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BWX Technologies, Inc.
Babcock & Wilcox, a McDermott company

Babcock & Wilcox of Ohio, Inc.
1 Mound Road
P.O. Box 3030
Miamisburg, Ohio 45343-3030
(937) 865-4020

ESC-128/99
July 19, 1999

99-TC/07-19

Mr. Richard B. Provencher, Director
Miamisburg Environmental Management Project
U.S. Department of Energy
P.O. Box 66
Miamisburg, OH 45343-0066

ATTENTION: Dewain Eckman

SUBJECT: Contract No. DE-AC24-97OH20044
BUILDINGS GH & GP-1: DELIVERY OF FINAL BUILDING DATA PACKAGES

REFERENCE: Statement of Work Requirement C 7.1e -- Regulator Reports

Dear Mr. Provencher:

In response to public review comments received from the MMCIC, BWO has revised the Building Data Packages for Buildings GH and GP-1. Art Kleinrath of MEMP has authorized the release of the revised and "Final" document versions to USEPA, OEPA, and ODH. Copies will also be distributed to MMCIC and the Public Reading Room.

Please advise if additional copies are required for distribution within DOE. If you require further information, please contact Dave Rakel at extension 4203.

Sincerely,

Linda R. Bauer, Ph.D.
Manager, Environmental Safeguards & Compliance

LRB/nmg

Enclosures as stated

cc: Tim Fischer, USEPA, (1) w/attachment
Brian Nickel, OEPA, (1) w/attachment
Ruth Vandegrift, ODH, (1) w/attachment
Art Kleinrath, MEMP, (1) w/attachment
Terrence Tracy, DOE/HQ, (1) w/attachment
Budd Thompson, BWO, (2) w/attachment
Dann Bird, MMCIC, (1) w/attachment
Public Reading Room, (5) w/attachment
Administrative Record, (2) w/attachment
DCC

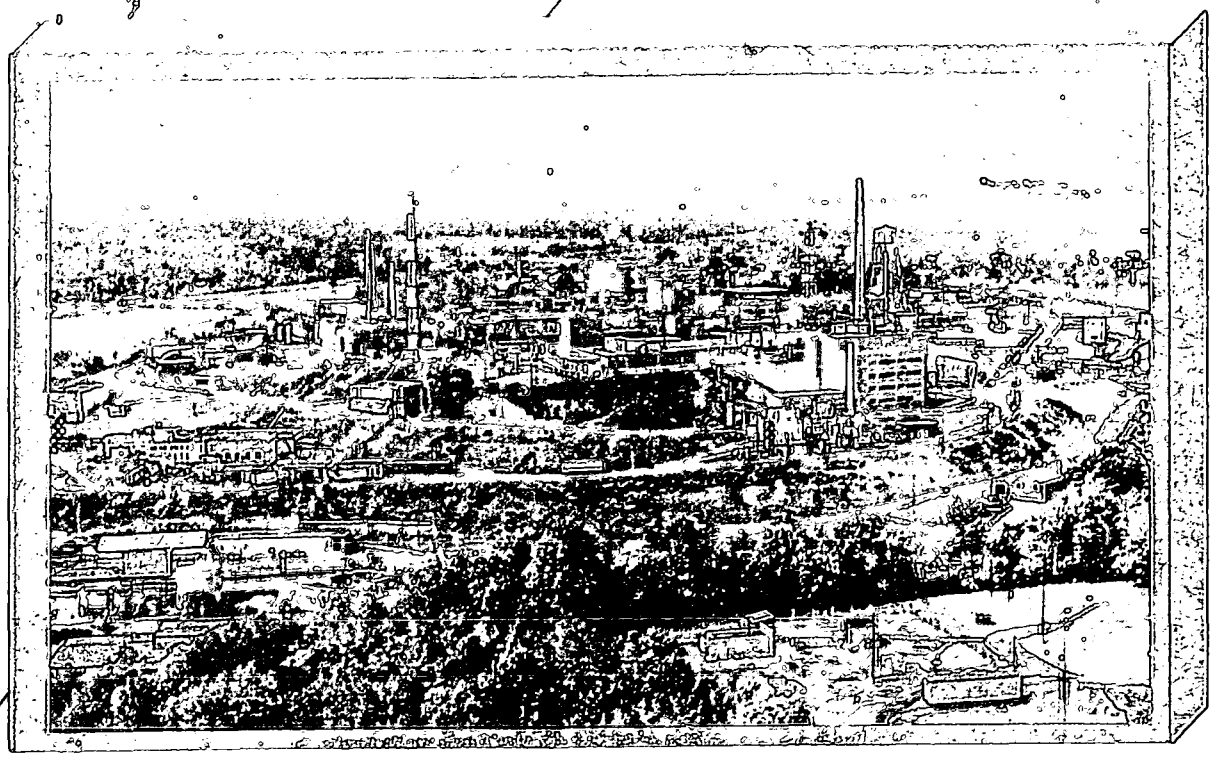
9907200002

MOUND

Environmental Restoration Program

Ohio EPA

MOUND PLANT
Building Data Package
GP-1
Guard Post 1, Firing Range
Located within Release Block N



BDP Guard Post 1

REV	DESCRIPTION	DATE
WORKING DRAFT		Nov. 5, 1998
DRAFT 1		Nov. 13, 1998
DRAFT 2	Updated/changed information incorporated.	Jan. 27, 1999
DRAFT PROPOSED FINAL	Binning adjustments incorporated. Appendix G narrative modified and soil data moved to Appendix L. New lead data for Appendix J. Appendix D underground line diagram colors adjusted. Main narrative Para. 4.2.2.7 added.	Feb. 23, 1999
PUBLIC REVIEW DRAFT		Mar. 17, 1999
FINAL	Comments received from MMCIC and Core Team's response to comments are incorporated.	July 13, 1999

MOUND

Environmental Restoration Program

MOUND PLANT BUILDING DATA PACKAGE

Notice of Public Review Period

The following Building Data Packages will be available for public review in the CERCLA Public Reading Room, 305 E. Central Ave., Miamisburg, Ohio beginning March 17, 1999. Public comment will be accepted on these packages from March 17, 1999, through April 17, 1999.

BDP GP-1 Bldg.: Guard Post 1
BDP GH Bldg.: Placement Center

Written comments may be sent to U.S. Department of Energy, c/o Paul Lucas, P.O. Box 66, Miamisburg, Ohio 45343-0066 or by E-Mail to: *paul.lucas@em.doe.gov*. Questions can be referred to DOE, Paul Lucas at (937) 865-4578

The Mound Core Team
P.O. Box 66
Miamisburg, Ohio 45343-0066

Mr. Dann Bird
Planning Manager
MMCIC
P.O. Box 232
Miamisburg, OH
45342-0232

Dear Mr. Bird:

Thank you for your comments concerning the Building Data Package for Building GP-1. Our responses are attached. The Core Team, consisting of the U.S. Department of Energy Miamisburg Environmental Management Project (DOE-MEMP), U.S. Environmental Protection Agency (USEPA), and the Ohio Environmental Protection Agency (OEPA), appreciates the input provided by the public stakeholders of the Mound Facility. The public stakeholders have significantly contributed to the forward progress that has been made establishing the safety of the Mound property prior to its return to public use after remediation and residual risk evaluation.

Should the responses to comments require additional detail, please contact Arthur W. Kleinrath at (937) 865-3597, and we will gladly arrange a meeting or telephone conference.

Sincerely,

DOE/MEMP: Arthur W Kleinrath
Arthur W. Kleinrath, DOE/MEMP, Remedial Project Manager

USEPA: Timothy J. Fischer
Timothy J. Fischer, US EPA, Remedial Project Manager

OEPA: Brian K. Nickel
Brian K. Nickel, OEPA, Project Manager

Building GP-1 (Guard Post-1, Firing Range) Data Package
MMCIC Comments and Responses
March 17, 1999

Comment:

1. The data package notes, that asbestos- containing materials are located within Building GP-1, as recorded in DOE's *Asbestos Program Manual*, MD-10391. However, no listing or documentation of these materials was provided in the data package. Mr. Rakel and Mr. Gault (B&W of Ohio) indicated that an asbestos survey has been performed for Building GP-1, probably within the last eight years, by Barge, Waggoner, Cannon, and Sumner, a civil and environmental engineering firm. As the Building GP-1 data package should be, in general, a stand-alone document, and was compiled with the purpose of releasing the building to another entity (namely MMCIC), it would be appropriate to include in this data package a data summary sheet of the asbestos within the building, either from the original survey or the *Asbestos Program Manual*. This element has not always been included in previous building data packages and may be irrelevant to the public for buildings which are binned for demolition. However, for those data packages that included a previous Phase 1 Environmental Site Assessment (such as those for Building 87, Buildings 35/59, Building DS, etc.), an asbestos data summary sheet (if a survey had been performed) was included in the attached Phase I report.

Response:

The Building Data Package (BDP) is designed to present existing environmental information as appropriate to assist in determining if the transfer of a building (NFA binning) is protective of human health and the environment. No ASTM Phase 1 study was performed for this building. The asbestos survey report mentioned above did address Building GP-1 and the results have been added to the Building Data Package. The Asbestos Program Manual does indicate asbestos is present. The relevant pages of the Asbestos Program Manual have also been included in the BDP. The existing information, as well as the walk-through done as a normal part of the clean-up operation, indicates all visible asbestos is non-friable and in good repair.

Adjustments are made to the BDP paragraphs 4.2.2.5 and 5.1.7. Asbestos information is added to Appendix I.

As a matter of clarification, buildings which are intended for demolition do not go through the binning process. However, the Core Team agrees that all existing environmental information for these buildings will be included in the Building Data Package.

Comment:

2. The Radiological Survey information included with the Building GP-1 data package states that no radiological anomalies (e.g., elevated readings) were detected. However, soil sample results from Sample SCR412 from a borehole within the building indicate a level of 35.0 pCi/g of plutonium-238. This value exceeds the soil 10^{-6} Guideline Value (included in Appendix L) and the background value. Although this data point is included in Appendix L, no further discussion or explanation or recommendation is provided in the text of either the Radiological Survey (Appendix G) or the main body of the data package report. Mr. Nickel (Ohio EPA) indicated that in the last two years on various projects, the Core Team has allowed DOE to utilize a cleanup criterium for plutonium-238 in soil of 55 pCi/g, which is equivalent to the 10^{-5} Guideline Value for plutonium-238. The Sample SCR412 analytical result is below this level. We suggest that clarifying statement to this effect be added to the analytical data sheet in Appendix L.

Response:

In the past, the Core Team has used the 10^{-6} guideline values for screening concentrations of contaminants in soil. Recently, the Core Team has used a Pu-238 cleanup value equivalent to 10^{-5} risk (55 pCi/g) for certain removal actions at Mound. The Core Team has agreed that the 55 pCi/g value is an appropriate criterion for evaluating plutonium in soils at Building GP-1.

Building data Package GP-1 is adjusted to note this criterion on the Appendix L introduction page.

Comment:

3. A brief statement is included in Section 4.2.2.7 to the effect that the "Lead contamination present from firing range activities was cleaned using a combination of HEPA vacuuming and wet wiping all firing range surfaces." A list of sample locations and associated wipe results was provided in Appendix J. A list of comparison values (Guideline Values, cleanup criteria, etc.) was not provided. Eighteen sample location descriptions focused on the bullet trap; one sample was collected from the front of the HVAC unit for the range. However, other potential areas of concern for lead contamination at the firing range building were not sampled. These areas of concern include the roofing materials near the trap ventilation area and the roof downspouts, other rooms of the building's HVAC system, beneath the reportedly plugged floor drains, in the sump beneath the firing range, and in exposed fibrous insulation, if present (ACM materials were not described, as noted in No 1 above). Documentation of the lead sampling/abatement credentials of the contractors/workers was also not included in the data package.

Mr. Rakel and Mr. Gault were able to describe the procedures utilized in cleaning the firing range room. Mound Trades personnel, under the supervision of the DOE Industrial Hygiene staff, performed the work. All scrap metal was removed from the bullet trap. All surfaces (floors, ceilings, walls, bullet trap) of the firing range room were swept with a HEPA vacuum. All surfaces were then wet-wiped using a commercially available spray window cleaner. Wipe samples were collected from the firing range surfaces. Detectable levels of lead dust were encountered. These results were presented to the Core Team, which then recommended a second wet-wipe cleaning of all surfaces to lower the residual dust results. Wipe samples were again collected following the second wet-wipe cleaning. Residual lead dust was still detectable in the second set of samples (these are reportedly the results included in Appendix J). As there are no regulated cleanup criteria or action levels for industrial situations, the Core Team recommended that the residual lead dust in the firing range be encapsulated by painting all surfaces of the room. This was done. The pre-filter and HEPA filter from the HVAC system at the shooting end of the firing range were removed and disposed. Mr. Gault indicated that Industrial Hygiene staff reported that both filters were "clean" (presumably visually clean).

Regarding the sump that was reportedly located beneath the firing range floor (per the Environmental Appraisal Report (Appendix F), Mr. Gault stated that he and his B&W personnel were unable to discover any evidence that this sump exists. This should be documented in the building data package.

The potential for residual lead dust in the firing range room has been adequately, even thoroughly, addressed. However, the potential for lead dust on the remainder of the building interior surfaces, in the HVAC duct work of the building, and outside the bullet trap ventilation area on the roof (and associated roof drain downspouts to the stormwater sewer) has not been addressed. Despite our desire for speed in the release of Building GP-1, it would be prudent to establish a baseline of the building's current environmental condition with respect to residual lead dust, for the sake of both DOE's and MMCIC's future liability once a new entity performing the same firing range operation is in place. A limited program of wipe samples collected from the other rooms of the building, from the HVAC duct work, and from the bullet trap ventilation area on the roof could resolve this issue. An alternative would be to sample only the duct work and trap ventilation area and to paint the remainder of Building GP-1 to encapsulate any residual lead dust.

Response:

As there are no regulated cleanup criteria or action levels for industrial situations, and to which a "baseline" may be absolutely compared, the Core Team believes that the Building GP-1 BDP recommendation adequately reflects the transfer status of the building. The Core Team recognizes that either the MMCIC or DOE may wish to

document additional information for the reason of establishing a baseline of existing conditions for real estate reasons. The primary purposes of the BDP are to collect existing environmental information and serve as a decision tool in determining the protection of human health and the environment.

The Core Team has found that external contamination from GP-1 is not significant due to the design of the HVAC system. In addition, an evaluation conducted for operation of the building demonstrated that lead emissions were below the levels requiring a permit. Operation of the firing range was at negative pressure minimizing the chances of lead contamination escaping into other areas of the building. For these reasons the Core Team does not consider these areas to endanger human health and the environment under an industrial scenario.

Building Data Package GP-1 is adjusted as follows. Paragraph 5.1.4 is changed to read: "The building is serviced by sanitary and storm drain systems according to the underground utility diagram. Evidence of a sump as referenced in the Environmental Appraisal Report (Appendix F) could not be found."

MOUND PLANT RECOMMENDATION

GP-1 BUILDING

Background:

Building GP-1 is an 8,000 square foot single story concrete block structure with a metal built-up membrane coal tar, asphalt, and carboline roof. It has a brick facing. Construction began in 1950 with additions occurring into the 1980s. Since construction, it has been used as a security personnel training and office facility. It housed the Mound Plant security firing range. Until 1995, it also housed the Mound Plant Communications Center.

Recommendation:

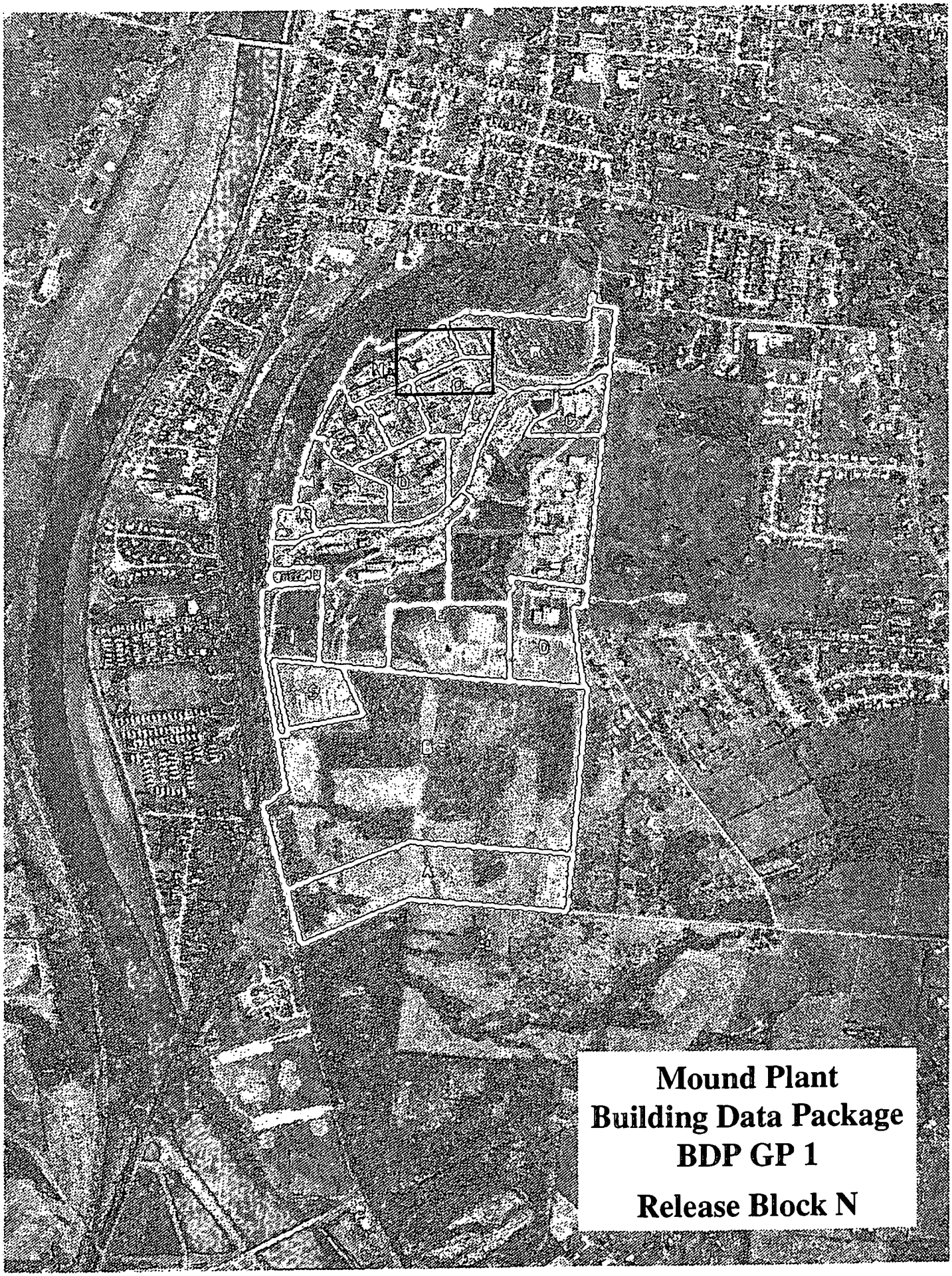
After thorough review of the environmental data and the Building Data Package, the Core Team agrees that all existing environmental issues associated with GP-1 Building have been resolved. Future use of GP-1 Building will be restricted to commercial/industrial use. The Core Team hereby recommends that the U.S. Department of Energy submit a letter to the Administrator of the U.S. EPA for final approval of the lease or sale of this property, as required by Section 120(h) of CERCLA.

Concurrence:

DOE/MEMP: Art Kleinrath — Feb 9 1999
Art Kleinrath, Remedial Project Manager (date)

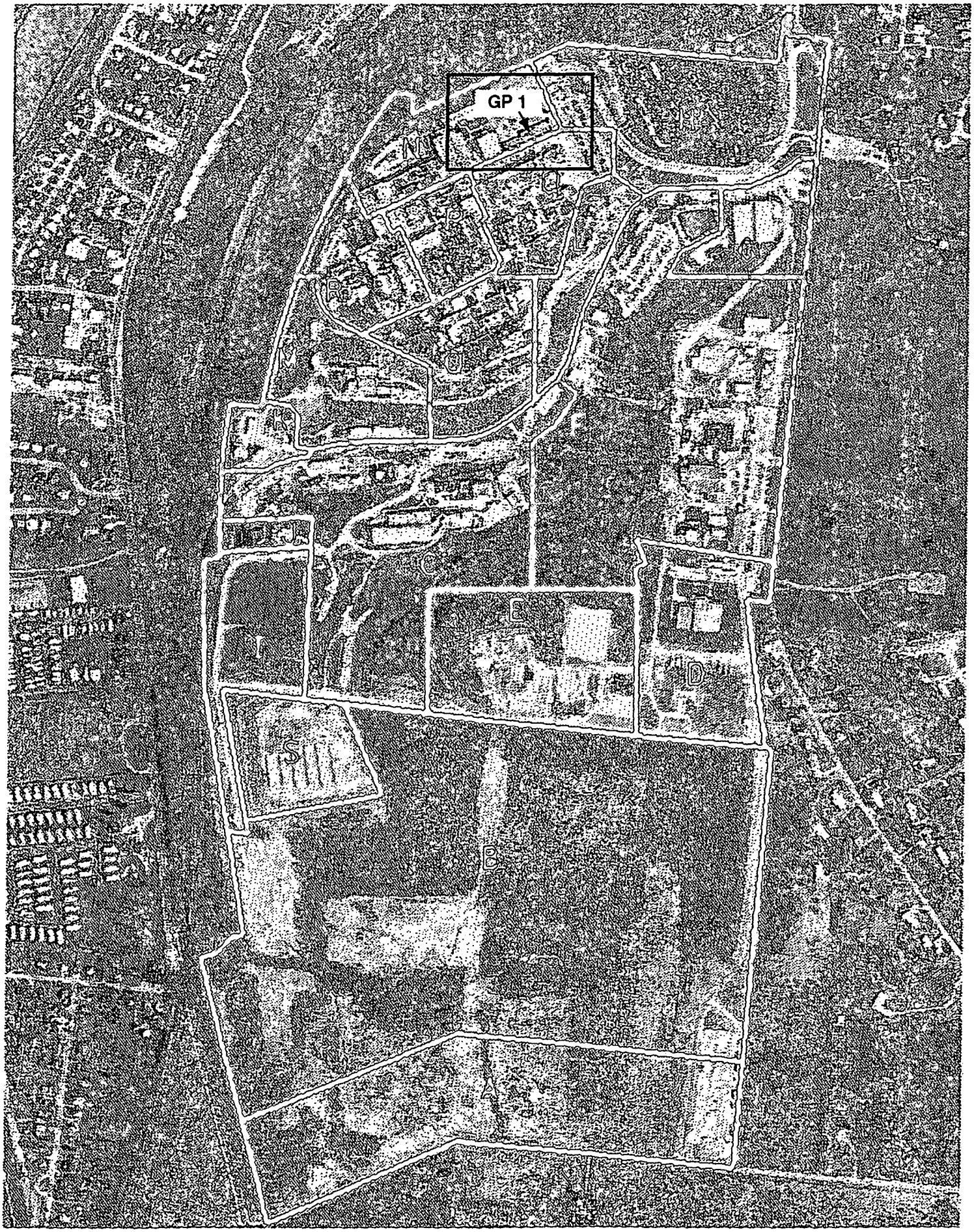
USEPA: Timothy J. Fischer — 2/9/99
Timothy J. Fischer, Remedial Project Manager (date)

OEPA: Brian K. Nickel — 2/9/99
Brian K. Nickel, Project Manager (date)



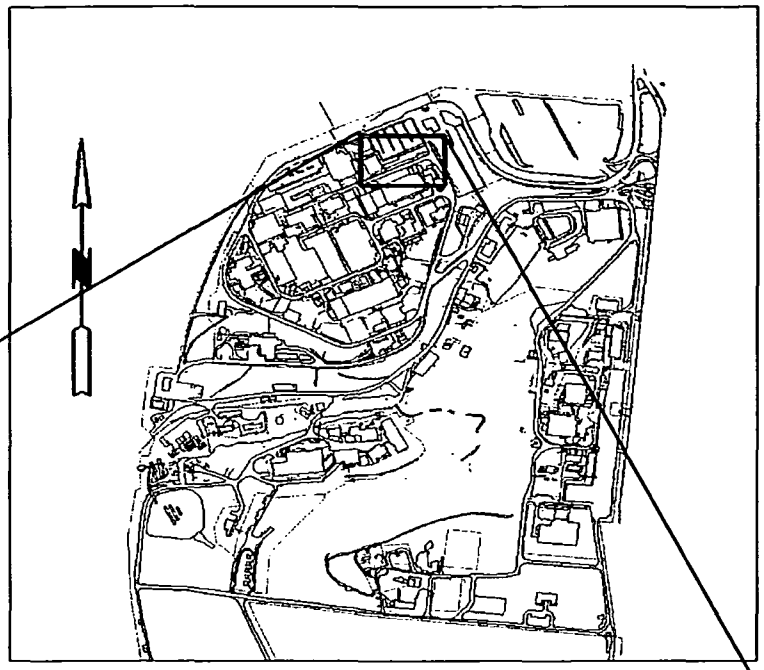
Mound Plant
Building Data Package
BDP GP 1

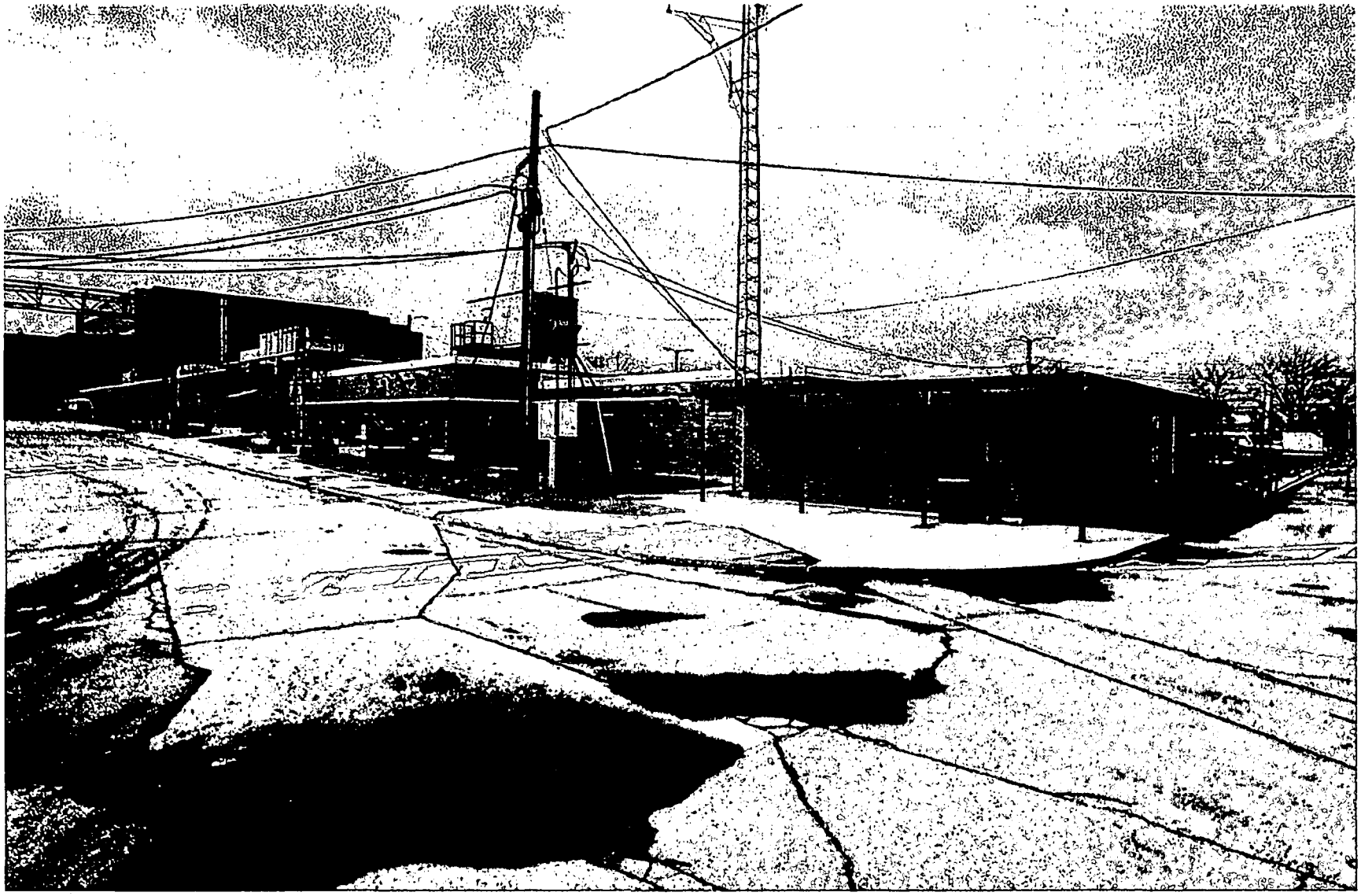
Release Block N


GP 1

Mound Plant
Building GP-1
Guard Post 1,
Firing Range
Release Block N

On the map below:
- Building number and location shown in black
- PRS locations and numbers shown in blue
- Surrounding buildings shown in yellow
- Fencing shown in red
- Elevation contours shown in brown





GP-1 Building

BUILDING DATA PACKAGE (BDP)

GUARD POST 1

DOE MOUND PLANT

MIAMISBURG, OHIO 45343

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Appendix J Lead Summary/Information
Appendix K Chemical Summary/Information (There is no chemical summary/information available.)
Appendix L Noted Soil Sampling, Vicinity
Appendix M Occurrence Report (There are no occurrence reports.)
Appendix N PRS Information

1.0 General Overview

1.1 Introduction

The purpose of this Building Data Package is to identify, if possible, any recognized environmental conditions (defined below) that may affect the subject property. The intended building disposition is "transfer." Ultimate disposition is a function of building condition and DOE/EPA evaluation.

Recognized Environmental Condition – The presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a likely release, a past release, or a material threat of a release of any hazardous substances or petroleum into structures or into the ground, ground water, or surface water near the building.

1.2 Scope

This document has been prepared in response to an agreement between the Department of Energy (DOE), the U.S. Environmental Protection Agency, and the Ohio Environmental Protection Agency. It is a Building Data Package of Building GP-1 located at the DOE Mound Plant in Miamisburg, Ohio. This investigation was performed to support procedures as found in ASTM Standard Practice for Environmental Site Assessments; Phase I Environmental Site Assessment Process (Designation E 1527-97).

The scope of the investigation included the building, the soil beneath, and a 15-foot wide perimeter border around the building. Soil sampling results are noted in Appendix L. This perimeter includes roadways, sidewalks, pavement, and grass covered areas. The investigation of Building GP-1 included the following.

1) A building and perimeter inspection.
2) An examination of historical aerial photographs and maps.
3) A review of federal and state regulatory agency records.
4) Personnel interviews.
5) A review of Mound Plant records for:

    A) History of spills and releases
    B) Past sampling data
        - Radiological survey
        - Soil Sampling
        - Lead paint
        - Asbestos
        - Radon

The building investigation was conducted by BWO personnel during the month of October, 1998

This report used a variety of previous assessments completed by BWO and/or its subcontractors. The reports used were as follows:

- Characterization of Mound's Hazardous, Radioactive, and Mixed Wastes, August 1990
- OU-9 Site Scoping Report, Volumes 1-12
- Mound Facility Physical Characterization, December 1992
- Active Underground Storage Tank Plan, November 1994
- OU-9 Hydrological Investigation Bedrock Report, January 1994
- OU-9 Hydrological Investigation, Buried Valley Aquifer Report, March 1994
- Environmental Appraisal Report of the Mound Plant, March 1996
- Title Search
- Lease Information
- EDR Report
- Building Prints
- PRS Information

2.0 Building Specific Overview

Mound Plant is located in the southern portion of the corporation limits of Miamisburg, Ohio. The entire Mound Plant facility is situated on 306 acres of land and contains approximately 130 buildings. The subject property consists of Mound Plant Building GP-1 footprint and an arbitrary 15-foot wide perimeter around the building. Original construction in 1950 included only the basic guard post or most easternly located building segment. Over the succeeding years, the building was expanded to its current configuration. The firing range or last segment was constructed in 1981. A Satellite Accumulation Area existed in the building. Waste consisted of solvent contaminated rags that were regularly collected by Waste Management.

