Participant's Guide
for

How to Plan Projects Using the Uniform Federal Policy for Quality Assurance Project Plans (UFP QAPP)

Training Workshop

Name

Overview

Scoping sessions are a critical part of the hazardous waste site cleanup process. Successful scoping sessions can contribute to efficient and effective site cleanup projects. In this workshop, a scoping session is demonstrated (via video). But the real value of the workshop will be from your involvement in the discussion sessions and your evaluation of how scoping meetings should be planned and executed.

One word of caution, the video depicts a hypothetical site with fictitious contamination. Please do not focus on the technical aspects of site or the proposed site investigation. Rather focus on the process that is being illustrated.

Also, please note that during the scoping meeting, the UFP QAPP worksheets are NOT being filled out. Rather the information needed to complete the worksheets is being discussed.

Workshop Objectives

The purpose of this workshop is to provide you with knowledge needed to conduct a successful scoping session as a part of the Systematic Planning Process (SPP).

At the conclusion of this workshop you should be able to:

- Describe techniques for planning and implementing a successful scoping meeting
- Document scoping meeting results in a Uniform Federal Policy Quality Assurance Project Plan (UFP QAPP)
- Identify the roles and responsibilities of the project manager and the team members in the systematic planning process for hazardous waste site cleanup

Personal Objectives

Below, write out one or two personal objectives you would like to accomplish by the end of workshop. Use these objectives as your measuring tools to help you determine where to focus your energies during the workshop.

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Workshop Agenda

The times listed below are approximate and will vary depending upon the amount of discussion.

	Facilitator Pre-Video Discussion	Video Length	Participant/Facilitator Question/Answer/ Discussion Time	Facilitator Summary/Break
Workshop Introduction	--	--	15 Min	--
Scene 1, Pre-Meeting between Remedial Project Manager and Contractor	5 min	5 min	15 Min	5 min/10 min
Scene 2, Scoping Meeting: Problem Definition	5 min	7 min	15 Min	5 min
Scene 3, Scoping Meeting: Decision Statements and Sampling Design	5 min	8 min	15 Min	5 min/10 min
Scene 4, Scoping Meeting: Quality Control Samples	5 min	4 min	15 Min	5 min
Scene 5, Scoping Meeting: Data Usability	5 min	4 min	15 Min	5 min
Workshop Conclusion				5 Min

Total Estimated Time: 3 hours

Participant's Guide
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Workshop Introduction

Notes

Welcome

Workshop Goal and Learning Objectives

Goal: Upon completion of this workshop, participants will be able to:

- Describe techniques for planning and implementing a successful scoping meeting
- Document scoping meeting results in a Uniform Federal Policy Quality Assurance Project Plan
- Identify the roles and responsibilities of the project manager and the team members in the systematic planning process for hazardous waste site cleanup

Workshop Description

- Facilitator role
- Active participation crucial
- Workshop Format:
  - Video clips
  - Question/Answer discussion sessions

Course Target Audience

This course is targeted at hazardous waste site cleanup team personnel (CERCLA and RCRA) including:

- DoD, DOE, EPA Remedial Project Managers/Project Managers and their supervisors
- Federal and State Regulators
- Technical support personnel, including government and government-sponsored contractor personnel (e.g., Quality Assurance Specialists, Risk Assessors, Hydrogeologist, Geologists, Biologists, Chemists, Statisticians, Modelers, Lawyers, Health Physicists, Community Relations Specialists, etc.)
- Project Officers and Contracting Officers Representatives (CORs)

General Workshop Agenda

- Total Time: Approx. 3 hours
- Introduction

    - Film clip from *Manager's Roles in Assuring Data Quality: Overview of the Uniform Federal Policy for Quality Assurance Project Plans* (5 minutes)
- Five video scenes (4 to 9 minutes each):
    - 1: Pre-Meeting between Remedial Project Manager/Contractor
    - 2: Scoping Meeting: Problem Definition
    - 3: Scoping Meeting: Decision Statements & Sampling Design
    - 4: Scoping Meeting: Quality Control Samples
    - 5: Scoping Meeting: Data Usability
- Questions/Answer Discussion Sessions (~15 min each)
- Conclusion/Feedback
- 10 min Breaks each hour

Miscellaneous Information

- PLEASE TURN OFF CELL PHONES
- Rest Rooms
- Breaks - critical to return on time
- Questions/Concerns?

Introductions

- Name
- Job Title
- Organization
- Familiarity/Experience with Uniform Federal Policy for Quality Assurance Project Plans (UFP QAPP)

Background on UFP QAPP

- What is a Quality Assurance Project Plan (QAPP)?
- What is a **UFP QAPP?**

What is a QAPP?

- Integrates technical and quality control aspects of a project including planning, implementation, assessment, and corrective actions
- An organized and systematic description of:
    - Quality assurance (QA) and
    - Quality control (QC)

- What data will be used to make the decision and reason for collection of the data
- Procedures for implementation of the project
- Rationale for why doing what doing
  - Scientifically and legally sound
- Process for making the decision

What is a Quality Assurance Project Plan (QAPP)?

- Documents the results of the Systematic Planning Process (SPP)
- SPP Guidance:
  - EPA QA/G4 *Guidance on the Systematic Planning using the Data Quality Objectives Process*

Uniform Federal Policy for QAPPs

- ANSI/ASQ E-4 Section 6 (Part B)
- EPA QA/R-5 and QA/G-5
- Developed by Intergovernmental Data Quality Task Force (IDQTF)
  - Representatives from DoD, EPA, DOE
- Voluntary consensus document

UFP QAPP Documents

- PART 1: **UFP QAPP Manual**
  -Provides instructions and guidance on QAPP content and preparation
- PART 2A: **QAPP Workbook**
  - Provides worksheets (tables)
  - Use not mandatory
  - Facilitate ease of compiling information and review
- PART 2B: **QA/QC Compendium**
  - Lists required QC activities for the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) process
  - Other programs (e.g. compliance programs) can use the Compendium if agreed by all parties

UFP QAPP Documents

- To download documents: http://www.epagov/fedfac/qualityassurance.htm

UFP QAPP Features

- Fill-in-the-blank worksheets for each QAPP element
  - Facilitates faster review
- Allows for *graded* approach
  - Amount of documentation and detail will depend on complexity and scope of project

UFP QAPP Implementation

- UFP QAPP is voluntary consensus policy
  - Once adopted by Federal department, agency, or program, use is mandatory within that organization
- UFP QAPP Manual signed by EPA (2004), DoD (2005)
- OSWER Directive 9272.0-17. June 7, 2005
- OSWER Guidance 9272.0-20. Dec 21, 2005
- Office of the Under Secretary of Defense Memorandum of April 11, 2006
- DoD Instruction 4715.15 Dec 11, 2006

UFP QAPP Implementation (Continued)

- USACE Memo January 2007
- Navy Procurement Policy and Procedures Oct 30, 2007
- ITRC Quality Considerations for MR Projects October 2008
- USAF Memo July 9, 2009
- USACE DID MMRP-09-009 for MC
- Aug 19, 2009
- ASTSWMO Letter Nov 16, 2009

Summary

- This workshop is for you to explore how to conduct an effective scoping meeting and then to record the results in a Uniform Federal Policy Quality Assurance Project Plan (UFP QAPP)
- Throughout the workshop, the roles and responsibilities of project managers and all team members in implementing project planning will be demonstrated

Scene 1: Pre-Meeting between Remedial Project Manager and Support Contractor

Teaching Points:

1. Never go into a scoping meeting with a blank sheet of paper; identify meeting objectives and your criteria for a successful meeting. Ensure the Lead Agency RPM and the Support Contractor have mutual understanding of meeting objectives and the contractor's responsibilities.
2. Develop a meeting agenda.
3. Distribute packages to the meeting attendees well in advance of the meeting so they can be prepared for the meeting. Clearly identify any issues so participants can be prepared to discuss and reach consensus during the meeting.
4. Focus the scoping meeting on the sticky issues that you need to reach consensus on.
5. The completed QAPP worksheets for a project document the consensus decisions that were reached during the scoping meeting(s).

