

300401-0605010005

CH2M HILL

Mound, Inc.

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P.O. Box 3030

Miamisburg, OH

45343-3030

ER/WM-057/05

February 3, 2005



CH2MHILL

Ms. Margaret L. Marks, Director
Miamisburg Closure Project
U. S. Department of Energy
1075 Mound Road
Miamisburg, OH 45342

ATTENTION: Paul Lucas

SUBJECT: Contract No. DE-AC24-03OH20152
Statement of Work Requirement 055 - Regulator Reports
**MOUND WASTEWATER TREATMENT PLANT, ACTION MEMORANDUM, PUBLIC
REVIEW DRAFT**

Dear Ms. Marks:

Paul Lucas of your office has authorized the release of the following document for public review:

- Mound Wastewater Treatment Plant, Action Memorandum, Public Review Draft

Public comment will be accepted through March 9, 2005.

If you or members of your staff have any questions regarding the document, or if additional support is needed, please contact me at 937-865-4203.

Sincerely,

A handwritten signature in cursive script that reads "David A. Rakel".

David A. Rakel
CERCLA Lead

DAR/ms

Enclosures

cc: Tim Fischer, USEPA, (1) w/attachments
Brian Nickel, OEPA, (4) w/attachments
Ruth Vandegrift, ODH, (1) w/attachments
Mary Wojciechowski, Tetra Tech, (1) w/attach
Frank Schmaltz, DOE/MCP, (1) w/attachments
Lisa Rawls, MCP, w/o attachments
Randy Tormey, DOE/OH, (1) w/attachments
Frank Bullock, MMCIC, (3) w/attachments
Public Reading Room, (4) w/attachments

CERCLA Records, CH2M Hill, (1) w/attachs
Chris Watson, CH2M Hill, (1) w/attachs
ER Records, CH2M Hill, (1) w/attachs
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ACTION MEMORANDUM

ENGINEERING EVALUATION/COST ANALYSIS

MOUND WASTEWATER TREATMENT PLANT

**(Buildings 57, 112, 113, 415, 432, and EG-8)
(Includes removal of PRSs 43 through 56)**

REMOVAL ACTION

FEBRUARY 2005

PUBLIC REVIEW DRAFT



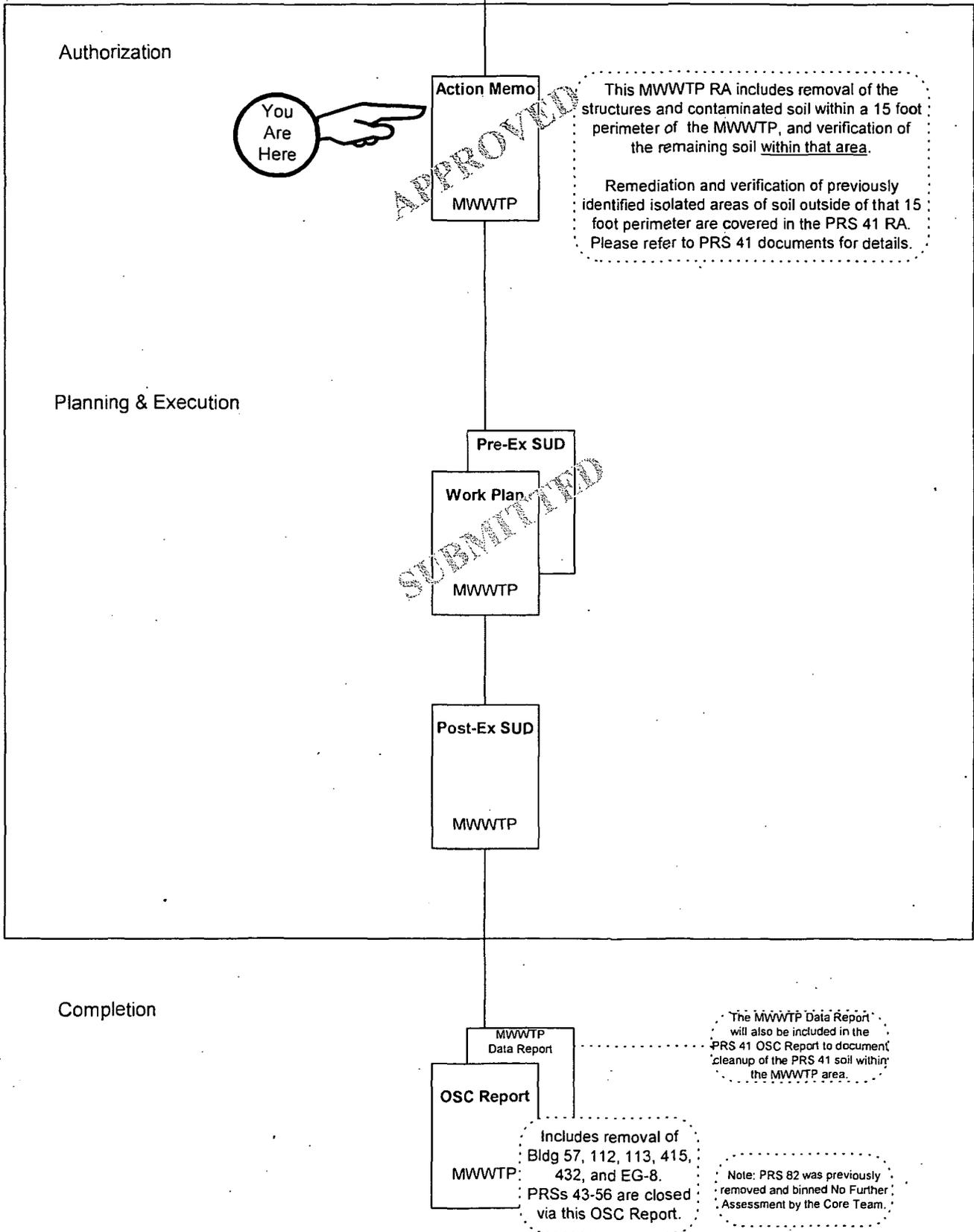
**Department of Energy
Miamiisburg Closure Project**



CH2MHILL

Mound Wastewater Treatment Plant

Bldgs 57, 112, 113, 415, 432, and EG-8
PRSs 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, and 56



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MIAMISBURG CLOSURE PROJECT

ACTION MEMORANDUM

The following document is available
(February 7, 2005) for public information in the
CERCLA Public Reading Room, 305 E. Central
Ave., Miamisburg, Ohio.

**Mound Wastewater Treatment Plant
Action Memorandum**

Questions can be referred to Paul Lucas at
(937) 847-8350 ext. 314

U.S. Department of Energy
U.S. Environmental Protection Agency
Ohio Environmental Protection Agency

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TABLE OF CONTENTS

Section	Page
1.0 PURPOSE.....	1
2.0 SITE CONDITIONS AND BACKGROUND.....	1
2.1 Site Description.....	1
2.1.1 Physical Location.....	1
2.1.2 Site Characteristics.....	1
2.1.3 Current Conditions.....	5
2.1.4 Associated PRS Overview.....	7
2.1.5 Release or Threatened Release into the Environment.....	7
2.1.6 National Priorities List Status.....	7
2.2 Other Actions to Date.....	7
2.2.1 Previous Removal Actions.....	8
2.2.2 Current Actions.....	8
2.3 State and Local Authorities' Roles.....	9
2.3.1 State and Local Action to Date.....	9
2.3.2 Potential for Continued State and Local Response.....	9
3.0 THREAT TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT.....	10
3.1 Threats to Public Health or Welfare.....	10
3.2 Threats to the Environment.....	10
3.3 Removal Site Evaluation.....	10
4.0 ENDANGERMENT DETERMINATION.....	10
5.0 PROPOSED ACTION AND ESTIMATED COSTS.....	11
5.1 Proposed Action.....	11
5.1.1 Proposed Action Description.....	11
5.1.2 Contribution to Future Remedial Actions.....	13
5.1.3 Description of Alternative Technologies.....	13
5.1.4 EE/CA.....	14
5.1.5 Standards and Requirements.....	14
5.1.6 Project Schedule.....	15
5.2 Estimated Costs.....	15
6.0 EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN.....	16
7.0 OUTSTANDING POLICY ISSUES.....	16
8.0 ENFORCEMENT.....	16
9.0 RECOMMENDATION.....	17
10.0 REFERENCES.....	18

TABLE OF CONTENTS

Continued

Appendices

Appendix A	Figures	
	Figure 1	Mound Site Map
	Figure 2	Building 57 and Vicinity (PRSs Associated with MWWTP)
	Figure 3	URMA in Vicinity of MWWTP
	Figure 4	Aerial View
	Figure 5	Schedule Summary
Appendix B	Tables	
	Table 1	PRSs in Proximity to MWWTP
	Table 2	Soil Cleanup Objectives (pCi/g)
	Table 3	Evaluation of Removal Action Appropriateness Criteria
	Table 4	Fiscal Year Campaigns
	Table 5	Removal Action Cost Estimate
Appendix C	Photographs	
Appendix D	PRS Information	
Appendix E	Floor Plans	
Appendix F	Analysis Data from Mound Sludge	
Appendix G	Chemicals	

TABLE OF CONTENTS

Continued

ACRONYMS

ACM	asbestos-containing material
AM	Action Memorandum
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
COC	Contaminant of Concern
DOE	Department of Energy
DOT	Department of Transportation
EE/CA	Engineering Evaluation/Cost Analysis
EG	Emergency Generator
ER	Environmental Restoration
FFA	Federal Facilities Agreement
HASP/JSHA	Health and Safety Plan/Job Specific Hazard Analysis
LSA	low-specific activity
MCP	Miamisburg Closure Project
MEMP	Miamisburg Environmental Management Project
MMCIC	Miamisburg Mound Community Improvement Corporation
MWWTP	Mound Wastewater Treatment Plant
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NFA	No Further Assessment
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
OAC	Ohio Administrative Code
OEPA	Ohio Environmental Protection Agency
OSC	On-Scene Coordinator
OSHA	Occupational Safety and Health Administration
pCi/g	picoCuries per gram
pH	Hydrogen ion concentration
PPE	Personnel Protective Equipment
PRS	Potential Release Site
RAS	Return Activated Sludge
RA	Removal Action
RBGV	Risk-Based Guideline Value

TABLE OF CONTENTS

Continued

ACRONYMS

Continued

ROD	Record of Decision
RCRA	Resource Conservation and Recovery Act
RSE	Removal Site Evaluation
SARA	Superfund Amendments and Reauthorization Act
SD	Sanitary Disposal
square-foot	sf
URMA	Underground Radioactive Material Area
USEPA	United States Environmental Protection Agency

1.0 PURPOSE

The United States Department of Energy (DOE) is the designated lead agency under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and Removal Actions (RAs) at the Miamisburg Closure Project (MCP) (previously called the Miamisburg Environmental Management Project or MEMP) are implemented as non-Superfund, federal-lead actions. DOE provides the On-Scene Coordinator (OSC). Non-Superfund, federal-lead RAs are not subject to United States Environmental Protection Agency (USEPA) limitations on the OSC (\$50,000 authority) and are not subject to National Oil and Hazardous Substances Pollution Contingency Plan (NCP) limitations on RAs (i.e., \$2,000,000 in cost and 12 months in duration).

This Action Memorandum (AM) Engineering Evaluation/Cost Analysis (EE/CA) has been generated to document the general site conditions that would justify application of a RA consistent with CERCLA, to propose the RA described herein, and to allow public input (Reference 1).

This RA is proposed for the removal of the Mound Wastewater Treatment Plant (MWWTP), (also referred to as the Sanitary Disposal [SD] Facility) buildings and structures and contaminated soil within a 15-foot perimeter surrounding the MWWTP area. Contaminated soil outside of the MWWTP 15-foot perimeter is included in the Potential Release Site (PRS) 41 RA. PRS numbers 43 through 56 (Table 1) will be removed and closed via this RA. Building locations are shown on Figure 1, and photographs are provided in Appendix C.

2.0 SITE CONDITIONS AND BACKGROUND

2.1 Site Description

This section describes the physical site location, site characteristics, release of contaminants into the environment, and the site's National Priorities List (NPL) status.

2.1.1 Physical Location

The MCP Site is located on the southern border of the City of Miamisburg in Montgomery County, Ohio, approximately 10 miles south-southwest of Dayton and 45 miles north of Cincinnati.

2.1.2 Site Characteristics

The MWWTP consists of six numbered buildings, two tents, one shed, 13 tanks (open to the atmosphere), one aboveground diesel fuel storage tank, two pump pits, a sludge drying bed, and ancillary components/structures. Located on the western edge of the plant site, south of Buildings 72 and 124, the MWWTP was designed and built beginning in 1973 and became operational in 1975. The original SD (Sanitary Disposal) Facility, which was

located northeast of the current MWWTP, ceased operation at that time. The MWWTP was modified or expanded in 1979, 1985, 1986, 1989, 1992, and 1995.

The MWWTP is situated within the boundary of an Underground Radioactive Material Area (URMA), as shown on Figure 3. Additionally, the facility lies within PRS 41. The sub-slab soils under the MWWTP and soils surrounding the building will be evaluated/characterized and included within the work plan and SUD (and remediated as indicated) as part of the PRS 41 RA. Following completion of the RRE, ROD, and when CERCLA 120 h requirements are met, the property on which the MWWTP stands will be transitioned to the Miamisburg Mound Community Improvement Corporation (MMCIC).

The MWWTP consists of the following buildings, structures, and ancillary components/structures (shown on Aerial View, Appendix A, Figure 4):

2.1.2.1 Building 57 and EG-8

Built in 1974, Building 57 is a single-story concrete block structure with a build-up membrane roof. The 510 sf building has electric heat, potable water, and window air conditioning. The building contains the plant operator control and testing facilities, a lavatory (with a shower), a change room, and Emergency Generator 8 (EG-8).

2.1.2.2 Grit Chamber (PRS 43) [Including Grit Conveyor (PRS 44)]

Built in 1974, the grit chamber (Concrete Tank 101) is a 140 sf structure that extends 17 feet below grade. Originally, the bottom of the tank was sloped to a trough with a screw conveyor that moves the material that settles out to an elevator chain and bucket system for removal from the tank. This equipment was removed in 1992 and replaced with static screens that remove debris. A 20-foot by 40-foot tent covers the grit chamber and associated equipment. The PVC-coated, polyester fabric tent was manufactured by Rubb Building Systems and is supported by an internal frame of galvanized pipe. The tent has electrical service, incandescent lights, and a small electric heater.

2.1.2.3 Comminutor (PRS 45) and Equalization Basins (PRSs 46 and 47)

The comminutor (Concrete Tank 102) and two equalization basins (Concrete Tanks 103 and 104) are conjoined, reinforced concrete basins built in 1974. The comminutor is a 68 sf basin that has a 7-foot depth and is mostly below grade. The equalization basins are 163 sf basins, each with a depth of almost 20 feet, mostly below grade.

2.1.2.4 Aeration Process Pits (PRSs 50 and 51) and Clarifiers (PRSs 52 and 53)

The aeration process pits (Tanks 107 and 108) sit side-by-side and are attached to clarifiers (Tanks 109 and 110). Each aeration pit is 24 feet X 43 feet X 11 feet. The clarifiers are 12 feet X 24 feet X 14 feet. The clarifiers were removed from service in 1992. A 24-foot X 52-foot tent covers the clarifiers and associated equipment. The PVC-coated, polyester fabric tent is supported by an internal frame of galvanized pipe.

2.1.2.5 Chlorine Contact Basin (PRSs 55 and 56)

Built in 1974, the chlorine contact basin (Concrete Tanks 111 and 112) is a 105 sf concrete structure that is 8 foot deep and mostly below grade. Water enters the basin via a trough to a tee with stop gates that allowed the water to be diverted to either of the two parallel influent channels. In 1995, the chlorine basin was modified for series flow through all four chambers by plugging existing troughs and channels and core boring and cutting new channels. A metal cover was also installed.

2.1.2.6 Sludge Drying Beds (PRS 57)

Two 15-foot X 15-foot sludge-drying beds were originally (1974) located south of the aeration pits. Those beds were later removed to make room for an additional equalization basin. In 1979, sludge-drying Beds 1 – 4 were constructed. At the time of this AM, only Bed 3 remains because Beds 1 and 2 were removed to allow for construction of Building 113, and Bed 4 was removed to allow for the construction of the RAS (Return Activated Sludge) pump pit and the new clarifier. Bed 3 is 36 feet long X 21 feet wide (775 square feet). The perimeter walls are 8-inch thick concrete and vary from 5' 3" to 6' 9" in height. The base of the bed slopes to the center to a trough that drains the bed. The base consists of compacted soil, layers of graded gravel, and sand. A polyethylene film lines the bed.

2.1.2.7 Equalization Basin (PRSs 48 and 49)

Built in 1985, the Equalization Basins (Concrete Tanks 105 and 106) are conjoined, reinforced concrete structures with a total area of 681 square feet. The bottom of the basins (as a unit) is 35' 6" long by 22' 4" wide, and the walls are 18' 9" high. Each basin has air supplied to the bottom sparge plates from adjacent blowers.

2.1.2.8 Building 432 – Effluent De-chlorination

Building 432, built in 1995, is a 180 sf, slab-on-grade, pre-engineered metal building with a standing seam metal roof. Sodium bisulfite is added to the effluent to neutralize the chlorination process.

2.1.2.9 Polymer Storage Shed

The polymer storage shed is a 100 sf, pre-engineered corrugated metal shed with a wooden floor. The shed has wooden skids and sits on grade. It has electrical service. Polymer is added to the waste stream after aeration to enhance the settling process.

2.1.2.10 Wet Well

The wet well is a 110 sf reinforced concrete structure built in 1986. The well is 8' 8" deep, mostly below grade. Water enters the wet well via a trough. Two pumps discharge the effluent to the sand filters in Building 112.

2.1.2.11 Building 112

Built in 1986, Building 112 is a 780 sf, pre-engineered, metal building that sits on a 6-inch reinforced concrete slab. The building was constructed to house two sand filters (PRS 54).

2.1.2.12 Building 113

Building 113 is a 1,200 sf, pre-engineered metal building with three overhead doors. The building was built in 1990 to house dewatering equipment. The dewatering equipment has been removed and the building is currently being used as a garage. The building is constructed on an 8-inch reinforced concrete slab. The slab contains a cast iron slotted drain with a catch basin at the end.

2.1.2.13 Building 415

Building 415 is a 400 sf pre-engineered metal building with a 6-inch reinforced concrete slab and a standing seam metal roof. The building is used for storage of fly ash. The fly ash was added to and mixed with the sludge in the adjacent Sludge Holding Tanks to condition the sludge (to enhance drying) before it was pumped to the Belt Filter Press in Building 113.

2.1.2.14 Sludge Holding Tanks

The Sludge Holding Tanks (Concrete Tanks 137 and 138) are conjoined, reinforced concrete basins that have a combined area of 506 square feet and a depth of 11 feet, mostly below grade. The bottom of each basin has an 18-inch square by 6-inch deep sump.

2.1.2.15 RAS Pit

The RAS (Return Activated Sludge) Pit is a 100 sf, reinforced concrete pump pit containing two pumps. The seven-foot deep RAS pit is mostly below grade. A removable 8-inch thick reinforced concrete cover with a 5-foot square door covers the pit.

2.1.2.16 New Clarifier

Built in 1994, the new clarifier (Concrete Tank 122) is an 873 sf reinforced concrete structure that has an outside diameter of 33' 4" and a depth of approximately 18 feet, mostly below grade. A steel bridge crosses the top of the clarifier and supports the drive motor that drives the bottom scraper.

2.1.2.17 1000-Gallon Fuel Tank

A new above ground 1000-gallon fuel tank was installed in 1992. The tank and its attached secondary confinement with skids sit on an 8-foot X 10-foot reinforced concrete slab.

2.1.2.18 Tank 118 (PRS 82)

The underground fuel storage tank installed in 1974 was abandoned in place in 1992 and was removed in 1995. The tank, which was made of fiberglass reinforced plastic, was used to store diesel fuel for the emergency generator (EG-8) near Building 57. Tank 118 was identified as PRS 82, which was binned No Further Assessment (NFA) in December 1996. A copy of the Recommendation page for PRS 82 is provided in Appendix D.

2.1.2.19 Scum Pump Wet Well

The Scum Pump Wet Well is a 30-in diameter and 7-foot deep fiberglass wet well. The well contains a submersible pump that returns scum from the new clarifier to the sludge holding tanks.

2.1.2.20 Ancillary Components/Structures

Ancillary components include items such as above ground and under ground piping, stanchions, troughs, utility poles, asphalt, sidewalks, pads, slabs, curbs, and retaining walls that make up the infrastructure within the 15-foot perimeter of the MWWTP.