2.1 Current Uses of Building GP-1

Since construction, the building has been used as a security personnel training and office facility. It also houses the Mound Plant security personnel firing range.

2.2 Past Uses of Building GP-1

Until 1995, the Mound Plant Communications Center was housed in the building.

2.3 Summary of Environmental Concerns and Findings

DESCRIPTION	COMMENT	RESOLUTION	REFERENCE
Lead Paint	Due to the age of the building, it is assumed lead paint is present.	Cracking/peeling paint has been removed. Damaged paint did not contain lead.	Para. 4.2.2.4 Appendix J
Lead	Associated with firing range activities.	Procedural maintenance/clean-up procedures in place to control contamination. Decontamination clean-up accomplished. Interior building painted to encapsulate contamination.	Para 5.1.1 Appendix J
Radiological	Isolated Pu-238 detection below the building.	Confirmation sampling accomplished Results below comparison criteria.	Para. 4.2.2.1 Appendix G/L

2.4 Radiological Characterization Summary For GP-1 Structure

TYPE	RSDS	LOCATION	SURVEY RESULTS (dpm/100 cm2)	Surface Contamination Guideline (dpm/100cm²) (Note 2)	COMMENTS
Highest Alpha Smearable Activity	99-GP-1-03	Room 1B	7.65	20	
Highest Alpha Fixed Activity	Note 1	Note 1	<100	100	
Highest Beta Smearable Activity	98-GP-1-03	Room 16	9.07	1,000	
Highest Beta Fixed Activity	Note 1	Note 1	<5000	5,000	
Highest Tritium Smearable Activity	99-GP-1-08	Roof Exhaust Vent	73.21	10,000	

Note 1: *All RSDS' associated with the confirmatory survey were <100 dpm/100 cm2 alpha and <5000 dpm/100 cm2 beta. RSDS' include:* 98-GP-1-01, 98-GP-1-02, 98-GP-01-03, 98-GP-1-04, 99-GP-1-01, 99-GP-1-02, 99-GP-1-03, 99-GP-1-04, 99-GP-1-05, 99-GP-1-06, 99-GP-1-07, and 99-GP-1-08.

Note 2: Core Team Determined Values

RSDS: Data Sheet that provides radiological field monitoring survey results.

2.5 Associated PRS Table for GP-1

PRS #	CERCLA or BLDG. RELATED	BINNING STATUS	COMMENTS
PRS 241	CERCLA	NFA	See Appendix N.

3.0 Site Description

3.1 Site/Vicinity Location and Characteristics

Building GP-1 is located at the U.S. Department of Energy Facility known as Mound Plant. Mound is situated in the city of Miamisburg, Miami Township, Montgomery County, state of Ohio.

The Mound facility is situated on 306 acres of land and contains approximately 130 buildings with a total of approximately 1.4 million square feet of floor space (the number of buildings diminishing as buildings are decommissioned and either sold or demolished). The original 182-acre site, purchased by the Manhattan Engineer District in 1946, consists of two hills and an intervening valley that runs approximately east and west. Building GP-1 is located on the main hill of the Mound site. The 124-acre tract acquired in 1981 is an undeveloped mixture of fields and woods that undulates and slopes downward to the west, away from the main site. This area was acquired to serve as a buffer and has been used as a staging area and parking area for contractors working on-site.

To the west lies a Conrail Railroad line and the north south trending Miami-Erie Canal. The northern boundaries of the site abut the historic residential area of Miamisburg, Ohio. Mound Road marks the northern half of the eastern perimeter of the facility then veers east, away from the southern half of the eastern boundary. A public golf course (belonging to the City of Miamisburg), the Miamisburg Mound Memorial Park, old agricultural fields, residential lots, and vacant wooded lots border against the facility along Mound Road. Benner Road forms the southern property line of the Mound Plant, with agricultural fields and farms occupying the lands beyond.

3.2 Description of Structures, Roads, Other Improvements Related to Building GP-1

Building GP-1 is an 8,000 square foot concrete block structure with a metal built-up membrane coal tar, asphalt, and carboline roof. It has a brick facing. The building has HVAC for cooling, as well as central steam and chilled water. 240 volt electrical service is also included.

Potable water and sanitary services at Building GP-1 are provided by the Mound Plant. The Plant operates a potable water treatment plant (Building 24) that provides drinking water to the facility using groundwater produced from three on-site production wells. The Mound facility also operates an on-site sanitary sewer treatment plant (Building 57) to manage the plant's sanitary waste water pursuant to a National Pollutant Discharge Elimination System (NPDES) permit issued by OEPA.

3.3 Current and Past Uses of Buildings Adjacent To GP-1

Proximity to GP-1	Building Area (Sq. Ft.)	Current Use	Past Use	Direction From Building
GH Building	5,347	Inactive	Offices/ personnel/ security	Northeast
W Building	32,484	Maintenance	Maintenance	South
Building 47	3,610	Inactive	Fire Station/ Security	South
Building 91 (formerly)	8,065	Removed	Office/ administration	West

4.0 Records Review

4.1 General/Historical CERCLA Information

The Mound Plant site was identified as a contaminated site on the National Priority List under CERCLA (Superfund) in 1989. The Mound Plant site was originally listed as a consequence of VOC contamination in the western end of the lower valley area. The clean-up of the Mound Site was originally to be accomplished under the CERCLA mandated procedures for regulating Superfund Sites using the operable unit (OU) system to define and characterize clean-up areas. As the clean-up effort went forward, it became apparent that the Mound Site did not fit the profile for a clean-up strategy based on the operable units. The Department of Energy (DOE), the United States Environmental Protection Agency (USEPA), and the Ohio Environmental Protection Agency (OEPA) designed a new decision making process for the clean-up of Mound. The new process is known formally as a "removal site evaluation process" and informally as the "Mound 2000 process." The Mound 2000 process system divided Mound into 19 Release Blocks containing over 400 Potential Release Sites (PRSs) with approximately 200 concerned with potentially contaminated soils, and the balance with potential contamination in buildings or associated primarily with building operations. For a more detailed description, refer to the *Work Plan for Environmental Restoration of the DOE Mound Site, the Mound 2000 Approach*.

In compliance with permit requirements under RCRA, the Clean Water Act (CWA), the Safe Drinking Water Act (SDWA), and the Clean Air Act (CAA), Mound Plant has applied for or has received permits for its surface water discharges, air emissions, and hazardous waste program. Mound Plant is currently operating hazardous waste storage facilities under a RCRA Part B permit dated October 18, 1996. Mound Plant also maintains a NPDES surface water discharge permit with Facility I.D. number OH 009857. Permits for the open burning of wastes involving explosives and other fuels have been issued by the Regional Air Pollution Control Agency (RAPCA). Other operations that produce particulate or vaporous emissions are registered with RAPCA and OEPA. Mound Plant also submits annual Emergency and Hazardous Chemical Inventory forms to the OEPA, pursuant to SARA, Title III, the Emergency Planning and Community Right-to-Know Act. The 1998 version of this report indicated that no chemicals are stored in Building GP-1 in quantities above the regulatory thresholds.

4.2 Specific Record Sources

4.2.1 History of Occurrences, Spills, and Releases

4.2.1.1 Occurrence Reports

None.

4.2.1.2 Spills and Releases

None.

4.2.1.3 Associated PRS Overview

As a result of the investigations and documentation accomplished to comply with the CERCLA cleanup process via the FFA/DOE ER program, DOE and BWO have tabulated all the Potential Release Sites (PRSs) identified under the various regulatory programs in effect at the site. Many additional contaminants of concern and types of operations were identified beyond the original NPL listing of site activities. A total of 420 PRSs have been identified. None of these 420 PRSs is attributed to Building GP-1. PRS 241, binned "No Further Assessment" and identified as Soil Contamination - Main Hill Parking Area, is related by geographic proximity. See Appendix N.

4.2.2 Sampling Data

4.2.2.1 Radiation Surveys

Building GP-1 radiological surveys were accomplished. Refer to paragraph 2.4 for further information. (See Appendix G and Appendix L.)

4.2.2.2 Soil Sampling Data Summary

See Appendix L.

4.2.2.3 Chemical History/Removal (As Applicable)

As verified by current Mound Plant chemical inventory data bases, there are no known hazardous materials, petroleum products or chemicals, other than janitorial housekeeping supplies associated with current operations in Building GP-1.

4.2.2.4 Lead Paint

Congress established maximum lead concentrations in residential paint in 1978. Construction of the building began in 1950. Lead paint is assumed to be in the building. All damaged paint has been repaired. Investigation showed that damaged paint did not contain lead. See Appendix J.

4.2.2.5 Asbestos

Mound's technical manual, *Asbestos Program Manual, MD-10391*, indicates (known, assumed, or suspected) asbestos is found in Building GP-1. See Appendix I. All asbestos observed was not friable. This conclusion is supported by an asbestos survey and report - *Mound Asbestos Survey Building Summary, Building GP-1*. Again, see Appendix I.

4.2.2.6 Radon

The results of a 1989-90 Mound Indoor Radon study indicated an average radon concentration of 0.05 picocuries/liter in Building GP-1. The EPA recommended standard for radon is 4.0 picocuries/liter. (See Appendix H.)

4.2.2.7 Lead

Lead contamination present from firing range activities was cleaned using a combination of HEPA vacuuming and wet wiping all firing range surfaces. See Appendix J for sampling results. Interior of building painted to encapsulate contamination.

4.3 Aerial Photographs

Aerial photographs from 1994, 1983, 1973, 1968, 1965, 1959, and 1949 were reviewed and copies are found in Appendix E.

The 1949 photograph shows the completed initial phase of construction on the Mound Plant Main Hill. Approximately fourteen buildings are visible. Roadways on both the Main Hill and the Eastern Hill are present.

The overall Mound Plant facilities, as depicted in subsequent years continue to show change and expansion.

The 1959 photo close-up shows the completed initial guard post segment. Other photo close-ups follow the building construction progress.

5.0 Site Reconnaissance/Inspections: Findings, Observations

See Appendix F. Findings have been addressed and verified by teleconference with the Building Manager on October 28, 1998.

5.1 Hazardous Substances in Connection with Identified Uses

5.1.1 Space

None.

5.1.2 Heating/Cooling

A HVAC unit provides the building's air conditioning. Central steam and chilled water are also provided. The building has fire sprinkler service. These systems will continue in operation.

5.1.3 Stains or Corrosion

None.

5.1.4 Drains and Sumps

The building is serviced by sanitary and storm drain systems according to the underground utility diagram. Evidence of a sump as referenced in the Environmental Appraisal Report (Appendix F) could not be found.

5.1.5 Wastewater

Potable water and sanitary service is provided for Building GP-1. The Mound Plant facility operates an on-site sanitary and storm water sewer treatment plant (Building 57) to manage the plant's storm water and sanitary wastewater pursuant to a National Pollutant Discharge Elimination System (NPDES) permit issued by OEPA.

5.1.6 Septic Systems

There is no evidence of septic systems (such as leaching field or septic tank vent pipes) in the vicinity of Building GP-1.

5.1.7 Suspected Asbestos Containing Material

ACM in buildings can be found in five forms: sprayed or troweled on ceilings and walls (surfacing materials); insulation around pipes, ducts, boilers and tanks (pipe and boiler insulation); transite (in ground piping); and in roofing materials (shingles and roofing felts); and other products such as ceiling and floor tiles and wall boards (miscellaneous materials).

Records indicate that asbestos is found in the building. All asbestos observed was not friable. See Appendix I.

5.1.8 Paint

Lead based paint was used in the U.S. prior to 1978, when Congress established the limits on the maximum lead concentration allowable in residential buildings. The risk of a lead based paint hazard exists only when painted surfaces are damaged (cracked, chipped, loosened, or chewed).

Because of the age of the building, it is likely that lead based paint has been used. Damaged paint has been repaired and did not contain lead.

5.2 Hazardous Substance Containers and Unidentified Substance Containers

No unidentified substances were found in or near Building GP-1.

5.3 Storage Tanks

No storage tanks are associated with Building GP-1.

5.4 Indications of PCBs

Fluorescent lighting is used in this building. It is assumed that the lighting contains PCBs. The lighting will be replaced with normal maintenance. The building transformer does not contain PCBs.

5.5 Indications of Solid Waste Disposal

Hazardous wastes were generated in Building GP-1 due to firing range activities. A Satellite Accumulation Area did exist in the building. Spent shell casings from the firing range were sold for recycling.

5.6 Physical Setting Analysis, If Migrating Hazardous Substances Are an Issue

Migrating hazardous substances are not an issue.

5.7 Other Conditions of Concern

None.

5.8 Recent Interviews

5.8.1 Building Manager Interview

The current Building Manager of Building GP-1, Mr. Gary Weidenbach, was interviewed on October 28, 1998. Mr. Weidenbach has been employed at the plant for 22 years and has been Building Manager of Building GP-1 for one year.

5.8.2 Telephone Interviews

None.

5.9 Historical Interviews

None.

Appendix A

Acronyms

AEA	Atomic Energy Act of 1954
AEC	Atomic Energy Commission
ACM	Asbestos Containing Materials
AL	Action Level
ASTM	American Society for Testing and Materials
BDP	Building Data Package
BUSTR	Bureau of Underground Storage Tank Regulations
BWO	Babcock and Wilcox of Ohio
CAA	Clean Air Act
CEG	Conditionally Exempt Generator
CERCLA	Comprehensive Environmental Response, Compensation & Liability Act
COD	Chemical Oxygen Demand
CWA	Clean Water Act
D&D	Decontamination and Decommissioning
DOE	U.S. Department of Energy
DPM	Disintegrations Per Minute
EMF	Electromagnetic Field
EPA	U.S. Environmental Protection Agency
ER	Environmental Restoration (Program)
ERDA	Energy Research and Development Administration
ERNS	Emergency Response Notification System

FFA	Federal Facility Agreement
FINDS	Facility Index System
FS	Feasibility Study
GSA	General Services Administration
HEPA	High Efficiency Particulate Air
LQG	Large Quantity Generator
LUST	Leaking Underground Storage Tank
M&O	Maintenance and Operations
MAT	Mound Applied Technologies
MCC	Monsanto Chemical Company
MEMP	Mound Environmental Management Project
MMCIC	Miamisburg Mound Community Improvement Corporation
MRC	Monsanto Research Corporation
NPDES	National Pollutant Discharge Elimination System
OEPA	Ohio Environmental Protection Agency
ORPS	Occurrence Reporting and Processing System
OU	Operable Unit
PADS	PCB Activity Database
PCB	Polychlorinated Biphenyls
PRS	Potential Release Site

RAPCA	Regional Air Pollution Control Agency
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
RI	Remedial Investigation
RSDS	Radiological Survey Data Sheet
SARA	Superfund Amendments and Reauthorization Act
SDWA	Safe Drinking Water Act
SQG	Small Quantity Generator
SWMU	Solid Waste Management Unit
TRIS	Toxic Chemical Release Inventory System
TSD	Treatment, Storage, & Disposal Facility
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compound

Appendix B

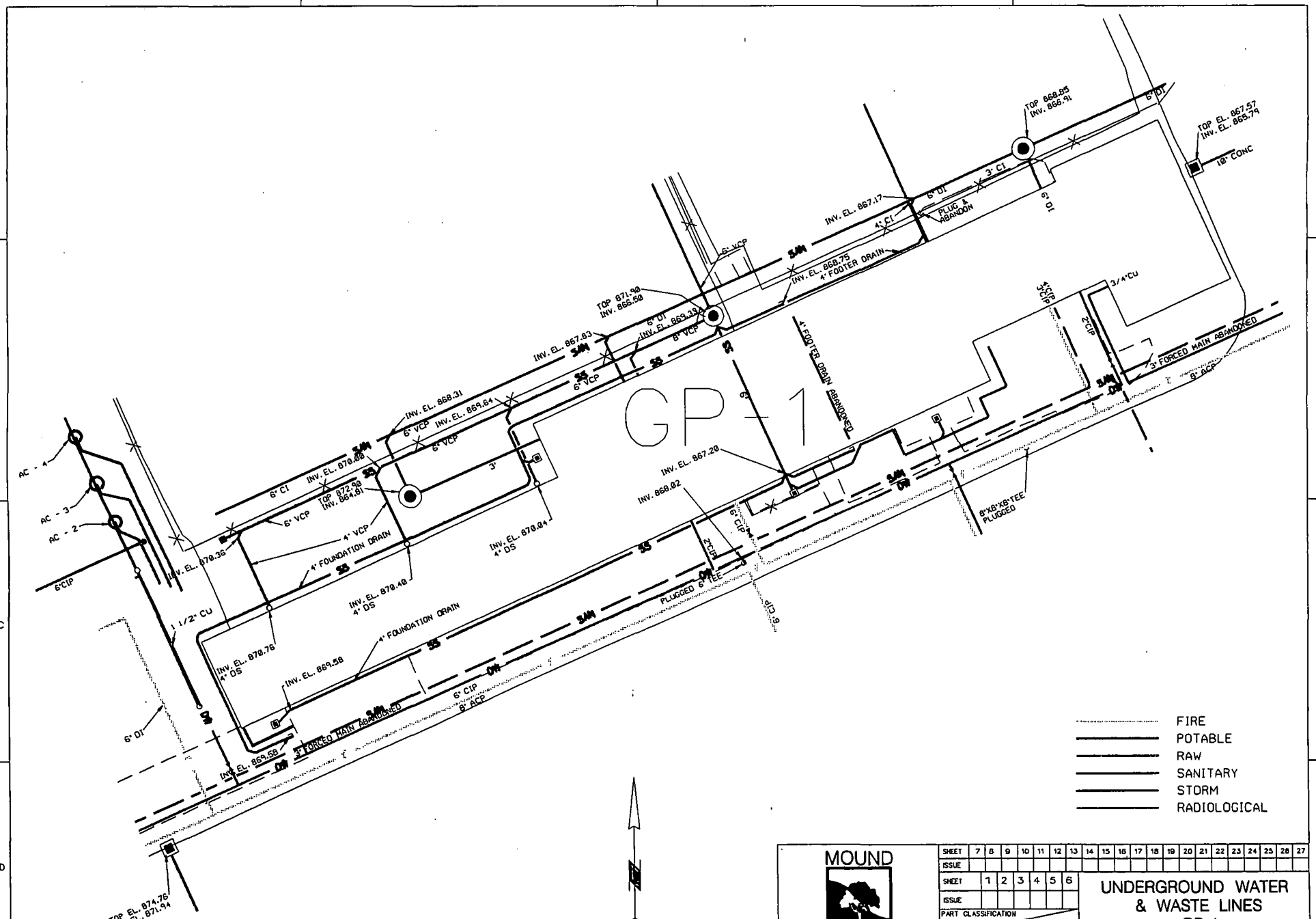
Map of Montgomery County

Appendix C

Site Plan

Appendix D

Building Drawings



ISS	DATE	REVISION	BY	CHKR	ENG	LP&EC	APVD	M
	02/22/99		MR					

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

UNDERGROUND WATER & WASTE LINES GP-1

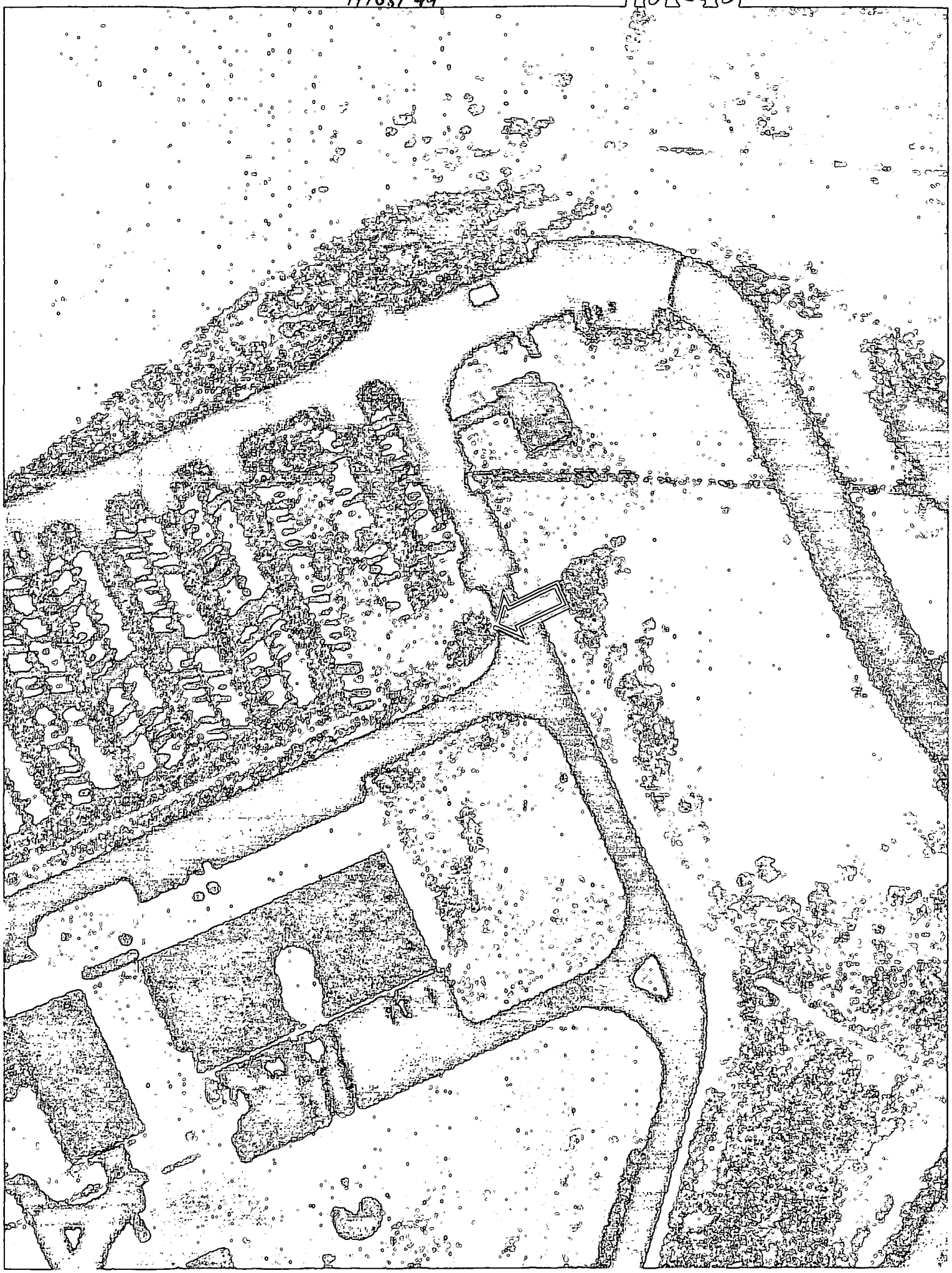
DRAWING CLASSIFICATION: UNCLASSIFIED
SIZE
DRAWING NUMBER: gp_1plan.dgn
JOB NUMBER
DWG TYPE: STE
PRMG
CAGEC
SCALE: NONE
SHEET
STATUS: MD-REL-02/22/99
ORIGIN: MSTATION 5.0

Appendix E

Aerial Photographs

Close-ups

11/08/49



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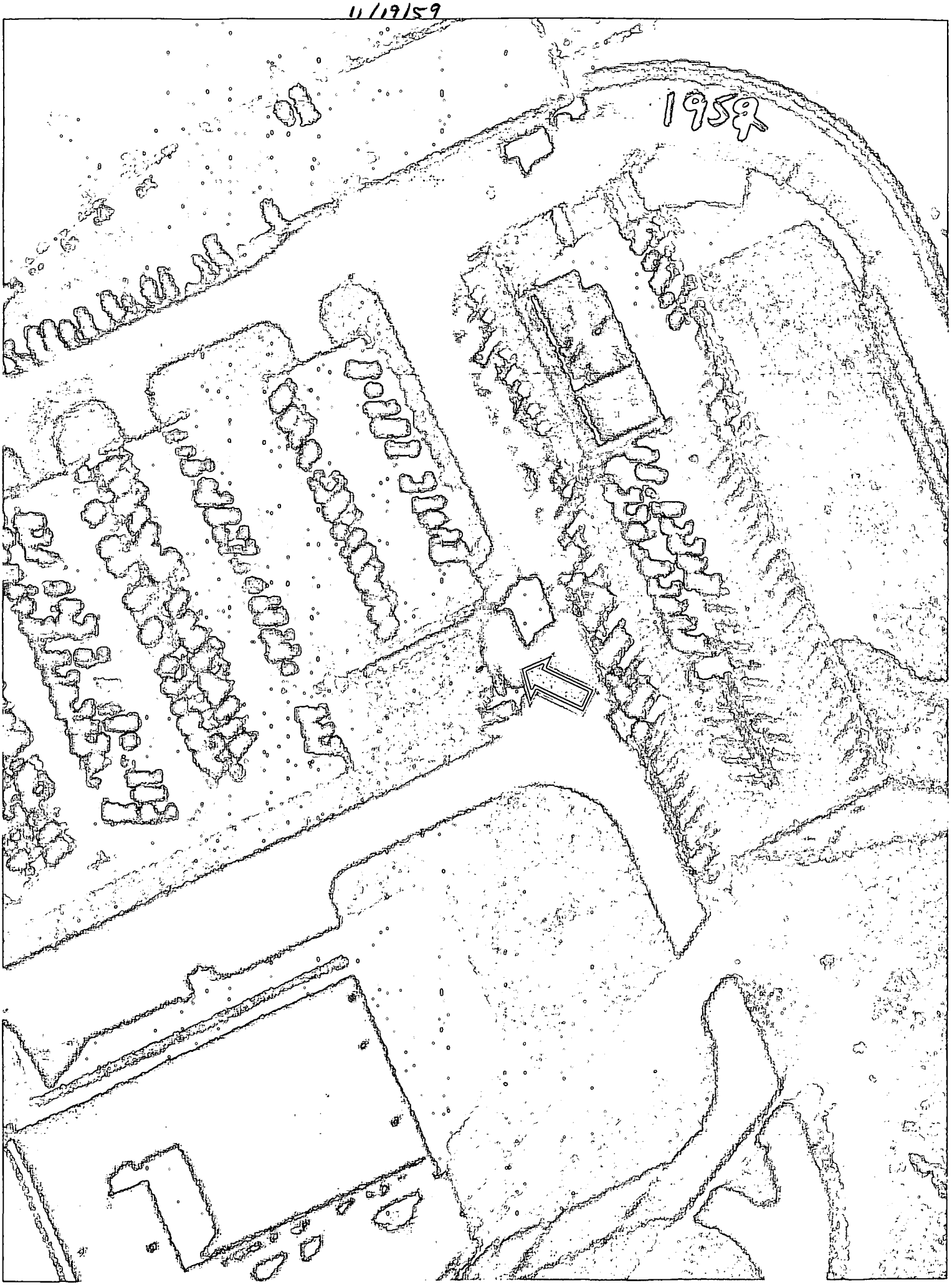

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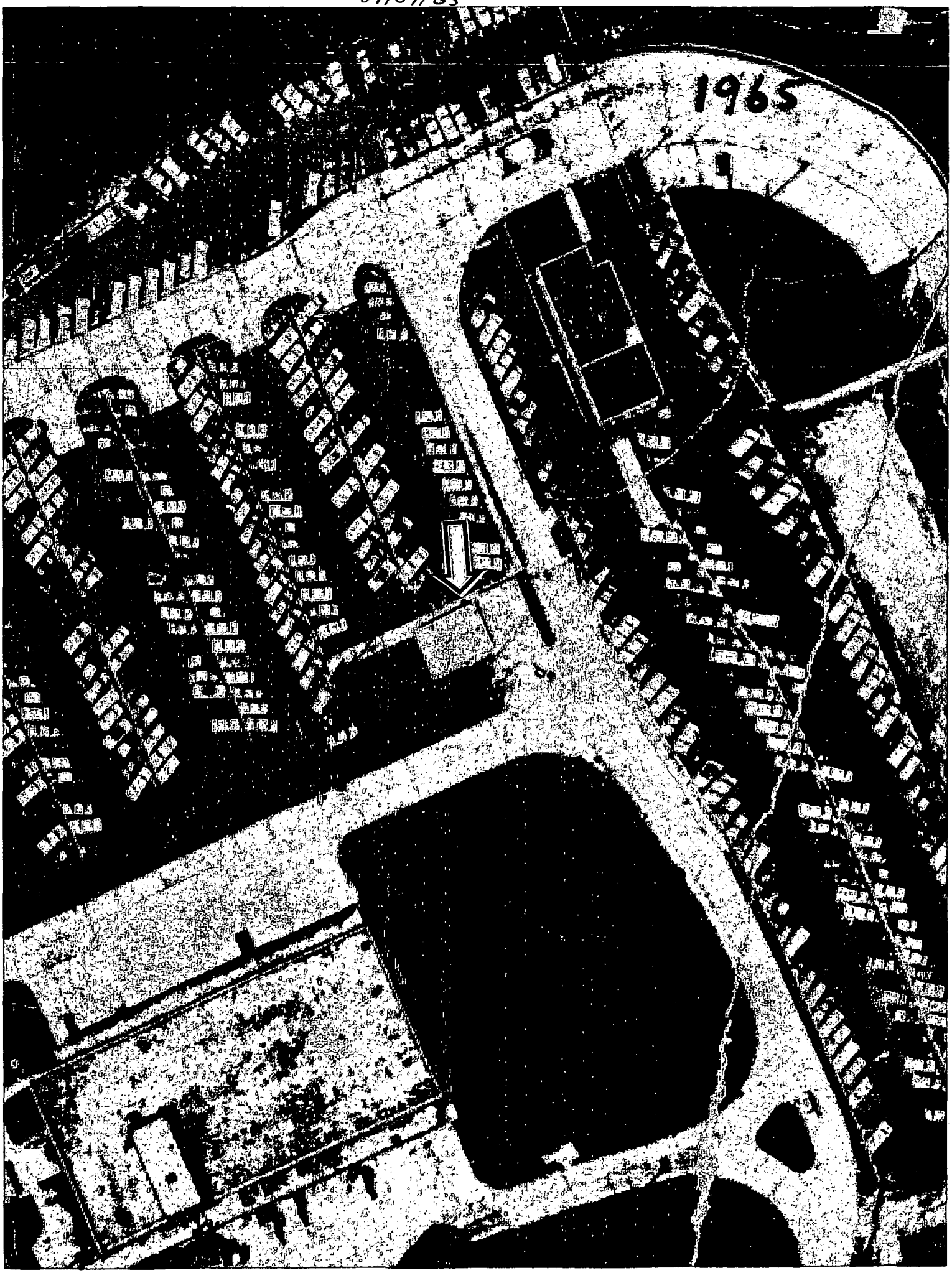

