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CLOSURE PLAN INFORMATION AND DATA FOR THE DRUM STORAGE AREA NEAR LEADING DOCK (LAB) REVISION 0 APRIL 1993

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REPORT

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CLOSURE PLAN INFORMATION AND DATA FOR THE DRUM STORAGE AREA NEAR LOADING DOCK (LAB)

Revision 0
April 1993

Fernald Office
U. S. Department of Energy
Fernald Environmental Management Project
7400 Willey Road
Fernald, Ohio 45030

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CLOSURE PLAN INFORMATION AND DATA FOR THE DRUM STORAGE AREA NEAR LOADING DOCK (LAB)

U. S. Department of Energy
Fernald Environmental Management Project
Cincinnati, Ohio

1.0 INTRODUCTION

1.1 Purpose

This document is submitted to fulfill the requirement for closure plan information and data (CPID) for the Drum Storage Area Near Loading Dock (Lab). Hereafter, this area is referred to as **hazardous waste management unit No. 4 or HWMU No. 4**, as it was identified in the Resource Conservation and Recovery Act (RCRA) Part A Permit Application, Revision 11, in June 1991. HWMU No. 4 was included in the RCRA compliance schedule provided to the Ohio Environmental Protection Agency (OEPA) in October 1992. The compliance schedule was prepared pursuant to Section 3.12 of the Stipulated Amendment to Consent Decree Civil No. C-1-86-0217 between the State of Ohio and the U. S. Department of Energy (DOE) et. al.

The purpose of this document is to summarize the background and history of HWMU No. 4 and describe closure activities. This CPID also reflects previous discussions with OEPA concerning several HWMUs including HWMU No. 4. Copies of recent correspondence between OEPA and Fernald Environmental Management Project (FEMP) regarding HWMU No. 4 are included for reference in Attachment A.

The area in which HWMU No. 4 is located will be subject to final remediation pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) record of decision (ROD) for Operable Unit No. 3 (OU3), which addresses the FEMP production area and associated facilities and equipment, and

consistent with the ROD for Operable Unit No. 5 (OU5), which addresses contaminated environmental media. In addition, previous CERCLA removal actions have been taken which impact the closure of this HWMU. As a result, this CPID includes discussions concerning the integration of RCRA closures with CERCLA response activities. The CERCLA activities discussed are in accordance with the September 20, 1991 Consent Agreement (Administrative Docket Number: V-W-90-C-057) between the U. S. Environmental Protection Agency (USEPA) and the DOE.

Sample and analyses of the concrete surface rinse water and soil samples will be used to determine if HWMU No. 4 can be clean closed or to characterize the extent of contamination and determine if additional actions will be required. If no contamination is indicated by sample analyses, a RCRA Closure Certification statement will be submitted for clean closure of HWMU No. 4 (See Section 4). However, if contamination is indicated, the need for remediation necessary to protect human health and the environment will be evaluated. If needed, up to three attempts will be made to decontaminate the original loading dock.

In the event clean closure is not completed through implementation of the activities detailed in this document (as approved), a revised CPID will be prepared. The revised CPID will provide supporting information and data and state determinations concerning the need for and timing of additional actions to achieve HWMU closure. Additional actions may include clean up or removal activities before the ROD and/or completion of HWMU closure during final remedial actions after the ROD for OU3, consistent with the ROD for OU5. In addition, the revised CPID will identify any maintenance and surveillance activities necessary to protect human health and the environment until HWMU closure is achieved.

A brief summary of each section in this document is described below:

- Section 2 of this document provides a unit description, current use and the history of HWMU No. 4.

- Section 3 reviews the nature and extent of previous CERCLA removal action and area renovations, discusses cleaning of the original loading dock, and soil and rinse sampling to determine clean or interim closure status.

- Section 4 presents closure certification to be submitted in the event sampling and analyses demonstrates clean closure has been achieved.

- Section 5 discusses the schedule for the proposed sampling and analyses and review of analytical data.

1.2 Facility Background Information

The FEMP is a DOE-owned facility which was formerly operated as the Feed Materials Production Center (FMPC). Facility construction and start up occurred in 1951/1952. The FEMP site is located on 1,050 acres in a rural area of Hamilton and Butler Counties, Ohio. This site is approximately 18 miles northwest of Cincinnati, Ohio. The FMPC production facilities were limited to an approximate 136 acre tract near the center of the site. The villages of Fernald, New Baltimore, Ross, New Haven and Shandon are all located within a 5 mile radius of the plant (Figure 1).

The former FMPC facility was established to produce high-purity uranium metals and intermediate compounds from uranium ore concentrates or recycled uranium materials for use in government defense programs. A wide variety of chemical and metallurgical processes were used to support the production of uranium metal products. Production operations began in the early 1950's and continued until July 1989 when production ceased.

1.3 Regulatory Integration

Pursuant to the 1986 Federal Facilities Compliance Agreement (FFCA), the FEMP is conducting a CERCLA Remedial Investigation and Feasibility Study (RI/FS). In 1989, the FEMP was added to the National Priority List (NPL) of CERCLA sites.

The FFCA for the FEMP was amended in June 1990 and September 1991 to reflect additional CERCLA requirements for NPL sites. CERCLA and the Consent Agreements require that all response actions be consistent with the rules and regulations established to protect human health and the environment. These rules and regulations are referred to as Applicable or Relevant and Appropriate Requirements (ARARs). The FEMP is compiling a comprehensive list of ARARs for the site to be evaluated and addressed during the development of CERCLA removal action Work Plans and in the RODs for each of the five CERCLA OUs identified in the Compliance Agreements. CERCLA actions involving a RCRA HWMU will address ARARs related to RCRA closure requirements. Any RCRA closure actions that are not conducted under the CERCLA process will be conducted in a manner consistent with the CERCLA removal and remediation requirements.

1.3.1 Mixed Radioactive and RCRA Hazardous Wastes

Mixed waste is a combination of both radioactive and RCRA hazardous wastes. Waste management activities must comply with all applicable federal and state solid and hazardous waste regulations, including those of the USEPA, OEPA and applicable DOE orders and regulations. DOE orders are administrative orders that govern the conduct of operations at DOE sites. DOE orders apply both to DOE personnel and contractors employed at DOE sites.

Additional restrictions were imposed by the expiration of the RCRA National Capacity Land Disposal Variance for mixed radioactive and hazardous wastes on May 8, 1992. On October 6, 1992, provisions of the Federal Facilities Compliance Act provided a mechanism to extend storage of mixed wastes until October 1995. Regardless of the resolution of the issues for variances to storage limitations, the FEMP will continue to restrict the generation of mixed hazardous wastes in accordance with the FEMP Waste Minimization Plan.

1.3.2 Financial and Liability Exemptions

The FEMP is a federally owned facility. According to OAC 3745-66-40 C, the Federal Government is exempt from financial requirements of OAC 3745-66-40 through OAC 3745-66-48. A similar exclusion from 40 CFR 265 Subpart H Financial Requirements is provided in 40 CFR 265.140(c).

2.0 HWMU DESCRIPTION AND HISTORY

2.1 Waste Management Unit Description

The subject of this CPID, HWMU No. 4, is an area located on the west side of Laboratory Building (Building No. 15) that was previously used for temporary storage of drummed wastes (see Figure 2). Historical information from personnel interviews indicates that storage of suspect RCRA hazardous wastes in HWMU No. 4 began in 1953 and continued until 1989 with the addition of the "Drum Storage Area South of W-26 (Lab) - HWMU No. 5" in 1983. Prior to the U. S. Environmental Protection Agency (USEPA) state authorization notification in 1986 and regulatory clarification in 1989 concerning the applicability of RCRA regulations for mixed radioactive and hazardous wastes, the FEMP did not maintain inventory records on the waste generated and stored in HWMU No. 4. As a result, complete and verifiable documentation of the type of wastes, length of storage and disposition of waste materials is not available.

The HWMU determination for HWMU No. 4, based predominantly upon discussions with Laboratory personnel, was conducted in 1991 and HWMU No. 4 was declared a unit in June 1991, several years after the suspected waste drum storage ceased and after a major renovation of the area in and around HWMU No. 4. Since no specific records were maintained during operation of HWMU No. 4, the HWMU determination reflects assumptions concerning the length of storage and a review of records of wastes managed in laboratory satellite accumulation areas from 1988 through 1991.

With the exception of the original elevated loading dock, the area containing HWMU No. 4 was extensively renovated in 1990. A building addition and loading dock extension were added on the north end, a new ramp was added on the south end, and the ground level areas near the loading dock were backfilled, regraded and paved. Previously, only the driveway and parking area directly west of the original loading dock were paved. A catch basin (No. 24) was removed as part of the CERCLA removal action and a building addition was constructed over that area of HWMU No. 4. A new catch basin (No. 55) was constructed in the approximate center of the newly paved area directly west of the original elevated loading

dock. The current area layout with the revised HWMU boundaries are shown in Figure 3.

The catch basin is connected to the storm water drainage system which flows to the FEMP storm water retention basin. Discharges from the storm water retention basin are regulated under the FEMP National Pollution Discharge Elimination System (NPDES), permit number: OEPA 1I000004*BD.

In June 1991, a 6.5 feet by 22 feet area on the northwest edge of the original loading dock was declared to be a HWMU. In the October 1991 Part A Permit Application (Revision 12), the boundaries were expanded to an irregular shaped area approximately 76 by 40 feet (see Figure 3). The HWMU boundaries were expanded to encompass suspected waste drum storage areas identified during follow up discussions with Laboratory personnel.

2.2 Waste Inventory

From interviews with Laboratory personnel and some limited records of material movements, it was determined that drums of waste had been intermittently stored in the two areas west of the Laboratory from 1953 through 1989. The loading dock and surrounding area included in HWMU No. 4 were neither designed nor intentionally operated for prolonged storage of drummed wastes. Due to the irregular waste storage activities in HWMU No. 4, the wastes were not considered to be subject to RCRA HWMU regulations. As a result, accurate documentation of the types of wastes and length of storage were not maintained.

Although the types of wastes stored in HWMU No. 4 were not fully documented, some suspect RCRA hazardous waste streams were inferred based on a review of wastes generation records from 1988-1991 for satellite accumulation areas within the Laboratory building. The following suspect waste streams have been identified:

- A variety of waste acids (i.e., hydrochloric, sulfuric, perchloric, nitric and phosphoric acids) and bases (i.e., ammonium, potassium, and sodium hydroxides).

- Spent solvents generated in the labs. It has been reported that most if not all of the spent solvents used in the laboratories were disposed of through the FEMP waste water treatment system up to 1989. However, it has also been suggested that some of these solvents may have been transferred to the maintenance area in the basement and mixed with the waste oils.

- Waste oils generated from equipment and maintenance activities in the Laboratory Building. On occasion, the waste oils were suspected to have been mixed with spent solvents subject to RCRA listing criteria.

- Mercury wastes from lab recycling units.

Table 1 provides a target list of waste constituents and waste characteristics compiled from a review of the available information concerning solvents and compounds used in the Laboratory building.

2.3 Past and Current Use

HWMU No. 4 was used for temporary storage of liquid wastes from various areas and labs within the Lab Building (including waste oils, spent acids, and solvents). Information from interviews indicates that plastic carboys of waste materials collected in various laboratory rooms were brought to the area and transferred into 55-gallon drums for temporary storage. The Laboratory personnel interviewed also indicated that the normal practices included removal of waste containers (either monthly or quarterly). Wastes removed were evaluated to determine if they contained recoverable uranium. Wastes containing recoverable uranium were reintroduced into the uranium production process. Waste oils not containing recoverable uranium were either burned in the Trane Incinerator or used for training fire fighters at the fire training area (both have since been identified as HWMUs). The remaining wastes were placed into storage as low-level radioactive wastes.

Due to the ongoing renovation of the Lab, HWMU No. 4 is in the path of construction traffic. In June 1992, following contacts with Phil Harris and Paul Pardi of the Division of Hazardous and Solid Wastes in the OEPA Southwest District Office (see Attachment A), the FEMP covered the exposed concrete inside the boundary of the HWMU with plastic and placed precast concrete squares on the plastic. This was done to prevent contamination of the new concrete that could result from use of the area for building access during the continuing Laboratory Upgrade project. The covered HWMU No. 4 is being used for entry and exit from the building by site and construction personnel. In addition, the area will be used for movement of construction materials and supplies in and out of the Laboratory building. The plastic sheeting and concrete squares will be maintained until the laboratory renovations are completed.

3.0 RCRA CLOSURE INFORMATION

This section discusses the previous actions taken in 1988-1990 under the CERCLA removal action and area renovation, proposed cleaning of the original laboratory dock, and the sampling and analyses necessary to determine if these activities have achieved clean closure. Sampling and analyses will include rinsing and sampling the concrete surface of the original loading dock and sampling of soil under and adjacent to HWMU No. 4.

