

**AMENDED WORK PLAN  
COSDEN CHEMICAL COATINGS SITE**

**Prepared for  
U.S. ENVIRONMENTAL PROTECTION AGENCY/  
ENVIRONMENTAL RESPONSE TEAM CENTER (ERTC)**

**Date:** January 25, 2001  
**Contract No:** 68-C99-223  
**Assignment No.:** 0-026

**Approval:**

**REAC Program Manager** \_\_\_\_\_ **Date:** \_\_\_\_\_

**REAC Group Leader** \_\_\_\_\_ **Date:** \_\_\_\_\_  
**(Cost Model Review)**

**REAC Task Lead** \_\_\_\_\_ **Date:** \_\_\_\_\_

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**Work Assignment Number:** 0-026  
**Work Assignment Title:** Cosden Chemical Coatings Site  
**Work Assignment Manager:** Harry Compton  
**Lockheed Martin REAC Task Leader:** Robert Evangelista  
**Duration:** June 01, 1999 thru May 31, 2004  
**Contract Number:** 68-C99-223  
**Site ID:** 02P8

## INTRODUCTION

**Purpose.** The purpose of this amended work assignment (AWA) is to provide post-excavation confirmation sampling at the Cosden Chemical Coatings site. Contaminants of concern include lead, hexavalent chromium (Cr VI), chromium, total petroleum hydrocarbons (TPHs), polychlorinated biphenyls (PCBs), and potentially volatile organic compounds (VOCs). The investigation will support the excavation phase of ongoing remedial activities. The Response Engineering Analytical Contract (REAC) will provide technical support to the United States Environmental Protection Agency/Environmental Response Team Center (U.S. EPA/ERTC) in carrying out this investigation. The following tasks will be performed under this AWA:

|        |   |
|--------|---|
| Task 1 | Soil Sampling   |
| Task 2 | Sample Analysis   |
| Task 3 | Data Validation and Analytical Report Preparation           |
| Task 4 | Drum Management and Drum and Soil Sampling                  |
| Task 5 | Geophysical Surveying and Reporting                         |
| Task 6 | GPS, Survey, Aerial Map Resarching, and Site Map Generation |

Tasks 4 and 5 were instituted due to the discovery of a buried 55-gallon drum that was found during a site sampling event. Task 6 was formulated when data gaps were noted in the site maps by the Task Leader and the Project Geophysicist.

**Background.** The Cosden Chemical Coatings site is located in Beverly, Burlington County, New Jersey. Available background information indicates that the facility manufactured industrial coating materials until 1985. Various volatile and non-volatile solvents, as well as pigments and PCBs were used by the facility in the coating manufacturing process. Hazardous waste storage resulted in the accumulation of over 700 drums of paint solvents and sludges. The U.S. EPA ERTC was tasked to conduct a surface and subsurface sampling event to help delineate the volume of contaminated soil for the removal effort. Based on the results of REAC's sampling efforts in 1999, a soil removal was performed. During the removal phase, Cr VI-contaminated soil was found beneath the former foundation pad. The U.S. EPA Region II On-Scene Coordinator (OSC) made the decision to re-sample the pad area grid for Cr VI. The subsequent Cr VI confirmation sampling was performed based on this decision.

**General Assumptions.** Assumptions concerning the scope of work, deliverable and task dates, and costs were made on the basis of existing knowledge of the site and similar work done at other sites. The results of the scoping meetings and site visit, new information and data, additional tasks, changes in scope, and events outside the control of REAC may result in revisions to the approach and schedule proposed in this amended work plan (AWP). Changes in project schedule, project priorities defined by the ERTC, and resource availability may also effect the specific details of this AWP. Additionally, the cost estimate to complete this project (including, but not limited to, labor, travel, materials, subcontractors, and analyses) were developed prior to knowing the future details of the scope of work and are like to change as the project evolves, and will be reflected in the future revisions of the AWA and this AWP.

It should be noted that some of the activities in the above tasks have been performed prior to receipt of the AWA on December 28, 2000. Therefore, some of the assumptions are based on future activities (after January 1, 2001).

