

SNLOS



National Nuclear Security Administration

Sandia Site Office
P.O. Box 5400
Albuquerque, New Mexico 87185-5400



SEP 13 2005

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

Ms. James Bearzi, Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Road East
Building 1
Santa Fe, NM 87505



Dear Mr. Bearzi:

On behalf of the Department of Energy (DOE) and Sandia Corporation, DOE is enclosing a Voluntary Corrective Action (VCA) Plan for Solid Waste Management Unit 105 (SWMU 105) at Sandia National Laboratories/New Mexico (SNL/NM) (EPA ID No. NM5890110518). The VCA Plan for SWMU 105 describes the work that will be completed to remove mercury contamination that was recently discovered in the soil as part of decontamination and demolition (D&D) activities at Building 6536. This location was formerly identified as SWMU 105, Mercury Spill (Bldg. 6536), under the Hazardous and Solid Waste Amendments Module of the SNL/NM Resource Conservation and Recovery Act Permit. SWMU 105 received a No Further Action determination in July 1995 and was removed from the permit in December 1995. Notification of the newly-discovered release at SWMU 105 was transmitted to the NMED/HWB on July 13, 2005.

The enclosed VCA plan addresses the items required by Section VI.H of the Compliance Order on Consent. A report documenting the VCA will be submitted within 90 days after completion of the VCA. The field work will start within 15 days, or sooner, if NMED authorizes an earlier start date.

If you have any questions, please contact me at (505) 845-6036, or John Gould of my staff at (505) 845-6089.

Sincerely,

Patty Wagner
Manager

Enclosure



SEP 1 8 2005

Mr. J. Bearzi

(2)

cc w/enclosure:

W. Moats, NMED (Via Certified Mail)

M. Gardipe, DOE/SC/ERD

L. King, EPA, Region 6 (Via Certified Mail)

J. Volkerding, NMED-OB (2 copies)

cc w/o enclosure:

F. Nimick, SNL, MS 1089

P. Freshour, SNL, MS 1089

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D. Stockham, SNL, MS 1087

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M. J. Davis, SNL, MS 1089


ESHSEC Records Center, SNL, MS 1087

CERTIFICATION STATEMENT FOR APPROVAL AND FINAL RELEASE OF DOCUMENTS

Document title: Voluntary Corrective Action Plan for SWMU 105 – Mercury Contamination in Soil Adjacent to Building 6536, September 2005

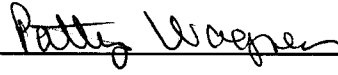
Document author: Rhonda Methvin, Dept. 6146

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

Signature: 
Peter B. Davies
Director
Geoscience & Environment Center
Division 6100
Sandia National Laboratories/New Mexico
Albuquerque, New Mexico 87185
Operator

9/7/05
Date

and

Signature: 
Patty Wagner
Manager
U.S. Department of Energy
National Nuclear Security Administration
Sandia Site Office
Owner and Co-Operator

9-12-05
Date

Voluntary Corrective Action Plan for SWMU 105 – Mercury Contamination in Soil Adjacent to Building 6536

1.0 Introduction

On May 9, 2005, during ongoing decontamination and demolition activities at Building 6536, located in Technical Area (TA)-III (Figure 1), mercury contamination was found in the utility chase, located along the west wall of Room 113. On June 29, 2005, free mercury was found in the trench along the west wall of the building. Free mercury was visible in the soil and in large pores in a concrete block adjacent to the building. Soil samples were collected from in situ soils on July 6 and 21, 2005. Analytical results for the soil samples indicate mercury concentrations ranging from 0.17 milligrams per kilogram (mg/kg) to 39.6 mg/kg next to the concrete block (Figure 2). Regulator-approved background concentration for mercury is <0.1 mg/kg for subsurface materials. In addition, during the week of September 6, 2005 as part of the decontamination and demolition activities, the concrete block located adjacent to the west wall of Building 6536 was removed and residual free mercury was collected from the block surface and from the soil surrounding the block.

The Department of Energy and Sandia Corporation are proposing a Voluntary Corrective Action (VCA) at the SNL/NM Solid Waste Management Unit (SWMU) 105 to characterize the extent of, and remediate, if necessary, mercury contamination in the soil adjacent to Building 6536. This proposed action is consistent with the overall corrective action objectives and requirements forth in Section VI of the Compliance Order on Consent from the New Mexico Environment Department, instituting timely remediation efforts to address the newly-discovered release at SWMU 105. Remediation goals defined for the cleanup will ensure that human health and the environment are protected over the long term and health and safety measures will ensure that workers are protected during the cleanup.

