3006-060501001 4

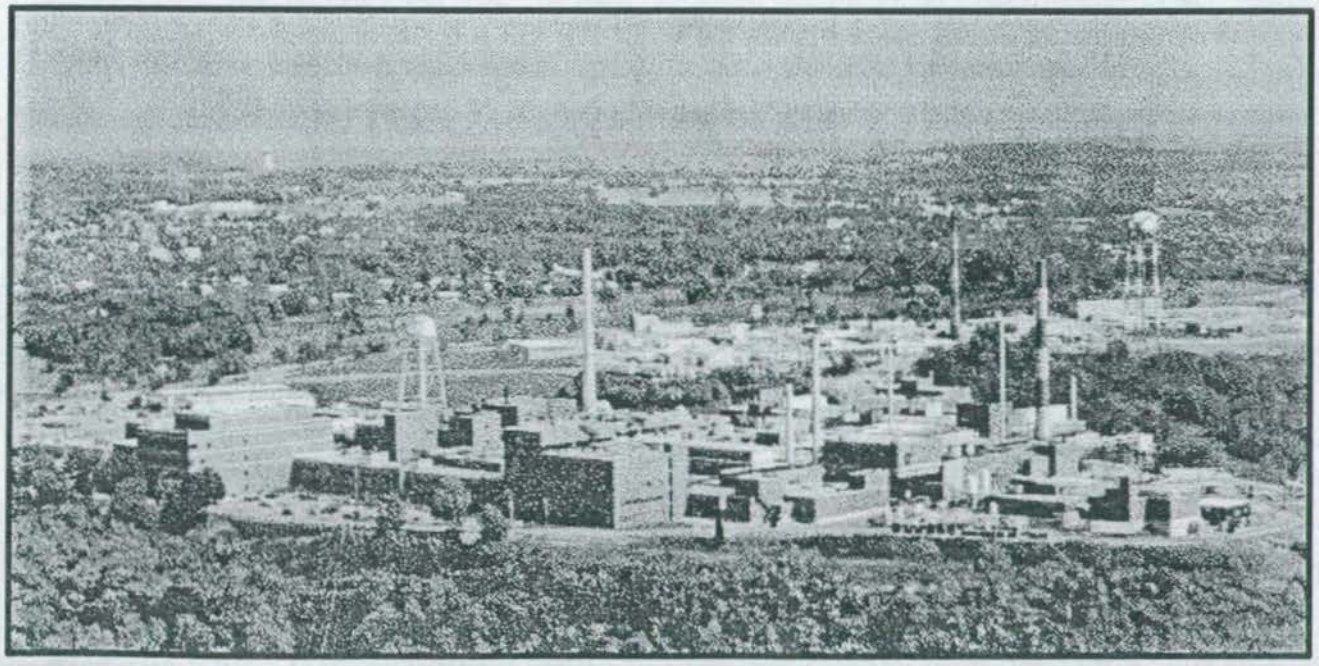
Environmental
Restoration
Program

# Miamisburg Closure Project
## CLOSEOUT REPORT

# Main Hill Water Tower

(Demolition)

Final
January 2005



3006-0605010014

CH2M HILL
Mound, Inc.
1 Mound Road
P.O. Box 3030
Miamisburg, OH
45343-3030

CH2MHILL

ER/WM-046/05
January 27, 2005

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
**MAIN HILL WATER TOWER CLOSEOUT REPORT, FINAL**

Dear Ms. Marks:

Attached is the following Final document for your records:

- Main Hill Water Tower Closeout Report, Final

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,

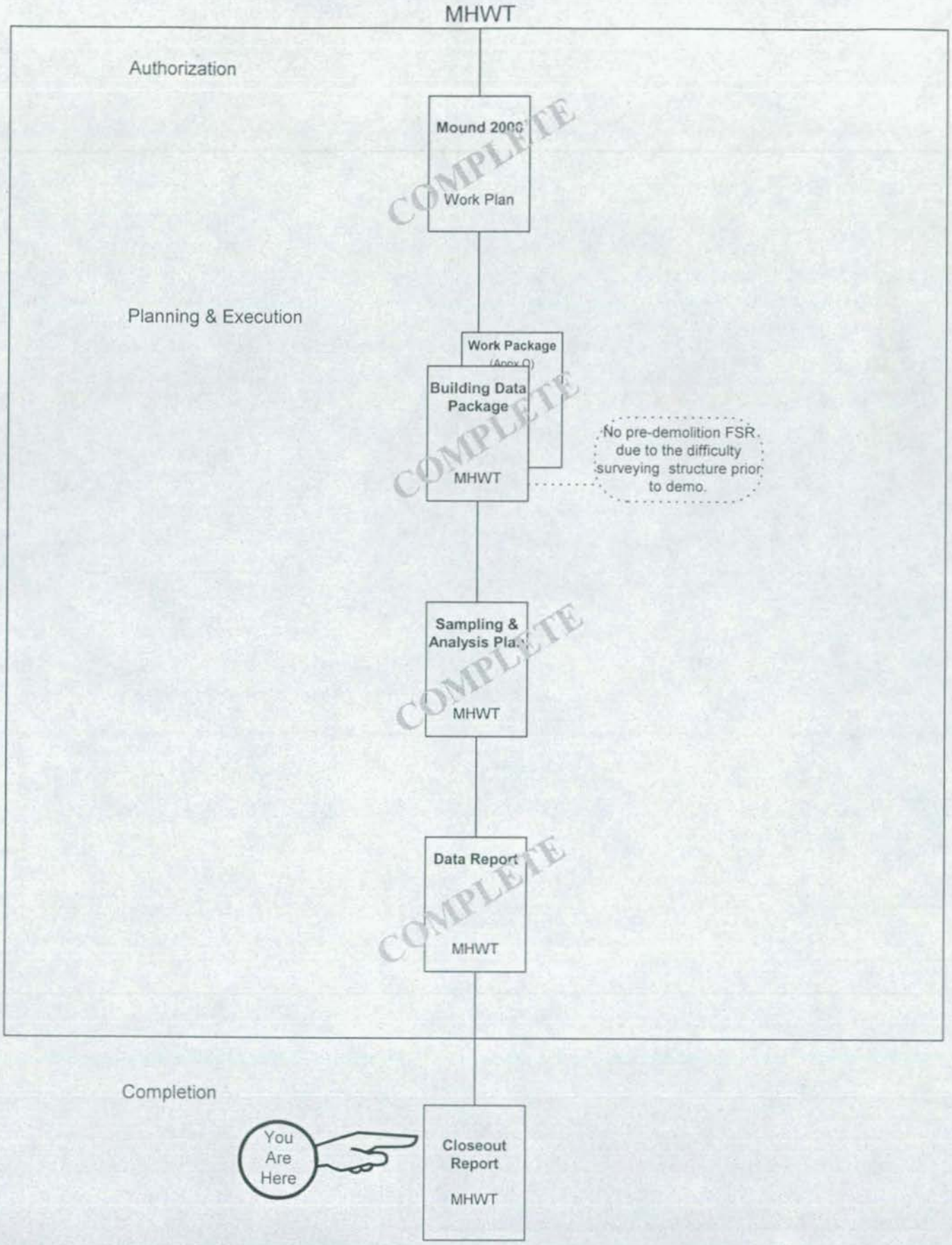
David A. Rakel
CERCLA Lead

DAR/ms

Enclosures

cc: Tim Fischer, USEPA, (1) w/attachments
Brian Nickel, OEPA, (1) 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
Git Desai, DOE/HQ, (1) w/attachments
Frank Bullock, MMCIC, (2) 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
DCC (1) w/attachments
John Lehew, CH2M Hill, w/o attachments
Dave Rakel, CH2M Hill, w/o attachments
Val Darnell, CH2M Hill, w/o attachments
Bo Wier, CH2M Hill, w/o attachments
file

# Main Hill Water Tower




11Jan05vkd

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## 1.0 PURPOSE

This is the final report documenting completion of the demolition of the Main Hill Water Tower (MHWT) located at the Department of Energy (DOE) Miamisburg Closure Project (MCP) Site, as shown in the figures provided in Appendix A. The Main Hill Water Tower including piers was removed to three feet below grade, in accordance with the Work Package Demolition #SMPP/TFV-39197. A copy of the Work Package was included in Appendix O of the Building Data Package (BDP) for the Main Hill Water Tower. The scope of work relating to this structure is considered complete. Site restoration has been completed.

## 2.0 BACKGROUND

### 2.1 Main Hill Water Tower

The Main Hill Water Tower (Figure 1) was a 100,000-gallon elevated steel water tank and tower. It contained a 50,000-gallon capacity for service water and a 50,000-gallon capacity for fire reserve. The tank dimensions were approximately 28 feet diameter with a 16-foot shell height, and it had a cone roof and an elliptical bottom. Four legs, each approximately 107 feet tall, supported the tank. The overall height of the structure was approximately 133 feet.

The tower was originally erected and put in service in 1941 in Weldon Springs, Missouri. Because of the steel shortage following World War II, the tower was dismantled, moved to Ohio, and re-erected on the Main Hill of the Mound site in 1948. The top of the tank was replaced in 1990.

It had served the same function as a water storage tank for service water and fire reserve water since it was erected at the Mound site.

### 2.2 Potential Release Sites (PRSs)

As a result of the investigations and documentation accomplished to comply with the CERCLA cleanup process via the Federal Facilities Agreement (FFA)/DOE Environmental Restoration (ER) Program, DOE and the site contractor tabulated all the PRSs identified under the various regulatory programs in effect at the site. Of these PRSs, six are near the Main Hill Water Tower, as identified in Table 1. The PRS locations are shown in Figure 2 and recommendation sheets are provided in Appendix D.

**Table 1 - PRSs in Proximity to the Main Hill Water Tower**

| PRS | CERCLA or Bldg. Related | Binning Status | Comments |
|---|---|---|---|
| 113 through 117 | CERCLA | NFA* | Powerhouse Soils |
| 126 | CERCLA | NFA | Building 28 Solvent Storage Area/Shed |

* NFA: No Further Assessment

All of the six PRSs in the vicinity of the Main Hill Water Tower have been determined by the Core Team to require No Further Assessment (NFA). For a PRS to be binned NFA, the Core Team has reviewed the PRS data and agrees that all existing environmental issues associated with that PRS have been resolved and the PRS is protective of human health and the environment.

## 3.0 ACTIONS TAKEN

The Main Hill Water Tower Building Data Package (BDP) was submitted for simultaneous core team and public review on 18 March 2004, and the 30 day public review period concluded on 17 April 2004. The demolition of the Main Hill Water Tower commenced on 17 April 2004 and the site restoration was completed on June 24, 2004. Photographs of the Main Hill Water Tower taken before and after demolition are provided in Appendix A. A Compact Disk of the demolition is also provided in Appendix A.

Predemolition radiological surveys were not feasible as the structure was elevated 100 feet above the ground. Following demolition, radiological surveys were performed on the debris piles to determine end disposition. Copies of the radiological surveys are provided in Appendix B.

Debris was loaded into haulers and taken for recycle. After demolition soil samples were collected to assess whether any metals from the paint on the tower had leached or otherwise fallen over the years to contaminate the soil under and around the tower base. It was postulated that due to the age of the tower lead based paint might have been used.

Lead was detected in one sample (MHWT-0-08) at a level above the residential level but below the industrial level, this data has been reviewed by the Core Team and determined to require no further action. Appendix C contains the data from this sample event. Appendix C also contains an e-mail documenting the Core Team review.

This Closeout Report documents the completion of the demolition and removal of the Main Hill Water Tower. All preparation and demolition activities were performed in accordance with the detailed work plan.

**Table 2 - Materials Disposition**

| Main Hill Water Tower Material | Quantity | Disposal Method | Destination |
|---|---|---|---|
| Tower/Tank | 70 Tons | Recycle | Metal Shredders |

## 4.0 PROBLEMS ENCOUNTERED

The Main Hill Water Tower was successfully demolished per the Work Package. No problems were encountered.

## 5.0 RESOURCES COMMITTED

### 5.1 Personnel Organization

Table 3 lists the personnel organization for the demolition.

**Table 3 - Personnel Organization for the Demolition**

| Agency or Party Involved | Contact | Description of Participation |
|---|---|---|
| US EPA (SR-6J)<br>77 W. Jackson<br>Chicago, IL 60604<br>312-886-7058 | Tim Fischer | Federal agency responsible for MCP oversight. |
| Ohio EPA<br>410 E. Fifth Street<br>Dayton, OH 45402-2911<br>937-285-6468 | Brian Nickel | State agency responsible for MCP oversight. |
| DOE/ MCP<br>P.O. Box 66<br>1 Mound Road<br>Miamisburg, OH<br>45343-0066<br>847-8350, ext. 304 | Frank Schmaltz | DOE/ MCP Project Manager responsible for project oversight and success. |

**Table 3 - Personnel Organization for the Demolition**

| Agency or Party Involved | Contact | Description of Participation |
|---|---|---|
| CH2M Hill Mound, Inc.<br>SMPP-TFV Project<br>P.O. Box 3030<br>1 Mound Road<br>Miamisburg, OH<br>45343-3030<br>937-608-8007 | Chris Watson | Provided the DOE/ MCP Project Demolition Manager with technical assistance, administrative support, sampling, decontamination, photo and site documentation, site safety, and report preparation.<br>Provided the equipment/personnel necessary for the demolition and performed the building demolition and site restoration. |

## 5.2 DEMOLITION COST

Under the new site contract, CH2M Hill Mound, Inc. has elected to cluster financial data for multiple buildings together. The Main Hill Tank Demolition estimate is listed in Table 4.