This AWP makes the following assumptions:

- only three people will be required in the field for no more than two sampling events for a total duration not to exceed 12 man-days total after January 1, 2001;
- only PCB and VOC sampling and analyses will be performed after January 1, 2001;
- no more than one sampling event not to exceed 20 PCB soil analyses and 1 sampling event not to exceed 15 VOC soil samples will be analyzed after January 1, 2001;
- no more than 6 Cr VI samples plus quality control extras for this amendment;
- data validation and analytical report writing for the 20 PCB and 15 VOC analyses will not exceed 1.5 hours per sample and 40 hours report writing or 90 hours;
- aerial photo researching and site map modification will be limited to 30 hours; and
- no excavation of geophysical anomalies will take place after January 1, 2001.

Although not mentioned in tasks 1 to 6 above, REAC will provide continued support to ERTC and U.S.EPA Region II for any miscellaneous activities such as video documentation, photo documentation, computer graphics and support, statistics, word processing, report preparation, purchasing support, and removal/excavation of contaminated material that may be required in order to accomplish the objectives of this work assignment up to and including 15 hours.

It is anticipated that there are insufficient hours in the AWA to 1) spreadsheet and evaluate preliminary data generated after January 1, 2001; 2) provide draft reports as generated for comment every two weeks until complete; and 3) to prepare the final report. The Task Leader will request an additional AWA for resources necessary to complete these tasks when 70 percent of the budget has been expended.

## TECHNICAL APPROACH

**Scope of Work.** The amended scope of work is as follows:

- provide post-excavation confirmation sampling, analyses, and data validation at the Cosden Chemical Coatings site for:
  - PCBs at center and corner points of specific grids, and as needed;
  - Cr VI by U.S.EPA and American Society of Testing and Materials (ASTM) methods at designated locations; and
  - VOCs, as determined.
- manage the buried drum prior to removal, sample the drum and surrounding soil for VOCs, and perform analyses and data validation for VOCs;
- mobilize, remove free liquids from the drum, overpack drum, and demobilize;
- perform site preparation, geophysical survey, and write geophysical report;
- excavate geophysical anomalies, prior to January 1, 2001, and sample for VOCs, where a photoionization detector indicates "hot spots" during excavation of geophysical anomalies; and
- perform additional survey of the site and surrounding area, research and locate a historical aerial photograph, and construct a new site map using updated survey data and aerial photograph.

**Task 1. Soil Sampling.** Soil samples will be collected via Geoprobe™ and hand augers. All non-dedicated sampling apparatus will be decontaminated on site as described in REAC/ERT Standard Operation Procedure (SOP) #2006, *Sampling Equipment Decontamination*. Sample locations will be selected by the Work Assignment Manager (WAM) and the REAC Task Leader, with additional input from the U.S.EPA Region II OSC and Remedial Project Manager. Samples for PCBs and VOCs will be analyzed at the REAC Laboratory in Edison, NJ. A NJ/sub-contract lab will be used for Cr VI analyses. The attached Tables 1 and 2 summarize the anticipated total number of each type of analysis to be performed; the Quality Assurance (QA)/Quality Control (QC) objectives are also attached.

All sample locations will be marked before sampling. REAC personnel will use a Global Positioning System (GPS) to survey sampling locations. A site map will be generated showing all sample locations (Task 6).

The following REAC/ER SOP will be adhered to by REAC personnel while performing field tasks:

|      |  |
|------|--|
| 2001 | <i>General Field Sampling Guidelines</i>         |
| 2002 | <i>Sample Documentation</i>                      |
| 2003 | <i>Sample Storage, Preservation and Handling</i> |
| 2004 | <i>Sample Packaging and Shipment</i>             |
| 2005 | <i>Quality Assurance/Quality Control Samples</i> |
| 2012 | <i>Soil Sampling</i>                             |
| 2050 | <i>Model 5400 Geoprobe™ Operation</i>            |
| 4001 | <i>Logbook Documentation</i>                     |
| 4005 | <i>Chain of Custody Procedures</i>               |

**Task 2. Sample Analyses.** REAC and sub-contract laboratories will analyze soil samples using U.S.EPA-approved methods, except for the additional ASTM method for Cr VI. The following sample analyses may be performed:

1. PCBs in soil
2. VOCs in soil
3. Cr VI in soil

REAC chemists will adhere to standard U.S. EPA, REAC/ERT analysis methods, QA/QC procedures, chain of custody requirements, document control requirements, and health and safety policies and procedures when performing sample analysis. REAC chemists will use the REAC/ERT SOPs listed below for sample analysis:

|      |   |
|------|---|
| 1008 | <i>Operation of Sample Refrigeration Units and Sample Receiving, Handling and Storage</i> |
| 1012 | <i>Preparation of Analytical Standards</i>  |
| 1807 | <i>Volatile Organic Analysis in Soil/Sediment by GC/MS</i>                                |
| 1809 | <i>Routine Analysis of Pesticides/PCBs in Soil/Sediment by GC/ECD</i>                     |

**Analytical Deliverables.** As preliminary analytical results become available, the Task Leader will verbally communicate and deliver written copies of the preliminary results to the WAM within 24 hours of receipt by the Task Leader. The Task Leader will spreadsheet and evaluate preliminary data generated before January 1, 2001.