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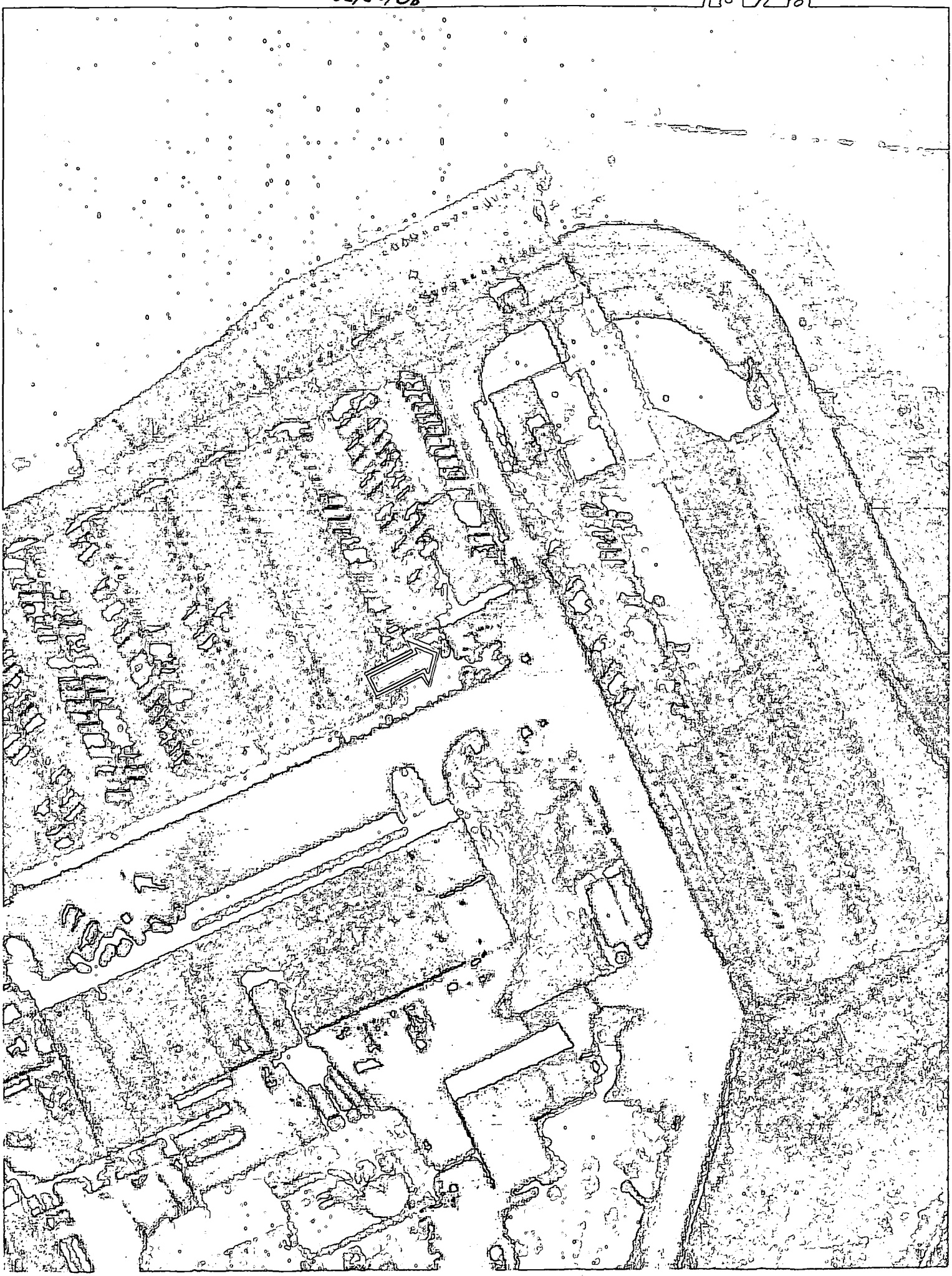

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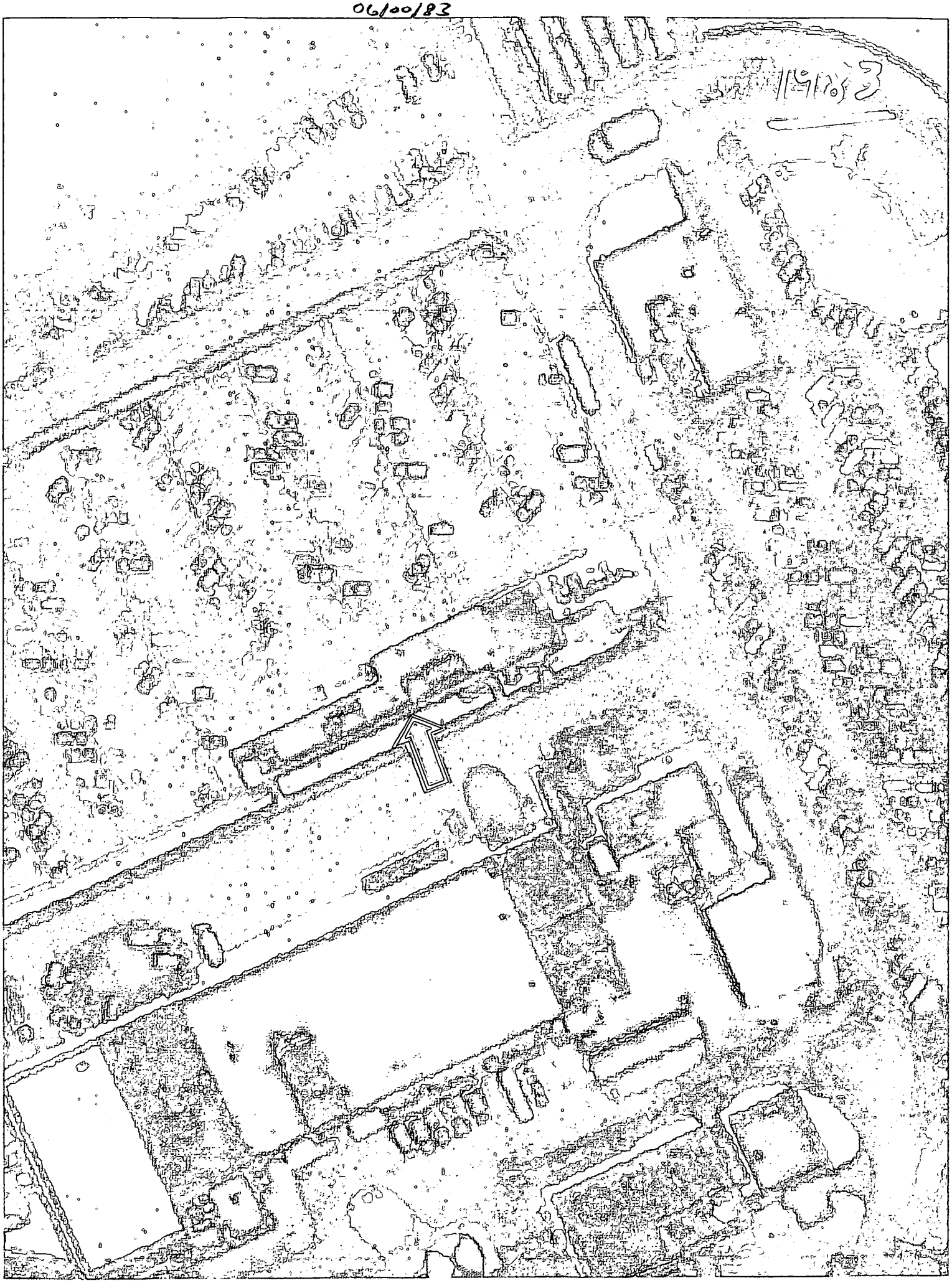
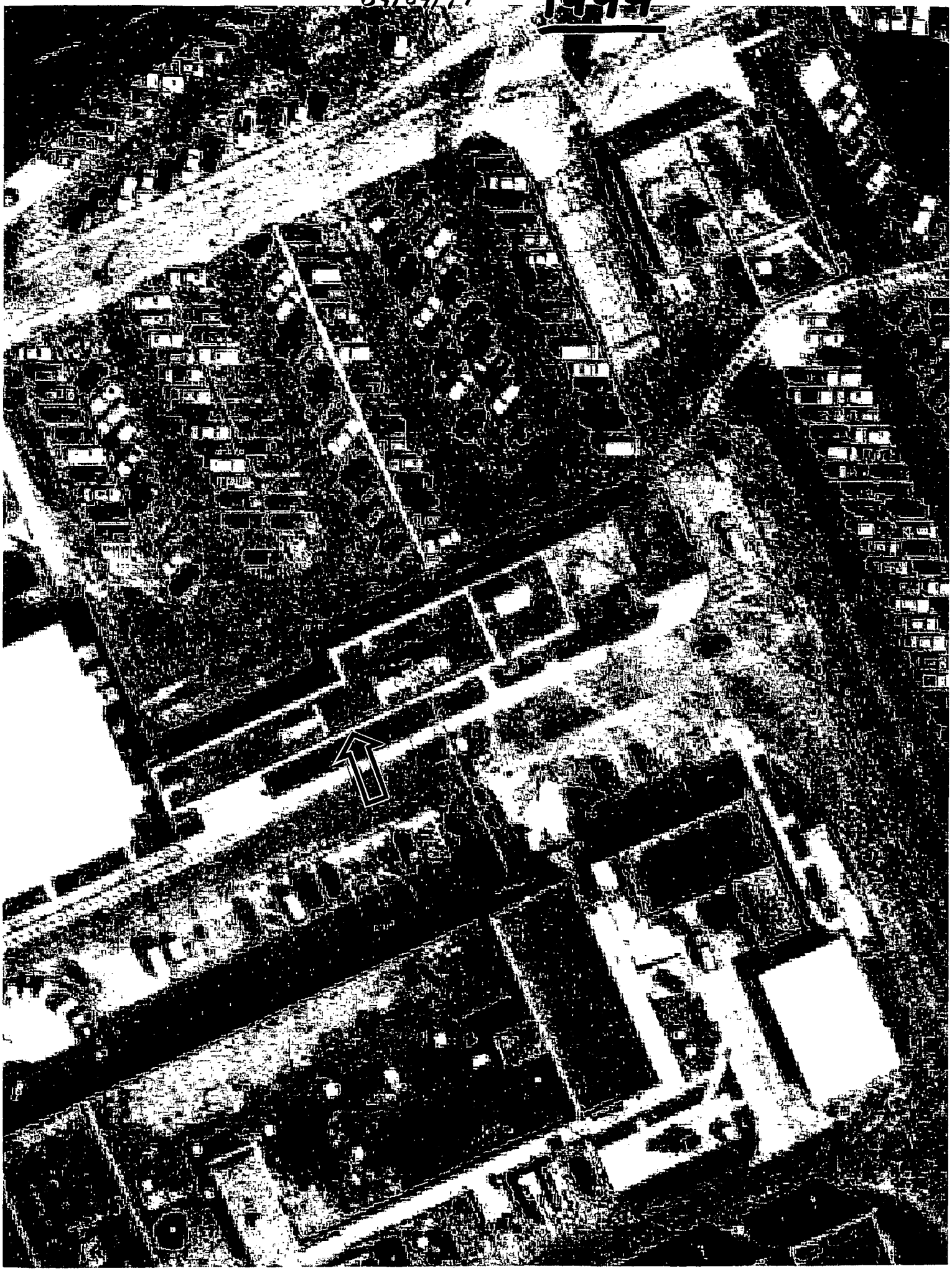
06100183



04/04/94

1994



Appendix F

Environmental Appraisal Report of the Mound Plant (Extract)

9.10 BUILDING GP-1

9.10.1 Scope of Building GP-1 Report

In late 1995 and the early months of 1996, EG&G MAT performed a review of environmental conditions at the Mound Plant. The purpose was to develop a performance baseline, and to identify areas for improvement on a building and a sitewide basis. EG&G MAT did not perform a "due diligence" or Phase I Environmental Site Assessment as specified by ASTM 1527 or ASTM 1528. The scope of the appraisal effort and a discussion of the appraisal methodology are detailed in Sections 2.0 and 5.0, found in Volume 1 of this report.

The appraisal team performed a walk-through of Building GP-1 on the morning of February 7, 1996. The Environmental Appraisal Checklist (EAC) (Attachment 1—Section 9.10.6.1) was used to record findings. The appraisers were accompanied by the process manager. The building manager was not present. Other information was supplied by the building manager and recorded on the Building Manager's Questionnaire (BMQ), included as Attachment 2 (Section 9.10.6.2).

9.10.2 Description of Building GP-1

Building GP-1 is used for training of security personnel and for office space. It is located on the main hill, with Building 91 to the west and Building GH to the north. Its location is shown in Attachment 3 (Section 9.10.6.3).

The building is a one-story, 8,000-square-foot structure of reinforced concrete with brick facing. It has a built-up membrane roof of coal tar, asphalt, and carboline. It was constructed in 1950. There is electrical service of 240V. Other systems include central steam, chilled water, and package heating/air conditioning units.

The building has been used for the same general purpose since it was constructed. In addition to training facilites, a firing range, and offices, the communications center was also housed in Building GP-1. The communications center was moved to another building in 1995.

9.10.3 Summary of Findings

Building GP-1 was a very well-maintained building. There were several potential issues of environmental concern, based on activities in the building. Each one had been considered and properly addressed by the process manager. While there were some suggestions for improvements, environmental controls in the building and its process manager serve as models at Mound.

9.10.4 Observations

9.10.4.1 Air Emissions

There are no fuel-burning aciivities in the building. A permit application was submitted to the Ohio Environmental Protection Agency (OEPA) in 1992 for emissions from the firing range. No permit was issued. EG&G MAT Environmental Monitoring Group professionals consider the source emissions negligible, but no documentation exists to confirm the determination. The building is included in the Mound Air Emissions Database (11-30-95) showing two sources, the firing range, and a gas dispensing facility. The appraisal team toured the firing range, but no gas dispensing facility was in evidence. There is no fugitive dust.

9.10.4.2 Wastewater Emissions

The Mound Facility has three wastewater collection systems: a sanitary wastewater system; a storm water system; and a radioactively contaminated process wastewater system. Sanitary wastewater is treated at an onsite tertiary treatment plant and subsequently discharged by hard pipe to the Great Miami River. Storm water and any non-process wastewater, single pass cooling water, and softener backwash may be discharged directly to the Great Miami River, via the Miami-Erie Canal, or may be diverted to a 3.1-million-gallon holding pond for settling prior to discharge. Radioactively contaminated wastewater is treated in Building WD by physical-chemical treatment. If appropriate, wastewater may be discharged by hard pipe to the Great Miami River. If concentrations of radioactive contaminants cannot be reduced to acceptable levels, wastewater is solidified and shipped to the Nevada Test Site or Envirocare for disposal. All outfalls are permitted under an active NPDES permit. Routine monitoring activities are in place. Based on NPDES monitoring report data reviewed, it appears that the facility is in compliance with qualitative and quantitative conditions of the permit.

9.10.4.2.1 Sanitary Wastewater

According to a diagram of underground utility lines, presented as Attachment 5 (Section 9.10.6.5), the building is serviced by a sanitary wastewater collection line. Sanitary effluent is conveyed to the onsite tertiary wastewater treatment facility, and subsequently discharged to the Great Miami River. There is no monitoring of building effluent. Based on operations data, supplied by the process owner, effluent from Building GP-1 does not deviate from that expected by the sanitary treatment plant manager.

9.10.4.2.2 Storm Wastewater

The building is serviced by storm drains according to drawings presented in Attachment 5 (Section 9.10.6.5). There are several floor drains. Due to the age of the building and practices at the time of construction, it is assumed that floor drains enter the storm system. It was outside the scope of this appraisal to perform tests to confirm drainage patterns.

Downspouts from the roof lead through hard pipes into the ground; it is assumed drainage flows into the storm collection system. No exterior grates and drains were observed in the area immediately around the building.

There is a sump located beneath the firing range, according to the process manager. It is important to note that the firing range, which has lead contamination, is not washed down; drainage is not allowed to enter the sump. Instead, the firing range is routinely swept using a vacuum with a high-efficiency particulate absorber filter. The dust is contained and disposed of as hazardous waste. The process manager is aware of the potential for lead contamination of mop water and other water sources, and has developed procedures to assure that lead does not enter wastewater systems.

9.10.4.2.3 Chemicals

Other than the potential for lead contamination, discussed in the previous section, there were no liquid or solid chemicals containing Clean Water Act (CWA) pollutants in evidence in Building GP-1. There was no visual evidence that chemicals had entered the drainage system.

9.10.4.3 Potable and Service Water

Potable water is supplied to the building, according to information presented in the underground utility lines drawing (Attachment 5—Section 9.10.6.5). Service water is also supplied. Sources are posted. Backflow preventers were in evidence, except for one connection in Room 19. The valve may have included a backflow preventer, but the appraisal team requested that it be confirmed. The process manager volunteered to contact Maintenance for an inspection.

There are two water fountains. It is not known if they are of the type which may cause lead contamination. A program is underway at Mound to check all fountains.

9.10.4.4 Chemical Storage and Hazardous Materials

Janitorial supplies were stored in the building. The MSDS's for the supplies were maintained by the janitorial supervisor in a central location. It was recommended that they be moved to Building GP-1 as well.

Other chemicals were stored in the building as well. MSDS sheets were available and in a well-marked folder. A brightly colored sign was posted above them. Flammables were stored in a cabinet in conformance with 20 CFR 1910.106.

Ordnance was stored in locked vaults. The vaults did not conform to 29 CFR 1910.106(d)(4). The process manager should request that an ordnance safety specialist inspect the storage vault to determine if such storage is necessary and appropriate. Current storage may be adequate.

The building is equipped with emergency response equipment such as a portable eyewash and a fire extinguisher in, conformance with 29 CFR 1910. There is no evidence of information about

an Emergency Evacuation Plan, and no signs were posted in work areas as required in 29 CFR 1910. The process manager noted that since the building is a site emergency control center, all personnel should be aware of precedures. However, he agreed to post signs.

There are no sumps, separators, or catch basins in the building, other than a sump located under the firing range. It is discussed in Section 9.10.4.2.2 of this report. There are no underground storage tanks associated with Building GP-1.

According to information provided in the BMQ, there is a transformer in the building. It does not contain polychlorinated biphenyls (PCB's). Inspection records were not reviewed. It should be confirmed that if the transformed contains oils, that it bears an appropriate sticker as described in 40 CFR 761. According to the 1995 PCB Annual Document Log, the building does not contain PCB's.

The building contains asbestos, based on screening recorded in MD-10391, *Asbestos Program Manual* (9-14-95). There was no visual evidence of friable asbestos. Insulation and pipe lagging was well-maintained. Piping was well-marked.

9.10.4.5 Solid, Hazardous, and Radioactive Wastes

According to information provided in the BMQ, hazardous wastes are generated in Building GP-1. A Satellite Accumulation Area (SAA) is designated in the building. It conforms to requirements set forth in OAC 3745-52-11. The process manager is in charge of the SAA, and notes that Waste Management professionals have been very responsive to requests for assistance and information. Waste is picked up within three days.

The process manager is well aware of potential lead contamination issues. A contractor recently cleaned the firing range by sweeping. The dust bag was deposited in the SAA.

Waste characterization records conform to requirements of OAC 3745-52-11. Characterization is by process kowledge, and is documented. Records have been maintained for over three years. The generator/process manager has completed waste generator's training, and recognizes his responsibility for "cradle to grave" handling of hazardous wastes.

Solvent-contaminated rags are deposited in a well-labelled red can. Contents of the can are collected by Waste Management. For other buildings at Mound, solvent-contaminated rags are collected and sent to an offsite contractor for cleaning. The process manager was advised that if the rags from Building GP-1 were handled as such, it was important to notify the vendor of potential lead contamination. The team also advised the process manager to meet with the contracting officer to assure that the contractor's procedures were reviewed and appropriate relative to cleaning solvent rags and handling lead by-products.

Spent shell casings from the firing range are sold for recycling. At Mound, solid waste is removed by janitorial personnel to a site collection point, then shipped offsite to a local landfill by a contractor. Aluminum cans, glass, and cardboard are removed by janitorial personnel to

specific collection points, then are sent offsite to be recycled by the same contractor. White paper is collected and sent offsite to be recycled by a service contractor.

9.10.4.6 Waste Minimization and Pollution Prevention

At Mound there is an active program to minimize waste streams in accordance with state and federal requirements and Executive Order 12856. An example is the recycling of spent shells from the firing range.

9.10.4.5 Findings and Recommendations

Findings related to the environmental appraisal of Building GP-1 indicates that the following action items, in priority order, should be planned and scheduled.

GP-1-1 Ordnance was stored in locked vaults. The vaults did not conform to 29 CFR 1910.106(d)(4). The process manager should request an ordnance safety specialist to inspect the storage vault to determine if such storage is necessary and appropriate. Current storage may be adequate.

GP-1-2 The sign posted in Building GP-1 above the folder holding MSDS's was not observed by the appraisal team elsewhere at Mound. It would be an excellent standard sign.

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9.10.6.1 Environmental Appraisal Checklist

ENVIRONMENTAL APPRAISAL CHECKLIST

Building Name GP-1 formerly used to be GS1

Appraisers:

Name	Discipline
Nancy Riggs	
John Hausfeld	
Mike Merker	

Building Manager: Kathy

Process Manager: Alton Brown

Ron Parr

Date: 2-7-96 am

ENVIRONMENTAL APPRAISAL CHECKLIST

Table of Contents

Checklist	Page
Clean Water Act	1
Clean Air Act	2
Hazardous Materials	4
Safe Drinking Water Act	7
RCRA Hazardous Waste	8
TSCA and NESHAP Requirements for Asbestos	13
TSCA—PCB	14
Low-level and Transuranic Waste	17
Waste Minimization/Pollution Prevention Activities	22

Environmental Appraisal Checklist

Building Name: GP1 Appraisers: Vyas Hansfeld Merker Date: 2/7/96 am

Clean Water Act (CWA) Screening Checklist

Question	Response	Comments
Does the outside drain spouting of the building discharge directly to a storm sewer/sanitary system?	Y / N	If the answer to any of these questions is yes, proceed with the following checklist.
Are there sinks, toilets and floor drains in the building?	Y / N	
Are chemicals being used in the building?	Y / N	
Is there a process which discharges to the storm or sanitary system?	Y / N	see note below

CWA Checklist.

floor drains drainage not noted in drawings

Regulatory Guideline	Question	Response	Comments
40 CFR 122 Appendix D Table V	If chemicals are used/stored in the building, are they on the attached list? Are they properly contained?	Y / N Y / N	janitorial supplies not included in list
	Is the building in operation? What are the processes and where do they discharge to?	Y / N _____ _____	firing range
	Do the floor drains, sinks & toilets appear to be draining properly?	Y / N	
OAC 3745-33	Do the floor drains and sinks drain to a sanitary or storm sewer?	Sanitary Storm	
	Is there a sump/pit in the building? If so, what does it contain? How often is it pumped out? Does water collect in sump? Does sump have secondary containment?	Y / N _____ _____ Y / N Y / N	Sump under range? NOT KNOWN -- ck.
	Are there any manholes, catch basins, drains, or fill pipes in or around the building? If so, are there any unusual appearances, colors, and/or odors? Describe in comment section. Can chemicals flow into the drain?	Y / N Y / N Y / N	sump (mentioned above)

9.10-11 Check prints for sump under range

under room 2 of outside.

firing range has lead contamination. Not washed down. Sweep using HEPA filter vacuum. Dust contained & disposed as hazardous.

9.10-12

Environmental Appraisal Checklist

Building Name: GP1 Appraisers: Vogel Hallfeld Meiser Date: 2/7/96am

Clean Air Act (CAA) Screening Checklist

Regulatory Guideline	Question	Response	Comments
	Are there any rooms that have air emissions sources that vent to the outside of the building, e.g., fumehoods, equipment? If so, note the rooms.	(Y) N	firing range
OAC 3745-35	Using the air emissions inventory reference for this building, are there any sources in the building that are not documented?	(Y) / N	
	Is there evidence of fugitive dust emissions inside or outside of the building	Y / (N)	

CAA Checklist

Regulatory Guideline	Question	Response	Comments
	Are there existing air permits or applications applicable to the building?	(Y) N	
OAC 3745-31,35	If yes, are the terms and conditions of the permit or the information included on the application (see air emissions database) being followed? Note any differences and update the air emissions database.	Y / N N/A	No permit Rm 23/24
OAC 3745-31	Are there any sources that are not included in the air emissions database? If so, note the room, hood number, active or not, POC, and applicable air emission database information on Table B.	Y / (N)	
OAC 3745-31-03	Are there sources which are lab equipment of lab fumeheads used exclusively for chemical or physical analyses and bench scale lab equipment? These sources do not require a permit. However, the air emissions database should be updated.	Y / (N)	
	Has there been any release of air contaminants from this building?	Y / (N)	

App made 92 for permit — Need emu
activity rep; considered [illegible] ? No

Environmental Appraisal Checklist

Building Name: GP1 Appraisers: Voss / Hatsopeld / Merker Date: 2/7/96

CAA Checklist

NOT completed

Comments: Note the number of sources/hoods per room, the number that are active, and the POC on the reference document.

TABLE A									
Process Source	Room Number	Hood Number	In Database	Active	Chemicals Used	Quantity Used	Quantity to Waste Management	Hours/Yr. Operation	Air Emissions
			Y / N	Y / N					
			Y / N	Y / N					
			Y / N	Y / N					
			Y / N	Y / N					
			Y / N	Y / N					

Source: _____

9.10-13

9.10-14

Environmental Appraisal Checklist

Building Name: GP1 Appraisers: Vigas / Hausfeld / Marker Date: 2/7/96 am

Hazardous Materials (HM) Screening Checklist

Question	Response	Comments
Are any chemicals used or stored in this building, now or in the past?	Y / N	If the answer is yes, proceed with the following checklist.

HM Checklist

Regulatory Guideline	Question	Response	Comments
29 CFR 1910.1200(b,f)	All containers of hazardous chemicals shall be labeled as to the identity of the chemical and the appropriate hazard warnings.	Y / N	
29 CFR 1910.1200(g)	MSDS shall be available to the employees in close proximity to the work area.	Y / N	Acid janitor supplies to MSDS book
29 CFR 1910.22, 1910.106, 1910.176	All places of employment, passageways, storerooms and service areas shall be kept clean and orderly and in a sanitary manner. Aisles shall be unobstructed. Drums and containers are not leaking and are tightly sealed.	Y / N	Extremely orderly.
29 CFR 1910.106	Storage cabinets for flammable materials are constantly kept closed, are fire resistant and are labeled "FLAMMABLE - Keep Fire Away". Containers inside should be labeled and closed. No spills inside cabinet.	Y / N	
29 CFR 1910.106(d)(7)	Incompatible chemicals are not stored together.	Y / N	
29 CFR 1910.106(d)(4)	Inside Flammable/combustible storage rooms must meet the following: 4 in. raised sill or trench that drains to a safe area, liquid tight wall/floor joints, self-closing doors, gravity or mechanical exhaust providing 6 room changes/hr., exhaust switch located outside room, at least one 3 ft. aisle; no cracks in secondary containment.	Y / N NA	

Environmental Appraisal Checklist

Building Name: GP1 Appraisers: Jyoti Hallsfeld Meier Date: 2/7/96 am

HM Checklist

Regulatory Guideline	Question	Response	Comments
29 CFR 1910.106(d)(7)	All flammable/combustible storage locations have at least one 12-B portable fire extinguisher located outside and within 10 ft. of a door opening into any room for storage. No smoking signs are posted.	Y / N	
29 CFR 1910.151	Eyewashes/showers shall be provided within the work area. Ensure unit is operational.	Y / N	
CGA P-1 3.3 & 3.3.10	All gas cylinders (full or empty) shall carry a legible label or marking identifying the contents.	Y / N	
CGA P-1 3.5.3	Full and empty containers should be stored separately with the storage layout planned so that containers comprising of old stock can be removed first with a minimum handling of other containers.	Y / N N.A	
CGA P-1 3.5.8	All compressed gas containers in service or in storage shall be stored standing upright and the container shall be secured.	Y / N N.A	
CGA P-1 4.2.2	Oxygen cylinders shall be separated from flammable gas containers or combustible materials a minimum of 20 ft. or a noncombustible barrier 5 ft. high.	Y / N	
29 CFR 1910.104(2)(10)	Oxygen stored as a liquid shall be on a noncombustible surface. Asphalt is considered combustible. Wood and long dry grass shall be cut back 15 ft. from the container.	Y / N N.A	
29 CFR 1910.104	Bulk oxygen storage shall be permanently placarded "OXYGEN - NO SMOKING - NO OPEN FLAMES".	Y / N N.A	
	Is there a sign posted in each work area regarding emergency egress and emergency response action?	Y / N	This is emergency control
	Is there an emergency response plan available?	Y / N	

[illegible]

9.10-15

9.10-16

Environmental Appraisal Checklist

Building Name: GPI

Appraisers: Vyas/Bousfield/Moser

Date: 2/7/96 am

HM Checklist

Regulatory Guideline	Question	Response	Comments
	Is there a process area?	Y / N	firing range
	Does it have proper containment?	Y / N	
	Is there a liquid bulk transfer area?	Y / N	
	Is there proper containment?	Y / N	
	Is there an above ground storage tank? If so, complete Table B.	Y / N	

Above Ground Storage Tanks Inventory

TABLE B—Above Ground Storage Tanks Inventory

Building	Capacity (Gal.)	Contents	Estimated Volume	In Service	Containment	Visual Stains/ Contamination	If Empty, Flushed
				Y / N	Y / N	Y / N	Y / N
	none			Y / N	Y / N	Y / N	Y / N
				Y / N	Y / N	Y / N	Y / N
				Y / N	Y / N	Y / N	Y / N
				Y / N	Y / N	Y / N	Y / N
				Y / N	Y / N	Y / N	Y / N
				Y / N	Y / N	Y / N	Y / N

Source: _____

Environmental Appraisal Checklist

Building Name: GP1 Appraisers: Muker Hanefeld Vigo Date: 2/7/96 am

Safe Drinking Water Act (SDWA) Screening Checklist

Does this facility have potable water?	Y / N	If yes, conduct the following survey.

SDWA Checklist

Regulatory Guideline	Question	Response	Comments
OAC 3745 95-02 (A)	Do actual or potential cross-connections exist between potable (light green) and service water (dark green)?	Y / N	
OAC 3745 95-04 (B)(C)	Are backflow prevention devices installed where cross connections (hoses connected to faucets, hot water tank vented directly to a drain) exist?	Y / N Not known	check to confirm that valve in Rm 19 has backflow
	Are sources of service water (janitorial and laboratory faucets, or outdoor spigots) posted as non-potable water sources?	Y / N	prevented at boiler
	Does the facility contain any water coolers or fountains that are not lead free? Complete Table C.	Y / N	

TABLE C—Water Fountain Survey

Building	Location	Model #	Comments / Date of Analysis for Lead
GP1	15	no label	illegible B-941592 —
		OASIS?	
GP1	16	OASIS	9308051263

Source: Service Water — ck backflow prev.

9.10-17

9.10-18

Environmental Appraisal Checklist

Building Name: GPL

Appraisers: Hausfeld Ryan Marker

Date: 2/7/96am

RCRA Screening Checklist

Does this facility generate waste or use chemicals?	Y / N	If yes, conduct the following survey.

RCRA Checklist

Regulatory Guideline	Question	Response	Comments
OAC 3745 52-11	Has any material generated been characterized RCRA hazardous? Was charactarization by analysis or by process knowledge? Are lab results or documentation of process knowledge readily available? Note any uncharacterized material in comment section. Is it waste? If yes, proceed with next section.	Y / N analysis / process Y / N Y / N	
OAC 3745 52-11	Are any of the materials noted RCRA hazardous waste? If no, note and stop here. If yes, note the location of the management unit, and the method of management, and proceed with the appropriate section below.	Y / N	

red can - [illegible] solvents & lead cont deposited in can.

All batteries collected & go to WM.