2.1.3 Current Conditions

The MWWTP is currently operating. The treatment process has two major flow streams: a liquid treatment process; and a residual treatment process. In the liquid treatment process, wastewater from Mound sanitary facilities collects and flows by gravity into the influent wet well (also known as the grit chamber, or Tank 101). Plant influent is normally pumped through fine screens that remove debris, including grit, and discharges directly into the flow equalization basins (Tanks 103 – 106). During cleaning and maintenance of the grit basin, influent is rerouted into the comminutor (Tank 102) and then to the flow equalization basins. Influent is measured for pH (Hydrogen ion concentration) as it passes into the equalization basins. Mechanical mixers and aeration prevent the sewage from settling in the equalization basins. Wastewater is stored in the equalization basins to maintain equal flow over the aeration process pits, which is the next stage of treatment. Wastewater is pumped from the equalization basins to the aeration process pits (Tanks 107 and 108), where a biological treatment is necessary to remove the remaining impurities from the wastewater by converting them to bacterial cells (activated sludge). At the end of the aeration process, a polymer solution is added to the wastewater to enhance the settling of sludge in the next treatment process known as clarification. The polymer, which is stored in the polymer storage shed, is mixed with water to form a solution prior to being introduced into the wastewater. From the aeration process pits, the wastewater is pumped to the new clarifier (Tank 122). The clarifier, which is also known as a settling tank, is designed to provide a calm period for the wastewater, allowing the bacteria (activated sludge) to settle out from the clear liquid. The activated sludge is collected at the bottom of the clarifier and pumped back to the aeration process pits by the RAS (Return Activated Sludge) pump. The scum, which floats to the top of the clarifier liquid, is removed and diverted to the scum pump wet well, where the scum pump returns the scum to the sludge holding tanks (Tanks 137 and 138). From the clarifier, the wastewater flows into the wet well where it is pumped to the

sand filters (Building 112). The sand filter removes the fine solids that remain in the wastewater. The effluent from the sand filter flows by gravity to the chlorine contact basins (Tanks 111 and 112) where the wastewater is disinfected by the addition of chlorine (sodium hypochlorite). The remaining sodium hypochlorite in the effluent flow stream is removed by treatment with a dechlorination chemical – Reducite (sodium bisulfite). After the desired chlorine residual level is maintained and the dissolved oxygen and pH are analyzed, the effluent is discharged from the treatment facility to the Great Miami River.

The residual treatment process removes screenings (such as rags, paper products, fibrous debris, sticks, some fecal matter, gravel, etc.) from the wastewater stream to protect moving plant equipment from abrasion and wear and to reduce the deposition of particles in pipe, channels, and tanks. The residual treatment process utilizes the sludge holding tanks (Tanks 137 and 138) and the sludge drying bed #3 to dewater the sludge prior to disposal.

A connection is to be made between the Mound sanitary sewer system and the City of Miamisburg sewer system. This connection is scheduled for completion in April 2005. Once this connection is completed, sanitary sewage will flow into the City of Miamisburg's sewer system for treatment and the MWWTP will cease operations. Building and process equipment contamination levels will be determined after the treatment plant has been drained and flushed. Abandoned systems will be removed from the treatment plant only if they are contaminated or have been identified for future use. Remaining materials will be demolished with the buildings and structures.

2.1.3.1 Radiological

The MWWTP is believed to have minimal radiological contamination on the surfaces of the treatment process structures and equipment because there was a separate waste facility (Building WD) for radioactive waste and because there were no radioactive treatment processes at the MWWTP. Building WD (Radiological Liquid Processing/Waste Disposal) was the treatment facility for low specific activity (LSA) radioactive wastes generated by process activities at Mound. Radiologically contaminated areas at the MWWTP will be removed and disposed of as low-specific activity (LSA) waste. Analysis data from Mound sludge is provided in Appendix F.

2.1.3.2 Chemical

Appendix G provides a list of chemicals known to have been used or stored in the MWWTP. The site occurrence reporting system indicates no spills or releases to the environment. All chemicals will be removed from the treatment plant prior to demolition.

2.1.3.3 Asbestos

Previous asbestos survey results indicate that asbestos-containing materials (ACMs) exist in Building 57. One material, insulation on exhaust components of the generator (EG-8) in Room 104 of Building 57, was found to be asbestos-containing. One other material, asphalt-based roofing on Building 57, was assumed to be asbestos-containing. The asphalt roofing material is a Nonfriable Category I material in accordance with the EPA's National Emissions Standards for Hazardous Air Pollutants (NESHAP) and may remain in place

during demolition. The friable asbestos material (insulation on exhaust components) will be removed in accordance with NESHAP requirements prior to the commencement of demolition activities, and disposed of per Waste Management direction.

2.1.3.4 Lead

No previous lead surveys or sampling data could be found for the MWWTP. A walk-through survey of the accessible areas of the treatment plant was performed in order to identify any existing or potential lead paint hazards. The paint coatings present were observed to be largely intact and no potential hazards were observed. Since the facility is scheduled for imminent demolition, painted surfaces will be tested for lead content as planned work indicates the need for such testing in order to avoid worker exposure to lead. No further action would be necessary to protect occupant or worker health unless any coatings were to be disturbed by close worker contact (sanding, grinding, scraping, torch cutting, etc.) If these types of activities are planned, the affected paint coatings will be tested to verify the absence of lead. Appropriate controls and personal protective equipment (PPE) will be used for disturbance as required.

2.1.4 Associated PRS Overview

As a result of the investigations and documentation accomplished to comply with the CERCLA cleanup process via the Federal Facilities Agreement (FFA), DOE and the site contractor tabulated all the PRSs identified under the various regulatory programs in effect at the site. Of the site PRSs identified, twenty-six are in the vicinity of the MWWTP (Table 1). Their locations are shown on Figure 2, and additional information is included in Appendix D.

PRSs 43 through 56 are associated with buildings and structures in the MWWTP and will be addressed in this AM/EE/CA and closed out via the OSC Report.

2.1.5 Release or Threatened Release into the Environment

The potential release of radionuclides and/or hazardous chemicals prompted this RA.

2.1.6 National Priorities List Status

The USEPA placed the Mound Site on the NPL by publication in the Federal Register on November 21, 1989.

2.2 Other Actions to Date

The site initiated a CERCLA program in 1989, now guided by the agreement among the DOE, Ohio Environmental Protection Agency (OEPA), and USEPA. An FFA under CERCLA Section 120 was executed between DOE and USEPA Region V on October 12, 1990. It was revised on July 15, 1993 (EPA Administrative Docket No. OH 890-008984) to include OEPA as a signatory. The general purposes of the FFA are to:

- ensure that the environmental impacts associated with past and present activities at the site are thoroughly investigated and appropriate remedial actions taken as necessary to protect the public health, welfare, and the environment,
- establish a procedural framework and schedule for developing, implementing, maintaining, and monitoring appropriate RAs at the site in accordance with CERCLA, Superfund Amendments and Reauthorization Act (SARA), the NCP, Superfund guidance and policy, and Resource Conservation and Recovery Act (RCRA) guidance and policy, and
- facilitate cooperation, exchange of information, and participation of the parties in such actions.

2.2.1 Previous Removal Actions

No previous RAs have been performed at the MWWTP.

The MWWTP was a replacement facility for the former SD (Sanitary Disposal) facility. SD Building, which was located northeast of the MWWTP, was a 1,593 sf structure that was constructed in 1948 and remained in service until 1975. It was a one-story (with a basement) facility that was used for sanitary treatment and sewage disposal. SD Building was demolished in 1996 as a decontamination and decommissioning (D&D) project, with soil verification via the UGL Removal Action.

The area covered by this MWWTP AM is within the boundary of PRS 41, which was previously binned a Removal Action based on thorium soil contamination from former thorium staging and redrumming operations. This AM includes the WWTP structures, and remediation and verification of soil within a 15-foot perimeter around the WWTP area. Remediation and verification of previously identified isolated areas of soil outside of that 15-foot perimeter are covered in the PRS 41 RA. Please refer to PRS 41 documents for details.

2.2.2 Current Actions

Current actions pertinent to the removal of the MWWTP include work planning, and review of pre-characterization data. Work planning consists of the up-front work required to execute building disposition activities in accordance with Environmental Safety & Health requirements, DOE Orders, and best management practices.

Safe Shutdown procedures include removing asbestos, tritium exit sign, and circuit boards. In addition, after agreement is reached with the regulators, sludge that meets acceptance criteria will be pumped to the City sewage treatment plant and sludge that does not meet acceptance criteria will be dewatered and disposed per the standard Material Disposition statement:

Based on a review of the work to be performed, the Waste Generator and Waste Coordinator determine types (sanitary, hazardous, LLW, LLMW, TRU) and estimated amounts of waste prior to generation. An evaluation of the physical, radiological and

chemical properties is made to determine a disposal path for each type of waste. The proposed disposal facility, waste profile, and knowledge of the waste generating process will determine the characterization methodology required for each waste type.

Process knowledge will generally be sufficient to characterize sanitary and hazardous waste for disposal. Sampling and analysis for radiological characterization of radioactive waste will be determined based on process knowledge of the source of the waste. Analytical methods employed include surface contamination measurements, air concentration measurements, and alpha spectroscopy and gamma spectroscopy. All characterization determinations are documented and peer reviewed prior to waste shipment. Material Safety Data Sheets (MSDS) are used to supplement process knowledge of chemical properties of the waste. Where process knowledge is not sufficient to provide a RCRA determination, analysis of waste will be accomplished through the Toxicity Characteristic Leaching Procedure (TCLP) performed by an offsite laboratory.

Procedures controlling waste characterization are contained in Mound Technical Manuals MD-10167, Radioactive Waste Procedures, Operations 420: Waste Stream Characterization and 428: Waste Radionuclide Identification and Quantification, and M D-70523, Management of Hazardous Waste, Trash, and Recyclable Materials, Operation 001: Waste Verification Sampling and Analysis. Additional direction is contained in these manuals in operations specific to the waste type and container being used.

2.3 State and Local Authorities' Roles

2.3.1 State and Local Action to Date

In 1990, as a result of the site's placement onto the NPL, DOE and USEPA entered into an FFA that specified the manner in which the site CERCLA-based environmental restoration was to be implemented. In 1993, the FFA was amended to include the OEPA as a signatory. DOE remains the lead agency.

2.3.2 Potential for Continued State and Local Response

Eventual release of the site for industrial/commercial use is planned. Periodic environmental monitoring of the area may be required until a final Record of Decision (ROD) is implemented for the parcel. This monitoring would require coordination with local, state, and federal authorities. Current plant-wide environmental monitoring programs will continue until such time as remediation is completed. OEPA will continue its oversight role until all terms of the FFA have been completed.

3.0 THREAT TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT

3.1 Threats to Public Health or Welfare

The potential release of radionuclides and/ or hazardous chemicals may create a potential threat to the public health or welfare.

3.2 Threats to the Environment

The potential release of radionuclides and/or hazardous chemicals may create a potential threat to the environment.

3.3 Removal Site Evaluation

The Removal Site Evaluation (RSE) requirements, as outlined under USEPA's NCP regulations in the Code of Federal Regulations (CFR) 40 CFR 300.415, are presented throughout this AM/EE/CA. The source and nature of the potential releases include the following: radiological contamination resulting from the processing of contaminated sludge, possible soil contamination from hazardous chemicals used in the treatment process (although there is no record of any spills or releases to the environment), known radiological contamination in the surrounding soils (Table 2), a portion of the soil underneath the MWWTP is within an Underground Radioactive Material Area (URMA) boundary, and PRS 41 (from Thorium staging and redrumming activities prior to the construction of the MWWTP). On the basis of this information, the Core Team recommends a RA for the MWWTP and 15-foot perimeter. Following demolition of the MWWTP structures, contaminated soil will be removed, and verification sampling performed per a Core Team-approved SUD. The contaminated soil outside of the MWWTP 15-foot perimeter (and within the PRS 41 scope) will be included in the PRS 41 RA. PRSs 43 through 56 (Table 1) will be closed out in the OSC Report.

An evaluation by public health agencies has not been performed for this area, and, therefore, is not included in this AM/EE/CA. The NCP identifies eight factors that must be considered in determining the appropriateness of a RA [40 CFR 300.415(b)(2)]. These criteria are evaluated in Table 3.

4.0 ENDANGERMENT DETERMINATION

As the location is currently configured and access controlled, actual or threatened releases of pollutants and contaminants from this site do not pose an endangerment to public health or welfare or to the environment. However, to eliminate the possibility of endangerment, as the site transfers from DOE ownership and control, DOE has determined that removal of the contaminants is appropriate.

5.0 PROPOSED ACTION AND ESTIMATED COSTS

5.1 Proposed Action

The proposed action is the demolition of the MWWTP (photographs provided in Appendix C). Since the proposed action is within the site boundaries, it is not expected to have a disproportionate impact on low income or minority populations.

5.1.1 Proposed Action Description

The proposed action is expected to result in multiple fieldwork efforts. Components of the proposed action include the following:

- **Public Notification**

A notice of the availability of this AM/EE/CA for 30-day public review will be published in a local newspaper.

- **Demolition**

Demolition activities will be as specified in the Work Plan as summarized below.

1. Demolish building superstructures (Building 57 and EG-8, Building 112 and the sand filters, Buildings 113, 415, 432, the grit chamber tent, grit conveyor and static screens, the clarifier tent, the polymer storage shed, and the fuel oil storage tank.
2. Demolish remaining structures (grit chamber, sludge holding tanks, comminutor tank, equalization basins, sludge drying bed, aeration process pits, clarifiers, RAS pump pit, scum pump wet well, new clarifier, wet well, and chlorine contact basin).
3. Demolish structures, slabs, footers/foundations, and ancillary structures (including above ground and below ground piping) to three feet below grade. Piping and other structures that are deeper than three feet below grade will be evaluated as to whether it will require remediation. The surface release criteria are presented in MD-80043, Op 400, Attachment 1. (Any portion of a structure not meeting surface release criteria will be removed and disposed of as low level waste.)
4. Remove and dispose of debris.
5. Remediate contaminated soil and dispose of as Low-Level Waste (LLW).
6. Perform Remedial Action Support Survey (RASS) sampling.

Note: All demolition debris to be debris-pile surveyed in accordance with procedures MD-80036, *Radiological Operations Procedures*, Op 1011, *Debris Pile*,

Rolloff, and RMMA Deposting Surveys and MD-80043, Radiological Work Requirements, Op 400, Radioactive Material Transfer and Unrestricted Release of Property/Waste. Procedures controlling waste characterization are contained in Mound Technical Manuals MD-10167, Radioactive Waste Procedures, Operations 420: Waste Stream Characterization and 428: Waste Radionuclide Identification and Quantification, and MD-70523, Management of Hazardous Waste, Trash, and Recyclable Materials, Operation 001: Waste Verification Sampling and Analysis. Additional direction is contained in these manuals in operations specific to the waste type and container being used.

- **Verification**

Verification of structure removal will be per photographs showing the complete removal of the MWWTP. A Core Team approved Survey Unit Design (SUD) will be used to conduct verification sampling. Verification sampling will be performed in accordance with the SUD, as detailed in the standard Verification Sampling and Analysis Plan, Final, August 2004. Contaminants of concern and Cleanup Objectives are described in Appendix B, Table 2. Verification that the remaining soil meets site cleanup criteria will be provided in the Data Report. Both photographs and the Data Report will be included in the OSC Report.

- **Data Report**

The analytical results of soil samples collected per the Core Team-approved SUD will be provided in a Data Report.

- **Site Restoration**

Equipment, materials, waste containers, and barricades will be removed. Excavation resulting from removal of piping, footers, tanks, basins, and pits, will be backfilled and compacted to original contours and elevation unless otherwise specified. The area will be seeded as needed.

- **Documentation of Completion**

The completion of the MWWTP RA will be documented in the OSC Report.

5.1.1.1 Rationale, Technical Feasibility, and Effectiveness

The RA chosen is necessary for the removal of potential radiological contamination in the MWWTP and to ensure that migration of the contamination does not occur. Verification of completion of demolition will be per photographs included in the OSC Report. Soil within a 15-foot perimeter surrounding the MWWTP area will be verified per the Core Team-approved SUD.

5.1.1.2 *Monitoring*

Health and Safety monitoring will be performed throughout the RA according to standard MCP procedures, as specified in the Work Package(s), Health and Safety Plan/Job Specific Hazard Analysis (HASP/JSHA), and Radiological Work Permit(s).

5.1.1.3 *Uncertainties*

The major uncertainties are the concentration levels of the contaminants and the extent of contamination.

5.1.1.4 *Institutional Controls*

DOE will remain in control of the location addressed by this RA until transfer of ownership of the parcel it is in. As with the entire property, site-wide institutional controls will be implemented to ensure industrial/commercial reuse of the Mound property and will be documented in the proposed plan, ROD, and property deed associated with this area to ensure future protection of human health and the environment.

5.1.1.5 *Post-Removal Site Control*

Initially, post-removal site control will be provided by DOE/MCP. The property is to be sold to the Miamisburg Mound Community Improvement Corporation (MMCIC). The institutional and site controls needed at the time of the site transfer in order to ensure future protection of human health and the environment will be included in the ROD.

5.1.1.6 *Cross-Media Relationships and Potential Adverse Impacts*

The potential cross-media impact associated with the RA is the potential for unintended release of contaminated materials into the atmosphere or surface/groundwater. Careful monitoring and control will be implemented during the RA. No potential adverse impacts of the RA have been identified.

5.1.2 Contribution to Future Remedial Actions

To facilitate Further Assessments and RAs in or near the site of this RA, an OSC Report will document the RA with photographs, and other information collected during the fieldwork. The information obtained, as a result of these removals, will be used in determining the availability of the site for final disposition and will be subject to review in the subsequent residual risk evaluation.

5.1.3 Description of Alternative Technologies

Alternative technologies frequently evaluated for CERCLA remediation include institutional controls, containment, collection, treatment, and disposal. Based on the prevailing conditions, the following alternatives (in addition to the proposed alternative of dismantlement) were developed.

1. No Action
2. Institutional Controls

The performance capabilities of each alternative with respect to the specific criteria are discussed below.

5.1.3.1 *No Action*

The "No Action" option was eliminated from further consideration. The Core Team determined that a RA is warranted for the MWWTP.

5.1.3.2 *Institutional Controls*

Existing plant institutional controls effectively minimize the potential for contact of the subject contamination with the general public. However, after ownership is transferred, these same institutional controls will be difficult to monitor and enforce. Thus, institutional controls were eliminated from further consideration. A RA is warranted.

5.1.4 EE/CA

This document serves as the AM and EE/CA.

5.1.5 Applicable, or Relevant and Appropriate Requirements (ARARs)

Miamisburg Closure Project (MCP) ARARs for the Environmental Restoration (ER) Program have been identified (DOE 1998, List of Ohio Administrative Code (OAC) and Ohio Revised Code ARAs). Letter from Nickel to Kleinrath, August 19, 1998). CERCLA regulations require that removal actions comply with ARARs.

Mound personnel will comply with the ARARs identified in Appendix H.

5.1.6 Other Standards and Requirements

The following standards, code of federal regulations (CFR), or requirements have been identified as applicable, or relevant and appropriate to the implementation of this RA. Other standards or requirements related to the actual implementation of the RA may be identified subsequently and will be incorporated into the Work Plan for this RA. Mound personnel will comply with the following requirements, as applicable.

5.1.6.1 *Air Quality*

- 40 CFR Part 61 Subpart H: National Emissions Standards for Emissions of Radionuclides other than Radon from Department of Energy Facilities.
- Ohio Administrative Code (OAC) 3745-15-07(A): Air Pollution Nuisances Prohibited.
- OAC 3745-17-02 (A, B, C): Particulate Ambient Air Quality Standards

- OAC 3745-17-05: Particulate Non-Degradation Policy
- OAC 3745-17-08: (A1), (A2), (B), (D): Emission Restrictions for Fugitive Dust

5.1.6.2 *Worker Safety*

- 29 CFR Part 1910: Occupational Safety and Health Act (OSHA) - General Industry Standards
- 29 CFR Part 1926: OSHA - Safety and Health Standards
- 29 CFR Part 1904: OSHA - Record keeping, Reporting, and Related Regulations

5.1.6.3 *Storm water Runoff*

- National Pollutant Discharge Elimination System (NPDES) Permit No. 11O00005*HD, June 1998.

5.1.6.4 *Transportation*

- 49 CFR 172, 173: Department of Transportation (DOT) hazardous material transportation and employee training requirements.

5.1.6.5 *To Be Considered*

- EPA/230/02-89/042: Methods for Evaluating the Attainment of Cleanup Standards.
- DOE Order 5400.5: Radiation Protection of the Public and the Environment

Other standards or requirements related to the actual implementation of the RA may be identified subsequently during the design phase and will be incorporated into the Work Plan for this RA.

5.1.7 Project Schedule

The schedule established for planning and implementing the RA is illustrated in Figure 5 and summarized in Table 4. Table 4 shows fiscal year campaigns and actions for this AM/EE/CA (FY04-Q4, FY05-Q1, and FY05-Q2). The actual number, duration, and timing of these campaigns may differ.

5.2 Estimated Costs

The cost estimate to perform the RA is shown in Table 5. Costs include the construction activities, all engineering and construction management, and site restoration.

6.0 EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

If the Removal Action is delayed or not taken, there is the potential for the contaminants to migrate.