Notes:

Pre Meeting Package:

Interim Removal Action
Joint Base Shangri-La
Scoping Session

Agenda
(Draft)

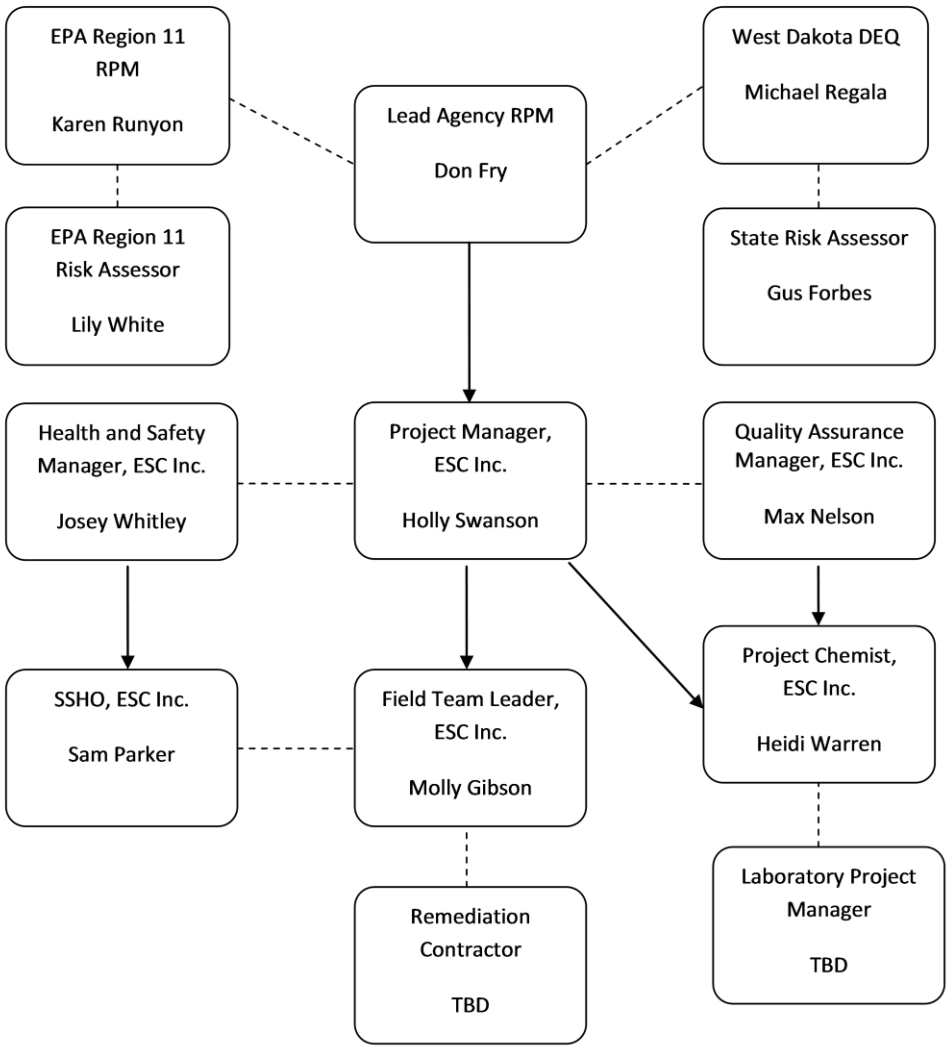
Date: 30 February 2012
Time: 9:00 a.m. – 4:00 p.m.
Location: Building 47, Joint Base Shangri-La

Participants: Don Fry; Lead Agency RPM; Holly Swanson, ESC, Inc; Karen Runyon, EPA; Michael Regala, West Dakota DEQ

Topics of Discussion:

- Recap site history/decisions to date
- Problem Definition
- Decision Statements
- Sampling Design
- Quality Control Samples
- Data Usability

QAPP Worksheet #5 – Project Organization Chart



QAPP Worksheet #9 -- Project Scoping Session Participants Sheet

Project Name: Remedial Investigation Projected Date(s) of Sampling: TBD Project Manager: Holly Swanson, Environmental Support Contractors, Inc.	Site Name: Site 10 Site Location: Joint Base Shangri-La, West Dakota

Date of Session: September 15, 2011
Scoping Session Purpose: Review the Draft RI Report, including baseline HHRA and screening-level ERA (Step 3a). Reach consensus on preliminary remediation goals (PRGs) and interim measures to mitigate ecological risks.

Name	Title	Affiliation	Phone #	E-mail Address	Project Role
Don Fry	Lead Agency Remedial Project Manager (RPM)	Joint Base Shangri-La	(555) 555-5551	Don.fry@leadagency.mil	Lead Agency RPM
Holly Swanson	Contractor Project Manager	Environmental Support Contractors, Inc.	(555) 555-5552	Holly.Swanson@ESC.com	Contractor Project Manager
Sharon Evans	Senior Chemist	Environmental Support Contractors, Inc.	(555) 555-5505	Sharon.Evans@ESC.com	Contractor Project Chemist
Karen Runyon	EPA Regional Project Manager (RPM)	EPA Region 11	(555) 555-5553	K_Runyon@epaR11.gov	Lead Regulatory Agency
Jason Roberts	Senior Toxicologist	West Dakota DEQ	(555) 555-5554	J_Roberts@WDDEQ.org	State Regulator/ Toxicologist

Consensus Decisions:

1. There are no potentially unacceptable risks to current on-site workers or trespassers or to future construction workers or adult residents from exposure to surface soil at areas 1 through 6.
2. Groundwater at this site presents no potentially unacceptable risks to human health or the environment.
3. DoD will develop recommendations for mitigating potentially unacceptable risks to future child residents due to ingestion of iron.
4. Results of the screening level ERA suggest ecological receptors may be at risk from exposure to selected inorganics and pesticides in surface soils in areas 1, 2, 3 and 4.
5. Before proceeding to Step 3b of the baseline ERA, an interim removal action will be conducted in areas 1, 2, 3 and 4 to mitigate risks to ecological receptors.
6. Contaminants of concern and PRGs are as follows:
    - Lead: 120 mg/kg (Ecological)
    - Mercury: 0.24 mg/kg (Background)
    - Selenium: 1.8 mg/kg (Ecological)
    - 4,4'-DDD: 100 ug/kg (Ecological)
    - 4,4'-DDE 100 ug/kg (Ecological)

Action Items:

1. ESC, Inc. will finalize the RI Report.
2. ESC Inc. will prepare a draft QAPP to address the interim removal action and confirmatory sampling design for areas 1, 2, 3 and 4.
3. The project team will reconvene in May 2011, to review and finalize plans for the interim removal action and the proposed sampling design.

QAPP Worksheet #10—Problem Statement and Conceptual Site Model

Physical Setting: This task focuses on the planned interim removal action at Site 10. Site 10 encompasses an estimated 2.7-acre area located approximately 250 feet south of the intersection of Perimeter Road and First Avenue. (See Figure 1) Site 10 is bordered to the West by the Shangri-La Industrial Site and Shangri-La Rail Yard and to the East by Lake Carter. Site 10 consists of an open, overgrown, grassy field surrounded by mixed-hardwood woodland, which extends 15 miles to the north and 25 miles to the south. Remnants of former structures, including building foundations, concrete pads, and low retaining walls litter the site, both inside and outside of the wooded areas. Access to the site is from the north of the Rail Yard via a dirt road off Perimeter Road. A chain-link fence surrounds Site 10, which limits access by wildlife and trespassers.

Site 10 reportedly was used between 1940 and 1978 to store containers of waste oil, pesticides, construction debris, and other scrap materials. Storage area boundaries are well-marked by the presence of building foundations. The nearest drinking water supply wells are located 12 miles southwest of Site 10. Surface water drains toward the east into Carter Lake via two unnamed creeks that border the site to the north and south. The source of potable water is the Wellborne formation, a confined aquifer located between approximately 200 and 250 feet below ground surface at Site 10. Groundwater flow direction is east-southeast. The RI Report (ESC, April 2011) contains detailed descriptions of site geology/hydrogeology, including cross-sections. Because of limited access and proximity of the site to industrial property including the Shangri-La Rail Yard, development of Site 10 for future residential use is unlikely.

Previous Investigations: Environmental Support Contractors, Inc. (ESC) conducted a Remedial Investigation (RI) in November 2010, which included a baseline human health risk assessment (HHRA) and screening-level ecological risk assessment (ERA) including Step 3a refinement (see RI report). The HHRA concluded there are no potentially unacceptable risks to current on-site workers or trespassers or to future construction workers or future adult residents from exposure to soils. The groundwater pathway is incomplete. While a potentially unacceptable risk was identified for future child residents due to ingestion of iron in soils, the average iron concentration across the site is less than both background concentrations and the EPA Region 11 residential soil screening level.