Filing range material ~~etc~~ clean & waste mang handles disp
— MK Moore

King picks up hospital rag [illegible]

training checked - OK

Environmental Appraisal Checklist

Building Name: GPI Appraisers: Hausfeld Merker Uyo Date: 2/7/96 am

RCRA Checklist

Regulatory Guideline	Question	Response	Comments
I. HAZARDOUS WASTE STORED IN CONTAINERS			
	Is there an area in the building that could qualify as a Satellite Accumulation Area?	Y / N	
	Is it treated as such?	Y / N	
OAC 3475-52-34 (C)	Has any of the RCRA hazardous waste in this building been managed in Satellite Accumulation Areas? If no, proceed to the next section. If yes, answer the following.	Y / N	
	Are the containers marked with the words hazardous waste, or other words denoting the hazard?	Y / N	
	Are the containers in good condition?	Y / N	
	Are the waste compatible with the containers?	Y / N	
	Are containers managing ignitable hazardous waste stored at least 50 feet from the plant site boundary?	Y / N	
	Are containers kept closed and locked except during filling?	Y / N	
	Are containers moved within 3 days of being filled?	Y / N	

takes several months to fill can in Sat'l Acc. Area

Waste mang. is very responsive picking up waste

SAA equipment properly labeled / locked.

records maintained 3 yrs.

9.10-19

Environmental Appraisal Checklist

Building Name: 6P1 Appraisers: [illegible] Date: 2/7/96am

RCRA Checklist

Regulatory Guideline	Question	Response	Comments
OAC 3745-52-11 (A)	If a Satellite accumulation area has been abandoned and/or if waste left in place, and the containers may be subject to the 90-day-storage exclusion. If this exclusion does not apply, go to the next section. If the containers have been in storage under this exclusion, answer the following:	NA	
	Are the containers in good condition?	Y / N	
	Are the waste compatible with the containers?	Y / N	
	Are the containers kept closed except during filling?	Y / N	
	Are the containers managed in such a way, that they are not ruptured, or leaks caused?	Y / N	
	Is the area inspected at least once weekly?	Y / N	
	Is the inspection recorded? Where is the log? Is it properly completed, dated, and signed?	Y / N _____ Y / N	
	Are containers managing ignitable hazardous waste stored at least 50 feet from the facility boundary?	Y / N	
	Are incompatible wastes managed in such a way that they will not react with another incompatible waste?	Y / N	
OAC 3745-52-34(B)	Has any of the waste (except in Building 23, Building 72 and the Burn Area) been managed in excess of 90-days?	Y / N NA	
	If no go to next section.		
	If yes, note.		
	For Building 23, Building 72 & Burn Area use special checklist.		

Environmental Appraisal Checklist

Building Name: GPI Appraisers: Hatcefield Vogus Merker Date: 2/7/96 am

RCRA Checklist

Regulatory Guideline	Question	Response	Comments
II. HAZARDOUS WASTE STORED IN TANKS			
OAC 3745-52-32 (B)	Has any chemical waste stored in a tank, piece of process equipment or ancillary equipment been in storage in excess of 90-days?	Y / N	
	If the answer was no, then proceed with the following:	Y / N	
	Has the tank or piece of equipment had an integrity assessment?	Y / N	
	Is there a sump?	Y / N	
	Is it dry?	Y / N	
	Does the tank or equipment have secondary containment?	Y / N	
	Does the tank or equipment have leak detection device(s)?	Y / N	
	Has spill control prevention been enacted?	Y / N	
	Has any hazardous waste stored in a tank, piece of process equipment or ancillary equipment been in storage in excess of 90-days?	Y / N	
	If the answer was no, then proceed with the following:		
	Has the tank or piece of equipment had an integrity assessment?	Y / N	
	Does the tank or equipment have secondary containment?	Y / N	
	Does the tank or equipment have leak detection device(s)?	Y / N	
	Has spill control prevention been enacted?	Y / N	
	Is there a closure plan?	Y / N	
	If yes, then note.		
OAC 3745-67	Has any of the waste been managed in a surface impoundment? If yes, then note. Go to the next section.	Y / N	

9.10-21

9.10-22

Environmental Appraisal Checklist

Building Name: GPI

Appraisers: Vyas Hansfeld Maker

Date: 2-7-96am

Not completed

RCRA Checklist

Regulatory Guideline	Question	Response	Comments
OAC 3745-68	Has any of the waste been managed in a Landfill? If yes, then note. Go to the next section.	Y / N	
OAC 3745-68	Has any of the waste been managed in an Incinerator (other than Burn area units)? If yes, then note. Go to the next section.	Y / N	
OAC 3745-68	Has any of the waste been managed in a Thermal treatment Unit (other than Burn area units)? If yes, then note. Go to the next section	Y / N	
OAC 3745-69	Has any of the waste been managed in a Miscellaneous Treatment Unit (other than Burn area units)? If yes, then not. Go to the next section.	Y / N	
OAC 3745-56	Has any of the waste been managed in a Waste Pile? If yes, then note. Go to the next section.	Y / N	

General Comments:

Environmental Appraisal Checklist

Building Name: OP 1 Appraisers: Vogelhausfeld Merker Date: 2/7/96 am

9.10-23

Asbestos Screening Checklist

Does this facility contain ACBM?	(Y) / N	If yes, conduct the following survey.

Asbestos Checklist Per asbestos management plan

Note: Routinely, the asbestos standard for ACBM in schools has been applied to facilities for purpose of cleanup. In addition to AEHERA, there are additional standards in the NESHAPS that may be of importance.

Regulatory Guideline	Question	Response	Comments
ADAPTED FROM TSCA ACBM IN SCHOOLS:			
	Has this building been characterized either through process knowledge, by analyses, or by inspection to determine if it contains asbestos? If no for this building or area note this conclusion in the comment section.	(Y) / N	
	Is there any evidence of friable asbestos?	Y / (N)	
	Is the asbestos removal properly managed? (See questions listed below)	Y / N NA	If there is no asbestos removal, do not complete the following section.
NESHAPS FOR ASBESTOS FOR ANY ONGOING ASBESTOS REMOVAL:			
40 CFR 61.156	There are no discharges of visible emissions to the outside air from collection, processing, packaging, transporting, or deposition of ACBM during the removal.	Y / N	
40 CFR 61.152(b) (1)	ACBM is treated with water in accordance with 40 CFR 152(b)?	Y / N	
40 CFR 61.154	Is friable asbestos adequately wetted during stripping? Or, has an adequate ventilation and collection system been installed?	Y / N	
40 CFR 61.152	Is wetting continued until the waste friable asbestos is collected for disposal?	Y / N	

Building Name: 6P1 Appraisers: Vijas Hanefeld Merker Date: 2/7/96am

Toxic Substances and Control Act (TSCA) PCB's Screening Checklist

Does this facility potentially contain any PCB's or PCB contaminated equipment?	Y / N	If yes, are transformers labeled (Blue or Yellow stickers)? If yes, conduct the following survey.

TSCA Checklist

Regulatory Guideline	Question	Response	Comments
40 CFR 761	Has any waste generated in, or from, this building been characterized either through process knowledge or by analyses to determine if it contains PCB's ? If the answer is no, note . If the answer is yes, proceed with next section.	Y / N	
	Based on an inspection, are any of the materials or equipment potentially PCB contaminated? If no, note and stop here. If yes, note the location of the management unit, and the method of management, and proceed.	Y / N	
40 CFR 761.65 (c) (5)	Are PCB articles or containers stored in this building checked for leaks at least once every 30 days?	Y / N	
	If yes, are auditable records maintained.	Y / N	
40 CFR.30 (a) (1) (ix)	Are any PCB transformers in use, or stored for possible reuse, that contain PCB's at concentrations of 500 ppm or greater?	Y / N	
	Are they visually inspected quarterly? If yes, are auditable records maintained?	Y / N	

9.10-24

Environmental Appraisal Checklist

Building Name: GP 1 Appraisers: Hansfield/Hayes/Merker Date: 2/7/96an

TSCA Checklist

Not completed

Regulatory Guideline	Question	Response	Comments
40 CFR 761.30 (a) 1,viii	Are all combustible materials (i.e., paints, solvents, plastics, paper, sawn wood, etc.) cleared from areas containing PCB transformers to a distance of five meters?	Y / N	
40 CFR 761.65 (b) (8)	Are all PCB articles and containers labeled with the date they were placed in storage?	Y / N	
	Are labeled PCB articles and containers stored so that the labels can be referenced?	Y / N	
40 CFR 761.65 (a)	Are all PCB's and PCB contaminated items at concentrations above 50 PPM, that are stored for disposal, stored no longer than one year from the date they were placed in storage?	Y / N	
40 CFR 761.62 (b) (1) (i)	Do all PCB storage areas have an adequate roof and walls to prevent rainwater from reaching the stored items?	Y / N	
40 CFR 761.62 (b) (1) (iv)	Are storage are floors curbed and constructed of continuous smooth and impervious materials?	Y / N	
40 CFR 761.62 (b) (1) (i)	Are the curbs at least 6 inches high?	Y / N	
40 CFR 761.62 (b) (1) (iii)	No drains are allowed in storage areas. Are there drains in the storage areas?	Y / N	

9.10-25

9.10-26

Environmental Appraisal Checklist

Building Name: GP 1 Appraisers: Vigo/Hausfeld/Merkw Date: 2/7/96 am

TSCA Checklist

not completed

Regulatory Guideline	Question	Response	Comments
40 CFR 761.65 (c) (2)	Only non-leaking and undamaged large high voltage PCB's capacitators and PCB-containing electrical equipment are allowed to be stored outside of PCB storage areas, on pallets if stored outside, with containment for 10 percent of the volume of the equipment. Do all PCB's stored in this configuration conform with this requirement?	Y / N	
40 CFR 761.45 and .65	Are all PCB storage areas marked with a large PCB mark as described in 40 CFR 761.45 (a)?	Y / N	
40 CFR 761.65 (c) (5)	Have all leaking PCB articles and containers been transferred to non-leaking containers?	Y / N	
40 CFR 761.65 (c) (6)	Do all PCB storage containers for the storage of liquid and non-liquid PCB's comply with DOT shipping container specifications?	Y / N	

GENERAL COMMENTS:

Environmental Appraisal Checklist

Building Name: GP1 Appraisers: Vyas Hansfield Merker Date: 2/7/96

Low-Level Waste and Transuranic Waste Screening Checklist

Does this facility contain radioactive waste ?	Y / N	If yes, conduct the following survey:

Low-Level Waste and Transuranic Waste Checklist

Regulatory Guideline	Question	Response	Comments
Low-Level Waste			
DOE Order 5820.2A Chapter III	Can any waste generated in, or from, this building be characterized either through process knowledge or by analyses to determine if it is LLW ? If the answer is no, note. If the answer is yes, proceed with next section.	Y / N	
DOE Order 5820.2A Chapter III.	Are any of the materials noted by inspection LLW? If no, The audit would stop here, because there are no LLW. If yes, note the location of the management unit, and the method of management, and proceed with the section below.	Y / N	
DOE Order 5820.2A Chapter III, 3.a.	Have the storage configurations in use in this area been taken into account for keeping external exposures to the general public below 25 mrem/yr?	Y / N	
	Is the waste stored in a configuration that protects ground-water resources?	Y / N	
DOE Order 5820.2A Chapter III, 3.b.	Has monitoring been conducted in this area in accordance with DOE Order 5820.2A in order to evaluate the area against the performance standard?	Y / N	
	Based on field data, does the monitoring conducted in this area conform to the performance standard?	Y / N	

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9.10-28

Environmental Appraisal Checklist

Building Name: GPI Appraisers: Vyas Hansfeld Meier Date: 2/7/96

not completed

Low-Level Waste and Transuranic Waste Checklist

Regulatory Guideline	Question	Response	Comments
DOE Order 5820.2A Chapter III, 3.d.	Based on field data, is the characterization of the materials in this area sufficient to assure proper segregation to assure proper segregation, treatment, storage, and disposal?	Y / N	
	Based on field data does the characterization as documented at the time of generation of the waste ensure that the actual physical and chemical characteristics, and major radionuclide content of this material are recorded and known at all stages of the waste management process?	Y / N	
	Do characterization data include the following:		
	Physical and chemical characteristics of the waste?	Y / N	
	Volume of the waste (including solidification and absorbent material)?	Y / N	
	Weight of the waste (including solidification and absorbent material)?	Y / N	
	Major radionuclides and their concentrations?	Y / N	
	Packaging date, package weight, external volume?	Y / N	
	How were the concentration of radionuclides determined? Direct methods?	_____	
	How were the concentrations of radionuclides determined? Indirect methods?	_____	
DOE Order 5820.2A Chapter III, 3.h	Is the storage configuration in long term storage sufficient to meet the performance standard?	Y / N	
	Are records maintained at the facility enabling this waste to be traced from its origin?	Y / N	

Environmental Appraisal Checklist

Building Name: GP1 Appraisers: Vigus Hausfeld Merker Date: 2/7/96

not completed

Low-Level Waste and Transuranic Waste Checklist

Regulatory Guideline	Question	Response	Comments
TRU WASTE			
	Can any waste generated in, or from this building be characterized either through process knowledge or by analyses to determine if it is TRU waste? If no, note and stop. If yes, proceed with the next section.	Y / N	
	Are any of the materials noted as being TRU waste during an inspection? If no, note and stop. If the answer is yes, note the location of the management unit, and the method of management and proceed with the appropriate section below.	Y / N	
DOE Order 5820.2A, Chapter II, 3.a	Was this material evaluated as soon as possible in the generating process, to determine if it is TRU (>100nCi/g), if it is recoverable, or if it is waste? (Note if the activity level is less than 100nCi/g, the waste is not TRU, and can be managed as LLW.)	Y / N	
	Did the determination of TRU radionuclide concentration include the mass of the container, including shielding? These should be included in calculating the specific activity of the waste.	Y / N	

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9.10-30

Environmental Appraisal Checklist

Building Name: BP 1 Appraisers: Vigo Hausfeld Neiker Date: 2/7/96am

not completed

Low-Level Waste and Transuranic Waste Checklist

Regulatory Guideline	Question	Response	Comments
DOE Order 5820.2A, Chapter II, 3.b	Has the TRU waste been assayed or otherwise evaluated to determine its radioactive content prior to storage?	Y / N	
	Has the TRU waste been characterized or otherwise evaluated to determine if hazardous waste is present?	Y / N	
	Has classified TRU waste been treated to destroy the classified characteristics?	Y / N	
DOE Order 5820.2A, Chapter II 3.d	Has all newly generated TRU waste been packaged in non-combustible packaging that meets DOT requirements?	Y / N	
	Have all Type A TRU waste packages been equipped with a method to prevent pressure buildup?	Y / N	
	Have all TRU packages been marked, labeled and sealed in accordance with 40 CFR 261 Subpart C and 49 CFR 172 Subparts D, E and 49 CFR 173 Subpart I?	Y / N	

Environmental Appraisal Checklist

Building Name: GP1 Appraisers: Vyas Hausfeld Maker Date: 2/7/96

Low-Level Waste and Transuranic Waste Checklist

not completed

Regulatory Guideline	Question	Response	Comments
DOE Order 5820.2A, Chapter II 3.e	Has the TRU waste been segregated in manner that will not permit commingling of TRU waste with LLW or high-level waste?	Y / N	
	Has the TRU waste been protected from unauthorized access?	Y / N	
	Has the TRU waste been monitored periodically to ensure that it is not releasing its radioactive and/or hazardous constituents?	Y / N	
	Has this TRU waste storage area been designed, constructed, maintained, and operated to minimize the possibility of fire, explosion, or accidental release of its radioactive and/or hazardous constituents?	Y / N	
	Does the facility have a contingency plan designed to minimize the adverse impacts of fire, explosion, or accidental release of its radioactive and/or hazardous constituents?	Y / N	

GENERAL COMMENTS:

9.10-31

Environmental Appraisal Checklist

Building Name: GPI Appraisers: Vyge Hansfield Merker Date: 2/7/96am

Waste Minimization/Pollution Prevention Activities Screening Checklist

Does this facility generate waste or use chemicals?	Y / N	If yes, conduct the following survey.

Waste Minimiaztion/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
	Based on available information and a walk through, are there any apparent opportunities to curtail the consumption of raw materials (including but not limited to paper, chemicals, electricity, and etc.). If yes, list candidate areas in the comment section.	Y / N	
	Are there solvent wastes?	Y / N	
	Is vehicle maintenance performed?	Y / N	
	Are oils used ?	Y / N	
	Are these corrosive wastes?	Y / N	
	Are there sludges?	Y / N	
	Are there halogenated organic (nonsolvent) wastes?	Y / N	
	Are metals recovered from wastewater?	Y / N	
	Is waste sludge generated?	Y / N	
	Are any waste minimization practices used that reduce the generation of sludge?	Y / N	
	Ion exchange process?	Y / N	
	Lead in gasoline lowered to reduce tank sludge toxicity?	Y / N	
	Storage tank agitators installed?	Y / N	
	Corrosive resistant materials used?	Y / N	
	Prevention of crude oil oxidation ?	Y / N	
	Drying?	Y / N	

Empty drums recycled.
Sign to tear up cleaning rags

Environmental Appraisal Checklist

Building Name: GPI Appraisers: Vogelhausfeld Meyer Date: 2/7/96

Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
HALOGENATED ORGANIC (NONSOLVENT) WASTES			
	Are halogenated organic wastes used as fuel in cement kilns?	Y / N	
	Are baghouse filters used to collect pesticides and pesticide intermediates?	Y / N	
	Are solid wastes generated from the collection of baghouse dust?	Y / N	
	Wet instead of dry grinding used?	Y / N	
	The output spray dried?	Y / N	
	Has baghouse emptying and recycling of baghouse fines been scheduled?	Y / N	
	Have operations been evaluated to improve procedures such as handling, storage and spill prevention for increased efficiency?	Y / N	
METAL WASTES			
	Are any technologies for the recovering of metals from waste rinsewater used?	Y / N	recovered metals—
	Evaporation of waste rinsewater?	Y / N	sell spent shells
	Reverse osmosis?	Y / N	
	Ion exchange?	Y / N	
	Electrolysis?	Y / N	
	Agglomeration?	Y / N	
CORROSIVE WASTES			
	Are acidic or basic cleaning solutions used as treatment for pH adjustment chemicals?	Y / N	

9.10-33

9.10-34

Environmental Appraisal Checklist

Building Name: GP1 Appraisers: Vyas/Hausfeld Oberker Date: 2/7/96am

Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
	Are ion exchange resins used to remove heavy metals and cyanides from acid and base solutions?	Y / N	
	Is crystallization used to remove corrosives from solution by cooling?	Y / N	
	Is the process of evaporation of liquid wastes by heating used to leave behind a more concentrated solution?	Y / N	
CYANIDE AND REACTIVE WASTES		NA	
	Has non-cyanide or low concentration of cyanide process replaced zinc cyanide bath ?	Y / N	
	Are any of these processes used to recycle cyanide wastes?	Y / N	
	Refrigeration/crystallization?	Y / N	
	Evaporation?	Y / N	
	Ion exchange?	Y / N	
	Membrane separation which includes reverse osmosis or electrodialysis?	Y / N	
VEHICLE MAINTENANCE		NA	
	How are auto parts cleaned?	Y / N	
	Solvent sink?	Y / N	
	Solvent dunk bucket?	Y / N	
	Solvent dip tank?	Y / N	
	Are parts cleaning solvents used for anything else besides cleaning parts?	Y / N	
	Are spills reduced by locating sinks or dunk buckets near auto service bays?	Y / N	

Environmental Appraisal Checklist

Building Name: GP 1 Appraisers: Vyas Hausfeld Neher Date: 2/7/96

Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
	Are cleaned parts drained on the sink to minimize solvent spills?	Y / N	N/A
	Are drip tanks used to capture losses?	Y / N	
	Is a solvent sink used for mineral solvents rather than a dunk bucket or dip tank?	Y / N	
	Does a waste hauler collect solvent waste for recycling or treatment?	Y / N	
OILS			NA
	What kind of oils are used?		
	Hydraulic oil?	Y / N	
	Transformer oil?	Y / N	
	Metal working fluids?	Y / N	
	Spent lubricating oils?	Y / N	
	Can the process be modified or changed to use water-based fluids?	Y / N	
	Are these good housekeeping and operation practices used to minimize oil waste production?		
	Use oils not contaminated with other liquids?	Y / N	
	Oil spills prevented?	Y / N	
	Drip pans installed?	Y / N	
	Oil soaked rags laundered?	Y / N	
	Rags and absorbants used to their limit?	Y / N	

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9.10-36

Environmental Appraisal Checklist

Building Name: GP1 Appraisers: Vyas Hirsfeld Meier Date: 2/7/96

Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
	Are these treatment techniques used to promote separation of oil/water wastes?		
	Reclaiming process to remove water and solvents by heat?	Y / N	
	Gravity setting?	Y / N	
	Screening?	Y / N	
	Centrifugation?	Y / N	
	Filtration?	Y / N	
SOLVENT WASTES			
	Has there been an attempt to reduce volume or toxicity by:		
	Eliminating solvents?	Y / N	
	Reducing the use of solvents?	Y / N	
	Reducing the loss of solvents?	Y / N	
	Increasing recyclability?	Y / N	
	Are solvents segregated?	Y / N	
	Are waste solvents free from water and garbage?	Y / N	
	Are recycled solvent containers labeled as such?	Y / N	
	Are containers kept closed?	Y / N	
	Free and sheltered from the elements?	Y / N	
	Are solvent tanks kept as free from contaminations as possible so that the waste can be recycled?	Y / N NA	
	Is a method used to minimize the use of new materials such as a countercurrent process?	Y / N NA	

Environmental Appraisal Checklist

Building Name: GP 1 Appraisers: Hugo Hausfeld Marker Date: 2/7/96

Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
	If there is a recycling program, what technique is used?	Y / N	To be investigated by process manager
	Distillation?	Y / N	
	Solids removal?	Y / N	
	Dispersion breaking?	Y / N	
	Dissolved and emulsified organics recovery?	Y / N	
	Are any of these housekeeping procedures used to minimize the production of solvent wastes? NA		
	Separators cleaned and checked?	Y / N	
	Parts not allowed to enter the degreaser while wet?	Y / N	
	Sludge from the bottom of the tank not allowed to accumulate?	Y / N	
	Lids kept on tanks?	Y / N	
	Freeboard space on tanks increased?	Y / N	
	Are better operating practices used to reduce waste?	Y / N	
	How long is solvent waste stored and where?	_____ _____	red can - rags

solvent rags to labeled red can

9.10-37

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9.10.6.2 Building Manager's Questionnaire

3958 ~~[illegible]~~ **Building Manager's Questionnaire**

Building Name: GP-1 Building Manager: K.G. Koehler Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

THE FOLLOWING QUESTIONNAIRE HAS BEEN ANSWERED TO THE BEST OF MY KNOWLEDGE. PLEASE VERIFY PERTINENT STATEMENTS. KGK

1. What are the access requirements (training, clearance, etc.)?
   NONE – GENERAL OFFICE AREA
   FIRING RANGE AREA – SAFETY GLASSES & CONTACT ALTON BROWN 5207
2. What protective equipment is required to enter the building?
   FIRING RANGE / HALL / AMMUNITIONS VAULT – REQUIRES SAFETY GLASSES – DO NOT ENTER IF FIRING RANGE IS IN USE – CONTACT ALTON BROWN FOR TIME WHEN RANGE IS NOT IN USE TO SCHEDULE ACCESS TO THIS AREAS.
3. Are there any restricted areas? (Yes) No
   Where are they?
   FIRING RANGE
4. Provide a physical description of the building.

This one-story structure is of reinforced concrete with brick facing. Total area is 8,000 ft². It has a BUM roof (coal tar, asphalt, and carboline); HVAC systems include central steam, chilled water and package HVAC units. Building has an indoor firing range, PT rooms, ~~alternate communications center,~~ and locker rooms. Building is not contaminated with any radioactive or energetic materials. Lead from firing range is routinely cleaned quarterly.

DELETE

Source: Mound Facility Physical Characterization, 12-1-93

5. Provide a drawing of the building.

Attached

6. What is the current building use?

Building is used for security training. and office space.

Source: Mound Buildings, 5-9-95

7. What is the history of building use other than that described in #6?

COMMUNICATIONS CENTER WAS RELOCATED TO BUILDING 99 IN NOV 1995.

Source: Mound Buildings, 5-9-95

Building Name: GP-1 Building Manager: K.G. Koehler Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

8. What are ongoing operations or processes? What are the raw materials and waste streams from each process? Who is the best contact for each process?

Process(es) Housed: Guard post, firing range, storage of weapons and ammunition

How Wastes Are Generated:

Some types of tear gas grenades have a limited shelf life. If they are not used before the end of that shelf life, they begin to deteriorate and need to be disposed of. Security has some of these grenades and is working with Waste Management to find a way to discard them. To date, the problem has not been solved. Later designs of tear gas containers (which are now being purchased) do not present the same disposal problem.

In the firing ~~range~~, both lead dust and pieces of lead (spent bullets) need to be cleaned up. The lead dust is collected with a vacuum cleaner, and trays near the targets catch the bullets that fall to the ground. ~~Industrial Hygiene~~ CONTRACTORS WITH IH OVERSITE vacuums the area, ~~empties the trays of bullets, and handles disposal of the waste.~~ MOUND WM DISPOSES OF THE WASTE.

Two gun-cleaning solvents are used in GP-1: Hoppe's No. 9 and Breakfree. Solvents are generally poured on rags which are used to clean the guns. The rags are put in a container where they are kept until they are washed. No liquid solvent is generated.

Contact:
Phone #:

Source: Characterization of Mound's Hazardous, Radioactive, and Mixed Waste, (8-15-90).

9.10-42

Building Manager's Questionnaire

Building Name: GP-1 Building Manager: K.G. Koehler Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

9. In the last six months, have any modifications been made to the building or to processes in the building? Yes No

10. Does the building have air emission sources? Yes

Process Source	Room Number	Hood Number	Active	Chemicals Used	Quantity Used	Quantity to Waste Management	Lbs./Yr. Operation	Air Emissions
Firing Range (Projections)		EHR-2	Y	lead	0.0006		0.9048	
Gas dispensing Facility			Y	VOC	20		683.8	
Firing Range (Projections)		EHR-2	Y	nitrogen oxides carbon monoxide	0.07 0.028		7.791 31.164	
			Y / N					
			Y / N					

Source: Mound Air Emissions Database 11/30/95

Building Name: GP-1 Building Manager: K.G. Koehler Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

11. Describe air pollution control equipment used to reduce emissions for each source. None Listed

Process Source	Emissions	Control Equipment	Functioning
			Y / N
			Y / N
			Y / N
			Y / N
			Y / N

Source: Air Permits 2/4/95

12. For existing permits are emissions monitored? At what frequency? Where are the records maintained? None Listed

Process Source	Permit	Log	Permit Conditions & Frequency of Monitoring
		Y / N	
		Y / N	
		Y / N	
		Y / N	
		Y / N	

Source: Air Permits 2/4/95

PLEASE VERIFY UTILITY DRAWINGS BUT EMPHASIZE THEY ARE NOT IN AS-BUILT CONDITION

13. Does the building have domestic water service? Yes No
Is there bottled water? Yes No

14. Does the building discharge to the storm sewer? Yes No
Where?

15. Does the building discharge to the sanitary sewer? Yes No
Where?

16. Has an asbestos survey been conducted? Yes
What are the results? Yes

Source: Technical Manual MD-10391, Issue 3 Asbestos Program Manual 9/6/95

9.10-44

Building Manager's Questionnaire

Building Name: GP-1 Building Manager: K.G. Koehler Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

17. Does the building contain transformers or capacitors? ~~No~~ YES, BUT NOT PCB CONTAINING,

Source: PCB ANNUAL DOCUMENT LOG

18. Has the building been identified as containing PCBs? No

Source: PCB ANNUAL DOCUMENT LOG

19. What chemicals are used or stored inside or outside of the building? Include compressed gasses not in large tanks.

Chemical Name	State	Amount (MAX)
CLP BREAKFREE	L	7843/G
560 CS TEAR GAS GRENADE	L	588/G
M518 RIOT CS TEAR GAS GRENADE	L	328/G
M519 CS TEAR GAS HAN-BALL GRENADE	L	414/G
MODEL SGA-300 1.50" TEAR GAS	L	68.4/G
~~ORTHOCHLOROBENZAL MALONONITRILE~~	L	138/OZ

NOT USED

Source: Chemical Inventory 1994

JANITORIAL CLEANING SUPPLIES

9.10-45

Building Name: GP-1 Building Manager: K.G. Koehler Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

20. Has there been a reported spill, leak, or other release of any chemical? Yes No
What, how much, and what clean-up measures were followed?

Chemical	Amount	Clean-up Measures

Source: NONE THAT I AM AWARE OF

21. Where do waste chemicals go?

WASTE MANAGEMEN

22. What janitorial supplies are stored inside or outside of the building?

NURMAL JANITORIAL SUPPLIES

23. Where do excess janitorial supplies go?

ASK JEANIE BLEVINS

Source: _____

24. Are pesticides or herbicides stored or used in or around the building? Yes No

Chemical	Amount	Chemical	Amount

Source: _____

9.10-46

Building Manager's Questionnaire

Building Name: GP-1 Building Manager: K.G. Koehler Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

25. Does the building contain active or inactive above ground storage tanks? Yes No
For each tank, list the content, quantity, last inspection, registration number.

NONE

26. Is there a sump or pit or underground tank in or around the building?
Yes No Unknown
Is it double-walled? What does it contain? How many days per year is it filled?
Is there an emergency overflow tank? Have there been previous overflows?