7.0 OUTSTANDING POLICY ISSUES

There are currently no outstanding policy issues affecting performance of this RA.

8.0 ENFORCEMENT

The Core Team consisting of DOE, USEPA, and OEPA has agreed on the need to perform the removal. The work described in this document does not create a waiver of any rights under the FFA, nor is it intended to create a waiver of any rights under the FFA. The DOE is the sole party responsible for implementing this cleanup. Therefore, DOE is undertaking the role of lead agency, per CERCLA and the NCP, for the performance of this RA. The funding for this RA will be through DOE budget authorization and no Superfund monies will be required.

9.0 RECOMMENDATION

This decision document represents the selected Removal Action for the MWWTP developed in accordance with CERCLA as amended by SARA, and not inconsistent with the NCP. This decision is based on the administrative record for the site.

Conditions at the site meet the NCP Section 300.415 (b)(2) criteria for a removal and we recommend initiation of the removal action.

Approved:

DOE/MCP:	<i>Paul Lucas</i>	2/11/05
	Paul Lucas, OSC	Date

USEPA:	<i>Timothy J. Fischer</i>	2/1/05
	Timothy J. Fischer, Remedial Project Manager	Date

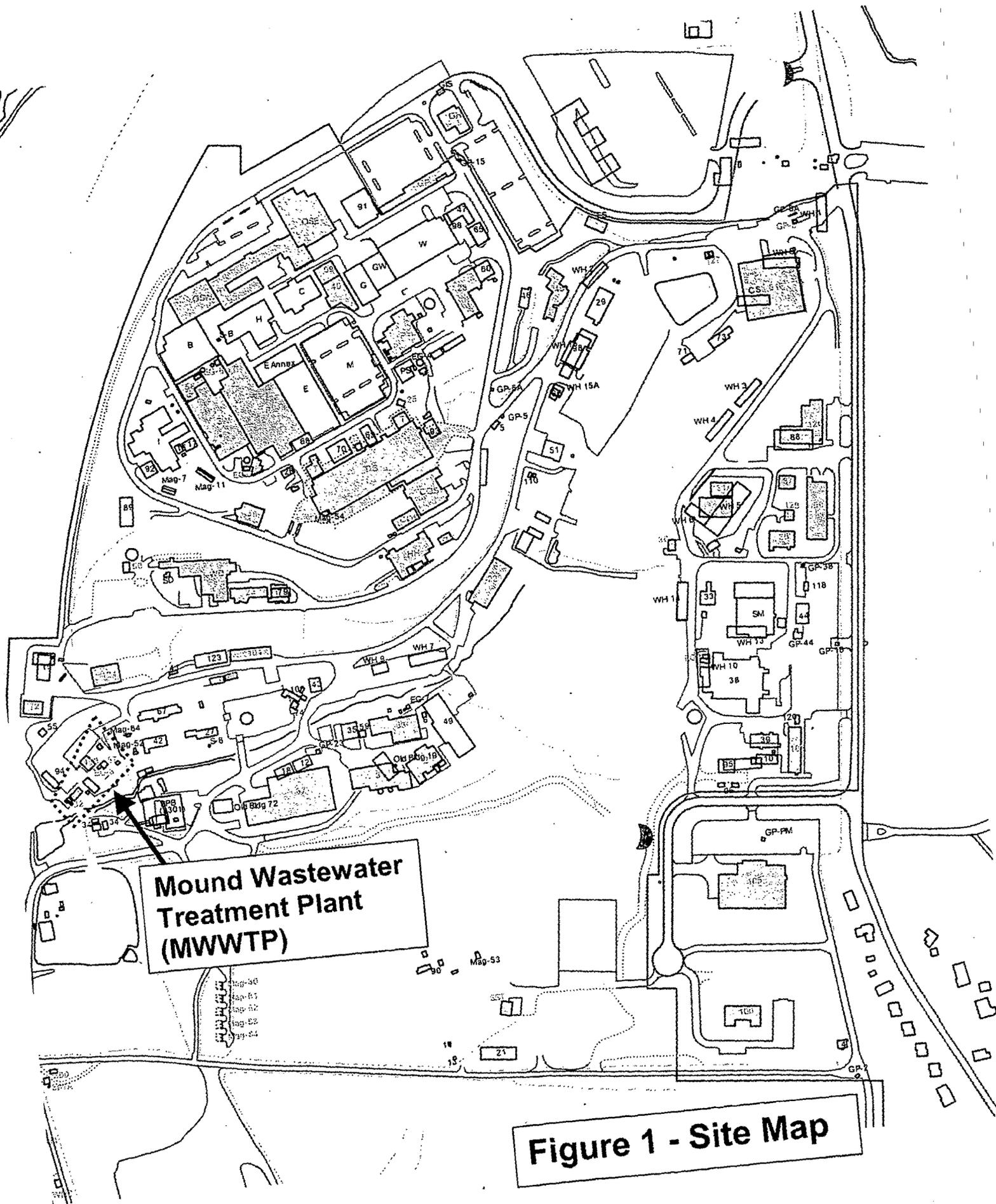
OEPA:	<i>Brian K. Nickel</i>	2/1/05
	Brian K. Nickel, Project Manager	Date

10.0 REFERENCES

1. Federal Facilities Agreement under CERCLA Section 120, USEPA, October 12, 1990.
2. List of Ohio Administrative Code and Ohio Revised Code ARARs, Letter from Nickel to Kleinrath, August 19, 1998.

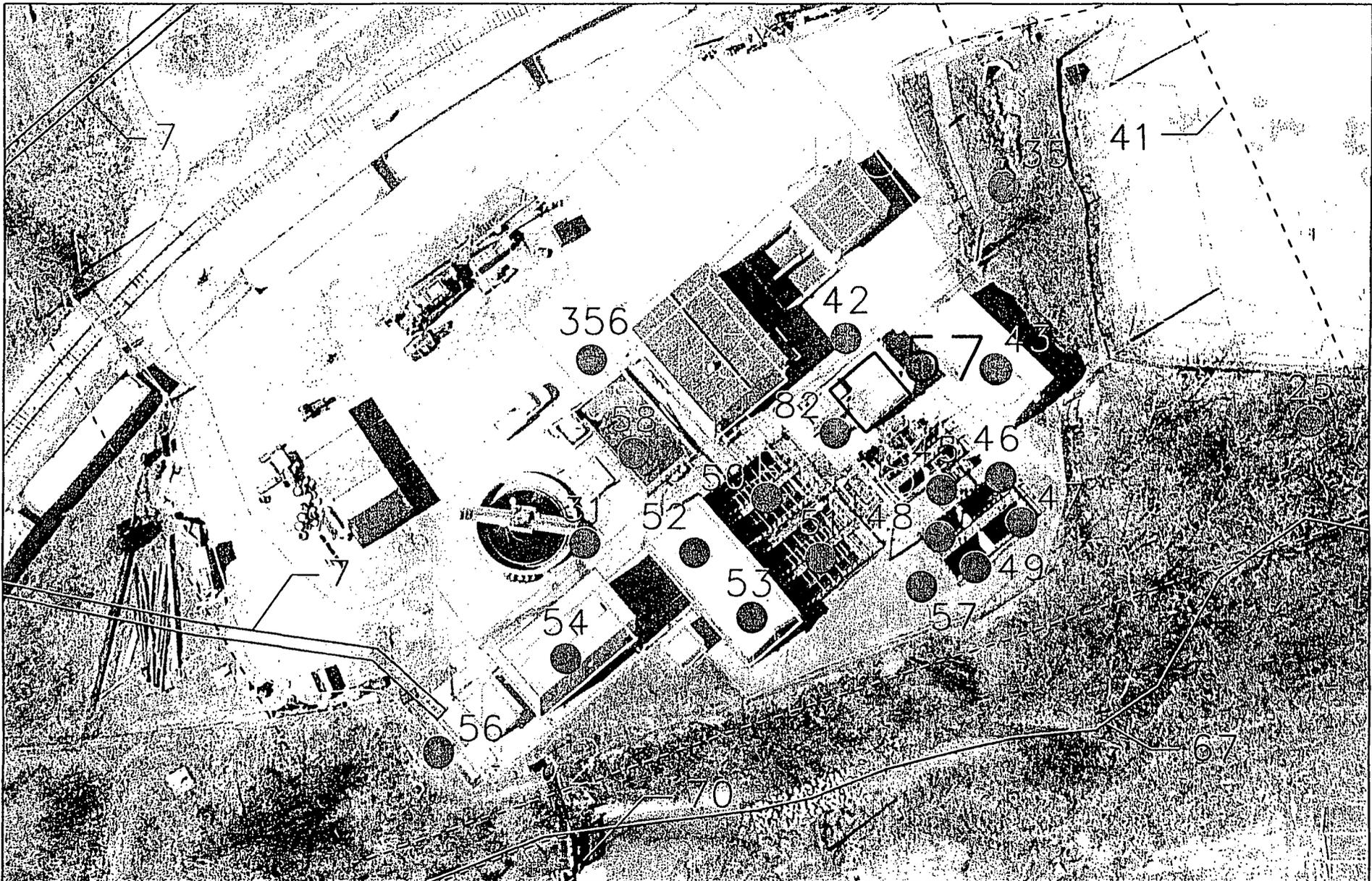
Appendix A

Figures



Mound Wastewater Treatment Plant (MWWTP)

Figure 1 - Site Map



A2/c

- PRS Point
- PRS Area
- PRS Line



MOUND



Environmental
Restoration
Geographic
Information
System

SHEET	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ISSUE																					
SHEET	1	2	3	4	5	6															
ISSUE																					
PART CLASSIFICATION												Figure 2: Building 57 and Vicinity		JOB NUMBER							
UNCLASSIFIED		DATE DRAWING NUMBER										JOB NUMBER									
DWG TYPE STE		PRNO ER-615		CAZCC		SCALE		#		SHEET 1 OF 1											
STATUS MD-REL -05/12/03		DSCRN										MSTATION /									

10/15/04	SSF							
ISS	DATE	REVISION	BY	CHKD	DWG	UPDC	APVD	#

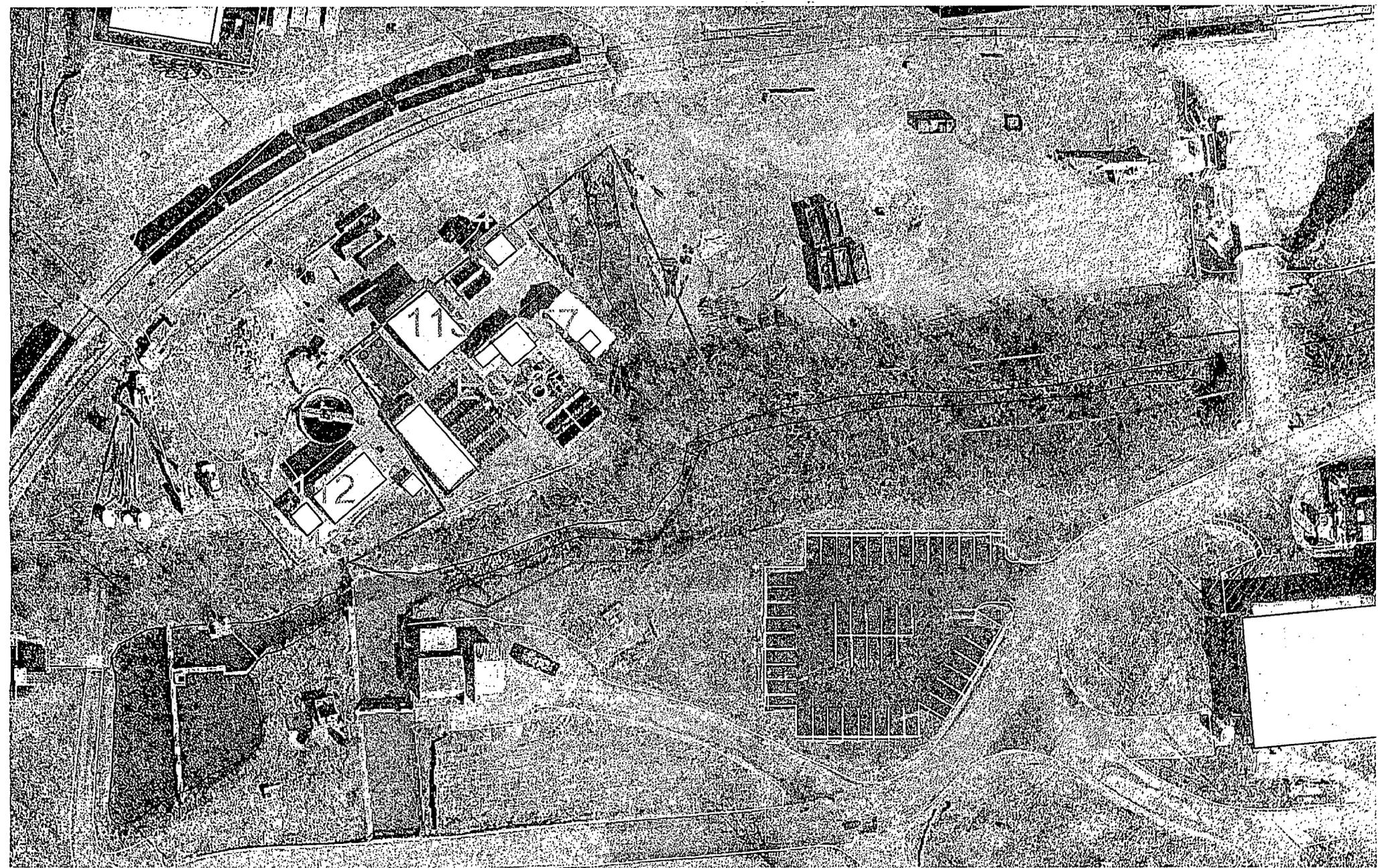


Figure 3 – URMA in Vicinity of MWWTP

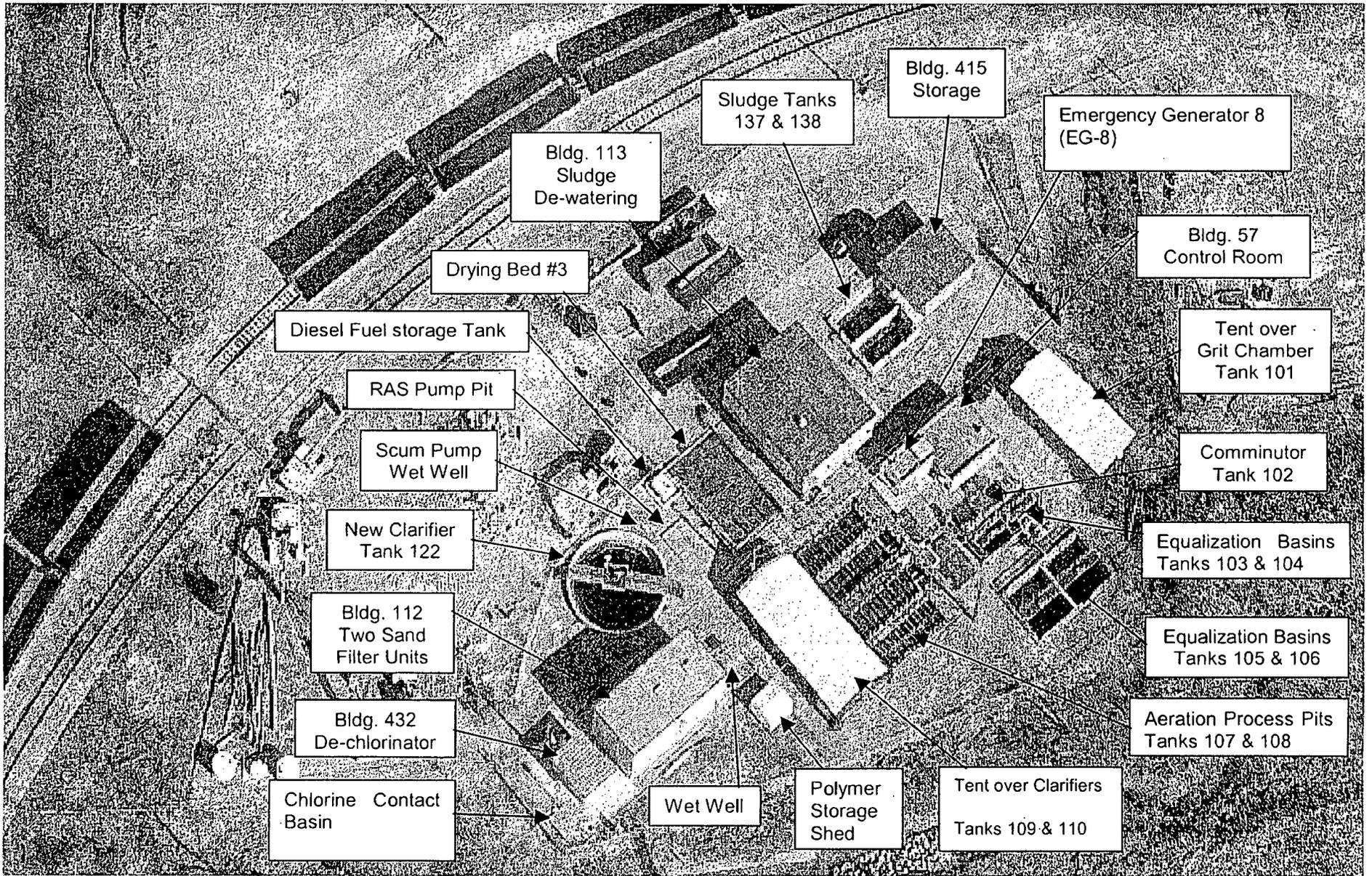


Figure 4 - Aerial View

ID	Description	Dur	Dur	ID	Start	Finish	Days	4.1.7.10.45
Regulatory								
BD057110	Shutdown & Cleanup Facility	18	18	1	0	17NOV04	16DEC04	-55 4.1.7.10.45
BD057120	Regulatory Report	30	0	2	100	03NOV04A	15NOV04A	4.1.7.10.45
BD057125	Write Action Memo BD-57 - Kramer	16	4 P	1	75	08NOV04A	23NOV04	-43 4.1.7.10.45
BD057130	Connect to City System	1	1	1	0	20DEC04	20DEC04	215 4.1.7.10.45
BD057145	Turnover Facility	8	8	2	0	17DEC04	24DEC04	-94 4.1.7.10.45
BD057150	Historical Documentation	4	0	1	100	16AUG04A	26AUG04A	4.1.7.10.45
BD057175	Quality Review-AM	4	4	1	0	24NOV04	30NOV04	-43 4.1.7.10.45
BD057225	DOE Review-AM	5	5	3	0	01DEC04	07DEC04	-53 4.1.7.10.45
BD057250	Core Team Review-AM	30	30	2	0	08DEC04	06JAN05	-76 4.1.7.10.45
BD057260	Public Review-AM	30	30	2	0	07JAN05	05FEB05	-76 4.1.7.10.45
BD057300	Review Final Status Survey	14	14	2	0	19JAN05	01FEB05	-72 4.1.7.10.45
BD057310	Review & Revise Pre-Excavation SUD	30	30	2	0	03DEC04	01JAN05	-72 4.1.7.10.45
BD057320	Review & Revise Post-Excavation SUD	30	30	2	0	03DEC04	01JAN05	-72 4.1.7.10.45
BD057330	Review & Revise Data Report	1	1	1	0	17JAN05	17JAN05	199 4.1.7.10.45
BD057335	Review & Revise OSC Report	30	30	2	0	20APR05	19MAY05	227 4.1.7.10.45
Radiological								
BD057350	BD57 Rad Survey Plan - Coblenz	4	4 P	1	0	06DEC04	09DEC04	-42 4.1.7.10.45
BD057375	BD-57 Rad Surveys	4	4 S	1	0	05JAN05	11JAN05	-42 4.1.7.10.45
BD057400	BD-57 Rad Survey Report - Case	4	4 P	1	0	12JAN05	18JAN05	-42 4.1.7.10.45
BD057410	Write Pre-Excavation SUD	11	4	1	60	11NOV04A	23NOV04	222 4.1.7.10.45
BD057420	Write Post-Excavation SUD	8	8	1	0	24NOV04	07DEC04	222 4.1.7.10.45
BD057430	Perform Pre-Excavation Surveys	30	30	2	0	18DEC04	16JAN05	346 4.1.7.10.45
BD057440	Perform Post-Excavation Surveys	30	30	2	0	18DEC04	16JAN05	346 4.1.7.10.45
BD057450	Perform NESHAP Calculations	3	3	1	0	19JAN05	24JAN05	-37 4.1.7.10.45
BD057460	Write Data Report	8	8	1	0	06DEC04	16DEC04	-28 4.1.7.10.45
Safe Shutdown								
BD057100	Equipment Disposition	8	8	3	0	27DEC04	05JAN05	257 4.1.7.10.45
BD057475	Asbestos Survey BD-57	5	0 A	1	100	11AUG04A	16AUG04A	4.1.7.10.45
BD057500	Place Asbestos Abatement Subcontract	4	4 C	1	0	03JAN05	06JAN05	-54 4.1.7.10.45
BD057525	RAPCA Asbestos Notification BD-57	10	10 A	3	0	07JAN05	20JAN05	-65 4.1.7.10.45
BD057550	Asbestos Abatement After Utility Disconnect	8	8 C	3	0	21JAN05	01FEB05	-65 4.1.7.10.45
BD057575	Write BD-57 Safe Shutdown WP	15	0 P	1	100	02AUG04A	23AUG04A	4.1.7.10.45
BD057600	BD-57 Perform Safe Shutdown Work	8	8 D	1	0	27DEC04	06JAN05	204 4.1.7.10.45
Utilities								
BD057625	Write BD57 Electrical Disconnect Package	20	8 P	1	33	26OCT04A	30NOV04	-36 4.1.7.10.45
BD057635	Write BD57 Mechanical Disconnect Package	20	8 P	1	60	26OCT04A	30NOV04	-40 4.1.7.10.45