QAPP Worksheet #10—Problem Statement and Conceptual Site Model (Continued)

The ERA indicated that the concentrations of selected pesticides and inorganics in shallow surface soils (the uppermost four inches) present a potentially unacceptable risk to ecological receptors. The soils that pose a potential ecological risk are isolated to areas 1, 2, 3, and 4. Although the ERA identified two other areas for further evaluation (RI sample locations 5 and 6), these locations will be addressed at a later date. RI sample 5, in which mercury was detected at 0.17 mg/Kg, will not be included because this concentration is below background (0.24 mg/Kg). RI sample location 6, in which lead was detected at 385 mg/Kg, will not be included because both the maximum concentration of lead in surrounding soil (58.6 mg/Kg at RI sample location 7) and average residual concentrations of lead across the site, without addressing sample location 6, (42 mg/Kg)) are below the ecological screening criterion of 120 mg/Kg.

The results were presented to the project team at the March 15, 2011 meeting, prior to finalization of the RI Report. At that meeting, the project team concurred that an interim removal action should be conducted to mitigate risks to ecological receptors prior to proceeding to Step 3b of the baseline ERA. The removal action will be limited to surface soils within areas 1, 2, 3, and 4, exceeding established PRGs. The presumed boundaries of surface soil contamination are the storage building foundations for each of these areas.

The current PRGs are as follows (dry weight basis):

- Lead: 120 mg/kg Ecological
- Mercury: 0.24 mg/kg Background
- Selenium: 1.8 mg/kg Ecological
- 4,4'-DDD: 100 µg/kg Ecological
- 4,4'-DDE: 100 µg/kg Ecological

Problem Statement: Will the proposed excavation areas and depths be sufficient to mitigate risks?

QAPP Worksheet #10—Problem Statement and Conceptual Site Model (Continued)

Soil Samples Bottom of the Excavation (All Areas): Following the excavation, confirmation soil samples will be collected. Confirmation samples will b e analyzed for the same parameters listed for the pre-excavation soil samples. The frequency of the confirmation soil samples will consist of one 5-point composite soil sample from the bottom of the excavation per 500 square feet. The results from the laboratory will be an average concentration of 5 point field composited and homogenized sample, and will be compared to the Preliminary Remediation Goals.

Following the excavation, confirmation soil samples will be collected. Confirmation samples will be analyzed for the same parameters listed for the pre-excavation soil samples. The frequency of the confirmation soil samples will consist of one discrete soil sample from the bottom of the excavation per 500 square feet.

IF the concentrations are equal to or below the Preliminary Remediation Goals **THEN** no further excavation is required. Backfilling may begin.

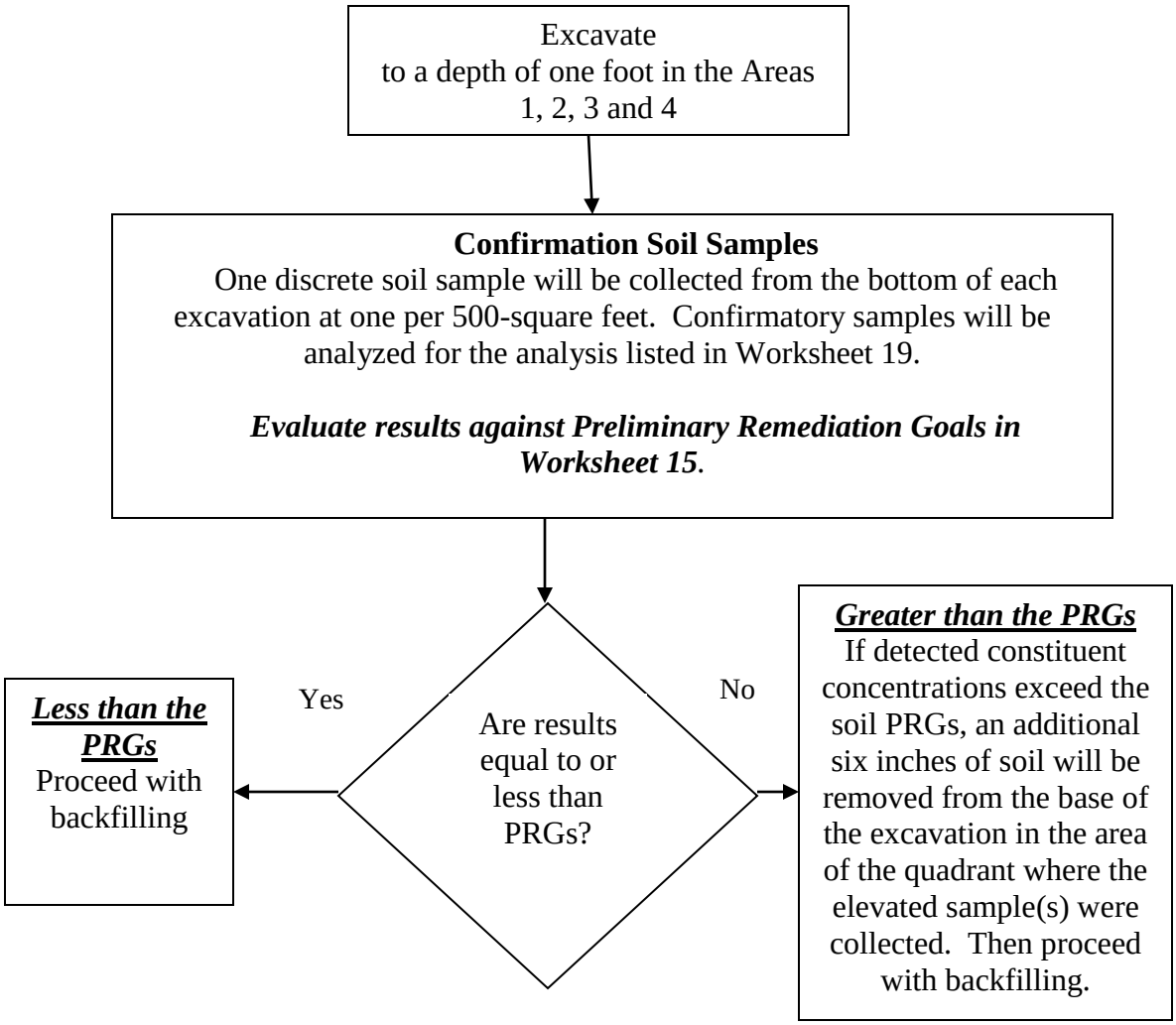
IF the concentrations exceed the Preliminary Remediation Goals **THEN** additional six inches of soil will be excavated from the bottom in the areas of the quadrant(s) where the elevated level(s) were detected. Ecological Risk specialists from the military, the EPA, and the State will be consulted to determine whether potential receptors may be present in the soil beneath the current soil level of the quadrant(s) where the elevated level(s) were detected.

Should groundwater be encountered during excavation, it will be allowed to flow into an adjacent grid that has been excavated to an acceptable level. If the groundwater is so prevalent that it will not adequately flow into the adjacent grid to allow for excavation, the military will be contacted for guidance/assistance on a move forward strategy.

Excavation may be stopped at any time at the discretion of the military RPM.

QAPP Worksheet #10—Problem Statement and Conceptual Site Model (Continued)

Confirmation Samples Flowchart – Site 10
Floor Samples



SAP Worksheet #11: Project Quality Objectives/Systematic Planning Process Statements

The following Project Quality Objectives are based on EPA's 7-step DQO Process.

1. **State the problem**. Will the proposed excavation areas and depths be sufficient to mitigate risks?
2. **Identify the goals of the study**. The goal of this study is to verify that the volume of soil removed is sufficient to mitigate risks. Soil samples collected from the bottom of the excavation areas following excavation will be collected and analyzed for site-specific contaminants of concern (COCs) to verify sufficient soil has been removed.
3. **Identify information inputs**. Constituents of concern (lead, mercury, selenium, 4,4'-DDD and 4,4'-DDE) were identified in the RI report. Concentrations of these COCs in surface soil, following the removal action, will be used to decide whether an adequate volume of soil has been removed or further excavation is necessary.

   The greater of background concentrations or the Region 11 ecological Soil Screening Levels for site-specific COCs will be used as action levels.

