and floor will be collected and submitted to the contract laboratory for analysis. The soil samples will be analyzed for total nitroaromatics, total lead and Aroclor 1260 to ensure the AOC has been remediated to meet the remedial goals established in the FS. Additional soil excavation may be required laterally if indicated by a comparison of the confirmation samples to the RGs and OEPA's cancer and non-cancer risk goals. However, additional removal of soil to a greater depth is not anticipated as virtually all of the excavations are expected to extend to either bedrock or the water table, whichever comes first.

Of the total estimated volume of 17,157 CY, an estimated 12,380 CY is targeted for disposal, without remediation, at a regulated non-hazardous landfill. The Erie County Landfill has been approved by Ohio EPA to receive the non-hazardous soil from USACE/PBOW soil remediation projects and used as daily cover. Acceptance of the TNT A soil will be subject to approval by Erie County Landfill Officials, based on their review of TCLP analytical results. The remaining 4,777 CY are anticipated to be a characteristic hazardous waste based on toxicity as determined by TCLP analysis. The hazardous soil will be transported to the remediation pad for subsequent remediation under a Phase II scope. It is also estimated that 119 CY of soil will be Toxic Substances Control Act (TSCA)-regulated material based on its PCB concentration exceeding 50 mg/kg (the concentration at which PCBs are hazardous.). This 119 CY of material is also likely hazardous with respect to 2,4-DNT based on anticipated TCLP results. Approximately half (60 CY) of this TSCA-regulated material is likewise anticipated to be hazardous with respect to lead. The volumes of hazardous soil were calculated using the "20 time rule". This is a conservative approach and the actual volumes of hazardous and nonhazardous soil could be less or more depending on the analytical results.

The technologies outlined in the approved Decision Document (DD) were not designed to treat PCBs. Generally, areas with elevated concentrations of PCBs in TNTA soil are collocated with elevated nitroaromatic concentrations. If soils with PCB concentrations <50 mg/kg are encountered, and that soil is non-hazardous (based on TCLP toxicity), the soil will be transported

to the non-hazardous waste landfill and used for daily cover. Soils with PCB concentrations > 50 mg/kg will be transported to a TSCA approved landfill. Excavation of soil with PCB concentrations >50 mg/kg is not anticipated since none of the soil samples in the RI had PCB concentrations that exceeded the concentration of 50 mg/kg.

Non-hazardous soil (based on TCLP results) above RG levels will be transported to the non-hazardous landfill for use as daily cover. Hazardous soil (based on TCLP results) will be transported to the remediation pad and placed in windrows for future treatment. The windrows will be secured to withstand exposure to the climatic conditions and to prevent run-on and run-off of precipitation. No treatment will be performed on the hazardous soil under this SOW.

Based on the results of the human health risk assessment, the RGs presented in Table 1 were developed for soil in TNT A. Under this SOW, no remedial activities are planned for the TNT A groundwater. Groundwater is being evaluated on for TNT A under Project 1826.

The TNTA RGs are used for three purposes: 1) identify and estimate the extent of areas to be remediated prior to the commencement of remediation efforts, 2) determine the limits of excavation during confirmation sampling, and 3) determine if soil poses a threat to human health or the environment.

The RGs were used as criteria for the purpose of identifying areas at TNTA requiring soil remediation. They will also be used statistically during excavation and confirmation sampling as part of a risk-based approach to aid in determining whether additional soil removal is required. This will involve the averaging of samples from each excavation and comparing the analytical results to the respective RGs. The exceedance of an individual RG for nitroaromatic COCs will be acceptable for an area of an excavation as long as the overall PBOW 1×10^{-5} cancer risk goal ($ILCR \leq 1 \times 10^{-5}$) and noncancer hazard goal ($HI \leq 1$) are not exceeded by the summed ILCR and summed HI of all nitroaromatic COCs for the area represented by those samples. A cancer risk goal of 1×10^{-5} was selected for remediation at PBOW, as this is the logarithmic midpoint of the 1×10^{-6} to 1×10^{-4} cancer risk management range under CERCLA. It is noted that the State of Ohio recognizes a risk-based cleanup goal of 1×10^{-5} , but the Army recognizes the CERCLA risk management range. Also, for selected and approved Remedial Alternative #5, which is the only alternative that may include on-site placement of materials treated for nitroaromatics, the RGs will be used to make determinations as to when materials have been adequately treated. Even if an individual RG is exceeded for a batch of treated material, the material may be placed on-site if the average concentrations for the batch do not exceed the overall PBOW risk goals (i.e., $ILCR < 1 \times 10^{-5}$ and $HI \leq 1$). The health effects of lead are evaluated separately from those of other chemicals. Therefore, the comparison of lead concentrations in confirmation samples to the lead RG (400 mg/kg) does not consider the summed cancer risks or non-cancer hazards of other COCs, and the cleanup for lead is met when the average concentration of lead for an excavation does not exceed 400 mg/kg. Similarly, the cleanup goal for Aroclor 1260 is met when the average concentration for an excavation does not exceed its RG. Because Remedial Alternative #5 is not intended to treat lead or PCBs for on-site placement, the RGs for lead and Aroclor 1260 are not used to determine post-remediation suitability for on-site placement of treated materials.

As described in the previous paragraph, the remedial efforts will use the RGs as part of a risk-based approach which results in a remediation that achieves the PBOW risk goals. This approach considers additive non-cancer effects of nitroaromatics and additive carcinogenic effects, such that even if all COCs were hypothetically present at their respective RGs, the PBOW risk goals would not be exceeded. Although the TNTA soil remediation is designed using overall site risks focused on the PBOW cancer and non-cancer risk goals, CERCLA and the National Contingency Plan (NCP) require that not-to-exceed (NTE) cleanup values be developed. Therefore, to satisfy the CERCLA/NCP requirement, NTE cleanup levels are included in the table below. These NTE values were derived using the RGs, the PBOW risk goals and the following hypothetical scenarios: 1) For each COC, it is assumed that COC is the only COC present within the area being remediated; 2) post-excavation confirmation samples are collected from each of four sidewalls and the excavation floor (total of five samples), with four of these being non-detect and the fifth being detected at a concentration that, when averaged with the other four samples, does not exceed the PBOW risk goals. It is emphasized that these NTE cleanup values are included to meet the CERCLA/NCP requirement and that that cleanup will be based on use of the RGs and the PBOW overall ILCR ($\leq 1 \times 10^{-5}$) and HI (≤ 1), including cumulative risks and hazards. Thus, this remediation approach is designed to achieve the PBOW goals and will comply with the requirements of CERCLA and the NCP. Refer to Table 1 for the RGs, NTE levels, non-cancer and cancer values.

TABLE 1. Remedial Goals for Total Soil

COC	RG (mg/kg)	NTE Cleanup Level ^a	Basis of RG	Hazard Quotient (HQ) of RG	Incremental Lifetime Cancer Risk (ILCR) of RG
2-Amino-4,6-dinitrotoluene	1.3	19	RBRC	0.32	NA
4-Amino-4-6,dinitrotoluene	1.7	19	RBRC ^b	0.42	NA
2,4,6-Trinitrotoluene	8.0	166	RBRC	0.24	6E-7 ^c
2-Nitrotoluene	31	3600	RBRC	0.043	NA
4-Nitrotoluene	9	3600 ^d	RBRC	0.012	NA
2,4-Dinitrotoluene	6.0	37	RBRC	0.04 ^e	8E-6
2,6-Dinitrotoluene	1.5	37	RBRC	0.02 ^e	2E-6
Aroclor 1260	1.0	5	RBRC	NA	3.4E-6(5E-8) ^f
Lead	400	2000	TBC ^g	NA	NA
Total HI/ILCR				1.0^b	1.0E-5(1.3E-5)ⁱ

FOOTNOTES:

^aCleanup level required by CERCLA and NCP that no single confirmation sample can exceed without additional excavation. Value shown is the RG set at an HQ of 1 (or ILCR of 1E-5 for dinitrotoluenes and Aroclor 1260) and multiplied by five, assuming that a minimum of 5 samples will be collected from each excavation. It is also assumed that the four nondetects are present at 0.2 mg/kg (one-half a reporting limit of 0.4 mg/kg) for averaging purposes. These NTE values do not apply if there is more than one detection of a single COC from an excavation.

^bRisk Based Remediation Concentrations (RBRC) values are described in the human health risk assessment. The specific HQ and ILCR values selected for each COC are shown in the columns above. These were selected in the feasibility study to result in a cumulative noncancer hazard index of 1 and a cumulative ILCR of 1E-5, which are the PBOW risk-based goals.

^cRG derived on the basis of non-cancer effects; cancer risk is *de minimis* (<1E-6).

^dBecause of rounding error, the calculated NTE cleanup level for 2-nitrotoluene is less than that for 4-nitrotoluene; therefore, the value for 2-nitrotoluene is also used for 4-nitrotoluene.

^eRG derived on the basis of carcinogenicity; noncancer effects are *de minimis* (HQ<0.1).

^fValue shown in parentheses is the ILCR for the highest detected concentration (0.077 mg/kg) among the areas not proposed for remediation based on the nitroaromatic RGs; this value is *de minimis* (i.e., <1 E-6).

^gEPA soil screening value for average lead concentration (EPA, 1998).

^hTotal HI reflects the additive effects of the nitroaromatics at the respective RG levels.

ⁱValue outside of parentheses is for nitroaromatics at the RG levels and the maximum detected concentration among the remaining samples for residualPCBs; value shown in parentheses is the total ILCR assuming the Aroclor 1260 concentration is equal to the RG.

3.4.4 Overview of Tasks

TMG shall provide all equipment, labor, materials and supervision necessary for the remediation of the TNTA site. Remediation activities consist of excavation of the contaminated soil from the 18 AOCs, segregation of lead-contaminated soil, confirmation sampling, stockpile sampling for disposal, transport hazardous soil to remediation pad, off-site disposal of non-hazardous soil, and remediation pad maintenance concurrent with excavation activities. The following tasks are required to be performed under this SOW:

- Task 1* Preparation/Submittal of a Site-Specific Accident Prevention Plan as outlined in Appendix A of EM 385-1-1 (2008)
- Task 2* Preparation/Submittal of a Quality Control Plan (QCP)
- Task 3* Preparation/Submittal of a Plan of Operations
- Task 4* Field Activities/Utilities
- Task 5* Site Survey
- Task 6* Excavation
- Task 7* Disposal/Investigative Derived Waste (IDW)
- Task 8* Confirmation / Disposal Sampling
- Task 9* Preparation / Submission of Draft & Final Construction Completion Report
- Task 10* Public Meeting Support
- Task 11* Threatened & Endangered (T &E) Species Confirmation Vegetation Survey
- Task 12* Maintenance of Remediation Pad

The tasks outlined in this section are described in detail in the Plan of Operations (TMG, July 2011). This work will be conducted by TMG in an environmentally acceptable manner conforming to existing federal, state and local regulations under CELRH supervision.

3.4.5 Summary of Field Activities

In accordance with contract requirements, TMG will notify the USACE POC and provide a schedule of events prior to beginning field activities. A description of all field activities is included in the Plan of Operations (TMG, July 2011).

3.5 Project Personnel and Lines of Authority

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 area and qualified personnel are given for this project. The Senior Project Manager, the On-Site Project Manager, Safety and Health Manager and on Site Safety and Health Officer have been authorized in writing to stop work should unsafe conditions exist. As previously mentioned in Section 2.2 Project Planning and Section 2.8.2 Quality Control for Field Activities, the Senior Project Manager is the same as the On-Site project Manager. The Quality Control Officer and Alternate have been authorized in writing to stop work should a QC issue arise or the standard set forth in this QCP are not achieved. These individuals' appointment letters can be found in Appendix D.

Note that for this project the Senior Project Manager is the same as the On-Site Project Manager.

- 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>Contact Information</u>
Lisa Humphreys	Office Phone: (304) 399-5953 Cellular Phone: (304) 617-1461 Email: lisa.a.humphreys@usace.army.mil

- B. NASA POC** - This is the POC representing NASA.

<u>NASA POC</u>	<u>Contact Information</u>
Robert Lallier	(419) 621-3234 Email: robert.f.lallier@nasa.gov

- C. Senior Project Manager** - TMG's Senior Project Manager provides technical insight and provides corporate level supervision for the project. The Senior Project Manager has overall responsibility to see that the project is completed in accordance with the Scope of Work.

<u>TMG Services, Inc. Senior Project Manager</u>	<u>Contact Information</u>
Helen Owens	Cellular Phone: (419) 504-8008 Alternate Cellular Phone: (937) 478-2322 Email: howens@tmgservicesusa.com

- D. Safety and Health Manager/data support**- The SHM provides oversight of the Safety and Health Program. The SHM is responsible for developing, maintaining, and overseeing implementation of the SSHP. Additionally, they will coordinate, summarize and maintain laboratory data and perform risk calculations (HI/ILCR).

Safety and Health Manager Contact Information
Kimberlie Bumgardner Cellular Phone: (304) 215-0099
Email: kbumgardner@mctech360.com

- E. On-Site Project Manager** - The On-Site Project Manager will be responsible for on-site activities in coordination with TMG's Senior Project Manager.

On-Site Project Manager Contact Information
Helen Owens Cellular Phone: (419) 504-8008
Alternate Cellular Phone: (937) 478-2322
Email: howens@tmgservicesusa.com

- F. On-Site Project Superintendent** - The On-Site Project Superintendent will be responsible for on-site activities when the On-Site Project Manager is away from the site. It is anticipated that the On-Site Project Manager will be on-site for the majority of the project.

On-Site Project Superintendent Contact Information
Dan Cashbaugh Cellular Phone: (216) 404-8109
Email: dcashbaugh@tmgservicesusa.com

- G. Site Safety and Health Officer** - The SSHO is responsible for safety on site. The SSHO or designee will be on site at all times.

Site Safety and Health Officer Contact Information
Dan Cashbaugh Cellular Phone: (216) 404-8109
Email: dcashbaugh@tmgservicesusa.com

- H. Quality Control Officer** - This person is responsible QC at the site. The QC Officer shall be responsible for coordinating sampling activities with the Environmental Technician. The QCO or their alternate shall be on site at all times.

Quality Control Officer Contact Information
James Russell Cellular Phone: (216) 857-1112
Email: jrussell@tmgservicesusa.com

Environmental Technician / Alternate QC Officer Contact Information
Keith Morris Cellular Phone: (304) 444-2001
Email: kmorris@tmgservicesusa.com

- I. Field Personnel** - These personnel are responsible for assisting the On-Site Project Manager in completing the tasks required under this contract.

TMG Services, Inc. Field Personnel Contact Information

Dan Cashbaugh Cellular Phone: (216) 404-8109
Email: dcashbaugh@tmgservicesusa.com

James Russell Cellular Phone: (216) 857-1112
Email: jrussell@tmgservicesusa.com

Keith Morris Cellular Phone: (304) 444-2001
Email: kmorris@tmgservicesusa.com

Clarence Brown – Laborer 1
Alex Romick – Laborer 2

Sean Jones – Truck Driver 1
Jim Garwood – Truck Driver 2

Gary Price – Operator 1
Mike Stout – Operator 2

The certifications of additional field personnel required to perform this contract will be provided to the USACE as an addendum to this QCP.

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

TMG Services, Inc.'s Independent Quality Control Team Contact Information

Christine Smith Office Phone: (304) 201-2205
Email: csmith@mctech360.com

Richard Armstrong Office Phone: (304) 201-2205
Cellular Phone: (304) 932-5490
Email: rarmstrong@mctech360.com

- K. Contract Laboratory** - Samples associated with the will be sent to the following USACE QCM certified laboratory. Microbac Laboratories, Inc. located in Marietta, Ohio.

Microbac Laboratories Contact Contact Information

Tony Long Phone: (740) 373-4071
Email: tony.long@microbac.com

- L. Disposal Facility for Non-Hazardous Soil** - Non-hazardous soil will be transported to the Erie County Landfill and used as daily cover for the operations.

<u>Erie County Landfill</u>	<u>Contact Information</u>
Fred Dubbert – Landfill Superintendent	Office Phone: (419) 433-3624 Cellular Phone: (419) 656-0581 Email: fdubbert@erie-county-ohio.net

Bob Sennish – Waste Approvals	Office Phone: (419) 433-7303 Cellular Phone: (419) 656-0554 Email: bsennish@erie-county-ohio.net
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- M. Barnes Nursery** - Barnes Nursery will be used for the transportation of any non-hazardous materials to the Erie County Landfill and to transport clean backfill material to the site.

<u>Barnes Nursery Contact</u>	<u>Contact Information</u>
Jarrett Barnes	Cellular Phone: (419) 656-3652 Email: jsbarnes@barnesnursery.com

- N. John Hancock and Associates, Inc.** - Personnel from John Hancock and Associates, Inc. will provide surveying activities such as surveying and staking excavation boundaries, surveying stockpiles and windrows to measure volume of soil. Perform a survey of the excavations and measure the volume of material excavated from the excavations.

<u>John Hancock and Associates, Inc. Contact</u>	<u>Contact Information</u>
Alex Etchill	Phone: (419) 625-7838 Email: NA

- O. Midwest Environmental Services, Inc.** - Midwest will be the primary provider of waste profiling, transportation and disposal services for hazardous soil and/or liquid, and if necessary, PCB-contaminated soils (>50 mg/kg).

<u>Midwest Environmental Services, Inc. Contact</u>	<u>Contact Information</u>
Greg Wilfong	Office Phone: (513) 681-9990 Cellular Phone: (513) 368-4105 Email: gwilfong@midwestenvironmentalservices.com

Doug Gronauer	Office Phone: (513) 681-9990 Cellular Phone: (513) 535-5047
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- P. EQ Environmental** - The hazardous disposal facility for the contaminated soil is EQ Environmental located in Michigan.

EQ Environmental Contact Contact Information
Debbie Ferrari Office Phone: (800) 592-5489

EQ Environmental's EPA ID Number: MID 000 724 831

- Q. Enviro-Clean Inc.** - Non-hazardous IDW containing liquids will be transported to Enviro-Clean Inc. located in Wooster, Ohio for ultimate disposal.

Enviro-Clean Inc. Contact Information
Dave Stroh Office Phone: (330) 264-8080

Enviro-Clean, Inc.'s EPA ID Number: OHR 000 033 951

- R. McTech Corp** - TMG will rent equipment from McTech Corp during this project. McTech Corp will also provide logistical support to the project.

McTech Corp Contact Contact Information
Kimberlie Bumgardner Office Phone: (304) 201-2205
Cellular Phone: (304) 215-0099
Email: kbumgardner@mctech360.com

- S. Tuffman Equipment and Supply** - TMG will rent equipment from Tuffman Equipment and Supply.

Tuffman Equipment and Supply Contact Contact Information
Mike Speer Office Phone: (800) 622-7052
Cellular Phone: (419) 656-3683

- T. Clean Harbors (Cleveland)** - Emergency Response Contact

Clean Harbors Contact Contact Information
Clay Curtis Office Phone: (216) 429-2401
Alternate: (800) 645-8265

4.0 INTERNAL QUALITY CONTROL AND INDEPENDENT QUALITY CONTROL TEAM

The project will be conducted under the guidance of the Senior Project Manager. The Senior 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.

In addition to the review of the plans/report by the Senior 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>Contact Information</u>
Richard Armstrong	Office Phone: (304) 201-2205 Cellular Phone: (304) 932-5490 Email: rarmstrong@mctech360.com

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>Contact Information</u>
Christine Smith	Office Phone: (304) 201-2205 Email: csmith@mctech360.com

Appendix D contains resumes for members of the IQCT team, the Senior Project Manager, the Environmental Program Manager/Safety and Health Manager, the On-Site Project Manager, the On-Site Project Superintendent/SSHO, the QCO, and the the QCO alternate..

5.0 QUALITY CONTROL INSPECTIONS

The QCO shall be responsible for performing a three-phase quality control inspection of all definable work features. The three phases shall include a preparatory phase, an initial phase and a follow-up phase inspection. Notifications, meetings and plan preparation are not considered definable features of work.

To provide evidence of satisfactory work performance, verification test data and results of field inspections will be completely documented in the Daily QC Report. As part of the work control activities, a digital color photographic record will be prepared. The photographic record will be saved to CDs and stored at the on-site construction trailer and at TMG's Cleveland office.

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. Daily Quality Control Reviews will be performed by

TMG's QCO on all field efforts undertaken during this project. The QCR's will include information such as any reports, maps, utility survey with NASA to verify AOC locations, pad maintenance and other paperwork submitted to the USACE to ensure compliance with SOW requirements. Daily QC efforts will also detail soil transportation to the remediation pad and soil going to the landfill. Daily QCR's will be completed throughout all field efforts and at all times including periods of inclement weather, delays and equipment difficulties. The following are the definable features of work, which require a three-phase inspection:

- Task 6** Excavation
- Task 7** Disposal/Investigative Derived Waste (IDW)
- Task 8** Confirmation / Disposal Sampling
- Task 10** Public Meeting Support
- Task 11** Threatened & Endangered (T &E) Species Confirmation Vegetation Survey

The multi-phases of control and inspection of work performed by TMG will be performed for each definable feature of work listed above. The preparatory, initial, follow-up and completion phases are described below, with required actions listed for each phase.

5.1.1 Preparatory Phase Inspections

The preparatory phase inspection is performed by the QCO prior to beginning each definable feature of work. The preparatory inspection will include:

- A review of the contract/project plans, drawings and scope of work, if applicable;
- A review of each paragraph of applicable specifications and any identified variances ;
- A check to ensure that all materials and/or equipment have been approved and tested as required;
- A check to ensure that provisions have been made to provide required QC inspection and testing;
- Examination of the work area to ensure that all required preliminary work has been completed in conformance with contract requirements;
- A physical examination of required materials, equipment and sample work to ensure that they are on-hand; that they conform to approved shop drawings or submitted data; and that they are properly stored;
- A review of the appropriate Activity Hazard Analysis (AHA) to ensure that applicable safety requirements are in place;
- Discussion of procedures for constructing the work, including elimination of repetitive deficiencies;
- Discussion of the acceptable level of workmanship required to meet the contract specifications;
- Project documentation of the tolerances and workmanship standards for the phase of

- work being inspected;
- Verification that the necessary plans have been submitted to and accepted by the USACE.

The USACE will be notified at least 24 hours in advance of beginning the required actions of the preparatory phase to allow attendance by the USACE POC.

A meeting will be conducted by the QCO and attended by appropriate personnel responsible for the definable features of work. The results of the preparatory phase inspection will be documented on the inspection form and if necessary by separate minutes prepared by the QCO and attached to the Daily QC Report.

Additional preparatory phase inspections may be conducted on the same definable feature of work as determined by the USACE, if any of the following conditions occur:

- The quality of work is unacceptable;
- There are changes in the applicable QC personnel or in the on-site production supervision or work crew;
- Work on a definable feature has resumed after a substantial period of inactivity;
- Any other circumstances, as warranted.

The preparatory inspection will insure that the plan, materials, equipment and safety procedures meet the project requirements. Inspections will be made as soon as possible after the delivery of equipment and materials to the job site, and prior to their installation. The QCO will make sure that provisions have been made for the proper storage of materials and equipment in order to protect them from damage on the construction site.

Refer to Appendix A for a copy of a preparatory phase checklist.

5.1.2 Initial Phase Inspections

The initial phase inspection is performed at the beginning of each definable feature of work.

The initial inspection will include:

- A check of preparatory work to ensure that it is in compliance with contract/project requirements;
- A review of the minutes of the preparatory meeting;
- Verification of required control inspection and testing in accordance with the contract/project;
- Establishment of acceptable workmanship standards and verification that acceptable workmanship levels meet applicable standards;
- Resolution of differences or conflicts in interpretation of work scope or contract specifications;
- A safety check to include verification of compliance with the AHA.

The USACE will be notified at least 24 hours in advance of beginning the required actions of the initial phase to allow attendance by the USACE POC.

The results of the initial phase inspection will be documented on the inspection form and by separate minutes prepared by the QCO and attached to the Daily QC Report, if appropriate. The initial phase will be repeated for each new crew to work on-site or anytime acceptable specified quality standards are not being met. Additional initial phase inspections may be conducted on the same definable feature of work as determined by the USACE, if:

- the quality of ongoing work is unacceptable;
- there are changes in the applicable QC personnel or in the on-site supervision or work crew;
- work on a definable feature is resumed after a substantial period of inactivity; or other circumstances warrant.

Refer to Appendix A for a copy of an initial phase checklist.

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, including control testing and corrective actions until completion of the particular feature of work. Checks will be made a matter of record in the daily QC document.