- Shutdown & Cleanup Facility
- Regulatory Report
- Write Action Memo BD-57 - Kramer
- Connect to City System
- Turnover Facility
- Historical Documentation
- Quality Review-AM
- DOE Review-AM
- Core Team Review-AM
- Public Review-AM
- Review Final Status Survey
- Review & Revise Pre-Excavation SUD
- Review & Revise Post-Excavation SUD
- Review & Revise Data Report
- Review & Revise OSC Report
- BD57 Rad Survey Plan - Coblenz
- BD-57 Rad Surveys
- BD-57 Rad Survey Report - Case
- Write Pre-Excavation SUD
- Write Post-Excavation SUD
- Perform Pre-Excavation Surveys
- Perform Post-Excavation Surveys
- Perform NESHAP Calculations
- Write Data Report
- Equipment Disposition
- Asbestos Survey BD-57
- Place Asbestos Abatement Subcontract
- RAPCA Asbestos Notification BD-57
- Asbestos Abatement After Utility Disconnect
- Write BD-57 Safe Shutdown WP - Weidenbach
- BD-57 Perform Safe Shutdown Work
- Write BD57 Electrical Disconnect Package
- Write BD57 Mechanical Disconnect Package

Start Date: 05FEB04
 Finish Date: 10APR06
 Data Date: 17NOV04
 Run Date: 23NOV04 12:52

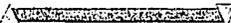
 Early Bar
 Progress Bar
 Critical Activity

Figure 5: Schedule Summary
Page 1

Date	Revision	Checked	Approved

Appendix B

Tables

Table 1A: PRSs Associated with the MWWTP
(Note: These PRSs will be closed under this Action Memo)

Building Related PRS	Comments
43	Wastewater Treatment Plant, Building 57 Grit Chamber (Tank 101)
44	Building 57 Grit Conveyor
45	Building 57 Comminutor (Tank 102)
46	Building 57 Equalization Basin (Tank 103)
47	Building 57 Equalization Basin (Tank 104)
48	Building 57 Equalization Basin (Tank 105)
49	Building 57 Equalization Basin (Tank 106)
50	Building 57 Aeration Basin (Tank 107)
51	Building 57 Aeration Basin (Tank 108)
52	Building 57 Clarifier (Tank 109)
53	Building 57 Clarifier (Tank 110)
54	Building 57 Sand Filters (2 units)
55	Building 57 Chlorine Contact Chamber (Tank 111)
56	Building 57 Chlorine Contact Chamber (Tank 112)

Table 1B: PRSs in Proximity to the MWWTP

PRS	Binning Status	Comments	Action
7	Further Assessment (FA)	Plant Sanitary Outfall Pipeline.	Refer to PRS 7 PRS Package
25	No Further Assessment (NFA)	Building 27 PRS	Closed
31	NFA	Underground Sanitary Sewer Line G5	Closed
35	NFA	Underground Sanitary Sewer Line G19 & G14	Closed
41	RA	Area 3, Thorium Drum Storage and Redrumming Area	Refer to PRS 41 Action Memorandum
42	NFA	Area A, Construction Soils from T Building	Closed
57	NFA	Sludge Drying Beds	Closed
58	NFA	Dredge Spoil Drying Beds	Closed
67	FA	Plant Drainage Ditch	Refer to PRS 67-70 Fact Sheet
70	FA	Retention Basins and Weir Basin	Refer to PRS 67-70 Fact Sheet
82	NFA	Building 57 Diesel Fuel Storage Tank	Closed
356	NFA	Elevated Soil Gas Location	Closed

Table 2: Soil Cleanup Objectives (pCi/g)

Contaminants of Concern (COCs) include all analytes above the Cleanup Objective from historic soil test results within a 15-foot perimeter of the MWWTP area and from sludge sampling from the MWWTP waste treatment process.

Contaminant	Background	Cleanup Objective	Highest Historical Reading**
Plutonium-238	0.13	55*	1235
Thorium-232 +D	1.4	2.1	63
Radium-228	1.4	2.1	2.37

Radionuclides labeled with a "+D" indicate that pertinent daughters are included within the risk calculation.

*Cleanup objectives are 10^{-5} RBGVs plus background, unless otherwise specified.
pCi/g – picoCuries per gram*

** Value of 55 was based on Core Team decision.*

*** Value for Ra- 228 was found in sludge analysis. The readings for Pu-238 and Th-232 are from historic soil sampling within 15 feet of the facility.*

Soil remediation and verification within PRS 41, but outside the 15 foot perimeter around the MWWTP, will be handled under the PRS 41 RA.

Table 3: Evaluation of Removal Action Appropriateness Criteria

Criteria	Evaluation
"...potential exposure to nearby human populations, animals, or the food chain..."	There is potential exposure to nearby human populations, animals, or the food chain from radionuclides and/or hazardous chemicals if present institutional controls were relaxed.
"Actual or potential contamination of drinking water supplies..."	Not applicable. (Plant drinking water is now supplied by the City of Miamisburg.)
"Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release;"	Not applicable.
"High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate;"	Not Applicable.
"Weather conditions that may cause hazardous substances to migrate or be released;"	Not Applicable.
"Threat of fire or explosion;"	Not applicable.
"The availability of other appropriate federal or state response mechanisms to respond to the release;" and	There are no other state or federal mechanisms required to respond. The FFA established a combined state and federal mechanism to respond under CERCLA. DOE is the designated lead agency at the site under CERCLA.
"Other situations or factors that may pose threats to public health or welfare or the environment."	Not applicable.

Table 4: Fiscal Year Campaigns

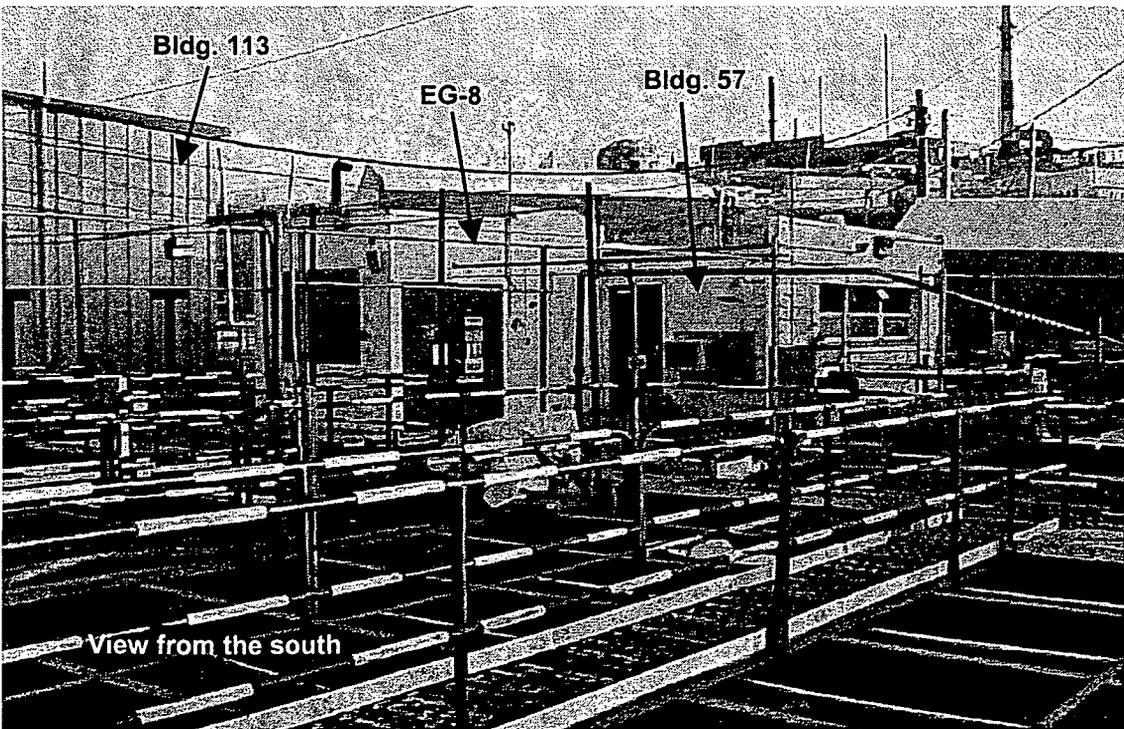
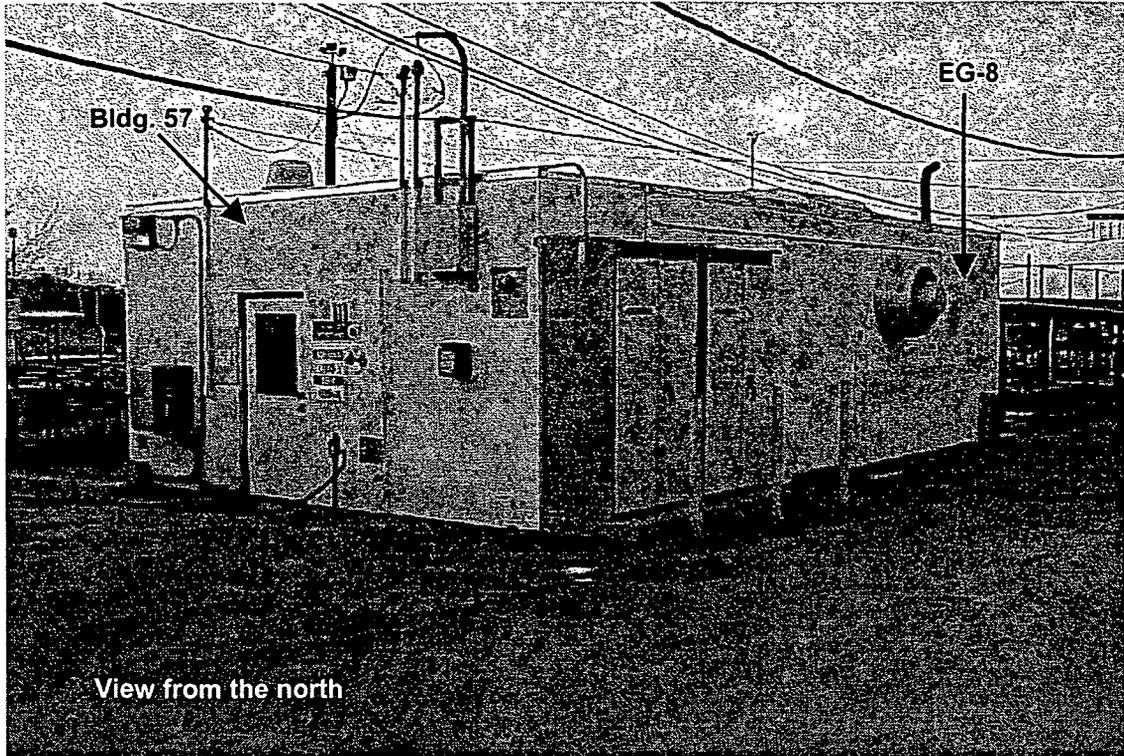
Fiscal Year Campaign	Actions
FY04-Q4	Submit Planning Documents
FY05-Q1	Facility Preparation
FY05-Q1	Physical Demolition
FY05-Q2	Submit Completion Documents

Table 5: Removal Action Cost Estimate

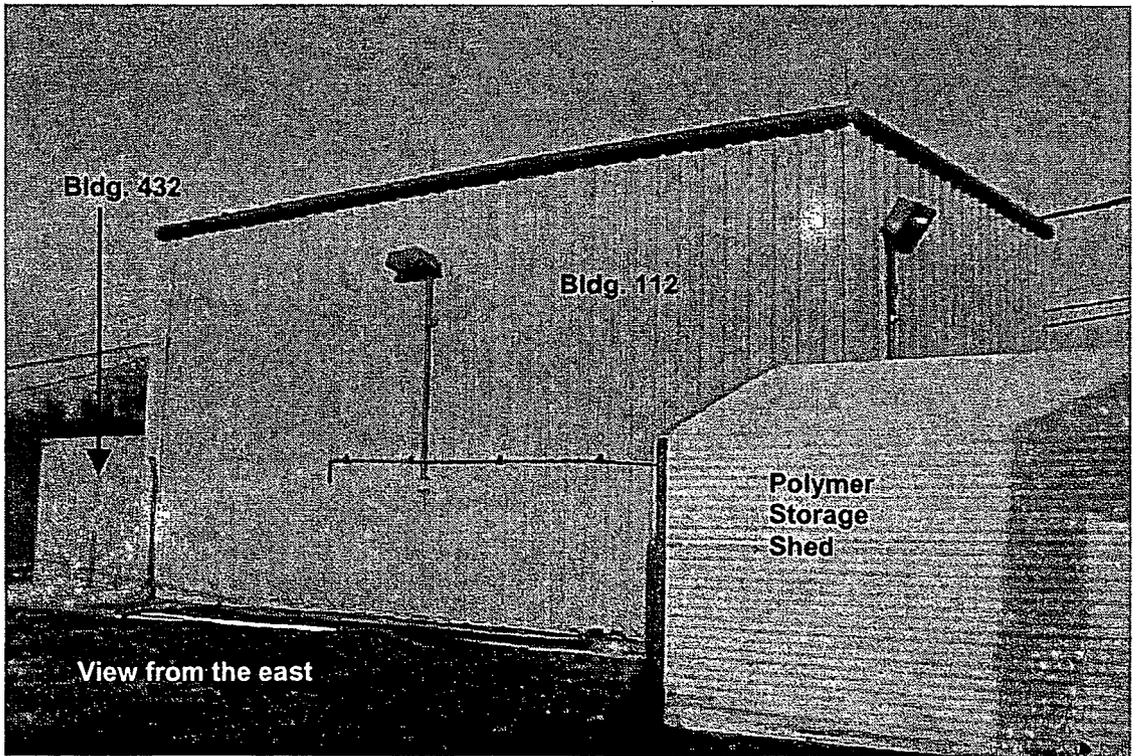
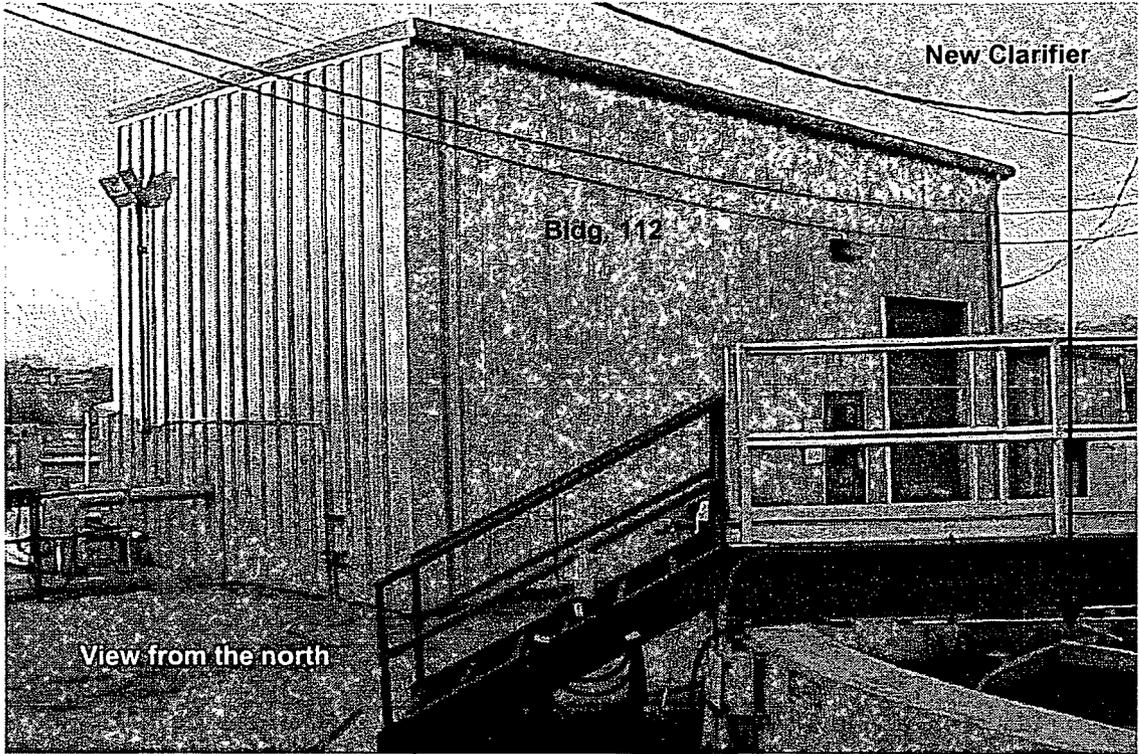
Activity	Cost
Work Planning	\$8,300
Safe Shutdown	\$10,500
Characterization/Verification	\$154,500
Demolition	\$33,900
Disposal	\$26,100
Site Restoration	\$5,200
OSC Report	\$3,300
TOTAL	\$241,800

Appendix C

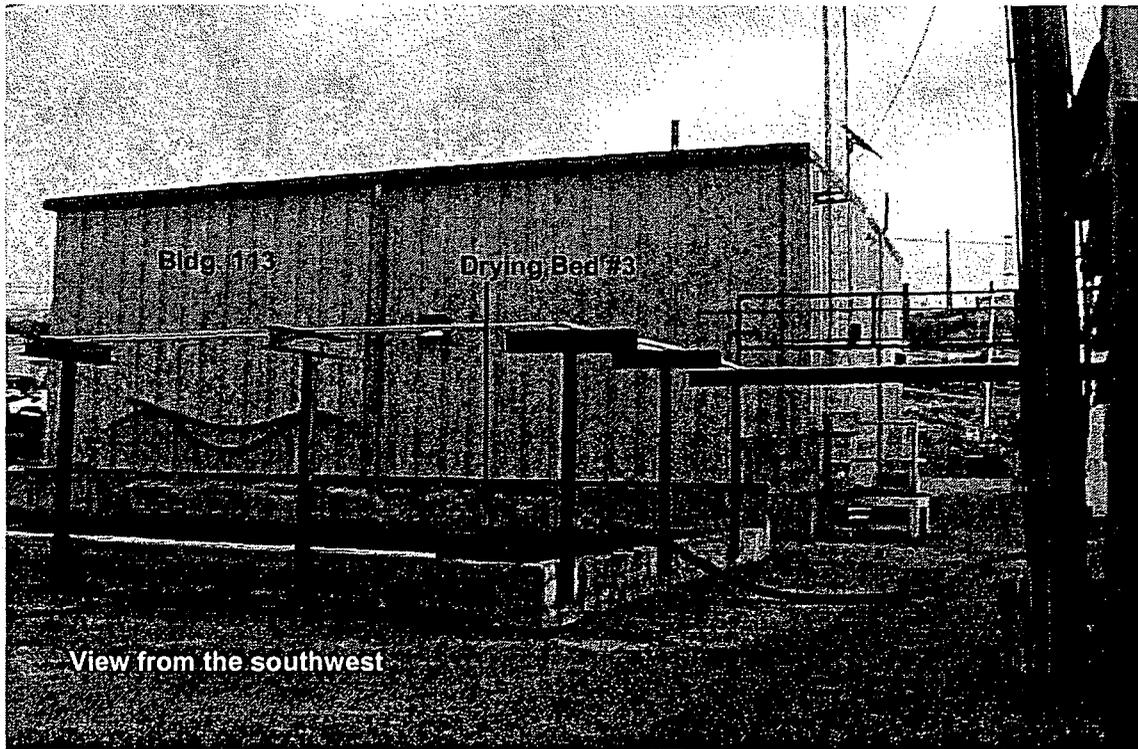
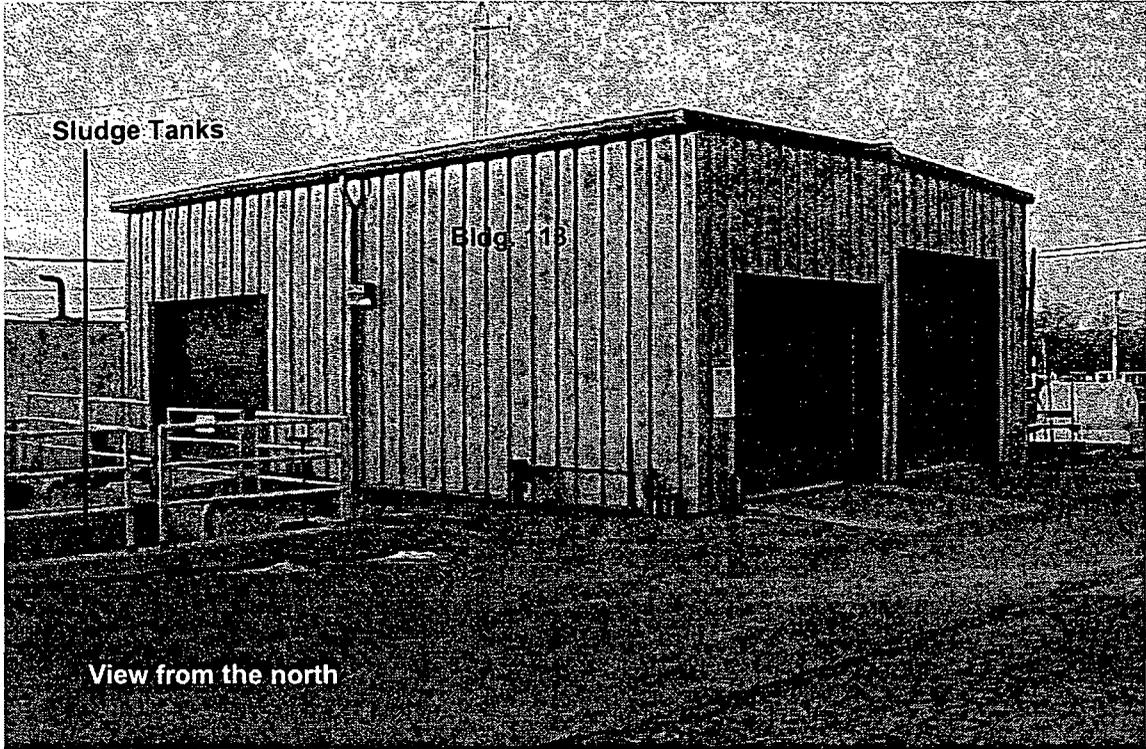
Photographs