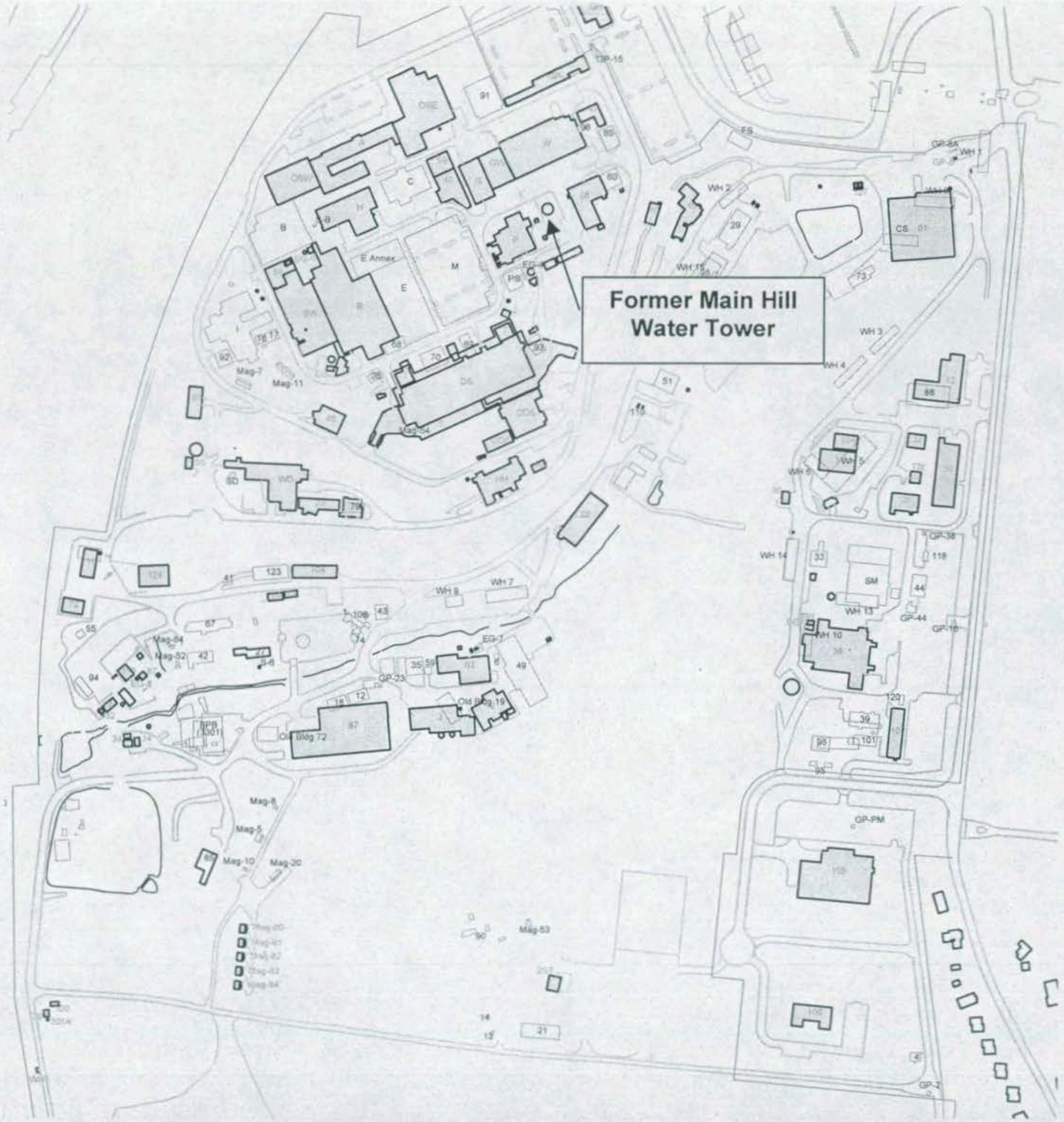
**Table 4 –Main Hill Water Tower Estimated Costs**

| Activity | Cost |
|---|---|
| Work Planning, Preparation and demolition | $60K |