**Waste Management.** Investigation derived waste will be disposed of as directed by the WAM. All of the treated and untreated samples will be maintained for 60 days after the issuance of the Analytical Report. If no additional testing is requested at the end of the 60 days, arrangements will be made for disposal. REAC personnel will conduct waste accumulation, handling, and disposal activities in accordance with the pertinent SOPs:

|      |   |
|------|---|
| 1501 | <i>Hazardous Waste Management</i>                               |
| 3001 | <i>REAC Health and Safety Program Policy and Implementation</i> |
| 3002 | <i>REAC Health and Safety Communication Program</i>             |
| 3010 | <i>REAC Personal Safety/Protective Equipment</i>                |

**Task 3. Data Validation and Report Preparation.** All REAC and subcontractor analytical data packages will be carefully reviewed and validated using detailed REAC data validation procedures and analyte group checklists. The final analytical report will include a compilation of the data validation findings and comments for each parameter. The following REAC SOPs are used for data validation and report preparation:

|      |  |
|------|--|
| 1016 | <i>Data Validation Procedures for Routine Organic Analysis</i> |
| AP22 | <i>Peer Review of REAC Deliverables</i>                        |
| 4020 | <i>Analytical Report Preparation</i>                           |
| AP34 | <i>Archiving Electronic Files</i>                              |

Preliminary data received before January 1, 2001 will be arranged in spreadsheets and evaluated as needed for a scoping meeting. Final analytical reports will be submitted to the WAM by the required due date. The required documentation in the analytical data package is dependent upon the analysis performed. Prior to the submission of an analytical data package, the data package will undergo peer review by the Data Validation and Report Writing Group Leader, the Task Leader, and the Analytical Section Leader.

**Task 4. Drum Management and Drum and Surrounding Soil Sampling.** A buried drum was discovered during a PCB sampling event at the site. Drum management and drum and soil sampling was carried out in accordance with a newly approved Health and Safety Plan after consultation with the REAC Health and Safety Officer.

**Task 5. Geophysical Survey and Reporting.** Because an unexpected buried drum was found during a sampling event, REAC geophysicists were asked to assist in finding additional subsurface abnormalities. REAC geophysicists will support the task and carry out the geophysical survey and reporting.

**Task 6. GPS Survey, Aerial Map Researching, and Site Map Generation.** A REAC Geologist and Computer Aided Design (CAD) and Graphical Information System (GIS) Specialists will support the Task Leader with GPS survey, aerial map researching, and site map generation.

#### **STAFFING PLAN AND SCHEDULE**

**Staffing Plan.** The REAC Task Leader will maintain contact with the U.S.EPA/ERTC WAM to provide information on the technical and financial progress of this project. This communication will commence with the issuance of the work assignment. Activities in this project will be reported in deliverables identified in the Technical Approach section. Activities will also be summarized in the appropriate format for inclusion in the REAC Monthly and Annual Reports.

The REAC Task Leader/QC Coordinator is the primary REAC point of contact with the U.S. EPA/ERTC WAM. The Task Leader is responsible for the development and completion of the AWP, project team organization, and supervision of all project tasks, including reporting and deliverables. In addition, the QC Coordinator is responsible for ensuring field adherence to the AWP and recording any deviations from the AWP.

The following REAC personnel will work on this project:

| <u>Personnel</u>                                | <u>Responsibility</u>                       | <u>Level of Responsibility</u> |
|---|---|--------------------------------|
| Senior Chemical Engineer                        | Task Leader/QC Coordinator                  | P3                             |
| Geologist                                       | GPS/field support                           | P3                             |
| Technician                                      | Field support                               | T3                             |
| GIS and CAD Specialists                         | Aerial photographs, site map                | P3/P2                          |
| Engineering Group Leader                        | Management and review                       | P3                             |
| Operations Section Leader                       | Review                                      | P4                             |
| Analytical Chemists                             | Analyses, data validation, lab subcontract. | P3                             |
| Chemistry Group Leaders                         | Management and review                       | P4                             |
| Health and Safety Officer                       | Health and safety                           | P4                             |
| Data Validation and Report Writing Group Leader | Management and review                       | P4                             |

The REAC QA Officer, the Health and Safety Officer, the Operations Section Leader, and the Analytical Section Leader are responsible for auditing and guiding the project team, reviewing/auditing the deliverables and proposing corrective action, if necessary, for nonconformity to the AWP or Health and Safety Plan (HASP).