Building 57 and EG-8

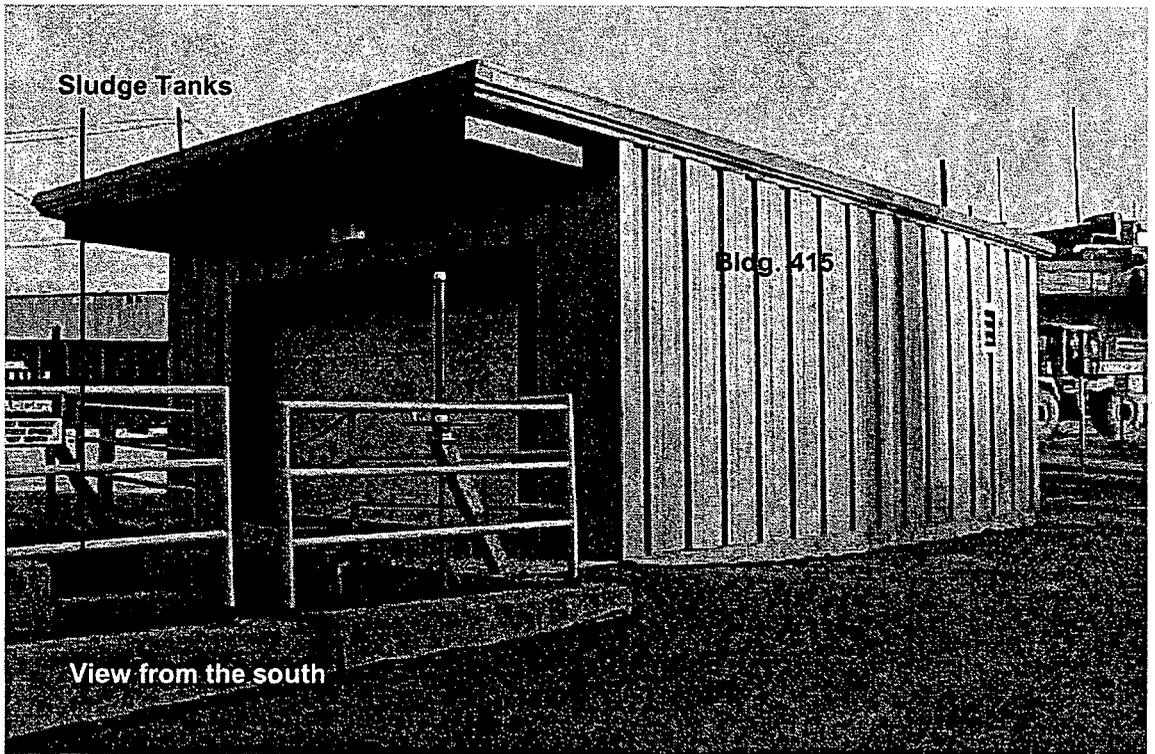
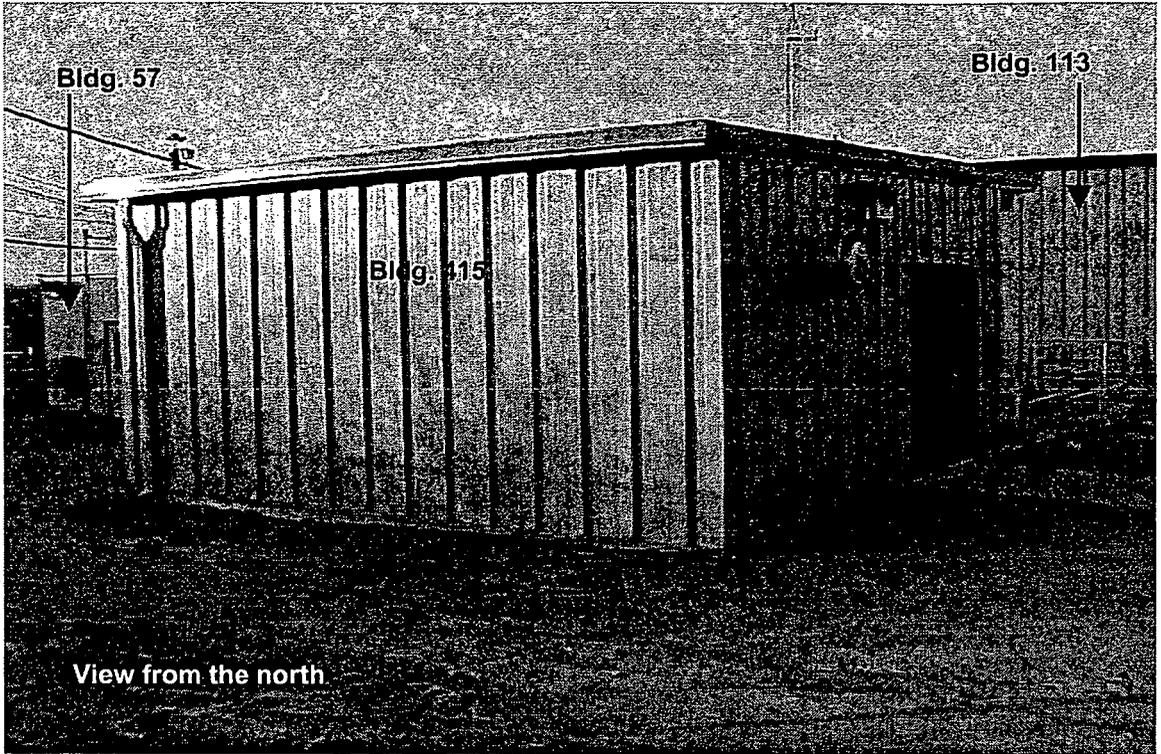


Building 112



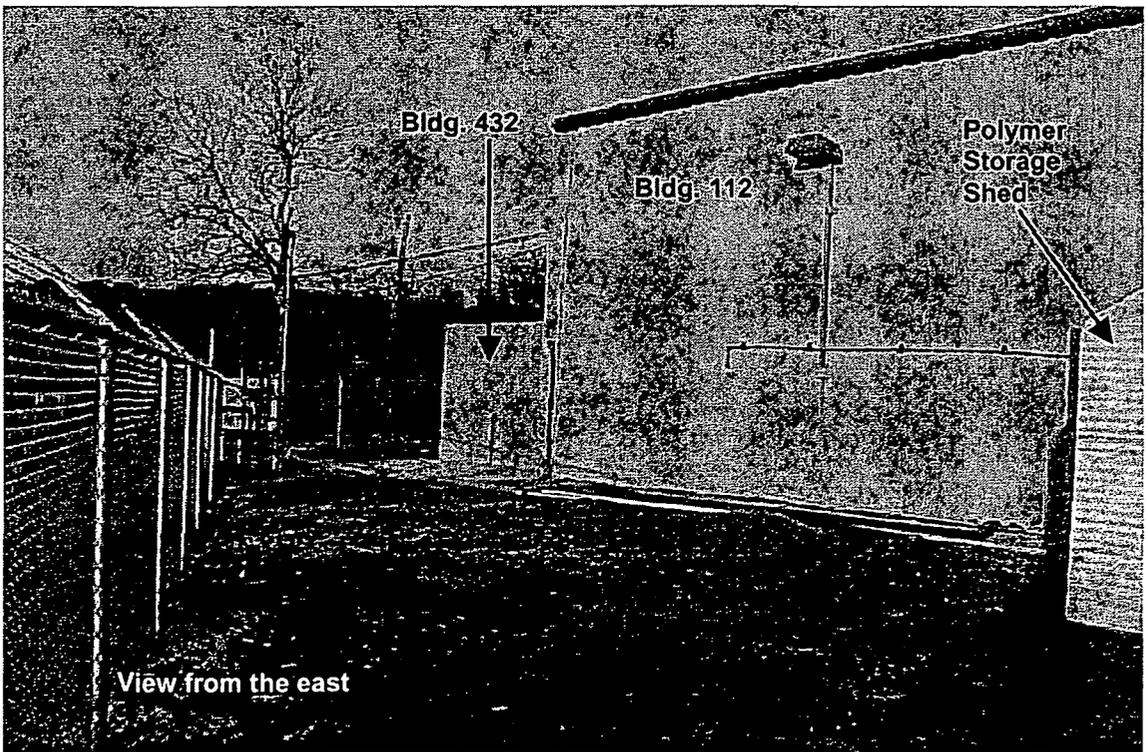
Building 113

C 3/13



Building 415

C 4 / 13



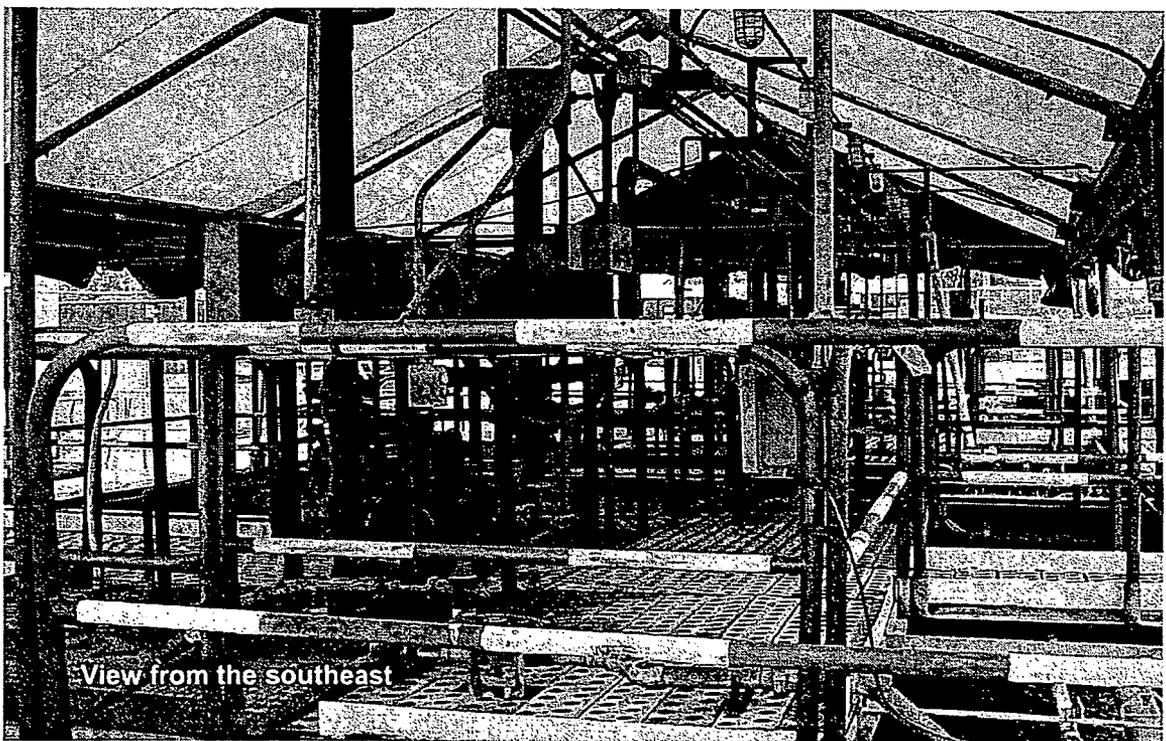
Building 432

C5 / 13



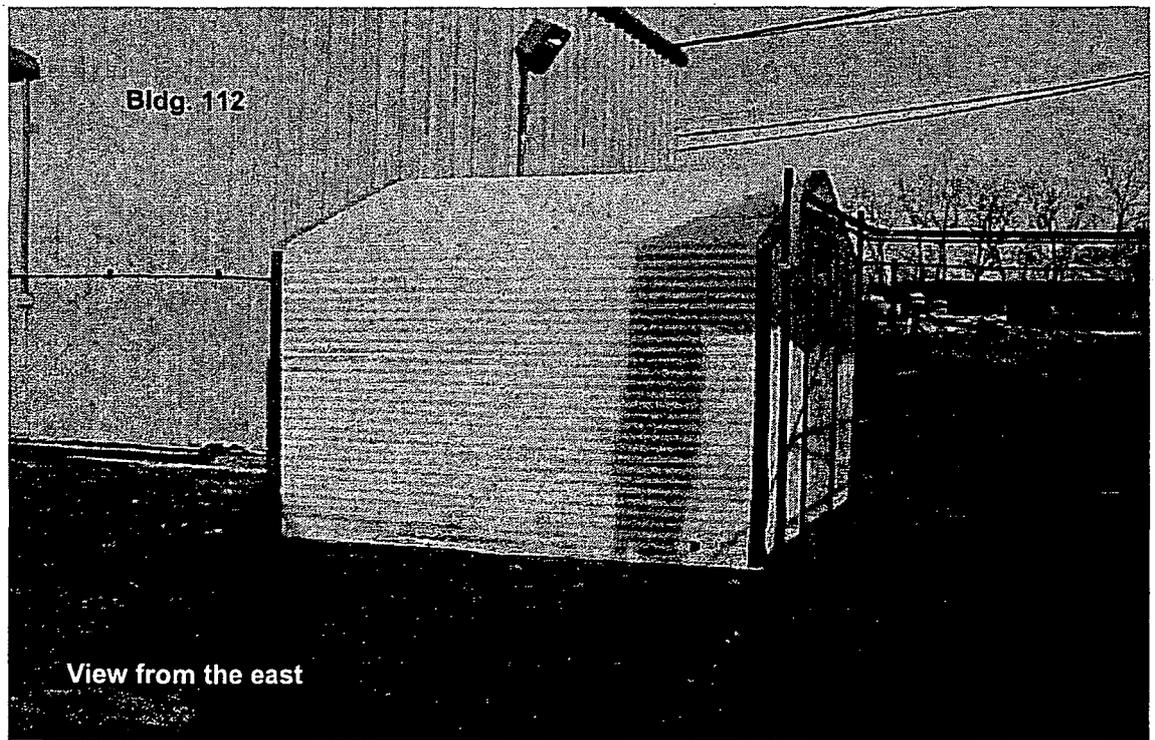
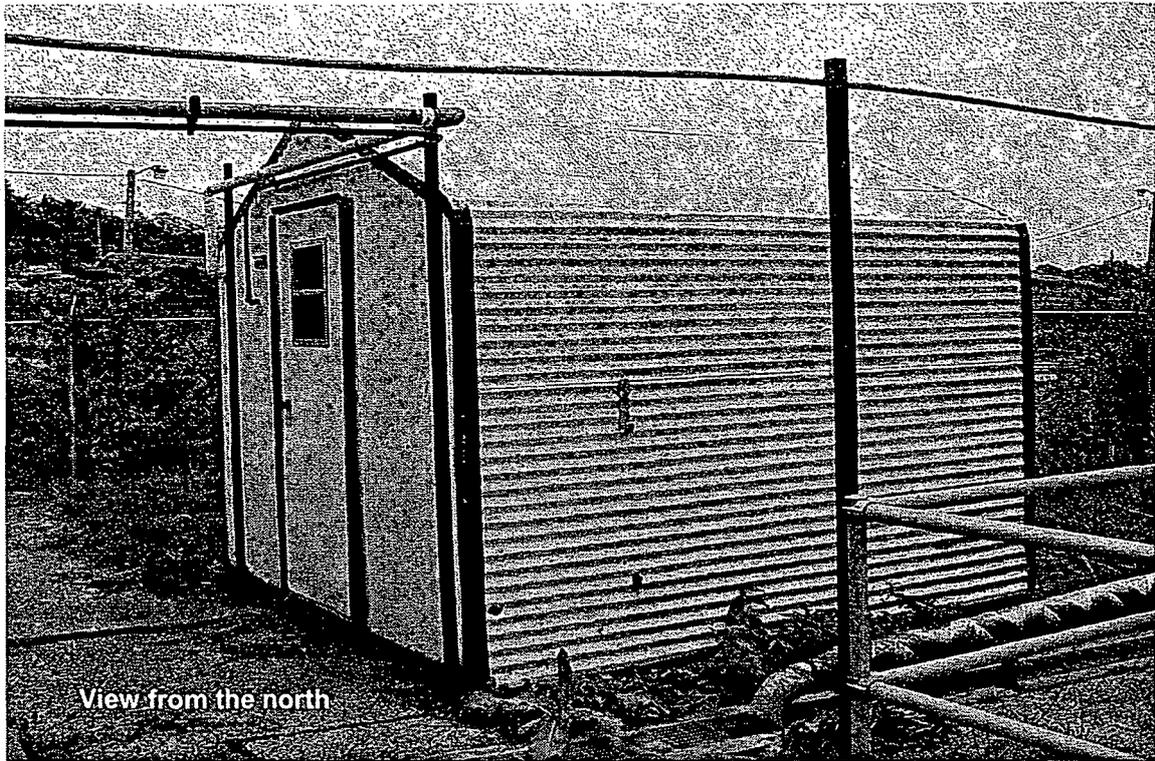
View from the west