At the completion of all work or any increment thereof, the QCO and USACE will conduct a final inspection of the work. The work will be inspected for conformance to plans and specifications and for quality, workmanship and completeness. An itemized list containing QCO and USACE noted deficiencies will be compiled that includes a summary of work not properly completed, inferior workmanship and work not complying with plans and specifications.

This “Punch List” will be included with the daily QC documents and submitted to the USACE POC with an estimated date for correction of each identified deficiency.

Following correction of work, a second inspection will be conducted by the QCO and USACE to ensure that all deficiencies have been corrected.

Refer to Appendix A for a copy of a follow-up phase checklist.

6.0 PROJECT SCHEDULE

The proposed project schedule is as follows:

Submission of 8 copies of the Draft APP/SSHP, the Draft QCP and the Draft Plan of Operations 30 days after contract award

Submission of 6 copies of the Final APP/SSHP, QCP and Plan of Operations	10 days after approval of response to comments but prior to beginning intrusive fieldwork
Submission of Draft Construction Completion Report	480 days (16 months) after approval of work plans
Submission of Final Construction Completion Report	30 days after approval of response to comments

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 _____

(List additional personnel on reverse side)

SUBMITTALS

1. Review submittals and/or submittal log 4288. Have all submittals been approved? YES NO N/A
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

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

SPECIFICATIONS

1. Review each paragraph of specifications and applicable specification

2. Discuss procedures for accomplishing work required by specification

3. Clarify or comment on any differences

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?

TESTING

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

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 APP been approved (including the Activity Hazard Analysis)

Have all on-site personnel reviewed the APP and QCP?

DOCUMENTATION

YES NO

Have all QCFOCs and CQCR identified in the APP and QCP been completed?

COMMENTS

QC Officer Signature & Date

INITIAL PHASE CHECKLIST

Project Name: _____ Contract # _____

Location: _____ Date: _____

Definable Feature: _____ Spec. Section _____

PERSONNEL PRESENT

Name _____ Position _____

Company/Government _____

(List additional personnel on reverse side)

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: _____

<u>TESTING</u>	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 _____			

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

<u>SAFETY</u>	YES	NO	N/A
Have safety meetings been held and documented?	_____	_____	_____

<u>DOCUMENTATION</u>	YES	NO
Have all QCFOCs and CQCR identified in the APP and QCP been completed?	_____	_____

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

Is percentage of QC testing being performed?

YES NO N/A

Is required material testing being performed?

Does the testing meet minimum standards?

If not, what action was taken

DEFICIENCIES

Have any deficiencies been encountered?

YES **NO** **N/A**

Was a deficiency report completed, showing deficiency and corrective action?

SAFETY

Have safety meetings been held and documented?

YES **NO**

DOCUMENTATION

Have all QCFOCs and CQCR identified in the APP and QCP been completed?

YES **NO**

Comments: _____

QC Officer Signature & Date

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 Superintendent or Project Manager discuss the following items with the field crew prior to beginning field activities?	_____	_____	_____
	Site Security issues	_____	_____	_____
	Contents of the Contract Specifications	_____	_____	_____
	Contents of Site-Specific Safety and Health Plan	_____	_____	_____
	Contents of Quality Control Plan	_____	_____	_____
2.	Was the USACE notified in writing 2 weeks prior to mobilization 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 construction activities?	_____	_____	_____
5.	Did TMG personnel and subcontractors view the NASA PBA safety/orientation video prior to beginning work?	_____	_____	_____

	Yes	No	N/A
6. Were digging permit limits strictly adhered to?	_____	_____	_____
7. Were excavation limits surveyed 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 V.8 (or the newest Version) and in conformance with the current USACE CADD standards?	_____	_____	_____
10. 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. Loading of soil for transportation	_____	_____	_____
E. Sampling Activities	_____	_____	_____
F. Decontamination activities	_____	_____	_____
G. Storage/handling of IDW	_____	_____	_____
H. Backfilling of the excavation pits	_____	_____	_____
I. Seeding and mulching of all disturbed areas	_____	_____	_____
J. Alkaline Hydrolysis (if necessary)	_____	_____	_____
K. Windrow Composting (if necessary)	_____	_____	_____
L. Metals stabilization (if necessary)	_____	_____	_____
11. If water was generated during excavation, was it properly containerized, sampled, analyzed, and disposed in accordance with state and federal regulations?	_____	_____	_____
12. Prior to disposal, were excavated soils properly stored until analytical results were available?	_____	_____	_____
13. Was clean fill material placed in the excavation pits? (Note: Borrow materials must be tested prior to use as fill)	_____	_____	_____

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

APPENDIX C **Authorized Letter to the On-Site Project Manager, Safety and Health
Manager, Quality Control Officer, Site-Specific Safety and Health
Officer and Alternate QCO**



TMG Services, Inc

240 Oliver Street, Suite One
St. Albans, West Virginia 25177
Voice : 304-722-6015
Data : 304-722-6017
www.tmgservicesusa.net

November 3, 2011

TO: Helen Owens

SUBJECT: Appointment of Senior Project Manager/ On-Site Project Manager
Remedial Action-Construction
Phase I
Plum Brook Ordinance Works-TNT Area A
Sandusky, Ohio
Contract Number: W91237-11-C-0008

Dear Ms. Owens,

Please be informed, you are here by appointed as TMG's Senior Project Manager / On-Site Project Manager for the above mentioned project.

In this role you are responsible for on-site Coordination, direction, and implementation of all field activities performed under this contract. You are granted the authority to stop work at any time should a quality control or safety issue arise. As TMG's Senior Project Manager/ On-Site Manager, you are responsible for all manners of on-site supervision and safety concerning the tasks of this project and are to ensure all work is done in accordance with the technical specifications, Plan of Operation (PoO) developed for this project..

Should you have any questions, please do not hesitate to contact me at (304) 722-6015.

Regards,

Nicole Perkins
CEO
nperkins@tmgservicesusa.com

Acknowledged:

Helen Owens
Date



TMG Services, Inc

240 Oliver Street, Suite One
St. Albans, West Virginia 25177
Voice : 304-722-6015
Data : 304-722-6017
www.tmgservicesusa.net

November 3, 2011

TO: Kimberlie K. Bumgardner

SUBJECT: Appointment of Safety and Health Manager
Remedial Action-Construction
Phase I
Plum Brook Ordinance Works-TNT Area A
Sandusky, Ohio
Contract Number: W91237-11-C-0008

Dear Mrs. Bumgardner,

Please be informed, you are here by appointed as TMG's Safety and Health Manager for the above mentioned project.

In this role you are responsible for development and oversight of TMG's Site-Safety and Health Plan (SSHP) during implementation of all field activities performed under this contract. You are granted the authority to stop work at any time should a safety issue arise. As TMG's Safety and Health Manager, you are responsible for all manners of safety concerning the tasks of this project and are to ensure all work is done in accordance with the technical specifications, Accident Prevention Plans (APP), EM 385-1-1 dated September 2008.

Should you have any questions, please do not hesitate to contact me at (304) 722-6015.

Regards,

Nicole Perkins
CEO
nperkins@tmgservicesusa.com

Acknowledged:

Kimberlie K. Bumgardner

11.17.11
Date

Environmental Remediation and Consulting
Waste Management
Construction Management
General Contracting

8(A) • Hub Zone • MBE • WBE



TMG Services, Inc

240 Oliver Street, Suite One

St. Albans, West Virginia 25177

Voice : 304-722-6015

Data : 304-722-6017

www.tmgservicesusa.net

November 3, 2011

TO: Dan Cashbaugh

SUBJECT: Appointment of On-Site Project Superintendent / Site Safety and Health Officer
Remedial Action-Construction

Phase I

Plum Brook Ordinance Works-TNT Area A

Sandusky, Ohio

Contract Number: W91237-11-C-0008

Dear Mr. Cashbaugh,

Please be informed, you are here by appointed as TMG's On-Site Project Superintendent and Site Safety and Health Officer (SSHO) for the above mentioned project.

In this role you are responsible for on-site Coordination, direction, and implementation of all field activities performed under this contract. You are granted the authority to stop work at any time should a quality control or safety issue arise. As TMG's On-Site Superintendent and SSHO, you are responsible for all manners of on-site supervision and safety concerning the tasks of this project and are to ensure all work is done in accordance with the technical specifications, Accident Prevention Plan (APP), EM 385-1-1 dated September 2008.

Should you have any questions, please do not hesitate to contact me at (304) 722-6015.

Regards,

Nicole Perkins

CEO

nperkins@tmgservicesusa.com

Acknowledged:

Dan Cashbaugh

Date

11-16-2011

Environmental Remediation and Consulting
Waste Management
Construction Management
General Contracting

8[A] - HUB Zone - MBE - WBE



TMG Services, Inc

240 Oliver Street, Suite One
St. Albans, West Virginia 25177
Voice : 304-722-6015
Data : 304-722-6017
www.tmgservicesusa.net

November 3, 2011

TO: James Russell

SUBJECT: Appointment of Alternate Site Safety and Health Officer
Remedial Action-Construction
Phase I
Plum Brook Ordinance Works-TNT Area A
Sandusky, Ohio
Contract Number: W91237-11-C-0008

Dear Mr. Russell,

Please be informed, you are here by appointed as TMG's Alternate Site Safety and Health Officer (SSHO) for the above mentioned project.

In this role you are responsible for on-site oversight of TMG's Site-Safety and Health Plan (SSHP) during the implementation of field activities performed under this contract. You are granted the authority to stop work at any time should a quality control or safety issue arise. As TMG's Alternate SSHO, you are responsible for all manners of safety concerning the tasks of this project and are to ensure all work is done in accordance with the technical specifications and Accident Prevention Plan (APP), EM 385-1-1 dated September 2008.

Should you have any questions, please do not hesitate to contact me at (304) 722-6015.

Regards,

Nicole Perkins
CEO
nperkins@tmgservicesusa.com

Acknowledged:

James Russell

11-16-2011
Date

Environmental Remediation and Consulting
Waste Management
Construction Management
General Contracting



TMG Services, Inc

240 Oliver Street, Suite One
St. Albans, West Virginia 25177
Voice : 304-722-6015
Data : 304-722-6017
www.tmgservicesusa.net

November 3, 2011

TO: Keith Morris

SUBJECT: Appointment of Alternate Quality Control Officer
Remedial Action-Construction
Phase I
Plum Brook Ordinance Works-TNT Area A
Sandusky, Ohio
Contract Number: W91237-11-C-0008

Dear Mr. Morris,

Please be informed, you are here by appointed as TMG's Alternate Quality Control Officer (QCO) for the above mentioned project.

In this role you are responsible for the on-site quality control for all field activities performed under this contract. You are granted the authority to stop work at any time should a quality control issue arise. As TMG's Alternate 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 technical specifications and Quality control Plan (QCP) prepared for this project.

Should you have any questions, please do not hesitate to contact me at (304) 722-6015.

Regards,

Nicole Perkins
CEO
nperkins@tmgservicesusa.com

Acknowledged:

Keith Morris

Date

Environmental Remediation and Consulting
Waste Management
Construction Management
General Contracting

8(A) - Hub Zone - MSE - WSE

APPENDIX D Resumes of Key Personnel

Senior Project Manager/On Site Project Manager

Helen Owens



TMG Services, Inc

*240 Oliver Street, Suite One
St. Albans, West Virginia 25177*

Voice : 304-722-6015

Data : 304-722-6017

www.tmgservicesusa.net

Helen Owens **Project Manager**

Voice: (304) 722-6015

Data: (304) 722-6017

Cellular: (419) 504-8008

Email: howens@tmgservicesusa.com

Education

A.A.S., Environmental Quality Assurance, 1977

B.S., Business Management, June 2004

Training and Certifications

Class I Wastewater Operator, Ohio

Class I Laboratory Analyst, Ohio

Certified – 40 Hour Hazardous Waste Operations and Emergency Response (HAZWOPER)

Current HAZWOPER Refresher

Professional Experience

With over 33 years experience as an environmental consultant and technician, Ms. Owens has diverse experience in air and water pollution evaluations including protocol development, management of field activities, data collection, industrial and municipal wastewater treatment, process evaluations, and compliance consulting.

Ms. Owens is currently providing technical support to the US Army Corps of Engineers (USACE)-Huntington District on the Restoration Advisory Board for the Plum Brook Ordnance Works, Sandusky, Ohio. Her responsibilities include public outreach activities, coordination of public meetings, newsletters, development of the Community Relations Plan, and other tasks as directed by the USACE Project Manager. Also for the Huntington District, Ms. Owens provides technical support in the collection of seasonal groundwater level fluctuations to support groundwater modeling development, and collection and interpretation of monitoring well water levels, coordination and implementation of an off-site well survey to determine migration patterns of contaminants. Ms. Owens provided contractor support in USACE's composting project to reduce TNT and DNT contamination levels. In addition to the Huntington District, Ms. Owens also provides contractor support to USACE-Nashville District on the Remedial Investigation / Feasibility Study of the former Plum Brook Ordnance Works (PBOW), located in Sandusky, Ohio. PBOW manufactured TNT and DNT in WWII and investigations have identified 16 areas of concern with regard to soil and groundwater contamination.

Ms. Owens currently provides program support to the City of Marysville, Ohio where she is responsible for the implementation of the Industrial Pretreatment Program (IPP). Ms. Owens provides similar support services to the

City of Mason, Ohio. Her services include development of an industrial user survey; permit writing, and coordination of industrial compliance activities, enforcement and development of Local Limit parameters. Ms. Owens has served as the Contract Pretreatment Coordinator for the City of Middletown, Ohio.

Ms. Owens provided technical guidance to industrial operations in troubleshooting specific wastewater treatment problems, including the development and implementation of an industrial wastewater operator training seminar, evaluation of industrial wastewater treatment operations and making recommendations to achieve and maintain regulatory compliance. She has also been responsible for the day-to-day operation of sanitary wastewater treatment plants as a contractor to the USACE, and small municipal and industrial facilities.

Ms. Owens' experience includes numerous projects, such as groundwater monitoring well and soil sampling, storm water monitoring, Phase I environmental assessments, preparation of air and wastewater permit applications, development of Spill Prevention, Control and Countermeasure (SPCC) Plans under the direction and review of a Professional Engineer, air emissions monitoring programs and environmental audits of industrial facilities.

In addition to working full-time as a consultant, in 2005 Ms. Owens opened her own business to support USACE in maintaining electronic documents in a database and on the Huntington Districts' Formerly Used Defense Site (FUDS) website. This activity is on-going and is conducted on a part-time schedule.



PROFESSIONAL DEVELOPMENT SUPPORT CENTER
HUNTSVILLE, ALABAMA

CERTIFICATE

This is to certify that

Helen Owens

has completed the Corps of Engineers Training Course

CONSTRUCTION QUALITY MANAGEMENT FOR CONTRACTORS

Given at Dayton, OH By CELRL-CD April 22-23, 2008
Location Instructional District Date

Wesley Barber
Facilitator

Sponsored by: Associated General Contractors

THIS CERTIFICATE EXPIRES FIVE YEARS FROM DATE OF ISSUE

Gary Z. Anderson
Chief, USACE Professional Development Support Center

Certificate of Completion

This certificate was presented to

HELEN J. OWENS

for successful completion of the

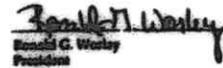
40-HOUR HEALTH & SAFETY TRAINING COURSE

in accordance with the

**OSHA Hazardous Waste and Emergency Response Operations Standard
(29 CFR 1910.120)**

JANUARY 14, 1998
Date

4005201A001720
Certificate number



Ronald G. Worley
President

Ungers & Associates Educational Services, Inc.

THE NATIONAL ENVIRONMENTAL TRAINERS

certify that

Helen Owens

has satisfactorily passed an exam and completed an 8-hour annual refresher training course entitled
Hazardous Waste Operations and Emergency Response
meeting the requirements identified in Title 29 CFR 1910.120.

This course has been awarded 1.0 Industrial Hygiene CM Points by the American Board of Industrial Hygiene-Approval Number 13334. This course is also eligible for .66 Continuance of Certification (COC) points from the Board of Certified Safety Professionals



April 09, 2008

Course Number 1001, Awarded 8 PDH's
Florida Board of Professional Engineers
CEU Provider Number 0004284

www.nationalevironmentaltrainers.com

Signature of Instructor

A handwritten signature in black ink, appearing to read "Clay A. Bednarz".

Clay A. Bednarz, MS, RPIH

This is to certify that

Helen Owens

has met the attendance requirements and successfully completed the

8-Hour HAZWOPER Refresher Course

(Hazardous Waste Operations and Emergency Response)

in accordance with OSHA 29 CFR 1910.120



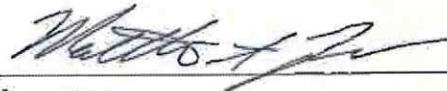
TMG SERVICES, INC.

240 OLIVER STREET, SUITE 1

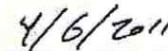
SAINT ALBANS, WEST VIRGINIA 25177

(304) 722-6015

www.tmgservicesusa.net



Instructor



Date

This is to certify that

Helen Owens

has met the attendance requirements and successfully completed

Respiratory Protection Training

in accordance with OSHA 29 CFR 1910.134



TMG SERVICES, INC.

240 OLIVER STREET, SUITE 1

SAINT ALBANS, WEST VIRGINIA 25177

(304) 722-6015

www.tmgservicesusa.net



Instructor

4-5-2011

Date

REQUEST FOR RESPIRATOR MEDICAL EVALUATION



FIRELANDS
Regional Medical Center
Corporate Health Center

NAME: Owens, Helen
AGE: _____ SSN: _____
EMPLOYER: TMG Services, Inc.
EXAM DATE: 03/31/2011

Section I: To be completed by employer
Section II: To be completed by physician or other licensed health care professional (PLHCP)
Section III: To be completed by employee and returned to CBC via enclosed envelope or fax to 419-557-5213

SECTION I

INDICATE TYPE(S) OF RESPIRATOR(S) TO BE USED BY THIS EMPLOYEE

- | | |
|--|--|
| <input type="checkbox"/> Atmosphere-supplying respirator | <input type="checkbox"/> Continuous-flow respirator |
| <input type="checkbox"/> Open circuit SCBA | <input type="checkbox"/> Closed circuit SCBA |
| <input type="checkbox"/> Supplied-air respirator | <input type="checkbox"/> Combination Air-line and SCBA |
| <input type="checkbox"/> Air-purifying (non-powered) | <input type="checkbox"/> Air-purifying (powered) |

LEVEL OF WORK REPORT (check one):

- Light Moderate Heavy Strenuous

TYPE OF EXPOSURE

What substance(s) will employee be working with while wearing respirator. Briefly describe:

EXTENT OF USAGE (check one):

- On a daily basis: hourly twice/shift
 Not daily, but more than once per week
 Rarely: weekly monthly
 Emergency situations only

LENGTH OF TIME ANTICIPATED IN HOURS: _____

SPECIAL WORK CONSIDERATIONS (i.e., high places, temperature, hazardous material, protective clothing, etc.): _____

Signature of Company Representative _____ Date _____

SECTION II

PLHCP EVALUATION

Respirator Approval: On the basis of the information obtained from the medical evaluation questionnaire, the above named individual, as per OSHA 29 CFR 1910.134 App. C, has been found medically:

- () Qualified to use a respirator for 1 years
() Required to undergo physical examination by a physician to determine respirator qualification

Comments: _____

PLHCP Signature Bryan Kuns DO/BAF Date 4/4/11

1 mask
 More than 1 mask

Qualitative Fit Test Record

Print Name: Helen Owens Date of Hire 3/15/2010

Date: 3-31-11 Job Title: _____

Company: TMG Services Dept. (FRMC only) _____

Employee # _____ Dept # _____

Type of Respirator: Particulate Filter Model: 1860S / 1860 / PFR95-174/ PFR95-170
Manufacturer: 3M KC Size: _____

- Education given on:
1. Safe use of respirator
 2. Proper fitting of respirator
 3. Cleaning and changing filters (if present) refer to company rep
 4. Facial Hair

1/2 Face mask Lg
630030

Mask has been worn for 5 minutes prior to fit testing KO (Staff initials)

Sensitivity Check Performed? Yes No Sweet

Fit Test Method	Pass	Fail
Normal Breathing		
Deep Breathing		
Turn Head Side to Side		
Nod Head Up and Down		
Talking		
Bend Over		
Normal Breathing		

Bitter
3M NIOSH
P.100
2091
deest Cont
3M NIOSH
6003
Cont.

Demonstrates fit check/seal check: _____

Comments: _____

Tested by: [Signature] Date: 3/31/11

Employee Signature: [Signature] Date: 3/31/11

PEEL
HERE

American Heart Association 
Learn and Live

Heartsaver® First Aid

Helen J. Owens

This card certifies that the above individual has successfully completed the objectives and skills evaluations in accordance with the curriculum of the AHA for Heartsaver First Aid Program.

Modules Completed: A B C D E

04-05-2011
Issue Date

04-2013
Recommended Renewal Date

Training Center CAMC Institute
LSTC - (304) 388-1856

TC Address Contact Info General Hospital 5 East
501 Morris Street

Course Location St. Albans, WV

Instructor Bridget Perry

Holder's Signature _____

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Please do not lose this card. A replacement fee of \$5 will be charged.
Fill in the circles of the modules NOT completed. This card contains unique security features to protect against forgery.

Safety and Health Manger/Data Support

Kimberlie Bumgardner

KIMBERLIE K. CHAMBERS-BUMGARDNER
Regional Manager
304-215-0099
kbumgarder@mctech360.com

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

Training and Certifications:

Certified Hazardous Materials Manager (CHMM 11519)
Registered Environmental Manager (REM 11203)
Certified Environmental Auditor (CEA 7861)
40 Hour Hazardous Water Site Operations (HAZWOPER)
30 Hour OSHA 510 Course in Construction Safety
16 Hour – USACE Construction Quality Management for Contractors
Lead Inspector/Risk Manager
40 Hour Asbestos Inspector/Management Planner
EPA Certified to sample hazardous materials
Certified Professional in Erosion and Sediment Control (CPESC)
Visible Emissions Evaluation
First Aid/CPR

Experience: **Regional Manager**
Safety Manager
McTECH Corp, St. Albans, WV
2006 – Present

Regional Manager responsible for ensuring the St. Alban's office is operated in compliance with Federal, State and Local regulations and corporate policies especially those related to safety. This includes ensuring all employees have appropriate levels of training, conducting weekly safety toolbox talks, monthly office meetings, providing current, required postings in the office and at project sites. Responsible for safety at several project sites including complex construction sites with several McTECH employees and numerous subcontractors.

Successfully completed projects for the Department of Homeland Security US Customs and Border Protection Advanced Training Center include:

- Phase III, IV and V Infrastructure, Harpers Ferry, WV
- Warehouse Building, Harpers Ferry, WV
- Global Border College, Harpers Ferry, WV

Served as the contractor's Project Manager including safety compliance oversight for multiple Federal, State and Local Government construction and environmental projects including broadly scoped Department of Army Construction Projects, Soil and Groundwater Remediation Projects, Defense Environmental Restoration Program for Formerly Utilized Defense Sites, Brownfield Restoration and Redevelopment projects, and Soil and Ground Water Remediation System Designs & Implementations. Responsible for project oversight. Prepared and implemented Site-specific Safety and Health Plan, Quality Control Plan, and Plan of Operations.

Successfully completed projects for Department of the Army include:

- Interim Soil Removal Action TNT B Plum Brook Ordnance Works, Sandusky, OH
- Bulkhead Crane Replacement and Service Bridge Rehabilitation, Marmet Lock and Dam, Belle, WV
- Bulkhead Crane Replacement, Pier 6 Crane Access and Dam Service Bridge Rehabilitation, London Locks and Dam, London, WV
- Munitions Management, Former Talon Manufacturing Site, Alpoca, WV
- Interim Soil Removal Action PRRWP, Sandusky, OH
- Various construction projects under a Basic Ordering Agreement, Fort A.P. Hill near Bowling Green, VA
- 167th AW Final Infrastructure Upgrade, Martinsburg, WV

Environmental Specialist

WTI, Poca, WV

2005 - 2006

Environmental Specialist for Superfund and NPL sites, Phase I and II Investigations, Groundwater Monitoring, Environmental Compliance and Regulatory Negotiations, Underground Storage Tank Removals, Water Treatment Plant Operations. 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.

**Environmental Analyst
United States Postal Service, Washington, DC
2004**

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. 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. Served on joint environmental and safety training program development and distribution.