Double-Walled	Contents	Days/Year in Use	Overflow Tank	Previous Overflow
Y / N			Y / N	Y / N

Source: _____

27. Does the building generate, store, or dispose of hazardous waste? Yes No

Materials	Amount
Attached	

Source: Characterization of Mounds Hazardous, Radioactive, and Mixed Wastes 08/15/90

IRING RANGE	FIRING RANGE RAGS, DEBRIS	D008 F002	72.2
IRING RANGE	FIRING RANGE SOLVENT RAGS, DEBRIS	D008 F002	82.0
IRI ANGE	LEAD CLEANUP DEBRIS	D008	8.0
IRING RANGE	LEAD CLEANUP, DEBRIS	D008	58.4
IRING RANGE	LEAD CONTAMINATED DEBRIS	D008	383.3
IRING RANGE	LEAD CONTAMINATED DEBRIS	D008	387.5
IRING RANGE	LEAD CONTAMINATED DEBRIS	D008	357.7
IRING RANGE	LEAD CONTAMINATED DEBRIS	D008	399.8
ING RANGE	LEAD CONTAMINATED DEBRIS	D008	392.0
ING RANGE	LEAD CONTAMINATED DEBRIS	D008	411.4
IRING RANGE	LEAD CONTAMINATED DEBRIS	D008	312.4
IRING RANGE	LEAD CONTAMINATED DEBRIS	D008	386.6
IRING RANGE	LEAD CONTAMINATED DEBRIS	D008	372.1
IRING RANGE	LEAD CONTAMINATED DEBRIS	D008	350.8
IRING RANGE	LEAD CONTAMINATED DEBRIS	D008	330.7
IRING RANGE	LEAD CONTAMINATED DEBRIS	D008	405.8
IRING RANGE	LEAD CONTAMINATED DEBRIS	D008	400.9
IRING RANGE	LEAD CONTAMINATED DEBRIS	D008	406.4
IRING RANGE	LEAD CONTAMINATED DEBRIS	D008	284.3
IRING RANGE	LEAD CONTAMINATED DEBRIS	D008	250.1
IRING RANGE	LEAD CONTAMINATED DEBRIS	D008	270.8
IRING RANGE	LEAD CONTAMINATED DEBRIS	D008	406.4
IRING RANGE	LEAD CONTAMINATED DEBRIS	D008	303.2
IRING RANGE	LEAD CONTAMINATED DEBRIS	D008	281.6
IRING RANGE	LEAD CONTAMINATED DEBRIS	D008	298.7
IRING RANGE	LEAD CONTAMINATED DEBRIS	D008	167.5
IR RANGE	LEAD CONTAMINATED DEBRIS	D008	316.5
IRING RANGE	LEAD CONTAMINATED STEEL, DEBRIS	D008	3453.0
IRING RANGE	LEAD CONTAMINATED STEEL, DEBRIS	D008	1194.0
IRING RANGE	LEAD CONTAMINATED STEEL, DEBRIS	D008	2067.0
IRING RANGE	LEAD CONTAMINATED STEEL, DEBRIS	D008	3141.0
IRING RANGE	LEAD DEBRIS	D008	84.4
IRING RANGE	LEAD DEBRIS	D008	165.0
IRING RANGE	LEAD DEBRIS	D008	23.2
ING RANGE	LEAD DEBRIS	D008	92.9

FIRING RANGE	LEAD DEBRIS	D008	76.4
FIRING RANGE	LEAD DEBRIS	D008	74.8
FIRING RANGE	LEAD DEBRIS	D008	247.4
[illegible]NG RANGE	LEAD DEBRIS	D008	73.5
FIRING RANGE	LEAD DEBRIS	D008	72.2
FIRING RANGE	LEAD DEBRIS	D008	228.0
FIRING RANGE	LEAD DEBRIS	D008	102.0
FIRING RANGE	LEAD DEBRIS	D008	107.2
FIRING RANGE	LEAD DEBRIS	D008	133.2
FIRING RANGE	LEAD DEBRIS	D008	196.4
FIRING RANGE	LEAD DEBRIS	D008	313.4
FIRING RANGE	LEAD DEBRIS	D008	301.0
FIRING RANGE	LEAD DEBRIS	D008	116.9
FIRING RANGE	LEAD DEBRIS, CLEANUP MATERIALS	D008	350.0
FIRING RANGE	LEAD FILTERS	D008	5.1
FIRING RANGE	LEAD SHOT	D008	709.0
FIRING RANGE	LEAD SHOT	D008	538.0
FIRING RANGE	LEAD SHOT	D008	378.0
FIRING RANGE	LEAD SHOT	D008	601.0
FIRING RANGE	LEAD SHOT	D008	452.0
FIRING RANGE	LEAD SHOT	D008	339.0
FIRING RANGE	LEAD SHOT	D008	459.0
[illegible] RANGE	LEAD SHOT	D008	524.0
FI[illegible] RANGE	LEAD WATER	D008	281.8
FIRING RANGE	LEAD WATER	D008	270.0
FIRING RANGE	LEAD WATER	D008	272.2
FIRING RANGE	LEAD WATER	D008	256.0
FIRING RANGE	LEAD WATER	D008	282.2
[illegible]NG RANGE	RAGS, SOLVENT DEBRIS	D008 F005	92.7
[illegible]ING RANGE	TEAR GAS CANISTERS (CS AGENT)	NONE	22.0
FIRING RANGE	TEAR GAS CANISTERS (CS AGENT)	NONE	22.0

Building Name: GP-1 Building Manager: K.G. Koehler Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

28. Does the building have abandoned process equipment such as tanks, piping, containers, etc.? Yes No

29. Is waste material stored in or around the building for more than 90 days?
Yes No

30. Has the building been identified as a 90-day waste accumulation area?
Yes No MAYBE: CHECK RCRA PART PERMIT APPLICATION

31. Has any area in the building been identified as a satellite accumulation area?
Yes No MAYBE: CHECK RCRA PART B PERMIT APPLICAT

32. Is mixed waste generated, stored, or disposed of from the building? Yes No
Where are logs found? WASTE MGMT (MIKE ISPER) / SECURITY (ALTON BROWN/JEFF LENTZ/RON PAE

Process	Waste	Stored	Disposed	Logs
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N

Source: _____

Building Name: GP-1 Building Manager: K.G. Koehler Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

33. Is TRU radioactive waste generated, stored, or disposed of from the building?
Yes No
Where are logs found?

Process	Waste	Stored	Disposed	Logs
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N

Source: _____

Building Name: GP-1 Building Manager: K.G. Koehler Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

34. Is low-level radioactive waste generated, stored, or disposed of from the building? Yes No
Where are logs found?

Process	Waste	Stored	Disposed	Logs
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N

Source: _____

35. Identify all administrative orders, temporary or permanent injunctions, civil administrative penalties, or criminal activities issued against the building.

NONE

Building Manager's Questionnaire

Building Name: GP-1 Building Manager: K.G. Koehler Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

36. Is there a waste minimization program in the building? Yes No
Discuss your ideas about how to minimize waste.

UNKNOWN

37. Has a pollution prevention program been developed for the building? Yes No

UNKNOWN - CONTACT WASTE MGMT / JIM ZAHORA & CO.

NOTE: Expenditure of labor & materials on a waste minimization or pollution prevention program would not be an effective use of funds. The firing range will be shut down upon C.

9.10-53

Appendix G

Radiological Summary/Information

RADIOLOGICAL SURVEY PLAN

FOR THE

TRANSITION OF GP-1 BUILDING

AND

SURROUNDING SOILS

January 25, 1999 (Rev. 1)

1.0 Introduction

This document defines the radiological sampling and analysis requirements for the survey plan for the release of GP-1 Building and its surrounding soils. The final disposition of the building is transition to the Department of Energy (DOE), and then turnover to the MMCIC. The intent is to release the building, indicating that the building is free of radiological contamination.

This plan will describe the methodology for obtaining radiological data and the criteria from which to evaluate the radiological data. All structural components will be radiologically evaluated and surveyed as appropriate. Survey methods will include direct and removable contamination surveys and sampling of soil. The results of the data obtained will be used to determine if the building can be released from a radiological standpoint. This survey is considered to be the final radiological survey prior to the building transition process.

2.0 Scope

The physical boundary of the building consists of the building and a fifteen-foot perimeter surrounding the exterior of the building. Based on existing information, the building is expected to be radiologically "clean" meaning that process history information indicates that no industrial process activities are known to have occurred in the building and no existing data suggests that a spill (or other mode of contamination) occurred in the building. Therefore, a confirmatory survey would demonstrate if unexpected radiological contamination were present.

The survey focused on evaluating only those areas, which have a high potential for unexpected contamination. Confirmatory surveys were performed on the interior of the building's floors, air vents and floor drains. Sampling and analysis of the first foot of the soil around the building was also conducted to determine if radiological materials were present. Exterior building surveys were performed on the roof area of the vents and drains only. Radiation dose rate measurements were performed as well.

3.0 Building Description

GP-1 Building was constructed in 1950 and is a one-story, 7792 square-foot structure of reinforced concrete with a brick face. It has a built-up-membrane roof of coal, tar, asphalt and carboline. It is physically located on the main hill of the Mound site, with GH Building to the north. The building was used for the same general purpose since it was constructed, which included training of security personnel, and office space. GP-1 also includes a firing range. A communication center was previously housed within GP-1, but was moved to another building in 1995.

4.0 Confirmation Survey Requirements

The purpose of the confirmatory survey is to verify that the building is radiologically clean to the surface contamination criteria and dose requirements in DOE Order 5400.5 "Radiation Protection of the Public and the Environment" as specified in the "Generic Process for the Disposition of Buildings that have Potential or Actual Radiological Contamination." The surveys are non-destructive surveys. The confirmatory survey:

1) Provides a final check that a building does not have unexpected radiological contamination;
2) Identifies anomalies (e.g. elevated readings or readings above background which indicate potential existence of unexpected contamination) which indicate that the building may not be radiologically clean;
3) Fills existing data gaps and focuses on building survey characterization
4) Provides the level of data preferred by state regulators to support that the building is clean prior to release.

A confirmation survey was planned for those areas with the highest potential for contamination. The areas interior to GP-1 Building which were surveyed for direct and removable radiological contamination included the floors, air vents and floor drains. The swipes taken were analyzed for gross alpha, beta and tritium radioactivity. Exterior building surveys included direct and removable contamination surveys of vents and drains on the roof. Radiation dose measurements were taken in the interior and exterior of the building to demonstrate that the levels of gamma radiation did not exceed background radiation by more than 20 uR/hour (0.02 mrem/hr).

5.0 Sampling

The main objectives of this radiological survey plan are to:

1. Verify that the surface contamination release criteria for building disposition agreed upon by the Radiological Decision Tools Team is met.

2. Verify that any surface contamination values are below the guidelines of Figure IV-1 of DOE 5400.5.

3. Verify that any residual radionuclide concentrations found in the soil samples taken meet the established cleanup criteria specified in "Mound's Risk-Based Guideline Values."

4. Verify that no radiation dose measurements exceed the dose limits specified in DOE 5400.5.

The need for a rigorous sampling assessment in the case of GP-1 Building and the surrounding soils should not be necessary, since the building was an office building and there is no process knowledge of any contamination events.

Historical reviews of the annual routine surveys performed in the building have detected no contamination. There is no knowledge of radiological activities or accidental spills that occurred in this building or the surrounding soils. Therefore, a more cost effective radiological survey plan is proposed. This information will be used as the final confirmatory survey, prior to its release.

The sampling and analysis performed will validate the historical process knowledge and provide data to demonstrate that criteria has been met. If contamination is detected above the established criteria, then the given process knowledge must be reassessed and the level of sampling increased to provide confidence on the level and extent of contamination.

5.1 Interior Sample Gridding and Sample Selection

The floor of GP-1 Building was gridded off into 10 x 10-foot areas. Since the building is 7792 square feet, the plan identified that approximately 78 grid cells would be produced. Rooms within the building which were smaller than a 10 x 10-foot area were treated as one grid.

Approximately five swipes were taken per gridded area and analyzed for alpha, beta and tritium removable contamination. This number of swipes taken per 100 ft^2 gridded area equates to approximately 6.5 swipes per 10 m^2, which is similar to the general guidelines of 10 swipes per 10 m^2. In addition, direct measurements were performed on 100 % of the floor area, using portable NE Electra instrumentation. Biased sampling was performed at all air vent and floor drain locations within the building. The swipes taken of the floor drains in the building were included as one of the swipes taken within the gridded area of interest. One swipe was taken on each air intake vent and counted for alpha, beta and tritium removable contamination.

Radiation dose rate measurements were taken throughout the building.

5.2 Exterior Sample Gridding and Sample Location

Biased surveys were performed on the roof of the building at drain and exhaust vent locations only. The survey consisted of taking a swipe at each of the locations and performing a direct measurement using a NE Electra. Measurements were taken at six drains and eight exhaust vents.

Seven soil samples were taken on the south side of GP-1 Building. Radiation dose rate measurements were taken within the 15-foot perimeter of the exterior of the building.

6.0 Discussion of Results

The results of the radiological survey efforts support the "radiological release" of GP-1 Building. The surface contamination release criteria agreed upon by the Radiological Decision Tools Team has been met. All of the direct and removable contamination surveys were below DOE 5400.5 criteria and Mound's Radiological Control Program criteria. The radiation dose rates are well below the 0.02 mrem/hour criteria specified in DOE 5400.5. The soil sample results are within the acceptable risk levels according to Mound's Risk-Based Guideline Values.

Since no anomalies (e.g. elevated readings) were detected, then this survey should be adequate to verify that the building is radiologically clean. If anomalies had been detected, then the Project Manager would assess the significance and determine appropriate action based on input from project members.

7.0 References

1) DOE Order 5400.5 Radiation Protection of the Public and the Environment, 1/7/93.

2) Generic Process for the Disposition of Buildings that have Potential or Actual Radiological Contamination, March 1997.

3) Mound Plant Risk-Based Guideline Values, March 1997.

4) Sampling and Analysis Plan for the Characterization of E Building and Surrounding Soils, September 22, 1998.

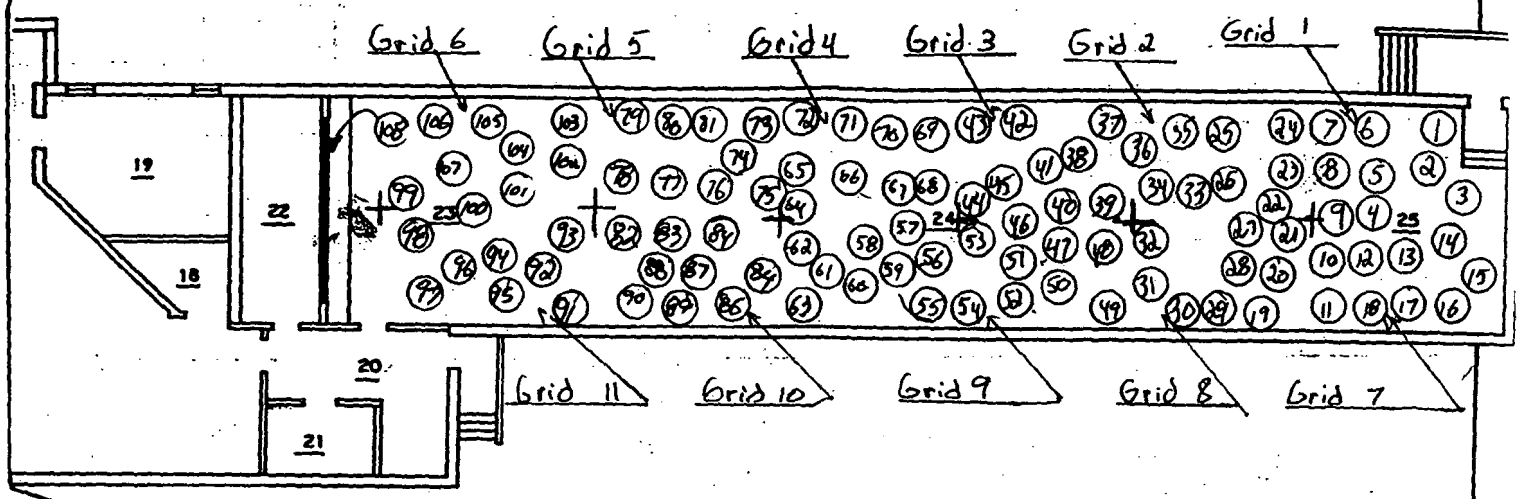
5) Work Plan for Environmental Restoration of the DOE Mound Site, Public Review Draft, Rev. 0.

RADIOLOGICAL SURVEY DATA SHEET

J-1 J-108 P-1

LOCATION: (BLDG./AREA/ROOM) GS-1 or GP-1	SURVEY NO. 98-GP-1-01
PURPOSE: Release	RWP NO. N/A
	DATE: 11-24-98
	TIME: 1400

MAP/DRAWING



* NOTE: (1) GRID ≈ 10FT X 10FT

~~Rooms Smaller Than 10m X 10m will be treated as a Grid~~ MSM 011999

GP-1 BLDG.
FIRST FLOOR

LEGEND:
= mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
= Room Number
= mrem/hr neutron
= air sample number
= swipe number
#/α or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NEelectra	5382/5365	5-11-99
	N	
	A	

[redacted]

HP#	Date:
2257	11-24-98
3950	11/30/98
3990	12-8-98

ML-9620 (2-98)

1

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1				Floor
↓	see Attached			↓
108				

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

COMMENTS: Please see Attached for Smear Results

All Smear Locations < 100 DPM/100cm² α & < 5000 DPM/100cm² β/γ Direct

Direct Survey Not Performed 01/6/99 KH

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-9620 (2-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR031
Batch Ended: 11/30/98 7:27

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/2/99
Serial Number: 26966-1

Batch ID: T 98-GP-1-01 BELCHER [108] 11-24-98 JM

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	2.19	<MDA	0.00	1.41	<MDA
A2	2	1.94	2.13	<AL	0.00	1.50	<MDA
A3	3	0.00	1.95	<MDA	0.00	1.73	<MDA
A4	4	0.00	1.97	<MDA	1.48	2.56	<MDA
B1	5	0.00	2.04	<MDA	0.00	1.37	<MDA
B2	6	3.73	2.82	<AL	0.00	1.88	<MDA
B3	7	0.00	1.89	<MDA	1.53	2.28	<MDA
B4	8	1.68	1.91	<AL	0.27	2.20	<MDA
C1	9	0.00	2.24	<MDA	1.77	2.24	<MDA
C2	10	2.03	2.26	<AL	0.00	1.49	<MDA
C3	11	0.00	1.96	<MDA	0.00	1.20	<MDA
C4	12	3.59	2.77	<AL	2.24	2.24	<MDA
D1	13	0.00	2.15	<MDA	0.00	1.51	<MDA
D2	14	0.00	2.49	<MDA	0.00	1.56	<MDA
D3	15	0.00	1.99	<MDA	0.00	1.49	<MDA
D4	16	0.00	2.05	<MDA	2.81	3.00	<MDA
A1	17	0.00	2.25	<MDA	3.47	2.86	<AL
A2	18	0.00	2.15	<MDA	0.45	2.39	<MDA
A3	19	0.00	1.95	<MDA	0.00	1.73	<MDA
A4	20	0.00	1.94	<MDA	0.00	1.39	<MDA
B1	21	0.00	2.04	<MDA	0.00	1.37	<MDA
B2	22	0.00	2.00	<MDA	0.00	1.41	<MDA
B3	23	0.00	1.89	<MDA	1.53	2.28	<MDA
B4	24	0.00	1.91	<MDA	0.38	2.20	<MDA
C1	25	0.00	2.23	<MDA	0.53	1.86	<MDA
C2	26	0.00	2.31	<MDA	5.35	3.35	<AL
C3	27	0.00	1.99	<MDA	2.42	2.23	<MDA
C4	28	0.00	1.97	<MDA	0.00	1.21	<MDA
D1	29	0.00	2.15	<MDA	0.00	1.51	<MDA
D2	30	0.00	2.55	<MDA	1.03	2.49	<MDA
D3	31	0.00	1.99	<MDA	0.00	1.49	<MDA
D4	32	0.00	2.01	<MDA	0.00	1.53	<MDA
A1	33	0.00	2.22	<MDA	0.98	2.26	<MDA

T98-GP1-01

3 of 4

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR031
Batch Ended: 11/30/98 7:27

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/2/99
Serial Number: 26966-1

Batch ID: T 98-GP-1-01 BELCHER [108] 11-24-98 JM

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A2	34	0.00	2.15	<MDA	0.45	2.39	<MDA
A3	35	0.00	1.94	<MDA	0.00	1.33	<MDA
A4	36	0.00	1.97	<MDA	0.40	2.33	<MDA
B1	37	0.00	2.04	<MDA	0.00	1.37	<MDA
B2	38	0.00	2.02	<MDA	0.00	1.88	<MDA
B3	39	0.00	1.88	<MDA	0.44	2.01	<MDA
B4	40	0.00	1.92	<MDA	1.42	2.43	<MDA
C1	41	2.10	2.22	<AL	0.00	1.39	<MDA
C2	42	0.00	2.30	<MDA	4.01	3.07	<AL
C3	43	0.00	1.97	<MDA	0.25	1.62	<MDA
C4	44	0.00	1.98	<MDA	1.35	1.96	<MDA
D1	45	0.00	2.15	<MDA	0.00	1.51	<MDA
D2	46	0.00	2.52	<MDA	0.00	2.08	<MDA
D3	47	1.69	1.99	<AL	0.00	1.96	<MDA
D4	48	0.00	2.01	<MDA	0.00	1.53	<MDA
A1	49	1.88	2.23	<AL	2.07	2.58	<MDA
A2	50	0.00	2.19	<MDA	5.70	3.55	<AL
A3	51	0.00	1.94	<MDA	0.00	1.33	<MDA
A4	52	0.00	1.97	<MDA	0.40	2.33	<MDA
B1	53	0.00	2.04	<MDA	0.00	1.37	<MDA
B2	54	0.00	2.02	<MDA	0.00	1.88	<MDA
B3	55	0.00	1.86	<MDA	0.00	1.29	<MDA
B4	56	0.00	1.93	<MDA	2.45	2.64	<MDA
C1	57	0.00	2.24	<MDA	1.77	2.24	<MDA
C2	58	0.00	2.30	<MDA	4.01	3.07	<AL
C3	59	0.00	1.97	<MDA	0.25	1.62	<MDA
C4	60	0.00	1.98	<MDA	1.35	1.96	<MDA
D1	61	0.00	2.17	<MDA	1.37	2.43	<MDA
D2	62	0.00	2.49	<MDA	0.00	1.56	<MDA
D3	63	0.00	2.00	<MDA	1.22	2.34	<MDA
D4	64	1.63	2.02	<AL	0.00	2.00	<MDA
A1	65	0.00	2.21	<MDA	0.00	1.88	<MDA
A2	66	0.00	2.14	<MDA	0.00	1.99	<MDA
A3	67	0.00	1.94	<MDA	0.00	1.33	<MDA
A4	68	1.71	1.97	<AL	1.37	2.56	<MDA

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR031
Batch Ended: 11/30/98 7:27

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/2/99
Serial Number: 26966-1

Batch ID: T 98-GP-1-01 BELCHER [108] 11-24-98 JM

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
B1	69	0.00	2.06	<MDA	0.72	2.10	<MDA
B2	70	0.00	2.03	<MDA	0.91	2.25	<MDA
B3	71	0.00	1.89	<MDA	1.53	2.28	<MDA
B4	72	0.00	1.93	<MDA	3.49	2.84	<AL
C1	73	0.00	2.22	<MDA	0.00	1.39	<MDA
C2	74	0.00	2.26	<MDA	0.00	1.49	<MDA
C3	75	0.00	1.97	<MDA	0.25	1.62	<MDA
C4	76	0.00	1.97	<MDA	0.26	1.63	<MDA
D1	77	0.00	2.16	<MDA	0.03	2.02	<MDA
D2	78	0.00	2.58	<MDA	2.39	2.84	<MDA
D3	79	0.00	1.99	<MDA	0.00	1.49	<MDA
D4	80	0.00	2.03	<MDA	0.23	2.38	<MDA
A1	81	0.00	2.29	<MDA	7.21	3.58	<AL
A2	82	0.00	2.15	<MDA	0.45	2.39	<MDA
A3	83	0.00	1.97	<MDA	1.44	2.35	<MDA
A4	84	0.00	1.96	<MDA	0.00	2.06	<MDA
B1	85	1.77	2.06	<AL	0.57	2.10	<MDA
B2	86	0.00	2.02	<MDA	0.00	1.88	<MDA
B3	87	1.64	1.89	<AL	1.41	2.28	<MDA
B4	88	0.00	1.88	<MDA	0.00	1.28	<MDA
C1	89	0.00	2.22	<MDA	0.00	1.39	<MDA
C2	90	0.00	2.26	<MDA	0.00	1.49	<MDA
C3	91	0.00	1.97	<MDA	0.25	1.62	<MDA
C4	92	0.00	1.97	<MDA	0.00	1.21	<MDA
D1	93	0.00	2.16	<MDA	0.03	2.02	<MDA
D2	94	0.00	2.52	<MDA	0.00	2.08	<MDA
D3	95	0.00	1.99	<MDA	0.00	1.96	<MDA
D4	96	0.00	2.04	<MDA	1.52	2.71	<MDA
A1	97	1.88	2.22	<AL	0.83	2.26	<MDA
A2	98	1.94	2.13	<AL	0.00	1.50	<MDA
A3	99	1.64	1.99	<AL	3.55	2.83	<AL
A4	100	0.00	1.97	<MDA	0.40	2.33	<MDA
B1	101	0.00	2.06	<MDA	0.72	2.10	<MDA
B2	102	0.00	2.03	<MDA	0.91	2.25	<MDA
B3	103	0.00	1.87	<MDA	0.00	1.69	<MDA

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR031
Batch Ended: 11/30/98 7:27

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/2/99
Serial Number: 26966-1

Batch ID: T 98-GP-1-01 BELCHER [108] 11-24-98 JM

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
B4	104	0.00	1.88	<MDA	0.00	1.28	<MDA
C1	105	0.00	2.24	<MDA	1.77	2.24	<MDA
C2	106	0.00	2.26	<MDA	0.00	1.49	<MDA
C3	107	0.00	1.97	<MDA	0.25	1.62	<MDA
C4	108	1.66	1.98	<AL	1.25	1.96	<MDA

98-GP1-01

30 Nov 98 08:45 ALPHA/BETA - 1.01
Protocol #: 1 PW-H3-403728 User : 5379

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

	LL	UL	LCR	2S%	BKG
Region A:	0.5	- 18.6	0	0.0	9.10
Region B:	2.0	- 18.6	0	0.0	8.80
Region C:	40.0	- 2000	0	0.0	9.50

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
T 98-GP-1-01 BELCHER [J1-J108] 11-29-98 TAS
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\prot1.dat
Count Data Filename: c:\data\SDATA1.DAT
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	9.10	1	B	609.32		0.00	9.50
0	2.00	381.90	0		586.55	776.66	73.63	5.00
1	2.00	0.00	0		564.05	0.00	0.00	0.00
2	2.00	0.00	0		398.49	0.00	0.00	0.00
3	2.00	0.00	0		498.28	0.00	0.00	0.00
4	2.00	0.00	0		608.80	0.00	0.00	2.50
5	2.00	0.00	0		552.74	0.00	0.00	0.00
6	2.00	0.00	0		513.04	0.00	0.00	0.00
7	2.00	0.00	0		527.19	0.00	0.00	1.50
8	2.00	0.00	0		471.78	0.00	0.00	1.50
9	2.00	0.00	0		462.73	0.00	0.00	0.50
10	2.00	0.00	0		523.71	0.00	0.00	0.00
11	2.00	0.00	0		466.50	0.00	0.00	5.00
12	2.00	3.40	0		584.80	6.92	10.91	0.50
13	2.00	0.00	0		473.78	0.00	0.00	0.00
14	2.00	0.00	0		391.98	0.00	0.00	2.50
15	2.00	0.00	0		400.30	0.00	0.00	0.00
16	2.00	0.00	0		565.51	0.00	0.00	0.00
17	2.00	0.00	0		394.37	0.00	0.00	0.00
18	2.00	0.00	0		433.58	0.00	0.00	0.00
19	2.00	0.00	0		432.92	0.00	0.00	1.50
20	2.00	0.00	0		396.72	0.00	0.00	2.00
21	2.00	0.00	0		424.93	0.00	0.00	0.00
22	2.00	1.40	0		520.11	3.02	10.70	0.00
23	2.00	0.00	0		471.15	0.00	0.00	0.00
24	2.00	0.00	0		403.77	0.00	0.00	0.00
25	2.00	0.00	0		446.03	0.00	0.00	2.00
26	2.00	0.00	0		430.85	0.00	0.00	1.50
27	2.00	0.00	0		450.91	0.00	0.00	0.50
28	2.00	0.00	0		463.65	0.00	0.00	0.50
29	2.00	0.00	0		453.27	0.00	0.00	0.00
30	2.00	0.00	0		473.12	0.00	0.00	0.00
31	2.00	0.40	0		525.70	0.86	10.20	5.00
32	2.00	0.00	0		499.84	0.00	0.00	0.00
33	2.00	0.00	0		446.62	0.00	0.00	0.00
34	2.00	0.00	0		566.59	0.00	0.00	0.00

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98-GP-1-01
~~Page #2~~
12-1-98

30 Nov 98 10:31 ALPHA/BETA - 1.01
Protocol #: 1 PW-H3-403728 User : 5379

S#	TIME	CPMA	LUM FLAG	tSIE	DPM1	2Sigma	CPMC
35	2.00	0.00	0	382.52	0.00	0.00	0.00
36	2.00	0.00	0	417.66	0.00	0.00	0.00
37	2.00	0.00	0	527.12	0.00	0.00	1.00
38	2.00	0.00	0	530.39	0.00	0.00	0.00
39	2.00	0.00	0	447.35	0.00	0.00	0.00
40	2.00	0.00	0	441.51	0.00	0.00	3.50
41	2.00	0.00	0	451.12	0.00	0.00	0.00
42	2.00	0.00	0	410.41	0.00	0.00	0.00
43	2.00	0.00	0	449.92	0.00	0.00	1.50
44	2.00	0.00	0	415.55	0.00	0.00	0.00
45	2.00	0.00	0	578.23	0.00	0.00	1.00
46	2.00	0.00	0	473.29	0.00	0.00	0.00
47	2.00	0.00	0	389.46	0.00	0.00	0.00
48	2.00	0.00	0	432.72	0.00	0.00	3.50
49	2.00	0.00	0	475.95	0.00	0.00	0.50
50	2.00	0.00	0	471.13	0.00	0.00	0.00
51	2.00	0.00	0	404.92	0.00	0.00	2.00
52	2.00	0.00	0	427.79	0.00	0.00	0.00
53	2.00	0.00	29	444.61	0.00	0.00	6.00
54	2.00	0.00	0	370.33	0.00	0.00	1.00
55	2.00	0.00	0	481.53	0.00	0.00	0.00
56	2.00	0.00	0	422.27	0.00	0.00	0.00
57	2.00	0.00	0	484.96	0.00	0.00	0.00
58	2.00	0.00	0	524.51	0.00	0.00	0.00
59	2.00	0.00	0	600.76	0.00	0.00	1.00
60	2.00	0.00	0	606.74	0.00	0.00	0.00
61	2.00	0.00	0	433.04	0.00	0.00	4.50
62	2.00	0.00	0	508.89	0.00	0.00	0.00
63	2.00	0.00	0	432.70	0.00	0.00	0.00
64	2.00	0.00	0	474.23	0.00	0.00	0.00
65	2.00	0.00	0	462.82	0.00	0.00	2.00
66	2.00	0.00	0	504.50	0.00	0.00	1.00
67	2.00	0.00	0	466.86	0.00	0.00	0.00
68	2.00	0.00	0	454.58	0.00	0.00	0.00
69	2.00	0.00	0	420.11	0.00	0.00	0.50
70	2.00	0.00	0	384.95	0.00	0.00	1.00
71	2.00	0.00	0	433.80	0.00	0.00	1.50
72	2.00	0.00	0	436.21	0.00	0.00	0.50
73	2.00	0.00	0	487.52	0.00	0.00	1.00
74	2.00	0.00	0	450.21	0.00	0.00	0.50
75	2.00	0.00	0	434.41	0.00	0.00	0.00
76	2.00	0.00	0	476.06	0.00	0.00	0.00
77	2.00	0.00	0	491.71	0.00	0.00	0.00
78	2.00	0.00	0	472.32	0.00	0.00	1.50
79	2.00	0.00	0	418.21	0.00	0.00	0.00
80	2.00	0.00	0	567.21	0.00	0.00	2.00
81	2.00	0.00	0	504.15	0.00	0.00	0.00
82	2.00	0.00	0	494.19	0.00	0.00	0.00
83	2.00	0.00	0	417.01	0.00	0.00	0.50
84	2.00	0.00	0	436.45	0.00	0.00	0.00
85	2.00	0.00	0	465.65	0.00	0.00	1.00
86	2.00	0.00	0	508.33	0.00	0.00	0.00
87	2.00	0.00	0	506.32	0.00	0.00	0.00
88	2.00	0.00	0	523.37	0.00	0.00	0.00
89	2.00	0.00	0	327.89	0.00	0.00	0.00
90	2.00	0.00	0	594.80	0.00	0.00	0.00

1 of 1
98-6P-1-01
12-1-98

30 Nov 98 13:16 ALPHA/BETA - 1.01 Page #3
Protocol #: 1 PW-H3-403728 User : 5379

S#	TIME	CPMA	LUM FLAG	tSIE	DPM1	2Sigma	CPMC
91	2.00	0.00	0	337.83	0.00	0.00	1.50
92	2.00	0.00	0	477.10	0.00	0.00	0.00
93	2.00	0.00	0	535.98	0.00	0.00	0.00
94	2.00	0.00	0	446.39	0.00	0.00	0.00
95	2.00	0.00	0	458.45	0.00	0.00	0.00
96	2.00	0.00	0	455.43	0.00	0.00	0.00
97	2.00	0.00	0	471.70	0.00	0.00	0.00
98	2.00	0.00	0	591.05	0.00	0.00	0.00
99	2.00	0.00	0	555.50	0.00	0.00	0.00
100	2.00	0.00	0	416.28	0.00	0.00	0.00
101	2.00	0.00	0	482.88	0.00	0.00	0.50
102	2.00	0.00	0	440.38	0.00	0.00	0.00
103	2.00	0.00	0	600.50	0.00	0.00	0.00
104	2.00	0.00	0	403.47	0.00	0.00	0.00
105	2.00	0.00	0	405.51	0.00	0.00	1.50
106	2.00	0.00	0	472.23	0.00	0.00	0.00
107	2.00	0.00	0	475.94	0.00	0.00	0.00
108	2.00	0.00	0	442.66	0.00	0.00	0.00