2.0 Voluntary Corrective Action

Based upon the findings of mercury contamination in the soil, it will be necessary to conduct additional sampling in the area of the trench and beneath the Building 6536 foundation to: 1) remove any free mercury contamination; 2) determine the extent of the contamination; and 3) determine if mercury is present in the soil at levels considered hazardous to human health for either the industrial or residential land-use risk scenarios. Below is a discussion of the proposed activities which will occur at Building 6536.

2.1 Removal Action and Sampling and Analysis

Mercury-contaminated soil will be excavated to an approximate depth of 4-feet below ground surface within the area of the original location of the concrete block or to the extent where no further mercury contamination is detected using field instruments, whichever is encountered first.

Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company for the United States Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.

Soil sampling will occur after removal of the building's concrete foundation. The purpose of the sampling effort is to confirm that the extent of the mercury contamination is confined to the southwest area of the building. The proposed sampling locations are shown in Figure 3. Soil samples will be collected from approximately 14 locations along the west side of the building and beneath the building. Table 1 summarizes the proposed sample locations, number of samples to be collected per sampling location and the laboratory analysis to be run on each sample. Samples will be collected from a depth of approximately 3 to 5 feet below ground surface, the approximate depth of the utility chase where the mercury contamination was originally located. Additional biased samples may be collected from locations in and around the southwest corner of the building where staining is evident. All sampling will be done in conformance with applicable SNL/ER Field Operating Procedures (FOP) including FOP 94-25 *Documentation of Field Activities* and FOP 94-34 *Field Sample Management and Custody*. All soil samples will be analyzed for total mercury by EPA Method 7471A.

**Table 1
Summary of Sample Locations, Number of Samples, and Analysis Required**

Proposed Sample Location No.	Sampling Locations	Number of Samples	Analysis
1	Approximately 10-feet south of the south side of Building 6536	1	Total mercury (EPA method 7471A)
2	Beneath the foundation of Building 6536	1	Total mercury (EPA method 7471A)
3	Beneath the foundation of Building 6536	1	Total mercury (EPA method 7471A)
4	Approximately 10-feet west of the southwest corner of Building 6536	1	Total mercury (EPA method 7471A)
5	Beneath the foundation of Building 6536	1	Total mercury (EPA method 7471A)
6	Beneath the foundation of Building 6536	1	Total mercury (EPA method 7471A)
7	Beneath the foundation of Building 6536	1	Total mercury (EPA method 7471A)
8	Beneath the foundation of Building 6536	1	Total mercury (EPA method 7471A)
9	Beneath the foundation of Building 6536	1	Total mercury (EPA method 7471A)
10	Beneath the concrete slab	1	Total mercury (EPA method 7471A)
11	Trench area south of the concrete slab	1	Total mercury (EPA method 7471A)
12	Approximately 10-feet west of Building 6536	1	Total mercury (EPA method 7471A)
13	Trench area north of the concrete slab	1	Total mercury (EPA method 7471A)
14	Beneath the foundation of Building 6536	1	Total mercury (EPA method 7471A)

2.2 Waste Management

Excavated contaminated material will be handled in accordance with the *Work Plan – Building 6536 Characterization and Removal Project* (SNL/NM April 2005) and the *Work Plan Field Work Variance* (SNL/NM July 2005).

2.3 Health and Safety

Field activities associated with sample collection will be performed under the *Site Specific Health and Safety Plan Addendum - Building 6536 Characterization and Removal Project* (SNL/NM April 2005) and the *Health and Safety Plan Field Work Variance* (SNL/NM July 2005).

3.0 Corrective Action Complete Action Levels

Upon receipt of the analytical data from the soil sampling conducted at the site a human health and ecological risk assessment analysis will be conducted. If the levels of mercury are below the levels considered hazardous to human health for either an industrial or residential land-use scenario, the site will be recommended for Corrective Action Complete.

3.1 Project Schedule

This VCA have been tentatively scheduled to begin and be completed in October 2005. A report summarizing the work completed including the field screening and sampling efforts and waste management activities, analytical results of the sampling effort, waste manifests, and the risk assessment will be issued to NMED within 90 days following completion of the VCA.