Tent Over Clarifiers

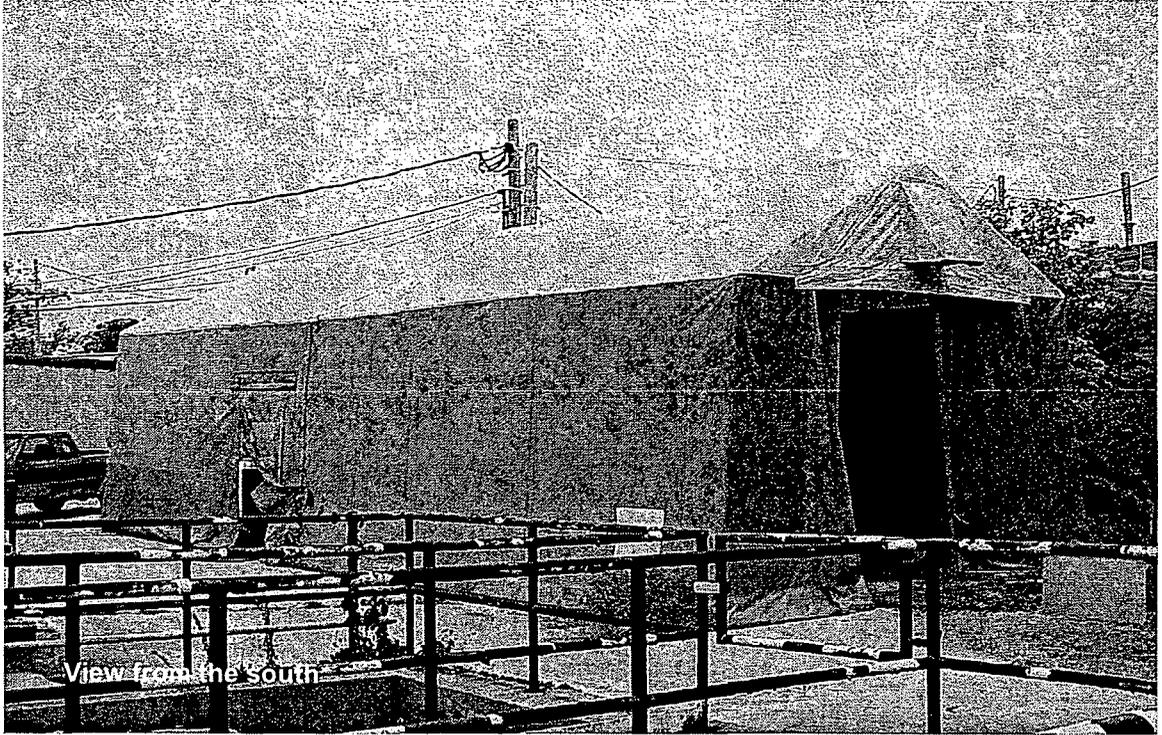


View from the southeast

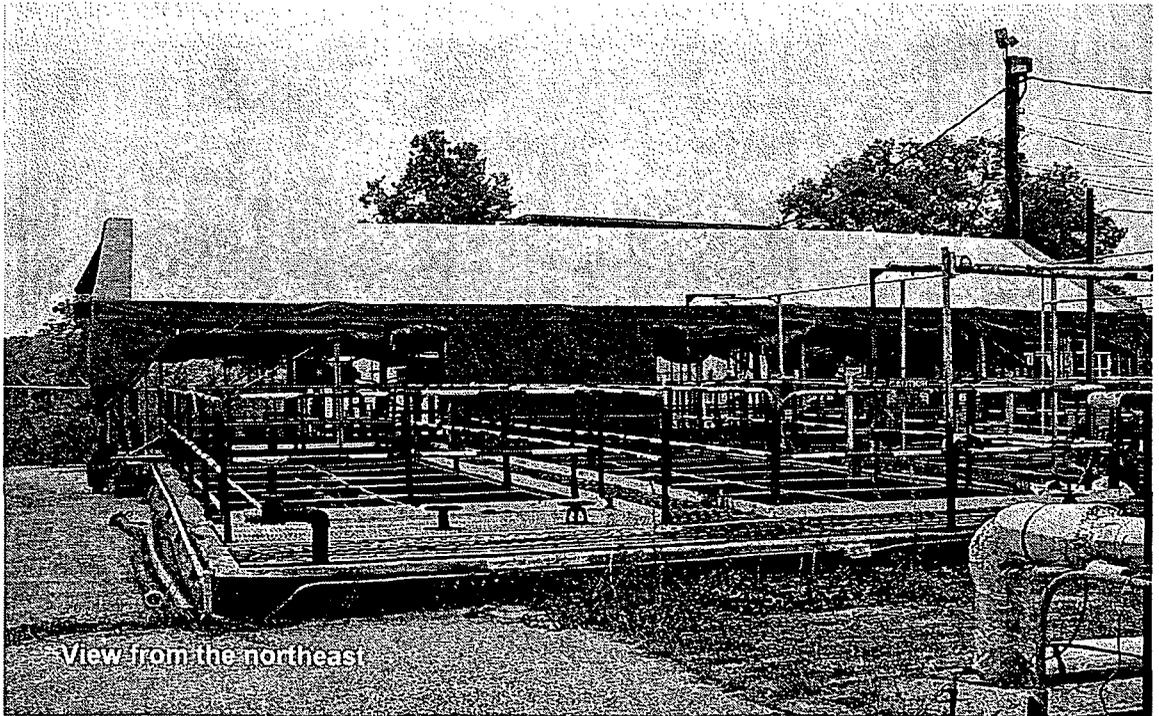
Inside Clarifier Tent



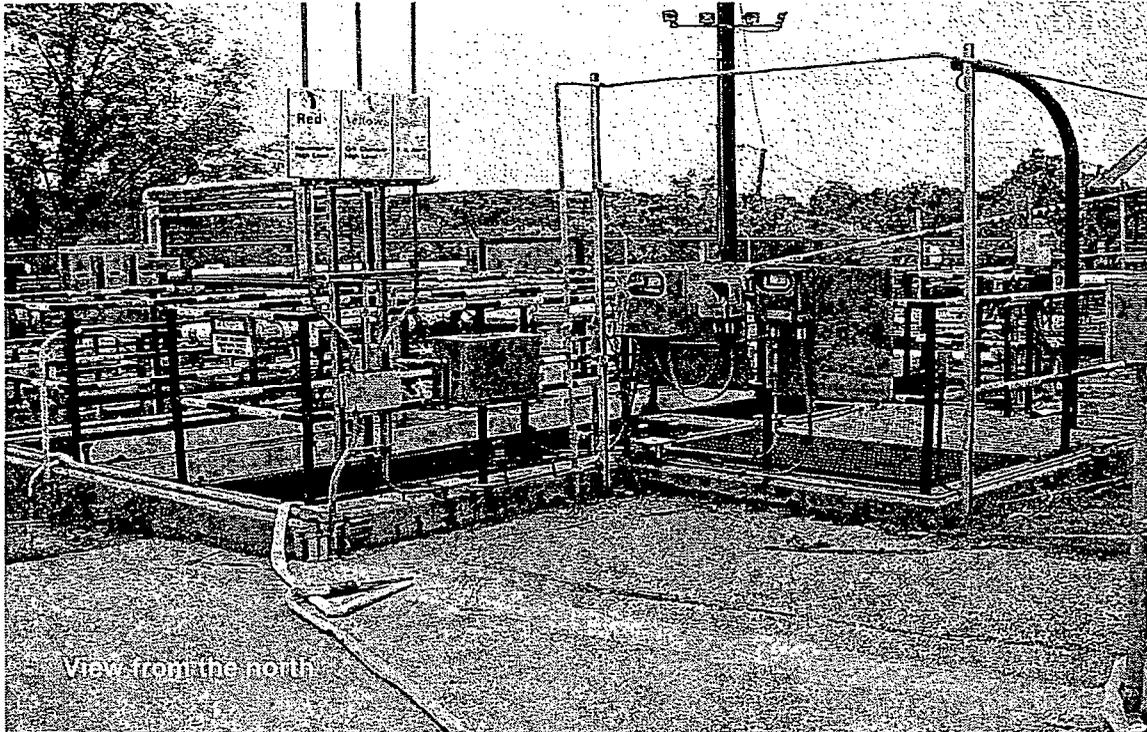
Polymer Storage Shed



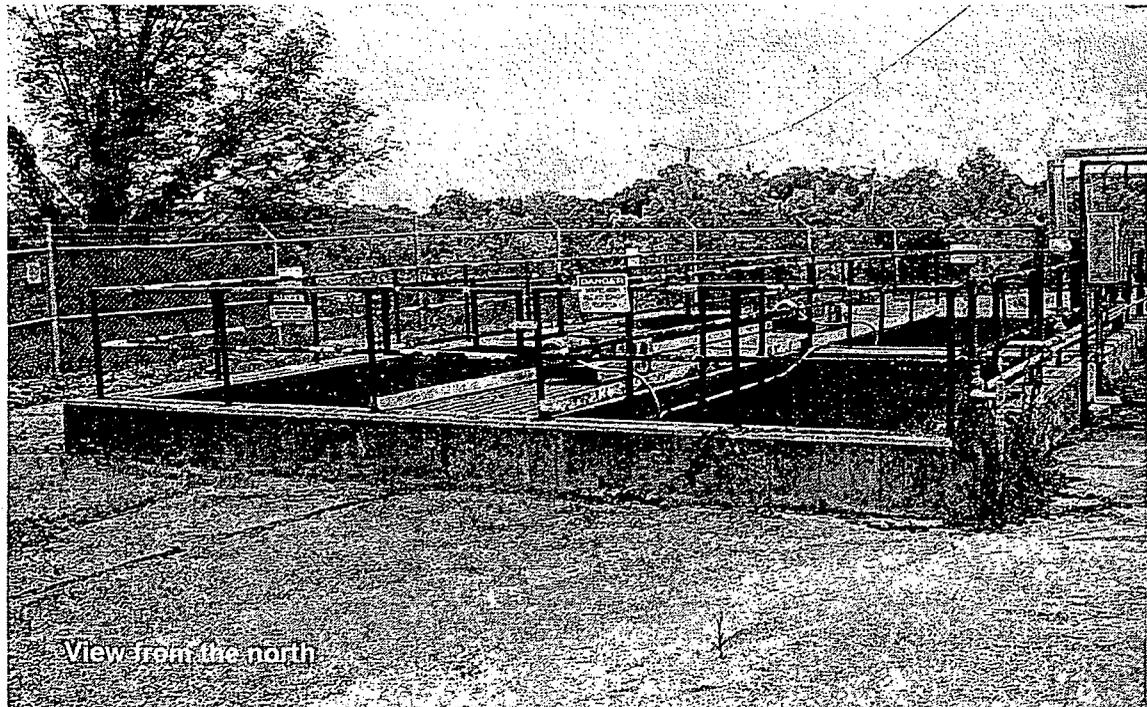
Tent Over Grit Chamber



Aeration Process Pits



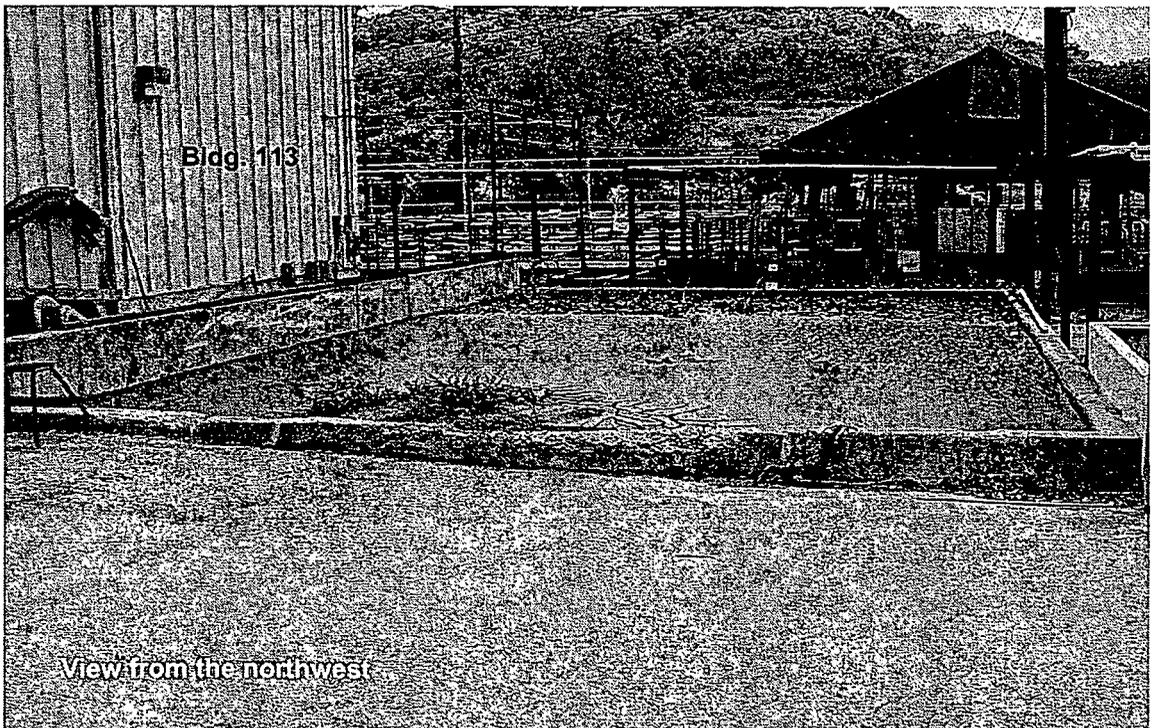
Comminutor (Tank 102) and Equalization Basins (Tanks 103 and 104)



Equalization Basins (Tanks 105 and 106)



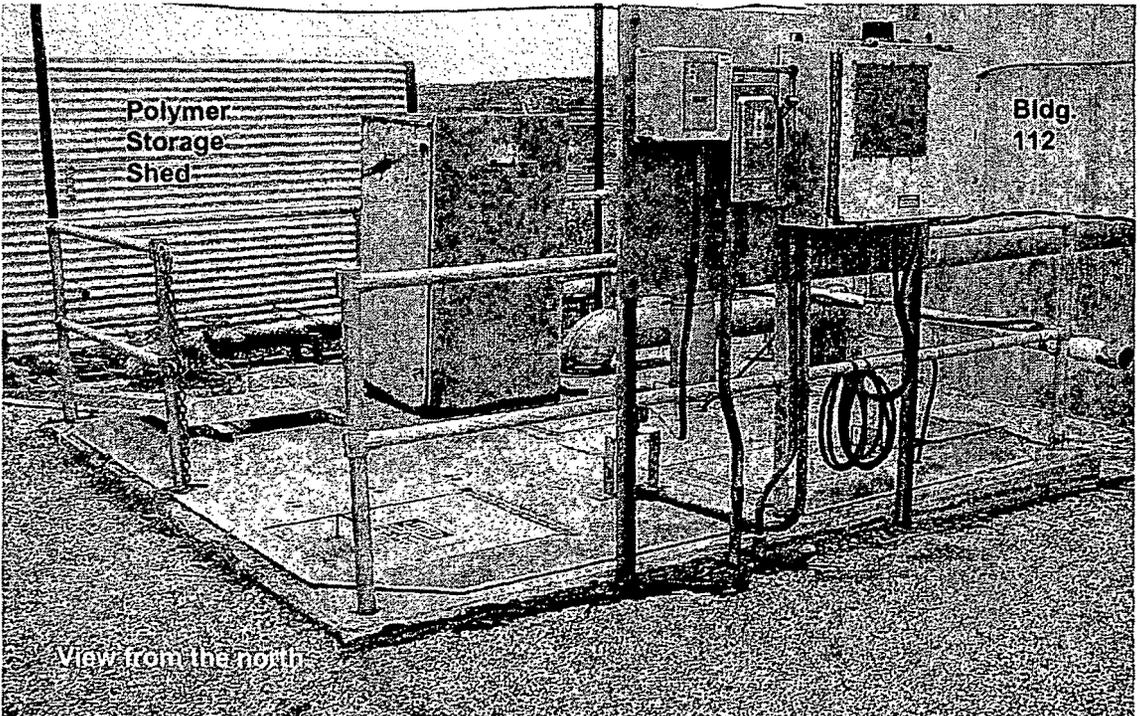
Sludge Tanks



Drying Bed #3



New Clarifier



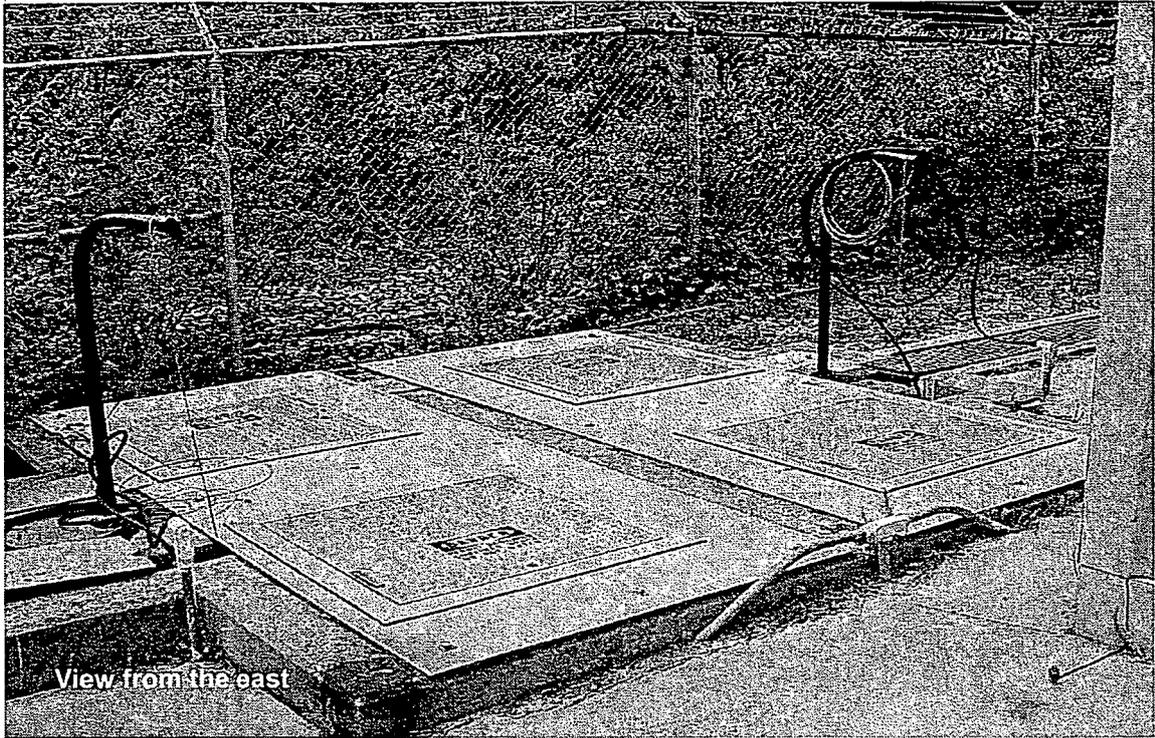
Wet Well



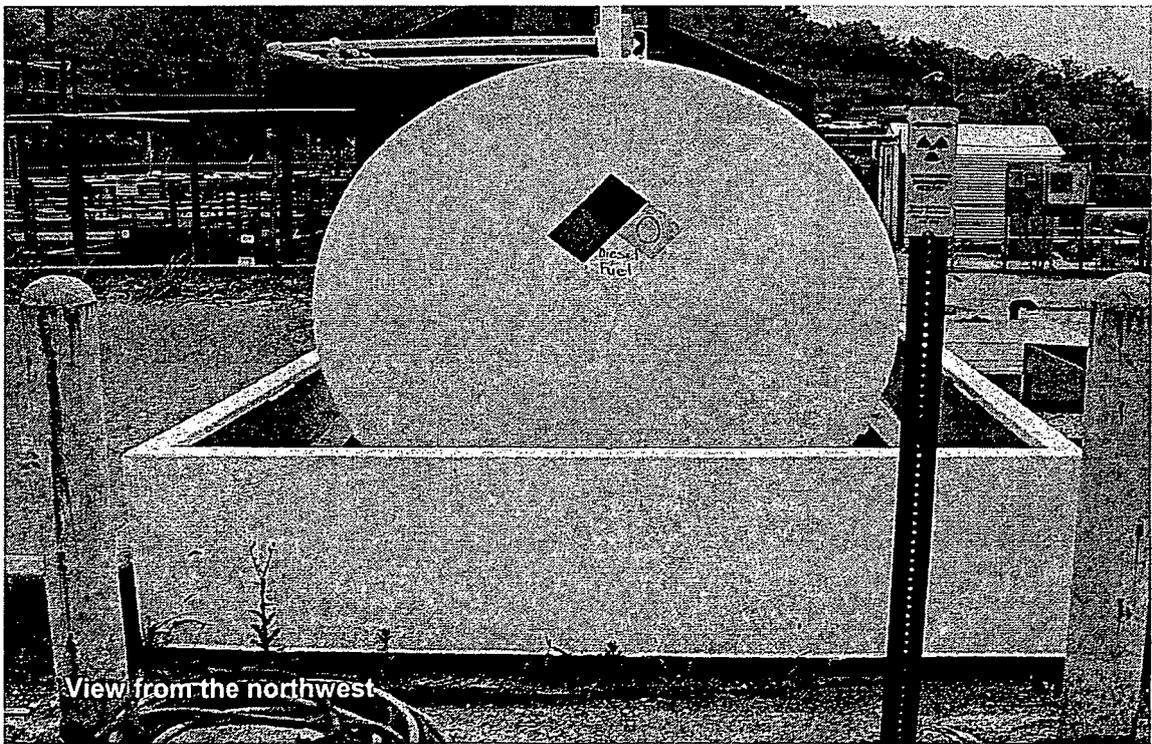
RAS Pump Pit



Scum Pump Pit



Chlorine Contact Basin



Diesel Fuel Storage Tank

Appendix D

PRS Information

Recommendation sheets for PRSs 25, 31, 35, 41, 42, 57, 58, 82, and 356 are attached. Recommendation sheets are not prepared for Further Assessment or unbinned PRSs; accordingly, no recommendation sheets exist for PRSs 7, 43 through 56, 67, and 70.

PRSs 7, 67, and 70 will be addressed in other documents (not associated with this RA).

PRSs 43 through 56 are included in this removal action.

MOUND PLANT
PRS 21, 22, 25, 26, 27, 29
Wastewater Transfer Structures/RCRA Closures

RECOMMENDATION:

The RCRA PRSs (21, 22, 25, 26, 27, and 29), otherwise known as wastewater transfer structures, were identified as potential release sites because of the concern that residual volatile organic compounds from past operations associated with Buildings 1 & 27 remained in/on the structures.

Available data supports that radiological contamination is within acceptable risk (10^{-5}) for industrial reuse.

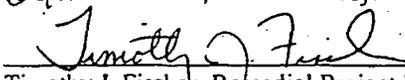
A Closure Report was submitted to OEPA, which documents that the standards established for the RCRA constituents presented in the OEPA-approved Closure Plan have been met. The Core Team, therefore, now recommends No Further Assessment for PRSs 21, 22, 25, 26, 27, and 29.