Discussions are included concerning RCRA requirements to be addressed in the event that closure cannot be achieved prior to the ROD for the applicable OUs. Until closure is achieved through the final remedial actions in accordance with the ROD for OU3, consistent with the ROD for OU5, activities to address the following requirements will be conducted to ensure the current status of HWMU No. 4 is maintained:

- performance standards
- area surveillance and monitoring
- HWMU posting and access/use controls
- clean up criteria
- sampling and analyses
- security

As previously mentioned in Section 1.3, FEMP management is compiling a comprehensive list of RCRA and other ARARs to be addressed and procedures for incorporating them, as required, into CERCLA response and remedial action work plans. CERCLA actions involving a RCRA HWMU will address ARARs related to RCRA closure requirements. Any RCRA closure actions that are not conducted under the

CERCLA process will be conducted in a manner consistent with the CERCLA removal and remediation requirements.

3.1 Nature and Extent of Removal Action and Area Renovations

In 1988-1989, surface radiological surveys and soil sampling were performed in the vicinity of the Laboratory building under the Site Investigation phase of the site Remedial Investigation/Feasibility Study (RI/FS). Two localized radiologically (rad) contaminated areas were identified and determined to be above acceptable levels established by FEMP Radiological Safety. These rad contaminated areas were along the southwest corner of the Laboratory building and an area northwest of the loading dock. To reduce the potential exposures to site workers and to minimize the potential migration to unaffected areas, a removal action was initiated in the Fall of 1988 and completed in 1990.

The rad contaminated area within the HWMU boundaries was located northwest of the loading dock in the vicinity of the previous catch basin No. 24. Catch basin No. 24 was located in the northwest quadrant of the HWMU as defined in October 1991 (see Figure 3). In the Fall of 1989 approximately 16 drums of soil were removed from the contaminated area around the catch basin. In 1990, the remainder of the contaminated soil and the catch basin were excavated and placed in white metal boxes as part of a removal action conducted concurrently with the excavations for building and area upgrades as part of the ongoing Laboratory upgrade project. The area affected by the CERCLA removal action is now under the new building addition. The drums and boxes of contaminated soil and concrete are currently being stored on the Plant 1 Pad pending final waste characterization and determinations.

The total area excavated for CERCLA removal actions and construction upgrades in 1990 included the outside perimeter of the laboratory building on the north side, west side, and southwest corner. The only area within the current HWMU boundaries (as defined in October 1991) that was not excavated was the original elevated concrete loading dock. The removal and construction activities were

completed prior to the final HWMU determination and identification which expanded the HWMU boundaries beyond the original loading dock. Figure 3 identifies the areas and relative depth of excavation of surface soil.

According to the personnel interviewed, the dock area containing HWMU No. 4 has not been used to store hazardous wastes since 1989. The surface areas upgraded in 1990 have not been used for storage of hazardous waste and are considered to be clean.

Prior to excavation in 1988 and 1990, the concrete and soil were characterized for radiological contamination. Field screening of radiation levels was conducted to identify radiologically contaminated soil to be placed into white metal boxes for storage as low level radioactive wastes. Soil that was not boxed, based on field radiation screening, was used as backfill for regrading the area, transferred to dirt stock piles on 1st Street or by K-65, or used for backfill around the Pilot Plant Warehouse (Building 68).

Samples of boxed materials were collected in 1991 for waste characterizations of radioactive and RCRA toxicity characteristic (TC) metals. Although the analytical results indicated metals were below the Toxicity Characteristic Leaching Procedure (TCLP) levels, actual concentrations were not reported. In addition, the available documentation does not identify which of the 37 boxes contains soil and concrete removed from within the boundaries of the HWMU. Since we cannot be sure that the analytical data for boxed soil is representative of the soil from HWMU No. 4, the analyses cannot be used to characterize the HWMU. Characterization of potential contamination in and adjacent to HWMU No. 4 will be a function of the Sampling and Analysis Plan (SAP), Attachment B of this plan. The boxed soil is currently being stored on the Plant 1 Storage Pad pending final waste characterization and determination in accordance with the approved FEMP RCRA Waste Determination and Waste Analysis Plans. The analytical results obtained from the sampling of the boxed soil will be evaluated against the target waste constituents (Table 1). Waste constituents that are not listed in Table

1 but are indicated in the sample analyses will be added to the list for samples taken as illustrated in the SAP, Attachment B.

3.2 Closure Objectives and Performance Standards

Closure performance standards generally applicable to HWMU closures are presented in OAC 3745-66-11 (40 CFR 265.111). The closure process initiated by this CPID is designed to minimize the need for further maintenance by cleaning the concrete surface of the original loading dock area and collecting final rinse samples and soil samples for laboratory analyses to confirm clean closure has been achieved.

If residual contamination is identified, the FEMP will assess the need for removal or remedial actions necessary to control, minimize or eliminate, to the extent necessary to protect human health and the environment, the escape of hazardous waste constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the groundwater, surface waters, or to the atmosphere. Any additional closure-related clean up will be identified in a revised CPID. Unless additional actions are required to protect human health and the environment, the final remediation necessary to meet the intent of Closure Performance Standards in OAC 3745-55-11 will be incorporated into the final remediation under the ROD for OU3, consistent with the ROD for OU5. If actions are deferred to the OU3 ROD, the revised CPID will identify any interim maintenance and control activities that may be necessary to ensure protection of human health and the environment.

Wastes generated by sampling and analyses will be characterized following the facility Waste Analysis and Waste Determination Plans as approved by the OEPA. These wastes will be managed as mixed hazardous waste pending final waste determinations. All wastes will be managed, stored, treated or disposed in accordance with applicable OEPA and USEPA solid and hazardous waste requirements and DOE Orders for low-level radioactive wastes.

3.3 Sampling and Analyses

The available data from previous sampling and analyses from 1988-1990 does not include analyses for all the chemical constituents and characteristics associated with hazardous wastes that may have been managed in the unit. To evaluate the potential for residual contamination from previous waste storage activities, additional area sampling and analyses will be conducted in accordance with the attached SAP and the schedule discussed in Section 5 of this CPID. The samples collected will be analyzed for waste constituents and characteristics listed in Table 1. The analytical results will be used to determine if there is residual contamination from previous waste storage activities. The samples to be collected include:

1) Two (2) samples from the combined surface rinse of the concrete on the top and exposed side of the original loading dock.

2) Five (5) soil samples from 5 separate locations in and adjacent to HWMU No. 4 (see Figure 3) from a depth of 36 to 42 inches below grade (i.e, below concrete and backfill installed for the laboratory upgrade in the lab loading dock area).

3) Quality Assurance and Quality Control Samples consistent with Attachment B, the Lab Loading Dock SAP.

4) All sampling and analyses will be conducted in accordance with the FEMP Site-Wide CERCLA Quality Assurance Project Plan (SCQ).

3.3.1 Soil Sampling

Five (5) soil samples will be collected from the sample locations shown in Figure 3 and will be analyzed for the targeted waste compounds and characteristics listed in Table 1. All sampling will be conducted following SCQ guidance, as referenced in the SAP in Attachment B.

3.3.2 Cleaning and Sampling the Loading Dock Surface

Prior to conducting cleaning and the final surface rinse of the original loading dock, area preparation will be required to remove the plastic and concrete squares, vacuum up any loose dirt or debris and construct temporary rinseate containment berms to protect the monitor wells and catch basins inside HWMU No. 4 (see Figure 3). To facilitate collection of wash and rinse waters, the adjacent ramp (on the south end) and the east side of the ground level driveway area at the base of the loading dock will also be washed and rinsed. Sampling and analyses will follow the procedures discussed in Section 2.3.1 of the SAP (Attachment B). The following procedure will be used to conduct cleaning and a final surface rinse to enable sampling and analyses to determine if the surface of the original loading dock is clean:

1) Pressure wash the surface area of the loading dock, ramp and ground level paved area at the base of the loading dock with potable water increasing the pressure (up to 10,000 psi), as needed, to remove visible contamination, such as caked on dirt and debris, oily films and residues, and, as much as practical, surface stains.

2) Direct the rinse water toward the base of the loading dock. Vacuum or pump waste water into a drum for further waste characterization. Repeat the rinsing process until the rinse is visibly clean.

4) Conduct a final rinse, using deionized water, in a manner similar to step 2. Use an uncontaminated sampling pump to collect the rinse water in a designated, clean sample collection drum.

5) Collect samples of the rinse waters from the drum using a Coliwasa sampler or an appropriate sampling pump and tubing (see Section 2.3.1 of the SAP in Attachment B). Analyze sample for the presence of the waste constituents or hazardous waste characteristics listed in Table 1.

6) If sample analyses indicates contamination in excess of the clean up action levels listed in Table 2, alternate decontamination procedures will be evaluated and a revised CPID will be submitted.

3.3.3 Use of Analytical Data

If the analytical results meet the criteria, identified in Section 3.5, for clean closure, a RCRA Closure Certification statement will be submitted. A revised CPID will be submitted to discuss any additional clean up required for closure of the unit. The integration of RCRA closure activities with CERCLA removal or remedial actions will be addressed in the revised CPID. The closure actions under this CPID will be concluded when clean closure is certified or documentation is submitted to demonstrate that the clean up has achieved a condition that will be protective of human health and the environment until completion final remediation under the ROD for OU3, consistent with the ROD for OU5.

If the concrete surface rinse sample analyses demonstrates contamination is in excess of the clean up criteria discussed in Section 3.5, the need for more aggressive cleaning of the concrete will be evaluated. Based on the evaluation, another effort will be made to clean the concrete surfaces and a second set of rinse samples will be collected. The cleaning method selected will be dependant upon the type of contamination and the contaminant of concern. If a more aggressive cleaning method is proposed, reasons for selection of that method will be discussed with the OEPA representative(s) and included in the certification documentation records.

Performance of cleaning efforts will be documented in the daily field activities log. If necessary, a total of three cleaning attempts will be made. After the third attempt, the sample results will either be used to verify clean up and certify clean closure or the data will be used to evaluate the potential risk to human health and the environment. This evaluation will determine if acceptable

interim closure of HWMU No. 4 has been achieved and further clean up or remediation can be deferred to the ROD for OU3, consistent with the ROD for OU5.

If clean closure is not certified, a revised CPID will be submitted to characterize HWMU No. 4 contamination and determine the needs and timing for additional actions to complete closure. If additional actions are deferred to the ROD for OU3, the revised CPID will provide data and discussions to support the conclusion that the clean up level achieved is protective of human health and the environment, identify ongoing monitoring or surveillance necessary to identify any future threat from residual contamination, and discuss the remaining RCRA requirements to complete closure of HWMU No. 4. The ROD will define the requirements for final remediation, including how completion of HWMU No. 4 closure will be achieved. To implement and accomplish final remediation and complete closure of HWMU No. 4, the FEMP will prepare and submit to USEPA and OEPA, Remedial Design and Remedial Action (RD/RA) plans after the ROD has been issued.

3.4 Area Surveillance and Monitoring

Prior to the upgrade of the area in 1989/1990, all hazardous wastes were removed from HWMU No. 4. No future hazardous waste management in the unit is planned. Since the waste has been removed, the potential for any future hazardous waste spills causing releases from the HWMU has been eliminated. Based on the previous CERCLA removal action and extensive renovation of the area, there is no reason to suspect significant residues of hazardous waste constituents in the soils. This assumption will be confirmed or refuted by the area sampling to be conducted under this CPID.

General RCRA inspection requirements for HWMUs at the FEMP are stipulated under OAC 3745-65-15 (40 CFR 265.15) and OAC 3745-66-74 (40 CFR 265.174). Until the HWMU No. 4 is closed, or OEPA concurs that these inspections are no longer required, weekly inspections will be continued. These inspections will ensure appropriate documentation of any changes made in the area and confirm that

activities in the area do not result in releases of hazardous wastes or waste constituents that would require clean up prior to RCRA closure or completion of the final remediation under the ROD for OU3, consistent with the ROD for OU5.

3.5 Clean Up Criteria

Cleaning and decontamination of the original loading dock concrete surface will be confirmed if concentration in the concrete rinse samples are less than the clean up action levels listed in Table 2.

Soils will be declared clean if the following criteria is met:

1. An evaluation of sample results indicates the targeted organics listed in Table 1 are less than the Practical Quantitation Limits (PQL), and

2. An evaluation of sample results indicates that the targeted inorganics listed in Table 1, are below the mean of the background concentrations plus two (2) standard deviations, as determined by the approved FEMP Background Soil Study, and

3. The sample analyses confirms that soils do not exhibit RCRA hazardous waste characteristics listed in Table 1 (following the approved Waste Analysis and Waste Determination Plans).