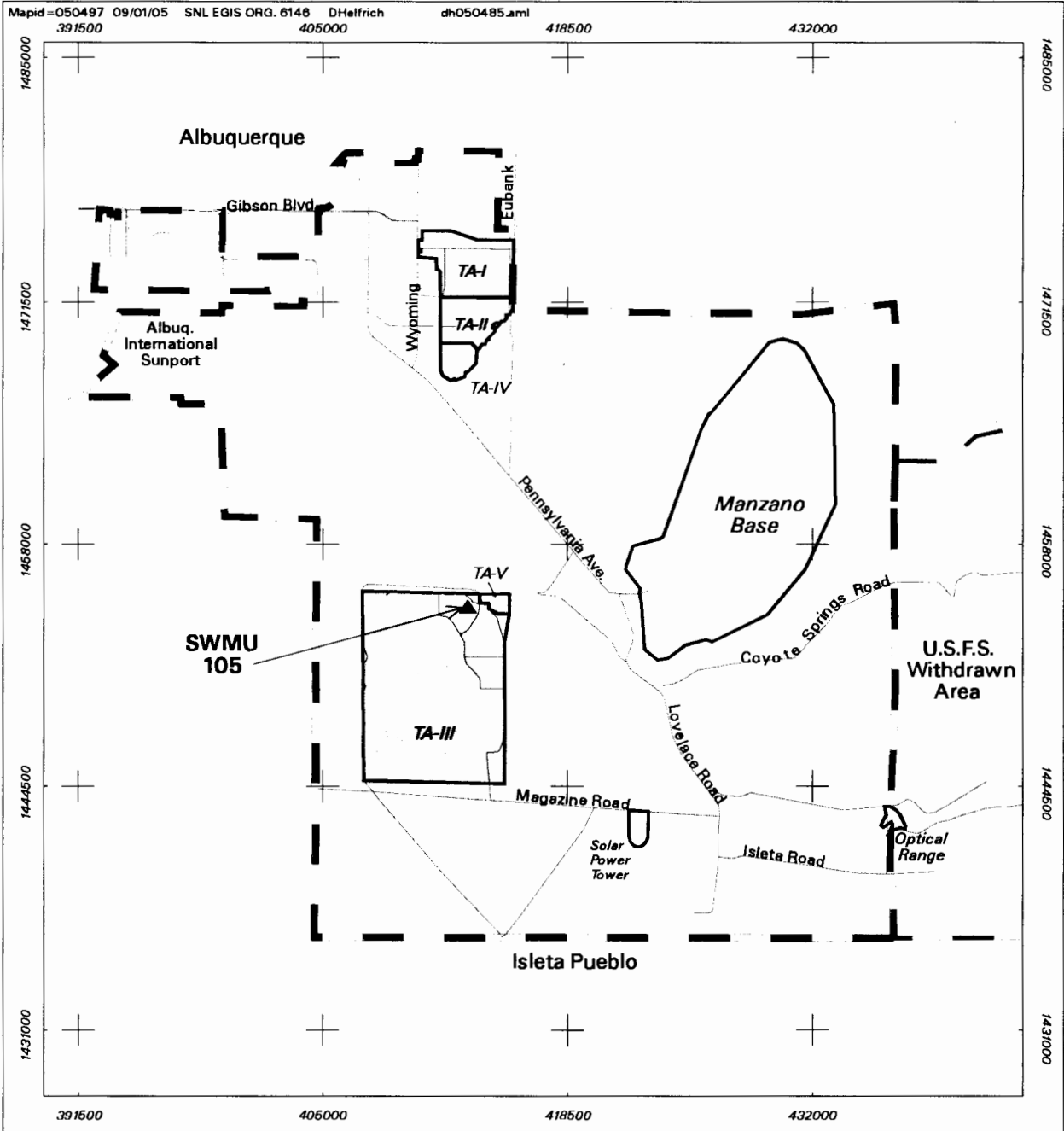
4.0 References

Sandia National Laboratories/New Mexico (SNL/NM), April 2005, "Site-Specific Health and Safety Plan Addendum-Building 6536 Characterization and Removal Project, Sandia National Laboratories/New Mexico," Sandia National Laboratories/New Mexico.

Sandia National Laboratories/New Mexico (SNL/NM), April 2005, "Work Plan- Building 6536 Characterization and Removal Project, Sandia National Laboratories/New Mexico," Sandia National Laboratories/New Mexico.