CONCURRENCE:

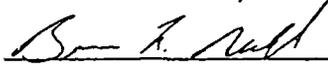
DOE/MEMP:


Robert S. Rothman, Remedial Project Manager (date) 10/17/00

USEPA:


Timothy J. Fischer, Remedial Project Manager (date) 11/16/00

OEPA:


Brian K. Nickel, Project Manager (date) 10/17/00

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from _____ to _____

- No comments were received during the comment period.
- Comment responses can be found on page _____ of this package.

RECOMMENDATION

PRS 31-36, 125, & 270 Package

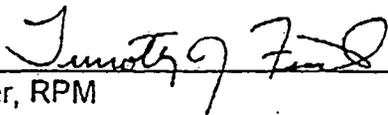
Potential Release Sites (PRSs) 31-36, 125, and 270 were identified as PRSs as a result of breaks and/or separations in Mound's sanitary sewer lines, identified during a 1982 video survey of the lines. Radionuclides were not considered contaminants of concern. The concern was the potential release of non-radioactive contaminants into the environment from the identified breaks in the lines. A subsequent project repaired these lines by replacing them or by extruding a liner at the point of the breaks. Soil sampling was performed and results for all non-radioactive analytes were below 10^{-5} Risk-Based Guideline Values.

Therefore, the Core Team recommends No Further Assessment for PRSs 31-36, 125, and 270.



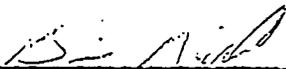
11-27-02

Rob Rothman, OSC
U.S. Department of Energy
Miamisburg, Ohio



11/26/02

Tim Fischer, RPM
USEPA
Chicago, Illinois



11/27/02

Brian Nickel
OEPA
Dayton, Ohio

**MIAMISBURG CLOSURE PROJECT
PRS 41**

RECOMMENDATION:

Potential Release Site (PRS) 41 is located on the western portion of the site (Figure 1) and was binned Further Assessment by the Core Team on 2 October 1996. PRS 41 was identified based on potential impacts from historic thorium staging and re-drumming operations. Based on elevated historic soil sample results for plutonium-238, a portion of a small drainage feature within PRS 41 (41 Ditch) was also assessed. Further Assessment was performed and confirmed that thorium-232 (at PRS 41) and plutonium-238 (at 41 Ditch) exceed the cleanup objectives of 2.1 pCi/g and 55 pCi/g respectively. The cleanup objective is the 10^{-5} RBGV plus background.

Therefore, the Core Team recommends a Removal Action for PRS 41 and 41 Ditch.

This Removal Action will be performed under a specific Action Memorandum or under the Action Memorandum for Contingent Removal Actions. Successful completion of the Removal Action will be documented via an On-Scene Coordinator (OSC) Report signed by the Core Team, which will be placed in the Public Reading Room.

CONCURRENCE:

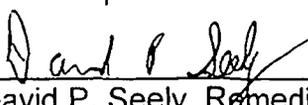
DOE/MCP:



Robert S. Rothman, Remedial Project Manager

2/19/03
(date)

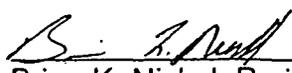
USEPA:



David P. Seely, Remedial Project Manager

2/19/03
(date)

OEPA:



Brian K. Nickel, Project Manager

2/19/03
(date)

**MOUND PLANT
PRS 42
T BUILDING CONSTRUCTION SOIL STAGING AREA**

RECOMMENDATION:

Potential Release Site (PRS) 42 was identified as a PRS due to T Building construction activities and the placement of the excavated soils at this location. Approximately 17 ft.³ of soil was moved prior to the startup of any production or research operation at Mound. There are no known hazardous substances or radioactive contamination issues associated with the excavated soils from the construction activities involving T Building. Therefore, NO FURTHER ASSESSMENT is recommended.

CONCURRENCE:

DOE/MB:

Arthur W. Kleinrath 11/26/96
Arthur W. Kleinrath, Remedial Project Manager (date)

USEPA:

Timothy J. Fischer 12/3/96
Timothy J. Fischer, Remedial Project Manager (date)

OEPA:

Brian K. Nickel 12/17/96
Brian K. Nickel, Project Manager (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 1/9/97 to 2/13/97

- No comments were received during the comment period.
- Comment responses can be found on page _____ of this package.

MOUND PLANT
PRS 57
WWTP TANK AREA - SLUDGE DRYING BEDS

RECOMMENDATION:

The sludge drying beds were identified as a potential release site, in 1988, when elevated levels of plutonium-238 at 1,235 pCi/g and thorium-232 at 63 pCi/g were measured during the construction project to remove the beds. Mound's ALARA (As Low As Reasonably Achievable) value for plutonium-238 is 25 pCi/g and for thorium is 5 pCi/g on the surface and 15 pCi/g below a depth of 15 cm. The elevated concentrations were not from the beds themselves, but from the soils under the beds after removal. Process knowledge indicates that the thorium contamination was in the soils beneath the SD sludge drying beds. The sludge drying beds never contributed contamination to the area. The contamination in the area came from and will be addressed under PRS 41, which is an area that includes PRS 57. Therefore, NO FURTHER ASSESSMENT is recommended for the sludge drying beds.

CONCURRENCE:

DOE/MB:

Arthur W. Kleinrath 11/21/96
Arthur W. Kleinrath, Remedial Project Manager (date)

USEPA:

Timothy J. Fischer 11/19/96
Timothy J. Fischer, Remedial Project Manager (date)

OEPA:

Brian K. Nickel 11/21/96
Brian K. Nickel, Project Manager (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 11/29/96 to 01/01/97

- No comments were received during the comment period.
- Comment responses can be found on page _____ of this package.

MOUND PLANT
PRS 57

RECOMMENDATION: Process knowledge of the SD Sludge Drying Beds indicates that the thorium contamination in the soils beneath the beds were contributed by the thorium redrumming operations associated with Area 3 and not the sludge drying beds. The sludge drying beds never contributed contamination to the area. The contamination present in the area will be addressed under PRS 41 which is an area that includes PRS 57. Therefore, our recommendation is No Further Assessment for PRS 57.

CONCURRENCE:

DOE

Arthur Klesmatt 11/15/95

USEPA

Timothy J Fial 11/15/95

OEPA

Ben Z Hill 11/15/95

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from _____ to _____

- No comments were received during the comment period.
- Comment responses can be found on page _____ of this package.

**MOUND PLANT
PRS 58
SEDIMENT DRYING BEDS**

RECOMMENDATION:

Potential Release Site (PRS) 58 was identified by the RCRA Facility Assessment due to its use as a storage area for the dredged spoils drying beds. This storage area, near the Sanitary Treatment Facility (Building 57), was used to store the beds after the beds were removed from servicing the Asphalt-Lined Pond's dredged spoils. The pond's dredged spoils contained low levels of plutonium-238 which were packaged for off-site disposal.

In 1984 and 1994, sampling taken from the area where the beds were stored, indicated that no contamination from the sludge or drying beds had occurred.

Therefore, NO FURTHER ASSESSMENT is recommended.

CONCURRENCE:

DOE/MB:

Arthur W. Kleinrath 11/21/96
Arthur W. Kleinrath, Remedial Project Manager (date)

USEPA:

Timothy J. Fischer 11/19/96
Timothy J. Fischer, Remedial Project Manager (date)

OEPA:

Brian K. Nickel 11/21/96
Brian K. Nickel, Project Manager (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 11/29/96 to 01/01/97

No comments were received during the comment period.

Comment responses can be found on page _____ of this package.

MOUND PLANT
PRS 82
DIESEL FUEL STORAGE TANK - BUILDING 56

57
D.C. Kramer
11-17-04

RECOMMENDATION:

Potential Release Site (PRS) 82 was identified as an underground storage tank used to store diesel fuel to start an emergency generator near Building 57. It was installed in 1974 and was in service until it was removed on May 10, 1995.

After tank removal one soil sample was taken from the pit for analysis. Results showed total petroleum hydrocarbons (TPH), benzene, ethylbenzene, toluene, and xylene were below Bureau of Underground Storage Tank Regulation (BUSTR) guidelines. The OU5-Operational Area, Sanitary Disposal Building (SDB) field investigation analyzed the vicinity of PRS 82 for PETREX soil gas and radionuclides in surface soil. Field instrumentation found no elevated levels of radionuclide contamination. The investigation also indicated petroleum hydrocarbons at low relative levels. Other organics will be addressed through PRS 41 assessment activities. Therefore, NO FURTHER ASSESSMENT is recommended for PRS 82.

CONCURRENCE:

DOE/MB:

Arthur W. Kleinrath 11/26/96
Arthur W. Kleinrath, Remedial Project Manager (date)

USEPA:

Timothy J. Fischer 12/3/96
Timothy J. Fischer, Remedial Project Manager (date)

OEPA:

Brian K. Nickel 12/17/96
Brian K. Nickel, Project Manager (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 1/9/97 to 2/13/97

- No comments were received during the comment period.
- Comment responses can be found on page _____ of this package.

**MOUND PLANT
PRS 356
SOIL CONTAMINATION**

RECOMMENDATION:

This area was identified as a potential release site in June 1994 due to qualitative PETREX soil gas results obtained during the Operable Unit 5, Operational Area Phase I Investigation. A subsequent quantitative *Soil Gas Confirmation Investigation* within 50 feet of PRS 356 showed that all concentrations of volatile, semivolatile, PCBs, pesticides, metals, radionuclides, and explosives in the soils were below their respective ALARA, regulatory or 10^{-5} Risk Based Guideline Criteria. Therefore, NO FURTHER ASSESSMENT is recommended for PRS 356.

CONCURRENCE:

DOE/MEMP:

Arthur W. Kleinrath 2/19/1997
Arthur W. Kleinrath, Remedial Project Manager (date)

USEPA:

Timothy J. Fischer 2/19/97
Timothy J. Fischer, Remedial Project Manager (date)

OEPA:

Brian K. Nickel 2/19/97
Brian K. Nickel, Project Manager (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 5/8/97 to 6/16/97

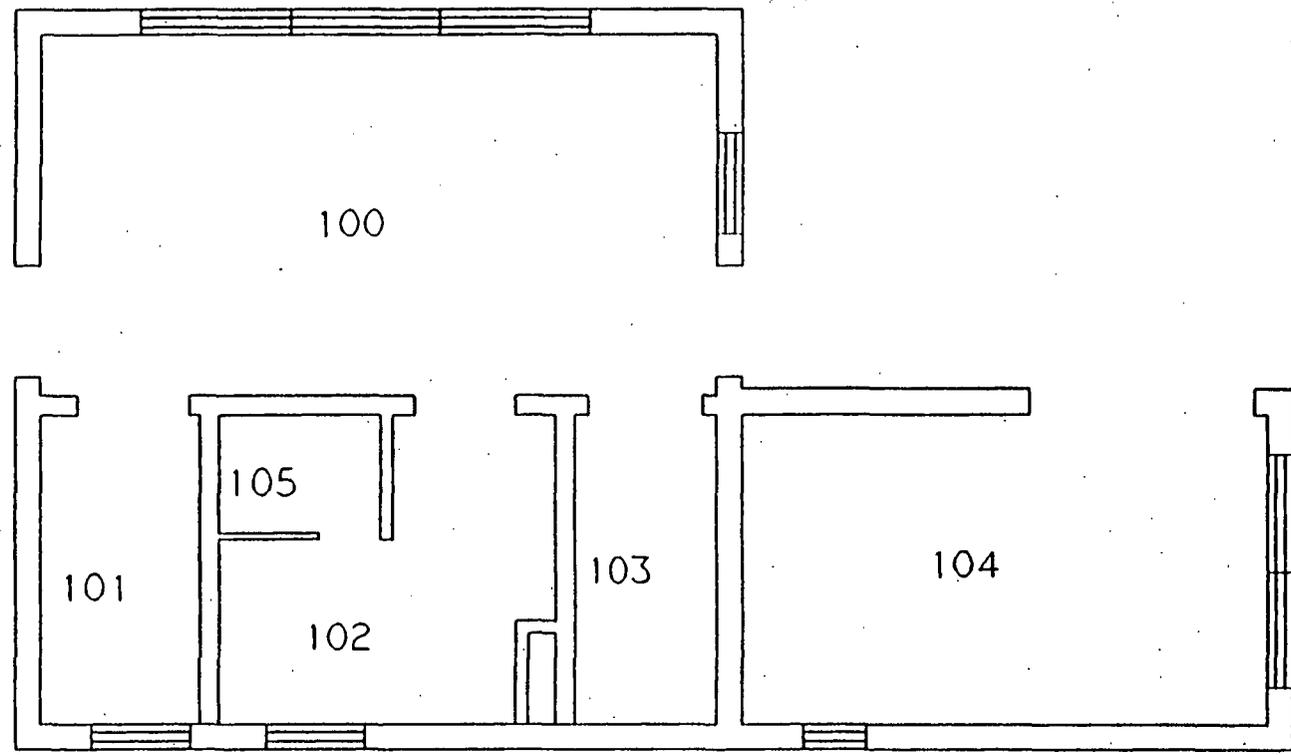
No comments were received during the comment period.

Comment responses can be found on page 1, 2 of this package.

Appendix E

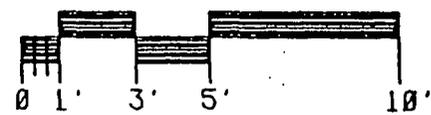
Floor Plans

REV	DATE	REVISION	BY	CHKD	DATE	APPROV	NO
B	12/12/91	ASBUILT ISSUE				DVO	



E1/5

9.76-69

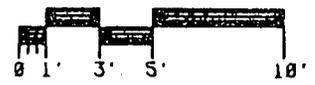
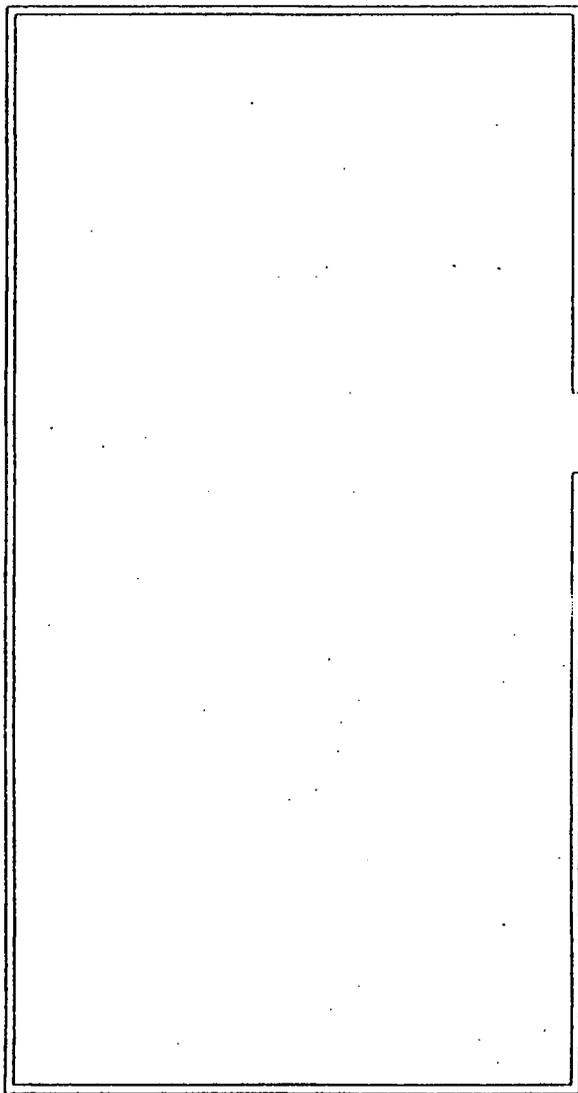


**BLDG #57
FIRST FLOOR
BLDG CODE:3057**

APPROVALS:	DATE:
SAFETY COMMITTEE REQUIRED:	
_____ NONE _____ TRACOC _____ TERC _____ DWOC	
TECH. DESK _____	
DR. PWR. _____	
TRACOC _____	
TERC _____	
DWOC _____	

EXTRAID	PROJ. DIR.	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6	TITLE	(U) TITLE CLASSIFICATION
BRIDGE	DATE COPY	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6	BLDG #57	
LP & CC	PERM. REV.	FIRST CLASSIFICATION						FLOOR PLANS	
CONFORM		CLASSIFICATION						UNCLASSIFIED C	FSC911264
APPROV.	DATE	JOB NUMBER						12335	
		JOB TYPE SFP FROM BLDG #57 CODE 14863 SCALE AS NOTED							
		STATUS MD-REL-12/12/91							
		ORIGIN MD-BRJ-V3.0							

REV	DATE	REVISION	BY	CHKD	DSG	LINEZ	SPG	R
0	12/12/91	ASBUILT ISSUE						



**BLDG #112
FIRST FLOOR
BLDG CODE:3112**

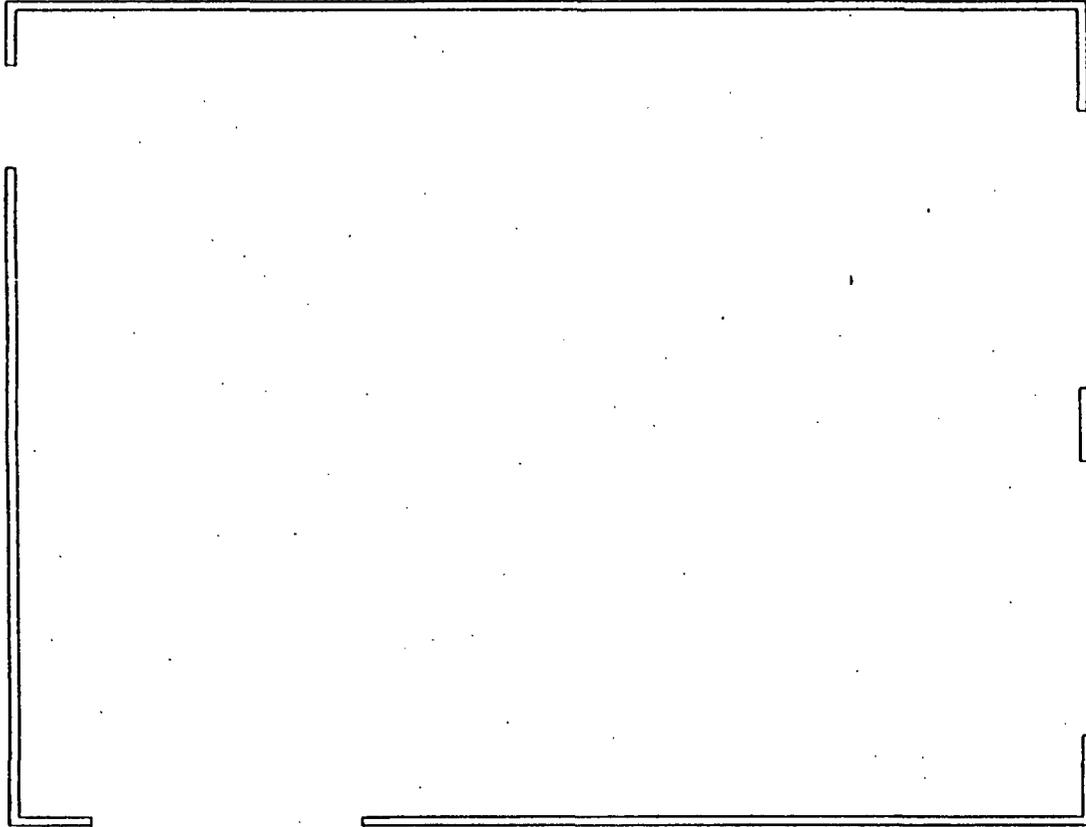
APPROVALS: _____ DATE: _____
 SAFETY COMMITTEE REVIEWED:
 _____ NAME _____ TITLE/DOC _____ DATE/DOC _____
 TECH. REV. _____
 DR. NO. _____
 TITLE/DOC _____
 TDDOC _____
 CHKDC _____

DESIGNER	PROJECT NO.	SHEET	1	2	3	4	5	6	TITLE	(U) TITLE CLASSIFICATION	
DATE	DATE REV	NO.	0						BLDG #112 FLOOR PLANS		
DATE	DATE REV	CLASSIFICATION	UNCLASSIFIED C						JOB NUMBER	12335	
DATE	DATE	JOB TYPE	SFP	FROM BLDG #112	DATE	14865	SCALE AS NOTED	SHEET 1 OF 1			
DATE	DATE	STATUS	NO-REL-12/12/91	ORIGIN	NO-BR3-V3.2						