**Environmental Compliance Specialist
United States Postal Service, Minneapolis, MN
1998 - 2005**

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. Ensured environmental, health and safety compliance at 971 Postal facilities in Minnesota and Wisconsin. Developed and delivered training courses to employees. Coordinated with safety officer on auditing procedures, implementation, corrective actions and risk management.

**Pollution Control Specialist
Minneapolis Department of Transportation, St. Paul, MN
1994-1998**

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 and Minnesota Pollution Control Agency publications and guidance documents.

Activities: Vice Chairman of the Township Planning Commission 2000-2002
Troop Leader for the Girl Scouts from 1991-1999



American Heart
Association

Learn and Live

Heartsaver® First Aid

Kimberlie K. Bumgardner

This card certifies that the above individual has successfully completed the objectives and skills evaluations in accordance with the curriculum of the AHA for Heartsaver First Aid Program.

Modules Completed: **A B C D E**

04-05-2011

Issue Date

04-2013

Recommended Renewal Date

Training Center	CAMC Institute LSTC - (304) 388-1856
TC Address Contact Info	General Hospital 5 East 501 Morris Street
Course Location	St. Albans, WV
Instructor	Bridget Perry
Holder's Signature	

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This is to certify that

Kimberlie Bumgardner

has met the attendance requirements and successfully completed

Respiratory Protection Training

in accordance with OSHA 29 CFR 1910.134



TMG SERVICES, INC.

240 OLIVER STREET, SUITE 1

SAINT ALBANS, WEST VIRGINIA 25177

(304) 722-6015

www.tmgservicesusa.net



Instructor

4/15/2011

Date

This is to certify that

Kimberlie Bumgardner

has met the attendance requirements and successfully completed the

8-Hour HAZWOPER Refresher Course

(Hazardous Waste Operations and Emergency Response)

in accordance with OSHA 29 CFR 1910.120



TMG SERVICES, INC.

240 OLIVER STREET, SUITE 1

SAINT ALBANS, WEST VIRGINIA 25177

(304) 722-6015

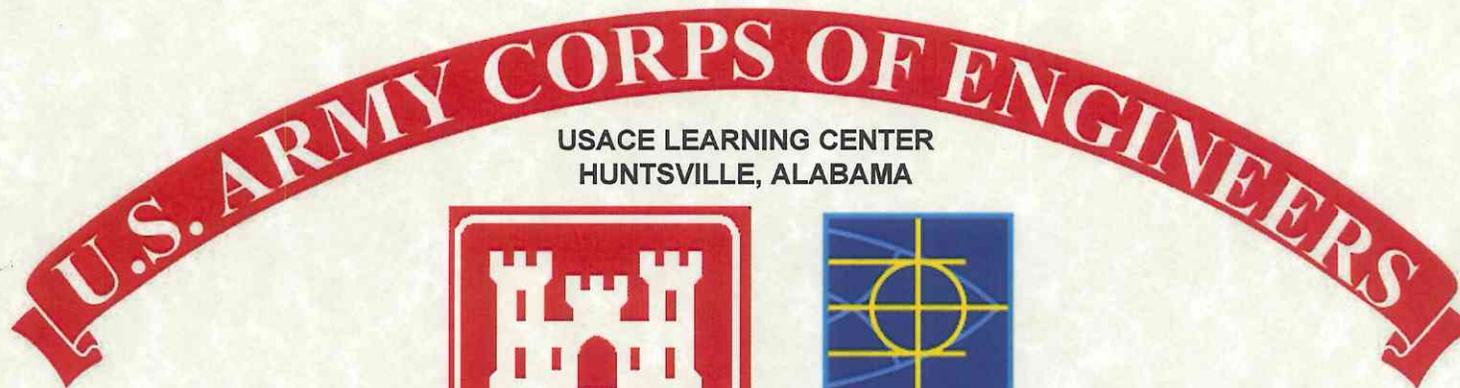
www.tmgservicesusa.net



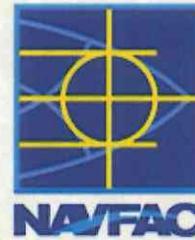
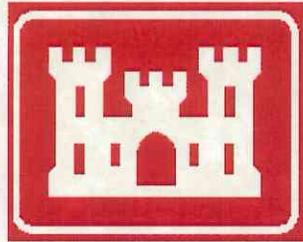
Instructor



Date



USACE LEARNING CENTER
HUNTSVILLE, ALABAMA



CERTIFICATE

Kimberlie Bumgardner

LRH011100002

has completed the Corps of Engineers and Naval Facility Engineering Command Training Course

CONSTRUCTION QUALITY MANAGEMENT FOR CONTRACTORS - #784

Huntington, West Virginia

7-8 March 2011

Huntington District

Stephen D. Ofori

Location

Training Date(s)

Instructional District/ NAVFAC

CQM-C Manager

Sandy D. Nesmith

Sandy.D.Nesmith@usace.army.mil (304) 466-6950

Facilitator/Instructor

Email

Telephone

Facilitator/Instructor Signature

THIS CERTIFICATE EXPIRES FIVE YEARS FROM DATE OF ISSUE

Director, USACE Learning Center



This is to certify that

Kimberlie Chambers

has successfully completed OSHA 510
Basic Course in Construction Safety
on this 17th day of August, 2006

A handwritten signature in black ink, appearing to read "Lynn", written over a horizontal line.

Instructor

A handwritten signature in black ink, appearing to read "Gary Bambauer", written over a horizontal line.

Gary Bambauer, Vice President of Education



Kimberlie Chambers

has completed the Minnesota-Approved Lead Training course entitled:

Lead-Based Paint Risk Assessor Training

December 16-17, 1999

given by

Midwest Environmental Consulting, L.L.C.

- SUCCESSFULLY PASSED THE EXAMINATION ON DECEMBER 17, 1999, IN ANOKA, MINNESOTA

IDENTIFICATION NUMBER: MEC/LRA 0023
Expiration Date: December 17, 2000


Course Director

Institute of Hazardous Materials Management



Certifies that

Kimberlie K. Chambers

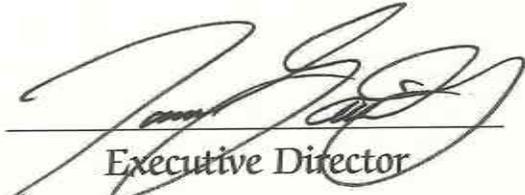
has successfully met all requirements of education,
experience and examination, and is hereby designated a

Certified Hazardous Materials Manager

September 2002
Certified

11519
Number

September 30, 2013
Expiration Date


Executive Director

Valid so long as this credential is renewed according to schedule and is not otherwise revoked.

On-Site Project Superintendent/Site Safety and Health Officer

Dan Cashbaugh



TMG Services, Inc

*240 Oliver Street, Suite One
St. Albans, West Virginia 25177*

Voice : 304-722-6015

Data : 304-722-6017

www.tmgservicesusa.net

Dan Cashbaugh

Project Superintendent

Voice: (304) 722-6015

Data: (304) 722-6017

Cellular: (216) 404-8109

Email: dcashbaugh@tmgservicesusa.com

Career Summary

Project Superintendent with over 10 years of experience in the construction and environmental trades. Experienced in the coordination and oversight of daily construction activities to ensure compliance with specifications, safety regulations, and schedules.

Training

OSHA – 30 Hour Construction

OSHA – 10 Hour Construction

40 Hour Hazardous Waste Operations and Emergency Response (with annual 8 hour refresher training)

Professional Experience

TMG Services, Inc., Saint Albans, WV

Project Superintendent

2010 – Present

McTech Corp, Cleveland, OH

Project Superintendent

2003-2009

CERTIFICATE OF COMPLETION

Daniel Cashbaugh

has successfully completed the
30 Hour OSHA Construction Safety Course
in accordance with 29CFR 1926

C&K Industrial Services, Inc.
John P. Yabovich
Safety Instructor

September 4, 2007
Date

CERTIFICATE OF COMPLETION

Daniel Cashbaugh

Has successfully completed the
40 Hour HAZWOPER Course
in accordance with 29 CFR 1910.120

C&K Industrial Services, Inc.
John P. Yabovich
Safety Instructor

June 22, 2006
Date

OSHA 600141826

U.S. Department of Labor
Occupational Safety and Health Administration

Daniel Cashbaugh

has successfully completed a 30-hour Occupational Safety and Health
Training Course in
Construction Safety & Health

Michael J. Conard 12/5/2008
(Trainer) (Date)

Successful Completion Card

Basic TRAINING PROGRAMS

PAN CASHBAUGH
Name

1-26-10 1-26-12
Issued Expires

This certifies that the individual named above has successfully demonstrated the knowledge and skill objectives for:

BasicPlus CPR, AED, and First Aid for Adults
 Basic CPR and First Aid for Adults

Card not valid if more than one box is checked.

MEDIC First Aid INTERNATIONAL

Instructor **LORI SAXTON**

Registry Number **40397**

Training Center Phone No. _____

Training Center ID **130902**

MEDIC FIRST AID® BasicPlus follows ILCOR, AHA, and ASTM recommendations and guidelines for CPR, first aid, and emergency care. Additional source authority information can be found in your Student Guide and at medicfirstaid.com.

Continued proficiency as a MEDIC FIRST AID Provider requires frequent retraining. This card expires as documented on the front of the card or within 24 months of issue.

© 2009 MEDIC FIRST AID International, Inc. medicfirstaid.com

Certificate of Completion



OSHA campus.com

powered by 360training.com

This Certifies That

Dan Cashbaugh

is awarded this certificate for

8 Hr HAZWOPER Refresher

Credit Hours: 8

Completion Date: 07/14/2011 14:57 CST

Student Signature

A handwritten signature in black ink that reads "Michael Millsap".

Michael Millsap,



360training.com, Inc. has been approved as an Authorized Provider by the International Association for Continuing Education and Training (IACET), 1760 Old Meadow Road, Suite 500, McLean, VA 22102; (703) 506-3275.

This course complies with OSHA 29 CFR 1910.120.

360training.com ♦ 13801 North Mo pac, Suite 100 ♦ Austin, TX 78727 ♦ 888-360-TRNG ♦ www.360training.com

1 mask
 More than 1 mask

Qualitative Fit Test Record

Print Name: Daniel Cashbaugh Date of Hire _____
Date: 11-18-11 Job Title: Super.
Company: TMG Sew. Dept. (FRMC only) _____
Employee # _____ Dept # _____

Type of Respirator: Particulate Filter Model: 1860S / 1860 / PFR95-174/ PFR95-170
Manufacturer: 3M / KC Size: _____

- Education given on:
1. Safe use of respirator
 2. Proper fitting of respirator
 3. Cleaning and changing filters (if present) refer to company rep
 4. Facial Hair

3M 6900 LG
filter 2091 3M
full face mask

Mask has been worn for 5 minutes prior to fit tesing J (Staff initials)

Sensitivity Check Performed? Yes No Sweet Bitter

Fit Test Method	Pass	Fail
Normal Breathing	<input checked="" type="checkbox"/>	
Deep Breathing	<input checked="" type="checkbox"/>	
Turn Head Side to Side	<input checked="" type="checkbox"/>	
Nod Head Up and Down	<input checked="" type="checkbox"/>	
Talking	<input checked="" type="checkbox"/>	
Bend Over	<input checked="" type="checkbox"/>	
Normal Breathing	<input checked="" type="checkbox"/>	

Demonstrates fit check/seal check: Yes

Comments: _____

Tested by: [Signature] Date: 11-18-11

Employee Signature: [Signature] Date: 11-18-11

Quality Control Officer

James Russell



James Russell

Project Superintendent

Voice: (304) 722-6015

Data: (304) 722-6017

Cellular: (216) 857-1112

Email: jrussell@tmgservicesusa.com

Career Summary

Project Superintendent with over 10 years of experience in the construction and environmental trades. Experienced in the coordination and oversight of daily construction activities to ensure compliance with specifications, regulations, and schedules.

Training

OSHA – 30 Hour Construction

OSHA – 10 Hour Construction

USACE – Construction Quality Management for Contractors

40 Hour Hazardous Waste Operations and Emergency Response (with annual 8 hour refresher training)

Respirator Protection Training

Pulmonary Function Testing

Professional Experience

TMG Services, Inc., Saint Albans, WV

Project Superintendent

2009 – Present

McTech Corp, Cleveland, OH

Project Superintendent

2002-2009

Choice Construction Company, Inc., Cleveland, OH

Laborer

1999-2002



TMG Services, Inc

*240 Oliver Street, Suite One
St. Albans, West Virginia 25177*

Voice : 304-722-6015

Data : 304-722-6017

www.tmgservicesusa.net

GeoTech Construction, Cleveland, OH

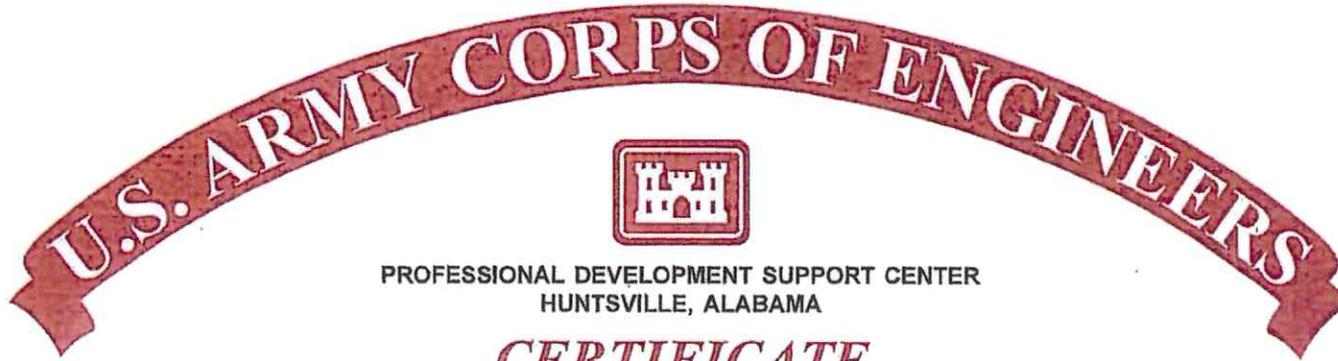
Laborer

2001-2002

Calabria Concrete, Cleveland, OH

Laborer

1998-2001



PROFESSIONAL DEVELOPMENT SUPPORT CENTER
HUNTSVILLE, ALABAMA

CERTIFICATE

This is to certify that

James Russell

has completed the Corps of Engineers Training Course

CONSTRUCTION QUALITY MANAGEMENT FOR CONTRACTORS

Given at Dayton, OH By CELRL-CD September 23, 2009
Location Instructional District Date

Carlton Smith
Facilitator

THIS CERTIFICATE EXPIRES FIVE YEARS FROM DATE OF ISSUE

Sponsored by: *Associated General Contractors
West Central Ohio Division*

Gary J. Anderson
Chief, USACE Professional Development Support Center



C&K INDUSTRIAL SERVICES, INC.
Certificate of Completion

This certifies that
James B. Russell

Has successfully completed the
40 Hour HAZWOPER Course
in accordance with 29 CFR 1910.120



Chuck Hawes

May 19, 2006

Date of Completion

This is to certify that

James Russell

has met the attendance requirements and successfully completed the

8-Hour HAZWOPER Refresher Course

(Hazardous Waste Operations and Emergency Response)

in accordance with OSHA 29 CFR 1910.120



TMG SERVICES, INC.

240 OLIVER STREET, SUITE 1

SAINT ALBANS, WEST VIRGINIA 25177

(304) 722-6015

www.tmgservicesusa.net

Instructor

4/6/2011
Date

This is to certify that

James Russell

has met the attendance requirements and successfully completed

Respiratory Protection Training

in accordance with OSHA 29 CFR 1910.134



TMG SERVICES, INC.

240 OLIVER STREET, SUITE 1

SAINT ALBANS, WEST VIRGINIA 25177

(304) 722-6015

www.tmgservicesusa.net

Matthew A. Jones
Instructor

4/5/2011
Date

Claim Number:

Concentra Medical Centers (Ohio)

Service Date: 03/31/2011

4880 Minckley Industrial Pkwy CLEVELAND, OH 44109
Phone: (216) 748-2735 Fax: (216) 748-2735

Non-Injury Status Report

Patient: Russell, James B.

SSN: XXX-XX-6578

Address: 2901 Hampton
SHAKER HEIGHTS, OH 44120

Employer Location: TMG services
Address:

Contact: Tina Mieczawski
Role:

Home: (216) 323-9864

Phone: (216) 214-4978 Ext.:

Work Ext.:

Auth. by:

Fax:

This Visit:

Time In: 12:01 pm

Time Out: 01:07 pm

Visit Type: New

Custom Protocol

Respirator Fit Test Qualitative

Result Status:

Able to perform essential functions

No medical restrictions

Remarks: passed fit test

Claim Number:

Concentra Medical Centers (Ohio)

Service Date: 03/31/2011

4880 Hinckley Industrial Pkwy CLEVELAND, OH 44109
Phone: (216) 749-2730 Fax: (216) 749-2735

Non-Injury Status Report

Patient: Russell, James B.

SSN: XXX-XX-8578

Address: 2801 Hampton
SHAKER HEIGHTS, OH 44120

Employer Location: TMG Services Inc
Address: 8100 Grand Ave Ste 100
Cleveland, OH 441043164

Contact: Tina Milczowski
Role: DER
Phone: (216) 214-4978 Ext.:
Fax: (216) 391-4175

Home: (216) 323-9864

Work Ext.:

Auth. by:

This Visit:

Time In: 12:01 pm Time Out: 01:42 pm Visit Type: New

Respirator Physical
Pulmonary Function Test
Respirator Physical
OSHA Respirator Questionnaire

Result Status:

Able to perform essential functions
No medical restrictions

Remarks:

Concentra Medical Centers (Ohio)
4680 Hinckley Industrial Pkwy CLEVELAND, OH 44109
Phone: (216) 749-2730 Fax: (216) 749-2735

PLHCP¹ WRITTEN STATEMENT for RESPIRATORS (EMPLOYEE)

Service Date: 03/31/2011

Employee Name:
Russell, James B.

Employee SSN: XXX-XX-6578

Address:
2901 Hampton

SHAKER HEIGHTS OH 44120

Employer: TMG Services Inc

You were evaluated in this office of your medical status related to your physical capability to wear a respirator. (Check one that applies)

- There were no abnormal findings that would hamper your ability to perform your job duties while wearing a respirator.
- The abnormal findings listed below were not related to wearing a respirator but should be reported to your personal physician for further evaluation.

Based upon the results of this evaluation it is my opinion that you: (Check ALL that apply)

- ARE qualified to wear a respirator.
- Have the following restrictions concerning respirator usage: _____
- ARE NOT qualified to wear a respirator.
- Require further testing by your private physician who must submit a written report of his/her findings to Concentra Medical Centers (Ohio) so that a final decision on your ability to wear a respirator can be made.
- Must wear Special prescription eye-wear needed to accommodate respirator.
- Must use an Eye glass conversion kit.
- May need to shave Facial hair to assure tight seal on certain face masks.
- Need to stop smoking.

(Check ALL that apply)

- The above individual HAS been examined for respirator fitness in accordance with 29 CFR 1910.134. This limited evaluation is specific to respirator use only. Employees should be instructed to report any difficulties in using respirators or change of any physical status to their supervisor or physician. This evaluation included the Respiratory Questionnaire outlined in 29 CFR 1910.134.
- The above individual HAS NOT been examined by me for respirator fitness. The employee's medical evaluation consisted of a review of OSHA's Medical Evaluation Questionnaire in Appendix C Part A Section 2. In accordance with 29 CFR 1910.134, this limited evaluation is specific to respirator use only. Employees should be instructed to report any difficulties in using respirators or change of any physical status to their supervisor or physician. This evaluation included the Respiratory Questionnaire outlined in 29 CFR 1910.134.
- In accordance with specific OSHA requirements, I have informed the above named individual of the results of this evaluation and of any medical conditions resulting from exposures that may require further explanation or treatment. Where applicable, the above named individual has been informed of the increased risk of lung cancer attributable to the combined effect of smoking and asbestos, lead and/or other chemical exposure(s).

Respirators must be properly selected based on the contaminants and concentration levels to which the worker will be exposed. Failure to follow the use and fitting instructions and warnings for proper use contained on the respirator packaging and/or failure to wear the respirator during all times of exposure can reduce the respirator's effectiveness and result in disease or death. Workers must be trained in the proper care of any respirator prior to product use and packaging for specific information regarding fit, use and/or limitations.

PLHCP Signature _____

PLHCP Name (printed) R. SABRANZHIJ N

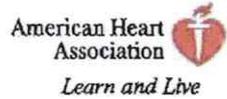
¹Physician or other Licensed Healthcare Professional

Employee's Signature _____
3/31/12

Expiration Date _____

To be maintained in the employee's file with a copy to the employee

PEEL
HERE



Heartsaver® First Aid

James B. Russell

This card certifies that the above individual has successfully completed the objectives and skills evaluations in accordance with the curriculum of the AHA for Heartsaver First Aid Program.

Modules Completed: A B C D E

04-05-2011

Issue Date

04-2013

Recommended Renewal Date

Training Center CAMC Institute
LSTC - (304) 388-1856

TC Address Contact Info General Hospital 5 East
501 Morris Street

Course Location St. Albans, WV

Instructor Bridget Perry

Holder's Signature

© 2006 American Heart Association Tampering with this card will alter its appearance. 80-1202

Fill in the circles of the modules NOT completed. This card contains unique security features to protect against forgery.

Environmental Technician/Alternate QC Officer

Keith Morris



TMG Services, Inc

240 Oliver Street, Suite One
St. Albans, West Virginia 25177

Voice : 304-722-6015

Data : 304-722-6017

www.tmgservicesusa.net

Keith Morris

Environmental Technician

Alternate Quality Control Officer

Voice: (304) 722-6015

Data: (304) 722-6017

Cellular: (304) 444-2001

Email: kmorris@tmgservicesusa.com

Education

Marshall University Graduate College, M.S. Physical and Applied Science, 2012
West Virginia State University, R.B.A. Emphasis in Communications, 2008
Marshall Technical and Community College, A.A.S. Information Technology, 2006
Georgia Southern University, Building Construction & Contracting Major, 1998
Capital High School, Graduate, 1994

Training and Certifications

40 Hour HAZWOPER (with annual refreshers)
Construction Quality Control for Management Cert
Geobiophysical Modeling and Remote Sensing
Cisco Networking Academy
Microsoft Certified Systems Administrator
Adult First Aid and CPR
ERMapper Image Processing
IDRISI Image Processing
OSHA 30-hour Construction
A+ Certification Training
Visual Basic
Environmental Management Systems
Environmental Impact Statements
Biomonitoring
Sustainable Energy Systems
PPE Fit Test Certification

Professional Experience

TMG Services, Inc., Saint Albans, West Virginia
Environmental Technician
May 2011-Present

As an Environmental Technician for TMG Services, Mr. Morris performs a wide variety of technical services for federal, state, and private clients including the United States Army Corps of Engineers, Huntington District.