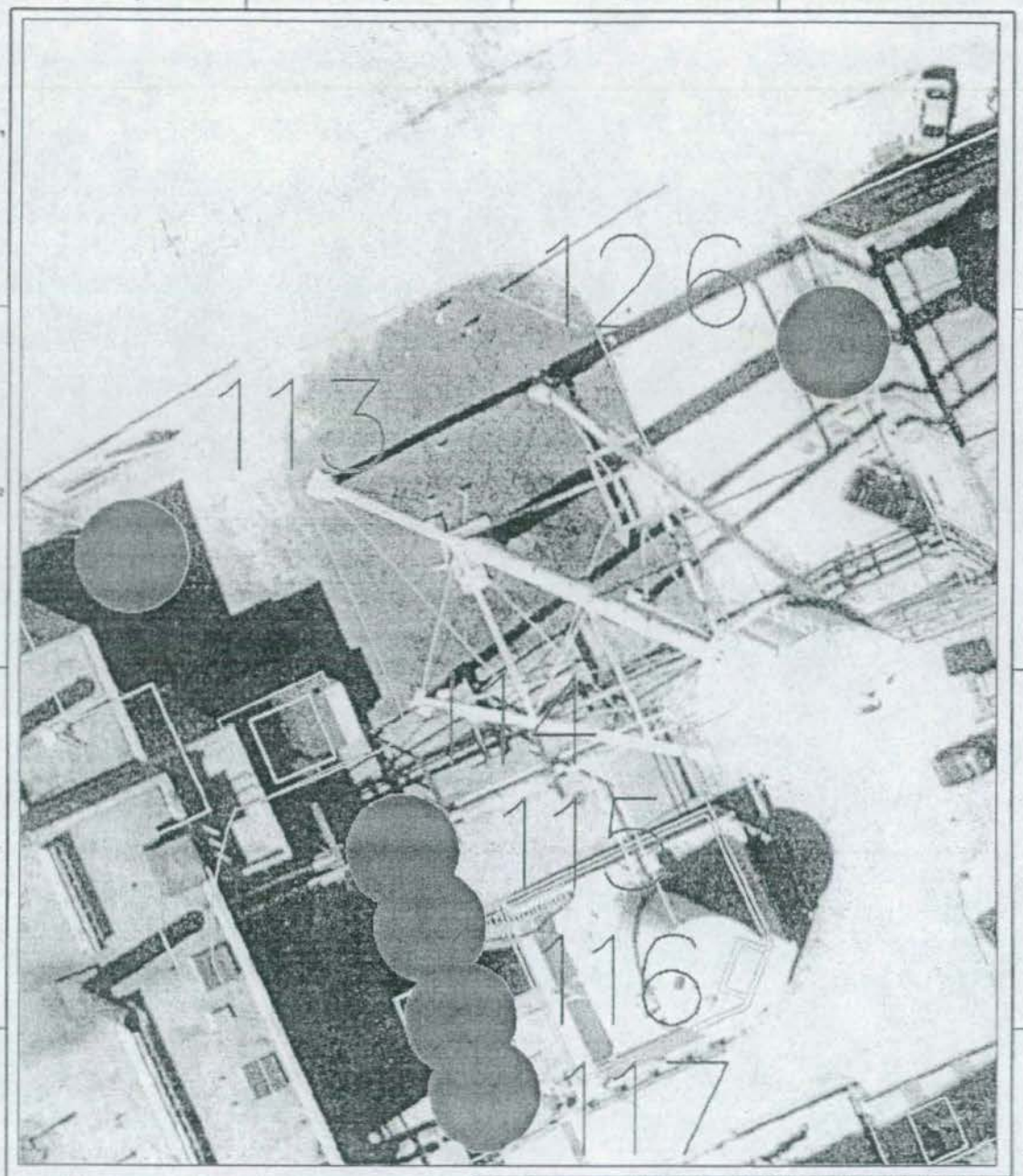
# APPENDIX A

## Figures

# Figure 1 – Location of Main Hill Water Tower

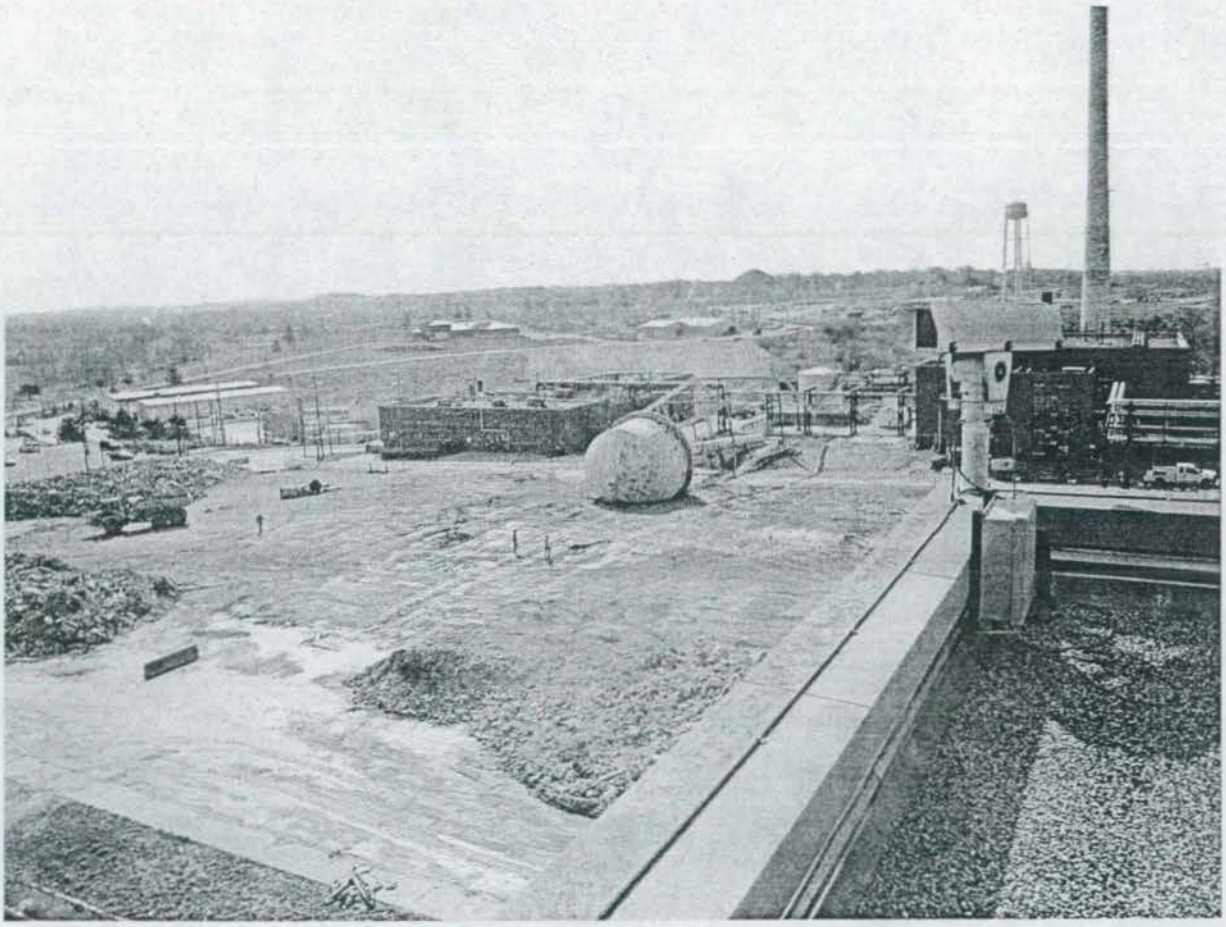


# Figure 2 – PRS Locations

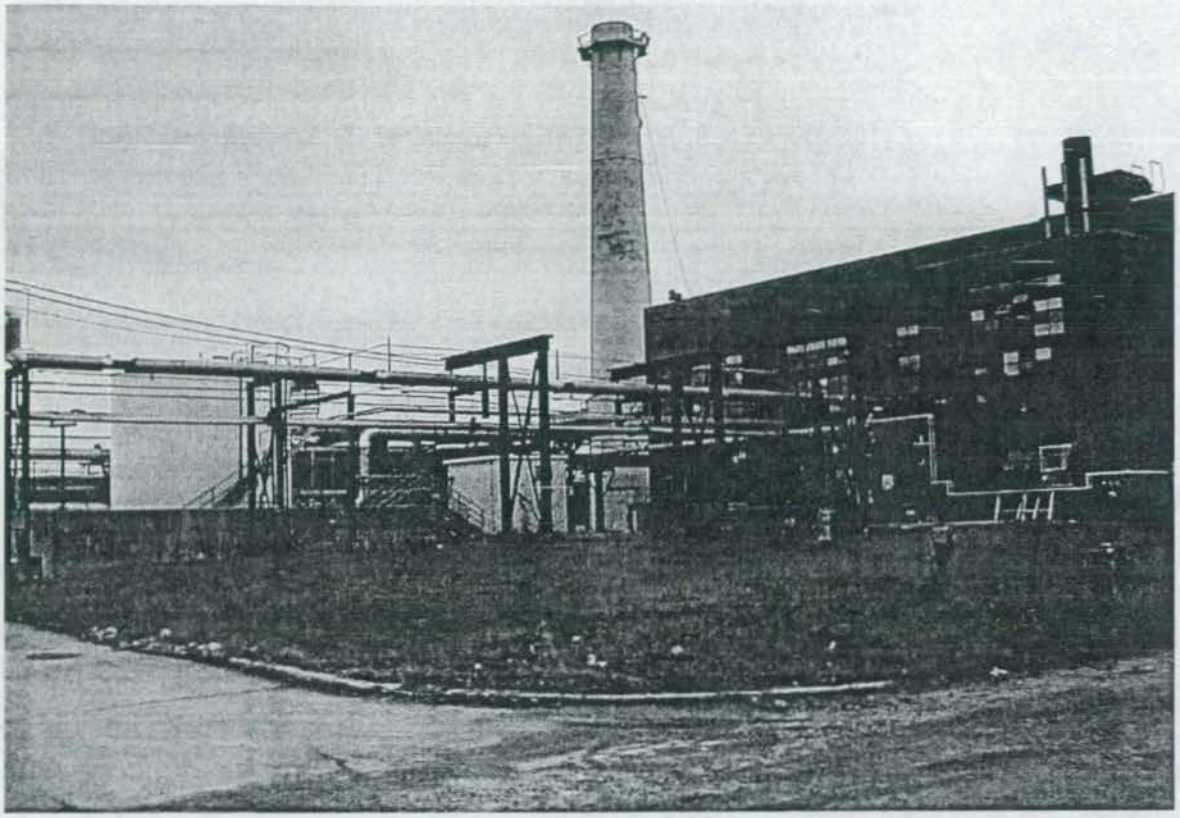


## Figure 3 – Main Hill Water Tower Photos

**Main Hill Water Tower Prior to Demolition**



Main Hill Water Tower After Drop



Main Hill Water Tower Area After Seeding

# APPENDIX B

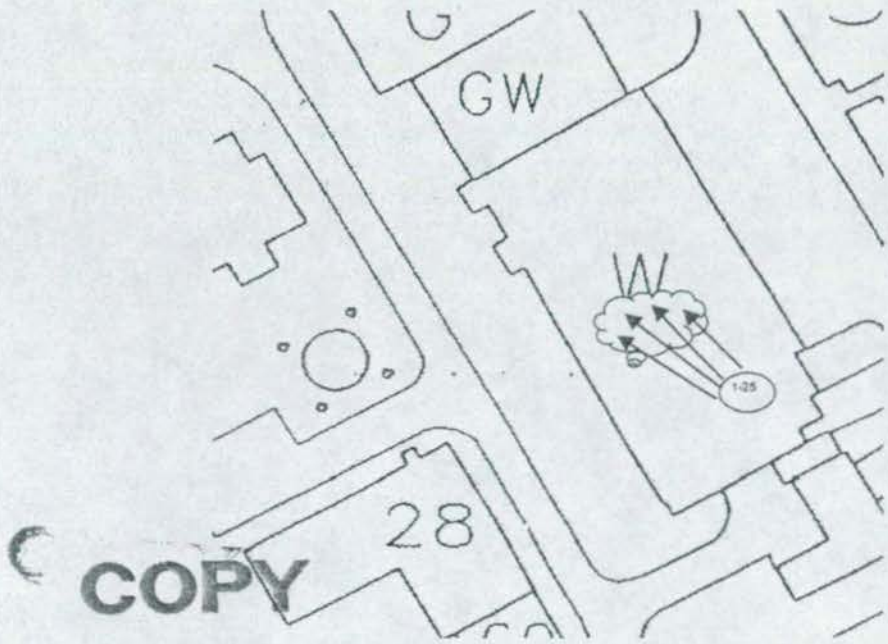
## Post-Demolition Radiological Survey

# RADIOLOGICAL SURVEY DATA SHEET



| | |
|---|---|
| LOCATION: (BLDG./AREA/ROOM) Building W Lot | SURVEY NO. 04-TF-0167 |
| PURPOSE: Survey of Water Tower Debris | RWP NO. none |
| | DATE: 6/12/04 |
| | TIME: 13:30 |

## MAP / DRAWING




Scan conducted at smear locations. Integrated count performed where audible response was detected. See attached for integrated count results

LEGEND:
- # = mrem/hr (γ) whole body
- #E = mrem/hr (β+η+γ) extremity on contact
- K = factor of 1000
- — · — · — · · = radiological boundary

- # - mrem/hr neutron
- # - swipe number
- # - air sample number
- #/α or /β - direct contamination measurement in dpm/100cm²

INSTRUMENTS USED

| Instrument | Serial Number | Cal. Due Date |
|---|---|---|
| 2360/43-89 | 5750/5810 | 9/16/04 |
| 3030 | 5822 | 7/14/04 |
| 3030 | 5826 | 10/20/04 |
| | NA | |

| | | |
|---|---|---|