Er/s

9.112-61

REV	DATE	REVISION	BY	CHKD	DATE	APPD	BY
8	12/12/91	ASBUILT ISSUE					



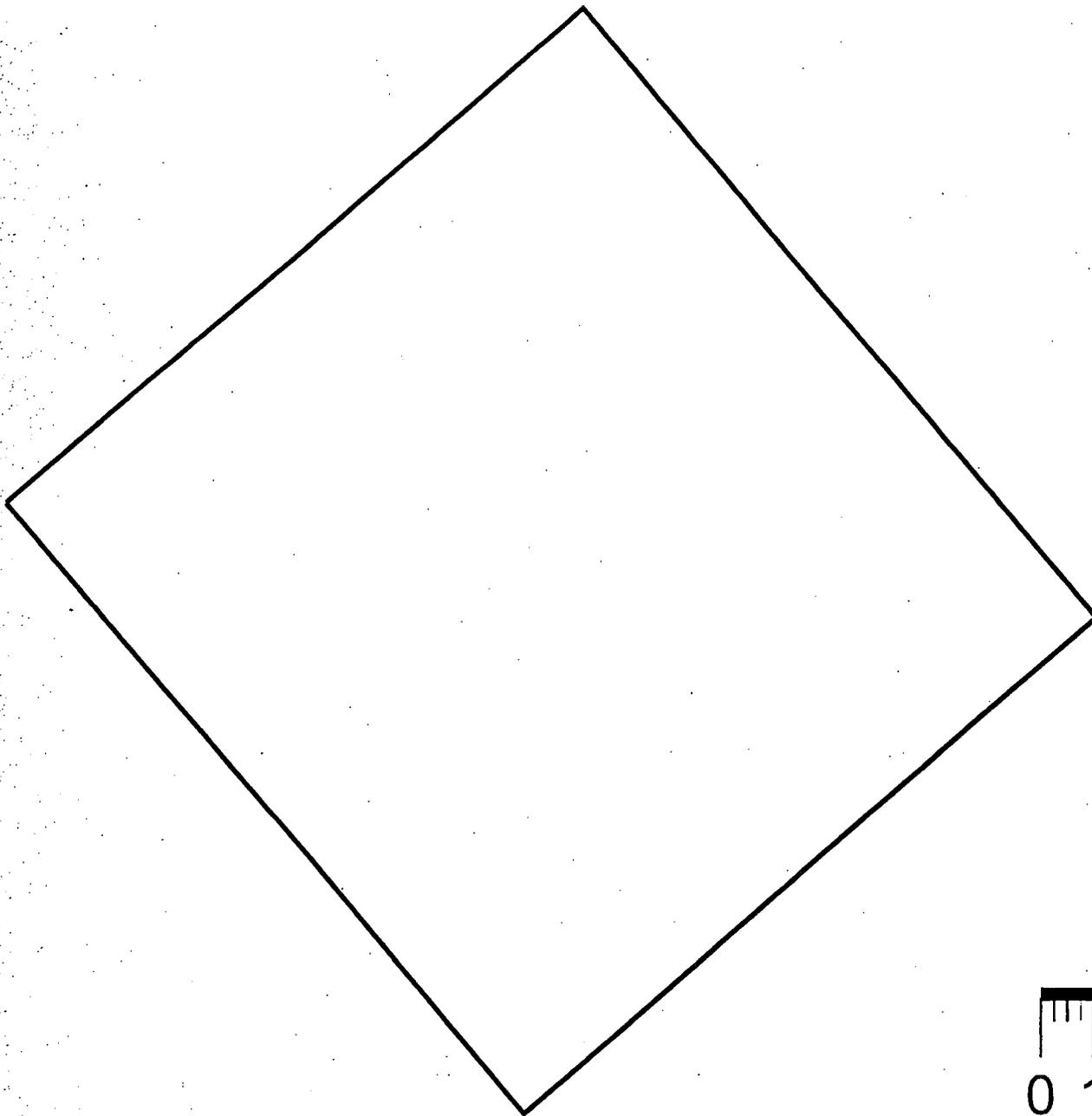
**BLDG #113
FIRST FLOOR
BLDG CODE:3113**

APPROVALS: _____ DATE: _____
 SAFETY COMMITTEE REVIEWED:
 _____ NONE _____ TLEBDC _____ TLEAC _____ DBOC _____
 TECH. REP. _____
 DR. FOR. _____
 TLEBDC _____
 TLEAC _____
 DBOC _____

DESIGN ENG	PROJ MGR	SHEET	1	2	3	4	5	6	TITLE	(U) TITLE CLASSIFICATION	
DRG	DRG REV	NO. 8							BLDG #113		
LP & EC	PROJ REV	PRJ CLASSIFICATION							FLOOR PLANS		
DRG FOR		CLASSIFICATION							UNCLASSIFIED C	FSC911298	12335
APPD	DATE	DRG TYPE	SFP	FROM BLDG #113	CHGZ 14863	SCALE AS NOTED	SHEET 1 OF 1				
		STATUS	MD-REL-12/12/91	ORIGIN	MD-BR3-V3.J						

E 3/5

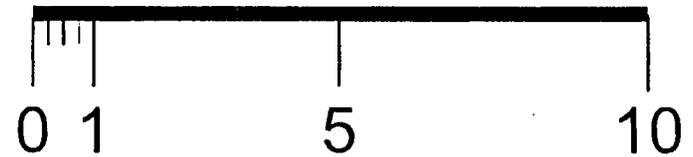
9.113-61



N



E 415



CH2M HILL BOSS Project

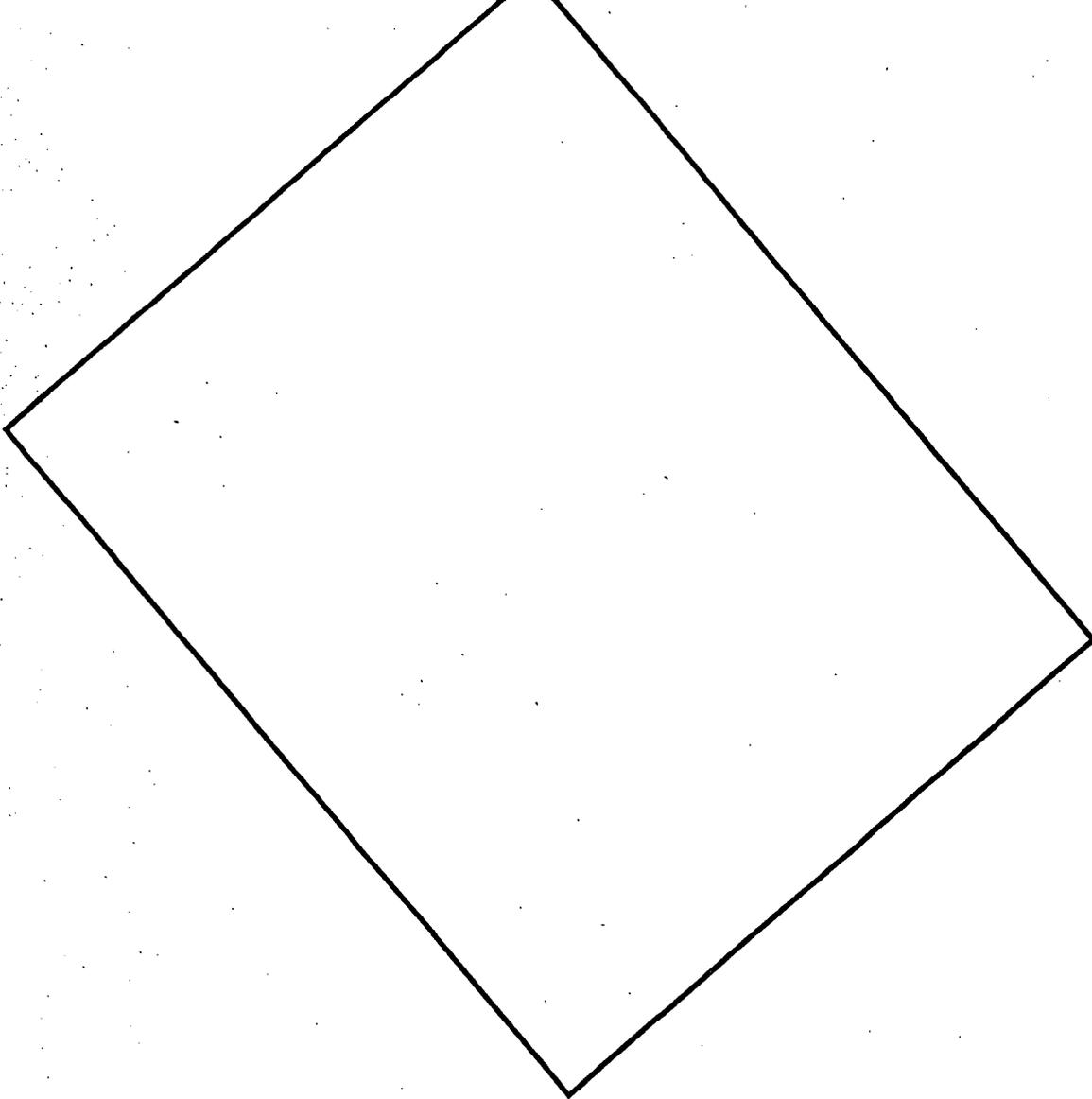
Dwg. No. N/A

Rev: 0

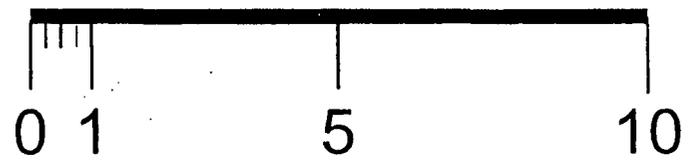
Drawing: Building 415

By: R.C. Ransbottom

Date: 11/18/04



E S/S



 CH2M HILL BOSS Project	Dwg. No. N/A	Rev: 0
	Drawing: Building 432	By: R.C. Ransbottom

Appendix F

Analysis Data from Mound Sludge

**Analysis Data from Mound Sludge
Radioactive Isotopes**

ISOTOPE	Reading	Cleanup Objective (RBGV 10 ⁻⁵ + background, or as agreed)	Units
Actinium-227+D	1.21	4.64E+00	PCI/G
Actinium-227+D	0.534	4.64E+00	PCI/G
Actinium-227+D	0.0164	4.64E+00	PCI/G
Actinium-227+D	0.0131	4.64E+00	PCI/G
Americium-241	0.118	6.31E+01	PCI/G
Americium-241	0.117	6.31E+01	PCI/G
Americium-241	0.184	6.31E+01	PCI/G
Americium-241	0.089	6.31E+01	PCI/G
Cesium-137 +D	0.0959	3.84E+00	PCI/G
Cesium-137 +D	0.149	3.84E+00	PCI/G
Cesium-137 +D	<.088	3.84E+00	PCI/G
Cesium-137 +D	nd	3.84E+00	PCI/G
Cobalt-60	0	7.06E-01	PCI/G
Cobalt-60	0.0715	7.06E-01	PCI/G
Cobalt-60	<.07	7.06E-01	PCI/G
Cobalt-60	nd	7.06E-01	PCI/G
Lead-210+D	2.04	7.45E+00	PCI/G
Lead-210+D	nd	7.45E+00	PCI/G
Plutonium-238	15.4	5.50E+01	PCI/G
Plutonium-238	15.6	5.50E+01	PCI/G
Plutonium-238	16.5	5.50E+01	PCI/G
Plutonium-238	15.1	5.50E+01	PCI/G
Plutonium-239	0.199	6.05E+01	PCI/G
Plutonium-239	0.25	6.05E+01	PCI/G
Plutonium-239	0.196	6.05E+01	PCI/G
Plutonium-239	0.159	6.05E+01	PCI/G
Radium-226+D	1.58	3.01E+00	PCI/G
Radium-226+D	1.65	3.01E+00	PCI/G
Radium-226+D	1.96	3.01E+00	PCI/G
Radium-226+D	nd	3.01E+00	PCI/G
Radium-228	2.37	2.10E+00	PCI/G
Radium-228	2.34	2.10E+00	PCI/G
Radium-228	1.54	2.10E+00	PCI/G
Radium-228	nd	2.10E+00	PCI/G
Thorium-228+D	1.32	2.60E+00	PCI/G
Thorium-228+D	1.25	2.60E+00	PCI/G
Thorium-228+D	1.03	2.60E+00	PCI/G
Thorium-228+D	1.14	2.60E+00	PCI/G
Thorium-230+D	0.751	2.80E+00	PCI/G
Thorium-230+D	0.751	2.80E+00	PCI/G
Thorium-230+D	1.11	2.80E+00	PCI/G
Thorium-230+D	1.2	2.80E+00	PCI/G
Thorium-232+D	0.644	2.10E+00	PCI/G
Thorium-232+D	0.607	2.10E+00	PCI/G

**Analysis Data from Mound Sludge
Radioactive Isotopes**

ISOTOPE	Reading	Cleanup Objective (RBGV 10⁻⁵ + background, or as agreed)	Units
Thorium-232+D	0.622	2.10E+00	PCI/G
Thorium-232+D	0.699	2.10E+00	PCI/G
Tritium	4.53	7.58E+04	PCI/G
Tritium	40.4	7.58E+04	PCI/G
Tritium	0.725	7.58E+04	PCI/G
Tritium	0.685	7.58E+04	PCI/G
Uranium-234+D	1.73	2.00E+00	PCI/G
Uranium-234+D	1.76	2.00E+00	PCI/G
Uranium-234+D	1.64	2.00E+00	PCI/G
Uranium-234+D	1.85	2.00E+00	PCI/G
Uranium-235+D	0.0676	1.50E+01	PCI/G
Uranium-235+D	0.0632	1.50E+01	PCI/G
Uranium-235+D	<.02	1.50E+01	PCI/G
Uranium-235+D	<.048	1.50E+01	PCI/G
Uranium-238+D	1.13	4.23E+01	PCI/G
Uranium-238+D	1.25	4.23E+01	PCI/G
Uranium-238+D	1.15	4.23E+01	PCI/G
Uranium-238+D	1.21	4.23E+01	PCI/G

Note: Data is from the report "Data Review: Sewage Sludge and Waste Water Influent and Effluent Analyses for the Miamisburg Closure Project and the City of Miamisburg" issued December 2003. Results are from MCP/1 and MCP/2 samples.

**Analysis Data from Mound Sludge
Inorganic and Organic**

ANALYTE	Reading	Cleanup Objective (RBGV 10⁻⁵ + background, or as agreed) or Hazard Index	Units	Type*
Arsenic	<5.08	2.85E+01	MG/KG	CO
Barium	533	1.49E+04	MG/KG	HI
Cadmium	1.9	3.00E+04	MG/KG	CO
Cadmium	1.91	3.00E+04	MG/KG	CO
Chromium	80	3.19E+05	MG/KG	HI
Copper	4540	8.52E+03	MG/KG	HI
Copper	4865	8.52E+03	MG/KG	HI
Lead	70.8	4.00E+02	MG/KG	HUD
Lead	72	4.00E+02	MG/KG	HUD
Mercury	2.7	6.39E+01	MG/KG	HI
Mercury	2.03	6.39E+01	MG/KG	HI
Nickel	41.6	1.12E+05	MG/KG	CO
Nickel	4.5	1.12E+05	MG/KG	CO
Strontium	218	nd	MG/KG	nd
Zinc	850	6.39E+04	MG/KG	HI
Zinc	871	6.39E+04	MG/KG	HI

Note: Data is from the report "Data Review: Sewage Sludge and Waste Water Influent and Effluent Analyses for the Miamisburg Closure Project and the City of Miamisburg" issued December 2003. Results are from MCP/1 and MCP/2 samples.

* CO-Cleanup Objective, HI-Hazard Index, HUD-HUD level, nd - not determined

Appendix G

Chemicals

Chemicals and Products Previously Used or Stored in the MWWTP

chlorodifluoromethane

dichlorodifluoromethane

diesel

fly ash

polymer

sodium bisulfite (dechlorination chemical - Reducite)

sodium hypochlorite (chlorination chemical)

Appendix F

Applicable, or Relevant and Appropriate Requirements (ARARs)

Buildings 57, 112, 113, 415, 432, and EG-8 ARARs evaluation

CERCLA is the regulatory authority that governs the cleanup of the Mound facility. The CERCLA umbrella uses other environmental regulations to ensure that the cleanup of Mound is accomplished in a manner that is protective of human health and the environment. The regulations that are applied to the management of hazardous/mixed waste generated at a CERCLA remediation site are RCRA. The following ARAR (Applicable, or Relevant, and Appropriate Requirements) table includes the regulatory analysis of how RCRA will be applied to the management of hazardous waste during the decommissioning and demolition of Mound Wastewater Treatment Plant (MWWTP) Buildings 57, 112, 113, 415, 432, and EG-8.

CERCLA hazardous/mixed wastes expected to be generated during the decommissioning and demolition of the MWWTP include oil in pumps and reservoirs, mercury, and circuit boards. All CERCLA hazardous/mixed wastes will be managed in accordance with the ARAR table until sufficient amounts are accumulated for transfer to an offsite regulated treatment/disposal facility.

Each activity identified in the schedule summary is associated with the RCRA related elements in Appendix H. Current schedules have all work associated with buildings MWWTP demolition completed by June 2005.

**Appendix H – ARAR Application Table for MWWTP Buildings 57, 112, 113, 415, 432, and EG-8
CERCLA Hazardous/Mixed Waste**

Solids Including: <ul style="list-style-type: none"> ▪ Circuit boards ▪ Mercury-contaminated equipment ▪ Solid waste materials not previously identified 		Liquids Including: <ul style="list-style-type: none"> ▪ Pump oil ▪ Liquid waste materials not previously identified 	
Proposed actions involving waste	Specific actions	ARARs	Implementation of ARARs
1. Following generation, CERCLA hazardous/mixed wastes will be stored in drums, on pallets, or in other appropriate containers pending characterization and disposition.	1. Storage of hazardous/mixed waste solids will comply with the following RCRA requirements:	1. CERCLA Hazardous/Mixed waste storage ARARs:	1. Monthly Inspections will be documented in a log maintained by waste management personnel or building manager
	a. Condition of containers	a. 40 CFR 265.171; Ohio Administrative Code (OAC) 3745-55-71	a. Inspection element - containers are in good condition, no evidence of leaks or spillage.
	b. Compatibility of waste with container	b. 40 CFR 265.172; OAC 3745-55-72	b. Inspection element - appropriate container

F2/c

F3/6

Proposed actions involving waste	Specific actions	ARARs	Implementation of ARARs
	c. Management of containers	c. 40 CFR 265.173; OAC 3745-55-73	used for storage. c. Inspection element - containers closed except when adding or removing waste.
	d. Inspections	d. 40 CFR 264.15(a) and (c); OAC 3745-54-15 (A) and (C)	d. Document inspections monthly; visual inspections done periodically by personnel in the area.
	e. Requirements for incompatible wastes	e. 40 CFR 265.177; OAC 3745-55-77; 40 CFR 264.13, OAC 3745-54-13	e. Inspection element – incompatible wastes will have adequate segregation if present in the same storage area. Information from MSDS, process knowledge or analytical data will be used to determine compatibility.
	f. Marking requirements	f. 40 CFR 262.34 (c)(1)(ii); OAC 3745-52-34 (C)(1)(b)	f. Inspection element - containers marked with words to indicate contents, or as "hazardous waste."

F4/6

Proposed actions involving waste	Specific actions	ARARs	Implementation of ARARs
	g. Required equipment	g. 40 CFR 265.32 (a), (b), (c), (d); OAC 3745-54-32 (A), (B), (C), (D)	g. Inspection element - verify that appropriate equipment is available on plant site or in building.
	h. Communication or alarm system	h. 40 CFR 265.34 (a), (b); OAC 3745-54-34 (A), (B)	h. No alarm system remain
	i. Aisle Space	i. 40 CFR 265.35; OAC 3745-54-35	i. Inspection element – maintain aisle space between storage containers to allow the unobstructed movement of personnel and equipment.
	j. Training	j. 40 CFR 265.16 (a), (b), (c); OAC 3745-54-16 (A), (B), (C)	j. Personnel will be trained to perform inspections.

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Proposed actions involving waste	Specific actions	ARARs	Implementation of ARARs
	k. Treatment	k. No treatment will be done	k. n/a
	l. Closure	l. 40 CFR 264.178, OAC 3745-55-78	l. Contaminants of concern and their clean-up objectives will be identified in the Survey Unit Design.
2. CERCLA hazardous/mixed waste will be characterized to determine RCRA and radiological status.	2. Wastes must be characterized following generation.	2. Characterization ARARs:	
	a. RCRA and Radiological characterization – by sampling or process knowledge.	a. 40 CFR 262.11, OAC 3745-52-11	a. If sampling is done, a copy of the analytical results will be kept in the project file.

ARAR Table for Air Quality

40 CFR Part 61 Subpart H: National Emissions Standards for Emissions of Radionuclides other than Radon from Department of Energy Facilities.
40 CFR Part 61 Subpart M: National Emission Standards for Asbestos.
Ohio Administrative Code (OAC) 3745-15-07(A): Air Pollution Nuisances Prohibited.
OAC 3745-17-02 (A,B,C): Particulate Ambient Air Quality Standards.
OAC 3745-17-05: Particulate Non-Degradation Policy.
OAC 3745-17-08: (A1), (A2), (B), (D): Emission Restrictions for Fugitive Dust.
OAC 3745-20: Asbestos Emission Control.

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ARAR Table for Radiological Protection

DOE 5400.5: DOE Protection of the Public and the Environment
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