Sandia National Laboratories/New Mexico (SNL/NM), June 2005, "Field Work Variance – Health and Safety Plan," Sandia National Laboratories/New Mexico.

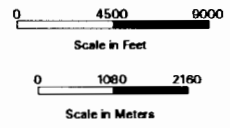
Sandia National Laboratories/New Mexico (SNL/NM), July 2005, "Field Work Variance – Work Plan and Health and Safety Plan," Sandia National Laboratories/New Mexico.

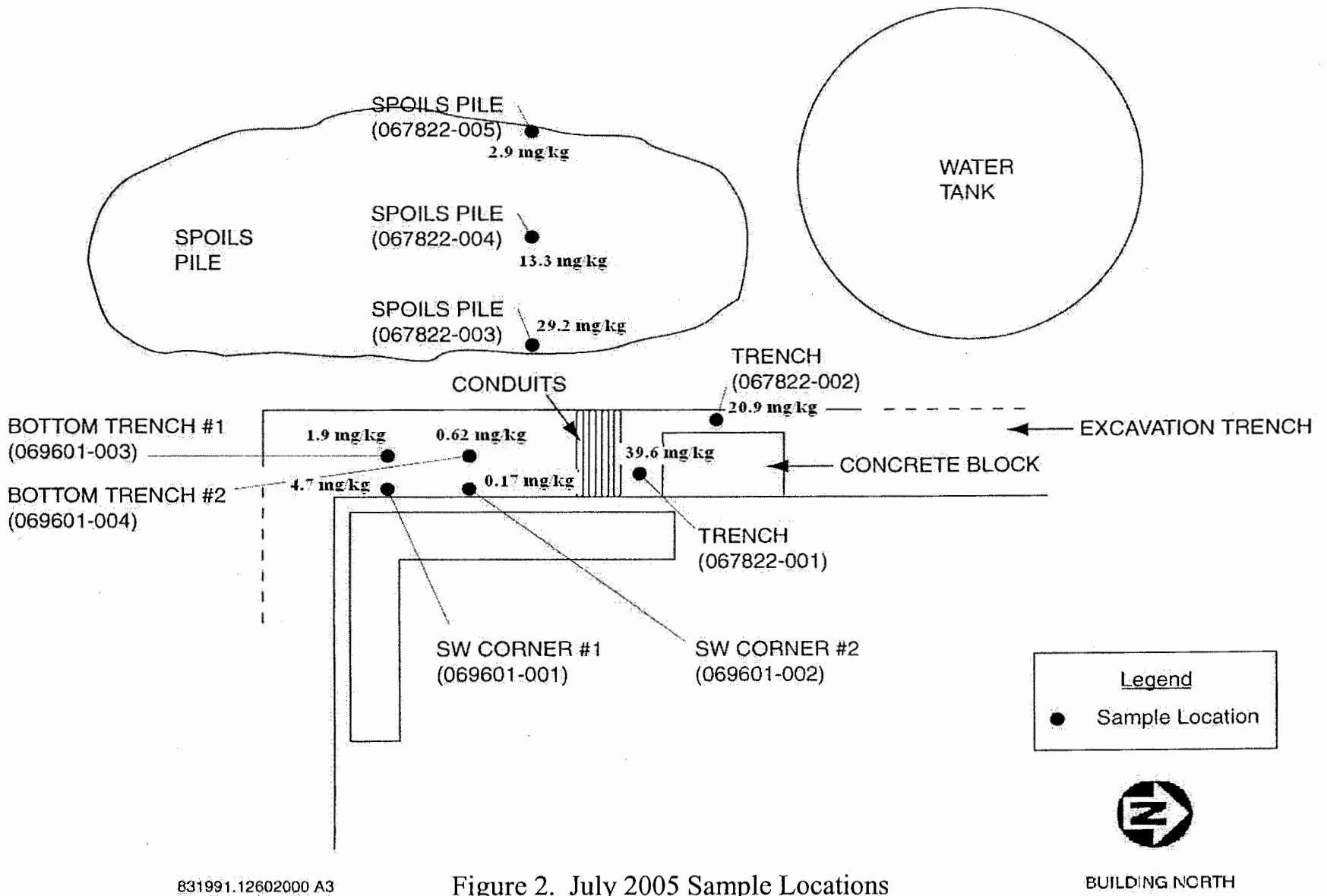


Legend

- ▲ SWMU 105
- Major Road
- KAFB Boundary
- - - USFS Withdrawn Area Boundary
- ▭ SNL Technical Area