| Completed by: (Signature) RMCoblentz | [redacted] | Date: 6/14/04 |
| Completed by: (Printed Name) RMCoblentz | | |
| Counted by: (Signature) RMCoblentz (See attached) | [redacted] | Date: 6/14/04 |
| Counted by: (Printed Name) RMCoblentz | | |
| Reviewed/Approved by: (Signature) | [redacted] | Date: 6/14/04 |
| Reviewed/Approved by: (Print Name) | R. Case | |

Survey No.

04-TF-0167



## RADIOLOGICAL SURVEY DATA SHEET (cont.)

| Removable Contamination | | | | |
|---|---|---|---|---|
| Swipes (dpm/100cm$^2$) | | | | |
| Sample # | β/γ | Alpha | Tritium | Comments |
| 1 | 22 | 2 | See Attached | Debris |
| 2 | 5 | 0 | | Debris |
| 3 | 19 | 0 | | Debris |
| 4 | 5 | 0 | | Debris |
| 5 | 0 | 0 | | Debris |
| 6 | 0 | 2 | | Debris |
| 7 | 0 | 2 | | Debris |
| 8 | 0 | 0 | | Debris |
| 9 | 0 | 0 | | Debris |
| 10 | 0 | 0 | | Debris |
| 11 | 0 | 2 | | Debris |
| 12 | 0 | 0 | | Debris |
| 13 | 0 | 0 | | Debris |
| 14 | 0 | 0 | | Debris |
| 15 | 0 | 0 | | Debris |
| 16 | 27 | 0 | | Debris |
| 17 | 24 | 0 | | Debris |
| 18 | 0 | 0 | | Debris |
| 19 | 0 | 0 | | Debris |
| 20 | 5 | 0 | | Debris |
| 21 | 8 | 0 | | Debris |
| 22 | 13 | 5 | | Debris |
| 23 | 22 | 2 | | Debris |
| 24 | 0 | 0 | | Debris |
| 25 | 11 | 0 | | Debris |
| | | N | A | |

| Removable Contamination | | | | |
|---|---|---|---|---|
| Swipes (dpm/100cm$^2$) | | | | |
| Sample # | β/γ | Alpha | Tritium | Comments |
| | | N | A | |