- Environmental compliance support
- Groundwater monitoring and remediation
- Risk Assessment
- Soil and surface water sampling, monitoring, and remediation
- Site safety and health planning
- Quality control planning
- Website maintenance
- Technical report writing
- Various other technical duties

**Examiner.com, United States
Charleston Environmental News Examiner
January 2011-Present**

Duties included:

- Columnist
- Writing concise news articles and local stories related to environmental issues and events

**West Virginia Governors Internship Program, (WVGIP)
June 2010 – December 2010**

Mr. Morris was selected to participate in the West Virginia Governors Internship Program, where participants were chosen through a competitive field from colleges and universities throughout the state of West Virginia. Mr. Morris was given system administration duties for the Office of Maternal Child and Family Health for the Systems Point of Entry department from June 2010 to December of 2010, those duties included:

- Web Publication
- Indexing
- Website navigation
- Data Entry
- MS Publisher and MS Front page

**Chesapeake Energy, Imaging Technician, Charleston, West Virginia
January 2009 - June 2009**

Duties included:

- Documentation and Imaging
- File scanning and prepping
- Light shipping and receiving

The Charleston Gazette, Staff Writer/Sports Clerk, Charleston, West Virginia

January 2007- January 2009

Duties included:

- Writing short concise stories for Gazette Sports
- Gathering newsworthy info from the Associated Press wire
- Inputting area scores in box-score format using T-Base Programming
- Interviewing area coaches and athletes for article contribution
- Meeting tight deadlines
- Inbound customer service

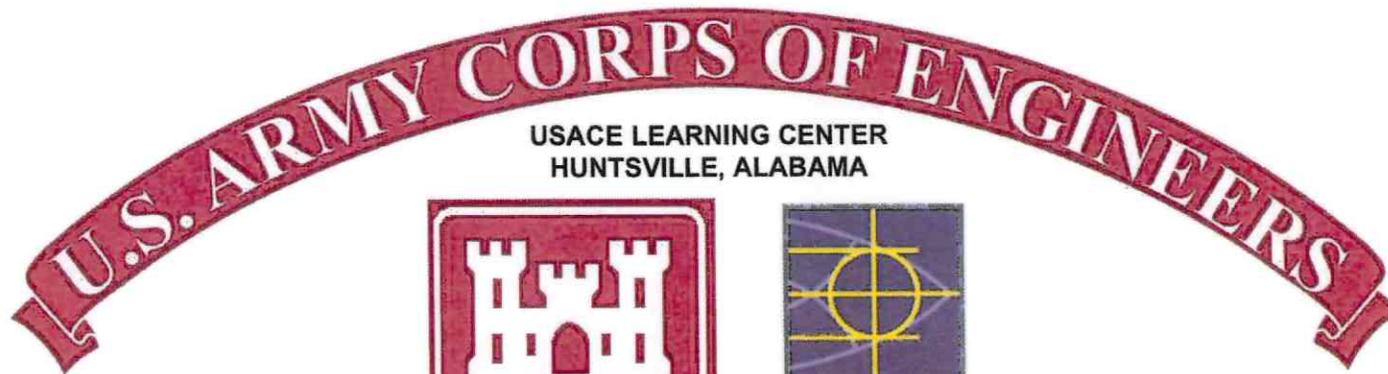
**Huddleston & Bolen LLC, File Scanner, Huntington, West Virginia
October 2005 – February 2006**

Duties included:

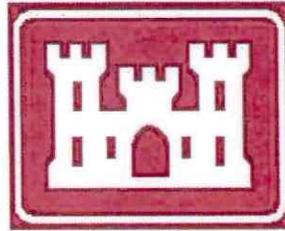
- Data Entry
- Runner
- Documentation and Imaging
- File Prepping

Community Activities:

WMUL 88.1 FM
2000-2002, Community Service
Campus News Broadcaster and DJ



USACE LEARNING CENTER
HUNTSVILLE, ALABAMA



CERTIFICATE

Keith Morris

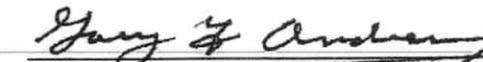
LRP041100038

has completed the Corps of Engineers and Naval Facility Engineering Command Training Course

CONSTRUCTION QUALITY MANAGEMENT FOR CONTRACTORS - #784

<u>Pittsburgh, PA</u>	<u>24 & 25 August 2011</u>	<u>LRP - Pittsburgh District</u>	<u>John Pontus</u>
Location	Training Date(s)	Instructional District/ NAVFAC	CQM-C Manager
<u>John Pontus & Shawn Soltis</u>	<u>John.Pontus@usace.army.mil</u>	<u>412-395-7543</u>	
Facilitator/Instructor	Email	Telephone	Facilitator/Instructor Signature

THIS CERTIFICATE EXPIRES FIVE YEARS FROM DATE OF ISSUE


Director, USACE Learning Center

This is to certify that

Keith Morris

Student ID Number: 086574

has met the attendance requirements and successfully completed the

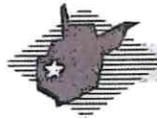
40-Hour HAZWOPER

Hazardous Waste Operations and Emergency Response (HAZWOPER) (29CFR 1910.120)

Hazard Communications Training (HAZCOM) (29CFR 1910.1200)

Hazardous Waste Management Training (RCRA) (40CFR 265.16)

Hazardous Materials Transportation Training (HAZMAT) (49CFR 172 Subpart H)



R T C
Regulatory Training Center

#WV-ABCDE-041-8

157 2nd Avenue, South Charleston, WV 25303

(304) 348-1346

June 9, 2011

Date

Instructor

Certificate of Completion



360training.com™

This Certifies That

Keith Morris

is awarded this certificate for
OSHA 30 Hour Construction Industry Outreach Training

Credit Hours: 30

Completion Date: 10/01/2011 19:43 CST

SID: 1611109

Michael Millsap, Trainer C 0034819 and G 0021414

"As an OSHA authorized trainer, I verify that I have conducted this OSHA outreach training class in accordance with OSHA Outreach Training Program requirements. I will document this class to my authorizing OSHA training organization. Upon successful review of my documentation, I will provide each student their completion card within 90 days of the end of the class."

360training.com ♦ 13801 Burnet Rd., Suite 100 ♦ Austin, TX 78727 ♦ 888-360-TRNG ♦ www.360training.com

In accordance to federal regulation 1910.134

FIT TEST CERTIFICATE

Keith Morris

Employee Name Keith Morris

Has been examined and medical questionnaire reviewed on 10-2011 and should be reviewed by 10-2012.

1/2 Mask Brand North Full Face Brand _____

Size Large Size _____


GAVIN N. HOGUE, M.D.

Tested By Missy Young Date 10-2011

SS# 233-08-6574 Date Expire 10-2011

- This individual is medically approved for the use of all respirators.
- This individual is medically at an increased risk for respiratory or cardiovascular disease and should limit respirator use to _____ only.

A copy of the medical questionnaire and this exam (if done) may be obtained by the employee tested by sending a medical release form and \$25.00 to:


Physical Exams, Inc.
102 Patrick Street
Charleston, WV 25387
(304) 346-8213
www.physicalexamsinc.com

TMG Services, Inc. Field Personnel

Gary Price

Clarence Brown

Sean Jones

This is to certify that

Gary Price

has met the attendance requirements and successfully completed

Respiratory Protection Training

in accordance with OSHA 29 CFR 1910.134



TMG SERVICES, INC.

240 OLIVER STREET, SUITE 1

SAINT ALBANS, WEST VIRGINIA 25177

(304) 722-6015

www.tmgservicesusa.net


Instructor

4/5/2011
Date

This is to certify that

Gary Price

has met the attendance requirements and successfully completed the

8-Hour HAZWOPER Refresher Course

(Hazardous Waste Operations and Emergency Response)

in accordance with OSHA 29 CFR 1910.120



TMG SERVICES, INC.

240 OLIVER STREET, SUITE 1

SAINT ALBANS, WEST VIRGINIA 25177

(304) 722-6015

www.tmgservicesusa.net

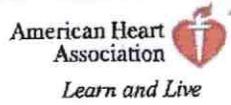


Instructor

4/6/2011

Date

PEEL
HERE



Heartsaver® First Aid

Gary Price

This card certifies that the above individual has successfully completed the objectives and skills evaluations in accordance with the curriculum of the AHA for Heartsaver First Aid Program.

Modules Completed: A B C D E

04-05-2011

Issue Date

04-2013

Recommended Renewal Date

Training Center	CAMC Institute LSTC - (304) 388-1856
TC Address Contact Info	General Hospital 5 East 501 Morris Street
Course Location	St. Albans, WV
Instructor	Bridget Perry
Holder's Signature	

© 2006 American Heart Association. Tempering with this card will alter its appearance. 80-12

Please do not lose this card. A replacement fee of \$5 will be charged.

Fill in the circles of the modules NOT completed. This card contains unique security features to protect against forgery.

Claim Number:

Concentra Medical Centers (Ohio)

Service Date: 03/31/2011

4800 Minckley Industrial Pkwy CLEVELAND, OH 44100
Phone: (216) 748-2730 Fax: (216) 748-2735

Non-Injury Status Report

Patient: Price, Gary

SSN: XXX-XX-0272

Address: 11319 Darrow rd.
VERMILION, OH 44089

Home: (440) 751-8019

Work: Ext:

Employer Location: TMG Services Inc

Address: 8100 Grand Ave Ste 100
Cleveland, OH 441043164

Auth. by:

Contact: Tina Mliczawski

Role: DER

Phone: (216) 214-4878 Ext.:

Fax: (216) 391-4175

This Visit:

Time In: 12:00 pm

Time Out: 01:24 pm

Visit Type: New

Respirator Physical
Pulmonary Function Test
Respirator Physical
OSHA Respirator Questionnaire

Result Status:

Able to perform essential functions
No medical restrictions

Remarks:

Claim Number:

Concentra Medical Centers (Ohio)

Service Date: 03/31/2011

4680 Hincley Industrial Pkwy CLEVELAND, OH 44109
Phone: (216) 749-2730 Fax: (216) 749-0735

Non-Injury Status Report

Patient: Price, Gary

SSN: XXX-XX-0272

Address: 11318 Darrow rd.
VERMILION, OH 44089

Home: (440) 751-8019

Work: Ext.:

Employer Location: Tmg

Address:

Auth. by:

Contact: Tina Miliczowski

Role:

Phone: (216) 214-4978 Ext.:

Fax:

This Visit:

Time In: 12:00 pm

Time Out: 01:25 pm

Visit Type: New

Custom Protocol
Respirator Fit Test Qualitative

Result Status:

Able to perform essential functions
No medical restrictions

Remarks: pt pass fit test.

Concentra Medical Centers (Ohio)
4880 Hiramley Industrial Pkwy CLEVELAND, OH 44109
Phone: (216) 749-2730 Fax: (216) 749-2735

PLHCP¹ WRITTEN STATEMENT for RESPIRATORS (EMPLOYEE)

Service Date: 03/31/2011

Employee Name: Price, Gary

Employee SSN: XXX-XX-0272

Address:
11319 Darrow rd.

VERMILION OH 44089

Employer: TMG Services Inc

You were evaluated in this office of your medical status related to your physical capability to wear a respirator. (Check one that applies)

- There were no abnormal findings that would hamper your ability to perform your job duties while wearing a respirator.
- The abnormal findings listed below were not related to wearing a respirator but should be reported to your personal physician for further evaluation.

Based upon the results of this evaluation it is my opinion that you: (Check ALL that apply)

- ARE qualified to wear a respirator.
- Have the following restrictions concerning respirator usage: _____
- ARE NOT qualified to wear a respirator.
- Require further testing by your private physician who must submit a written report of his/her findings to Concentra Medical Centers (Ohio) so that a final decision on your ability to wear a respirator can be made.
- Must wear Special prescription eye-wear needed to accommodate respirator.
- Must use an Eye glass conversion kit.
- May need to shave Facial hair to assure tight seal on certain face masks.
- Need to stop smoking.

(Check ALL that apply)

- The above individual HAS been examined for respirator fitness in accordance with 29 CFR 1910.134. This limited evaluation is specific to respirator use only. Employees should be instructed to report any difficulties in using respirators or change of any physical status to their supervisor or physician. This evaluation included the Respiratory Questionnaire outlined in 29 CFR 1910.134.
- The above individual HAS NOT been examined by me for respirator fitness. The employee's medical evaluation consisted of a review of OSHA's Medical Evaluation Questionnaire in Appendix C Part A Section 2. In accordance with 29 CFR 1910.134, this limited evaluation is specific to respirator use only. Employees should be instructed to report any difficulties in using respirators or change of any physical status to their supervisor or physician. This evaluation included the Respiratory Questionnaire outlined in 29 CFR 1910.134.
- In accordance with specific OSHA requirements, I have informed the above named individual of the results of this evaluation and of any medical conditions resulting from exposures that may require further explanation or treatment. Where applicable, the above named individual has been informed of the increased risk of lung cancer attributable to the combined effect of smoking and asbestos, lead and/or other chemical exposure(s).

Respirators must be properly selected based on the environment and concentration levels to which the worker will be exposed. Failure to follow the use and fitting instruction and warnings for proper use contained on the respirator packaging and/or failure to wear the respirator during all times of exposure can reduce the respirator's effectiveness and result in sickness or death. Wearer must be trained in the proper care of any respirator refer to product literature and packaging for specific information regarding fit, use and/or limitations.

PLHCP Signature [Signature]

[Signature]
Employee's Signature

PLHCP Name (printed) GABRIANSKY

3/31/12
Expiration Date

¹Physician or other Licensed Healthcare Professional

To be maintained in the employee's file with a copy to the employee



Certificate of Course Completion

Clarence A Brown

Student's Name

40 Hr HAZWOPER

Course Title

09/26/2011 13:20 CST

Course Completion Date

A handwritten signature in black ink, appearing to read "Clarence A Brown", written over a horizontal line.

Student's Signature

2095885

Certificate Number

40

of hours approved

I hereby attest that I have completed the above named safety course in accordance with the ethical guidelines defined by, **Osha Pro's, Inc.** I acknowledge that I consumed all information and took all Pertinent quizzes and/or final tests.

Osha Pro's, Inc.
2711 Ridge Top Lane, Suite 100
Arlington TX 76006
Tel: 866-442-6742



Medical Surveillance Clearance Participant Checklist

Name: CLARENCE BROWN Last 4 digits of SSN: 3246
Date: Sept 28 2011 Company: TMG

Type of Evaluation: Respiratory Questionnaire Respirator Fit Test
 Baseline Field Test
 Exit Test End of Year

Biological Monitoring

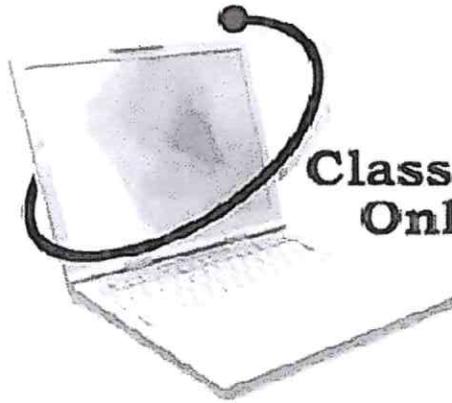
Blood Lead: _____	Blood Mercury: _____	Blood Arsenic: _____	
ZPP: _____	Blood Cadmium: _____	Urine Cadmium: _____	
Lab Results: Norm <input type="checkbox"/> Abnorm <input type="checkbox"/>	Audiogram: Norm <input type="checkbox"/> Abnorm <input type="checkbox"/>	X-Ray: Norm <input type="checkbox"/> Abnorm <input type="checkbox"/>	Sputum Cytology: Norm <input type="checkbox"/> Abnorm <input type="checkbox"/>
Height: _____	Weight: _____	Blood Pressure: _____	
Dexterity: Norm <input type="checkbox"/> Abnorm <input type="checkbox"/>	<input type="checkbox"/> This employee is medically fit to perform the essential functions of the job. <input type="checkbox"/> Further medical evaluation indicated.		
Reviewed by: _____		Date: _____	

Respiratory Protection

Part A	
Medical Questionnaire Review:	
<input type="checkbox"/> Cleared for all Respirator Use (Positive & Negative Pressure) <input type="checkbox"/> Further Medical Evaluation Required	
Medical Evaluation:	
<input type="checkbox"/> Cleared for all Respirator Use (Positive & Negative Pressure) <input type="checkbox"/> Positive Pressure Respirator Use Only <input type="checkbox"/> Not Qualified for Respirator Use	
Pulmonary Function Test Results:	FEV1 _____ FVC _____ FEV1/FVC _____
Part B	
Qualitative Test: HALF MASK Respirator Manufacturer: <u>3M</u> Model No: <u>6200</u> Size: Small Medium <u>Large</u>	
Testing Solution: <input checked="" type="checkbox"/> Irritant Smoke <input type="checkbox"/> Banana Oil <input type="checkbox"/> Other: _____ Test Type: Qualitative: <u>Pass</u> Fail	
Fit Test Technician: <u>[Signature]</u> Date: <u>9-28-11</u>	
Quantitative Test: FULL FACE Respirator Manufacturer: _____ Model No: _____ Size: Small Medium Large	
Test Type: Quantitative: Pass Fail Fit Test Technician: _____ Date: _____	

Health Care Provider: _____ Date: _____

Comments/Notes: _____



**Classroom
Online**

Certificate of Course Completion

40 Hr HAZWOPER

in compliance with the 29 CFR 1910.120 Standard

Sean Jones

Student's Name

11/12/2011 23:31 CST

Course Completion Date

Student's Signature

Course Title

2143913

Certificate Number

40

of hours approved

Note: Trainees must have additional hands-on training in the donning, doffing, and use of the Personal Protective Equipment required for their jobsite(s) in accordance with 29 CFR 1910.120.

I hereby attest that I have completed the above named
Safety course in accordance with the ethical guidelines
Defined by International Board of Environmental Health & Safety.
I acknowledge that I consumed all information and took
All Pertinent Quizzes and/or final tests.

Online Institute of America
A Division of Classroom Online Network
Powered by 360training.com
607 Rolling Green Drive
Lakeway, TX 78734
1-877-251-4387 : Toll-Free

EMPLOYER AUTHORIZATION AND INFORMATION FOR RESPIRATORY EVALUATION

EMPLOYER TO COMPLETE THE FOLLOWING :

Employee Name: Jones, Sean K.

Employer: TMG Services Inc

Check Type of Respirator(s) To Be Used (Check ALL that apply)

Air-purifying (non-powered) Air-purifying (powered)
 Atmosphere supplying Respirator
 Combination air-line and SCBA
 Continuous-Flow Respirator
 Supplied-Air Respirator
 Open Circuit SCBA Closed Circuit SCBA
 Dust Mask 1/2 Face with Canisters Full Face with Canisters

Make: 3M Model: 6300 Cartridge: HEPA

Special Work Conditions (Check ALL That Apply When Wearing Respirator)

High Places Enclosed Places Protective Clothing
 Temperature Extremes Mostly Cold Mostly Hot
 Other:

Questionare will be: HAND CARRIED MAILED OTHER

Address: 4377 lee hts blvd
WARRENSVILLE HEIGHTS OH 44128
Employee SSN: XXX-XX-6012

Extent of Usage (Check ALL that apply)

On a daily basis _____ Total Hours
 Occasionally - but not more than twice a week _____ Total Hours
 Rarely - or for Emergency situations only _____ Total Hours

Expected Physical Effort Required (Check ALL that apply)

Light Moderate Heavy

Exposure to Hazardous Materials (Check ALL that apply)

Arsenic Benzene
 Coke Oven Cotton Seed / Dust
 Cadmium Formaldehyde
 Methylene Chloride Lead
 Textiles Chromium

Other(s):

EVALUATION AUTHORIZATION BY: _____
Signature of Employer Representative

DO NOT WRITE BELOW THIS LINE DO NOT WRITE BELOW THIS LINE DO NOT WRITE BELOW THIS LINE

PLHCP¹ WRITTEN STATEMENT for RESPIRATORS (EMPLOYER)

PHYSICIAN WILL COMPLETE THE FOLLOWING

This report may contain confidential medical information and is intended for the designated employer contact only. The Americans with Disabilities Act (ADA) imposes very strict limitations on the use of information obtained during physical examination of qualified individuals with disabilities. All information must be collected and maintained on separate forms, in separate files, and must be treated as a confidential medical record, with the following exceptions:

- Supervisors and managers may be informed about necessary restrictions on the work or duties of an employee and necessary accommodations.
- First aid and safety personnel may be informed, when appropriate, if the disability might require emergency treatment.

Based upon my findings, I have determined that this individual (Check ALL that apply)

Employee must schedule a medical examination with Concentra Medical Centers (Ohio) prior to respirator approval and usage.

Class I - No Restrictions on Respirator Use To be used for Emergency Response or Escape Only Other: _____
 Class II - Some Specific Use Restrictions
 Class III - Respirator Use is NOT PERMITTED
 Further Testing / Evaluation is Required. ²
 Fit Test Required Fit Test Performed Satisfactorily
 Fit Test Performed Unsatisfactorily Fit Test NOT Performed at: Concentra Medical Centers (O)
 Special prescription eyewear needed to accommodate respirator Special prescription eyewear needed to accommodate respirator
 Facial hair needs to be shaved to assure tight seal on certain face masks.

¹Physician or other Licensed Healthcare Professional
²Employee must seek further medical evaluation by a private physician who must submit a report to Concentra Medical Centers (Ohio) of his/her findings to

(Check ALL that apply)

The above individual HAS been examined for respirator fitness in accordance with 29 CFR 1910.134. This limited evaluation is specific to respirator use only. Employees should be instructed to report any difficulties in using respirators or change of any physical status to their supervisor or physician. This evaluation included the Respiratory Questionnaire outlined in 29 CFR 1910.134.

The above individual HAS NOT been examined by me for respirator fitness. The employee's medical evaluation consisted of a review of OSHA's Medical Evaluation Questionnaire in Appendix C Part A Section 2. In accordance with 29 CFR 1910.134, this limited evaluation is specific to respirator use only. Employees would be instructed to report any difficulties in using respirators or change of any physical status to their supervisor or physician. This evaluation included the Respiratory Questionnaire outlined in 29 CFR 1910.134.

In accordance with specific OSHA requirements, I have informed the above named individual of the results of this evaluation and of any medical conditions resulting from exposures that may require further explanation or treatment. Where applicable, the above named individual has been informed of the increased risk of lung cancer attributable to the combined effect of smoking and asbestos, lead and/or other chemical exposure(s).

Physician's Signature [Signature]
Physician's License Number (Optional in Most States) 34004687 (O)

Physician's Name (Printed) Daniel McEl...
Date of Exam 11/16/2011 Expires On 11/16/2012

PLHCP¹ WRITTEN STATEMENT for RESPIRATORS (EMPLOYEE)

Service Date: 11/16/2011

Employee Name: Jones, Sean K.

Employee SSN: XXX-XX-6012

Address: 4377 lee hts blvd

WARRENSVILLE HEIGHTS OH 44128

Employer: TMG Services Inc

You were evaluated in this office of your medical status related to your physical capability to wear a respirator. (Check one that applies)

- There were no abnormal findings that would hamper your ability to perform your job duties while wearing a respirator.
- The abnormal findings listed below were not related to wearing a respirator but should be reported to your personal physician for further evaluation.

Based upon the results of this evaluation it is my opinion that you: (Check ALL that apply)

- ARE qualified to wear a respirator.
- Have the following restrictions concerning respirator usage: _____
- ARE NOT qualified to wear a respirator.
- Require further testing by your private physician who must submit a written report of his/her findings to Concentra Medical Centers (Ohio) so that a final decision on your ability to wear a respirator can be made.
- Must wear Special prescription eye-wear needed to accommodate respirator.
- Must use an Eye glass conversion kit.
- May need to shave Facial hair to assure tight seal on certain face masks.
- Need to stop smoking.

(Check ALL that apply)

- The above individual HAS been examined for respirator fitness in accordance with 29 CFR 1910.134. This limited evaluation is specific to respirator use only. Employees should be instructed to report any difficulties in using respirators or change of any physical status to their supervisor or physician. This evaluation included the Respiratory Questionnaire outlined in 29 CFR 1910.134.
- The above individual HAS NOT been examined by me for respirator fitness. The employee's medical evaluation consisted of a review of OSHA's Medical Evaluation Questionnaire in Appendix C Part A Section 2. In accordance with 29 CFR 1910.134, this limited evaluation is specific to respirator use only. Employees should be instructed to report any difficulties in using respirators or change of any physical status to their supervisor or physician. This evaluation included the Respiratory Questionnaire outlined in 29 CFR 1910.134.
- In accordance with specific OSHA requirements, I have informed the above named individual of the results of this evaluation and of any medical conditions resulting from exposures that may require further explanation or treatment. Where applicable, the above named individual has been informed of the increased risk of lung cancer attributable to the combined effect of smoking and asbestos, lead and/or other chemical exposure(s).

Respirators must be properly selected based on the containment and concentration levels to which the worker will be exposed. Failure to follow the use and fitting instruction and warnings for proper use contained on the respirator packaging and/or failure to wear the respirator during all times of exposure can reduce the respirator's effectiveness and result in sickness or death. Wearer must be trained in the proper care of any respirator. Refer to product literature and packaging for specific information regarding fit, use and/or limitations.



PLHCP Signature

Daniel M Beck

PLHCP Name (printed)



Employee's Signature

11/16/2011

Expiration Date

¹Physician or other Licensed Healthcare Professional

To be maintained in the employee's file with a copy to the employee

Barnes Nursery Field Personnel

Alex Romick

Jim Garwood

Mike Stout



TMC, Ltd.

proudly presents this certificate of achievement to:

Alec D. Romick

In recognition of successful completion of the 8 hour Hazardous Waste Operations and Emergency Response (HAZWOPER) Technician Refresher course in accordance with the curriculum of the Occupational Safety and Health Administration (OSHA) Regulation 29 CFR 1910.120.



Trainer / Instructor

August 19, 2011

Course Date



TMC, Ltd.

proudly presents this certificate of achievement to:

James H. Garwood

In recognition of successful completion of the 8 hour Hazardous Waste Operations and Emergency Response (HAZWOPER) Technician Refresher course in accordance with the curriculum of the Occupational Safety and Health Administration (OSHA) Regulation 29 CFR 1910.120.