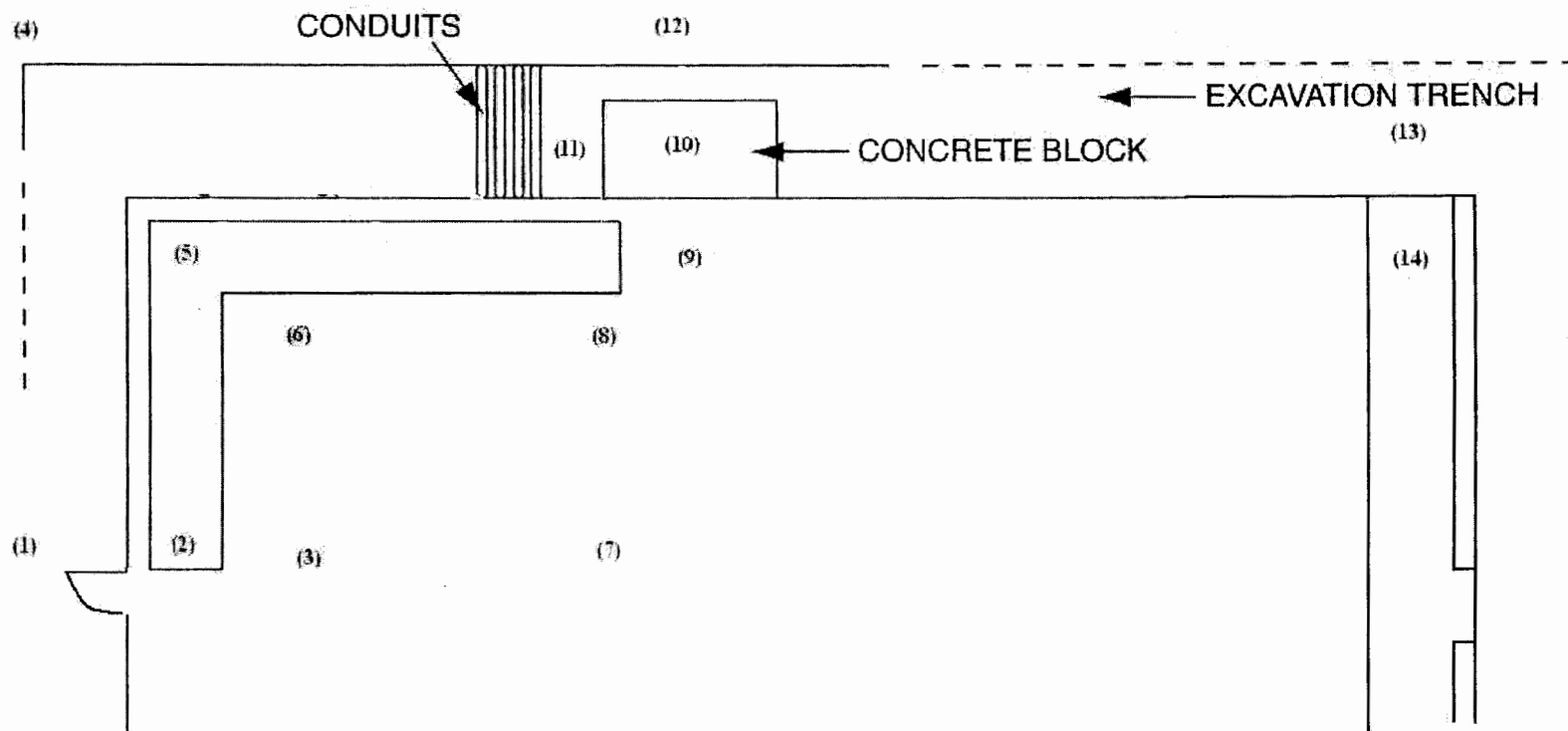
Figure 1
Location Map of Solid Waste Management Unit (SWMU) 105
Bldg. 6536 Mercury Contamination, TA-III





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Figure 2. July 2005 Sample Locations



Legend
 (1) Proposed Sample Locations



Figure 3. Proposed Sample Locations