COMMENTS: None

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

Survey No.
04-TF-0167

## RADIOLOGICAL SURVEY DATA SHEET (cont.)

| Ludlum 2360 Integrated Measurement Results | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | Alpha | | | Beta | | |
| | | BKGD | 5 | cpm | BKGD | 230 | cpm |
| | | DL | 2.3 | Net cpm | DL | 18 | Net cpm |
| No. | Item/Location Description | Gross (cpm) | CF | Results (dpm/100cm2 or Sample) | Gross (cpm) | CF | Results (dpm/100cm2 or Sample) |
| 1 | Debris Pile | 17 | 8 | 96 | 229 | 4 | <DL |
| 2 | Debris Pile | 16 | 8 | 88 | 170 | 4 | <DL |
| 3 | Debris Pile | 7 | 8 | <DL | 165 | 4 | <DL |
| 4 | Debris Pile | 16 | 8 | 88 | 191 | 4 | <DL |
| 5 | Debris Pile | 6 | 8 | <DL | 159 | 4 | <DL |
| 8 | Debris Pile | 3 | 8 | <DL | 161 | 4 | <DL |
| 14 | Debris Pile | 12 | 8 | 56 | 164 | 4 | <DL |
| 15 | Debris Pile | 7 | 8 | <DL | 191 | 4 | <DL |
| 24 | Debris Pile | 6 | 8 | <DL | 150 | 4 | <DL |
| 25 | Debris Pile | 14 | 8 | 72 | 177 | 4 | <DL |
| | | | | A | | | |
| | | | N | | | | |

ML-9620C

14 Jun 2004 07:32 ALPHA/BETA - 1.09 Page #1
Protocol #: 6 PW H3 #403728 User : 2324

Time: 2.00
Data Mode: DPM Nuclide: SMGL02 Quench Set: SMGL02
Background Subtract: 1st Vial

| | LL | UL | LCR | 2S% | BKG |
|---|---|---|---|---|---|
| Region A: | 0.5 - | 18.6 | 0 | 0.0 | 9.53 |
| Region B: | 2.0 - | 18.6 | 0 | 0.0 | 9.18 |
| Region C: | 40.0 - | 2000 | 0 | 0.0 | 10.08 |

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
COBLENTZ 04-TF-0167 1-25 JC
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\proti.dat
Count Data Filename: c:\data\SDATA6.DAT
Spectrum Data Drive & Path: c:\data

| S# | TIME | CPMA | LUM | FLAG | tSIE | DPM1 | 2Sigma | CPMC | CPMB |
|---|---|---|---|---|---|---|---|---|---|
| -1 | 10.00 | 9.53 | 2 | B | 588.19 | | 0.00 | 10.08 | 9.18 |
| 0 | 2.00 | 788.02 | 0 | | 646.23 | 1451.77 | 114.08 | 1.42 | 753.87 |
| 1 | 2.00 | 0.00 | 31 | | 367.14 | 0.00 | 0.00 | 4.92 | 0.00 |
| 2 | 2.00 | 0.47 | 0 | | 346.07 | 1.30 | 13.45 | 0.42 | 0.82 |
| 3 | 2.00 | 0.00 | 10 | | 428.50 | 0.00 | 0.00 | 3.92 | 0.00 |
| 4 | 2.00 | 0.00 | 0 | | 461.79 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5 | 2.00 | 0.00 | 18 | | 399.88 | 0.00 | 0.00 | 4.92 | 0.00 |
| 6 | 2.00 | 0.00 | 0 | | 498.14 | 0.00 | 0.00 | 1.42 | 0.00 |
| 7 | 2.00 | 0.00 | 7 | | 403.63 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8 | 2.00 | 0.00 | 0 | | 457.07 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9 | 2.00 | 0.00 | 0 | | 413.05 | 0.00 | 0.00 | 1.92 | 0.00 |
| 10 | 2.00 | 0.00 | 0 | | 454.53 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11 | 2.00 | 0.00 | 0 | | 470.43 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12 | 2.00 | 4.97 | 28 | | 511.44 | 10.35 | 11.94 | 0.00 | 4.02 |
| 13 | 2.00 | 5.47 | 50 | | 348.77 | 14.99 | 15.96 | 0.00 | 4.55 |
| 14 | 2.00 | 0.00 | 0 | | 477.83 | 0.00 | 0.00 | 0.92 | 0.00 |
| 15 | 2.00 | 0.00 | 0 | | 491.33 | 0.00 | 0.00 | 0.42 | 0.00 |
| 16 | 2.00 | 0.00 | 0 | | 526.96 | 0.00 | 0.00 | 4.42 | 0.00 |
| 17 | 2.00 | 0.00 | 0 | | 558.08 | 0.00 | 0.00 | 1.92 | 0.00 |
| 18 | 2.00 | 0.00 | 33 | | 330.92 | 0.00 | 0.00 | 2.92 | 0.00 |
| 19 | 2.00 | 0.00 | 0 | | 455.19 | 0.00 | 0.00 | 1.67 | 0.00 |
| 20 | 2.00 | 0.97 | 0 | | 501.20 | 2.04 | 10.49 | 0.00 | 1.23 |
| 21 | 2.00 | 0.00 | 0 | | 472.78 | 0.00 | 0.00 | 0.00 | 0.00 |
| 22 | 2.00 | 0.00 | 8 | | 460.39 | 0.00 | 0.00 | 0.00 | 0.00 |
| 23 | 2.00 | 0.00 | 8 | | 435.23 | 0.00 | 0.00 | 0.00 | 0.00 |
| 24 | 2.00 | 0.00 | 0 | | 445.72 | 0.00 | 0.00 | 3.42 | 0.00 |
| 25 | 2.00 | 0.00 | 0 | | 455.32 | 0.00 | 0.00 | 0.00 | 0.00 |

RMC

# APPENDIX C

## Post Demolition Soil Evaluation

## 1.0 Introduction

Analytical data assessment can be performed on many quality control levels. On the most basic level the data can be reviewed for completeness. Does the reported data cover the intended samples? Were the samples analyzed for the planned analyses? Does the data package contain all the information called for by the SOW and/or SAP?

A Data Review involves an assessment of the quality controls used by the laboratory during the performance of the analysis. These include such things as laboratory blanks, system monitoring compound (surrogate) recoveries, matrix spikes, etc. Were the correct QC controls used, and does the QC data indicate the analyses were performed correctly? Which controls are assessed and what criteria are applied depend on the analysis performed. The results of field quality control measures such as field duplicates and trip blanks may also be evaluated. Data Review is normally performed on 100% of the analytical data.