4. **Define the study boundaries.** The surface boundaries for the excavations and sample collection are marked by the building foundations in Areas 1, 2, 3, and 4, as noted in the RI report. Since samples will be collected at the bottom of the excavations, following the removal of the first foot of soil, the horizontal boundary of the study will be limited to approximately 18 inches below grade.
5. **Develop the analytic approach**. Concentrations of site-specific constituents of concern in soil samples collected from the bottom of excavations in areas 1, 2, 3, and 4 will be used to judge the adequacy of the soil removal. The use of SW-846 methods is proposed. [Decision statements will be developed during the May 15, 2011 scoping session.]
6. **Specify performance or acceptance criteria.** Measurement performance criteria will be based on those contained in the DoD QSM and the SW-846 methods. Measurement performance criteria will be listed in WS 12. Analytical methods will be selected in consultation with the proposed analytical laboratory. The project team will discuss an approach to address matrix interferences previously observed in the analysis of selenium in soils at this site.
7. **Develop the plan for obtaining data**. The project team will develop the sampling design during the May 15, 2011 partnering meeting. ESC, Inc. recommends an approach based on the establishment of decision units consisting of 500 square feet at the soil surface (which will represent a volume of 2500 cubic feet of excavated soil). One composite soil sample should be collected from each decision unit, to represent the average concentration of each COC in that decision unit. One composite sample will be collected from each decision unit of stockpiled soil and analyzed for TCLP parameters, to determine the disposal requirements for that decision unit.

Consensus Decisions:

1. Areas 5 and 6 will not be addressed during this removal action.
2. The final problem statement is, "Will the proposed excavation at Site 10, Areas 1, 2, 3, and 4, be sufficient to mitigate risks to ecological receptors?"
3. Each area will be divided into a grid of decision units of 500 square feet.
4. Soils initially will be excavated to a depth of one foot, subject to decision rules identified in Worksheet 11.
5. Following the initial excavation, a composite sample, consisting of five subsamples, will be collected from each decision unit.
6. If the concentration of any target analyte in any sample is equal to or greater than the Region 12 PRGs, an additional six inches of soil will be removed from the decision unit represented by that sample, and ecological risk assessors will be consulted before proceeding.
7. Soil samples will be analyzed for 4,4'-DDD, 4,4'-DDE, lead, mercury and selenium.
8. One set of quality control samples (to consist of MS/MSD, field blank, equipment blank, and field duplicate) will be collected for each area.
9. Data packages will include raw data and 100% validation will be performed by ESC, Inc.
10. The data usability report will be prepared by ESC, Inc. and presented to the Project team for concurrence.

Action Items:

1. Holly Swanson will distribute minutes from the scoping session to the project team, within one week.
2. Holly Swanson will set up a teleconference to include chemists from ESC, Inc., EPA Region 12, WDDEQ and the proposed contract laboratory, within two weeks, to reach consensus on the analytical protocol for selenium in soil and to verify the proposed contract laboratory has the appropriate DoD and State credentials.
3. The project team will re-evaluate ecological risks associated with Sites 5 and 6 following the removal action.
4. ESC, Inc. will complete the draft QAPP and send it to the team within 4 weeks. The project team will review the QAPP and provide comments to ESC, Inc. within 2 weeks.

QAPP Worksheet #15
Project Action Limits and laboratory-specific detection/quantitation limits

Matrix: Surface Soil
Concentration level (if applicable): low

Analyte	Project Action Limit (units)	Basis or Reference	Project Quantitation Limit Goal	Method	Laboratory-specific Quantitation Limit[1]	Laboratory-specific DL[1]
Mercury	0.24 mg/kg	Background	0.1 mg/kg	SW-846	TBD	TBD
Lead	120 mg/kg	Region 11 (Eco)	40 mg/kg	SW-846	TBD	TBD
Selenium	1.8 mg/kg	Region 11 (Eco)	0.6 mg/kg	SW-846	TBD	TBD
4,4'-DDD	100 µg/kg	Region 11 (Eco)	30 µg/kg	SW-846	TBD	TBD
4,4-DDE	100 µg/kg	Region 11 (Eco)	30 µg/kg	SW-846	TBD	TBD

[1] Define quantitation limit terminology used by the project/laboratory
[2] Define detection limit terminology used by the project/laboratory

QAPP Worksheet #17
Sampling Design and Rationale

Confirmation Samples: Following the removal of soil, confirmation samples will be collected from the bottoms of the excavations in areas 1, 2, 3, and 4. As discussed in the RI Report, contamination appears to be confined to the uppermost 4 inches of soil in each of these areas. For this reason, it is presumed that removal of soil to a depth of 1 foot will be adequate to achieve the goals of the interim removal action.

For the purposes of both the soil removal and sampling, the lateral boundaries of areas 1, 2, 3, and 4 are marked by the remnants of foundations in each of these areas. The vertical boundary will be the depth of the excavation in each decision unit. Each area has been divided into decision units consisting of 500 square feet (20 ft. x 25 ft.). The reason for selecting decision units of this size is that removed soil will be placed into roll-off containers, each of which can accommodate 10 cubic yards of soil. Assuming soils will be excavated to a depth of one foot, the excavation of each decision unit will generate 500 cubic feet, or 9.1 cubic yards of soil, an amount that can be accommodated by a single roll-off container.

Decision units will be marked with pin flags during mobilization activities. Following the soil removal, the sampling grid within each decision unit also will be marked with pin flags. Composite samples will be collected from the floor of each decision unit, following the excavation. The purpose of collecting composite samples is to provide a representative estimate of the average concentration of CoCs remaining in soils in each decision unit. As agreed during the May 15 partnering meeting, each decision unit will be divided into a grid of 9 rectangles of equal size. A shallow soil sample (0-4 inches deep) will be collected in the center of each the four corners and the center rectangle. Sub-samples will be composited in the field (See Field SOP 123). Figure 2 shows the boundaries, decision units and sampling grid for each area.

Waste characterization: Samples will be collected from each roll-off container to determine disposal requirements. Five grab samples will be collected from each roll-off container. The grab samples will be composited to yield one sample from each container, which will be analyzed for the TCLP parameters.

Scene 2: Scoping Meeting--Site History and Problem Definition

Teaching Points:

1. The proper players, empowered decision makers, need to come to the meeting. In some cases, the lead agency RPM is the leader and the decision maker (however, in some partnering situations all decisions are consensus decisions)
2. Determine the focus of the particular scoping meeting. Keep the meeting from straying to tangents or other issues beyond the scope of the meeting.
3. Agreements on site history and problem definition are critical before starting field work.
4. Document agreements in the QAPP worksheets.
5. The problem definition must be comprehensive and cover all aspects of problem; the more complete the conceptual site model (CSM) the better.
6. Identify where there are data gaps in the CSM. These data gaps may need to be filled by collecting field sampling data.

Notes:

Scene 3: Scoping Meeting--Decision Statements and Sampling Design

Teaching Points:

1. Decision (If/then) statements and Project Quality Objectives (PQO's) need to be clear (not vague), match the problem definition, and solve the problem.
2. All players have to agree that they will abide by the if/then statements—these are the levels that will be used and the criteria that will be applied.
3. The various team members have different points of view which must be accommodated
4. Differences of opinion will occur. Keep the discussion professional and unemotional/personal.
5. A defensible (scientifically valid) sampling design is needed.
6. Once the sampling design is developed, the team needs to back and check against the if/then statements to ensure comprehensiveness.
7. Need to include documentation of the sampling design rationale in the QAPP to explain why this sampling design was selected.

Notes:

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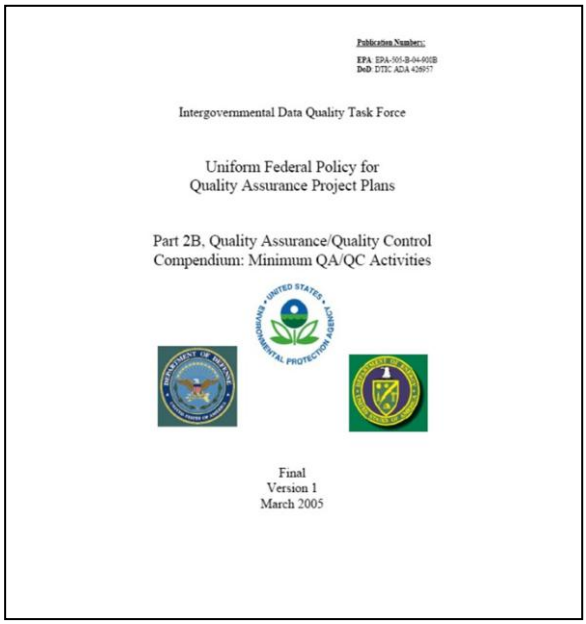
Scene 4: Scoping Meeting--Quality Control Samples

Teaching Points:

1. The QA/QC Compendium document is a tool to use for determining QC samples.
2. The project team needs decide whether the QC criteria will meet their project goals.