**Cost Estimate.** The estimated costs, including labor, travel, materials, and equipment, to complete the scope of work in this AWP are depicted in the attached cost summary sheet.

**Schedule.** This second Work Assignment Amendment was received on December 28, 2000. The AWP was subsequently initiated. A sampling event for VOC soil samples in the drum area and a PCB-contaminated area delineation is requested by the WAM. The overall project is expected to close out with the issuance of a final report four weeks after the receipt of all validated data packages, but no later than May 31, 2004.

Based on the previous field effort, the travel assumptions are as follows:

- Number of trips from Edison, NJ to Beverly, NJ      2 trips
- Number of days per trip      maximum 2 days per sampling event;  
not to exceed 4 days total for this amendment
- Number of personnel      3 people

The following deliverables will be provided under this project:

| <u>ITEM</u>                   | <u>DATE</u>                          |
|-------------------------------|--------------------------------------|
| AWP                           | 01/15/01                             |
| Preliminary Analytical Result | 2 weeks after lab receipt of samples |
| Final Analytical Results      | 6 weeks after lab receipt of samples |

Final Report

4 weeks after receipt of Final Analytical Report

At this time, no actual dates are scheduled for the site sampling events and the receipt of samples by the REAC laboratory. The project schedule will be communicated with the WAM following completion of field activities.

All project deliverable and task dates are estimates based on the information available at the time of this AWP completion. New information, additional tasks, changes in scope, and events outside the control of REAC may result in revisions to these dates.

#### **VENDOR SERVICES**

The estimate of the total vendor services is \$10,000.00. The vendor services comprises the following estimates: equipment rental, \$3,500.00; subcontract laboratories, \$5,000.00; color photocopying and printing, duplication, and binding, \$750.00; and contingency, \$750.00.

#### **QUALITY ASSURANCE ATTACHMENT**

The QA/QC objectives are presented in the QUALITY ASSURANCE ATTACHMENT section.

## QUALITY ASSURANCE ATTACHMENT

The following QA objectives and protocols apply, as per Tables 1 and 2:

**The following QA Protocols for QA1 data are applicable to all sample matrices analyzed in the field and include:**

1. Provide sample documentation in the form of field logbooks, the appropriate field data sheets and chain of custody forms.
2. All instrument calibration and/or performance check of the procedures or methods will be summarized and documented in the field/personal or instrument log notebook.
3. The detection limit will be determined and recorded, along with the data, where appropriate.

**The following QA Protocols for QA2 data are applicable to all sample matrices:**

1. Provide sample documentation in the form of field logbooks, the appropriate field data sheets and chain of custody forms. Chain of custody sheets are optional for field screening locations.
2. All instrument calibration and/or performance check of the procedures or methods will be summarized and documented in the field/personal or instrument log notebook.
3. The detection limit will be determined and recorded, along with the data, where appropriate.
4. Document sample holding times; this includes documentation of sample collection and analysis dates.
5. Provide initial and continuing instrument calibration data.
6. For soil, sediment, and water samples, include rinsate blanks, field blanks and trip blanks at the rate specified in Table 1, footnotes 2 and 3, respectively.
7. Definitive Identification - confirm the identification on 10% of the screened (field or lab) or 100% of the unscreened samples via an EPA-approved method; provide documentation such as chromatogram, mass spectra, etc.
8. Quantitation - provide documentation for quantitative results from screening and EPA-approved verification methods (for screened samples) or just quantitative results (in the case of unscreened samples).

Numbers of samples to be collected for this project/event are presented on Table 1, Field Sampling Summary, and Table 2, QA/QC Analysis and Objectives Summary, these tables facilitate ready identification of analytical parameters desired; type, volume and number of containers needed, preservation requirements, number of samples to be collected and associated number and type of QA/QC samples required based on the QA level.

All project deliverables will receive an internal peer review prior to release, as per guidelines established in the REAC Administrative Procedures.