Trainer / Instructor

August 19, 2011

Course Date



TMC, Ltd.
proudly presents this certificate of achievement to:

Michael A. Stout

In recognition of successful completion of the 8 hour Hazardous Waste Operations and Emergency Response (HAZWOPER) Technician Refresher course in accordance with the curriculum of the Occupational Safety and Health Administration (OSHA) Regulation 29 CFR 1910.120.



Trainer / Instructor

August 19, 2011

Course Date

REQUEST FOR RESPIRATOR MEDICAL EVALUATION



FIRELANDS
Regional Medical Center
Corporate Health Center

NAME: Garwood, James ✓
AGE: 54 SSN: 280-58-4015
EMPLOYER: Barnes Nursery
EXAM DATE: 08/19/2010

Section I: To be completed by employer
Section II: To be completed by physician or other licensed health care professional (PLHCP)
Section III: To be completed by employee and returned to CHC via enclosed envelope or fax to 419-557-5213

SECTION I

INDICATE TYPE(S) OF RESPIRATOR(S) TO BE USED BY THIS EMPLOYEE

<input type="checkbox"/> Atmosphere-supplying respirator	<input type="checkbox"/> Continuous-flow respirator
<input type="checkbox"/> Open circuit SCBA	<input type="checkbox"/> Closed circuit SCBA
<input type="checkbox"/> Supplied-air respirator	<input type="checkbox"/> Combination Air-line and SCBA
<input type="checkbox"/> Air-purifying (non-powered)	<input type="checkbox"/> Air-purifying (powered)

LEVEL OF WORK REPORT (check one):

Light Moderate Heavy Strenuous

TYPE OF EXPOSURE

What substance(s) will employee be working with while wearing respirator. Briefly describe:

EXTENT OF USAGE (check one):

On a daily basis: hourly twice/shift
 Not daily, but more than once per week
 Rarely: weekly monthly
 Emergency situations only

LENGTH OF TIME ANTICIPATED IN HOURS: _____

SPECIAL WORK CONSIDERATIONS (I.E., high places, temperature, hazardous material, protective clothing, etc.): _____

Signature of Company Representative _____ Date _____

SECTION II

PLHCP EVALUATION

Respirator Approval: On the basis of the information obtained from the medical evaluation questionnaire, the above named individual, as per OSHA 29 CFR 1910.134 App. C, has been found medically:

- () Qualified to use a respirator for 2 years
() Required to undergo physical examination by a physician to determine respirator qualification

Comments: Non-smoker, normal eyes? Spirometry
PLHCP Signature: David J. Geisler Date: 8/19/2010

1 mask
 More than 1 mask

Qualitative Fit Test Record

Print Name: James Garwood Date of Hire _____

Date: 9-7-11 Job Title: _____

Company: Barnes Nursery Dept. (FRMC only) _____

Employee # _____ Dept # _____

Type of Respirator: Particulate Filter Model: 1860S / 1860 / PFR95-174 / PFR95-170
Manufacturer: 3M/KC Size: medium 1/2 mask
6200

- Education given on:
- 1. Safe use of respirator
 - 2. Proper fitting of respirator
 - 3. Cleaning and changing filters (if present) refer to company rep 3M
 - 4. Facial Hair

Mask has been worn for 5 minutes prior to fit testing _____ (Staff initials) Cartidge
2091

Sensitivity Check Performed? Yes No Sweet Bitter

Fit Test Method	Pass	Fail
Normal Breathing		
Deep Breathing		
Turn Head Side to Side		
Nod Head Up and Down		
Talking		
Bend Over		
Normal Breathing		
Normal Breathing		

Demonstrates fit check/seal check: Yes

Comments: Stay Clean Shaven

Tested by: RA Lee Date: 9/7/11

Employee Signature: James H. Garwood Date: 9/7/11

Report of Medical Examination



Exam Date	09/06/2011
Name	Alec D. Romick
Date of Birth	01/23/1989
Age	22
SSN	274-94-2589
Employer	Barnes Nursery
Job Classification	
Reason for Exam	

Medical Findings

Based on the information available to me on this date, it is my opinion that the above named person is

- Medically qualified to perform the job described
- Medically qualified with the following restrictions and/or modifications: _____
- Not medically qualified to perform the job described.
- Medical hold pending further data. _____
- TB Skin test _____

Drug Screen Results

- Has provided us with a NEGATIVE urine drug screen.
- Has provided us with a POSITIVE urine drug screen.
- Has provided us with a POSITIVE/NEGATIVE alcohol test (urine/blood).
- Urine drug screen not required with this exam.
- Breath alcohol test results: _____

Comments

- Follow with your primary care physician for periodic health screening.

I have/will advise the examinee of any detected medical condition or finding which dictates further medical examination or treatment and have/will make appropriate recommendations regarding medical follow-up.

Physician Signature

9/13/11

Date Signed

- 1 mask
- More than 1 mask

Qualitative Fit Test Record

Print Name: Alec Romnick Date of Hire _____

Date: 9-6-11 Job Title: _____

Company: Barnes Nursery Dept. (FRMC only) _____

Employee # _____ Dept # _____

Type of Respirator: Particulate Filter Model: 1860S / 1860 / PFR95-174/ PFR95-170
 Manufacturer: 3M/KC Size: M 6800 Fullface

- Education given on:
1. Safe use of respirator
 2. Proper fitting of respirator
 3. Cleaning and changing filters (if present) refer to company rep
 4. Facial Hair

Mask has been worn for 5 minutes prior to fit testing MS (Staff initials)

Sensitivity Check Performed? Yes No Sweet Bitter

Fit Test Method	Pass	Fail
Normal Breathing	✓	
Deep Breathing	✓	
Turn Head Side to Side	✓	
Nod Head Up and Down	✓	
Talking	✓	
Bend Over	✓	
Normal Breathing	✓	

Demonstrates fit check/seal check: Yes

Comments: Clean shave when using mask

Tested by: R Stanley Date: 9-6-11

Employee Signature: Alec Romnick Date: 9-6-11

REQUEST FOR RESPIRATOR MEDICAL EVALUATION



FIRELANDS
Regional Medical Center
Corporate Health Center

NAME: Romick, Alec D
AGE: 22 SSN: 274-94-2589
EMPLOYER: Barnes Nursery
EXAM DATE: 09/06/2011

Section I: To be completed by employer
Section II: To be completed by physician or other licensed health care professional (PLHCP)
Section III: To be completed by employee and returned to CHC via enclosed envelope or fax to 419-557-5213

SECTION I

INDICATE TYPE(S) OF RESPIRATOR(S) TO BE USED BY THIS EMPLOYEE

Atmosphere-supplying respirator Continuous-flow respirator
 Open circuit SCBA Closed circuit SCBA
 Supplied-air respirator Combination Air-line and SCBA
 Air-purifying (non-powered) Air-purifying (powered)

LEVEL OF WORK REPORT (check one):

Light Moderate Heavy Strenuous

TYPE OF EXPOSURE

What substance(s) will employee be working with while wearing respirator. Briefly describe:

EXTENT OF USAGE (check one):

On a daily basis: hourly twice/shift
 Not daily, but more than once per week
 Rarely: weekly monthly
 Emergency situations only

LENGTH OF TIME ANTICIPATED IN HOURS: _____

SPECIAL WORK CONSIDERATIONS (I.E., high places, temperature, hazardous material, protective clothing, etc.): _____

Signature of Company Representative _____ Date _____

SECTION II

PLHCP EVALUATION

Respirator Approval: On the basis of the information obtained from the medical evaluation questionnaire, the above named individual, as per OSHA 29 CFR 1910.134 App. C, has been found medically:

- () Qualified to use a respirator for 1 years
() Required to undergo physical examination by a physician to determine respirator qualification

Comments: Stop smoking / Encourage wt loss Program
PLHCP Signature: [Signature] Date: 9/13/11

Report of Medical Examination



Exam Date	09/08/2011
Name	Michael Stout
Date of Birth	10/22/1964
Age	46
SSN	294-72-1729
Employer	Barnes Nursery
Job Classification	
Reason for Exam	

Medical Findings

Based on the information available to me on this date, it is my opinion that the above named person is

- Medically qualified to perform the job described
- Medically qualified with the following restrictions and/or modifications: _____
- Not medically qualified to perform the job described.
- Medical hold pending further data. _____
- TB Skin test _____

Drug Screen Results

- Has provided us with a NEGATIVE urine drug screen.
- Has provided us with a POSITIVE urine drug screen.
- Has provided us with a POSITIVE/NEGATIVE alcohol test (urine/blood).
- Urine drug screen not required with this exam.
- Breath alcohol test results: _____

Comments

Strongly recommend wt. loss program and f/u with PCP.

- Follow with your primary care physician for periodic health screening.

I have/will advise the examinee of any detected medical condition or finding which dictates further medical examination or treatment and have/will make appropriate recommendations regarding medical follow-up.

Physician Signature

9-8-11

Date Signed

REQUEST FOR RESPIRATOR MEDICAL EVALUATION



FIRELANDS
Regional Medical Center
Corporate Health Center

NAME: Stout, Michael
AGE: 46 SSN: 294-72-1729
EMPLOYER: Barnes Nursery
EXAM DATE: 09/08/2011

Section I: To be completed by employer
Section II: To be completed by physician or other licensed health care professional (PLHCP)
Section III: To be completed by employee and returned to CHC via enclosed envelope or fax to 419-557-5213

SECTION I

INDICATE TYPE(S) OF RESPIRATOR(S) TO BE USED BY THIS EMPLOYEE

<input type="checkbox"/> Atmosphere-supplying respirator	<input type="checkbox"/> Continuous-flow respirator
<input type="checkbox"/> Open circuit SCBA	<input type="checkbox"/> Closed circuit SCBA
<input type="checkbox"/> Supplied-air respirator	<input type="checkbox"/> Combination Air-line and SCBA
<input type="checkbox"/> Air-purifying (non-powered)	<input type="checkbox"/> Air-purifying (powered)

LEVEL OF WORK REPORT (check one):

Light Moderate Heavy Strenuous

TYPE OF EXPOSURE

What substance(s) will employee be working with while wearing respirator. Briefly describe:

EXTENT OF USAGE (check one):

On a daily basis: hourly twice/shift
 Not daily, but more than once per week
 Rarely: weekly monthly
 Emergency situations only

LENGTH OF TIME ANTICIPATED IN HOURS: _____

SPECIAL WORK CONSIDERATIONS (I.E., high places, temperature, hazardous material, protective clothing, etc.): _____

Signature of Company Representative _____ Date _____

SECTION II

PLHCP EVALUATION

Respirator Approval: On the basis of the information obtained from the medical evaluation questionnaire, the above named individual, as per OSHA 29 CFR 1910.134 App. C, has been found medically:

- () Qualified to use a respirator for 1 years
() Required to undergo physical examination by a physician to determine respirator qualification

Comments: Spird performed on 9/25/11
PLHCP Signature: [Signature] Date: 9-8-11

- 1 mask
- More than 1 mask

Qualitative Fit Test Record

Print Name: Michael Stout Date of Hire _____

Date: 9-8-11 Job Title: OPERATOR

Company: Barnes Nursery Dept. (FRMC only) _____

Employee # _____ Dept # _____

Type of Respirator: Particulate Filter Model: 1860S / 1860 / PFR95-174/ PFR95-170
 Manufacturer: (3M) KC Size: LARGE - HALF MASK (SCBA)

- Education given on:
1. Safe use of respirator
 2. Proper fitting of respirator
 3. Cleaning and changing filters (if present) refer to company rep
 4. Facial Hair

Mask has been worn for 5 minutes prior to fit testing MS (Staff initials)

Sensitivity Check Performed? (Yes) No Sweet (Bitter)

Fit Test Method	Pass	Fail
Normal Breathing	✓	
Deep Breathing	✓	
Turn Head Side to Side	✓	
Nod Head Up and Down	✓	
Talking	✓	
Bend Over	✓	
Normal Breathing	✓	

Demonstrates fit check/seal check: ✓ MS

Comments: _____

Tested by: M. Stout, AW Date: 9-8-11

Employee Signature: (X) Michael Stout Date: 9-8-11



TMC, Ltd.

proudly presents this certificate of achievement to:

Alec Romick

In recognition of successful completion of the 40 hour Hazardous Waste Operations and Emergency Response (HAZWOPER) Technician course in accordance with the curriculum of the Occupational Safety and Health Administration (OSHA) Regulation 29 CFR 1910.120.



TMC, Ltd. Trainer / Instructor

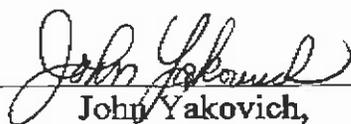
July 30, 2010

Course Date

C&K INDUSTRIAL SERVICES, INC.
Certificate of Completion

This certifies that
Michael Stout

Has successfully completed the
40 Hour HAZWOPER Course
in accordance with 29 CFR 1910.120


John Yakovich,
Safety Trainer

June 14, 2008

Date of Completion

C&K INDUSTRIAL SERVICES, INC.
Certificate of Completion

This certifies that
James Garwood

Has successfully completed the
40 Hour HAZWOPER Course
in accordance with 29 CFR 1910.120


John Yakovich,
Safety Trainer

June 14, 2008

Date of Completion

**Independent Quality Control Team
Senior Reviewer**

Richard Armstrong

Richard E. Armstrong

567 Thomas Road
St. Albans, WV 25177

Office: 304-201-2205
Cell: 304-932-5490

E-mail: rarmstrong@mctech360.com

Objective: To continue to apply my skills and experience toward successfully completed projects that will build strong client relationships and promote company growth.

Experience: **McTech Corporation**
Project Manager
2008-Present

Project Manager for several construction projects for various Government clients including the United States Army Corp of Engineers, Huntington and Pittsburgh District and the United States Army at Fort A.P. Hill in Virginia. Duties include construction oversight, scheduling, quality and safety oversight, and client relations. Projects have included:

USACE Huntington District, Huntington WV

- Lead and Asbestos Abatement at Winfield Locks and Dam, Red House, West Virginia. \$420,702.32
- Erosion prevention by placing Type D aggregate protection on the upstream/downstream slope of the embankment at Beach City Dam in Tuscarawas County, Ohio. \$699,271.95

- Rehabilitation of tanner gates at Fishtrap Lake Dam in Shelbiana, Kentucky. \$582,455.08
- Road construction with 304 aggregate at Beach City Dam in Tuscarawas County, Ohio, \$116,542.63
- Bulkhead crane replacement at London Locks and Dam in London, West Virginia \$2,844,041.58
- Derrick crane replacement at Bluestone Dam in Hinton, West Virginia. \$1,414,314.37
- Structure Demolition and Asbestos removal in Floyd, Martin and Pike County KY \$239,122.24
- Structure Demolition in town of Grundy Buchanan County VA \$60,009.72

USACE Pittsburgh District, Pittsburgh PA

- Expansion joint repair and waterline replacement at Kinzua Dam in Warren County, Pennsylvania. \$126,227.49
- Various other projects and duties as assigned.

Douglas Barrels, Inc.

Machinist

1990-2008

Responsibilities included all heat-treating and quality control of the metals used to craft rifle barrels, including several steps in the manufacturing of the barrels; shipping and receiving of products and materials; and provided informational tours to all visitors and customers to the facility.

H.C. Nutting Co.

Field Supervisor

1989-1990

Operated a core-drilling rig for the geo-technical engineering department of the company and represented the company in daily interaction with clients.

**Esmer and Associates
Field Technician**

Responsibilities included overseeing the daily construction of all aspects and phases of eleven coarse coal refuge impoundments; liaison between the company and the coal companies building the impoundments; daily communication and supervision of the employees building the impoundments; communicated all phases of the projects to OSHA and MSHA; provided daily written reports to Esmer & Associates; kept a written log of all phases of the construction; performed core-drilling, soil sampling, soil compaction testing, water sampling, installed water monitoring stations and water decant systems for water overflow; and tested concrete for slump and made cylinders for testing.

Certifications obtained during this position were acquired for the removal and exploration of hazardous materials; to run a Troxler nuclear compaction gauge; and to obtain air samples for hazardous waste.

Education: St. Albans High School, graduated 1982
West Virginia State College (University) 1982-1984

Training: 30 Hour OSHA Construction
HAZWOPER
Contractor Quality Control Certification – USACE
Respiratory Protection Trained
Asbestos Awareness Certification
Lead Awareness Certification
Scaffold Competent Person Certification
Fall Protection Certification
Adult First Aid and CPR

Affiliations: Scoutmaster of Boy Scout Troop 250

References: Available Upon Request

OSHA

600355572

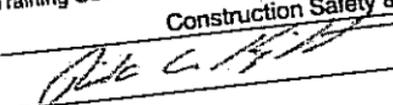


U.S. Department of Labor
Occupational Safety and Health Administration

RICHARD ARMSTRONG

has successfully completed a 30-hour Occupational Safety and Health
Training Course in

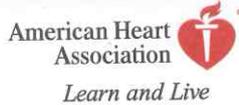
Construction Safety & Health


(Trainer)

11/14/2008

(Date)

PEEL
HERE



Heartsaver® First Aid

Rick Armstrong

This card certifies that the above individual has successfully completed the objectives and skills evaluations in accordance with the curriculum of the AHA for Heartsaver First Aid Program.

Modules Completed: (A) (B) (C) (D) (E)

04-05-2011

Issue Date

04-2013

Recommended Renewal Date

Training Center	CAMC Institute LSTC - (304) 388-1856
TC Address Contact Info	General Hospital 5 East 501 Morris Street
Course Location	St. Albans, WV
Instructor	Bridget Perry
Holder's Signature	

© 2006 American Heart Association Tampering with this card will alter its appearance. 80-1202

~~Please do not lose this card. A replacement fee of \$5 will be charged.~~

Fill in the circles of the modules *NOT* completed. This card contains unique security features to protect against forgery.



PROFESSIONAL DEVELOPMENT SUPPORT CENTER
HUNTSVILLE, ALABAMA

CERTIFICATE

Richard Armstrong

has completed the Corps of Engineers Training Course

CONSTRUCTION QUALITY MANAGEMENT FOR CONTRACTORS

*is awarded continuing education credits as
indicated for 16 hours of organized instruction*



Certified Provider #199509
1.3 CEUs



Registered Provider #009
39 LUs



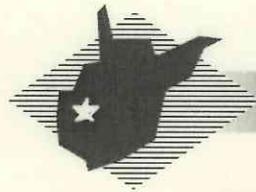
Registered Provider
13 PDHs

Given at Huntington, WV By Huntington District 03/10/09
Location Instructional District Date


Facilitator

THIS CERTIFICATE EXPIRES FIVE YEARS FROM DATE OF ISSUE


Chief, Engineering/Construction Division



R T C

Regulatory Training Center

157 2nd Avenue, South Charleston, WV 25303
(304) 348-1346

This is to certify that

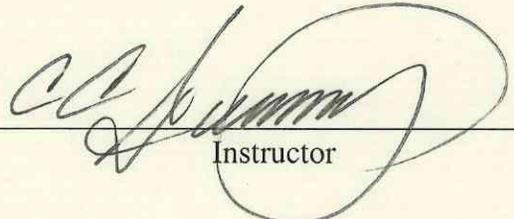
Richard Armstrong

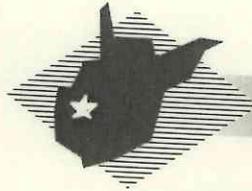
has met the attendance requirements and successfully completed the course in

Asbestos Awareness

January 24, 2011

Date


Instructor



R T C

Regulatory Training Center
157 2nd Avenue, South Charleston, WV 25303
(304) 348-1346

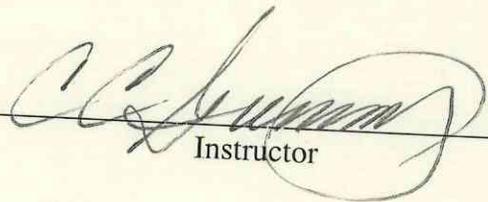
This is to certify that

Richard Armstrong

has met the attendance requirements and successfully completed the course in

Lead Awareness

January 24, 2011
Date


Instructor

**Independent Quality Control Team
Peer Reviewer**

Christine Smith



McTECH CORP.
SOLID RELATIONSHIPS, BUILT BY DESIGN.

Christine Smith csmith@mctech360.com

Objective To obtain a long term position that will utilize my diverse experience

Experience

2/09 – Present McTech Corp/ TMG Services St. Albans, WV
Administrative Assistant/Office Manager

Provide administrative support to regional manager and project managers in administrative compliance with government contracts including holding subcontractors accountable for government contract requirements.

Accounts payable/receivable

Input material submittals into RMS(computer Program) for government approval.

Preparing and distributing meeting agendas and minutes.

Prepare, distribute, and execute subcontracts and change orders for multi million dollar projects.

Involved in production and submittal of reports relating to projects including Accident Prevention Plans, Quality Control Plans, Environmental Protection Plan, Storm Water Pollution Prevention Plans, Water Quality Impact

assessments, Lead and Asbestos Abatement Plans, as well as Proposals

Manage office needs, including hiring and training, project filing, office equipment and supplies, meeting coordination and catering, travel

arrangements, preparing expense reports, shipping, and any other assistance that may be requested.

2/09– Manpower Hurricane, WV

Administrative Assistant

Organized filing system for bank vice president

Scanned confidential files and converted to disk format

General office duties as a temporary office assistant

1/07- 7/08 Krazy Pizza and Subs Wilmington, NC

Owner

Set up and maintained all Office Operations including payroll and compliance for 25 employees, hiring and training, reconciling accounts,

ordering, inventory, scheduling and customer service

2005 Amazon.com Huntington, WV

Customer Service

Address customer needs through national call center. Assisted customers with orders, online assistance, recovering lost merchandise through delivery carriers and tracking

Management 1995-1997 Steak n Shake Restaurant Kalamazoo, MI Restaurant

Education 1985-1988 Johnson and Wales College Providence, RI

Bachelor of Arts Degree

Food Service Management/Culinary Arts

Certifications 2010 USACE Construction Quality Management for Contractors
2011 CPR Certified



PROFESSIONAL DEVELOPMENT SUPPORT CENTER
HUNTSVILLE, ALABAMA

CERTIFICATE

Christine Smith

has completed the Corps of Engineers Training Course

CONSTRUCTION QUALITY MANAGEMENT FOR CONTRACTORS

is awarded continuing education credits as indicated for 16 hours of organized instruction



Given at **Huntington, WV** By
Location

Huntington District
Instructional District

03/09/10
Date

[Signature]
Facilitator

THIS CERTIFICATE EXPIRES FIVE YEARS FROM DATE OF ISSUE

[Signature]
Chief, Engineering/Construction Division

USACE QCM Certified Laboratory

Microbac Laboratories



The American Association for Laboratory Accreditation

World Class Accreditation

Accredited DoD ELAP Laboratory

A2LA has accredited

MICROBAC LABORATORIES, INC. OHIO VALLEY DIVISION

Marietta, OH

for technical competence in the field of

Environmental Testing

In recognition of the successful completion of the A2LA evaluation process that includes an assessment of the laboratory's compliance with ISO/IEC 17025:2005, the 2003 NELAC Chapter 5 Standard, and the requirements of the Department of Defense Environmental Laboratory Accreditation Program (DoD ELAP) as detailed in the current DoD Quality Systems Manual for Environmental Laboratories; accreditation is granted to this laboratory to perform recognized EPA methods as defined on the associated A2LA Environmental Scope of Accreditation. This accreditation demonstrates technical competence for this defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).



Presented this 28th day of September 2009.



President & CEO
For the Accreditation Council
Certificate Number 2936.01
Valid to December 31, 2011

For the tests or types of tests to which this accreditation applies, please refer to the laboratory's Environmental Scope of Accreditation.