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DoD: DTIC ADA 426957

Intergovernmental Data Quality Task Force

Uniform Federal Policy for
Quality Assurance Project Plans

Part 2B, Quality Assurance/Quality Control
Compendium: Minimum QA/QC Activities

Final
Version 1
March 2005

Notes:

Scene 5: Scoping Meeting--Data Usability

Teaching Points:

1. Before data is used to make decisions, the credibility of the data must be established. There are various methods for evaluating the credibility of data; e. g., field audits, data review (validation, verification).
2. The overall goal is that data must be of sufficient quality for decision making: data must be of known and documented quality, appropriate for its intended use. The UFP QAPP documentation accomplishes this.
3. If there is insufficient information to fulfill the requirements for a UFP QAPP, then the necessary information to know whether the data is useable to support the decision may not be present.
4. Evaluations need to be conducted throughout the process to ensure that the data obtained is useable and credible.

Notes:

Appendix A

QAPP Worksheets Developed/Revised After Scoping Meeting

Worksheets #9

QAPP Worksheet #9 -- Project Scoping Session

Interim Removal Action
Joint Base Shangri-La, West Dakota — Revision No: Post Meeting
Site 10, Areas 1, 2, 3, 4 — Date: 1 March 2012

QAPP Worksheet #9 -- Project Scoping Session

Project Name: Remedial Investigation Projected Date(s) of Sampling: TBD Project Manager: Holly Swanson, Environmental Support Contractors, Inc.	Site Name: Site 10, Areas 1, 2, 3 and 4 Site Location: Joint Base Shangri-La, West Dakota

Date of Session: February 30, 2012
Scoping Session Purpose: Reach consensus on procedures to verify adequate remediation of hot spots at Site 10, Areas 1, 2, 3 and 4.

1) Finalize problem statement, sample design, analytical parameters, and decision rules.

2) Address analytical interferences associated with the analysis of selenium in soil.

3) Establish schedule for review and approval of the QAPP.

Name	Title	Affiliation	Phone #	E-mail Address	Project Role
Don Fry	Lead Agency Remedial Project Manager (RPM)	Joint Base Shangri-La	(555) 555-5551	don.fry@leadagency.mil	Lead Agency RPM
Holly Swanson	Contractor Project Manager	Environmental Support Contractors (ESC), Inc.	(555) 555-5552	holly.swanson@esc.com	Contractor Project Manager
Karen Runyon	EPA Regional Project Manager (RPM)	Environmental Protection Agency (EPA) Region 12	(555) 555-5553	k_runyon@epar12.gov	Lead Regulatory Agency
Michael Regala	Environmental Specialist, Remediation Division	West Dakota Department of Environmental Quality (WDDEQ)	(555) 555-5554	g_regala@wddeq.org	State Regulator

Interim Removal Action
Joint Base Shangri-La, West Dakota — Revision No: Post Meeting
Site 10, Areas 1, 2, 3, 4 — Date: 1 March 2012

Consensus Decisions:

1. Areas 5 and 6 will not be addressed during this removal action.
2. The final problem statement is, "Will the proposed excavation at Site 10, Areas 1, 2, 3 and 4 be sufficient to mitigate risks to ecological receptors?"
3. Each area will be divided into a grid of decision units of 500 square feet.
4. Soils initially will be excavated to a depth of one foot, subject to decision rules identified in Worksheet 10.
5. Following the initial excavation, a composite sample, consisting of five subsamples, will be collected from each decision unit.
6. If the concentration of any target analyte in any sample is equal to or greater than the Region 12 PRGs, an additional six inches of soil will be removed from the decision unit represented by that sample, and ecological risk assessors will be consulted before proceeding.
7. Soil samples will be analyzed for 4,4'-DDD, 4,4'-DDE, lead, mercury and selenium. The method of standard additions is proposed for the analysis of selenium. (See action item #2 below.)
8. One set of quality control samples (to consist of MS/MSD, field blank, equipment blank, and field duplicate) will be collected for each area.
9. Data packages will include raw data and 100% validation will be performed by ESC Inc.
10. The data usability report will be prepared by ESC Inc. and presented to the project team for concurrence.

Action Items:

1. Holly Swanson will distribute minutes from the scoping session to the partnering team, within one week.
2. Holly Swanson will set up a teleconference to include chemists from ESC Inc., EPA Region 12, WDDEQ and the proposed contract laboratory, within two weeks, to reach consensus on the analytical protocol for selenium in soil and to verify the proposed contract laboratory has the appropriate DoD and State credentials.
3. The project team will re-evaluate ecological risks associated with Sites 5 and 6 following the removal action.
4. ESC Inc. will complete the draft QAPP and send it to the partnering team within 4 weeks. The project team will review the QAPP and provide comments to ESC, Inc. within 2 weeks.

Worksheets #**10, 11, 15, 17, and 19**

Interim Removal Action
Joint Base Shangri-La, West Dakota — Revision No: Post Meeting
Site 10, Areas 1, 2, 3, 4 — Date: 1 March 2012

QAPP Worksheet #10—Problem Statement and Conceptual Site Model

Physical Setting: This task focuses on the planned interim removal action at Site 10. Site 10 encompasses an estimated 2.7-acre area located approximately 250 feet south of the intersection of Perimeter Road and First Avenue. (See Figure 1) Site 10 is bordered to the West by the Shangri-La Industrial Site and Shangri-La Rail Yard and to the East by Lake Carter. Site 10 consists of an open, overgrown, grassy field surrounded by mixed-hardwood woodland, which extends 15 miles to the north and 25 miles to the south. Remnants of former structures, including building foundations, concrete pads, and low retaining walls litter the site, both inside and outside of the wooded areas. Access to the site is from the north of the Rail Yard via a dirt road off Perimeter Road. A chain-link fence surrounds Site 10, which limits access by wildlife and trespassers.

Site 10 reportedly was used between 1940 and 1978 to store containers of waste oil, pesticides, construction debris, and other scrap materials. Storage area boundaries are well-marked by the presence of building foundations. The nearest drinking water supply wells are located 12 miles southwest of Site 10. Surface water drains toward the east into Carter Lake via two unnamed creeks that border the site to the north and south. The source of potable water is the Wellborne formation, a confined aquifer located between approximately 200 and 250 feet below ground surface at Site 10. Groundwater flow direction is east-southeast. The RI Report (ESC, April 2011) contains detailed descriptions of site geology/hydrogeology, including cross-sections. Because of limited access and proximity of the site to industrial property including the Shangri-La Rail Yard, development of Site 10 for future residential use is unlikely.

Previous Investigations: Environmental Support Contractors, Inc. (ESC) conducted a Remedial Investigation (RI) in November 2010, which included a baseline human health risk assessment (HHRA) and screening-level ecological risk assessment (ERA) including Step 3a refinement (see RI report). The HHRA concluded there are no potentially unacceptable risks to current on-site workers or trespassers or to future construction workers or future adult residents from exposure to soils. The groundwater pathway is incomplete. While a potentially unacceptable risk was identified for future child residents due to ingestion of iron in soils, the average iron concentration across the site is less than both background concentrations and the EPA Region 11 residential soil screening level.

The ERA indicated that the concentrations of selected pesticides and inorganics in shallow surface soils (the uppermost four inches) present a potentially unacceptable risk to ecological receptors. The soils that pose a potential ecological risk are isolated to areas 1, 2, 3, and 4. Although the ERA identified two other areas for further evaluation (RI sample locations 5 and 6), these locations will be addressed at a later date. RI sample 5, in which mercury was detected

QAPP Worksheet #10—Problem Statement and Conceptual Site Model (Continued)

at 0.17 mg/Kg, will not be included because this concentration is below background (0.24 mg/Kg). RI sample location 6, in which lead was detected at 385 mg/Kg, will not be included because both the maximum concentration of lead in surrounding soil (58.6 mg/Kg at RI sample location 7) and average residual concentrations of lead across the site, without addressing sample location 6, (42 mg/Kg)) are below the ecological screening criterion of 120 mg/Kg.