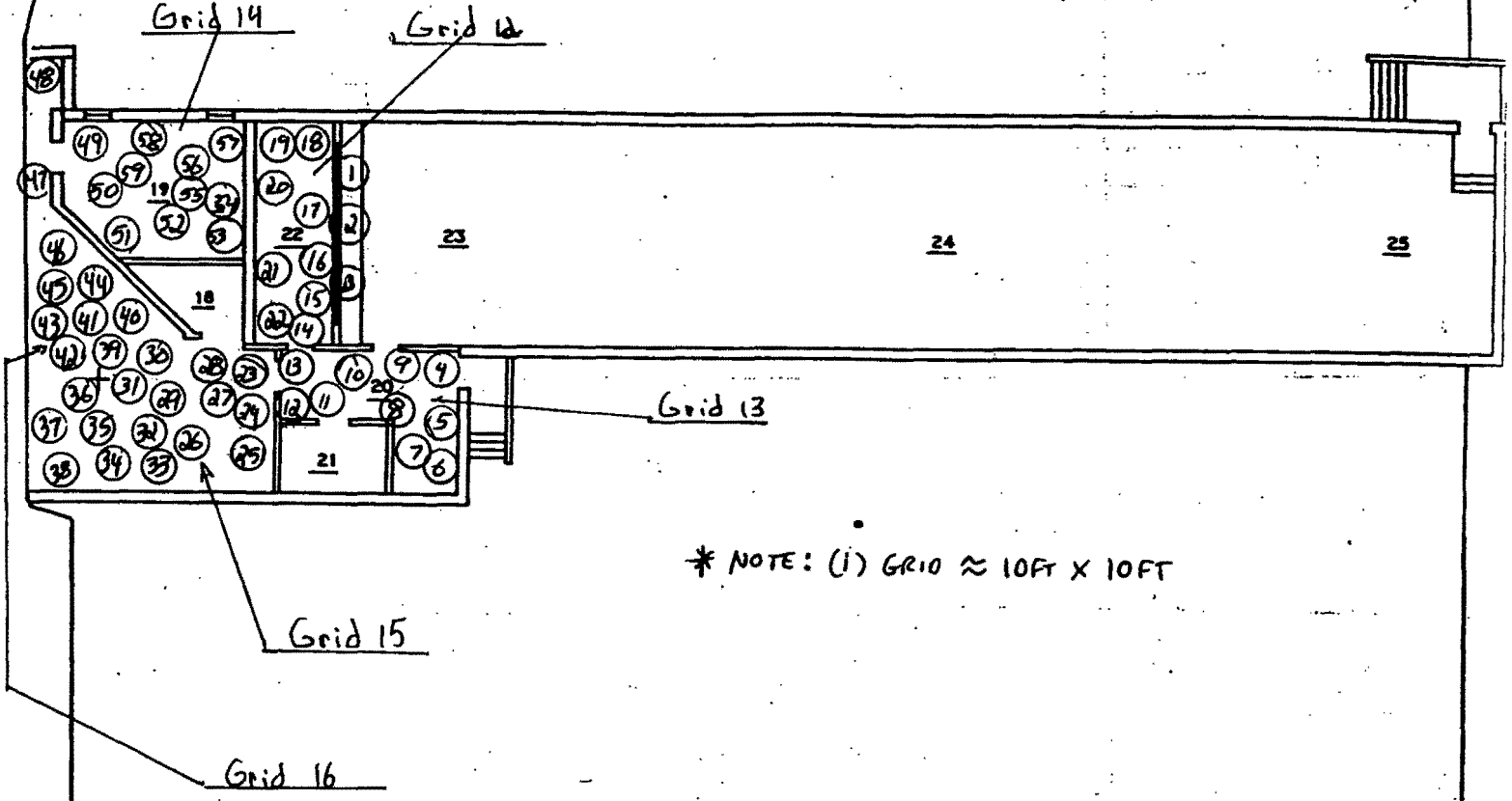
RADIOLOGICAL SURVEY DATA SHEET

E-1/E-138 Page 1 of 12 P3 02

K-213

LOCATION: (BLDG./AREA/ROOM) GP-1	SURVEY NO. 98-GP-1-~~93~~ 11-30
PURPOSE: Free Release	RWP NO. N/A
	DATE: 11-24-98
	TIME: 1600

MAP/DRAWING



* NOTE: (1) GRID ≈ 10FT X 10FT

GP-1 BLDG.
FIRST FLOOR

* Direct Surveys not performed 01/06/99 KSR
~~All Smear Locations < 100 dpm/100cm² α + < 5000 DPM/100cm² β/γ Direct~~

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
= Room Number
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NEelectra	5382/5365	5-11-99
	N	
	A	

[redacted]

HPs#	Date:
2257	11-30-98
2950	11/20/98
3996	12-8-98

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
Please see attached sample results for				

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
N/A				

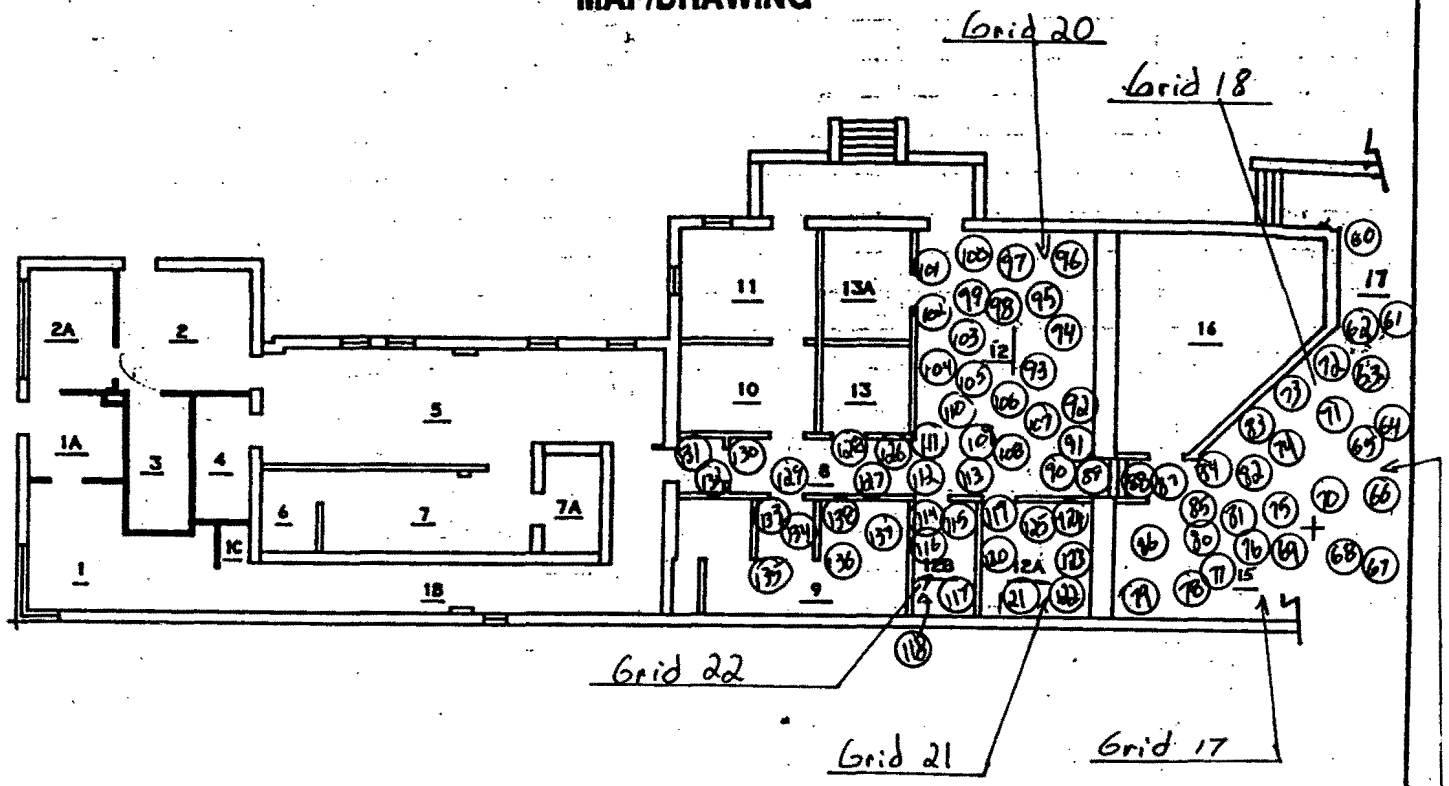
COMMENTS: N/A

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.

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG/AREA/ROOM) 6P-1	SURVEY NO. 98-6P-1-02
PURPOSE: Free Release	RWP NO. N/A
	DATE: 11-24-98
	TIME: 1600

MAP/DRAWING



LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
= Room Number
= mrem/hr neutron
= air sample number
= swipe number
#/α or β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
electra	5382/5365	5-11-99
	N	
	A	

[redacted]

HP#	Date:
257	12-1-98
3950	11/30/98
[redacted]	
5996	12-8-98

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				[redacted]
Sample #	β/γ	Alpha	Tritium	Comments

Removable Contamination				
Swipes (dpm/100cm²)				[redacted]
Sample #	β/γ	Alpha	Tritium	Comments

COMMENTS:

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.

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR035
Batch Ended: 11/30/98 9:57

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/2/99
Serial Number: 26966-1

Batch ID: T 98-GP-1-02 BELCHER [138] 11-30-98 JM

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	2.21	<MDA	0.00	1.88	<MDA
A2	2	0.00	2.15	<MDA	0.45	2.39	<MDA
A3	3	0.00	1.94	<MDA	0.00	1.33	<MDA
A4	4	0.00	1.98	<MDA	2.56	2.78	<MDA
B1	5	0.00	2.05	<MDA	0.00	1.77	<MDA
B2	6	1.74	2.05	<AL	3.24	2.85	<MDA
B3	7	0.00	1.86	<MDA	0.00	1.29	<MDA
B4	8	0.00	1.91	<MDA	0.38	2.20	<MDA
C1	9	0.00	2.24	<MDA	1.77	2.24	<MDA
C2	10	0.00	2.27	<MDA	0.00	2.01	<MDA
C3	11	0.00	1.97	<MDA	0.25	1.62	<MDA
C4	12	0.00	1.99	<MDA	3.53	2.49	<AL
D1	13	0.00	2.15	<MDA	0.00	1.51	<MDA
D2	14	2.12	2.58	<AL	2.14	2.84	<MDA
D3	15	0.00	2.01	<MDA	2.49	2.66	<MDA
D4	16	0.00	2.02	<MDA	0.00	2.00	<MDA
A1	17	0.00	2.19	<MDA	0.00	1.41	<MDA
A2	18	1.92	2.17	<AL	2.93	3.02	<MDA
A3	19	0.00	1.96	<MDA	0.32	2.06	<MDA
A4	20	0.00	1.98	<MDA	2.56	2.78	<MDA
B1	21	1.77	2.06	<AL	0.57	2.10	<MDA
B2	22	0.00	2.02	<MDA	0.00	1.88	<MDA
B3	23	1.64	1.89	<AL	1.41	2.28	<MDA
B4	24	0.00	1.91	<MDA	0.38	2.20	<MDA
C1	25	0.00	2.26	<MDA	4.24	2.84	<AL
C2	26	0.00	2.29	<MDA	2.67	2.76	<MDA
C3	27	0.00	1.97	<MDA	0.25	1.62	<MDA
C4	28	0.00	2.00	<MDA	4.61	2.72	<AL
D1	29	0.00	2.16	<MDA	0.03	2.02	<MDA
D2	30	0.00	2.52	<MDA	0.00	2.08	<MDA
D3	31	0.00	1.99	<MDA	0.00	1.49	<MDA
D4	32	0.00	2.02	<MDA	0.00	2.00	<MDA
A1	33	0.00	2.23	<MDA	2.23	2.58	<MDA

98-GP-1-02

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Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR035
Batch Ended: 11/30/98 9:57

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/2/99
Serial Number: 26966-1

Batch ID: T 98-GP-1-02 BELCHER [138] 11-30-98 JM

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A2	34	0.00	2.15	<MDA	0.45	2.39	<MDA
A3	35	0.00	1.96	<MDA	0.32	2.06	<MDA
A4	36	0.00	1.94	<MDA	0.00	1.39	<MDA
B1	37	0.00	2.06	<MDA	0.72	2.10	<MDA
B2	38	0.00	2.00	<MDA	0.00	1.41	<MDA
B3	39	0.00	1.91	<MDA	3.69	2.75	<AL
B4	40	0.00	1.89	<MDA	0.00	1.65	<MDA
C1	41	0.00	2.22	<MDA	0.00	1.39	<MDA
C2	42	0.00	2.27	<MDA	0.00	2.01	<MDA
C3	43	0.00	1.97	<MDA	0.25	1.62	<MDA
C4	44	0.00	1.99	<MDA	2.44	2.24	<MDA
D1	45	0.00	2.15	<MDA	0.00	1.51	<MDA
D2	46	0.00	2.58	<MDA	2.39	2.84	<MDA
D3	47	0.00	1.99	<MDA	0.00	1.49	<MDA
~~D4~~	~~48~~	~~0.00~~	~~2.01~~	~~<MDA~~	~~0.00~~	~~1.53~~	~~<MDA~~
A1	49	0.00	2.19	<MDA	0.00	1.41	<MDA
A2	50	0.00	2.14	<MDA	0.00	1.99	<MDA
A3	51	0.00	1.96	<MDA	0.32	2.06	<MDA
A4	52	0.00	1.99	<MDA	3.63	2.98	<MDA
B1	53	0.00	2.04	<MDA	0.00	1.37	<MDA
B2	54	0.00	2.00	<MDA	0.00	1.41	<MDA
B3	55	0.00	1.90	<MDA	2.61	2.52	<MDA
B4	56	0.00	1.90	<MDA	0.00	1.94	<MDA
C1	57	0.00	2.22	<MDA	0.00	1.39	<MDA
C2	58	0.00	2.29	<MDA	2.67	2.76	<MDA
C3	59	0.00	1.96	<MDA	0.00	1.20	<MDA
C4	60	0.00	1.99	<MDA	2.44	2.24	<MDA
D1	61	0.00	2.16	<MDA	0.03	2.02	<MDA
D2	62	0.00	2.55	<MDA	1.03	2.49	<MDA
D3	63	0.00	1.99	<MDA	0.00	1.96	<MDA
D4	64	1.62	2.06	<MDA	5.26	3.51	<AL
A1	65	0.00	2.21	<MDA	0.00	1.88	<MDA
A2	66	0.00	2.18	<MDA	4.39	3.30	<AL
A3	67	0.00	1.96	<MDA	0.32	2.06	<MDA
A4	68	0.00	1.99	<MDA	3.63	2.98	<MDA

DELETE
JM McQueen
11/30/98

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR035
Batch Ended: 11/30/98 9:57

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/2/99
Serial Number: 26966-1

Batch ID: T 98-GP-1-02 BELCHER [138] 11-30-98 JM

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
B1	69	0.00	2.05	<MDA	0.00	1.77	<MDA
B2	70	0.00	2.05	<MDA	3.39	2.85	<AL
B3	71	0.00	1.87	<MDA	0.00	1.69	<MDA
B4	72	1.68	1.91	<AL	0.27	2.20	<MDA
C1	73	2.10	2.22	<AL	0.00	1.39	<MDA
C2	74	0.00	2.30	<MDA	4.01	3.07	<AL
C3	75	1.74	1.97	<AL	0.14	1.62	<MDA
C4	76	0.00	1.97	<MDA	0.00	1.21	<MDA
D1	77	0.00	2.15	<MDA	0.00	1.51	<MDA
D2	78	0.00	2.55	<MDA	1.03	2.49	<MDA
D3	79	1.69	1.99	<AL	0.00	1.49	<MDA
D4	80	0.00	2.06	<MDA	4.11	3.27	<AL
A1	81	0.00	2.22	<MDA	0.98	2.26	<MDA
A2	82	0.00	2.15	<MDA	0.45	2.39	<MDA
A3	83	0.00	1.95	<MDA	0.00	1.73	<MDA
A4	84	0.00	1.98	<MDA	2.56	2.78	<MDA
B1	85	0.00	2.08	<MDA	1.85	2.39	<MDA
B2	86	0.00	2.02	<MDA	0.00	1.88	<MDA
B3	87	0.00	1.88	<MDA	0.44	2.01	<MDA
B4	88	0.00	1.93	<MDA	3.49	2.84	<AL
C1	89	0.00	2.23	<MDA	0.53	1.86	<MDA
C2	90	0.00	2.27	<MDA	0.00	2.01	<MDA
C3	91	0.00	1.97	<MDA	0.25	1.62	<MDA
C4	92	0.00	1.97	<MDA	0.26	1.63	<MDA
D1	93	0.00	2.15	<MDA	0.00	1.51	<MDA
D2	94	0.00	2.49	<MDA	0.00	1.56	<MDA
D3	95	0.00	1.99	<MDA	0.00	1.49	<MDA
D4	96	1.62	2.04	<AL	1.38	2.71	<MDA

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98-621-02

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR037
Batch Ended: 11/30/98 10:51

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/2/99
Serial Number: 26966-1

Batch ID: T 98-GP-1-02 BELCHER [138] 11-30-98 JM

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	97	0.00	2.21	<MDA	0.00	1.88	<MDA
A2	98	0.00	2.14	<MDA	0.00	1.99	<MDA
A3	99	0.00	1.95	<MDA	0.00	1.73	<MDA
A4	100	0.00	1.94	<MDA	0.00	1.39	<MDA
B1	101	0.00	2.08	<MDA	1.85	2.39	<MDA
B2	102	3.74	2.81	<AL	0.00	1.41	<MDA
B3	103	0.00	1.91	<MDA	3.69	2.75	<AL
B4	104	0.00	1.93	<MDA	2.45	2.64	<MDA
C1	105	2.10	2.25	<AL	2.86	2.56	<AL
C2	106	0.00	2.29	<MDA	2.67	2.76	<MDA
C3	107	0.00	1.98	<MDA	1.34	1.95	<MDA
C4	108	0.00	1.97	<MDA	0.00	1.21	<MDA
D1	109	0.00	2.17	<MDA	1.37	2.43	<MDA
D2	110	0.00	2.55	<MDA	1.03	2.49	<MDA
D3	111	0.00	2.01	<MDA	2.49	2.66	<MDA
D4	112	0.00	2.05	<MDA	2.81	3.00	<MDA
A1	113	0.00	2.21	<MDA	0.00	1.88	<MDA
A2	114	0.00	2.17	<MDA	3.08	3.02	<MDA
A3	115	1.66	1.94	<AL	0.00	1.33	<MDA
A4	116	0.00	1.99	<MDA	3.63	2.98	<MDA
B1	117	0.00	2.09	<MDA	2.99	2.64	<MDA
B2	118	0.00	2.02	<MDA	0.00	1.88	<MDA
B3	119	1.65	1.86	<AL	0.00	1.29	<MDA
B4	120	0.00	1.90	<MDA	0.00	1.94	<MDA
C1	121	0.00	2.26	<MDA	4.24	2.84	<AL
C2	122	0.00	2.26	<MDA	0.00	1.49	<MDA
C3	123	1.74	1.97	<AL	0.14	1.62	<MDA
C4	124	0.00	1.97	<MDA	0.00	1.21	<MDA
D1	125	0.00	2.15	<MDA	0.00	1.51	<MDA
D2	126	0.00	2.58	<MDA	2.39	2.84	<MDA
D3	127	0.00	1.99	<MDA	0.00	1.49	<MDA
D4	128	0.00	2.01	<MDA	0.00	1.53	<MDA
A1	129	1.87	2.26	<AL	4.56	3.12	<AL

98-GP-1-02

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Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR037
Batch Ended: 11/30/98 10:51

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/2/99
Serial Number: 26966-1

Batch ID: T 98-GP-1-02 BELCHER [138] 11-30-98 JM

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A2	130	0.00	2.15	<MDA	0.45	2.39	<MDA
A3	131	0.00	1.95	<MDA	0.00	1.73	<MDA
A4	132	0.00	2.00	<MDA	4.71	3.17	<AL
B1	133	0.00	2.04	<MDA	0.00	1.37	<MDA
B2	134	0.00	2.02	<MDA	0.00	1.88	<MDA
B3	135	0.00	1.88	<MDA	0.44	2.01	<MDA
B4	136	0.00	1.90	<MDA	0.00	1.94	<MDA
C1	137	0.00	2.22	<MDA	0.00	1.39	<MDA
C2	138	2.03	2.27	<AL	0.00	2.01	<MDA

12-1-98

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98-GP-1-02

30 Nov 98 19:51 ALPHA/BETA - 1.01
Protocol #: 3 PW H3 403728 User : 5379

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

	LL	UL	LCR	2S%	BKG
Region A:	0.5 -	18.6	0	0.0	7.30
Region B:	2.0 -	18.6	0	0.0	6.60
Region C:	40.0 -	2000	0	0.0	10.30

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
T 98-GP-1-02 BELCHER [E1-E138] 11-30-98 TAS
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\PROT3.DAT
Count Data Filename: c:\data\SDATA3.DAT
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	7.30	16	B	595.67		0.00	10.30
0	2.00	1369.70	0		612.41	2725.70	194.08	0.00
1	2.00	0.00	0		289.22	0.00	0.00	0.00
2	2.00	0.00	0		309.31	0.00	0.00	0.00
3	2.00	0.00	0		359.11	0.00	0.00	1.20
4	2.00	0.00	0		378.64	0.00	0.00	0.20
5	2.00	0.00	0		445.23	0.00	0.00	0.00
6	2.00	0.20	0		487.65	0.45	9.56	0.00
7	2.00	0.00	0		434.38	0.00	0.00	0.00
8	2.00	0.00	0		424.56	0.00	0.00	0.00
9	2.00	0.00	0		537.40	0.00	0.00	0.00
10	2.00	0.00	0		344.01	0.00	0.00	0.20
11	2.00	0.20	0		558.32	0.42	8.94	0.00
12	2.00	0.00	0		491.50	0.00	0.00	0.70
13	2.00	0.20	0		513.97	0.43	9.30	0.20
14	2.00	0.00	0		388.29	0.00	0.00	0.00
15	2.00	0.00	0		470.45	0.00	0.00	0.00
16	2.00	0.00	0		449.37	0.00	0.00	0.00
17	2.00	0.00	0		444.16	0.00	0.00	0.00
18	2.00	0.00	0		397.38	0.00	0.00	0.00
19	2.00	0.00	0		350.85	0.00	0.00	0.00
20	2.00	0.00	0		403.45	0.00	0.00	0.00
21	2.00	0.20	0		483.75	0.45	9.61	0.00
22	2.00	0.00	0		376.22	0.00	0.00	0.70
23	2.00	0.00	0		406.38	0.00	0.00	0.20
24	2.00	0.00	0		384.52	0.00	0.00	0.00
25	2.00	0.00	0		389.72	0.00	0.00	0.00
26	2.00	0.00	0		366.83	0.00	0.00	0.00
27	2.00	0.00	0		353.27	0.00	0.00	0.00
28	2.00	0.00	0		434.74	0.00	0.00	0.00
29	2.00	0.00	0		446.32	0.00	0.00	0.00
30	2.00	0.00	0		362.21	0.00	0.00	0.00
31	2.00	0.00	0		327.75	0.00	0.00	0.00
32	2.00	0.00	0		381.02	0.00	0.00	0.00
33	2.00	0.00	0		417.34	0.00	0.00	3.20
34	2.00	0.00	20		278.09	0.00	0.00	3.20

30 Nov 98 21:38 ALPHA/BETA - 1.01 ~~Page #2~~
Protocol #: 3 PW H3 403728 12-1-98 User : 5379

S#	TIME	CPMA	LUM FLAG	tSIE	DPM1	2Sigma	CPMC
35	2.00	0.00	20	288.55	0.00	0.00	0.00
36	2.00	0.00	11	296.69	0.00	0.00	1.20
37	2.00	0.00	0	424.74	0.00	0.00	0.00
38	2.00	0.00	0	447.84	0.00	0.00	0.20
39	2.00	0.00	0	431.85	0.00	0.00	0.00
40	2.00	0.00	0	316.43	0.00	0.00	0.00
41	2.00	0.00	0	405.79	0.00	0.00	0.00
42	2.00	0.00	0	395.46	0.00	0.00	0.00
43	2.00	0.00	0	397.03	0.00	0.00	0.00
44	2.00	0.00	0	412.55	0.00	0.00	0.00
45	2.00	0.00	0	416.23	0.00	0.00	0.00
46	2.00	0.00	0	434.01	0.00	0.00	0.00
47	2.00	0.00	0	374.09	0.00	0.00	0.00
1 MISSING TUBE(S)							
49	2.00	0.00	0	504.14	0.00	0.00	2.70
50	2.00	0.00	0	371.34	0.00	0.00	3.20
51	2.00	0.00	0	461.98	0.00	0.00	4.70
52	2.00	0.00	0	564.87	0.00	0.00	0.00
53	2.00	0.00	0	549.77	0.00	0.00	1.70
54	2.00	0.00	0	393.47	0.00	0.00	0.00
55	2.00	0.00	0	356.89	0.00	0.00	0.00
56	2.00	0.00	0	294.17	0.00	0.00	1.20
57	2.00	0.00	0	425.51	0.00	0.00	0.00
58	2.00	0.00	0	450.32	0.00	0.00	0.00
59	2.00	0.00	0	433.24	0.00	0.00	0.00
60	2.00	0.00	0	452.72	0.00	0.00	0.00
61	2.00	0.00	0	492.01	0.00	0.00	0.00
62	2.00	0.00	0	440.55	0.00	0.00	0.70
63	2.00	0.00	0	491.09	0.00	0.00	0.00
64	2.00	0.00	0	477.89	0.00	0.00	0.00
65	2.00	0.00	0	446.47	0.00	0.00	0.00
66	2.00	0.00	0	487.84	0.00	0.00	0.00
67	2.00	0.70	0	499.48	1.54	9.67	0.00
68	2.00	0.20	0	460.92	0.46	9.91	0.00
69	2.00	0.00	0	508.58	0.00	0.00	0.20
70	2.00	0.00	0	503.28	0.00	0.00	0.00
71	2.00	0.00	0	438.81	0.00	0.00	0.00
72	2.00	0.00	0	447.75	0.00	0.00	1.20
73	2.00	0.00	0	529.77	0.00	0.00	0.00
74	2.00	0.00	0	518.16	0.00	0.00	0.00
75	2.00	0.00	0	459.60	0.00	0.00	0.00
76	2.00	0.20	0	540.27	0.42	9.08	0.00
77	2.00	0.00	0	429.33	0.00	0.00	0.00
78	2.00	0.20	0	501.90	0.44	9.40	0.00
79	2.00	0.00	0	499.05	0.00	0.00	0.00
80	2.00	0.00	0	450.75	0.00	0.00	0.00
81	2.00	0.00	0	559.06	0.00	0.00	0.00
82	2.00	0.00	0	510.81	0.00	0.00	0.20
83	2.00	0.00	0	439.76	0.00	0.00	0.00
84	2.00	0.00	0	519.04	0.00	0.00	0.00
85	2.00	0.20	0	524.26	0.43	9.21	2.20
86	2.00	0.00	0	590.67	0.00	0.00	0.00
87	2.00	0.00	0	539.82	0.00	0.00	1.20
88	2.00	0.00	0	547.70	0.00	0.00	0.00
89	2.00	0.00	0	597.51	0.00	0.00	2.20
90	2.00	0.00	0	459.00	0.00	0.00	0.00

12-1-98 98-6P-1-02

01 Dec 98 00:20 ALPHA/BETA - 1.01 ~~Page #3~~

Protocol #: 3 PW H3 403728 User : 5379

S#	TIME	CPMA	LUM FLAG	tSIE	DPM1	2Sigma	CPMC
91	2.00	0.00	0	441.35	0.00	0.00	0.00
92	2.00	0.00	0	506.58	0.00	0.00	0.00
93	2.00	0.00	0	527.32	0.00	0.00	1.20
94	2.00	0.00	0	583.89	0.00	0.00	0.00
95	2.00	0.00	0	496.33	0.00	0.00	0.00
96	2.00	0.00	0	449.21	0.00	0.00	0.00
97	2.00	0.00	0	491.92	0.00	0.00	0.00
98	2.00	0.00	0	395.88	0.00	0.00	0.00
99	2.00	0.00	0	464.19	0.00	0.00	0.00
100	2.00	0.00	0	545.58	0.00	0.00	0.00
101	2.00	0.00	0	610.09	0.00	0.00	0.00
102	2.00	1.20	0	441.00	2.85	10.72	1.20
103	2.00	0.00	0	481.08	0.00	0.00	1.20
104	2.00	0.00	0	460.20	0.00	0.00	0.70
105	2.00	0.00	0	609.02	0.00	0.00	0.00
106	2.00	0.00	0	512.06	0.00	0.00	0.00
107	2.00	0.00	0	465.40	0.00	0.00	0.70
108	2.00	0.00	0	528.71	0.00	0.00	0.20
109	2.00	0.00	0	598.30	0.00	0.00	0.00
110	2.00	0.00	0	327.64	0.00	0.00	3.70
111	2.00	0.00	0	496.66	0.00	0.00	0.00
112	2.00	0.00	0	556.63	0.00	0.00	0.70
113	2.00	0.00	0	461.71	0.00	0.00	0.20
114	2.00	0.00	0	589.42	0.00	0.00	0.00
115	2.00	0.00	0	505.74	0.00	0.00	0.00
116	2.00	0.00	0	501.51	0.00	0.00	0.00
117	2.00	0.00	0	556.83	0.00	0.00	0.00
118	2.00	0.00	0	535.95	0.00	0.00	0.00
119	2.00	0.00	0	583.36	0.00	0.00	0.00
120	2.00	0.00	0	558.81	0.00	0.00	1.20
121	2.00	0.00	0	569.71	0.00	0.00	0.70
122	2.00	0.00	0	452.25	0.00	0.00	0.70
123	2.00	0.00	0	520.47	0.00	0.00	0.00
124	2.00	0.00	0	575.80	0.00	0.00	1.20
125	2.00	0.00	0	543.50	0.00	0.00	0.00
126	2.00	0.00	0	570.22	0.00	0.00	0.00
127	2.00	0.00	0	568.47	0.00	0.00	0.00
128	2.00	0.00	0	454.61	0.00	0.00	0.00
129	2.00	0.00	0	479.33	0.00	0.00	0.00
130	2.00	0.00	0	509.31	0.00	0.00	0.00
131	2.00	0.00	0	434.79	0.00	0.00	0.00
132	2.00	0.00	0	443.78	0.00	0.00	0.00
133	2.00	0.20	0	495.40	0.44	9.47	0.00
134	2.00	0.00	0	627.20	0.00	0.00	0.00
135	2.00	0.00	0	563.14	0.00	0.00	0.00
136	2.00	0.00	0	600.22	0.00	0.00	0.00
137	2.00	0.00	0	531.17	0.00	0.00	0.00
138	2.00	0.00	0	557.07	0.00	0.00	0.00

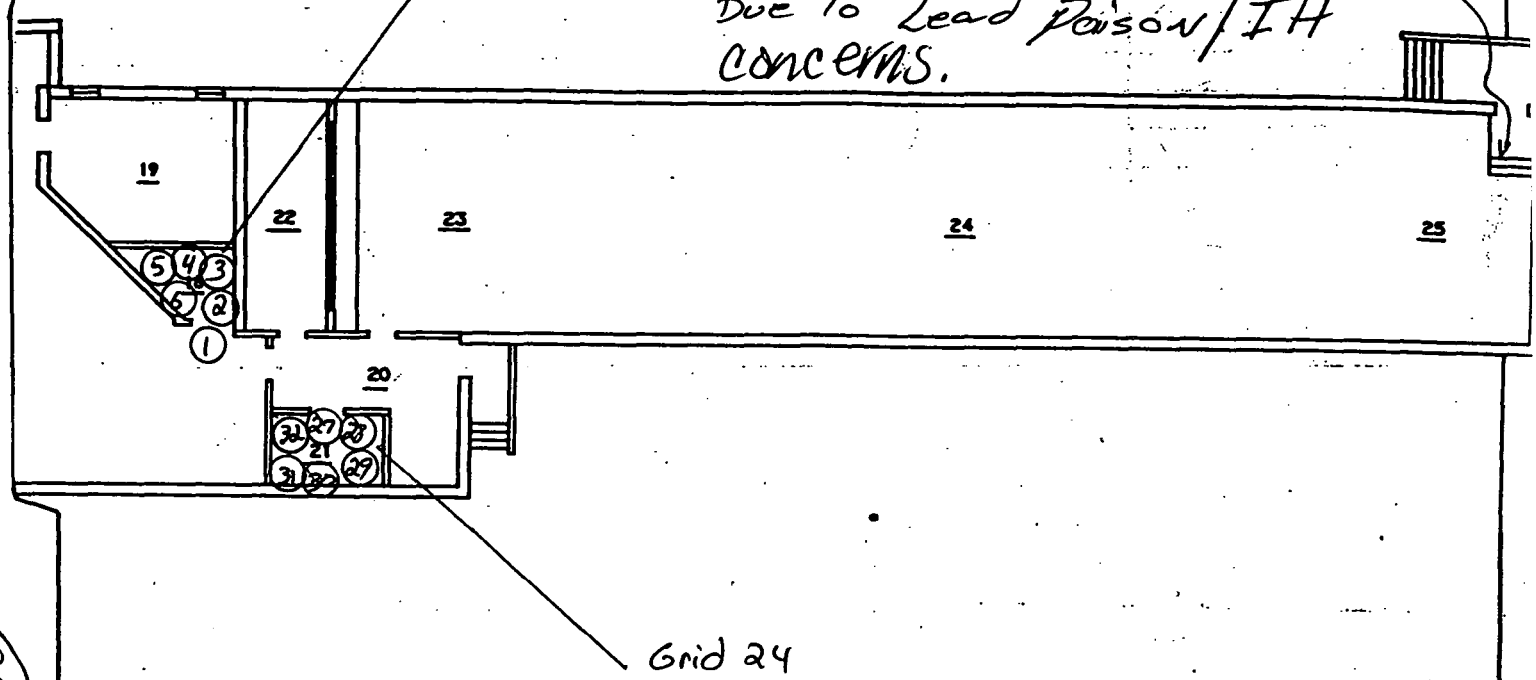
Q1/Q108 R-2B

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) GP-1	SURVEY NO. 98-GP-1-03
PURPOSE: Free Release	RWP NO. N/A
	DATE: 11-30-98
	TIME: 1600

MAP/DRAWING

* The Area Directly Behind The Shooting Range was unaccessable and was not Surveyed Due To Lead Poison/IH concerns.