Although the OEPA guidance recommends using MDL, the FEMP is using the PQL because it is by definition (in SW-846):

> "The practical quantitation limit (PQL) is the *lowest level that can be reliably achieved* within the specified limits of precision and accuracy during routine laboratory operating conditions" (emphasis added).

The OEPA levels for clean (as referenced above) will be used to determine if RCRA closure can be certified without additional actions (see discussions in Section 4.0). The CERCLA RODs will define the final clean up standards for OU3 and OU5, including any residual contamination associated with HWMU No. 4. The CERCLA clean up level in the ROD will be based on site-specific risk-based levels and/or

ARARs established by an assessment of the risks to human health and the environment. The CERCLA risk assessment will consider the types and concentrations of contamination sources and the potential for releases, environmental transport, and subsequent exposure of the human and environmental receptors.

3.6 Security

The boundary of HWMU No. 4 has been marked and identification signs have been posted. Because of ongoing construction needs, the area is not currently roped off to restrict access. Based on discussions with the OEPA (see Attachment A), a herculite and paver barrier was placed over the surface of HWMU No. 4 in June 1992 to prevent direct contact with the surface areas.

As with all Department of Energy (DOE) facilities, security at the FEMP is strict. The entire FEMP processing area, which includes HWMU No. 4, is surrounded by chain link fencing and monitored by on-site security personnel. All employees and visitors enter through one of several guarded entrances into the administration and processing area. Site visitors that have not received the required site-specific training are escorted to prevent unauthorized entry into controlled areas.

3.7 Health and Safety

Prior to conducting any field activities at the FEMP, a health and safety assessment must be conducted to characterize existing hazards and conditions. Based on the findings of the health and safety assessment, the Project/Task Specific Health and Safety Plan will specify required health and safety procedures, including personnel protection equipment, entry and exit requirements, and personnel/personal protective equipment decontamination procedures. Guidelines for the Preparation of FMPC Project/Task Specific Health and Safety Plan are included in Attachment C.

As part of the safety assessment, radioactivity screening will be done over the area to determine radiation protection requirements. Additional screening, including on-site laboratory analyses for radionuclides, may be required to further categorize radiation levels and hazards before the samples can be shipped to an off-site laboratory. Radiation survey procedures and requirements for shipping samples to off-site laboratories for analysis will be in accordance with approved FEMP/FMPC procedures.

4.0 RCRA CLOSURE CERTIFICATION

RCRA certification for closure of HWMU No. 4 will be made, if no contamination is indicated by sample analyses. In the event clean closure is not completed through implementation of the activities stipulated in this document (as approved), a revised CPID will be prepared. The revised CPID will provide supporting information and data and state determinations concerning the need for and timing of additional actions to achieve HWMU closure. Additional actions may include clean up/removal activities before the RODs and/or completion of HWMU closure during final remedial actions after the RODs for OU3 and OU5. In addition, the revised CPID will identify any maintenance and surveillance activities necessary to protect human health and the environment until HWMU closure is achieved.

4.1 Certification Inspections and Documentation

To support RCRA closure certification and/or provide documentation for the CERCLA Administrative Record, inspections by the owner (DOE) and an independent, qualified, registered Professional Engineer, or his/her designated representatives, will be maintained to confirm that actions conform to this document, as approved. Documentation will include:

- a daily log of activities
- field notes recorded by the owner or their representative during sampling activities
- sampling plans
- copies of the validated analyses and analytical quality assurance reports
- copies of the hazardous waste manifests (if used)
- chain of custody forms used for sample handling and tracking
- certification statements by both the owner and Professional Engineer.

If RCRA closure is certified, the certification statement, provided in Section 4.2, will be submitted and the supporting certification documentation will be

retained in the operating record at the FEMP for access and inspection by the OEPA and USEPA.

4.2 Statement of Certification

The DOE, and an independent, qualified, registered Professional Engineer will submit certification of closure within 60 days of the determination that HWMU No. 4 is clean. The certification will meet the requirements of OAC 3745-50-42(D) and OAC 3745-66-15 and 40 CFR 270.11(d) and 40 CFR 265.115. The certification statement will be worded as follows:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

_____

U. S. Department of Energy

I hereby certify that all activities in this plan for this hazardous waste management unit has been accomplished in accordance with the specifications in the approved plan.

_____

Ohio Registered Professional Engineer

5.0 SCHEDULE

Closure of HWMU No. 4 will be initiated on the date that the FEMP receives the OEPA approval of this CPID. Assuming no modifications to the plan are required or unexpected events are encountered, it is expected that closure activities can be completed within 180 days from the date FEMP receives approval of the CPID. The schedule is illustrated in Figure 4. Closure certification will be submitted within 60 days of completion. If unexpected events arise or clean closure cannot be achieved, a revised CPID will be submitted within 30 days of that determination.

The schedule does not anticipate unexpected events such as adverse weather, samples lost or damaged in shipment, or invalidated data due to the analytical laboratory exceeding sample holding times. If necessary, a request for an extension of the time required for completion of activities will be submitted to the agency according to OAC 3745-66-13(A) and OAC 3745-66-13(B) [40 CFR 265.113(a) and 40 CFR 265.113(b)]. The OEPA and an independent, qualified, registered Professional Engineer will be notified at least five (5) business days before critical activities begin (see Figure 4).

TABLE 1: TARGETED WASTE CONSTITUENTS/CHARACTERISTICS

WASTE CONSTITUENT/CHARACTERISTIC	CHEMICAL ABSTRACT SYSTEM (CAS) NO.
Acetone	67-64-1
Acetonitrile	75-05-8
Benzene	71-43-2
Butanol	71-36-3
Carbon Tetrachloride	56-23-5
Chloroform	67-66-3
Cyanide (Compounds)	57-12-5
Cyclohexane	110-82-7
1,1-Dichloroethane [1]	75-34-3
1,2-Dichloroethane [1]	107-06-2
1,1-Dichloroethylene [1]	75-35-4
1,2-Dichloroethylene [1]	540-59-0
Ethyl Acetate	141-78-6
Ethyl Ether	60-29-7
Lead	7439-92-1
Mercury	7439-97-6
Methanol	67-86-1
Methylene Chloride	75-09-2
Methyl Isobutyl Ketone	108-10-1
Phenol	108-95-2
Tetrachloroethylene	127-18-4
Tributyl Phosphate	126-73-8
Trichloroethylene	127-18-4
1,1,1-Trichloroethane	71-55-6
1,1,2-Trichloroethane	79-01-6
Xylene	1330-20-7
Vanadium [1]	7440-62-2
Vinyl Chloride [1]	75-01-4
RCRA Waste Characteristics:	
Corrosivity [2]	Not Applicable
Ignitability	Not Applicable
Reactive Cyanide	Not Applicable
Radiological:	
Gross Alpha and Gross Beta [3]	Not Applicable
Total Uranium [3]	Not Applicable
Total Thorium [3]	Not Applicable

[1] Included on target list as possible degradation products of suspect waste constituents of wastes generated in the laboratories.

[2] Corrosivity waste characteristics and potential contamination from acids and bases will be evaluated based on pH measurements.

[3] Radiological parameters covered by CERCLA remediation that are not regulated by RCRA.

TABLE 2: CLEAN UP ACTION LEVELS FOR RINSE WATER ANALYSES

TARGETED WASTE CONSTITUENTS AND CHARACTERISTICS	CAS NO.	APPLICABLE CLEAN UP ACTION LEVEL [1] (mg/L unless otherwise stated)
Acetone	67-64-1	1.0
Acetonitrile	75-05-8	1.0
Benzene	71-43-2	0.03
Butanol	71-36-3	1.0
Carbon Tetrachloride	56-23-5	0.075
Chloroform	67-66-3	1.0
Cyanide (Compounds)	57-12-5	1.0
Cyclohexane	110-82-7	1.0
1,1-Dichloroethane	75-34-3	1.0
1,2-Dichloroethane	107-06-2	0.075
1,1-Dichloroethylene	75-35-4	0.105
1,2-Dichloroethylene	540-59-0	1.0
Ethyl Acetate	141-78-6	1.0
Ethyl Ether	60-29-7	1.0
Lead	7439-92-1	0.75
Mercury	7439-97-6	0.03
Methanol	67-86-1	1.0
Methylene Chloride	75-09-2	1.0
Methyl Isobutyl Ketone	108-10-1	1.0
Phenol	108-95-2	1.0
Tetrachloroethylene	127-18-4	1.0
Tributyl Phosphate	126-73-8	1.0
1,1,2-Trichloroethylene	79-01-6	0.075
1,1,1-Trichloroethane	71-55-6	1.0
Xylene	1330-20-7	1.0
Vanadium	7440-62-2	1.0
Vinyl Chloride	75-01-4	0.03
RCRA Waste Characteristics:		
Corrosivity	NA	pH $\geq$ 2 and $\leq$ 12.5
Ignitability	NA	Flash Point > 140 °F
Reactive Cyanide	NA	Total Releasable CN < 250 mg/kg

[1] Values listed are 15 times the Maximum Contaminant Levels or Maximum Contaminant Level Goals as listed in 40 CFR 141.11 and OAC 3745-81-11, 40 CFR 141.12 and OAC 3745-81-12, and 40 CFR 141.50. Where no MCL or MCLG has been established for the constituent or 15 times the MCL or MCLG exceed 1 mg/l, 1 mg/l is used as the decontamination action level.

FEMP Management reserves the right to establish and substitute risk-based cleanup levels if the listed Cleanup Action Levels cannot be met following the procedures set forth in this Closure Plan Information and Data.

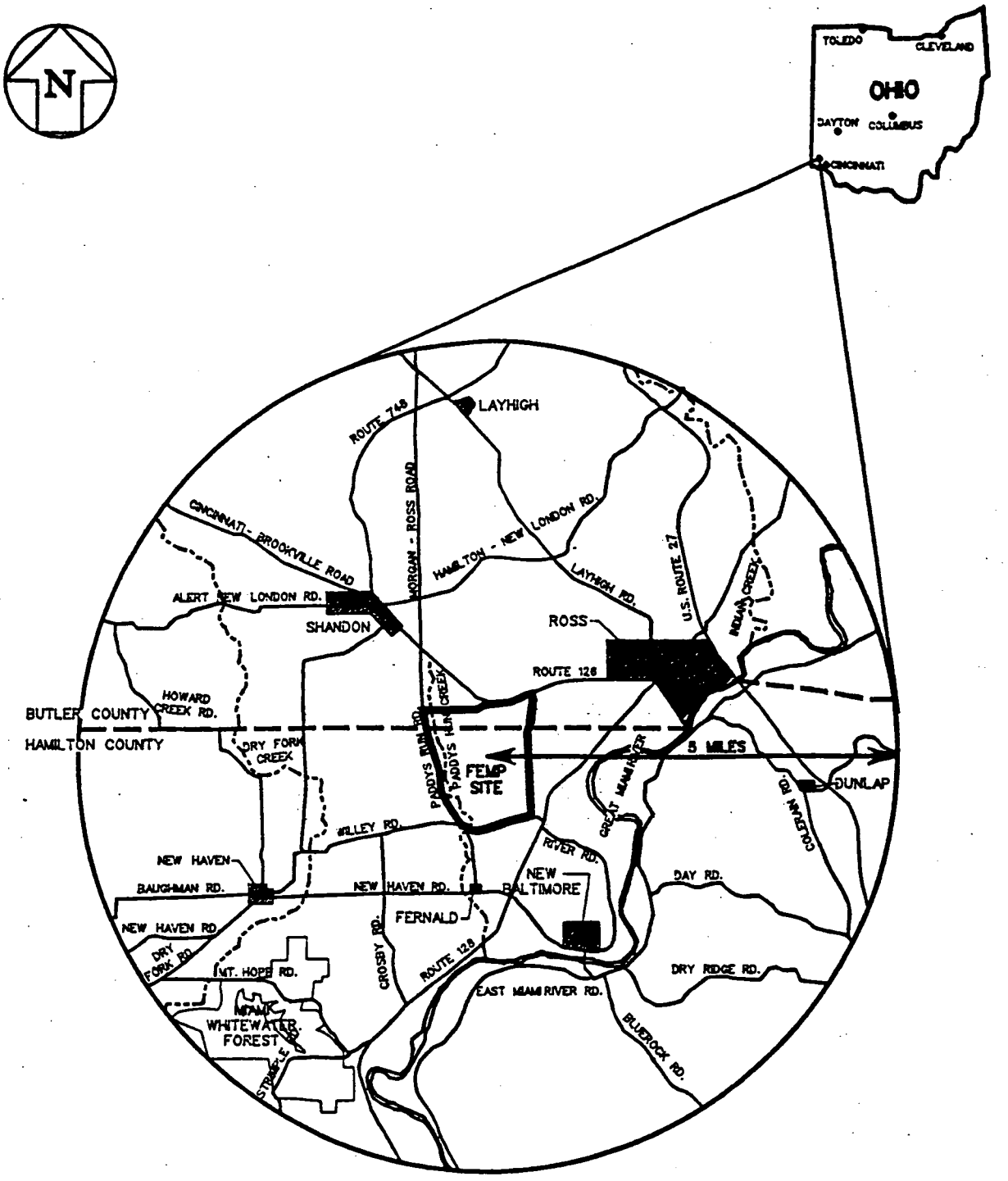


FIGURE 1

FEMP AND VICINITY MAP

DATE: 10-20-92 DRAWN: M.CORNELL	U.S. DEPARTMENT OF ENERGY FERNALD, OHIO	DWG. NO.: 089-1-0022

N

NORTH ACCESS ROAD

E 55+00

E STREET E 55+45

D STREET E 48+50

C STREET E 45+50

B STREET E 42+00

A STREET E 35+00

S 5+00

S 15+45

S 25+25

S 32+00

S 35+00

SOUTH ACCESS ROAD

DRUM STORAGE AREA
NEAR LOADING DOCK
(LAB)