A full Data Validation is a much more detailed review of the entire laboratory data package. It includes all the elements of the Data Review plus verification of such things as proper instrument calibration, proper use of standards and correct performance of data calculations. Data Validation is used to identify systemic problems with the way the laboratory performs and reports analyses.

## 2.0 Description of the Data Set

Eleven soil samples were collected under and around the location from which the Main Hill water tower was removed. The purpose of the sample collection was to assess whether any metals from the paint on the tower had leached or otherwise fallen over the years to contaminate the soil under and around the tower base. It is postulated that due to the age of the tower lead based paint may have been used on it. There was no analytical data or process knowledge to indicate that the tower was painted with lead based paint or that the soil was contaminated.

Samples were collected in accordance with the "Main Hill Water Tower Sampling and Analysis Plan (Final, September, 2004).

All samples were collected and analyzed as planned. One field duplicate (#11 and #3 were collected from sample location #3.

Since no equipment was field decontaminated, no equipment rinsate samples were collected.

All samples were run for a long count screening at the Mound Soil Screening Laboratory (Gamma Spec) prior to off site analysis. Offsite sample analyses were performed at Severn Trent Laboratories, St. Louis.

There were no problems associated with the documentation, shipment, or chain of custody of the samples. There were no problems in achieving the analyte detection goals.

**Table 1 Sampling Event**

| Sample Date | LSDG | Number of Samples | Mound Sample IDs |
|---|---|---|---|
| 10/12/04 | F44J150231 | 11 | MHWT-0-01<br>MHWT-0-02<br>MHWT-0-03<br>MHWT-0-04<br>MHWT-0-05<br>MHWT-0-06<br>MHWT-0-07<br>MHWT-0-08<br>MHWT-0-09<br>MHWT-0-10<br>MHWT-1-11 |

## 3.0 Data Completeness

The correct samples were submitted and analyzed for the analytes requested in the Sample and Analysis Plan (SAP).

## 4.0 Data Review

The quality control data submitted with the analytical data packages were reviewed and assessed. The results of the assessment are presented in this section. The following qualification flags are used to indicate data quality problems identified during the data review process.

**Table 2 Data Review Qualifications**

| Flag | Description |
|---|---|
| J | Estimated sample result |
| U | Non-detect sample result |
| UJ | Estimated non-detected sample result |
| R | Rejected (unusable) sample result |

### 4.1 Hold Times

There are no EPA mandated technical hold times for the metals analysis of soils. The recommended maximum hold time for water samples is 180 days until analysis.

All samples in this LSDG were within 28 days.

### 4.2 Blanks

The laboratory analyzes one method blank for every 20 samples or LSDG. Laboratory blanks are analyzed to determine if laboratory processes are contributing to the detected sample measurements. To meet the QC criteria the method blank must be $\leq 2$ times the Practical Quantitation Limit (PQL).

The method blank associated with the verification samples met QC criteria.

The laboratory also analyzes one calibration blank after every 10 samples and before each initial and continuing calibration. Calibration blanks are analyzed to determine if instrument operations are contributing to the detected sample measurements. To meet the QC criteria the method blank must be ≤ 2 times the PQL.

All initial and continuing calibration blanks met QC criteria.

### 4.3 Instrument Calibrations

The laboratory must successfully run a set of initial calibration samples each day. Immediately after each initial calibration, an initial calibration check sample must be run. To be successful initial calibration verification sample recoveries must be ± 10% of 100% for all metals except mercury. Mercury recovery must be ± 20% of 100%.

In addition a continuing calibration verification sample must be run every after every 10 samples. The same criteria are used as with the initial calibration verification.

All initial and continuing calibration verifications met QC criteria.

### 4.4 Matrix Spike

A matrix spike (MS) and a matrix spike duplicate (MSD) analysis are performed to assess the precision and accuracy of the laboratory analysis. One MS/MSD spike is performed for every 20 samples or LSDG. It also may indicate analysis bias due to sample matrix effects.

Pb, Cu, & Zn all had one or more spike recoveries above the QC criteria indicating a possible positive bias (i.e., results are higher than they should be) to the measurement of these metals. Of these elements only Pb was detected in one sample at levels of concern.

The MS/MSD recoveries for Sb were well below QC criteria indicating a possible negative bias to the measurement of this element; however, this element was only detected at extremely low levels in the Water Tower soil samples.

No qualification of the data was made based on MS/MSD data.

### 4.5 Laboratory Control Sample

The Laboratory Control Sample (LCS) is a standard sample with a known quantity of the analyte(s) of concern. The LCS recovery is an indication of whether the analytical process was in control during the analysis.

All LCS recoveries were within QC requirements.

### 4.6 Equipment Rinsates

Equipment rinsates are used to ensure efficacy of equipment field decontamination procedures, and that the sample collection process is not causing cross contamination.

No equipment rinsates were collected.

### 4.7 Field Duplicates

Field Duplicates give an indication of the degree of homogeneity within the sample material. As with Laboratory duplicates they are reported as RPD.

In general, agreement between the field duplicates (MHWT-0-3 & MHWT-1-11) was good except for Pb and Cr, which were both significantly higher in one sample.

## 5.0 Data Validation

The results of LSDG F4J150231 were fully data validated. In addition to the items discussed above, the following items were evaluated:

1. Instrument calibration calculations
2. Spike recovery calculations.
3. Sample run logs
4. Standard certifications

No additional qualification resulted from this assessment. There was no indication of a systemic deficiency.

## 6.0 Certification

Based upon this review the metal analysis data may be used as presented with no further qualifications.