"World Class Accreditation"

SCOPE OF ACCREDITATION TO ISO/IEC 17025-2005

MICROBAC LABORATORIES, INC.
158 Starlite Drive
Marietta, OH 45750
Leslie Bucina Phone: 740-373-4071
Email address: lbucina@microbac.com

ENVIRONMENTAL

Valid To: December 31, 2011

Certificate Number: 2936.01

In recognition of the successful completion of the A2LA evaluation process, (including an assessment of the laboratory's compliance with ISO IEC 17025:2005, the 2003 NELAC Chapter 5 Standard, and the requirements of the DoD Environmental Laboratory Accreditation Program (DoD ELAP) as detailed in the current DoD Quality Systems Manual for Environmental Laboratories) accreditation is granted to this laboratory to perform recognized EPA methods using the following testing technologies and in the analyte categories identified below:

Testing Technologies

Atomic Absorption/ICP-AES Spectrometry, ICP/MS, Gas Chromatography, Gas Chromatography/Mass Spectrometry, Gravimetry, High Performance Liquid Chromatography, LC/MS/MS, Ion Chromatography, Misc.- Electronic Probes (pH, O₂), Oxygen Demand, Hazardous Waste Characteristics Tests, Spectrophotometry (Visible), Spectrophotometry (Automated), IR Spectrometry, Titrimetry, Total Organic Carbon

<u>Parameter/Analyte</u>	<u>Nonpotable Water (1)</u>	<u>Solid and Chemical Materials (2)</u>
Metals		
Aluminum	EPA 200.7 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C	EPA 3051/6010B EPA 3051A/6010B EPA 3051/6010C EPA 3051A/6010C

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
Antimony	EPA 200.7 EPA 200.8 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C EPA 3015/6020 EPA 3015A/6020 EPA 3015/6020A EPA 3015A/6020A	EPA 3051/6010B EPA 3051A/6010B EPA 3051/6010C EPA 3051A/6010C EPA 3051/6020 EPA 3051A/6020 EPA 3051/6020A EPA 3051A/6020A
Arsenic	EPA 200.7 EPA 200.8 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C EPA 3015/6020 EPA 3015A/6020 EPA 3015/6020A EPA 3015A/6020A	EPA 3051/6010B EPA 3051A/6010B EPA 3051/6010C EPA 3051A/6010C EPA 3051/6020 EPA 3051A/6020 EPA 3051/6020A EPA 3051A/6020A
Barium	EPA 200.7 EPA 200.8 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C EPA 3015/6020 EPA 3015A/6020 EPA 3015/6020A EPA 3015A/6020A	EPA 3051/6010B EPA 3051A/6010B EPA 3051/6010C EPA 3051A/6010C EPA 3051/6020 EPA 3051A/6020 EPA 3051/6020A EPA 3051A/6020A
Beryllium	EPA 200.7 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C	EPA 3051/6010B EPA 3051A/6010B EPA 3051/6010C EPA 3051A/6010C

Peter Abney

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
Boron	EPA 200.7 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C	EPA 3051/6010B EPA 3051A/6010B EPA 3051/6010C EPA 3051A/6010C
Cadmium	EPA 200.7 EPA 200.8 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C EPA 3015/6020 EPA 3015A/6020 EPA 3015/6020A EPA 3015A/6020A	EPA 3051/6010B EPA 3051A/6010B EPA 3051/6010C EPA 3051A/6010C EPA 3051/6020 EPA 3051A/6020 EPA 3051/6020A EPA 3051A/6020A
Calcium	EPA 200.7 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C	EPA 3051/6010B EPA 3051A/6010B EPA 3051/6010C EPA 3051A/6010C
Chromium	EPA 200.7 EPA 200.8 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C EPA 3015/6020 EPA 3015A/6020 EPA 3015/6020A EPA 3015A/6020A	EPA 3051/6010B EPA 3051A/6010B EPA 3051/6010C EPA 3051A/6010C EPA 3051/6020 EPA 3051A/6020 EPA 3051/6020A EPA 3051A/6020A
Cobalt	EPA 200.7 EPA 200.8 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C EPA 3015/6020 EPA 3015A/6020 EPA 3015/6020A EPA 3015A/6020A	EPA 3051/6010B EPA 3051A/6010B EPA 3051/6010C EPA 3051A/6010C EPA 3051/6020 EPA 3051A/6020 EPA 3051/6020A EPA 3051A/6020A

Peter M. Meyer

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
	EPA 3015A/6020A	
Copper	EPA 200.7 EPA 200.8 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C EPA 3015/6020 EPA 3015A/6020 EPA 3015/6020A EPA 3015A/6020A	EPA 3051/6010B EPA 3051A/6010B EPA 3051/6010C EPA 3051A/6010C EPA 3051/6020 EPA 3051A/6020 EPA 3051/6020A EPA 3051A/6020A
Iron	EPA 200.7 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C	EPA 3051/6010B EPA 3051A/6010B EPA 3051/6010C EPA 3051A/6010C
Lead	EPA 200.7 EPA 200.8 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C EPA 3015/6020 EPA 3015A/6020 EPA 3015/6020A EPA 3015A/6020A	EPA 3051/6010B EPA 3051A/6010B EPA 3051/6010C EPA 3051A/6010C EPA 3051/6020 EPA 3051A/6020 EPA 3051/6020A EPA 3051A/6020A
Lithium	EPA 200.7 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C	EPA 3051/6010B EPA 3051A/6010B EPA 3051/6010C EPA 3051A/6010C
Magnesium	EPA 200.7 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C	EPA 3051/6010B EPA 3051A/6010B EPA 3051/6010C EPA 3051A/6010C

Peter Abney

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
Manganese	EPA 200.7 EPA 200.8 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C EPA 3015/6020 EPA 3015A/6020 EPA 3015/6020A EPA 3015A/6020A	EPA 3051/6010B EPA 3051A/6010B EPA 3051/6010C EPA 3051A/6010C EPA 3051/6020 EPA 3051A/6020 EPA 3051/6020A EPA 3051A/6020A
Mercury	EPA 245.1 EPA 7470A	EPA 7471A EPA 7471B
Molybdenum	EPA 200.7 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C	EPA 3051/6010B EPA 3051A/6010B EPA 3051/6010C EPA 3051A/6010C
Nickel	EPA 200.7 EPA 200.8 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C EPA 3015/6020 EPA 3015A/6020 EPA 3015/6020A EPA 3015A/6020A	EPA 3051/6010B EPA 3051A/6010B EPA 3051/6010C EPA 3051A/6010C EPA 3051/6020 EPA 3051A/6020 EPA 3051/6020A EPA 3051A/6020A
Phosphorus	EPA 200.7 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C	EPA 3051/6010B EPA 3051A/6010B EPA 3051/6010C EPA 3051A/6010C
Potassium	EPA 200.7 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C	EPA 3051/6010B EPA 3051A/6010B EPA 3051/6010C EPA 3051A/6010C

Peter Mlynar

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
Selenium	EPA 200.7 EPA 200.8 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C EPA 3015/6020 EPA 3015A/6020 EPA 3015/6020A EPA 3015A/6020A	EPA 3051/6010B EPA 3051A/6010B EPA 3051/6010C EPA 3051A/6010C EPA 3051/6020 EPA 3051A/6020 EPA 3051/6020A EPA 3051A/6020A
Silicon	EPA 200.7 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C	-----
Silver	EPA 200.7 EPA 200.8 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C EPA 3015/6020 EPA 3015A/6020 EPA 3015/6020A EPA 3015A/6020A	EPA 3051/6010B EPA 3051A/6010B EPA 3051/6010C EPA 3051A/6010C EPA 3051/6020 EPA 3051A/6020 EPA 3051/6020A EPA 3051A/6020A
Sodium	EPA 200.7 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C	EPA 3051/6010B EPA 3051A/6010B EPA 3051/6010C EPA 3051A/6010C
Strontium	EPA 200.7 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C	EPA 3051/6010B EPA 3051A/6010B EPA 3051/6010C EPA 3051A/6010C



Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
Thallium	EPA 200.7 EPA 200.8 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C EPA 3015/6020 EPA 3015A/6020 EPA 3015/6020A EPA 3015A/6020A	EPA 3051/6010B EPA 3051A/6010B EPA 3051/6010C EPA 3051A/6010C EPA 3051/6020 EPA 3051A/6020 EPA 3051/6020A EPA 3051A/6020A
Tin	EPA 200.7 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C	EPA 3051/6010B EPA 3051A/6010B EPA 3051/6010C EPA 3051A/6010C
Titanium	EPA 200.7 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C	EPA 3051/6010B EPA 3051A/6010B EPA 3051/6010C EPA 3051A/6010C
Uranium	EPA 200.8 EPA 3015/6020 EPA 3015A/6020 EPA 3015/6020A EPA 3015A/6020A	EPA 3051/6020 EPA 3051A/6020 EPA 3051/6020A EPA 3051A/6020A
Vanadium	EPA 200.7 EPA 200.8 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C EPA 3015/6020 EPA 3015A/6020 EPA 3015/6020A EPA 3015A/6020A	EPA 3051/6010B EPA 3051A/6010B EPA 3051/6010C EPA 3051A/6010C EPA 3051/6020 EPA 3051A/6020 EPA 3051/6020A EPA 3051A/6020A

Peter Abney

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
Zinc	EPA 200.7 EPA 200.8 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C EPA 3015/6020 EPA 3015A/6020 EPA 3015/6020A EPA 3015A/6020A	EPA 3051/6010B EPA 3051A/6010B EPA 3051/6010C EPA 3051A/6010C EPA 3051/6020 EPA 3051A/6020 EPA 3051/6020A EPA 3051A/6020A
Zirconium	EPA 200.7 EPA 3005A/6010B EPA 3015/6010B EPA 3015A/6010B EPA 3005A/6010C EPA 3015/6010C EPA 3015A/6010C	EPA 3051/6010B EPA 3051A/6010B EPA 3051/6010C EPA 3051A/6010C
Nutrients		
Ammonia (as N)	EPA 350.1 SM 4500-NH3 B	EPA 350.1 SM 4500-NH3 B
Kjeldahl nitrogen	EPA 351.2	-----
Nitrate (as N)	EPA 300.0 EPA 9056 EPA 9056A EPA 353.2	EPA 9056 EPA 9056A
Nitrate-nitrite (as N)	EPA 300.0 EPA 9056 EPA 9056A EPA 353.2	EPA 9056 EPA 9056A
Nitrite (as N)	EPA 300.0 EPA 9056 EPA 9056A EPA 354.1	EPA 9056 EPA 9056A
Orthophosphate (as P)	EPA 365.2 SM 4500-P E	EPA 365.2
Total phosphorus	EPA 365.4	-----
Demands		
Biochemical oxygen demand	SM 5210 B	-----
Chemical oxygen demand	EPA 410.4 HACH 8000	-----
Total organic carbon	EPA 415.1 EPA 9060A SM5310 C	LLOYDKAHN

Peter Abney

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
Wet Chemistry		
Alkalinity	EPA 310.1 EPA 310.2 SM 2320 B	-----
Bromide	EPA 300.0 EPA 9056 EPA 9056A	EPA 9056 EPA 9056A
Chloride	EPA 300.0 EPA 9056 EPA 9056A EPA 325.2 SM 4500-CL E	EPA 9056 EPA 9056A EPA 325.2 SM 4500-CL E
Cyanide	SM 4500 CN-C,E EPA 9010C/9014	EPA 9010C/9014
Amenable Cyanide	SM 4500 CN-G EPA 9010C/9014	EPA 9010C/9014
Fluoride	EPA 300.0 EPA 9056 EPA 9056A SM 4500 F,C	EPA 300.0 EPA 9056 EPA 9056A SM 4500 F,C
pH	SM 4500-H ⁺ B EPA 9040C	EPA 9040C EPA 9045D
Oil and Grease	EPA 1664A	EPA 1664A
Phenols	EPA 420.1	EPA 420.1
Total residue	EPA 160.3 SM 2540 B	-----
Filterable residue	EPA 160.1 SM 2540 C	-----
Nonfilterable residue	EPA 160.2 SM 2540 D	-----
Sulfate	EPA 300.0 EPA 9056 EPA 9056A EPA 375.4 SM 426C	EPA 9056 EPA 9056A EPA 375.4 SM 426 C
Sulfide	EPA 376.1 SM 4500-S F	EPA 9030B/9034
Flashpoint	EPA 1010A	EPA 1010A
Ferrous Iron	SM 3500-Fe B	-----
Hexavalent chromium	SM 3500-Cr D 19 th Ed SM 3500-Cr B 20 th and 21 st Ed EPA 7196A	SM 3500-Cr D 19 th Ed SM 3500-Cr B 20 th and 21 st Ed EPA 7196A
Purgeable Organics (Volatiles)		
Acetone	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B

Peter Meyer

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
Acetonitrile	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Acrolein	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Acrylonitrile	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Allyl chloride	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
T-amylmethylether	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Benzene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Bromobenzene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Bromochloromethane	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Bromodichloromethane	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Bromoform	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Bromomethane	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
1,3-Butadiene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
2-Butanone	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
n-Butyl alcohol	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
tert-Butyl alcohol	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
n-Butylbenzene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B

Peter Meyer

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
Sec-Butylbenzene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Tert-Butylbenzene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Carbon disulfide	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Carbon tetrachloride	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Chlorobenzene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Chloroethane	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
2-Chloroethyl vinyl ether	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Chloroform	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Chloroprene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
1-Chlorohexane	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Chloromethane	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
2-Chlorotoluene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
4-Chlorotoluene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Cyclohexane	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Cyclohexanone	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Dibromochloromethane	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B

Peter Meyer

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
Dibromofluoromethane	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
1,2-Dibromo-3-chloropropane (DBCP)	EPA 624 EPA 5030B/8260B EPA 5030C/8260B EPA 8011	EPA 5035/8260B EPA 5035A/8260B
Dibromomethane	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
1,2Dibromomethane (EDB)	EPA 624 EPA 5030B/8260B EPA 5030C/8260B EPA 8011	EPA 5035/8260B EPA 5035A/8260B
1,2-Dichlorobenzene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
1,3-Dichlorobenzene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
1,4-Dichlorobenzene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Trans-1,4-Dichloro-2-butene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Dichlorodifluoromethane	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
1,1-Dichloroethane	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
1,2-Dichloroethane	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
1,1-Dichloroethene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
cis-1,2-Dichloroethene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
trans-1,2-Dichloroethene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
1,2-Dichloropropane	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B

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<u>Parameter/Analyte</u>	<u>Nonpotable Water (1)</u>	<u>Solid and Chemical Materials (2)</u>
1,3-Dichloropropane	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
2,2-Dichloropropane	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
1,1-Dichloropropene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
cis-1,3-Dichloropropene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
trans-1,3-Dichloropropene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Diethyl ether	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Di-isopropyl ether	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Dimethyldisulfide	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Dimethyl sulfide	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
1,4-Dioxane	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Ethyl acetate	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Ethyl -t-butyl ether	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Ethyl methacrylate	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Ethyl benzene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Gas Range Organics (GRO)	EPA 5030B/8015B NWTPH GX EPA 5030C/8015B WADOE VPH EPA 5030B/8015C EPA 5030C/8015C EPA 5030B/8015D EPA 5030C/8015D	EPA 5035/8015B NWTPH GX EPA 5035/8015C WADOE VPH EPA 5035/8015D EPA 5035A/8015B EPA 5035A/8015C EPA 5035A/8015D

Peter Meyer

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
2-Hexanone	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Hexachlorobutadiene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Isoprene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Isopropylbenzene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
1,4-Isopropyltoluene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Iodomethane	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Isobutyl alcohol	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Isopropyl alcohol	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Methacrylonitrile	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Methyl acetate	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Methylcyclohexane	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Methyl methacrylate	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Alpha-Methylstyrene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Methyl tert-butyl ether	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Methylene chloride	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
4-Methyl-2-pentanone	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B

Peter Abney

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
Naphthalene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
2-Nitropropane	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
n-Propylbenzene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Propionitrile	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Styrene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
1,1,1,2-Tetrachloroethane	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
1,1,2,2-Tetrachloroethane	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Tetrachloroethene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Tetrahydrofuran	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Toluene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
1,1,1-Trichloroethane	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
1,1,2-Trichloroethane	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Trichloroethene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Trichlorofluoromethane	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
1,2,3-Trichlorobenzene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
1,2,3-Trichloropropane	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B

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Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
1,2,4-Trichlorobenzene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
1,2,4-Trimethylbenzene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
1,3,5-Trimethylbenzene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Vinyl acetate	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Vinyl chloride	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Xylenes, total	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
1,2-Xylene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
1,3-Xylene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
1,4-Xylene	EPA 624 EPA 5030B/8260B EPA 5030C/8260B	EPA 5035/8260B EPA 5035A/8260B
Headspace Organics		
Carbon dioxide	EPA 5021/RSK175	-----
Methane	EPA 5021/RSK175	-----
Ethane	EPA 5021/RSK175	-----
Ethene	EPA 5021/RSK175	-----
Acetylene	EPA 5021/RSK175	-----
Extractable Organics (Semivolatiles)		
Acenaphthene	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D



Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
Acenaphthylene	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Acetophenone	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
2-Acetylaminofluorene	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
4-Aminobiphenyl	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Anilene	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D

Peter Mlynski

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
Anthracene	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Aramite	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Benzidine	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Benzoic acid	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Benzo (a) anthracene	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D

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Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
Benzo (b) fluoranthene	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Benzo (k) fluoranthene	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Benzo (ghi) fluoranthene	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Benzo (a) pyrene	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Benzyl alcohol	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D

Peter Meyer

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
Benzaldehyde	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Biphenyl	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Bis(2-chloroethoxy) methane	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Bis (2-chloroethyl) ether	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Bis(2-chloroisopropyl) ether	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D

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Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
Bis (2-ethylhexyl) phthalate	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
4-Bromophenylphenylether	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Butyl benzyl phthalate	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Caprolactam	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Carbazole	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D

Peter M. Meyer

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
4-Chloroaniline	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Chlorobenzilate	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
4-Chloro-3-methylphenol	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
1-Chloronaphthalene	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
2-Chloronaphthalene	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D

Peter Meyer

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
2-Chlorophenol	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
4-Chlorophenylphenyl ether	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Chrysene	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Cresols	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Diallate	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D

Peter Meyer

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
Dibenzo (a,h) anthracene	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Dibenzofuran	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
1,2-Dichlorobenzene	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
1,3-Dichlorobenzene	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
1,4-Dichlorobenzene	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D

Peter Meyer

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
3,3'-Dichlorobenzidine	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
2,4-Dichlorophenol	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
2,6-Dichlorophenol	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Diethyl phthalate	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Dimethoate	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D

Peter Mlynski

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
4-Dimethylaminoazobenzene	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
7,12-Dimethylbenz(a)anthracene	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
3,3'-Dimethylbenzidine	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Alpha-,alpha-Dimethylphenethylamine	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
2,4-Dimethylphenol	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D

Peter Wagner

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
Dimethyl phthalate	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Di-n-butyl phthalate	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Di-n-octyl phthalate	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
2,4-Dinitrophenol	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
2,4-Dinitrotoluene	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D

Peter Meyer

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
2,6-Dinitrotoluene	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
1,4-Dioxane	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Diphenylamine	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
1,2-Diphenylhydrazine	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Disulfoton	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D

Peter Meyer

<u>Parameter/Analyte</u>	<u>Nonpotable Water (1)</u>	<u>Solid and Chemical Materials (2)</u>
DRO/ORO	EPA 3510C/8015B EPA 3510C/8015C EPA 3510C/8015D NWTPH DX WADOE EPH	EPA 3545/8015B NWTPH DX EPA 3545A/8015B WADOE EPH EPA 3550B/8015B EPA 3550C/8015B EPA 3545/8015C EPA 3545A/8015C EPA 3550B/8015C EPA 3550C/8015C EPA 3545/8015D EPA 3545A/8015D EPA 3550B/8015D EPA 3550C/8015D
Ethyl methanesulfonate	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Ethyl parathion	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Famphur	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D

Peter Abney

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
Fluoroanthene	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Fluorene	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Hexachlorobenzene	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Hexachlorobutadiene	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Hexachlorocyclopentadiene	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D

Peter Meyer

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
Hexachloroethane	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Hexachlorophene	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Hexachloropropene	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Indeno (1,2,3-cd) pyrene	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Isodrin	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D

Peter Mlyns

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
Isophorone	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Isosafrole	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Kepone	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Methapyrilene	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
3-Methylcholanthrene	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D

Peter Mlynar

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
2-Methyl-4,6-Dinitrophenol	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Methyl methanesulfonate	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
1-Methylnaphthalene	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
2-Methylnaphthalene	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Methyl parathion	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D

Peter Mlynski

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
Naphthalene	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
1,4-Naphthoquinone	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
1-Naphthylamine	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
2-Naphthylamine	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
2-Nitroaniline	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D

Peter Meyer

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
3-Nitroaniline	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
4-Nitroaniline	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Nitrobenzene	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
5-Nitro-o-toluidine	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
2-Nitrophenol	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D

Peter Mlynski

<u>Parameter/Analyte</u>	<u>Nonpotable Water (1)</u>	<u>Solid and Chemical Materials (2)</u>
4-Nitrophenol	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Nitroquinoline-1-oxide	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
n-Nitrosodiethylamine	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
n-Nitrosodimethylamine	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
n-Nitroso-di-n-butylamine	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D

Peter M. Meyer

<u>Parameter/Analyte</u>	<u>Nonpotable Water (1)</u>	<u>Solid and Chemical Materials (2)</u>
n-Nitrosodi-n-propylamine	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
n-Nitrosodiphenylamine	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
n-Nitrosomorpholine	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
n-Nitrosopiperidine	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
n-Nitrosopyrrolidine	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D

Peter Abney

<u>Parameter/Analyte</u>	<u>Nonpotable Water (1)</u>	<u>Solid and Chemical Materials (2)</u>
Pentachlorobenzene	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Pentachloroethane	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Pentachloronitobenzene	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Pentachlorophenol	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Phenacetin	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D

Peter Wagner

<u>Parameter/Analyte</u>	<u>Nonpotable Water (1)</u>	<u>Solid and Chemical Materials (2)</u>
Phenanthrene	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Phenol	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
1,4-Phenylenediamine	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Phorate	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
2-Picoline	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D

Peter Wagner

<u>Parameter/Analyte</u>	<u>Nonpotable Water (1)</u>	<u>Solid and Chemical Materials (2)</u>
Pronamide	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Pyrene	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Pyridine	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Safrole	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Sulfotepp	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D

Peter Wagner

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
1,2,4,5-Tetrachlorobenzene	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
2,3,4,6-Tetrachlorophenol	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
o,o,o-Triethyl phosphorothioate	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
Thionazin	EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
1,2,4-Trichlorobenzene	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D

Peter Wagner

<u>Parameter/Analyte</u>	<u>Nonpotable Water (1)</u>	<u>Solid and Chemical Materials (2)</u>
2,4,5-Trichlorophenol	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
2,4,6-Trichlorophenol	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
O-Toluidine	EPA 625 EPA 3510C/8270C EPA 3520C/8270C EPA 3510C/8270D EPA 3520C/8270D	EPA 3545/8270C EPA 3545A/8270C EPA 3550B/8270C EPA 3550C/8270C EPA 3580A/8270C EPA 3545/8270D EPA 3545A/8270D EPA 3550B/8270D EPA 3550C/8270D EPA 3580A/8270D
<u>Pesticides/Herbicides/PCBs</u>		
Aldrin	EPA 608 EPA 3510C/8081A EPA 3510C/8081B	EPA 3550B/8081A EPA 3550C/8081A EPA 3580A/8081A EPA 3550B/8081B EPA 3550C/8081B EPA 3580A/8081B
alpha-BHC	EPA 608 EPA 3510C/8081A EPA 3510C/8081B	EPA 3550B/8081A EPA 3550C/8081A EPA 3580A/8081A EPA 3550B/8081B EPA 3550C/8081B EPA 3580A/8081B
Beta-BHC	EPA 608 EPA 3510C/8081A EPA 3510C/8081B	EPA 3550B/8081A EPA 3550C/8081A EPA 3580A/8081A EPA 3550B/8081B EPA 3550C/8081B EPA 3580A/8081B

Peter Wagner

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
delta-BHC	EPA 608 EPA 3510C/8081A EPA 3510C/8081B	EPA 3550B/8081A EPA 3550C/8081A EPA 3580A/8081A EPA 3550B/8081B EPA 3550C/8081B EPA 3580A/8081B
Gamma-BHC	EPA 608 EPA 3510C/8081A EPA 3510C/8081B	EPA 3550B/8081A EPA 3550C/8081A EPA 3580A/8081A EPA 3550B/8081B EPA 3550C/8081B EPA 3580A/8081B
Chlordane (technical)	EPA 608 EPA 3510C/8081A EPA 3510C/8081B	EPA 3550B/8081A EPA 3550C/8081A EPA 3580A/8081A EPA 3550B/8081B EPA 3550C/8081B EPA 3580A/8081B
alpha-chlordane	EPA 608 EPA 3510C/8081A EPA 3510C/8081B	EPA 3550B/8081A EPA 3550C/8081A EPA 3580A/8081A EPA 3550B/8081B EPA 3550C/8081B EPA 3580A/8081B
gamma-chlordane	EPA 608 EPA 3510C/8081A EPA 3510C/8081B	EPA 3550B/8081A EPA 3550C/8081A EPA 3580A/8081A EPA 3550B/8081B EPA 3550C/8081B EPA 3580A/8081B
4,4'-DDD	EPA 608 EPA 3510C/8081A EPA 3510C/8081B	EPA 3550B/8081A EPA 3550C/8081A EPA 3580A/8081A EPA 3550B/8081B EPA 3550C/8081B EPA 3580A/8081B
4,4'-DDE	EPA 608 EPA 3510C/8081A EPA 3510C/8081B	EPA 3550B/8081A EPA 3550C/8081A EPA 3580A/8081A EPA 3550B/8081B EPA 3550C/8081B EPA 3580A/8081B
4,4',-DDT	EPA 608 EPA 3510C/8081A EPA 3510C/8081B	EPA 3550B/8081A EPA 3550C/8081A EPA 3580A/8081A EPA 3550B/8081B EPA 3550C/8081B EPA 3580A/8081B