WESTINGHOUSE ENVIRONMENTAL MANAGEMENT CO. OF OHIO
FERNALD, OHIO
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
U.S. DEPARTMENT OF ENERGY

AREA LOCATION MAP
FIGURE 2
DRUM STORAGE AREA
NEAR LOADING DOCK (LAB)

DATE 7/27/92
DRAWN S.J.SMOCK

31

FILE NAME: /USR/STEVE/MAPS/1954FIG2.DGN

N

MATCH LINE. SEE DWG. NO. 75H-5500-G-00025, GRID 14

MATCH LINE. SEE DWG. NO. 75O-5500-G-00009, GRID 20

MATCH LINE. SEE DWG. NO. 75A-5500-G-00005, GRID 29

MATCH LINE. SEE DWG. NO. 75G-5500-G-00023, GRID 26

S 26+75

S 32+00

1ST STREET

BLDG. 15 ADDITION

BLDG. 15 LABORATORY

E 39+71.4 MH 96
S 28+35.5

E 39+59.2 CB 187
S 28+48.3

E 38+65.24 CB 190
S 28+49.27

E 38+12 MH 107
S 28+35.5

E 38+60.2 FH 25
S 26+90.8

E 38+27.00 SMH 80
S 27+02.50

E 38+14.0 MH 76
S 26+97.0

E 37+04.8 MH 83
S 26+97

E 37+01.4 HFH 138
S 26+90.17

CB 188 E 39+67.33 S 29+42.00

MH 97 E 39+67.33 S 29+50.52

CB 191 E 38+67.33 S 29+42.00

CB 55 E 37+30.5 S 28+51.9

E 37+56.36 S 30+27.94

CB 24 E 37+30.0 S 28+06.9 (ABANDONED)

FH 26 E 36+85.0 S 28+16.5

MH 84 E 37+04.8 S 28+22

T-62
T-61
T-22
T-21
T-20
T-523
T-536
T-520
T-511
T-510
T-620
T-619
T-601
T-602
T-603
T-631

1270
1269
1266
1271
1262
1263
1255
1053
2053

16'-0" 60'-0" 10'-0"
16'-0"
24'-0"

ORIGINAL DOCK
NEW RAMP
NEW DOCK
NEW RAMP

S1 S2 S3 S4 S5

SUMP
N2 TANK
ARGON TANK

PROPOSED SAMPLE LOCATIONS

LEGEND
- POST INDICATOR VALVE (PIV)
- FIRE HYDRANT (FH)
- MANHOLE (MH)
- CATCH BASIN (CB)
- LIGHT POLE
- PIPE SUPPORT
- ELECTRICAL MANHOLE
- TELEPHONE MANHOLE
- STREET WASHERS
- 0000 MONITORING WELL

EXCAVATED 40'-48'

EXCAVATED 12'-16'

HWMU BOUNDARY

S4 SAMPLE LOCATION

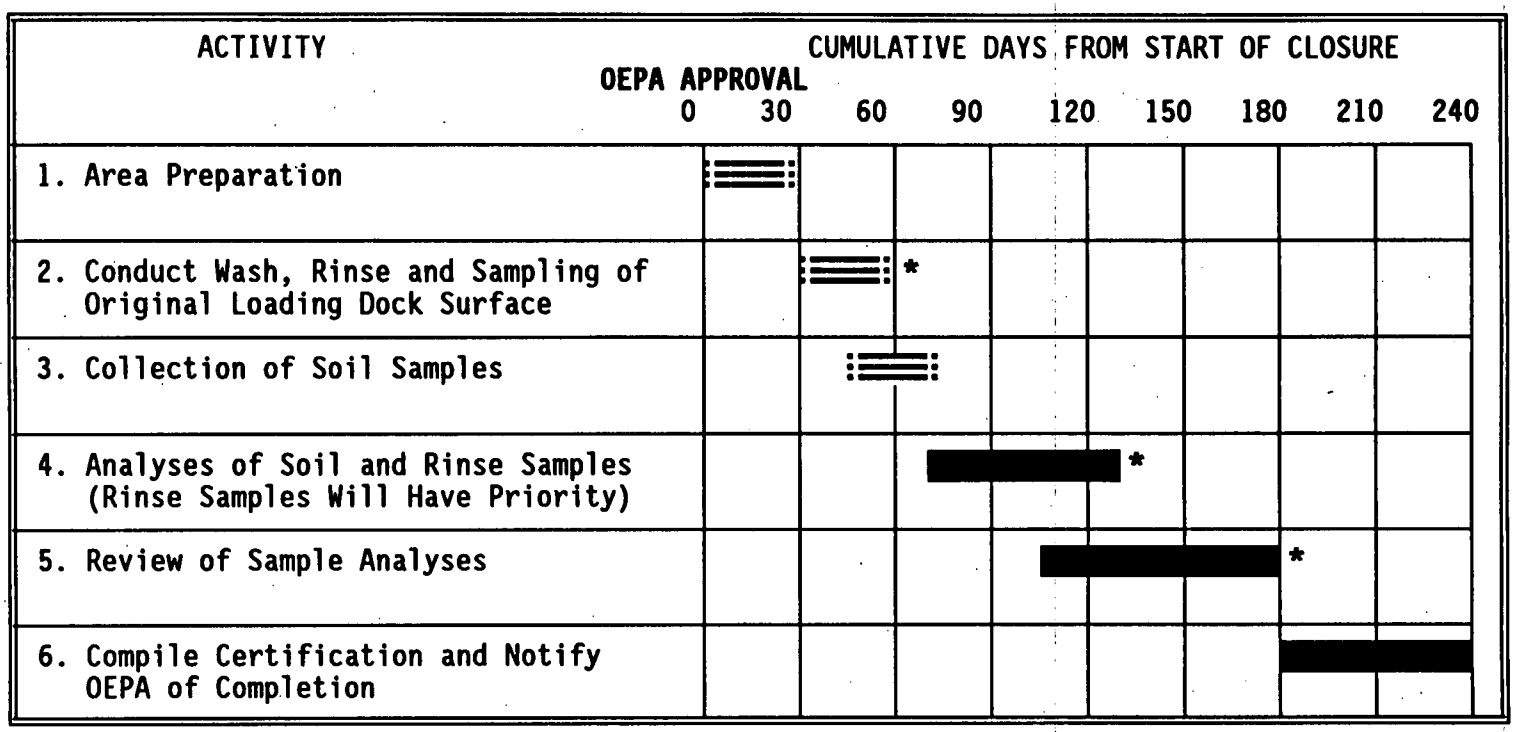
WESTINGHOUSE ENVIRONMENTAL MANAGEMENT CO. OF OHIO
FERNALD, OHIO
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
U.S. DEPARTMENT OF ENERGY

AREA/UNIT PLAN
FIGURE 3
LABORATORY & LOADING DOCK (UPGRADED)

DATE 7/28/92
DRAWN S.J.SMOCK

32

FILE NAME: /USR/STEVE/MAPS/1954FIG1.DGN



Notes: ≡ - Indicates critical activities when an independent, qualified, registered Professional Engineer or his representative should be present. OEPA will be notified five (5) days working prior to conducting these activities.

* - Indicates repeat of activities that may be required based on analyses of rinse samples.

FIGURE 4: CPID ACTIVITY SCHEDULE - DRUM STORAGE AREA NEAR LOADING DOCK (LAB)

ATTACHMENT A

RECENT CORRRESPONDENCE BETWEEN

Ohio EPA AND FEMP REGARDING HWMU No. 4

Revision 0
April 1993

Fernald Office
U. S. Department of Energy
Fernald Environmental Management Project
7400 Willey Road
Fernald, Ohio 45030

Westinghouse
Environmental Management
Company of Ohio

PO Box 398704
Cincinnati, Ohio 45239-8704
(513) 738 6200

WEMCO:EC&QA(OU3/RI):92-036
April 1, 1992

Mr. Phil Harris
Ohio EPA
40 South Main Street
Dayton, Ohio 45402

Dear Mr. Harris:

FEMP HAZARDOUS WASTE MANAGEMENT UNIT ISSUES

After the recent OEPA/DOE/WEMCO meeting in Dayton, Ellery Savage indicated to me that OEPA still had some questions regarding the HWMU issues that were presented during the meeting last September. On Monday (3/31/92), Tom Walsh and I spoke with Paul Pardi to find out what information you needed and to see if we could set up a meeting to resolve these issues. As a result of Monday's telephone call, I offered to send a brief review of the issues discussed in September (Paul recommended that I address it to you). This memo provides a brief synopsis of the HWMU issues, and where appropriate, information discovered since September that is pertinent to the regulatory status of the units is noted.

1) Parts Cleaner in Welding Shop - Maintenance Building 12.

The FEMP requested OEPA concurrence to change status from HWMU to non-unit. Information was found that showed the unit was emptied at the time it was removed from service. Therefore, it did not store solid or hazardous wastes and the unit is not a SWMU or a HWMU.

A letter was submitted to OEPA in February explaining that the FEMP no longer considered the unit to be a HWMU.

2) Drum Storage Area Near Loading Dock - Laboratory Building.

The FEMP requested relief from regulation for two reasons. First, while conversation reports indicate that hazardous wastes were stored in the area, there are no written records or other documentation that list the hazardous waste constituents or characteristics. Without this information, a closure plan cannot be prepared. Second, the wastes and the concrete, soil, and debris from the loading dock and surroundings where the hazardous waste was stored were removed during the construction/renovation of the lab building or as part of a CERCLA removal action in the area. Because the HWMU no longer exists, the FEMP requests concurrence from OEPA to close this unit during the CERCLA remedial action.

3) Drummed HF Residue and Associated Storage Areas.

The FEMP requested relief from regulation because these three areas were employed only temporarily (and unknowingly) for the storage of a hazardous waste. These HWMU's no longer store containers of hazardous waste. The waste containers were removed from these areas prior to being reported as HWMU's. In addition, the waste containers are in good condition and there is no evidence of release from the waste containers. The FEMP seeks concurrence from OEPA to effectively close these units as part of the CERCLA remedial actions.

4) Primary Calciner.

The unit was determined to be a HWMU on the basis that it treated (i.e. burned) hazardous wastes. The FEMP requested changing the status of the unit from HWMU to SWMU with follow-up investigation to determine the need, if any, for a removal action. This change in status was based on OEPA concurrence that the Box Furnace ash and the wastewater filter cake burned in the unit were not hazardous wastes.

5) Well Drilling Storage Area.

The FEMP requested excluding this area from regulation as a HWMU because hazardous wastes were stored only temporarily (and unknowingly).

A recent re-investigation of the unit may have found information that indicates that hazardous wastes were not stored for extended periods of time and, as a result, the unit may not be a HWMU. As this information is verified, it will be made available to OEPA.

6) Equipment Storage Area.

The FEMP presented the position that the unit is a SWMU (not a HWMU) because the only hazardous waste at the location were spent lead-acid batteries that were subject to exclusion (OAC 3745-58-70).

7) Wastewater Treatment System Mixture Rule Exclusion.

The FEMP presented the position that the mixture rule exclusion does apply to the FEMP system based on: a) application of one headworks instead of four, and; b) employing more realistic solvent usage data. OEPA concurrence of the exclusion to one or more of the FEMP wastewater systems will, in turn, allow the change in status of surface impoundments declared to be HWMU's based on the current interpretation that the exclusion is not applicable.

In addition, the FEMP put forth the position that the Coal Pile Runoff Basin is not a unit due to the fact that it did not go into service until after 1984, the only year when the non-contaminated wastewater system was calculated to have exceeded the exclusion limit.

OEPA requested further information on the non-contaminated general sump wastewaters in late November. The FEMP is in the process of preparing a response to the request. While re-evaluating the non-contaminated general sump wastewater system in order to respond to OEPA's questions, it was discovered that the only potential source of 1,1,1-trichloroethane (TCA) did not drain into the Coal Pile Runoff Basin. Therefore, no TCA flowed through the unit, and it is not a HWMU.