The results were presented to the Partnering Team at the March 15, 2011 meeting, prior to finalization of the RI Report. At that meeting, the Partnering Team concurred that an interim removal action should be conducted to mitigate risks to ecological receptors prior to proceeding to Step 3b of the baseline ERA. The removal action will be limited to surface soils within areas 1, 2, 3, and 4, exceeding established PRGs. The presumed boundaries of surface soil contamination are the storage building foundations for each of these areas.

The current PRGs are as follows (dry weight basis):

- Lead 120 mg/kg Ecological
- Mercury 0.24 mg/kg Background
- Selenium 1.8 mg/kg Ecological
- 4,4'-DDD µg/kg Ecological
- 4,4'-DDE 100 µg/kg Ecological

Problem Statement: Will the proposed excavation areas and depths be sufficient to mitigate risks to ecological receptors?

QAPP Worksheet #10—Problem Statement and Conceptual Site Model (Continued)

Soil Samples Bottom of the Excavation (All Areas): Following the excavation, confirmation soil samples will be collected. Confirmation samples will be analyzed for the same parameters listed for the pre-excavation soil samples. The frequency of the confirmation soil samples will consist of one 5-point composite soil sample from the bottom of the excavation per 500 square feet. The results from the laboratory will be an average concentration of 5 point field composited and homogenized sample, and will be compared to the Preliminary Remediation Goals.

IF the concentrations are equal to or below the Preliminary Remediation Goals **THEN** no further excavation is required. Backfilling may begin.

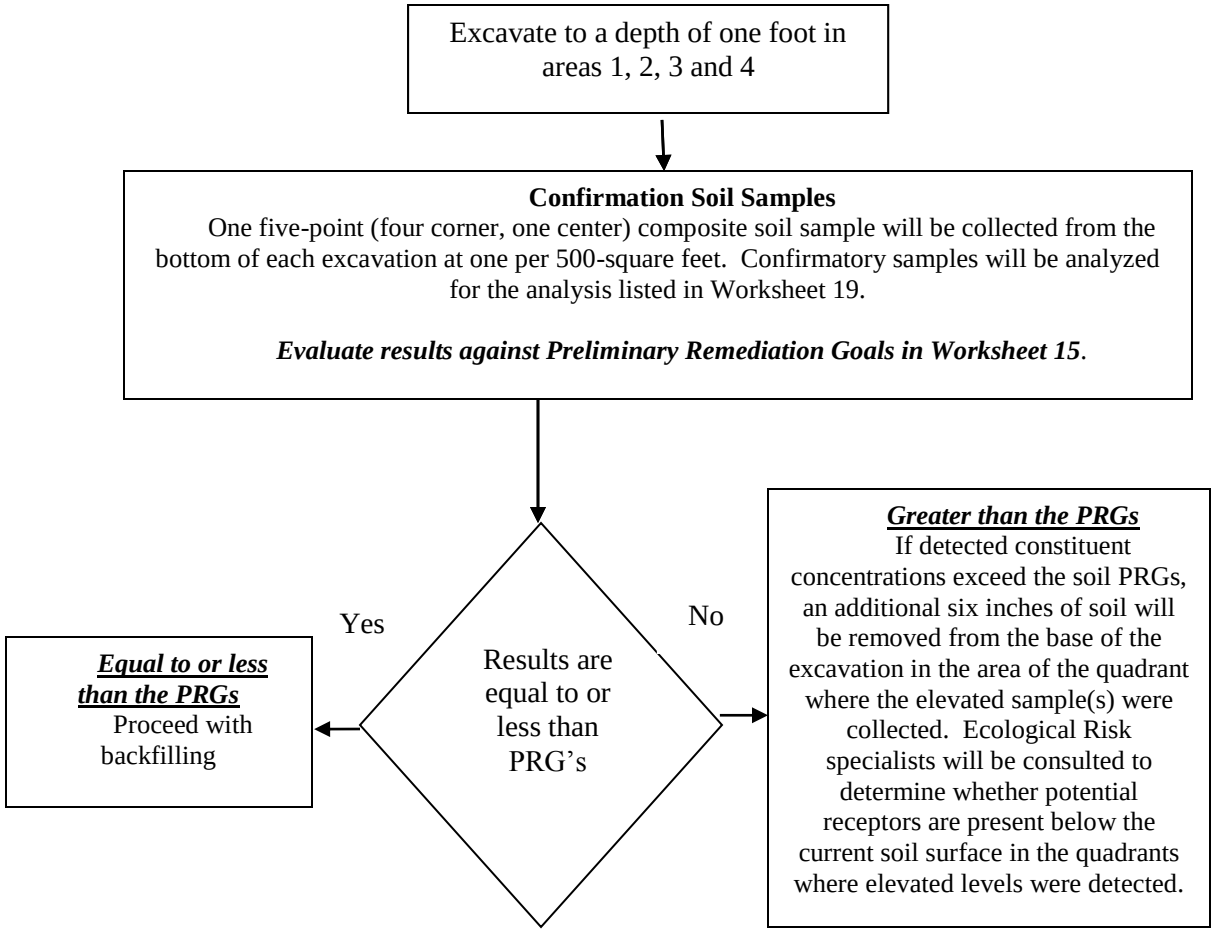
IF the concentrations exceed the Preliminary Remediation Goals **THEN** additional six inches of soil will be excavated from the bottom in the areas of the quadrant(s) where the elevated level(s) were detected. Ecological Risk specialists from the military, the EPA, and the State will be consulted to determine whether potential receptors may be present in the soil beneath the current soil level of the quadrant(s) where the elevated level(s) were detected.

Should groundwater be encountered during excavation, it will be allowed to flow into an adjacent grid that has been excavated to an acceptable level. If the groundwater is so prevalent that it will not adequately flow into the adjacent grid to allow for excavation, the military will be contacted for guidance/assistance on a move forward strategy.

Excavation may be stopped at any time at the discretion of the military RPM.

QAPP Worksheet #10—Problem Statement and Conceptual Site Model (Continued)

Confirmation Samples Flowchart – Site 10
Floor Samples



SAP Worksheet #11: Project Quality Objectives

The following Project Quality Objectives are based on EPA's 7-step DQO Process.

1. **State the problem.** Will the proposed excavation areas and depths be sufficient to mitigate risks to ecological receptors?
2. **Identify the goals of the study.** The goal of this study is to verify that the depth of the excavation will be sufficient to mitigate risks to ecological receptors. Soil samples will be collected from the bottom of the excavation areas following excavation and analyzed for site-specific contaminants of concern (COCs) to verify sufficient soil has been removed. Soil samples will be collected from each roll-off container to determine requirements for disposal.
3. **Identify information inputs.** Constituents of concern (lead, mercury, selenium, 4,4'-DDD and 4,4'-DDE) were identified in the RI report. Concentrations of these COCs in samples from the bottom of the excavation, following the removal action, will be used to decide whether the depth of the excavation is adequate or further excavation is necessary.

   The greater of background concentrations or the Region 11 ecological Soil Screening Levels for site-specific COCs will be used as action levels.

   The concentrations of TCLP parameters in stockpiled soil will be used to determine the most appropriate disposal option for soil that has been removed from Areas 1, 2, 3, and 4.
4. **Define the study boundaries.** The surface boundaries for the excavations and sample collection are marked by remnants of the building foundations in Areas 1, 2, 3, and 4, as noted in the RI report. Since samples will be collected at the bottom of the excavations, following the removal of the first foot of soil, the horizontal boundary of the study will be marked by the depth of the final excavation.
5. **Develop the analytic approach.** Concentrations of site-specific constituents of concern in composite soil samples from the bottom of excavations in areas 1, 2, 3, and 4 will be used to judge the adequacy of the soil removal. SW-846 methods will be used for analyses. The method of standard additions will be used to manage analytical interferences associated with the analysis of selenium in soil. Worksheet 19 provides analytical requirements.

   If the concentrations of all COCs in the composite sample from a given decision unit are less than the PRGs identified in Worksheet #15, then the excavation within that decision unit will be deemed adequate, and that decision unit may be backfilled.