*NOTE: (1) GRID ≈ 10FT x 10FT ROOMS SMALLER THAN 10FT x 10FT WILL BE TREATED AS A GRID.

GP-1 BLDG.
FIRST FLOOR

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
= Room number
= mrem/hr neutron
= air sample number
= swipe number
#/α or /β = direct cont. measurement in dpm/100cm²

UNIT-4 GROUP-C (51-108)

UNIT-1 GROUP-A (1-50)

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
electra	5382/5365	5-11-99
	N	
	A	

[redacted]

HPs 8257	Date: 12-1-98
HPs 3950	Date: 12/02/98
5996	12-8-98

ML-9620 (2-98)

P-2

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				[redacted]
Sample #	β/γ	Alpha	Tritium	Comments

Attached Results

Please See Smear Log

Removable Contamination				
Swipes (dpm/100cm²)				[redacted]
Sample #	β/γ	Alpha	Tritium	Comments

N/A

Direct Survey Not performed 1/6/99

COMMENTS: ~~All Smear Locations < 100 DPM/100cm² α < 5000 DPM/100cm² β-γ~~

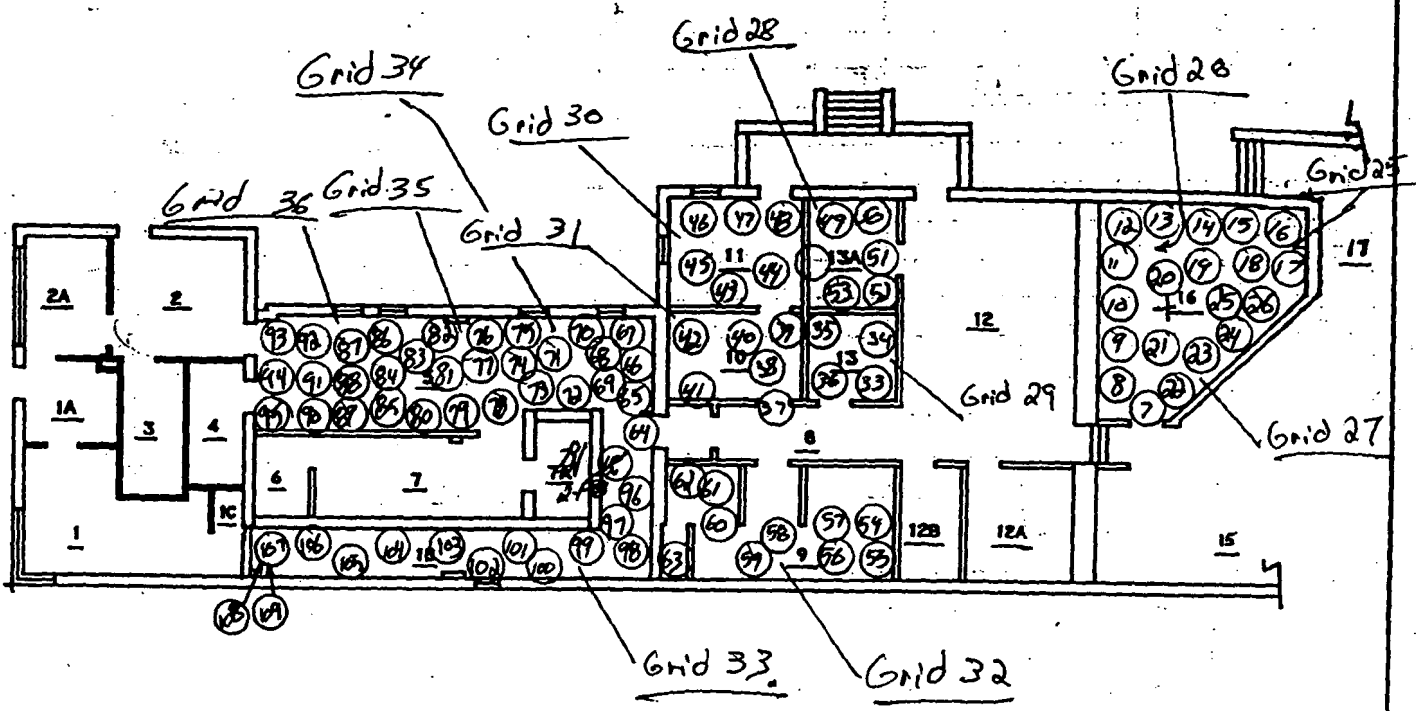
NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample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

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) N/A	SURVEY NO. 98-GP-1-03
PURPOSE:	RWP NO.
	DATE: N/A
	TIME:

MAP/DRAWING



LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
= Room Number

△# = mrem/hr neutron

[#] = air sample number

(#) = swipe number

(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NE electra	5382/5365	5-11-99
	N	
	A	

[redacted]

HPs 8257	Date: 12-1-98
HPs 3950	Date: 12/02/98
5996	Date: 12-8-98

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

See Attached Smear Results

COMMENTS: N/A

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-9620 (2-98)

LB5100-W Low Background Counting System -- Smear Analysis

Date: 12/2/98
Counting Unit id: 1
Data file name: C:\LBXL\UNIT1\SME1A001.XLD
Batch Ended: 12/2/98 9:54
Crosstalk Correction: Applied
Cal. Due Date: 11/3/99

Alpha activity action level (DPM): 20.00
Beta activity action level (DPM): 200.00
Certainty level for MDA and flags: 95.00%

Serial Number: 15764-3
Batch ID: T 98-GP-1-03 BELCHER [1-50 OF 108] 12-01-98 JM

		Alpha Activity			Beta Activity			Count
Carrier	Sample	DPM	σ	flags	DPM	σ	flags	time (min)
147	1	0.000	2.03	<MDA	0.000	3.19	<MDA	1.50
98	2	1.793	2.03	<AL	0.000	3.19	<MDA	1.50
125	3	1.793	2.03	<AL	0.000	3.19	<MDA	1.50
53	4	0.000	2.07	<MDA	2.401	4.31	<MDA	1.50
74	5	0.000	2.06	<MDA	0.732	3.97	<MDA	1.50
28	6	0.000	2.06	<MDA	0.732	3.97	<MDA	1.50
134	7	0.000	2.03	<MDA	0.000	3.19	<MDA	1.50
100	8	1.792	2.05	<AL	0.000	3.60	<MDA	1.50
29	9	0.000	2.06	<MDA	0.732	3.97	<MDA	1.50
129	10	0.000	2.09	<MDA	4.070	4.62	<MDA	1.50
122	11	0.000	2.06	<MDA	0.732	3.97	<MDA	1.50
149	12	0.000	2.09	<MDA	4.070	4.62	<MDA	1.50
66	13	1.789	2.09	<AL	3.841	4.62	<MDA	1.50
6	14	0.000	2.06	<MDA	0.732	3.97	<MDA	1.50
78	15	0.000	2.00	<MDA	0.000	2.15	<MDA	1.50
93	16	0.000	2.13	<MDA	9.077	5.45	<AL	1.50
118	17	0.000	2.06	<MDA	0.732	3.97	<MDA	1.50
45	18	0.000	2.03	<MDA	0.000	3.19	<MDA	1.50
126	19	0.000	2.03	<MDA	0.000	3.19	<MDA	1.50
68	20	0.000	2.00	<MDA	0.000	2.15	<MDA	1.50
124	21	0.000	2.10	<MDA	5.739	4.91	<MDA	1.50
142	22	0.000	2.07	<MDA	2.401	4.31	<MDA	1.50
115	23	0.000	2.03	<MDA	0.000	3.19	<MDA	1.50
43	24	0.000	2.03	<MDA	0.000	3.19	<MDA	1.50
25	25	0.000	2.07	<MDA	2.401	4.31	<MDA	1.50

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98-GP-1-03

LB5100-W Low Background Counting System -- Smear Analysis

Date: 12/2/98
Counting Unit id: 1
Data file name: C:\LBXL\UNIT1\SME1A001.XLD
Batch Ended: 12/2/98 9:54
Crosstalk Correction: Applied
Cal. Due Date: 11/3/99

Alpha activity action level (DPM): 20.00
Beta activity action level (DPM): 200.00
Certainty level for MDA and flags: 95.00%

Serial Number: 15764-3
Batch ID: T 98-GP-1-03 BELCHER [1-50 OF 108] 12-01-98 JM

		Alpha Activity			Beta Activity			Count
Carrier	Sample	DPM	σ	flags	DPM	σ	flags	time (min)
34	26	0.000	2.13	<MDA	9.077	5.45	<AL	1.50
37	27	0.000	2.07	<MDA	2.401	4.31	<MDA	1.50
49	28	0.000	2.06	<MDA	0.732	3.97	<MDA	1.50
124	29	0.000	2.09	<MDA	4.070	4.62	<MDA	1.50
74	30	0.000	2.02	<MDA	0.000	2.72	<MDA	1.50
61	31	3.759	2.86	<AL	1.943	4.31	<MDA	1.50
70	32	1.791	2.06	<AL	0.503	3.97	<MDA	1.50
44	33	1.794	2.02	<AL	0.000	2.72	<MDA	1.50
127	34	0.000	2.07	<MDA	2.401	4.31	<MDA	1.50
142	35	0.000	2.03	<MDA	0.000	3.19	<MDA	1.50
133	36	1.791	2.06	<AL	0.503	3.97	<MDA	1.50
67	37	0.000	2.10	<MDA	5.739	4.91	<MDA	1.50
69	38	0.000	2.09	<MDA	4.070	4.62	<MDA	1.50
32	39	0.000	2.07	<MDA	2.401	4.31	<MDA	1.50
147	40	1.794	2.02	<AL	0.000	2.72	<MDA	1.50
66	41	0.000	2.06	<MDA	0.732	3.97	<MDA	1.50
65	42	1.793	2.03	<AL	0.000	3.19	<MDA	1.50
70	43	0.000	2.09	<MDA	4.070	4.62	<MDA	1.50
134	44	0.000	2.03	<MDA	0.000	3.19	<MDA	1.50
93	45	0.000	2.06	<MDA	0.732	3.97	<MDA	1.50
3	46	0.000	2.07	<MDA	2.401	4.31	<MDA	1.50
78	47	0.000	2.03	<MDA	0.000	3.19	<MDA	1.50
69	48	0.000	2.07	<MDA	2.401	4.31	<MDA	1.50
128	49	0.000	2.05	<MDA	0.000	3.60	<MDA	1.50
146	50	1.791	2.06	<AL	0.503	3.97	<MDA	1.50

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98-GP-1-03

LB5100-W Low Background Counting System -- Smear Analysis

Date: 12/2/98
Counting Unit id: 4
Data file name: C:\LBXL\UNIT4\SME4C001.XLD
Batch Ended: 12/2/98 10:46
Crosstalk Correction: Applied
Cal. Due Date: 9/1/99

Alpha activity action level (DPM): 20.00
Beta activity action level (DPM): 200.00
Certainty level for MDA and flags: 95.00%

Serial Number: 15764-1
Batch ID: X 98-GP-1-03 BELCHER [51-108 OF 108] 12-01-98 JM

		Alpha Activity			Beta Activity			Count
Carrier	Sample	DPM	σ	flags	DPM	σ	flags	time (min)
76	1	0.000	2.06	<MDA	0.861	3.35	<MDA	1.50
71	2	0.000	2.04	<MDA	0.000	2.14	<MDA	1.50
77	3	0.000	2.05	<MDA	0.000	2.81	<MDA	1.50
11	4	0.000	2.06	<MDA	2.682	3.81	<MDA	1.50
119	5	0.000	2.05	<MDA	0.000	2.81	<MDA	1.50
88	6	0.000	2.04	<MDA	0.000	2.14	<MDA	1.50
127	7	0.000	2.06	<MDA	2.682	3.81	<MDA	1.50
73	8	1.850	2.06	<AL	0.684	3.35	<MDA	1.50
77	9	0.000	2.04	<MDA	0.000	2.14	<MDA	1.50
64	10	0.000	2.05	<MDA	0.000	2.81	<MDA	1.50
114	11	1.892	2.04	<AL	0.000	2.14	<MDA	1.50
33	12	0.000	2.07	<MDA	4.503	4.23	<MDA	1.50
147	13	0.000	2.08	<MDA	6.324	4.60	<AL	1.50
91	14	1.850	2.06	<AL	0.684	3.35	<MDA	1.50
47	15	1.829	2.06	<AL	2.505	3.81	<MDA	1.50
90	16	0.000	2.07	<MDA	4.503	4.23	<MDA	1.50
65	17	0.000	2.06	<MDA	0.861	3.35	<MDA	1.50
142	18	0.000	2.06	<MDA	2.682	3.81	<MDA	1.50
140	19	0.000	2.09	<MDA	8.146	4.95	<AL	1.50
127	20	0.000	2.06	<MDA	0.861	3.35	<MDA	1.50
54	21	0.000	2.07	<MDA	4.503	4.23	<MDA	1.50
137	22	0.000	2.04	<MDA	0.000	2.14	<MDA	1.50
146	23	0.000	2.04	<MDA	0.000	2.14	<MDA	1.50
50	24	0.000	2.06	<MDA	2.682	3.81	<MDA	1.50
70	25	0.000	2.05	<MDA	0.000	2.81	<MDA	1.50

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98-GP-1-03

LB5100-W Low Background Counting System -- Smear Analysis

Date: 12/2/98
Counting Unit id: 4
Data file name: C:\LBXL\UNIT4\SME4C001.XLD
Batch Ended: 12/2/98 10:46
Crosstalk Correction: Applied
Cal. Due Date: 9/1/99

Alpha activity action level (DPM): 20.00
Beta activity action level (DPM): 200.00
Certainty level for MDA and flags: 95.00%

Serial Number: 15764-1
Batch ID: X 98-GP-1-03 BELCHER [51-108 OF 108] 12-01-98 JM

		Alpha Activity			Beta Activity			Count
Carrier	Sample	DPM	σ	flags	DPM	σ	flags	time (min)
86	26	0.000	2.06	<MDA	0.861	3.35	<MDA	1.50
136	27	0.000	2.06	<MDA	0.861	3.35	<MDA	1.50
149	28	0.000	2.06	<MDA	2.682	3.81	<MDA	1.50
133	29	0.000	2.06	<MDA	2.682	3.81	<MDA	1.50
134	30	0.000	2.04	<MDA	0.000	2.14	<MDA	1.50
56	31	0.000	2.05	<MDA	0.000	2.81	<MDA	1.50
136	32	0.000	2.04	<MDA	0.000	2.14	<MDA	1.50
37	33	1.871	2.05	<AL	0.000	2.81	<MDA	1.50
50	34	0.000	2.06	<MDA	0.861	3.35	<MDA	1.50
70	35	0.000	2.06	<MDA	0.861	3.35	<MDA	1.50
130	36	0.000	2.05	<MDA	0.000	2.81	<MDA	1.50
126	37	0.000	2.04	<MDA	0.000	2.14	<MDA	1.50
97	38	0.000	2.06	<MDA	0.861	3.35	<MDA	1.50
23	39	0.000	2.05	<MDA	0.000	2.81	<MDA	1.50
148	40	0.000	2.07	<MDA	4.503	4.23	<MDA	1.50
53	41	0.000	2.09	<MDA	8.146	4.95	<AL	1.50
138	42	0.000	2.06	<MDA	2.682	3.81	<MDA	1.50
87	43	0.000	2.07	<MDA	4.503	4.23	<MDA	1.50
122	44	0.000	2.06	<MDA	2.682	3.81	<MDA	1.50
35	45	0.000	2.05	<MDA	0.000	2.81	<MDA	1.50
2	46	0.000	2.08	<MDA	6.324	4.60	<AL	1.50
34	47	0.000	2.06	<MDA	2.682	3.81	<MDA	1.50
90	48	0.000	2.07	<MDA	4.503	4.23	<MDA	1.50
80	49	0.000	2.04	<MDA	0.000	2.14	<MDA	1.50
75	50	0.000	2.04	<MDA	0.000	2.14	<MDA	1.50

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98-GP-1-03

LB5100-W Low Background Counting System -- Smear Analysis

Date: 12/2/98
Counting Unit id: 4
Data file name: C:\LBXL\UNIT4\SME4C001.XLD
Batch Ended: 12/2/98 10:46
Crosstalk Correction: Applied
Cal. Due Date: 9/1/99

Alpha activity action level (DPM): 20.00
Beta activity action level (DPM): 200.00
Certainty level for MDA and flags: 95.00%

Serial Number: 15764-1
Batch ID: X 98-GP-1-03 BELCHER [51-108 OF 108] 12-01-98 JM

		Alpha Activity			Beta Activity			Count
Carrier	Sample	DPM	σ	flags	DPM	σ	flags	time (min)
150	51	0.000	2.04	<MDA	0.000	2.14	<MDA	1.50
77	52	0.000	2.05	<MDA	0.000	2.81	<MDA	1.50
53	53	0.000	2.04	<MDA	0.000	2.14	<MDA	1.50
67	54	1.871	2.05	<AL	0.000	2.81	<MDA	1.50
134	55	0.000	2.04	<MDA	0.000	2.14	<MDA	1.50
76	56	0.000	2.04	<MDA	0.000	2.14	<MDA	1.50
122	57	1.787	2.08	<AL	6.147	4.60	<AL	1.50
54	58	0.000	2.04	<MDA	0.000	2.14	<MDA	1.50

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98-GP-1-03

10 of 12
98-GP-1-03

Protocol #: 2 Name:PW H3 #401388 02-Dec-98 17:12
Region A: LL-UL= 0.5-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region B: LL-UL= 2.0-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region C: LL-UL=40.0-2000 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Time = 2.00 QIP = tSIE/AEC ES Terminator = Count
T 98-GP-1-03 BELCHER [Q1-Q108] 12-02-98 JM
Conventional DPM
Nuclide 1 = 800
Luminescence Correction On

S#	TIME	CPMA	CPMB	CPMC	FLAG	LUM	tSIE	DPM1	2Sigma
-1	10.00	10.00	12.80	11.40	B	68	601.		0.00
0	2.00	1732.00	1652.20	0.00		1	632.	3883.80	273.40
1	2.00	10.00	6.20	0.00		12	553.	25.27	18.63
2	2.00	0.00	0.00	2.60		28	398.	0.00	0.00
3	2.00	0.00	0.00	0.00		30	368.	0.00	0.00
4	2.00	7.50	3.70	0.00		3	331.	25.12	21.50
5	2.00	2.00	0.00	0.00		12	343.	6.50	18.95
6	2.00	1.50	0.00	0.00		19	359.	4.69	19.03
7	2.00	10.50	7.20	0.00		5	368.	32.21	21.99
8	2.00	19.00	14.70	0.60		15	290.	71.63	34.01
9	2.00	9.50	6.70	0.00		25	448.	25.71	22.54
10	2.00	2.50	0.00	0.60		12	453.	6.75	15.98
11	2.00	5.50	0.70	0.00		12	511.	14.56	17.38
12	2.00	6.00	1.70	0.00		21	528.	15.62	19.16
13	2.00	0.00	0.00	0.00		16	509.	0.00	0.00
14	2.00	13.50	8.20	0.00		2	488.	36.17	19.63
15	2.00	7.00	3.20	0.00		3	489.	18.75	16.98
16	2.00	2.00	0.00	0.00		4	475.	5.36	14.70
17	2.00	0.00	0.00	0.00		18	482.	0.00	0.00
18	2.00	0.00	0.00	0.00		17	475.	0.00	0.00
19	2.00	6.00	1.70	0.00		9	437.	16.39	17.73
20	2.00	2.50	0.00	0.00		8	522.	6.55	15.06
21	2.00	1.50	0.00	0.00		12	482.	4.02	15.40
22	2.00	0.00	0.00	0.00		10	439.	0.00	0.00
23	2.00	4.50	1.20	0.00		4	433.	12.35	16.25
24	2.00	0.00	0.00	0.00		27	459.	0.00	0.00
25	2.00	3.50	0.00	0.00		20	566.	8.68	16.28
26	2.00	0.00	0.00	1.60		10	451.	0.00	0.00
27	2.00	0.00	0.00	0.00		22	438.	0.00	0.00
28	2.00	0.00	0.00	0.00		25	421.	0.00	0.00
29	2.00	0.00	0.00	0.00		23	445.	0.00	0.00
30	2.00	0.00	0.00	0.00		31	449.	0.00	0.00
31	2.00	0.00	0.00	0.00		27	424.	0.00	0.00
32	2.00	0.00	0.00	0.00		27	398.	0.00	0.00
33	2.00	0.00	0.00	0.00		48	475.	0.00	0.00
34	2.00	0.00	0.00	0.00		35	516.	0.00	0.00
35	2.00	0.00	0.00	0.10		36	470.	0.00	0.00
36	2.00	6.00	0.00	0.00		17	481.	16.08	18.60
37	2.00	8.00	4.70	0.00		20	437.	21.84	20.48
38	2.00	0.00	0.00	0.00		24	406.	0.00	0.00
39	2.00	3.00	0.00	0.00		11	419.	8.39	16.79
40	2.00	0.00	0.00	0.00		31	448.	0.00	0.00
41	2.00	0.00	0.00	0.00		43	501.	0.00	0.00
42	2.00	11.50	7.70	0.00		13	461.	30.96	21.12
43	2.00	1.50	0.00	0.00		19	448.	4.06	16.47
44	2.00	5.50	0.00	0.00		9	539.	14.15	16.89

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98-GP-1-03

S#	TIME	CPMA	CPMB	CPMC	FLAG	LUM	tSIE	DPM1	2Sigma
45	2.00	1.00	0.00	0.10		22	536.	2.58	16.34
46	2.00	8.50	4.20	1.10		8	490.	22.77	18.42
47	2.00	1.00	0.00	0.00		20	500.	2.67	16.02
48	2.00	3.50	0.00	0.00		7	464.	9.41	15.92
49	2.00	4.00	0.00	1.10		14	465.	10.76	17.02
50	2.00	8.00	4.20	0.00		11	482.	21.44	18.61
51	2.00	5.50	1.20	0.00		20	528.	14.32	18.62
52	2.00	5.50	2.20	0.00		7	432.	15.11	17.18
53	2.00	0.00	0.00	0.00		26	423.	0.00	0.00
54	2.00	8.50	3.70	0.00		8	514.	22.46	18.17
55	2.00	11.50	5.20	0.00		20	577.	27.50	19.94
56	2.00	3.00	0.00	0.00		20	347.	9.64	20.84
57	2.00	4.50	3.20	0.00		24	457.	12.13	18.89
58	2.00	5.50	1.20	0.00		20	489.	14.74	18.78
59	2.00	2.00	0.00	0.00		25	462.	5.38	17.44
60	2.00	3.00	0.20	0.00		25	451.	8.11	18.74
61	2.00	1.00	0.00	0.00		20	453.	2.70	16.21
62	2.00	0.00	0.00	0.00		33	452.	0.00	0.00
63	2.00	0.00	0.00	0.00		43	493.	0.00	0.00
64	2.00	4.00	0.00	0.00		16	463.	10.76	17.45
65	2.00	14.00	7.70	0.00		6	494.	37.51	20.54
66	2.00	3.00	0.70	0.00		27	517.	7.90	18.64
67	2.00	9.00	6.70	0.00		10	366.	27.70	21.83
68	2.00	9.50	6.20	0.10		12	423.	26.43	20.32
69	2.00	11.50	6.20	0.00		9	490.	30.81	19.96
70	2.00	2.00	0.00	0.00		25	534.	5.18	16.77
71	2.00	8.50	4.20	0.00		11	450.	22.98	18.98
72	2.00	0.00	0.00	0.00		31	530.	0.00	0.00
73	2.00	0.00	0.00	2.10		10	483.	0.00	0.00
74	2.00	6.50	2.20	0.00		12	499.	17.37	17.96
75	2.00	6.50	2.70	0.00		9	476.	17.43	17.62
76	2.00	0.50	0.00	0.00		14	480.	1.34	14.92
77	2.00	0.00	0.00	0.00		36	489.	0.00	0.00
78	2.00	0.00	0.00	0.00		31	550.	0.00	0.00
79	2.00	5.50	0.70	0.00		18	602.	12.77	15.94
80	2.00	2.50	0.00	0.00		15	525.	6.53	15.90
81	2.00	0.00	0.00	0.00		12	467.	0.00	0.00
82	2.00	4.00	0.00	1.10		11	494.	10.72	16.53
83	2.00	1.50	0.00	0.00		25	413.	4.23	18.06
84	2.00	0.00	0.00	0.00		23	568.	0.00	0.00
85	2.00	2.50	0.00	0.00		21	551.	6.33	16.23
86	2.00	1.50	0.00	0.00		5	530.	3.90	14.01
87	2.00	2.50	0.00	0.00		28	546.	6.38	17.86
88	2.00	3.00	0.00	0.00		11	532.	7.78	15.57
89	2.00	5.00	0.00	0.00		16	430.	13.78	18.30
90	2.00	1.50	0.00	0.00		22	524.	3.93	16.34
91	2.00	4.50	1.70	0.00		13	422.	12.53	17.85
92	2.00	5.00	2.20	0.00		10	471.	13.42	17.42
93	2.00	9.00	3.20	2.10		15	550.	22.83	18.69
94	2.00	0.00	0.00	0.00		17	575.	0.00	0.00
95	2.00	12.50	3.70	0.00		5	613.	28.64	16.77
96	2.00	2.50	0.00	0.00		14	539.	6.43	16.07
97	2.00	0.00	0.00	0.00		34	494.	0.00	0.00
98	2.00	0.00	0.00	0.00		51	565.	0.00	0.00
99	2.00	4.50	0.70	0.00		13	605.	10.41	14.82
100	2.00	0.50	0.00	0.00		23	504.	1.33	16.63

98-6P-1-0

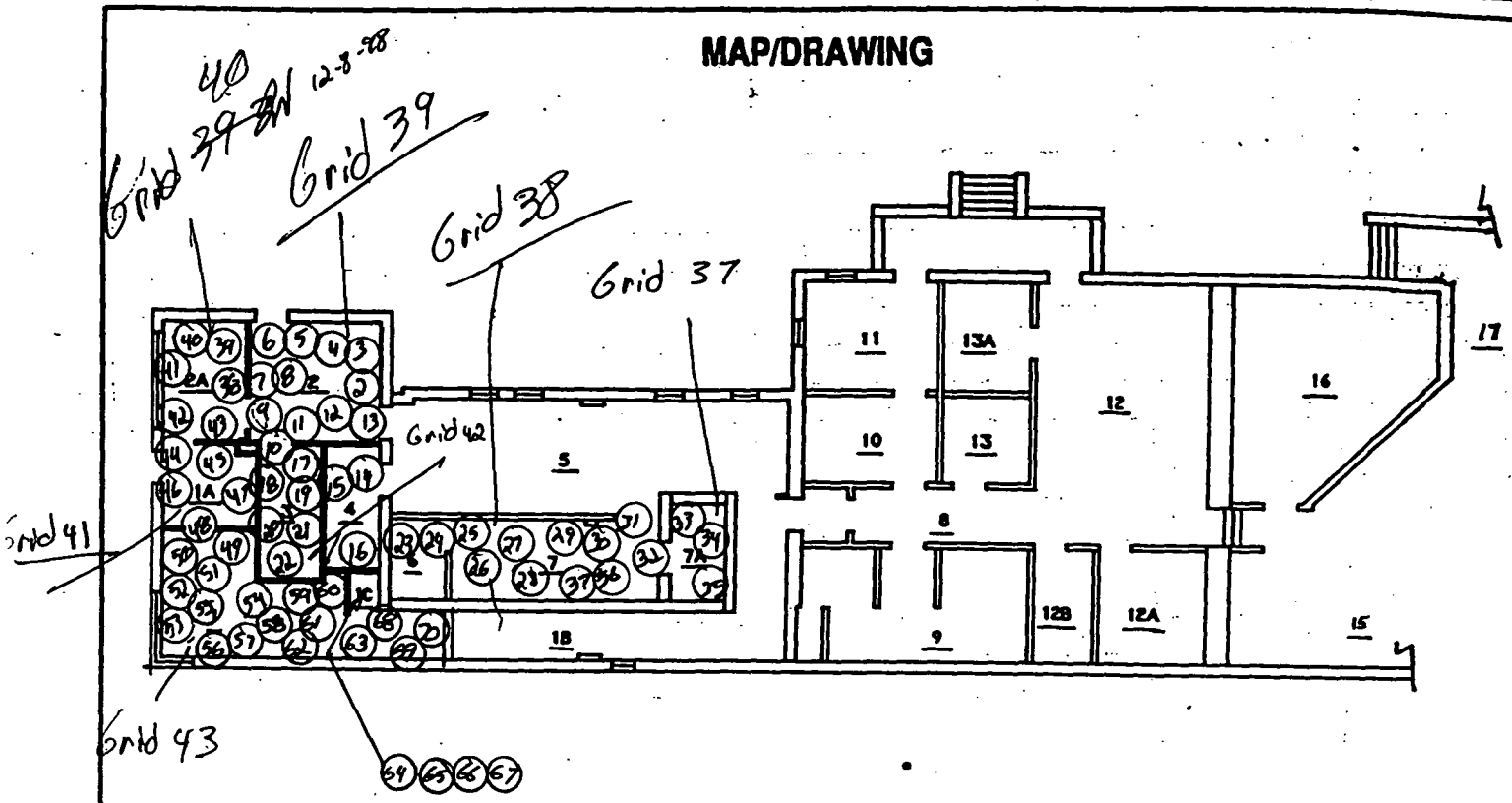
S#	TIME	CPMA	CPMB	CPMC	FLAG	LUM	tSIE	DPM1	2Sigma
101	2.00	1.50	0.00	0.00		9	556.	3.78	14.02
102	2.00	0.50	0.00	0.00		21	488.	1.34	15.85
103	2.00	9.00	7.20	0.00		19	514.	23.77	20.51
104	2.00	0.00	0.00	0.00		34	498.	0.00	0.00
105	2.00	6.50	1.20	0.00		14	591.	15.29	16.15
106	2.00	0.50	0.00	0.60		24	516.	1.32	16.04
107	2.00	0.00	0.00	0.00		50	560.	0.00	0.00
108	2.00	0.00	0.00	0.00		70	570.	0.00	0.00