8) UST #5.

This unit was discussed briefly during the September meeting. The FEMP had previously sent a position paper to OEPA stating that the UST #5 should not be regulated as a HWMU because it meets the requirements of the wastewater treatment exclusion. In response to questions OEPA had at the meeting additional information was forwarded to the State in late September.

All of the above mentioned units were listed on the October, 1991 Part B Permit Application as HWMU's.

At the September meeting, OEPA was presented with fact sheets on each of the units/issues discussed above, except for UST #5. This memo serves only as a brief condensation of the HWMU issues, it is not intended to be an in-depth analysis of all the facts or regulatory positions. The FEMP would like to discuss these issues in more detail with OEPA in order to come to resolution. Please call Tom Walsh or me to establish a time and date when we can meet. In addition, if you need additional information on any of the units, we can forward it to you.

Very truly yours,

John M. Sattler, Manager
Regulatory Integration
OU3 Compliance

JMS:kst

c: V. A. Franklin
O. D. Laursen
W. J. Quaider, DOE
D. Rast, DOE
E. D. Savage
S. G. Schneider
T. J. Walsh

RI Files
Central Files

OhioEPA
State of Ohio Environmental Protection Agency
Northwest District Office
South Main Street
Dayton, Ohio 45402-2086
(513) 285-6357
FAX (513) 285-6404

George V. Voinovich
Governor

June 2, 1992

Re: DOE-FEMP
HAMILTON COUNTY
HAZARDOUS WASTE

Mr. John Sattler
WEMCO
P.O. Box 398704
Cincinnati, Ohio 45239-8704

Dear Mr. Sattler:

OEPA has reviewed your April 1, 1992 letter in which you provide a brief synopsis of the status of issues involving several declared Hazardous Waste Management Units (HWMU) at the FEMP. OEPA offers the following comments regarding these units:

1) Parts Cleaner in Welding Slop - Maintenance Building 12
Submit the documentation discovered that has led WEMCO to change the status of this unit. Upon review of this documentation, OEPA will issue a final decision on the Parts Cleaner.

2) Drum Storage Area Near Loading Dock - Laboratory Building
This storage area was initially called a HWMU. WEMCO wishes to change the status of this unit based on a lack of information rather than additional information supporting a change in status. For this reason, OEPA cannot agree to change the status of this unit. This area must remain a HWMU, subject to closure. OEPA recommends WEMCO submit a closure plan which describes the activities that have already occurred effecting this unit, the nature and extent of existing contamination, and a schedule of activities to be conducted under the CERCLA remedial action.

3) Drummed HF Residue and Associated Storage Areas
OEPA requests further information regarding this unit. Submit any documentation available which describes the length of time waste was stored in these areas, the condition of the containers (inspection logs), a description of the base of the storage areas (soil, concrete, etc.) and the condition of these base materials. Upon review of this additional information, OEPA will decide on the status of this unit.

4) Primary Calciner
OEPA does not recall reviewing information related to the waste burned at the calciner. Please submit any information available regarding this waste so that final determination of the status of this unit can be made.

5) Well Drilling Storage Area
The decision is on hold pending receipt of additional information. See #3 above for the type of documentation OEPA would like to see.

6) Equipment Storage Area
OEPA concurs that if spent lead-acid batteries were the only hazardous wastes stored in this area, this area is not a HWMU.

7) Coal Pile Runoff Basin
Provide the newly discovered documentation proving that the only potential source of 1,1,1,-trichloroethane did not drain into the Coal Pile Runoff Drain.

8) UST #5
OEPA concurs that this tank was part of a wastewater treatment unit as defined in 3745-50. However, prior to releasing this unit as a HWMU, OEPA would like to see documentation that shows that spent 1,1,1,-trichloroethane generated in Building 31 was collected and stored on-site.

If you have any questions, do not hesitate to call Phil Harris or me at (513) 285-6357.

Sincerely,

Paul D. Pardi
Group Leader
Division of Hazardous
Waste Management

PDP/mlf

cc: Phil Harris, SWDO

From: Tom Walsh, WEMCO

Date: June 19, 1992

Subject: ACTIVITIES IN HWMU #4 (DRUM STORAGE AREA NEAR LOADING DOCK) AND HWMU #5 (DRUM STORAGE AREA SOUTH OF W-26)

To: Phil Harris, OEPA/SWDO/DHWM

This letter requests concurrence to use the loading dock area of HWMU #4 and the sidewalk area adjacent to HWMU #5. This request is necessary since HWMU #4 and #5 surround two main access points for construction and operational activities within the FEMP Laboratory (Analytical Facility - Building 15). Construction activities impacting the Laboratory are scheduled to last into calendar year 1993. Once construction activities inside the Laboratory have been completed, analytical and administrative operations in those renovated areas will begin.

The attached figure shows the boundaries of HWMU #4 and #5. The construction activities for the Laboratory will utilize the dock area of HWMU #4 for truck deliveries and access to the Building. Similarly, the walkway which transects HWMU #5 will be an entry/exit point for both construction and operational activities within the Laboratory. Other access points to the Laboratory for construction activities were examined but could not be used due to either life safety code or radiological concerns.

FEMP proposes to temporarily cover the loading dock area in HWMU #4 with herculite (plastic material) and precast concrete squares. Similarly, the walkway in HWMU #5 will also be covered with the same material. (See cross hatched areas on figure). The approximate coverage on HWMU #4 will be 40 x 76 feet. The sidewalk area to be covered in HWMU #5 will be about 8 x 20 feet. The intent of the concrete and herculite is to prevent any worker contact with the surface of the HWMU areas. Beveled wood will be used for ramps to the overhead door areas in HWMU #4 to allow access for handtrucks and to alleviate tripping hazards. A solid rubber mat (no voids) will be placed on top of the herculite in HWMU #5 to allow access to the personnel doors.

If OEPA concurs with the use of the HWMU #4 and #5 as discussed above, the area will remain covered at least through the duration of 1992. (Note: Closure plan information packages scheduled to be submitted to OEPA on September 9, 1992 for HWMU #4 and September 18, 1992 for HWMU #5 will consider the temporary covering on the HWMU areas).

Presently, FEMP will attempt to re-use the precast concrete squares once the barrier layer is removed. Since the squares will not come in contact with the HWMU surface (the herculite will form an underlying barrier), radiological contamination should be the only concern. Other materials (herculite, wood, and the rubber mat) used to provide a barrier with the surface of the HWMU, will be characterized in accordance with the site's RCRA characterization process. Storage of any waste materials resulting from the removal of temporary barriers or work surfaces would be in accordance with FEMP policy depending on the characterization results.

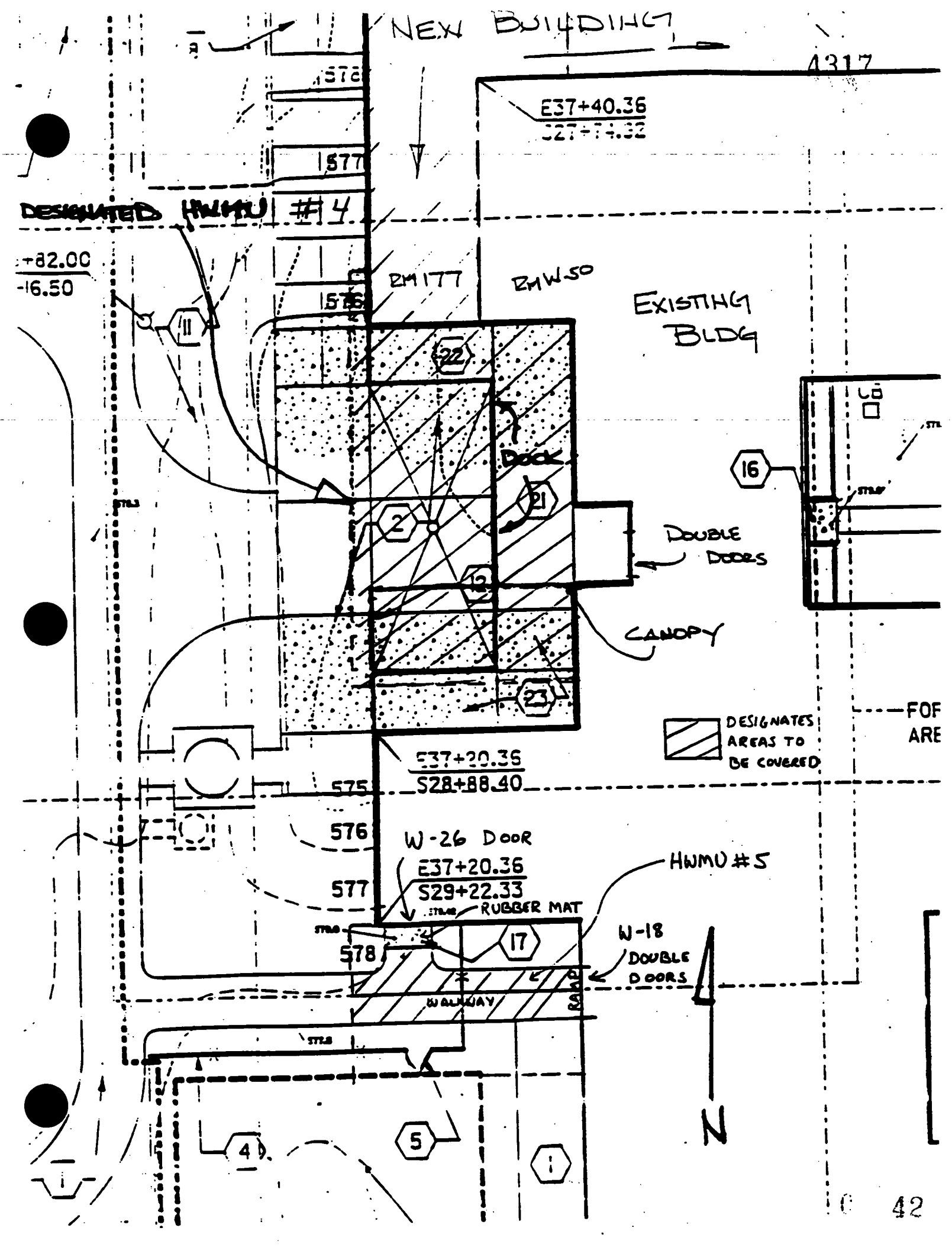
Since no construction activities at the Laboratory are proceeding at the present time, FEMP would like concurrence on the use of the two HWMUs as discussed above as quickly as possible. If you have any questions or require additional information, please contact me at (513)-738-6912.

Tom Walsh

Tom Walsh, Manager
Operable Unit #3 Compliance

Attachment

c: J. A. Apple
K. R. Bail
W. J. Burke
J. R. Craig, DOE-FN
L. S. Farmer
V. A. Franklin
O. D. Laursen
W. J. Neyer
D. A. Nixon
D. L. Painter
W. Quaider, DOE-FN
M. W. Salisbury
J. M. Sattler
R. S. Shirley
K. A. Solomon
S. G. Schneider
T. J. Stone


NEW BUILDING
4317
E37+40.36
S27+74.32
577
DESIGNATED HWMU #4
+82.00
-16.50
RM 177
RM W-50
576
EXISTING BLDG
11
22
DOCK
21
2
DOUBLE DOORS
12
CANOPY
16
23
DESIGNATES AREAS TO BE COVERED
E37+20.36
S28+88.40
575
576
W-26 DOOR
E37+20.36
S29+22.33
577
HWMU #5
RUBBER MAT
578
17
W-18 DOUBLE DOORS
WALKWAY
RAMP
N
4
5
1
1

OhioEPA
State of Ohio Environmental Protection Agency
Southwest District Office
40 South Main Street
Dayton, Ohio 45402-2086
(513) 285-6357
FAX (513) 285-6404

George V. Voinovich
Governor

4317

****

M E M O

TO: TOM WALSH, MANAGER, OU3 COMPLIANCE, U.S. DOE-FEMP

FROM: PHIL HARRIS, DHWM, OEPA SWDO

DATE: JUNE 23, 1992

SUBJECT: ACTIVITIES IN HWMU #4 (DRUM STORAGE AREA NEAR LOADING DOCK) AND HWMU #5 (DRUM STORAGE AREA SOUTH OF W-26)

REF: WEMCO FAXX/JUNE-19-92/WALSH TO HARRIS

****

This office concurs with the U.S. DOE-FEMP proposal, as outlined in the above referenced correspondence, in regard to the installation of temporary covers in HWMU #4 and #5. As you indicated, closure plans should consider the temporary covering on these HWMU's.

If you have any questions, please call.