Peter Mlynski

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
Dieldrin	EPA 608 EPA 3510C/8081A EPA 3510C/8081B	EPA 3550B/8081A EPA 3550C/8081A EPA 3580A/8081A EPA 3550B/8081B EPA 3550C/8081B EPA 3580A/8081B
Endosulfan I	EPA 608 EPA 3510C/8081A EPA 3510C/8081B	EPA 3550B/8081A EPA 3550C/8081A EPA 3580A/8081A EPA 3550B/8081B EPA 3550C/8081B EPA 3580A/8081B
Endosulfan II	EPA 608 EPA 3510C/8081A EPA 3510C/8081B	EPA 3550B/8081A EPA 3550C/8081A EPA 3580A/8081A EPA 3550B/8081B EPA 3550C/8081B EPA 3580A/8081B
Endosulfan sulfate	EPA 608 EPA 3510C/8081A EPA 3510C/8081B	EPA 3550B/8081A EPA 3550C/8081A EPA 3580A/8081A EPA 3550B/8081B EPA 3550C/8081B EPA 3580A/8081B
Endrin	EPA 608 EPA 3510C/8081A EPA 3510C/8081B	EPA 3550B/8081A EPA 3550C/8081A EPA 3580A/8081A EPA 3550B/8081B EPA 3550C/8081B EPA 3580A/8081B
Endrin aldehyde	EPA 608 EPA 3510C/8081A EPA 3510C/8081B	EPA 3550B/8081A EPA 3550C/8081A EPA 3580A/8081A EPA 3550B/8081B EPA 3550C/8081B EPA 3580A/8081B
Endrin ketone	EPA 3510C/8081A EPA 3510C/8081B	EPA 3550B/8081A EPA 3550C/8081A EPA 3580A/8081A EPA 3550B/8081B EPA 3550C/8081B EPA 3580A/8081B
Heptachlor	EPA 608 EPA 3510C/8081A EPA 3510C/8081B	EPA 3550B/8081A EPA 3550C/8081A EPA 3580A/8081A EPA 3550B/8081B EPA 3550C/8081B EPA 3580A/8081B

Peter Meyer

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
Heptachlor epoxide	EPA 608 EPA 3510C/8081A EPA 3510C/8081B	EPA 3550B/8081A EPA 3550C/8081A EPA 3580A/8081A EPA 3550B/8081B EPA 3550C/8081B EPA 3580A/8081B
Methoxychlor	EPA 3510C/8081A EPA 3510C/8081B	EPA 3550B/8081A EPA 3550C/8081A EPA 3580A/8081A EPA 3550B/8081B EPA 3550C/8081B EPA 3580A/8081B
Toxaphene	EPA 608 EPA 3510C/8081A EPA 3510C/8081B	EPA 3550B/8081A EPA 3550C/8081A EPA 3580A/8081A EPA 3550B/8081B EPA 3550C/8081B EPA 3580A/8081B
PCB-1016 (Aroclor)	EPA 608 EPA 3510C/8082 EPA 3510C/8082A	EPA 3550B/8082 EPA 3550C/8082 EPA 3580A/8082 EPA 3550B/8082A EPA 3550C/8082A EPA 3580A/8082A
PCB-1221	EPA 608 EPA 3510C/8082 EPA 3510C/8082A	EPA 3550B/8082 EPA 3550C/8082 EPA 3580A/8082 EPA 3550B/8082A EPA 3550C/8082A EPA 3580A/8082A
PCB-1232	EPA 608 EPA 3510C/8082 EPA 3510C/8082A	EPA 3550B/8082 EPA 3550C/8082 EPA 3580A/8082 EPA 3550B/8082A EPA 3550C/8082A EPA 3580A/8082A
PCB-1242	EPA 608 EPA 3510C/8082 EPA 3510C/8082A	EPA 3550B/8082 EPA 3550C/8082 EPA 3580A/8082 EPA 3550B/8082A EPA 3550C/8082A EPA 3580A/8082A
PCB-1248	EPA 608 EPA 3510C/8082 EPA 3510C/8082A	EPA 3550B/8082 EPA 3550C/8082 EPA 3580A/8082 EPA 3550B/8082A EPA 3550C/8082A EPA 3580A/8082A

Peter Mlynski

Parameter/Analyte	Nonpotable Water (1)	Solid and Chemical Materials (2)
PCB-1254	EPA 608 EPA 3510C/8082 EPA 3510C/8082A	EPA 3550B/8082 EPA 3550C/8082 EPA 3580A/8082 EPA 3550B/8082A EPA 3550C/8082A EPA 3580A/8082A
PCB-1260	EPA 608 EPA 3510C/8082 EPA 3510C/8082A	EPA 3550B/8082 EPA 3550C/8082 EPA 3580A/8082 EPA 3550B/8082A EPA 3550C/8082A EPA 3580A/8082A
2,4-D	EPA 8151A	EPA 8151A
Dalapon	EPA 8151A	EPA 8151A
2,4-DB	EPA 8151A	EPA 8151A
Dicamba	EPA 8151A	EPA 8151A
Dichloroprop	EPA 8151A	EPA 8151A
Dinoseb	EPA 8151A	EPA 8151A
MCPA	EPA 8151A	EPA 8151A
MCPP	EPA 8151A	EPA 8151A
Pentachlorophenol	EPA 8151A	EPA 8151A
2,4,5-T	EPA 8151A	EPA 8151A
2,4,5-TP	EPA 8151A	EPA 8151A
HPLC		
1,3,5-Trinitrobenzene	EPA 3535A/8330A EPA 3535A/8330B	EPA 8330A EPA 8330B
1,3-Dinitrobenzene	EPA 3535A/8330A EPA 3535A/8330B	EPA 8330A EPA 8330B
2,4,6-Trinitrotoluene	EPA 3535A/8330A EPA 3535A/8330B	EPA 8330A EPA 8330B
2,4-Dinitrotoluene	EPA 3535A/8330A EPA 3535A/8330B	EPA 8330A EPA 8330B
2,6-Dinitrotoluene	EPA 3535A/8330A EPA 3535A/8330B	EPA 8330A EPA 8330B
2-Amino-4,6-dinitrotoluene	EPA 3535A/8330A EPA 3535A/8330B	EPA 8330A EPA 8330B
2-Nitrotoluene	EPA 3535A/8330A EPA 3535A/8330B	EPA 8330A EPA 8330B
3-Nitrotoluene	EPA 3535A/8330A EPA 3535A/8330B	EPA 8330A EPA 8330B
4-Amino-2,6-dinitrotoluene	EPA 3535A/8330A EPA 3535A/8330B	EPA 8330A EPA 8330B
4-Nitrotoluene	EPA 3535A/8330A EPA 3535A/8330B	EPA 8330A EPA 8330B
Nitrobenzene	EPA 3535A/8330A EPA 3535A/8330B	EPA 8330A EPA 8330B
Nitroglycerin	EPA 3535A/8330A EPA 3535A/8330B	EPA 8330A EPA 8330B

Peter Meyer

<u>Parameter/Analyte</u>	<u>Nonpotable Water (1)</u>	<u>Solid and Chemical Materials (2)</u>
HMX	EPA 3535A/8330A EPA 3535A/8330B	EPA 8330A EPA 8330B
PETN	EPA 3535A/8330A EPA 3535A/8330B	EPA 8330A EPA 8330B
RDX	EPA 3535A/8330A EPA 3535A/8330B	EPA 8330A EPA 8330B
Tetryl	EPA 3535A/8330A EPA 3535A/8330B	EPA 8330A EPA 8330B
Nitroglycerin	EPA 3535A/8330A EPA 3535A/8330B	EPA 8330A EPA 8330B
Nitroguanidine	EPA 3535A/8330A EPA 3535A/8330B	EPA 8330A EPA 8330B
Nitrocellulose	EPA USATHAMA/353.2/353.3	EPA USATHAMA/353.2/353.3
<u>Hazardous Waste Characteristics</u>		
Corrosivity	EPA 9040C	EPA 9040C EPA 9045D
Ignitibility	EPA 1010A	EPA 1010A
Reactivity	EPA SW 846 Ch 7	EPA SW 846 Ch 7
Synthetic Precipitation Leaching Procedure (SPLP)	EPA 1312	EPA 1312
Toxicity Characteristic Leaching Procedure (TCLP)	EPA 1311	EPA 1311
<u>LC/MS/MS</u>		
Perchlorate	EPA 6850 EPA 331	EPA 6850

(1) Method List includes Clean Water Act and RCRA water parameters

(2) Method List includes RCRA parameters only



APPENDIX E Quality Control Documentation

Quality Control Certification

**Final
Quality Control Plan**

**Remedial Action - Construction
Phase I
Plum Brook Ordnance Works – TNT Area A
Sandusky, Ohio**

Contract No. W91237-11-C-0008

<u>Assignment</u>	<u>Name</u>	<u>Signature</u>	<u>Date</u>
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Senior Review

Richard Armstrong

Richard E. Armstrong 11-17-11

Peer Review

Christine Smith

Christine Smith 11-17-11

IQCT Team Comments on

Final

Quality Control Plan

Remedial Action - Construction

Phase I

Plum Brook Ordnance Works – TNT Area A

Sandusky, Ohio

Contract No. W91237-11-C-0008

The following comments were provided by TMG’s Independent Quality Control Team. All comments resulting from this review have been resolved and/or incorporated.

TMG IQCT Comment: There are multiple references to the term “treatment”. When referencing soil treatment or treatment pad, revise “treatment” to “remediation” or other appropriate form of the term “remediate.”

TMG Response: Concur; all references to “treatment” have been replaced with “remediation”, as requested.

TMG IQCT Comment: Table of Contents – Section 6.0 – Appendix C
Change Site-Specific Safety and Health Officer to Site Safety and Health Officer

TMG Response: Concur; change has been made as requested.

TMG IQCT Comment: Definitions and Acronyms
AOC – Revise to Area of Concern

TMG Response: Concur; change has been made as requested.

IDW – Revise to Investigation-Derived Waste
RA-C – Revise to Remedial Action-Construction

TMG IQCT Comment: Section 1.0 Purpose

TMG Response: Concur; change has been made as requested.

Delete second sentence, it is redundant of first sentence.

TMG Response: Concur; change has been made as requested.

TMG IQCT Comment: Section 2.1 Training

First sentence, revise to read “All field personnel performing work on this project....”

TMG Response: Concur; change has been made as requested.

TMG IQCT Comment: Section 2.2 Project Planning

4th Bullet. The staffing requirements should be decided between the Senior Project Manager and the Project Superintendent. The Project Superintendent is in the field and is intimately familiar with the personnel requirements and level of expertise required and the Senior PM can direct or assign personnel as requested.

TMG Response: Concur; the statement has been revised to include the Project Superintendent, as well as the Senior Project Manager and Environmental Program Manager.

12th Bullet. The SPM and the EPM, and OSPM will review the comments from USACE with the technical support personnel to determine the appropriate response to the comment.

TMG Response: Concur; change has been made as requested.

15th Bullet. Delete second sentence and insert “A dig permit is required on this project. The permit application will be prepared by TMG and submitted to NASA for approval. NASA approval must be obtained before excavation can begin.”

TMG Response: Concur; change has been made as requested.

TMG IQCT Comment: Section 2.3 Technical Reviews

1st Paragraph, 1st sentence. Revise “This” to “Technical reviews”.

TMG Response: Concur; change has been made as requested.

1st Paragraph, 3rd sentence. Move the word “be” to before the word “independently”.

TMG Response: Concur; change has been made as requested.

1st Paragraph, last sentence. Revise the word “are” to “will be”.

TMG Response: Concur; change has been made as requested.

2nd Paragraph, 1st sentence. Revise to read “All plans and reports will be subject to peer and senior reviews to determine.....”

TMG Response: Concur; change has been made as requested.

2nd Paragraph, 3rd sentence. Delete it.

TMG Response: Concur; change has been made as requested.

TMG IQCT Comment: Section 2.5 Quality Evaluation/Audit Surveillance
Last sentence, what is an administrative review? Who performs this review?

TMG Response: The administrative review is performed by the Senior Project Manager.

TMG IQCT Comment: Section 2.7 Analytical Laboratory
2nd Bullet, inside parenthesis – delete period, place period after parenthesis.

TMG Response: Concur; change has been made as requested.

4th Bullet, first sentence inside parenthesis, delete period, place period after parenthesis.

TMG Response: Concur; change has been made as requested.

The last paragraph indicates that if the sample fails the method, it may be analyzed again. Is this referencing the method QC? What if a sample has failed the method QC and must be analyzed again and it is beyond the hold-time?

TMG Response: Concur; change has been made as requested. A statement indicating the re-sampling of a sample that has exceeded the method hold time has been added.

Second paragraph, last sentence. The scope said that no QC samples would be submitted to the laboratory and trip blanks will only be submitted with VOC samples collected for potential backfill material.

TMG Response: TMG Response: Concur; change has been made as requested.

TMG IQCT Comment: Section 2.8.2 Quality Control for Field Activities
First paragraph, last sentence, reference to Appendix B precedes callout for Appendix A.

Second paragraph, third sentence. Delete the words “at” and “that”.

TMG Response: Concur; change has been made as requested.

TMG IQCT Comment: Section 2.8.3
First paragraph, second sentence. Insert “Daily” before QCRs, in same sentence, remove apostrophe from QCR’s. Should be QCRs.

TMG Response: Concur; change has been made as requested.

Sixth bullet – revise to read, “Field instrument calibration and measurements”.

TMG Response: Concur; change has been made as requested.

12. TMG IQCT Comment: Section 2.10

First paragraph, second sentence. Revise removal action to construction phase.

TMG Response: Concur; change has been made as requested.

TMG IQCT Comment: Section 3.4.1

First paragraph, 4th sentence. Revise “constituents of for” to “contaminants of concern in”...

TMG Response: Concur; change has been made as requested.

First paragraph, 5th sentence. Revise “risk based” to “risk-based”.

TMG Response: Concur; change has been made as requested.

Second paragraph, first sentence. Insert comma after excavation and revise “confirmatory” to “confirmation”.

TMG Response: Concur; change has been made as requested.

Second paragraph, third sentence. After the word “appropriate” insert “for this phase of”, delete “towards”.

TMG Response: Concur; change has been made as requested.

TMG IQCT Comment: Section 3.4.2

Second paragraph, first sentence. Trinitrotoluene is misspelled.

TMG Response: Concur; correction has been made as requested.

Second paragraph, last sentence. Delete the word “primarily”. This contract is all about TNT A.

TMG Response: Concur; change has been made as requested.

Third paragraph, general comment. Revise “NASA Administration Building” to “NASA Engineering Building”.

TMG Response: Concur; change has been made as requested.

Fourth paragraph, new text. Include discussion of wetlands. “There are several areas within TNT A that are potential wetland areas. NASA is currently conducting a sitewide wetlands delineation study and is willing to share information relative to the TNT A excavations. The delineation study information will define the proximity of the wetlands to any AOCs within the remediation area”.

TMG Response: Concur; change has been made as requested.

Fifth paragraph, last sentence. Delete the word “former”.

TMG Response: Concur; change has been made as requested.

Sixth paragraph, third sentence. Revise “After decontamination” to “Subsequently” and delete the word “initially”.

TMG Response: Concur; change has been made as requested.

Sixth paragraph, six sentence. Replace the words “wooden and ceramic waste” with “wastewater”.

TMG Response: Concur; change has been made as requested.

Ninth paragraph, last sentence. Delete the word “”these”, change the word “authorities” to “authority”.

TMG Response: Concur; change has been made as requested.

Tenth paragraph, third sentence. Hunting is not permitted in the TNT A remediation areas due to the close proximity to the Engineering Building and high traffic areas.

TMG Response: Concur; change has been made as requested.

Tenth paragraph. At the end of paragraph, add text about the potential wetlands in the remediation area.

TMG Response: Concur; change has been made as requested.

TMG IQCT Comment: Section 3.4.3
First paragraph, add date of Remedial Investigation.

TMG Response: Concur; change has been made as requested.

First paragraph, 4th sentence. Make the word “contaminant” plural. Delete extra “s”. Delete the word “identified”.

TMG Response: Concur; change has been made as requested.

First paragraph, 5th sentence. Revise “chemicals” to “contaminants”.
TMG Response: Concur; change has been made as requested.

First paragraph, 6th sentence. Trinitrotoluene is misspelled.

TMG Response: Concur; correction has been made as requested.

Second paragraph, 2nd sentence. Revise to read “The estimated total volume of contaminated soil from TNT A.....”

TMG Response: Concur; change has been made as requested.

Second paragraph, 3rd sentence. Revise to read “Following excavation of the contaminated soil from each AOC, soil samples from the walls and floor will be analyzed for..... Instead of “totals”, identify analytes, for example, total nitroaromatics, total lead, etc. Also, revise “clean-up” to “remedial goals”.

TMG Response: Concur; change has been made as requested.

Third paragraph, delete. The total volume of soil is presented in the second paragraph.

TMG Response: Concur; change has been made as requested.

Fourth paragraph, first sentence. Revise to read, “Of the total estimated volume of 17,157 CY, an estimated 12,380 CY is targeted for disposal at a regulated non-hazardous waste landfill. The Erie County Landfill has been approved by Ohio EPA to receive the non-hazardous soil from USACE/PBOW soil remediation projects and used as daily cover. Acceptance of the TNT A soil will be subject to approval by Erie County officials, based on their review of TCLP analytical results. The remaining 4,777 CY are anticipated to be a characteristic hazardous waste based on toxicity as determined by TCLP analysis. It is also estimated that 119 CY of soil will be Toxic Substances Control Act (TSCA)-regulated material.....”

TMG Response: Concur; change has been made as requested.

Fifth paragraph, first sentence. Insert callout for DD.

TMG Response: Concur; change has been made as requested.

Fifth paragraph, second sentence. This sentence states the soil will be treated. In Phase I, there is no treatment or remediation of soil, only excavation.

TMG Response: Concur; reference to treatment has been removed.

Fifth paragraph, 3rd sentence. Define “elevated PCBs”. Note - if PCBs are >50 mg/kg, the soil must be disposed at a TSCA facility.

TMG Response: Concur; change has been made as requested.

Sixth paragraph, last sentence. Delete the sentence. If soil is hazardous, it will be placed on the remediation pad and treated under Phase II.

TMG Response: Concur; change has been made as requested.

Seventh paragraph, 1st sentence. There is a reference to the RGs. Insert a table with the COC and the corresponding RG.

TMG Response: Concur; change has been made as requested.

Eighth paragraph, item 3. Revise to read, “3) Determine if soil poses a threat to human health or the environment.

TMG Response: Concur; change has been made as requested.

Table – Remedial Goals for Total Soils. Use a smaller font size for the footnotes. The footnotes appear to be part of the text. Also, separate each footnote with a single space.

TMG Response: Concur; change has been made as requested.

TMG IQCT Comment: Section 3.4.4

First paragraph, second sentence. Revise “.....18 AOCs, segregation of lead-contaminated soil, confirmation sampling, stockpile sampling for disposal, transport hazardous soil to remediation pad, off-site disposal of non-hazardous soil, and remediation pad maintenance concurrent with excavation activities.

TMG Response: Concur; change has been made as requested.

Task 12 – Revise “Treatment” to “Remediation”.

TMG Response: Concur; change has been made as requested.

TMG IQCT Comment: Section 3.5

TMG Response: Concur; change has been made as requested.

Item B. Delete “technical”.

TMG Response: Concur; change has been made as requested.

Item C. Revise “Contractor’s” to “TMG”. Second sentence, insert “Senior” before “Project”.

TMG Response: Concur; change has been made as requested.

Item D. Third sentence. Revise to read “Additionally, the Environmental Program Manager will coordinate, summarize and maintain laboratory data and perform risk calculations (HI/ILCR).

TMG Response: Concur; change has been made as requested.

Item E. Revise “in charge of” to “responsible for”, and revise “the Contractor’s” with “TMG’s”.

TMG Response: Concur; change has been made as requested.

Item F. Revise “in charge of” to “responsible for”.

TMG Response: Concur; change has been made as requested.

Item G. First sentence. Revise to read “The SSHO is responsible for on-site safety”. Delete “TMG Services, Inc. SSHO” replace with “Site Safety and Health Officer”.

TMG Response: Concur; change has been made as requested.

General Comment on staffing. This project requires an Environmental Technician. That person should be listed in this section, probably after the QCO.

TMG Response: Concur; change has been made as requested. Keith Morris has been listed as both the QC alternate and Environmental Technician.

Item J. Delete “TMG Services, Inc.’s. Verify Ms. Bumgardner’s email address has not changed from Chambers.

TMG Response: Concur; change has been made as requested.

Item K. Revise “Microbac Laboratories” to “Contract Laboratory”. Revise sentence to read, “Samples associated with this project will be sent to.....”

TMG Response: Concur; change has been made as requested.

Item L. Should read “Disposal Facility for Non-Hazardous Soil”. Sentence should read “Non-hazardous soil will be transported to the Erie County Landfill where it will be used as daily cover for the landfill operation”. Need to verify the contact info for Mr. Sennish and Mr. Dubbert, there have been recent changes.

TMG Response: Concur; change has been made as requested.

Item M. Delete first sentence.

TMG Response: Concur; change has been made as requested.

Item N. Revise to read “Will survey and stake the boundaries of the excavations, stockpiles to determine volume of soil excavated, and volume of soil placed on the remediation pad.”

TMG Response: Concur; change has been made as requested.

Item S. “Spear” is incorrect, revise to “Speer”.

TMG Response: Concur; change has been made as requested.

TMG IQCT Comment: Section 5.0

First paragraph, move the third sentence to be the second sentence.

TMG Response: Concur; change has been made as requested.

Second paragraph. Where is the Daily QCR form located?

TMG Response: Appendix A

TMG IQCT Comment: Section 5.1

The first sentence contradicts the second sentence in Section 5.0. Need to correct.

TMG Response: Concur; change has been made as requested.

Task 11 – The Threatened and Endangered Species Confirmation Survey has already been completed.

TMG Response: Concur

Response To:
Review Comments on Draft QCP
Remedial Action Construction (RA-C) - Phase I for TNT Area A
Remediation of Contaminated Soil
Sandusky, Ohio
Contract Number W91237-II-C-0008, dated July 2011
November 2, 2011

The following are TMG Services, Inc. responses to comments put forward by USACE.

The following comments are offered from Lisa Humphreys, CELRH-EC-CE, 304-399-5953.

Comment 1: Pg. 2, Section 2.1 Training - Mention that everyone has maintained their 8-hr. HAZWPR refreshers as well.

TMG Response: Concur; everyone maintaining 8-hr. HAZWPR refreshers is now mentioned. The first sentence has been changed to read:

All field personnel performing intrusive work and soil sampling on this project have received 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training and 8-hour HAZWOPER refreshers in accordance with 29 Code of Federal Regulations (CFR) 1910.120.

Comment 2: Pg. 2, Section 2.2 Project Planning - based on the recent personnel changes, please rewrite this section as it really pertains to the TNT A RA-C project.

TMG Response: Concur; this section has been changed to reflect the personnel changes and now reads as follows:

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:

Note that for this project the Senior Project Manager is the same as the On-Site Project Manager.

- The Senior Project Manager assigns the project to an On-Site Project Manager experienced in the type of work to be completed.
- The Senior Project Manager, and On-Site Superintendent review the SOW to determine the extent of work required and to determine the best personnel to be assigned to the project.