# Data Review & Validation

Main Hill Water Tank Metals

**Table 3 Main Hill Water Tower Metal Analysis**

| | PQL | Cleanup | MHWT-0-01 | MHWT-0-02 | MHWT-0-03 | MHWT-0-04 | MHWT-0-05 | MHWT-0-06 | MHWT-0-07 | MHWT-0-08 | MHWT-0-09 | MHWT-0-10 | MHWT-1-11 | Method Blank | LCS | MHWT-0-01 MS | MHWT-0-01 MSD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | % | % | % |
| Arsenic | 1.1 | 28.5 | 6.5 | 5.5 | 4.1 | 5.3 | 7.8 | 4.7 | 5.0 | 5.9 | 3.3 | 4.8 | 4.4 | | 110 | 98 | 98 |
| Lead | 0.34 | 800[1] | 113 | 98.4 | 77.9 | 66.4 | 98.2 | 102 | 246 | 591 | 56.0 | 161 | 173 | | 114 | **420** | **206** |
| Antimony | 1.1 | 85.2 | *0.3* | *0.5* | 2.0 | *0.9* | | | 3.2 | 3.7 | | 3.1 | 2.2 | | 78 | **34** | **34** |
| Barium | 22.7 | 14,900 | 79.7 | 64.3 | 62.6 | 46.4 | 96.4 | 61.7 | 75.6 | 392 | 48.0 | 115 | 50.5 | *0.07* | 108 | 98 | 101 |
| Selenium | 0.57 | 1,060 | | | | | | | | | | | | | 110 | 98 | 98 |
| Beryllium | 0.57 | 421 | *0.6* | 0.58 | *0.5* | *0.4* | 0.62 | 0.58 | *0.6* | 0.95 | 0.56 | 0.69 | *0.5* | | 108 | 100 | 99 |
| Thallium | 1.1 | 17 | 0.81 | *1* | | | 1.2 | *0.4* | *0.6* | 1.6 | *0.5* | *0.8* | *0.8* | | 114 | 96 | 96 |
| Cadmium | 0.57 | 213 | 0.75 | 1.1 | 0.70 | 0.63 | 1.3 | 1.2 | 0.94 | 3.8 | *0.5* | 0.62 | 3.3 | | 105 | 96 | 101 |
| Chromium | 1.1 | 319,000 | 16.5 | 16.2 | 13.0 | 11.0 | 17.4 | 17.3 | 26.5 | 70.4 | 14.9 | 27.1 | 30.2 | | 106 | 101 | 118 |
| Cobalt | 5.7 | 12,800 | 8.0 | 6.8 | *6* | *4* | 9.8 | 6.7 | 6.8 | 10.2 | 6.9 | 9.2 | 6.4 | | 108 | 97 | 98 |
| Copper | 2.8 | 8,520 | 30.4 | 18.1 | 15.8 | 14.0 | 20.9 | 18.9 | 21.3 | 41.3 | 16.1 | 30.0 | 20.7 | | 112 | **131** | **140** |
| Molybdenum | 4.5 | 1,060 | *1* | *2* | *1* | *1* | *3* | *2* | *4* | 6.7 | *1* | *3* | 4.8 | | 111 | 93 | 94 |
| Nickel | 4.5 | 4,260 | 15.4 | 14.5 | 12.8 | 10.4 | 22.4 | 15.7 | 15.9 | 23.9 | 16.2 | 21.4 | 13.1 | | 110 | 102 | 103 |
| Silver | 1.1 | 1,060 | | | | | | | | *0.8* | 1.1 | 1.1 | | | 114 | 107 | 108 |
| Vanadium | 5.7 | 1,490 | 22.6 | 19.5 | 18.0 | 14.6 | 23.1 | 19.1 | 19.6 | 29.2 | 15.2 | 20.5 | 15.5 | | 108 | 98 | 101 |
| Zinc | 2.3 | 63,900 | 200 | 111 | 113 | 111 | 127 | 219 | 183 | 1,280 | 309 | 143 | 172 | | 117 | **326** | 106 |

*Italics* indicate analytes that were detected but are below Practical Quantitation Levels (PQL).
Blanks cells are non-detects (i.e., < IDL)
Bold QC results are outside acceptance criteria
LCS - Laboratory Control Sample
MS/MSD – Matrix Spike/Matrix Spike Duplicate

Footnote Concerning Lead Cleanup Level:

1. 400 mg/kg represents the USEPA's Region 9 remediation goal for residential property. The remediation goal for industrial remediation is 800 mg/kg. See www.epa.gov/region09/waste/sfund/prg/files/o4prgtable.pdf.

**From:** David Rakel
**To:** Ransbottom, Robert
**Date:** 1/11/05 10:11AM
**Subject:** Communication from Core Team- Main Hill Water Tower Data Report

The Core Team has reviewed the Main Hill Water Tower Data Report and approves it going final with the addition of the Region 9 PRG for lead.

**CC:** Communications, Mound; Fischer, Timothy; Fox, Kathy Lee; Friedman, Chuck; Lucas, Paul; Nickel, Brian; Rakel, David; Wojciechowski, Mary

992E L
DANGER DO NOT ENTER
DANGER DO NOT ENTER

992E LC

# APPENDIX D

## PRS Recommendation Sheets

**MOUND PLANT**
**PRS 113/114/115/116/117**
**FORMER TANK SITE - POWERHOUSE FUEL OIL STORAGE TANKS AND SOIL CONTAMINATION**

**RECOMMENDATION:**

Potential Release Sites (PRSs) 113, 114, 115, 116, and 117 were identified to address fuel oil and toluene contamination in the soil located on the east side of the powerhouse.

PRSs 114-117 are the four underground fuel oil tanks that were removed. Removal of the tanks and contaminated soils was initiated in 1995 and completed in 1996. The treatment of the soils is ongoing in accordance with the Action Memorandum for the Fuel Oil Storage Removal Action (FOSRA). The On-Scene Coordinator (OSC) Report for the FOSRA will document residual levels and the requirements for this removal per the Ohio Bureau of Underground Tank Regulations (BUSTR).

PRS 113 refers to a single toluene soil gas detection prior to the removal activities. Toluene was identified at a concentration of 447 parts per billion (ppb), which is below the 414,800 ppb calculated acceptable soil gas concentration.

Therefore, since these PRSs are part of an active removal action, NO FURTHER ASSESSMENT is recommended.

**CONCURRENCE:**

DOE/MB: Arthur W. Kleinrath 3/18/97
Arthur W. Kleinrath, Remedial Project Manager (date)

USEPA: Timothy J. Fischer 3/18/97
Timothy J. Fischer, Remedial Project Manager (date)

OEPA: Brian K. Nickel 3/18/97
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.

# MOUND PLANT
# PRS 126/127
# SOLVENT STORAGE SITE - OUTSIDE AREA NEXT TO BUILDING 28

RECOMMENDATION:

Potential Release Sites (PRSs) 126 and 127 refer to the temporary storage locations for waste solvents generated by the Building 28/60 operations. The solvents were used in cleaning operations during the manufacture of weapon components. There are no historical records of any spill or leak of solvents from either of the waste solvent storage areas.

Volatile organic compounds (VOCs) were detected in the surrounding soil gas samples collected in 1993. All the VOC concentrations were below the calculated acceptable soil gas criteria. Samples analyzed for plutonium and thorium were below their respective radiological guideline criteria, 25 pCi/g for plutonium-238 (Mound ALARA) and 15 pCi/g for subsurface thorium (40 CFR 192.41). Therefore, PRSs 126/127 requires NO FURTHER ASSESSMENT.

CONCURRENCE:

DOE/MB: Arthur W. Kleinrath, Remedial Project Manager 10/3/96 (date)

USEPA: Timothy J. Fischer, Remedial Project Manager 10/3/96 (date)

OEPA: Brian K. Nickel, Project Manager 10/3/96 (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 10/17/96 to 11/15/96

☒ No comments were received during the comment period.

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