/ph

cc: FILE

ATTACHMENT B

SAMPLING AND ANALYSIS PLAN

FOR THE

DRUM STORAGE AREA NEAR LOADING DOCK (LAB)

Revision 0
April 1993

Fernald Office
U. S. Department of Energy
Fernald Environmental Management Project
7400 Willey Road
Fernald, Ohio 45030

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1.0 INTRODUCTION

This Sampling and Analysis Plan (SAP) for the Drum Storage Area Near Loading Dock (Lab), referenced in this SAP as HWMU No. 4, was prepared to support the Closure Plan Information and Data (CPID) for the Drum Storage Area Near Loading Dock (Lab). The purpose of this SAP is to describe the sample collection and handling procedures, identify analyses to be conducted and specify the quality assurance/quality control procedures to characterize HWMU No. 4 and underlying soil to determine if there is any indication of residual contamination from previous waste management activities.

All sampling and analysis will follow the procedures discussed in this SAP and will be conducted consistent with the current revision of the FEMP Site-Wide CERCLA Quality Assurance Project Plan (SCQ).

The analytical results generated by this SAP will be evaluated for incorporation into the CERCLA Remedial Investigation/Feasibility Study (RI/FS). These data, along with other RI/FS data for the FEMP site, will be used to evaluate and prioritize the needs for additional interim removal actions in the area of HWMU No. 4, relative to the needs site-wide, and to determine the final remedial action requirements under the Records of Decision (RODs) for CERCLA Operable Unit #3 (OU #3) which covers the production area and associated facilities and equipment (including the Laboratory building area) and Operable Unit #5 (OU #5) which deals with contaminated environmental media.

1.1 Sampling Objectives

Area characterization sampling and analyses will meet the following objectives:

1) Identify if there is residual contamination in soils or on the original loading dock concrete surface from previous waste management practices.

2) Provide data to evaluate the need for additional CERCLA response actions and prioritize the need for removal relative to other CERCLA response action requirements at the FEMP.

3) Provide HWMU-specific data to support the development and implementation of appropriate remedial actions under the Record of Decision (ROD) for CERCLA OU #3 and OU #5.

From 1988 to 1990, most of the surface soil in the area was removed (see Figure B-1). The sampling being proposed focuses on the concrete surface of the original loading dock and surface soil at a depth of 24 to 30 inches below grade. Sampling at a depth of 24 to 30 inches below grade is being specified to insure sampling of the original soil (i.e., below the 12 to 16 inches of new concrete and backfill materials installed in 1990).

Pending RCRA characterizations and determinations, all wastes and materials generated during sampling and analyses will be managed in a manner consistent with approved FEMP hazardous waste management practices. Wastes determined to be RCRA hazardous will be managed and disposed according to applicable hazardous waste rules and regulations.

1.2 Sample Analyses

Samples collected will be analyzed for the waste constituents and characteristics listed in Table B-1. The presence or absence in the samples of targeted waste constituents and characteristics listed in Table B-1 will be used to determine if there is reason to suspect residual contamination in the area of HWMU No. 4. The samples to be collected include:

1) Two (2) samples plus 1 duplicate sample from a rinse of the concrete surface of the original loading dock area.

2) Five (5) soil samples plus 1 duplicate sample of the underlying soil

(i.e, below concrete and backfill installed for the laboratory upgrade in the lab loading dock area) at a depth of 24 to 30 inches below grade (to be collected from 5 sampling locations - See Figure B-1).

3) Quality Assurance and Quality Control Samples consistent with the current requirements of the FEMP SCQ and discussions in Section 4.0 of this SAP.

The proposed sampling locations are identified on Figure B-1. All analyses will be conducted using analytical methods specified in the FEMP Laboratory Analytical Methods, Volumes II, IV and V of the FEMP SCQ. Where methods are not specified in the SCQ, SW-846 methods will be used.

2.0 SAMPLE COLLECTION

The following sections discuss the procedures to be followed in collecting samples for characterization of the Drum Storage Area near Loading Dock (Lab).

2.1 Area Preparations for Sampling

Before initiating any sampling activities at the HWMU, site blueprints will be reviewed with the facility engineer to determine if there are any known underground utilities, pipes, wiring or other similar structures. Underground structures will be identified and marked in the HWMU to prevent any contact from sampling in these areas.

Area preparation will be required prior to collecting concrete surface rinse samples and boring through concrete and backfill to collect samples of the undisturbed soil under and adjacent to the original unit. The area preparation will include:

- removing temporary cover materials installed in June 1992,
- vacuuming loose debris,
- installing temporary berms (to control rinseate run-off) around two RI/FS monitor wells and the catch basin that are located within the boundaries of the unit, and
- drumming collected debris pending sample analyses.

Sampling or decontamination activities will not be conducted during adverse weather (e.g., rain, snow).

2.2 Sampling Equipment

The following equipment may be used to collect samples from the concrete and soil in and around the HWMU known as the Drum Storage Area Near Loading Dock (Lab):

- Bucket auger, hand auger or soil coring device (stainless steel)
- Bowls or buckets (stainless steel or other suitable material)
- Spoons, scoops or trowels (stainless steel or other suitable material)
- Spatulas (stainless steel or other suitable material)
- Sample bottles
- Thermal coolers and freezer packs
- Sample labels
- Waterproof marking pen
- Field sampling logbook and field data forms
- Chemical resistant gloves
- Polyethylene or other approved impervious sheeting
- Concrete coring machine, hammer, or drill
- Hand held hammer and chisel
- Dedicated, clean rinseate sample collection drums
- Coliwasa sampler
- Peristaltic sample pump (or other approved sample collection pump)
- Tygon tubing (for use with sample collection pump)

This list may be modified as appropriate by a trained, qualified sampling supervisor or manager. Any change to this list will be noted in the field sampling logbook.

2.3 Concrete Rinse Sampling

A surface rinse will be conducted across the upper level and the exposed west side of the original loading dock area. The rinse water will be directed toward the base of the loading dock and pumped (using the peristaltic sampling pump) into a clean, designated sample collection drum. In the event that rinseate run-

off occurs, appropriate spill-response actions will be initiated to contain and remove the run-off and prevent possible contamination of soil or the storm sewer. This may include the use of a vacuum, absorption material or squeegee.

Samples of the rinse waters will be collected from the drum using a Coliwasa sampler or an appropriate sampling pump and tubing. Samples will be analyzed for the presence of the waste constituents or hazardous waste characteristics listed in Table B-1.

2.3.1 Rinse Sample Collection Procedures

After directing the concrete surface rinse to the base of the loading dock (as discussed in Section 3.3.2 in the CPID), pump the rinseate into the designated sample collection drum using a clean peristaltic sample collection pump (or other appropriate sampling pump). Rinseate samples will be collected from the dedicated sample collection drum using the following procedures:

1) Slowly lower a clean sampler (Coliwasa, bailer, or glass tube) to the desired depth in the rinseate that has been collected in the sample collection container. Do not handle parts of the sampler that are in contact with the liquids.

2) Slowly withdraw the sampler from the liquid and put the sample into the sample container.

3) Collect one (1) grab sample from the final rinse of the area or equipment being decontaminated.

4) Upon completion of sampling at a location, decontaminate sampling equipment that was used following the procedures in SAP Section 2.6. Equipment that cannot be decontaminated will be managed in a manner consistent with approved FEMP hazardous waste management practices pending RCRA hazardous waste evaluations in accordance with the

approved FEMP Waste Analysis and Waste Determination Plans. Field screen the rinseate for acid/base contamination. Analyses of the rinse samples will also be used in waste characterizations and determinations for excess rinse water wastes.

5) Seal sample coolers and transfer them to the FEMP Sample Processing Lab. Follow sample container management procedures in Section 2.5.

2.4 Soil Sampling

Five directed soil sampling locations have been identified in the vicinity of the loading dock. These locations were selected as the most likely areas (based on available information and area drainage prior to the 1990 upgrade) where contamination would be expected if significant spills of waste occurred in the past. The locations are as follows (also see Figure B-1):

S1 Located in the paved area just north of the catch basin No. 55, approximately in the center of the vehicle parking area west of the Loading Dock.

S2 Located in a paved area northwest of the loading dock in the narrow strip inside the HWMU boundary adjacent new building addition.

S3 Located in the paved area near the base of the original loading dock in the corner where the new dock extension was built on the north end of the loading dock.

S4 Located in the grassy area north of the drive entrance to the loading dock in the approximate center of the area and 10 to 15 feet from the drive.

S5 Located in the grassy area south of the driveway entrance in the

approximate center of the area between the drive and the bulk nitrogen storage tank.

In areas covered with concrete, a concrete coring machine or hammer will be used to core through the new concrete and backfill to reach the underlying soil that would have been in place during the waste management operations. Using an auger or soil coring device, the sample boring will be advanced and one (1) soil sample will be collected at each location from a composite of the soil extracted from a depth of 24 to 30 inches.

2.4.1 Soil Sampling Procedures

Remove concrete or grass and other vegetation from sample collection area prior to sampling and place in drum pending analyses. Where required to sample under concrete, the FEMP proposes to use a jack hammer, concrete coring machine or concrete saw to core or cut through the concrete as discussed in the following procedures:

1) Advance a hole through the concrete, cutting through reinforcement bars and obstructions in the concrete unit reaching sub-base materials.

2) Once the sub-base is reached, use a clean soil auger or coring device to advance the hole through the sub-base materials and into underlying soils.

3) When underlying soils are reached, remove remaining concrete chips and sub-base materials from the hole.

4) Concrete boring will be grouted with new concrete after sampling is complete.

Soil borings of underlying soil will be made for collection of samples in

accordance with the following procedures:

1) Place clean polyethylene or other approved impervious sheeting on the ground to protect sampling equipment from potential contamination.

2) Use a clean stainless steel soil auger or soil core sampler to advance the soil boring to 24 inches below grade.

3) Decontaminate equipment or use clean augers or soil core samplers to collect a 6 inch soil sample from a depth of 24 to 30 inches below grade.

4) Use a clean spatula (stainless steel or other suitable material), or other approved device to remove soils from the auger and place them into a stainless steel pan (or remove soil core cylinder).

5) To composite the sample (if using the soil auger), divide the sample volume into four quarters within the pan. Mix opposite quarters together, then mix resulting halves together into a single volume. Repeat this step.

6) Using the spatula or other approved device, transfer a sample from the mixed soils in the pan into the appropriate sample container (or, if using a soil core sampler, cap the sample cylinder). Follow container management procedures in Section 2.5.

7) Upon completion of sampling at a sampling location, decontaminate all sampling equipment used, following procedures in Section 2.6. Equipment that is not decontaminated shall be managed in a manner consistent with approved FEMP hazardous waste management practices pending RCRA hazardous waste determinations.

8) Collect a minimum of one (1) duplicate sample.

2.5 Sample Handling and Management of Sample Containers

Once a sample has been placed inside a sample container it will be managed as follows:

1) For all samples: Tightly close the lid, seal the lid with custody tape and attach appropriate label that has been filled out using indelible ink.

2) Record the sample label and container information in the field sampling logbook and on a Sitewide Sample Analysis Request/Custody Record form.

3) Immediately place sample containers into a sample cooler that will maintain samples at approximately 4° C.

4) Record all transfers of sample custody on the Sitewide Sample Analysis Request/Custody Record form.

5) To maintain chain-of-custody, ensure that access to all samples is controlled. This requires the sample collector or designated sample custodian to:

   - have constant direct physical control,
   - use a locked limited access area under his/her control, or
   - affix signed container custody seals on samples or sample coolers.

When the planned sampling activity has been completed, secure the lid of the sample cooler and transfer the samples to the FEMP Sample Processing Laboratory. The FEMP Sample Processing Laboratory will be responsible for ensuring custody records are maintained during shipment to the laboratory selected to conduct the analyses.

2.6 Equipment Decontamination

Before beginning any decontamination procedures, all personnel shall inspect their clothing to ensure that clean clothing or clean disposable outer coveralls are used. All personal protective equipment (PPE) will be free of contamination prior to beginning the decontamination process and when handling any clean equipment. Equipment decontamination procedures are discussed in the following sections.

All sampling equipment that will be used must be clean or decontaminated prior to use. All reusable sampling equipment that has been used to collect a sample must be decontaminated before it is used to collect additional samples. After decontamination, all equipment must be tagged and bagged as "clean".