- The On-Site Project Manager discusses their personnel requirements with a TMG Administrator who authorizes the use of those personnel.
- The Senior Project Manager then notifies the On-site Project Superintendent that a project is in the planning status and informs the On-site Project Superintendent what personnel he/she would like to use for the project.
- An initial project team will be formed consisting of the Senior Project Manager, Safety and Health Manager, On-Site Project Manager, On-site Project Superintendent, Site-Safety and Health Officer (SSHO), Quality Control Officer (QCO), 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.
- Using this information, draft plans will be prepared as appropriate.
- 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 e.g. QCP, APP, SSHP, etc.
- Draft plans will be submitted to the USACE.
- During the IQCT and USACE reviews, the On-Site Project Manager tentatively schedules equipment, personnel for the project and subcontractors.
- Upon receipt of comments from the USACE, the Senior Project Manager, Environmental Program Manager and the On-Site Project Manager will review comments from USACE with the technical support personnel to develop an appropriate response to the comment. These responses will be submitted to USACE for approval.
- Comments from the USACE will be incorporated in the plans or resolved prior to beginning work.
- The On-Site 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 successful performance of this project.
- The On-Site Project Manager has the utilities marked prior to performing any intrusive activities. A Dig Permit is required on this project. The permit application will be prepared by TMG and submitted to NASA for approval. NASA approval must be obtained before excavation can begin.
- The On-Site Project Manager confirms the scheduling of equipment and personnel for the project and then performs the project.
- The On-Site Project Manager in coordination with the QCO and SSHO supplies copies of all field documentation which gives a narrative of field activities to the technical support personnel who will prepare the draft report.
- After the draft report is prepared, an internal 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 draft report and the final report will be issued.

Comment 3: Pg. 4, Section 2.4 Document Control- Will need to change location of documents depending on comment #2.

TMG Response: Concur; the document control section has been changed to the following: Project technical and administrative files will be maintained at TMG's Cleveland Office. Additionally, copies of all work plan documents will be kept in the field office trailer for reference during the construction efforts.

Comment 4: Pg. 6, Section 2.8.3, Daily Quality Control Reports - The paragraph starts out "During the field investigation and excavation activities daily." . The investigation portion of this project was done under the RI/FS phase. Reword to state that " Daily quality control reports will be prepared and document all activities that occur at the site" - something to that affect.

TMG Response: Concur; paragraph in question has been revised ad now states: Quality Control Reports (QCR) will be prepared daily and document all activities that occur on site. Daily QCRs will be dated and signed by the On-site Project Manager or the QCO. TMG will utilize the USACE QCR form (see Appendix A). The following information will be recorded on the Daily QCR:

Comment 5: Pg. 7, Section 2.9 Corrective Action - 1st sentence is missing a word. It's incomplete.

TMG Response: Concur; the first sentence has been corrected by inserting the word 'of' after 'event' and now reads:

Corrective action procedures may be required in the event of a discrepancy discovered in the field, during an audit or by the laboratory.

Comment 6: Pg. 8, Section 3.4.1 Background and Purpose - both paragraphs - While the RI/FS was done in conjunction w/ the TNT C project and included soil and sediment under the investigation phase, there aren't any sediment concerns for TNT A. Please revise paragraphs accordingly.

TMG Response: Concur; the paragraphs were revised by removing the word 'sediment' from each paragraph and they now read:

The purpose of this contract is for the excavation and disposal of non-hazardous soil within TNTA of the PBOW site, located in Sandusky, Ohio. USACE Huntington District (LRH) is the responsible authority under the Defense Environmental Restoration Program (DERP) at the former TNTA. Based on the results of the completed Remedial Investigation/Feasibility Study (RI/FS) for soils, the USACE will conduct a RA-C in the TNTA. The remediation will be performed to prevent human exposure at the site containing any of the 9 constituents of for soils at concentrations that exceed remediation goals. The remediation goals are chemical- and

receptor-specific risk based remedial criteria that capture all the exposure assumptions and toxicological data used in the risk assessment.

Phase I of the TNTA RA-C will consist of the excavation of approximately 17,157 cubic yards (CY) of material, excavation confirmatory sampling, stockpiling and disposal characterization of excavated soils, backfilling of the excavation pits with clean material (if remedial goals have been met), off-site disposal of non-hazardous soil, staging of hazardous soil on the treatment pad, and maintenance of the hazardous soil windrows and treatment pad. The remediation is protective of human health and the environment and complies within the requirements of the United States Environmental Protection Agency (USEPA) and the State of Ohio Environmental Protection Agency (OEPA). These requirements are applicable, relevant and appropriate towards the remedial action; it's cost effective, utilizes permanent solutions and treatment of resource recovery technologies to the maximum extent practicable and satisfies the requirement for treatment as a principle element of the remedy. No soil contaminants will be left at levels to which direct exposure would be considered unacceptable.

Comment 7: Pg. 11, 1st full paragraph - I think this paragraph missed the point about "totals". It's not for total metals or total pcbs, since there are only 1 metal (Pb) and 1 PCB (Aroclor 1260) that are in question. The "totals (ppm)" were in reference to the confirmation analyses versus TCLP (mg/l) analyses for disposal. Reword as appropriate.

TMG Response: Concur; the first paragraph was revised to include total nitroaromatics, one polychlorinated biphenyl (PCB) Aroclor 1260 and one metal (Pb) and reads as follows: The proposed approach for this RA-C is to excavate all the areas in which the concentration of COCs in soil exceeds the RGs. The estimated total volume of contaminated soil from TNT A is 17,157 CY. Following excavation of the contaminated soil from each AOC, soil samples from the walls and floor will be collected and submitted to the contract laboratory for analysis. The soil samples will be analyzed for total nitroaromatics, total lead and Aroclor 1260 to ensure the AOC has been remediated to meet the remedial goals established in the FS. Additional soil excavation may be required laterally if indicated by a comparison of the confirmation samples to the RGs and OEPA's cancer and non-cancer risk goals. However, additional removal of soil to a greater depth is not anticipated as virtually all of the excavations are expected to extend to either bedrock or the water table, whichever comes first.

Comment 8: Pg. 11, 3rd sentence - please add "Landfill" after "Officials" because this has already undergone the Erie County Officials (Flow Control Board) acceptance of the soil going to the landfill as daily cover, but the Landfill personnel will have to review the analytical to make sure the soil is acceptable to take. Just a little clarification for the reader.

TMG Response: Concur; the 3rd sentence was revised by inserting the word ‘landfill’ before the word ‘officials’ on pg. 11, 3rd sentence. This sentence now reads:

Acceptance of the TNT A soil will be subject to approval by Erie County Landfill Officials, based on their review of TCLP analytical results.

Comment 9: Pg. 12, first 3 paragraphs - sentences have two periods at end. This actually occurs quite often throughout the plan. Revise throughout.

TMG Response: Concur; Paragraph corrections were made throughout plan to delete all double punctuations ending each sentence.

Comment 10: Pg. 12, 2nd paragraph - please state that groundwater for this project is being evaluated under Project 1826.

TMG Response: Concur; the 2nd paragraph was revised to state that groundwater is being evaluated on a site-wide basis under Project 1826 and reads as follows:

Based on the results of the human health risk assessment, the RGs presented in Table 1 were developed for soil in TNT A. Under this SOW, no remedial activities are planned for the TNT A groundwater. Groundwater is being evaluated for TNTA under Project 1826.

Comment 11: Pg. 16, Section 3.5 Project Personnel and Lines of Authority - Revise per the recent change in personnel.

TMG Response: Concur; Project Personnel and Lines of Authority related to changes in personnel have been updated. This entire section was revised as follows (special note – the spacing is and alignment in the actual report is correct):

3.5 Project Personnel and Lines of Authority

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 area and qualified personnel are given for this project. The Senior Project Manager, the On-Site Project Manager, Safety and Health Manager and on Site Safety and Health Officer have been authorized in writing to stop work should unsafe conditions exist. As previously mentioned in Section 2.2 Project Planning and Section 2.8.2 Quality Control for Field Activities, the Senior Project Manager is the same as the On-Site project Manager. The Quality Control Officer and Alternate have been authorized in writing to stop work should a QC issue arise or the standard set forth in this QCP are not achieved. These individuals’ appointment letters can be found in Appendix D.

Note that for this project the Senior Project Manager is the same as the On-Site Project Manager.

- 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>Contact Information</u>
Lisa Humphreys	Office Phone: (304) 399-5953 Cellular Phone: (304) 617-1461 Email: lisa.a.humphreys@usace.army.mil

- B. NASA POC** - This is the POC representing NASA.

<u>NASA POC</u>	<u>Contact Information</u>
Robert Lallier	(419) 621-3234 Email: robert.f.lallier@nasa.gov

- C. TMG Senior Project Manager** - TMG's Senior Project Manager provides technical insight and provides corporate level supervision for the project. The Senior Project Manager has overall responsibility to see that the project is completed in accordance with the Scope of Work.

<u>TMG Services, Inc. Senior Project Manager</u>	<u>Contact Information</u>
Helen Owens	Cellular Phone: (419) 504-8008 Alternate Cellular Phone: (937) 478-2322 Email: howens@tmgservicesusa.com

- D. Safety and Health Manager/data support**- The SHM provides oversight of the Safety and Health Program. The SHM is responsible for developing, maintaining, and overseeing implementation of the SSHP. Additionally, they will coordinate, summarize and maintain laboratory data and perform risk calculations (HI/ILCR).

<u>Safety and Health Manager</u>	<u>Contact Information</u>
Kimberlie Bumgardner Email: kbumgardner@mctech360.com	Cellular Phone: (304) 215-0099

- E. On-Site Project Manager** - The On-Site Project Manager will be responsible for on-site activities in coordination with TMG's Senior Project Manager.

<u>On-Site Project Manager</u>	<u>Contact Information</u>
Helen Owens	Cellular Phone: (419) 504-8008 Alternate Cellular Phone: (937) 478-2322 Email: howens@tmgservicesusa.com

- F. On-Site Project Superintendent** - The On-Site Project Superintendent will be responsible for on-site activities when the On-Site Project Manager is away from the site. It is

anticipated that the On-Site Project Manager will be on-site for the majority of the project.

<u>On-Site Project Superintendent</u>	<u>Contact Information</u>
Dan Cashbaugh	Cellular Phone: (216) 404-8109 Email: dcashbaugh@tmgservicesusa.com

- G. Site Safety and Health Officer** - The SSHO is responsible for safety on site. The SSHO or designee will be on site at all times.

<u>Site Safety and Health Officer</u>	<u>Contact Information</u>
Dan Cashbaugh	Cellular Phone: (216) 404-8109 Email: dcashbaugh@tmgservicesusa.com

- H. Quality Control Officer** - This person is responsible QC at the site. The QC Officer shall be responsible for coordinating sampling activities with the Environmental Technician. The QCO or their alternate shall be on site at all times.

<u>Quality Control Officer</u>	<u>Contact Information</u>
James Russell	Cellular Phone: (216) 857-1112 Email: jrussell@tmgservicesusa.com

<u>TMG Services, Inc. Environmental Technician / Alternate QC Officer</u>	<u>Contact Information</u>
Keith Morris	Cellular Phone: (304) 444-2001 Email: kmorris@tmgservicesusa.com

- I. Field Personnel** - These personnel are responsible for assisting the On-Site Project Manager in completing the tasks required under this contract.

<u>TMG Services, Inc. Field Personnel</u>	<u>Contact Information</u>
Dan Cashbaugh	Cellular Phone: (216) 404-8109 Email: dcashbaugh@tmgservicesusa.com

James Russell	Cellular Phone: (216) 857-1112 Email: jrussell@tmgservicesusa.com
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Clarence Brown – Laborer 1
Alex Romick – Laborer 2

Sean Jones – Truck Driver 1
Jim Garwood – Truck Driver 2

Email: N/A

Gary Price – Operator 1
Mike Stout – Operator 2

The certifications of additional field personnel required to perform this contract will be provided to the USACE as an addendum to this QCP.

- J. Independent Quality Control Team** - 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>TMG Services, Inc.'s Independent Quality Control Team</u>	<u>Contact Information</u>
Christine Smith	Office Phone: (304) 201-2205 Email: csmith@mctech360.com

Richard Armstrong	Office Phone: (304) 201-2205 Cellular Phone: (304) 932-5490 Email: rarmstrong@mctech360.com
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- K. Contract Laboratory** - Samples associated with the will be sent to the following USACE QCM certified laboratory. Microbac Laboratories, Inc. located in Marietta, Ohio.

<u>Microbac Laboratories Contact</u>	<u>Contact Information</u>
Tony Long	Phone: (740) 373-4071 Email: tony.long@microbac.com

- L. Disposal Facility for Non-Hazardous Soil** - Non-hazardous soil will be transported to the Erie County Landfill and used as daily cover for the operations.

<u>Erie County Landfill</u>	<u>Contact Information</u>
Fred Dubbert – Landfill Superintendent	Office Phone: (419) 433-3624 Cellular Phone: (419) 656-0581 Email: fdubbert@erie-county-ohio.net

Bob Sennish – Waste Approvals	Office Phone: (419) 433-7303 Cellular Phone: (419) 656-0554 Email: bsennish@erie-county-ohio.net
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- M. Barnes Nursery** - Barnes Nursery will be used for the transportation of any non-hazardous materials to the Erie County Landfill and to transport clean backfill material to the site.

<u>Barnes Nursery Contact</u>	<u>Contact Information</u>
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Jarrett Barnes

Cellular Phone: (419) 656-3652
Email: jsbarnes@barnesnursery.com

- N. John Hancock and Associates, Inc.** - Personnel from John Hancock and Associates, Inc. will provide surveying activities such as surveying and staking excavation boundaries, surveying stockpiles and windrows to measure volume of soil. Perform a survey of the excavations and measure the volume of material excavated from the excavations.

<u>John Hancock and Associates, Inc. Contact</u>	<u>Contact Information</u>
Alex Etchill	Phone: (419) 625-7838

- O. Midwest Environmental Services, Inc.** - Midwest will be the primary provider of waste profiling, transportation and disposal services for hazardous soil and/or liquid, and if necessary, PCB-contaminated soils (>50 mg/kg).

<u>Midwest Environmental Services, Inc. Contact</u>	<u>Contact Information</u>
Greg Wilfong	Office Phone: (513) 681-9990 Cellular Phone: (513) 368-4105 Email: gwilfong@midwestenvironmentalservices.com

Doug Gronauer	Office Phone: (513) 681-9990 Cellular Phone: (513) 535-5047
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- P. EQ Environmental** - The hazardous disposal facility for the contaminated soil is EQ Environmental located in Michigan.

<u>EQ Environmental Contact</u>	<u>Contact Information</u>
Debbie Ferrari	Office Phone: (800) 592-5489

EQ Environmental's EPA ID Number: MID 000 724 831

- Q. Enviro-Clean Inc.** - Non-hazardous IDW containing liquids will be transported to Enviro-Clean Inc. located in Wooster, Ohio for ultimate disposal.

<u>Enviro-Clean Inc.</u>	<u>Contact Information</u>
Dave Stroh	Office Phone: (330) 264-8080

Enviro-Clean, Inc.'s EPA ID Number: OHR 000 033 951

- R. McTech Corp** - TMG will rent equipment from McTech Corp during this project. McTech Corp will also provide logistical support to the project.

<u>McTech Corp Contact</u>	<u>Contact Information</u>
Kimberlie Bumgardner	Office Phone: (304) 201-2205 Cellular Phone: (304) 215-0099 Email: kbumgardner@mctech360.com

- S. Tuffman Equipment and Supply** - TMG will rent equipment from Tuffman Equipment and Supply.

<u>Tuffman Equipment and Supply Contact</u>	<u>Contact Information</u>
Mike Speer	Office Phone: (800) 622-7052 Cellular Phone: (419) 656-3683

- T. Clean Harbors (Cleveland)** - Emergency Response Contact

<u>Clean Harbors Contact</u>	<u>Contact Information</u>
Clay Curtis	Office Phone: (216) 429-2401 Alternate: (800) 645-8265

Comment 12: Pg. 17, Section 3.5 H. Quality Control Officer - James Russell can't be the QCO on this job because I'm told he is already on the TNT C mod job and will be doing the mod work which is concurrent to this effort.

TMG Response: Concur; Ms. Wood will be the QCO on TNT C mod job in order for Mr. Russell to be appointed to QCO for TNT A.

Comment 13: Pgs. 16-18, Section 3.5 Project Personnel and Lines of Authority - Please keep in mind that TNT C Mod efforts will be running concurrent w/ TNT A work and that the only folks that can be on both jobs are the PM (on-site and overall if there is one - Helen), field supervisor (Dan) and data mgr. (Matt). All others should be independent for when the projects are running at the same time. Also, keep in mind that the negotiated proposal was awarded using 2 QC/Env, 2 Operators, 2 Truck Drivers and 2 Labors for 15 and 12 months respectively. Please state who these people are in the QCP. Unlike TNT C, the field efforts on this project will not be allowed to start until these people are designated and available.

TMG Response: Concur; Project Personnel and Lines of Authority related to changes in and additions of personnel have been updated. Refer to response to Comment 11.

Comment 14: Pg. 21, Section 4.0 Internal Quality Control and Independent Quality Control Team, last paragraph - there are 2 "the" at the end and also a double period.
Revise please.

TMG Response: Concur; the last paragraph was revised to remove the word 'the' which was entered twice. The double punctuation ending the last sentence was also corrected.

Comment 15: Pg. 21, Section 5.0 Quality Control Inspections - location of photographic record may change depending on change in personnel. Revise as appropriate.

TMG Response: Concur; the last sentence in this section has been reworded as follows:

The photographic record will be saved to CDs and stored at the on-site construction trailer and at TMG's Cleveland office.

Comment 16: Pg. 21, Section 5.1 Definable Features of Work - QC reports shall detail all the field efforts undertaken during this project and will also include the utility survey w/NASA (when going in the field to verify AOC locations), survey efforts, pad maintenance in addition to what's shown in section 5,1. Also, the QCR shall detail efforts for soil transportation to the remediation pad and soil going to landfill. Basically everything that is occurring in the field shall be documented in the QCRs. A Daily QCR throughout the field effort even when there isn't any work going on just to document what occurred at that time, i.e., rain/weather delays, equipment down).

TMG Response: Concur; this paragraph has been expanded to include this information and now reads as follows:

Notifications, meetings and plan preparation are a definable feature of work for which the three phase inspection forms are not appropriate. Daily Quality Control Reviews will be performed by TMG's IQCT on all field efforts undertaken during this project. The QCR's will include information such as any reports, maps, utility survey with NASA to verify AOC locations, pad maintenance and other paperwork submitted to the USACE to ensure compliance with SOW requirements. Daily QC efforts will also detail soil transportation to the remediation pad and soil going to the landfill. Daily QCR's will be completed throughout all field efforts and at all times including periods of inclement weather, delays and equipment difficulties.

Comment 17: Pg. 24, Section 6.0 Project Schedule - Submission of Final SSHP should read 'Final APP/SSHP' (Revise please)

TMG Response: Concur; the section where Submission of Final SSHP appears was revised to read "Final APP/SSHP."

Comment 18: Pg. 24, Section 6.0 Project Schedule - the due date for the Submission of Draft Construction Completion Report isn't IAW the SOW timeframe of 480 days (16 months after NTP - Approval of Work Plans). Revise per SOW requirements.

TMG Response: Concur; the section where the timeframe due date appears for the Submission of Draft Construction Completion Report was revised to 480 days (16 months) in Accordance With the Scope Of Work.

Comment 19: Appendix B - There were 2 to 3 sets of QC Field Oversight Checklist General Procedures and HTRW Sampling Procedures included. Include only one of each.

TMG Response: Concur, Appendix B was updated to include only one QC Field Oversight Checklist General Procedure and one HTRW Sampling Procedure.

Comment 20: Appendix C - Appointment letter for Environmental Program Mgr./Safety and Health Mgr. - Phase 1 - Can't be addressed to both Matt Ford and Dan Cashbaugh. The work plan earlier states that Matt Ford is the EPM/SHM and that Dan Cashbaugh is the SSHO. Revise as appropriate.

Response: Concur; there was a mistake in the Letter of Appointment for Matt Ford. In addition, the Health TMG and Safety Manager is now Kimberlie Bumgardner. The letter has been corrected and is attached to these comments as part of Appendix C.

Comment 21: Appendix C - Appointment letter for QCO - this person is also able to stop work if safety issues arise, like all the other personnel; however, Mr. Russell was already placed on the TNT C mod project and shouldn't be reflected on this one. Please revise as appropriate.

TMG Response: Concur, Please see response to comment 12.

Comment 22: Appendix C - Appointment letter for QCO - this person is also able to stop work if safety issues arise, like all the other personnel.

TMG Response: Concur; Please see response to Comment 21. Appendix C was revised.

Comment 23: Appendix D - revise this appendice as necessary with changes in personnel.

TMG Response: Concur; Appendix D has been revised to reflect personnel changes and additions. Please see revised Appendix D attached to this document.

Comment 24: Appendix D - Environmental Tech /Alternate QC Officer - Keith Morris experience - while his resume mentions a future degree in Physical and Applied Science with training in environmental mgmt systems, it doesn't include any professional environmental experience to conduct the duties required on this job other than being w/TMG since May 2011 (although it was noted he wrote environmental articles for Examiner.com since Jan 2011, but this wouldn't give him the field experience that is required). He will have to have the Corps QC course prior to conducting QC efforts in the field as well as show how he is qualified for this position. What other experience has he had with construction and environmental sampling / data management, etc.? He will need the respiratory protection training as well. May not be the best match for this type of work.

TMG Response: Concur; Keith's resume did not reflect his current experience and training, his resume has been updated. In addition to the 40 hour HAZWOPPER, Keith has successfully completed the OSHA 30 hour, USACE Construction Quality Management for Contractors, pulmonary function physical and respirator fit test. See revised Appendix D attached to this document.

Comment 26: Appendix E Quality Control Comments - Comment concerning "The Scope said that no QC samples would be submitted backfill material". I'm not familiar with the

statement in the SOW that the Contractor doesn't have to take QC samples. The Contractor is always responsible for taking QC samples during confirmation sampling (which is 10% of the total number of samples). This should be addressed in the Plan of Operations at a minimum.

TMG Response: Concur, documentation towards contractor QC sample confirmation at 10% of the total number of samples has been addressed in the Plan of Operations.

Comment 27: Appendix E QC Comments - Comment concerning "The last paragraph indicates that if the sample fails the method it may be analyzed again". There will be no resampling to get the preferred result unless there is an agreed-upon reason for the resampling with TMG, USACE POC and Ohio EPA. If the sample is outside the holding time, then that is an acceptable reason, but there will be no repeat sampling of an area because it "failed", whatever that means (are you talking about TCLP or lab issues weren't conducted IAW their QAPP)? Expand on what "failed" means.

TMG Response: Concur; the following clarification has been provided in the last paragraph of Section 27:

Any sample failing the method or laboratory quality control limit may only be re-analyzed if reasons are agreed upon by the analytical laboratory, TMG, USACE POC and Ohio EPA jointly making the decision. The sample failing the method or laboratory QC limit will be resampled if the sample requiring re-analysis has exceeded the hold-time specified for the method. This decision must be also made jointly by the laboratory, TMG, USACE and the Ohio EPA.

The following comments are offered from Janet Wolfe, CELRH-EC-CE, 304-399-5327

Comment 28: Section 3.5, Project Personnel & Lines of Authority - G & H, Site Safety & Health Officer & Quality Control Officer. These officers have the authority to stop work. State whether these officers will be on-site at all times.

TMG Response: Concur; Please see response to Comment 11.

Comment 29: Section 4 (Quality Control) & Section 3.5, Project Personnel & Lines of Authority, Nos. L thru S. Provide locations for these companies listed in L thru S. Clarify Kimberlie Bumgardner's role. She appears to be employed by TMG Services, Inc. as part of the Independent Quality Control Team (see No. J) and by McTech Corp as a McTech contact. (see No. R). Provide additional details on the role of McTech Corp, including the list of duties/activities this company will perform. It appears from information included in Section 4 that McTech will be providing the independent reviews. However, Kimberlie Bumgardner appears to have other duties in the project and, therefore, may not be considered an independent reviewer.

TMG Response: Concur; Mr. Rick Armstrong will be the Senior Reviewer and and Christine Smith will perform the peer review. Please see response to Comment 11 and Appendix D.

Comment 30: Appendix C. Revise Section 3.5 to eliminate the discrepancy on who has authority to stop work. Section 3.5 shows that Dan Cashbaugh has authority if unsafe conditions warrant and that James Russell has authority if QC is not being met. The letters included in Appendix C indicate Helen Owens, Matthew Ford, and Keith Morris also have authority to stop work over safety issues and/or QC Issues.

TMG Response: Concur; Section 3.5 has been revised to eliminate discrepancy. Please see response to Comment 11.