   If the concentration of any COC in a given composite sample is greater than or equal to the PRG, then an additional 6 inches of soil will be removed from the decision unit represented by that sample. Risk assessors from the partnering team will be consulted to develop a path forward prior to backfilling the excavation.

   No area will be backfilled until all decision units within that area have been cleared.
6. **Specify performance or acceptance criteria.** Measurement performance criteria contained in the DoD QSM and the SW-846 methods to be used for this project will be considered adequate indicators of acceptable method performance. Measurement performance criteria are contained in WS 12.
7. **Develop the plan for obtaining data.** The sampling design was developed during the May 15, 2011 Partnering Meeting. It is presented in Worksheet 17.

Worksheet 12

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QAPP Worksheet #12
Measurement Performance Criteria

Matrix:	Soil
Analytical Group or Parameter:	Metals (lead, mercury, selenium)
Method:	SW-846 3050B/6010B (Pb), 3050B/6010B-MSA (Se), 3050B/7471A (Hg)
Concentration Level:	Low

Data Quality Indicator (DQI)	QC sample or measurement performance activity	Measurement Performance Criteria
Overall Precision	Field Duplicates	RPD ≤ 30% when analytes are detected in both samples ≥ LOQ
Analytical Precision (laboratory)	Laboratory Control Sample Duplicates	RPD ≤ 20%
Analytical Accuracy/Bias (laboratory)	Laboratory Control Samples	Recovery: 80-120%
Analytical Accuracy/Bias (matrix interference)	Matrix Spike Duplicates (samples will be spiked at 2X the action level)	RPD ≤ 20%, Recovery: 80-120%
Overall accuracy/bias (contamination)	Equipment Blanks, Field Blanks	No target analyte concentrations ≥ 1/2 LOQ
Sensitivity	LOQ verification sample (spiked at LOQ)	Recovery within ±25% of LOQ
Completeness	Completeness will be calculated as the amount of valid data obtained compared to the amount of data expected (expressed as a percentage)	Completeness goal: 100%

QAPP Worksheet #12
Measurement Performance Criteria

Matrix: Soil
Analytical Group or Parameter: Pesticides (4.4'-DDD, 4,4'-DDE)
Method: SW-846 3550B/8081A
Concentration Level: Low

Data Quality Indicator (DQI)	**QC sample or measurement performance activity**	**Measurement Performance Criteria**
Overall Precision	Field Duplicates	RPD ≤ 30% when analytes are detected in both samples ≥ LOQ
Analytical Precision (laboratory)	Laboratory Control Sample Duplicates	RPD ≤ 25%
Analytical Accuracy/Bias (laboratory)	Laboratory Control Samples	4,4'-DDD: 30-135% recovery 4,4-DDE: 70-125% recovery RPD ≤ 25%
Analytical Accuracy/Bias (matrix interference)	Matrix Spike Duplicates (samples will be spiked at 2X the action level)	4,4'-DDD: 30-135% recovery 4,4-DDE: 70-125% recovery RPD ≤ 25%
Overall accuracy/bias (contamination)	Equipment Blanks	No target analyte concentrations ≥ 1/2 LOQ
Sensitivity	LOQ verification sample (spiked at LOQ)	Recovery within ±25% of LOQ
Completeness	Completeness will be calculated as the amount of valid data obtained compared to the amount of data expected (expressed as a percentage)	Completeness goal: 100%

QAPP Worksheet #15
Project Action Limits and laboratory-specific detection/quantitation limits

Matrix: Surface Soil
Concentration level (if applicable): low

Analyte	Project Action Limit (units)	Basis or Reference	Project Quantitation Limit Goal	Method	Laboratory-specific quantitation limit[1]	Laboratory-specific DL[1]
Mercury	0.24 mg/kg	Background	0.1 mg/kg	SW-846	0.05 mg/kg	0.01 mg/kg
Lead	120 mg/kg	Region 11 (Eco)	40 mg/kg	SW-846	1.0 mg/kg	0.25 mg/kg
Selenium	1.8 mg/kg	Region 11 (Eco)	0.6 mg/kg	SW-846	0.05mg/kg	0.1 mg/kg
4,4'-DDD	100 µg/kg	Region 11 (Eco)	30 µg/kg	SW-846	20 µg/kg	5 µg/kg
4,4'-DDE	100 µg/kg	Region 11 (Eco)	30 µg/kg	SW-846	20 µg/kg	5 µg/kg

[1] Define quantitation limit terminology used by the project/laboratory
[2] Define detection limit terminology used by the project/laboratory

QAPP Worksheet #17
Sampling Design and Rationale

Confirmation Samples: Following the removal of soil, confirmation samples will be collected from the bottoms of the excavations in areas 1, 2, 3 and 4. As discussed in the RI Report, contamination appears to be confined to the uppermost 4 inches of soil in each of these areas. For this reason, it is presumed that removal of soil to a depth of 1 foot will be adequate to achieve the goals of the interim removal action.

For the purposes of both the soil removal and sampling, the lateral boundaries of areas 1, 2, 3, and 4 are marked by the remnants of foundations in each of these areas. The vertical boundary will be the depth of the excavation in each decision unit. Each area has been divided into 6 decision units consisting of 500 square feet (20 ft. x 25 ft.). The reason for selecting decision units of this size is that removed soil will be placed into roll-off containers, each of which can accommodate 10 cubic yards of soil. Assuming soils will be excavated to a depth of one foot, the excavation of each decision unit will generate 500 cubic feet, or 9.1 cubic yards of soil, an amount that can be accommodated by a single roll-off container.

Decision units will be marked with pin flags during mobilization activities. Following the soil removal, the sampling grid within each decision unit also will be marked with pin flags. Composite samples will be collected from the floor of each decision unit, following the excavation. The purpose of collecting composite samples is to provide a representative estimate of the average concentration of CoCs remaining in soils in each decision unit. As agreed during the May 15 partnering meeting, each decision unit will be divided into a grid of 9 rectangles of equal size. A shallow soil sample (0-4 inches deep) will be collected in the center of each the four corners and the center rectangle. Sub-samples will be composited in the field (See Field SOP 123). One set of field QC samples, including MS/MSD, field duplicate, equipment blank, and field blank, will be collected in each area. Figure 2 shows the boundaries, decision units and sampling grid for each area.

Waste characterization: Samples will be collected from each roll-off container to determine disposal requirements. Five grab samples will be collected from each roll-off container. The grab samples will be composited to yield one sample from each container, which will be analyzed for the TCLP parameters.

QAPP Worksheet #19
Analytical Requirements

Laboratory: West Dakota Analytics Inc., 8000 Lab Way, Shangri-La, WD

List any required accreditations/certifications: West Dakota DEQ, metals, pesticides

Back-up Laboratory: N/A

Sample Delivery Method: Courier

Analyte/ Analyte Group	Matrix	Method/SOP	Accreditation Expiration Date	Container(s) (number, size & type per sample)	Preservation	Preparation Holding Time	Analytical Holding Time	Data Package Turnaround
Metals - mercury	soil	SW-846 3050B/ 7471A SOP: WDA 003	12 Mar 2012	1 8-oz glass jar	4°C ±2°C	6 months	6 months	14 days
Metals – lead, selenium	soil	SW-8463050B/ 6010B[1] SOP: WDA 016	12 Mar 2012	1 8-oz glass jar	4°C ±2°C	6 months	6 months	14 days
Organochlorine pesticides (4,4'-DDD, 4,4'-DDE)	soil	SW-8463550B/ 8081A SOP: WDA 033	12 Mar 2012	1 8-oz amber glass jar	4°C ±2°C	14 days	40 days	14 days

Worksheet #20

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QAPP Worksheet #20
Field QC Summary Table

Matrix	Analyte/Analytical Group	Field Samples[1]	Field Duplicates	MS/MSD[1]	Field Blanks	Equipment Blanks	Trip Blanks	Other	Total Sample Count
Soil	Pesticides	24	4	4/4	4	4	0	N/A	36
Soil	Metals	24	4	4/4	4	4	0	N/A	36

Worksheets #35

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QAPP Worksheet #35
Data Validation

Summary: Stage 4 data validation will be performed by the ESC Project Chemist according to guidelines contained in the *EPA Region 11 Data Validation Guidelines for Federal Facilities.* Stage 4 laboratory deliverables will be produced, which will include both an electronic data deliverable and hard-copy printouts of raw data. Stage 4 validation includes completeness and compliance checks of 100% of both sample handling records and field and laboratory quality control results, and it involves both electronic and manual processes. All deviations will be documented. The project chemist will prepare a data validation report describing the quality of the data set as a whole and evaluating the impacts of any deviations on the project-specific quality objectives. A summary of data validation activities is presented below.