2.6.1 Decontamination Supplies

Supplies used in decontamination may vary based on the media being sampled and the type of contamination encountered. The following basic list of supplies may be modified, as necessary, by a trained, qualified supervisor or manager:

- Laboratory grade non-phosphate detergent solution
- Long-handled scrapers (stainless steel, glass)
- Long-handled, soft bristled brushes
- Portable low-pressure water sprayer
- Potable water
- Deionized water (organic free)
- Reagent grade ethanol rinse
- Dilute (0.02 normal) hydrochloric or sulfuric acid rinse
- Polyethylene or other approved impervious sheeting
- Heavy duty plastic bags
- Absorbent materials, socks, and pads
- Wash/rinse tubs, buckets, or other approved containers

2.6.2 Sampling Equipment Decontamination Procedures

All reusable sampling equipment will be decontaminated after each use. If decontamination is not practical, the sampling equipment will be managed in a manner consistent with FEMP hazardous waste management practices pending RCRA waste determinations. The following procedures will be used to decontaminate sampling equipment:

1) Establish a decontamination area in a location that is protected from potential contamination. Use a double thickness of 6-mil polyethylene or other suitable sheeting to line the decontamination area, including containment dikes or berms for run on/run off control.

2) Provide appropriate containers for containment, handling, and collection of wastes. Non-liquid wastes shall be collected in a heavy duty plastic bag, 55-gallon drum, or other suitable container. Liquid wastes will be collected in buckets and/or placed into 55-gallon drums or other suitable liquid storage containers. Wastes will be stored at the FEMP in an approved RCRA storage area pending RCRA waste characterizations and determinations.

3) Establish sample equipment decontamination line including the following:

   Stage 1) Rinse with potable water, wash with non-phosphate laboratory grade detergent, and rinse with potable water rinse. As necessary, use brushes and scrapers to remove visible contamination and stains. If needed, steam cleaning or high pressure potable water may be used as an alternate decontamination method.

   Stage 2) A dilute (0.02 normal) hydrochloric or sulfuric acid solution rinse followed by a potable water rinse.

   NOTE: Residual acids in used rinse solutions will be neutralized.

Stage 3) A solvent rinse (using an approved solvent, such as ethanol) followed by a final triple rinse with deionized water.

4) At least once per day, for each media being sampled and each decontamination line, collect a QC rinse sample of the final rinse. The sample will be collected using the procedures in section 4.1 of this SAP.

5) After the sampling equipment has been properly decontaminated, place it on a clean sheet of plastic or other suitable material to air dry. While air drying, loosely cover the equipment with another clean piece of sheeting to minimize the potential for contamination.

6) Upon completion of decontamination of sampling equipment, the buckets and other containers used for temporary storage of the decontamination wash and rinse wastes will be washed with clean detergent solution and rinsed twice with deionized water.

2.7 Wastes Generated During Sampling and Decontamination

Non-liquid wastes and waste waters collected during sampling and decontamination of sampling equipment and miscellaneous wastes (e.g., herculite, concrete pavers, plastic sheeting from decontamination areas, brushes, and disposable protective clothing), will be managed in a manner consistent with FEMP hazardous waste practices pending RCRA determinations. Waste determinations shall be performed on the materials following the FMPC Waste Analysis and Waste Determination Plans, as approved by the OEPA. Wastes will be managed and disposed according to all applicable hazardous and solid waste rules and regulations.

3.0 FIELD DOCUMENTATION AND SAMPLE HANDLING

Sample handling and documentation procedures shall conform to approved FEMP procedures applicable at the time closure activities are conducted. The information in the following sections presents the procedures to follow after the samples have been collected.

3.1 Field Sampling Logbook

A field sampling logbook will be kept and updated to document information pertinent to the RCRA closure sampling activities. At a minimum, the entries in the logbook will include the following:

- Name of supervisor(s) responsible for HWMU management
- Name of FEMP closure project manager
- Maps, drawings, or photographs of the sampling site
- Purpose of sampling (e.g., verification of decontamination)
- Description and location of sampling points
- Description of sampling methods and field sampling activities (e.g., containers, types of samples, etc.)
- Task review meetings
- Documentation of any deviations from this SAP
- Weather conditions at the time samples are collected
- Number, type, and volume of samples taken
- Date and time of collection
- Field sample identification number(s)
- Names of sampling personnel
- Date and time of transfer to sample receiving/shipping area
- Field observations (e.g., spills or other activities nearby)
- Data from field measurements (e.g., pH, specific conductance)
- Signatures of persons responsible for maintaining the logbook

The logbook will record information sufficient to reconstruct the sampling event without reliance on the collector's memory. The logbook shall be stored and

maintained according to FEMP document control procedures.

3.2 On-Site Handling/Processing Procedures

Sample coolers, along with the signed and completed Sitewide Sample Analysis Request/Custody Record form, will be taken to the FEMP Sample Processing Laboratory. Each person who relinquishes or takes possession of the samples or sample coolers shall sign the Custody Record and record the date and time of transfer.

The FEMP will characterize radiation levels associated with the samples to determine disposition of the samples for analysis.

4.0 QUALITY ASSURANCE AND QUALITY CONTROL

Quality Assurance/Quality Control (QA/QC) procedures are required to identify, evaluate, and control conditions and activities that can affect the quality and validity of the analytical data obtained from sampling and analyses. Validation of data requires accurate records to document procedures and conditions during the sampling and analysis. At a minimum, these records will include:

- an updated field sampling logbook
- properly completed sample labels
- field and laboratory QA/QC samples
- completed Sitewide Sample Analysis Request/Custody Record forms

Quality assurance procedures will include:

1) Only clean sample containers will be used.

2) Clean PPE will be used whenever contact is made with the sampling equipment.

3) Sampling containers and collection equipment shall be handled, stored, and maintained in a manner that prevents cross-contamination.

4) Any field conditions, events, or activities that may affect analytical results will be documented in the field sampling logbook (see Section 3.1 of this SAP).

Sampling activities will be conducted consistent with applicable FEMP QA/QC procedures as defined in the current revision of the SCQ. The following sections discuss field QA/QC, laboratory QA/QC, and Sitewide Sample Analysis Request/Custody Record forms.

4.1 Field QA/QC Procedures

To prevent cross-contamination between samples and locations, only clean or decontaminated sampling equipment will be used. Each day sampling equipment is decontaminated a final rinse sample will be collected and analyzed for the waste constituents listed in Table B-1. This sample is intended to provide QA/QC information concerning the effectiveness of the decontamination process and to identify possible cross contamination of samples. As a normal practice, it is presumed that the decontamination procedures are adequate for reuse of decontaminated equipment, as needed, even though QA/QC analyses is not complete. At least one (1) sample of the final rinseate from sampling equipment decontamination will be collected each day sampling is conducted using the following procedure:

1) Pour deionized water over and through the cleaned surfaces of the decontaminated equipment.

2) Collect the deionized water rinseate using an appropriate sample container.

3) Follow sample container management procedures in Section 2.5 of the SAP.

Blanks will be collected and analyzed as part of normal QC procedures. At a minimum, the following samples will be collected each sampling event:

- one (1) container blank, a sample of clean deionized water prepared in a non-contaminated area and taken into the field during each sampling event.

- one (1) field blank, a grab sample of the deionized rinse water supply, collected in the field.

To evaluate the impact of field sampling activities on analytical precision (i.e., repeatability of results), field duplicate samples will be collected. At

least one (1) duplicate sample of concrete rinse and one (1) duplicate of the soil samples will be collected for this project. An additional duplicate samples will be collected for QC confirmation by an independent laboratory.

4.2 Laboratory QA/QC Procedures

The FEMP analytical laboratory shall use the approved methods, as specified in the SCQ for the constituents of concern. The laboratory will document the use and results of laboratory quality control samples and analyses. Laboratory samples for quality control (QC) may include:

- sample preparation blanks to detect residual contamination of analytical equipment that may affect analytical results,
- duplicate samples prepared in the laboratory to evaluate the precision (i.e., the ability to reproduce analytical results) achieved by the methods used.
- Laboratory control and calibration verification samples (to verify calibration of the equipment).
- Matrix-Spike samples to evaluate analytical recovery rates.

All pertinent information concerning problems and conditions that may affect the validity of the analytical data must be clearly identified. In addition to laboratory QC and analytical data, information to be provided by the laboratory includes:

- Name of person receiving the sample
- Date and time of sample receipt
- Laboratory sample number (if different from field ID)
- Date and time of sample analysis
- Signature of the laboratory supervisor

Conditions outside the control of the laboratory that could affect sample quality and validity of analytical results shall also be documented by the laboratory. These include items such as:

- discrepancies between sample shipping records, sample analytical requests, custody records and the sample shipments as received by the laboratory,
- sample containers and packaging problems, such as broken containers, loose lids, and broken custody seals.

To prevent any laboratory bias, field duplicate samples submitted shall not be identifiable as duplicates in any of the information provided to identify samples or any special conditions/qualifying statements to support the request for analysis. Field duplicate samples will be noted in the field sampling logbook for use in FEMP QA/QC review of analytical reports.

4.3 Sample Analysis Request/Chain-Of-Custody Procedures

Each sample container shall be labeled with the sample number and identification that is consistent with the Sitewide Sample Analysis Request/Custody Record form. Prior to relinquishing possession of a sample, the person that collected the sample shall complete and sign a Sitewide Sample Analysis Request/Custody Record. Each person that accepts custody will also sign and date the custody record. A complete record of custody transfers shall be maintained on the Sitewide Sample Analysis Request/Custody Record form.

All samples taken to the FEMP Sample Processing Laboratory must be accompanied by the completed Sitewide Sample Analysis Request/Custody Record form. An Off-Site Sample Analysis Request/Custody Transfer Record will be prepared and accompany samples to be sent off-site for laboratory analyses.

The laboratory conducting the analyses will be responsible for maintaining sample custody logs until samples are returned to the FEMP or disposed after obtaining FEMP approval. The Custody Records will document sample possession from the time of collection through analysis by the laboratory. Records of any custody seals used on sample containers shall be maintained. The laboratory will document the condition of any custody seals on containers that they receive. Laboratories conducting analyses are required to provide the FEMP a copy of all completed laboratory custody records.

The completed sample Analysis Request/Custody Record, Off-Site Analysis Request/Custody Transfer Record, and laboratory custody forms will be signed by and returned with the analytical report for the samples identified on the form(s). These documents will be filed in the FEMP RCRA HWMU Closure files for review by the OEPA and USEPA.

5.0 HEALTH AND SAFETY

Prior to conducting any field activities at the FEMP, a health and safety assessment must be conducted to characterize existing hazards and conditions. Based on the findings of the health and safety assessment, the Project/Task Specific Health and Safety Plan will specify required health and safety procedures, including personnel protection equipment, entry and exit requirements, and personnel/PPE decontamination procedures. Guidelines for the Preparation of FMPC Project/Task Specific Health and Safety Plan are included in Attachment C.

As part of the safety assessment, radioactivity screening will be done over the area to determine radiation protection requirements. Additional screening, including on-site laboratory analyses for radionuclides, may be required to further categorize radiation levels and hazards before the samples can be shipped to an off-site laboratory. Radiation survey procedures and requirements for shipping samples to off-site laboratories for analysis will be in accordance with approved FEMP/FMPC procedures.

TABLE B-1: TARGETED WASTE CONSTITUENTS/CHARACTERISTICS

WASTE CONSTITUENT/CHARACTERISTIC	CHEMICAL ABSTRACT SYSTEM (CAS) NO.
Acetone	67-64-1
Acetonitrile	75-05-8
Benzene	71-43-2
Butanol	71-36-3
Carbon Tetrachloride	56-23-5
Chloroform	67-66-3
Cyanide (Compounds)	57-12-5
Cyclohexane	110-82-7
1,1-Dichloroethane [1]	75-34-3
1,2-Dichloroethane [1]	107-06-2
1,1-Dichloroethylene [1]	75-35-4
1,2-Dichloroethylene [1]	540-59-0
Ethyl Acetate	141-78-6
Ethyl Ether	60-29-7
Lead	7439-92-1
Mercury	7439-97-6
Methanol	67-86-1
Methylene Chloride	75-09-2
Methyl Isobutyl Ketone	108-10-1
Phenol	108-95-2
Tetrachloroethylene	127-18-4
Tributyl Phosphate	126-73-8
1,1,2-Trichloroethylene	79-01-6
1,1,1-Trichloroethane	71-55-6
Xylene	1330-20-7
Vanadium [1]	7440-62-2
Vinyl Chloride [1]	75-01-4
RCRA Waste Characteristics:	
Corrosivity [2]	Not Applicable
Ignitability	Not Applicable
Reactive Cyanide	Not Applicable
Radiological:	
Gross Alpha and Gross Beta [3]	Not Applicable
Total Uranium [3]	Not Applicable-Group of Compounds
Total Thorium [3]	Not Applicable-Group of Compounds

[1] Included on target list as possible degradation products of suspect waste constituents of wastes generated in the laboratories.

[2] Corrosivity waste characteristics and potential contamination from acids and bases will be evaluated based on pH measurements.

[3] Radiological parameters covered by CERCLA remediation that are not regulated by RCRA.

N

MATCH LINE, SEE DWG. NO. 75H-5500-G-00025, GRID 14

MATCH LINE, SEE DWG. NO. 75D-5500-G-00019, GRID 20

MATCH LINE, SEE DWG. NO. 75A-5500-G-00005, GRID 29

MATCH LINE, SEE DWG. NO. 75G-5500-G-00023, GRID 26

1" STREET

S 26+75

S+32+00

BLDG. 15 ADDITION

BLDG. 15 LABORATORY

E 39+71.4 S 28+35.5 MH 96

E 39+59.2 S 28+48.3 CB 187

E 38+65.24 S 28+49.27 CB 190

E 38+12 S 28+35.5 MH 107

E 38+60.2 S 26+90.8 LFH 25

E 38+27.00 S 27+02.50 SMH 110

E 38+14.0 S 26+97.0 MH 16

E 37+04.8 S 26+97 MH 113

E 37+01.4 S 26+90.17 HFH 138

CB 188 E 39+67.33 S 29+42.00

MH 97 E 39+67.33 S 29+50.52

CB 191 E 38+67.33 S 29+42.00

CB 55 E 37+30.5 S 28+51.9

E 37+56.36 S 30+27.94

CB 24 E 37+30.0 S 28+06.9 (ABANDONED)

LFH 26 E 36+85.0 S 28+16.5

MH 84 E 37+04.8 S 28+22

T-62
T-61
T-22
T-21
T-20
T-523
T-536
T-520
T-510
T-511

T-620
T-619
T-601
T-602
T-603
T-631

1270
1269
1266
1271
1262
1263
1255

2053
3053
1053

SUMP

16'-0" 60'-0" 10'-0"

16'-0"

24'-0"

ORIGINAL DOCK

NEW RAMP

NEW DOCK

NEW RAMP

S2 S3 S1

S4

S5

N2 TANK

ARGON TANK

PROPOSED SAMPLE LOCATIONS

LEGEND

- POST INDICATOR VALVE (P.I.V.)
- FIRE HYDRANT (F.H.)
- MANHOLE (MH)
- CATCH BASIN (CB)
- LIGHT POLE
- PIPE SUPPORT
- ELECTRICAL MANHOLE
- TELEPHONE MANHOLE
- STREET WASHERS
- 0000 MONITORING WELL

EXCAVATED 40'-48'

EXCAVATED 12'-16'

HWMU BOUNDARY

SAMPLE LOCATION
S4

WESTINGHOUSE ENVIRONMENTAL MANAGEMENT CO. OF OHIO
FERNALD, OHIO
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
U.S. DEPARTMENT OF ENERGY

AREA/UNIT PLAN

FIGURE B-1

LABORATORY & LOADING DOCK (UPGRADED)

DATE 7/28/92
DRAWN S.J.SMOCK

FILE NAME: /USR/STEVE/MAPS/1954FIG1.DGN

ATTACHMENT C
TO THE
CLOSURE PLAN INFORMATION AND DATA
FOR THE
DRUM STORAGE AREA NEAR LOADING DOCK (LAB)

Revision 0
April 1993

GUIDELINES FOR THE PREPARATION OF FMPC PROJECT/TASK SPECIFIC HEALTH AND SAFETY PLANS (APPENDIX II OF THE FMPC SITE HEALTH AND SAFETY PLAN, JUNE 1990)

PROJECT/TASK TITLE: _____
PREPARED BY: _____
DATE: _____

REVIEWED BY:
Centralized training: _____
Radiological Safety: _____
Industrial Hygiene and Safety: _____

NOTE: This plan and associated permits shall be reviewed with each worker and be posted at the work site at all times. Review of all of the listed sections is required prior to work start.

INTRODUCTION

A project/task specific health and safety plan is a complementary program element that aids in the elimination or effective control of anticipated safety and health hazards. The project/task health and safety plan shall include all basic requirements of the overall health and safety plan, but with close attention given to those characteristics unique to the particular project, task or job. For example, the project/task plan may outline the method of doing work in a confined space area, hazardous waste area, area containing hazardous materials or any area where there is the potential for exposure to employees.

Much of the information required to complete the plan may be provided on FEMP Work Permit Form No. 2939. However, the plan will allow for a complete job evaluation, health evaluation of the employee(s) performing the work and assure that personnel health and safety concerns are addressed prior to the start of the job/task.

The project/task health and safety plan must identify the hazards of each phase of the specific project/task/job and must be kept at the work site. All required permits shall be posted in the immediate work area. A job briefing shall be conducted prior to job start up and at any other time as deemed necessary to ensure that employees are aware of the project/task/job health and safety plan and its implementation. The supervisor in charge and Industrial, Radiological Safety and Training representatives shall perform periodic inspections of the job area to ensure that all known deficiencies are corrected prior to work start and during work performance.

NOTE: Examples are provided after each section, they are not meant to be realistic.

SECTION NO.	TITLE
1	History & Description of Building, Equipment, Area
2	Work Area Organization and Site Access Control
3	Task Activities/Work Plan
4	Hazard Assessments
5	Standard Operating Procedures (SOPs)
6	Education and Training
7	Medical Surveillance
8	Monitoring
9	Personnel Protective Equipment Requirements
10	Safety Equipment List
11	Decontamination Procedures
12	Emergency Plans
13	Amendments

TASK SPECIFIC HEALTH & SAFETY QUESTIONNAIRE

SECTION NO. 1 History and Description of Building, Equipment, Area

This Section in its entirety address all known facts about the area where work will be performed. When completed, this section combined with job activities/work plan, should create an understanding of potential health and safety issues to be addressed at the work area.

A. Description of Building, Equipment, Area

Pertinent information about the building, equipment or area such as current disposition, name, manufacturers, location of work area, building construction, etc.

EXAMPLE: This is a 1000 gallon fiberglass tank buried approximately three (3) feet beneath the blacktop east of Building 46. The tank currently contains an unknown amount of methyl ethyl something. The tank was constructed in 1978 by Round Up Manufacturers and installed at the FEMP in January 1979. It has been in continuous use since that time and will be taken out of service 10 days before this project starts.

B. Process Performed or Activities Conducted in the Area

Describe activities performed in the building, use of the equipment, types of material processed, etc.

EXAMPLE: Building 46 is a vehicle and maintenance supply storage facility. The north bay of this three bay building houses emergency vehicles. No radioactive or hazardous

substances have been processed in this building or area.

C. Unusual Features

Include information pertaining to conditions which may present a hazard to personnel such as powerlines, material storage, equipment location, buried lines/pipes, etc.

EXAMPLE: There is a drainage ditch approximately 50 feet east of the proposed work site. The flow in the drainage ditch is not controlled.

An underground high voltage line is believed to be located in this area connecting the electric substation with Building 46.

TASK SPECIFIC HEALTH & SAFETY QUESTIONNAIRE (cont.)

SECTION NO. 2 Work Area Organization and Site Access Control

This section clearly identifies the designated work area, control zones or restricted areas where work will be performed; name(s) of supervisor personnel; name(s) of personnel performing work/activities; names of support personnel required to complete task. Site entry and exiting protocol should also be identified.

EXAMPLE: An exclusion zone will be established around the proposed tank excavation area. This area measures approximately 25' X 25'. The exclusion zone shall be marked with barrier tape.

Jo Smyth, Badge No. 0000, will be the supervisor in charge of this project. Tiny Tim, Badge No. 0000, Chicken Little, Badge 000, and Hairy Wolf, Badge No. 0000, will perform the tank sampling, excavation and removal activities.

Entry into the exclusion zone will be limited to the above listed individuals, Industrial Hygiene and Radiological Safety Technicians, Safety and Fire Inspectors and Utility Engineers. Anyone else desiring entry must first be approved by the supervisor in charge.

Personnel exiting the area must be monitored to assure they are free of contaminates.

SECTION NO. 3 Task Activities/Work Plan

State task activity that will be performed and anticipated work plan.

TASK SPECIFIC HEALTH & SAFETY QUESTIONNAIRE (cont.)

EXAMPLE: The contents of the tank must be sampled, the blacktop and aggregate fill on top and around the tank will be removed and boxed for shipment, all piping will be disconnected and removed, the tank will be removed and the excavation filled with new aggregate materials.

TASK SPECIFIC HEALTH & SAFETY QUESTIONNAIRE (cont.)

SECTION NO. 4 Hazard Assessments

General categories of hazards that may be present at the work site should be listed. MSDSs must be included for any identified hazardous substance. It is prudent to assume that any identified hazard is present until a characterization has proven otherwise. Provisions should be made to properly protect all individuals that have the potential for exposure from the suspected or identified hazardous substances. Specific WEMCO work permits may be required and should be prepared in accordance with Site Procedure 516.

DISCUSSION: List each suspected or identified hazardous substance, condition or waste. Attach copy of the applicable MSDS to the Health and Safety Plan. When identified, the appropriate permit should be completed and a copy attached to the Project/Task Specific Health and Safety Plan.

SECTION NO. 5 Standard Operating Procedures (SOPs)

Some project/tasks will require that special SOPs be prepared or existing procedures be referenced to conduct the work according to specified guidelines.

DISCUSSION: If no procedure exists to cover the proposed work, prepare one to address the project/task. If procedures exist, list the applicable document number and full title.

SECTION NO.6 Education and Training

Employees shall not engage in field activities until they

have been trained to a level commensurate with their job function, responsibilities and with the degree of anticipated hazards. The amount of training is based on worker categories.

A. Worker Category

1. General Site Worker - 40 hours of SARA/OSHA instruction plus 24 hours of field experience.

2. Occasional Site Worker - 24 hours of SARA/OSHA instruction plus 8 hours of filed experience.

3. Workers Regularly on Site But Not in Danger of Exposure - 24 hours of SARA/OSHA instruction plus 8 hours of field experience.

4. Management or Supervisor - Same as 1, 2, or 3 depending on category of work being supervised plus 8 hours of specialized training.

5. Visitors -Are not permitted within exclusion zones unless they have completed the training requirements specified in No. 1 through 4.

B. A safety meeting for all employees involved in hazardous material/waste operations. These meetings shall be held prior to task start, daily during work periods, when there is a change in work activities or implementation of safety plan amendments. Meetings shall be documented and will become a permanent element of this task specific health and safety plan. Subjects to be covered shall include:

TASK SPECIFIC HEALTH & SAFETY QUESTIONNAIRE (cont.)

- 0 Work operations
- 0 Personnel protective equipment
- 0 air monitoring data
- 0 hazard communication
- 0 hearing conservation
- 0 monitoring results
- 0 decontamination procedures
- 0 task organization
- 0 physical stress
- 0 emergency procedures
- 0 communications
- 0 general safety
- 0 housekeeping

A detailed listing of subjects can be found in the site Health and Safety Plan Appendix II.

SECTION NO. 7 **Medical Surveillance (To be completed by Medical Services)**

Worker selection is based on an evaluation by a qualified licensed physician having knowledge of the specific tasks to be performed and the exposure potential as it relates to the worker. FEMP form HR 3162 is used for the purpose.

SECTION NO. 8 **Monitoring (To be completed by IRS&T)**

A. State the monitoring protocol and action levels for the contaminants involved in each work activity.

B. State each type of instrument to be utilized and coordinate with the type of contaminate to be monitored.

TASK SPECIFIC HEALTH & SAFETY QUESTIONNAIRE (cont.)

SECTION NO. 9 Personnel Protective Equipment Requirements

State the required level of protection for each activity, task or hazardous substance as identified in the hazard assessment.

SECTION NO. 10 Safety Equipment List

State each piece of safety equipment and the protocol for utilization. This section should create the "shopping list" of safety supplies or equipment available for use by workers.

EXAMPLES: Personnel Protective Equipment (PPE), Fire Extinguishment, Decontaminating Materials, Communication Devices, Barrier Tape, Etc.

SECTION NO. 11 Decontamination Procedures

Address decontamination of personnel and each piece of equipment as a step by step procedure for both chemical and radiological contaminants.

Include level of protection to be utilized during decontamination process, solutions, stations and dispensation of fluids, disposable and other waste.

SECTION NO. 12 Emergency Plans

Emergency plans shall include methods of reporting emergencies or abnormal conditions; evacuation procedures; accountability; types of alarms, etc.

TASK SPECIFIC HEALTH & SAFETY QUESTIONNAIRE (cont.)

SECTION NO. 13 Amendments

Statements shall be made as follows:

A. This Project/Task Specific Health and Safety Plan is based on information available at the time of preparation. Unexpected conditions may arise which require reassessment of safety procedures. It is important that personnel protective measures be thoroughly assessed by the supervisor in charge and IRS&T representative prior to and during the planned task activities. Unplanned activities and/or changes in the hazard status require a review of and may require changes in this plan.

TASK SPECIFIC HEALTH & SAFETY QUESTIONNAIRE (cont.)

B. Changes in the anticipated hazard status or unplanned activities are to be submitted as an amendment to this Project/Task Specific Health and Safety Plan.

C. Amendments must be approved by the plan author and IRS&T prior to implementation of the amendment.