Validation Input	Process Description	Responsible Person, Organization
Data Deliverables, QAPP, SOPs, and contract.	Ensure that all required information from data verification was provided.	Heidi Warren, Project Chemist, ESC Inc.
Analytes	Ensure that required list of analytes were reported as specified in the QAPP.	" "
Chain-of-Custody	Examine the traceability of the data from sample collection to reporting against specifications in the QAPP, SOP and contract.	" "
Holding times	Confirm compliance with specified holding times. Confirm that any exceptions were documented and that necessary approvals were obtained prior to proceeding with analysis.	" "
Field logbook, COC forms, sample receipt records	Ensure that required sample handling, receipt and storage procedures were followed, and that any deviations were documented.	" "
Sampling Procedures, Field Logbook	Ensure required procedures were followed and that any deviations were documented and approved according to the QAPP.	" "
Laboratory Data Package, Analytical SOPs	Verify that all specified procedures were followed, deviations were documented, and data were flagged according to specifications contained in the QAPP.	" "
Quality Control Results	Evaluate the results for field and laboratory quality control samples against project-specific measurement performance criteria contained in WS 12 and WS 28.	" "
Project Quantitation Limits	Verify that project-specified detection and quantitation limits were achieved.	" "
Audit Reports	Review field and laboratory audit reports. Verify the status of necessary laboratory certifications/accreditations.	" "

Appendix B
Remedial Project Managers (RPMs) Roles and Responsibilities

- **Hazardous Waste Clean Up RPMs**
  - Lead Agency
    - DoD
    - DOE
    - DOI (Federal Land Management)
    - EPA
  - Regulatory
    - EPA
    - State
  - Roles and responsibilities detailed in the National Contingency Plan (NCP)
    - Title 40: Protection of Environment, Part 300, Subpart B- Responsibility and Organization for Response
    - § 300.120 On-scene coordinators and Remedial Project Managers: general responsibilities.
  - While there are commonalities between the roles and responsibilities of all RPMs, in general responsibilities will vary according to organizational affiliation.

  We'll be taking a look at similarities and functional differences of each . . .

- **But first, a word about our Contractors . . .**
  - While ultimate responsibility for a project resides with the RPM, typically project tasks are performed by contractors and subcontractors.
  - Contractor tasks may include
    - Planning and QAPP development support
    - Sampling and analytical support
    - Data review, validation, verification
    - Data analysis and reporting

- **Lead Agency RPM Responsibilities**
  - Represents Organization Responsible for Remediation
  - Accountability

        - **"**The" person accountable for planning, safety, scope, budget, quality, and project schedule
        - Accountable for establishing/meeting stakeholder expectations *while protecting financial interests of Lead Agency*
        - Responsible for compliance of site work tasks per governing state and federal regulations
        - Responsible for conformance with **UFP QAPP** requirements
    - Management
        - Manages overall project team including budgeting and planning
            - Oversees team members
            - Ensures all project objectives are met
    - Planning and Scoping meetings
    - Directs team to develop and achieve appropriate milestones for project
    - Periodically reports to Senior Management regarding individual project status and any material changes to schedule and/or budgets

- **Lead Agency RPM Responsibilities in Project Planning**
    - Assembles Project Team
        - Includes technical personnel (data generators, data users, QA personnel)
        - May include local stakeholders, police, fire, etc.
        - Size of the project team should reflect the complexity of the project
    - Convenes scoping meetings to define:
        - Project objectives/Environmental questions
        - Environmental decisions that will be made with the collected data
        - Project action limits
    - Type and quantity of data
        - How "good" data must be (data quality) to support the decisions that will be made.

          Note: project team must first define the quality of the data needed by setting data acceptance limits for the project, Only after this can the team can select sampling and

analytical methods to achieve the project data objectives.

- Boundaries of project (temporal, budgetary, geographic)
- Schedule
- Develop Organizational Plan for Project that includes:
    - Regulators
    - Technical experts
    - Data users (including risk assessors)
    - Field Contractors/Subcontractors
    - Analytical Services Contractors/Subcontractors
    - Data Reviewers
- Develop Communication Plan
    - Keeps project team advised as to changes to tasks, procedures, schedule and budget
    - Regulators
    - Project team
    - Contractors and subs
- Documents results of planning in QA Project Plan in accordance with UFP QAPP guidance
- Submits QAPP to Regulators
    - Ensures questions/comments from regulators are addressed and QAPP approved prior to start of field sampling
    - Ensures QAPP addenda, amendments, and revised SOPs are submitted for review and approval
- Distributes QAPP to project team. Ensures current version, SOPs and addenda are made available and that superseded versions are properly archived.

⦿ **Lead Agency RPM Responsibilities in Project Implementation**

- Implements QAPP
    - Directs contractor tasks
    - Resolves issues
- Oversight and Assessment
    - Ensures routine inspections and planned assessments are performed
    - Identifies the need for additional technical audits

        - Directs effective and documented corrective actions
        - Identifies and tracks work (sampling, analysis) that must be redone
    - Data Review
        - Verification and validation of field and testing data
        - Data assessment for statistical assumptions, if applicable
        - Draft report on usability assessment

- **Lead Agency RPM Responsibilities for Data Use**
    - Convenes team members to discuss issues and potential impact on data usability and achievement of project objectives
    - Evaluates team input, determines usability of project data, and issues final report

- Regulatory RPM (EPA) Responsibilities
    - Acts as Agency Representative
    - Actively participates on Project Team
    - Reviews QAPPs/provides comments/approves or concurs on acceptability of document
    - Ensures outstanding Agency issues are addressed prior to start of field activities
    - Provides Agency project oversight
    - Provides guidance and direction
    - Enforces regulations
    - Periodically reports to Senior Management regarding project status and material changes to schedule and/or budget
    - Participates in citizen-related activities, including presentations at public meetings
    - Provides technical assistance in preparing information sheets and responsiveness summaries and responds to public inquiries
    - Performs documented audits as needed
    - Participates in discussion and review of draft usability reports
    - Reviews/Accepts/Concurs on Final Project Reports

- **Regulatory RPM (State) Responsibilities**
    - Acts as State Agency Representative
    - Actively participates on Project Team

- Reviews QAPPs/provides comments/approves or concurs on acceptability of document
- Enforces state clean up requirements and regulations
- Protects interests of State and local communities
- Participates in citizen-related activities, including presentations at public meetings
- Provides technical assistance in preparing information sheets and responsiveness summaries and responds to public inquiries
- Provides guidance and direction
- Provides project oversight
- Performs documented audits as needed
- Participates in discussion and review of draft usability reports
- Reviews/Accepts/Concurs on Final Project Reports

⦿ **Advantages of the Team Approach**

- Remedial work is full of surprises!
    - Open communication helps deal with them in timely, effective manner, w/regulatory concurrence
        - Responsible Participation
            - Identifying potential issues early in process (e.g., State clean-up standards)
            - Maintaining open communication throughout a project
            - Quickly reaching consensus on issues that arise
            - Listening to others' ideas
    - Formal Partnering Approach (DoD-specific)
        - Team approach may be formalized
        - Typically, level of participation is project specific
        - In general, some level of team planning is beneficial
    - Facilitates/speeds up communication
        - Regular team meetings
        - Cooperative environment
        - Phone calls
        - Conference calls
        - E-mail
    - Technology Selection
        - Identifying and using innovative technologies

- Choosing effective technologies that eliminate future actions
- Choosing efficient technologies that reduce cleanup cost

⦿ **Contractor Project Manager Responsibilities for Scoping Meetings**

- As directed by Lead Agency RPM, prepare UFP QAPP documents (e.g., maps, worksheets, etc.) for:
  - project tasks that are agreed upon (e.g., analyte list, SOPs, validation procedures)
  - previously known project information (e.g., distribution list, project management organization)
- As directed by Lead Agency RPM, provide scoping meeting presentation of site background information and proposed "agreed upon" site activities

Note: Project activities and information that require agreement/consensus will be discussed at the Scoping Meeting. Worksheets associated with "sticky" issues will be completed after discussion and/or agreement.

Notes:

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