RADIOLOGICAL SURVEY DATA SHEET

P-1/P-10 Page 1 of 1 P4

LOCATION: (BLDG./AREA/ROOM) GP-1	SURVEY NO. 98-GP-1-04
PURPOSE: Free Release	RWP NO. N/A
	DATE: 12-1-98
	TIME: 0900

MAP/DRAWING



* NOTE: (1) GRID ≈ 10 FT x 10 FT

LEGEND:
= mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
= Room Number
= mrem/hr neutron
= air sample number
= swipe number
#/α or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
electra	5382/5365	5-11-99
	N	
	A	

[redacted]

HPS 8257	Date: 12-1-98
HPS 5379	Date: 12-2-98
5996	Date: 12-8-98

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
See Attached Smear Results				

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
N/A				

COMMENTS: ~~All Smear Locations <100 DPM/100cm² α + <5000 DPM/100cm² β γ~~ Direct survey not performed KSK 1-6-99

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-9620 (2-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR010
Batch Ended: 12/2/98 9:51

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/2/99
Serial Number: 26966-1

Batch ID: T 98-GP-1-04 BELCHER [70] 12-2-98 TAS

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	2.21	<MDA	0.00	1.88	<MDA
A2	2	0.00	2.14	<MDA	0.00	1.99	<MDA
A3	3	0.00	1.96	<MDA	0.32	2.06	<MDA
A4	4	0.00	1.97	<MDA	1.48	2.56	<MDA
B1	5	0.00	2.09	<MDA	2.99	2.64	<MDA
B2	6	0.00	2.04	<MDA	2.15	2.57	<MDA
B3	7	0.00	1.86	<MDA	0.00	1.29	<MDA
B4	8	0.00	1.89	<MDA	0.00	1.65	<MDA
C1	9	0.00	2.25	<MDA	3.01	2.56	<AL
C2	10	0.00	2.29	<MDA	2.67	2.76	<MDA
C3	11	3.68	2.76	<AL	0.00	1.20	<MDA
C4	12	3.60	2.77	<AL	1.15	1.96	<MDA
D1	13	0.00	2.16	<MDA	0.03	2.02	<MDA
D2	14	0.00	2.49	<MDA	0.00	1.56	<MDA
D3	15	1.67	2.02	<AL	3.64	2.95	<AL
D4	16	3.60	2.81	<AL	0.00	1.53	<MDA
A1	17	1.88	2.22	<AL	0.83	2.26	<MDA
A2	18	1.93	2.16	<AL	1.62	2.72	<MDA
A3	19	0.00	1.96	<MDA	0.32	2.06	<MDA
A4	20	0.00	1.94	<MDA	0.00	1.39	<MDA
B1	21	0.00	2.05	<MDA	0.00	1.77	<MDA
B2	22	0.00	2.02	<MDA	0.00	1.88	<MDA
B3	23	1.64	1.89	<AL	1.41	2.28	<MDA
B4	24	0.00	1.90	<MDA	0.00	1.94	<MDA
C1	25	2.10	2.25	<AL	2.86	2.56	<AL
C2	26	0.00	2.27	<MDA	0.00	2.01	<MDA
C3	27	0.00	2.01	<MDA	5.68	2.92	<AL
C4	28	0.00	1.97	<MDA	0.26	1.63	<MDA
D1	29	0.00	2.15	<MDA	0.00	1.51	<MDA
D2	30	0.00	2.52	<MDA	0.00	2.08	<MDA
D3	31	0.00	1.99	<MDA	0.00	1.96	<MDA
D4	32	0.00	2.01	<MDA	0.00	1.53	<MDA
A1	33	0.00	2.27	<MDA	5.96	3.36	<AL

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98-GP-1-04

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR010
Batch Ended: 12/2/98 9:51

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/2/99
Serial Number: 26966-1

Batch ID: T 98-GP-1-04 BELCHER [70] 12-2-98 TAS

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A2	34	1.93	2.15	<AL	0.30	2.39	<MDA
A3	35	0.00	1.96	<MDA	0.32	2.06	<MDA
A4	36	3.63	2.73	<AL	0.00	1.39	<MDA
B1	37	0.00	2.05	<MDA	0.00	1.77	<MDA
B2	38	0.00	2.00	<MDA	0.00	1.41	<MDA
B3	39	0.00	1.87	<MDA	0.00	1.69	<MDA
B4	40	0.00	1.93	<MDA	2.45	2.64	<MDA
C1	41	2.10	2.24	<AL	1.62	2.24	<MDA
C2	42	0.00	2.26	<MDA	0.00	1.49	<MDA
C3	43	0.00	1.96	<MDA	0.00	1.20	<MDA
C4	44	0.00	1.97	<MDA	0.00	1.21	<MDA
D1	45	0.00	2.16	<MDA	0.03	2.02	<MDA
D2	46	0.00	2.49	<MDA	0.00	1.56	<MDA
D3	47	1.69	1.99	<AL	0.00	1.96	<MDA
D4	48	0.00	2.05	<MDA	2.81	3.00	<MDA
A1	49	1.89	2.21	<AL	0.00	1.88	<MDA
A2	50	4.03	3.02	<AL	2.78	3.02	<MDA
A3	51	0.00	1.97	<MDA	1.44	2.35	<MDA
A4	52	0.00	1.94	<MDA	0.00	1.39	<MDA
B1	53	1.77	2.04	<AL	0.00	1.37	<MDA
B2	54	0.00	2.04	<MDA	2.15	2.57	<MDA
B3	55	0.00	1.87	<MDA	0.00	1.69	<MDA
B4	56	0.00	1.95	<MDA	5.56	3.19	<AL
C1	57	0.00	2.22	<MDA	0.00	1.39	<MDA
C2	58	0.00	2.28	<MDA	1.34	2.41	<MDA
C3	59	0.00	1.98	<MDA	1.34	1.95	<MDA
C4	60	0.00	1.97	<MDA	0.00	1.21	<MDA
D1	61	0.00	2.16	<MDA	0.03	2.02	<MDA
D2	62	0.00	2.52	<MDA	0.00	2.08	<MDA
D3	63	0.00	1.99	<MDA	0.00	1.49	<MDA
D4	64	0.00	2.01	<MDA	0.00	1.53	<MDA
A1	65	0.00	2.19	<MDA	0.00	1.41	<MDA
A2	66	0.00	2.16	<MDA	1.76	2.72	<MDA
A3	67	0.00	1.99	<MDA	3.67	2.83	<AL
A4	68	0.00	1.97	<MDA	1.48	2.56	<MDA

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98-GP-1-04

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR010
Batch Ended: 12/2/98 9:51

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/2/99
Serial Number: 26966-1

Batch ID: T 98-GP-1-04 BELCHER [70] 12-2-98 TAS

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
B1	69	0.00	2.09	<MDA	2.99	2.64	<MDA
B2	70	0.00	2.02	<MDA	0.00	1.88	<MDA

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98-GP-1-04

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02 Dec 98 15:11 ALPHA/BETA - 1.01 Page #1

Protocol #: 4 PW H3 403728 User : 5662

98-GP-1-04

Time: 2.00

Data Mode: DPM Nuclide: SM_GLASS Quench Set: SM_GLASS

Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5	- 18.6	0	0.0	6.40
Region B:	2.0	- 18.6	0	0.0	5.90
Region C:	40.0	- 2000	0	0.0	10.50

Quench Indicator: tSIE/AEC

Ext Std Terminator: Count

T 98-GP-1-04 [P1-P70] BELCHER 12-2-98 RLH

Luminescence Correction On

Coincidence Time(ns): 18

Delay Before Burst(ns): Normal

Protocol Data Filename: c:\data\PROT4.DAT

Count Data Filename: c:\data\SDATA4.DAT

Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	6.40	7	B	572.73		0.00	10.50
0	2.00	1237.60	0		607.22	2473.47	178.81	0.00
1	2.00	0.00	10		405.62	0.00	0.00	0.00
2	2.00	0.00	0		497.13	0.00	0.00	0.00
3	2.00	0.00	0		571.55	0.00	0.00	0.00
4	2.00	0.00	0		497.69	0.00	0.00	3.00
5	2.00	5.10	0		561.47	10.60	10.55	0.00
6	2.00	1.60	0		489.52	3.56	9.61	0.00
7	2.00	2.10	0		595.61	4.24	8.96	0.00
8	2.00	3.10	5		546.19	6.53	9.81	0.00
9	2.00	0.00	0		482.35	0.00	0.00	0.00
10	2.00	1.60	0		447.81	3.76	10.17	0.00
11	2.00	0.00	0		484.39	0.00	0.00	2.50
12	2.00	0.00	0		344.25	0.00	0.00	2.50
13	2.00	0.00	0		416.08	0.00	0.00	0.00
14	2.00	0.00	0		561.55	0.00	0.00	0.00
15	2.00	0.00	0		451.28	0.00	0.00	0.00
16	2.00	0.10	0		496.98	0.22	8.72	0.00
17	2.00	0.00	14		560.07	0.00	0.00	2.00
18	2.00	0.00	0		502.66	0.00	0.00	0.00
19	2.00	0.00	0		571.94	0.00	0.00	0.00
20	2.00	0.00	0		452.88	0.00	0.00	0.50
21	2.00	1.60	0		621.75	3.16	8.54	0.00
22	2.00	0.10	8		438.69	0.24	9.43	0.00
23	2.00	0.00	0		520.50	0.00	0.00	0.00
24	2.00	0.60	0		526.80	1.29	8.75	0.00
25	2.00	0.00	0		362.32	0.00	0.00	0.00
26	2.00	1.10	0		501.02	2.41	9.22	0.00
27	2.00	0.00	0		468.08	0.00	0.00	0.00
28	2.00	0.00	0		566.13	0.00	0.00	0.00
29	2.00	0.00	0		343.45	0.00	0.00	2.00
30	2.00	0.00	0		352.16	0.00	0.00	0.00
31	2.00	0.00	0		367.33	0.00	0.00	0.00
32	2.00	0.00	0		409.61	0.00	0.00	0.00
33	2.00	1.60	0		536.41	3.40	9.18	0.00
34	2.00	0.00	0		484.97	0.00	0.00	1.50

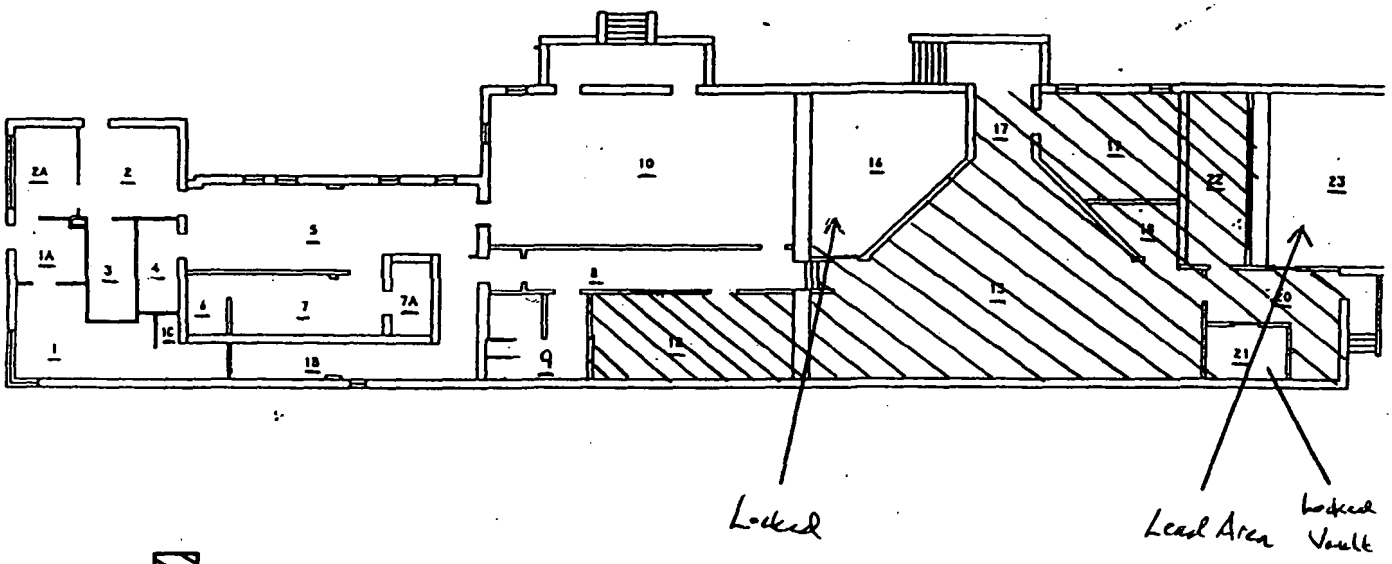
98-6P-1-04

S#	TIME	CPMA	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
35	2.00	0.00	0		489.89	0.00	0.00	0.00
36	2.00	0.60	0		427.28	1.45	9.88	3.00
37	2.00	0.00	0		302.86	0.00	0.00	0.00
38	2.00	0.10	0		444.72	0.24	9.35	2.00
39	2.00	0.00	0		494.12	0.00	0.00	0.50
40	2.00	0.00	0		426.31	0.00	0.00	0.00
41	2.00	0.00	0		477.97	0.00	0.00	0.00
42	2.00	0.00	0		380.37	0.00	0.00	0.00
43	2.00	0.60	0		462.01	1.38	9.42	0.50
44	2.00	0.00	0		503.21	0.00	0.00	0.00
45	2.00	0.00	0		401.18	0.00	0.00	0.00
46	2.00	0.00	0		585.42	0.00	0.00	0.00
47	2.00	0.10	0		520.61	0.22	8.53	0.00
48	2.00	0.00	0		370.91	0.00	0.00	0.00
49	2.00	0.10	0		504.60	0.22	8.65	0.00
50	2.00	0.00	0		429.45	0.00	0.00	0.00
51	2.00	0.00	0		514.69	0.00	0.00	0.00
52	2.00	0.00	0		561.18	0.00	0.00	0.00
53	2.00	0.60	0		555.19	1.25	8.53	0.00
54	2.00	1.60	0		567.94	3.31	8.93	0.00
55	2.00	0.00	0		404.74	0.00	0.00	0.00
56	2.00	0.00	0		384.01	0.00	0.00	0.00
57	2.00	0.00	0		428.94	0.00	0.00	0.00
58	2.00	0.00	0		489.72	0.00	0.00	0.00
59	2.00	0.00	0		457.00	0.00	0.00	1.00
60	2.00	0.00	0		450.58	0.00	0.00	0.00
61	2.00	0.00	0		489.41	0.00	0.00	0.00
62	2.00	0.00	0		472.52	0.00	0.00	0.00
63	2.00	0.00	0		464.78	0.00	0.00	0.00
64	2.00	0.10	0		557.49	0.21	8.26	0.00
65	2.00	0.00	0		415.06	0.00	0.00	4.50
66	2.00	0.00	0		400.55	0.00	0.00	0.00
67	2.00	0.00	0		522.31	0.00	0.00	0.00
68	2.00	2.60	0		544.02	5.49	9.60	0.00
69	2.00	0.00	0		565.03	0.00	0.00	0.00
70	2.00	0.00	0		476.10	0.00	0.00	0.00

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) GP-1	SURVEY NO. 99-GP-1-01
PURPOSE: Release of GP-1 Bldg.	RWP NO. N/A
	DATE: 1/4/99
	TIME: 1500

MAP/DRAWING



▨ => Areas of Survey

<100/α
<5K/β

All Rooms Above

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
= ROOM NUMBER
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NE ELECTRA	5305/5316	021799
	5382/5365	051199
	5308/5325	051199
	5303/5315	060999
N A	N A	N A

[redacted]

HP# 3829	7872	Date: 1/4/99
3825	8231	
HP#		Date:
HP# 3996		Date: 1-12-99

ML-9620 (2-98)

Survey No. 99-GP-1-01

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
			N/A	

COMMENTS: None

NOTES:

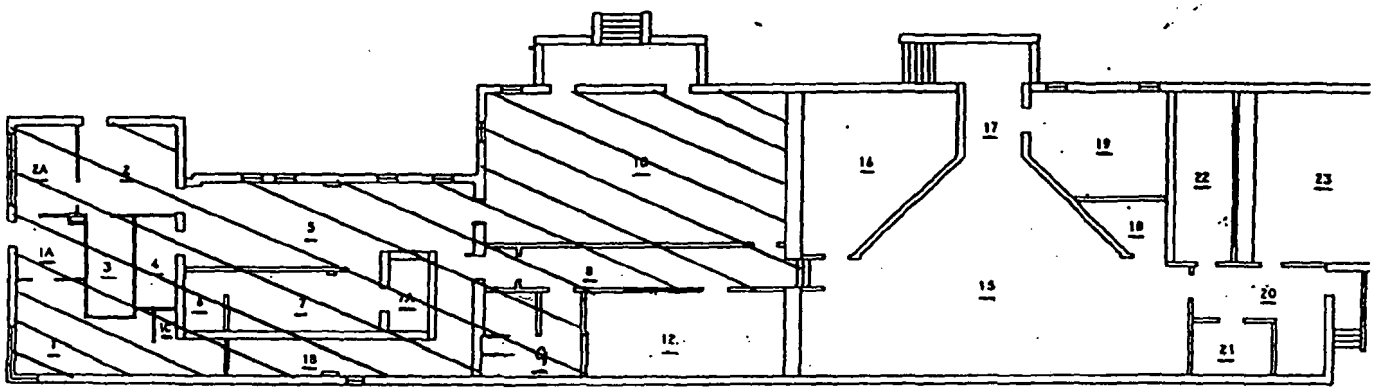
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type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

ML-9620 (4-98)

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) GP-1	SURVEY NO. 99-GP-1-02
PURPOSE: Release of GP-1 Bldg.	RWP NO. N/A
	DATE: 1/5/99
	TIME: 1500

MAP/DRAWING



⊘ → Areas of Survey

<100/α
<5k/β
All Bldgs Above

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
= ROOM NUMBER

△# = mrem/hr neutron

[#] = air sample number

(#) = swipe number

(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NE ELECTRA	~~5303~~ NOE305 / 5316	021799
	5382/5365	051199
	5308/5325	051199
	5303/5315	060999

[redacted]

HP# 5823	82JV T073	Date: 1/5/99
[redacted]		
HP#		Date:
HP# 5996		Date: 1-12-99

ML-9620 (2-98)

Survey No. 99-6P-1-02

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

COMMENTS: None

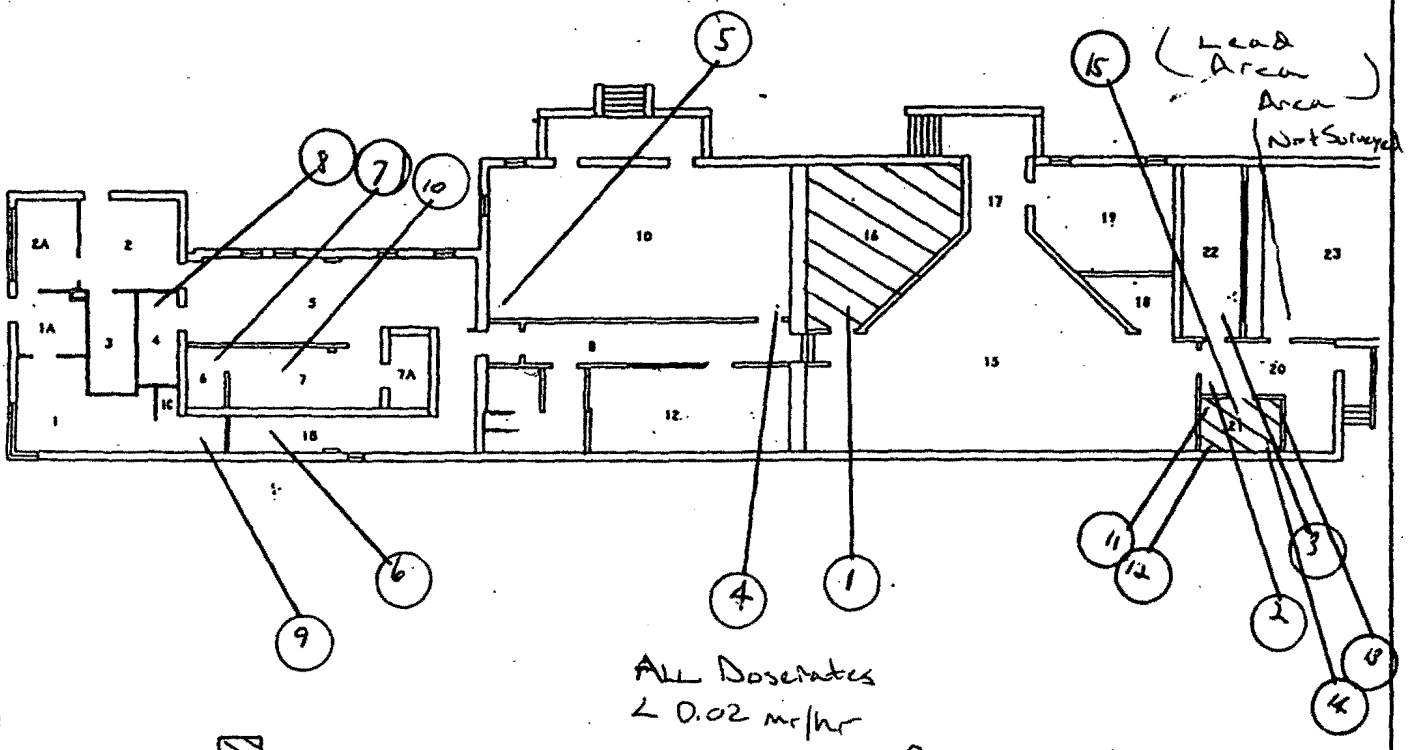
NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample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

RADIOLOGICAL SURVEY DATA SHEET R-214

K-1 / K-15 P5

LOCATION: (BLDG./AREA/ROOM) 6P [illegible]	SURVEY NO. 99-6P-1-03
PURPOSE: Release Survey	RWP NO. N/A
	DATE: 1/6/99
	TIME: 1500

MAP/DRAWING



All Dose rates < 0.02 mr/hr

▨ => surveyed floor in these areas.

<100/α
<5K/β

Return vents numbered 1-10 direct frisked

<100/α
<5K/β

LEGEND:
= mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NE ELDITRA	5303/5315	060999
↓	5382/5365	051199
↓	5305/5316	021799
BICRON μR	3928	0309 99
N A	N A	N A

[redacted]

HP#	Date:
1225 8934 3222 7577	1/6/99
[redacted]	
5879	1-7-99
5996	1-12-99

ML-9620 (2-98)

99-CP-1-03

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1-15	← See	Attached		→
			N	A

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N	A	

COMMENTS: Directs and smears taken on current floor cover. ← N/A →

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-9620 (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR020
Batch Ended: 1/7/99 9:47

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/2/99
Serial Number: 26966-1

Batch ID: T 99-GP-1-03 SMITH [15] 01-07-99 TAS

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	2.21	<MDA	0.00	1.88	<MDA
A2	2	0.00	2.16	<MDA	1.76	2.72	<MDA
A3	3	1.65	1.96	<AL	0.20	2.06	<MDA
A4	4	0.00	1.96	<MDA	0.00	2.06	<MDA
B1	5	0.00	2.05	<MDA	0.00	1.77	<MDA
B2	6	7.65	4.01	<AL	6.50	3.57	<AL
B3	7	0.00	1.87	<MDA	0.00	1.69	<MDA
B4	8	0.00	1.93	<MDA	2.45	2.64	<MDA
C1	9	0.00	2.24	<MDA	1.77	2.24	<MDA
C2	10	0.00	2.29	<MDA	2.67	2.76	<MDA
C3	11	0.00	1.98	<MDA	1.34	1.95	<MDA
C4	12	0.00	1.99	<MDA	2.44	2.24	<MDA
D1	13	0.00	2.15	<MDA	0.00	1.51	<MDA
D2	14	0.00	2.55	<MDA	1.03	2.49	<MDA
D3	15	0.00	1.99	<MDA	0.00	1.49	<MDA

1/11/99

3 of 4

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

	LL	UL	LCR	2S%	BKG
Region A:	0.5 -	18.6	0	0.0	9.50
Region B:	2.0 -	18.6	0	0.0	10.30
Region C:	40.0 -	2000	0	0.0	11.90

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
T 99-GP-1-03 [K1-K15] NEAL/MURPHY 1-7-99 RLH
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\prot1.dat
Count Data Filename: c:\data\SDATA5.DAT
Spectrum Data Drive & Path: c:\data

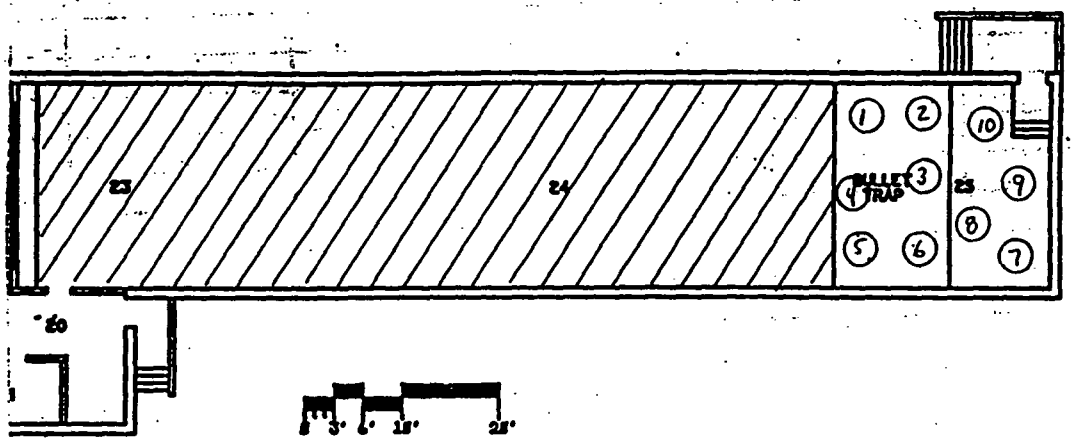
S#	TIME	CPMA	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	9.50	44	B	476.13		0.00	11.90
0	2.00	363.00	0		577.81	743.73	71.74	0.00
1	2.00	0.00	0		473.96	0.00	0.00	0.00
2	2.00	0.00	0		419.68	0.00	0.00	0.00
3	2.00	0.00	0		436.86	0.00	0.00	1.60
4	2.00	0.00	0		615.41	0.00	0.00	0.00
5	2.00	0.00	0		426.45	0.00	0.00	0.60
6	2.00	0.00	0		375.39	0.00	0.00	2.60
7	2.00	0.00	0		663.20	0.00	0.00	0.00
8	2.00	0.00	0		487.31	0.00	0.00	0.60
9	2.00	0.00	0		651.16	0.00	0.00	0.00
10	2.00	0.00	0		682.75	0.00	0.00	0.00
11	2.00	0.00	0		613.69	0.00	0.00	0.00
12	2.00	0.00	0		600.70	0.00	0.00	0.00
13	2.00	0.00	0		600.47	0.00	0.00	0.00
14	2.00	0.50	5		556.01	1.04	10.75	1.10
15	2.00	0.00	0		624.74	0.00	0.00	0.00

RADIOLOGICAL SURVEY DATA SHEET

M-1/M-10 P3

LOCATION: (BLDG/AREA/ROOM) GP-1	SURVEY NO. 99-CP-1-04
PURPOSE: RELEASE SURVEY	RWP NO. N/A
	DATE: 01/11/99
	TIME: 1400

MAP/DRAWING



*NOTE: DIRECT READINGS TAKEN IN ALL SHADED AREAS AND AT SMEAR LOCATIONS
ALL READINGS = < 100 DPM/100 cm² α
< 5000 DPM/100 cm² β-γ

GP-1 BLDG
FIRST FLOOR
BLDG CODE:3508

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+n+γ) extremity on contact
= mrem/hr neutron
= air sample number
= swipe number
α/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NE ELECTRA	5305/5316	021799
	5340/5343	020699
	5303/5315	060999
	5896/5279	061599
N A	N A	N A

[redacted]

HPI 7872/7873	Date: 01/11/99
[redacted]	
HPI 5379	Date: 01/12/99 01/11/99
[redacted]	
HPI 5996	Date: 1-13-99

ML-0620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1-10				SEE ATTACHMENT
			A	
		N		

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
			A	
		N		

COMMENTS: DIRECT READINGS TAKEN AT SMEAR LOCATIONS

NOTES:
1. See MD-60036 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-9620 (2-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR000
Batch Ended: 1/12/99 8:02

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/2/99
Serial Number: 26966-1

Batch ID: T 99-GP-1-04 MURPHY [10] 01-12-99 TAS

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	2.19	<MDA	0.00	1.41	<MDA
A2	2	0.00	2.14	<MDA	0.00	1.99	<MDA
A3	3	1.65	1.96	<AL	0.20	2.06	<MDA
A4	4	0.00	1.97	<MDA	1.48	2.56	<MDA
B1	5	0.00	2.06	<MDA	0.72	2.10	<MDA
B2	6	0.00	2.02	<MDA	0.00	1.88	<MDA
B3	7	0.00	1.91	<MDA	4.78	2.95	<AL
B4	8	1.68	1.90	<AL	0.00	1.94	<MDA
C1	9	0.00	2.23	<MDA	0.53	1.86	<MDA
C2	10	0.00	2.27	<MDA	0.00	2.01	<MDA

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

	LL	UL	LCR	2S%	BKG
Region A:	0.5 -	18.6	0	0.0	6.20
Region B:	2.0 -	18.6	0	0.0	5.60
Region C:	40.0 -	2000	0	0.0	10.10

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
T 99-CP-1-04 [M1-M10] MURPHY 1-12-99 RLH
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\PROT3.DAT
Count Data Filename: c:\data\SDATA3.DAT
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	6.20	31	B	591.73		0.00	10.10
0	2.00	1339.80	0		608.27	2675.39	191.09	2.40
1	2.00	1.30	0		538.22	2.76	9.09	0.00
2	2.00	0.00	0		641.68	0.00	0.00	0.40
3	2.00	0.30	0		473.87	0.68	9.18	1.90
4	2.00	0.00	0		553.21	0.00	0.00	3.90
5	2.00	0.30	0		625.47	0.59	7.96	0.00
6	2.00	0.00	0		534.54	0.00	0.00	0.00
7	2.00	0.00	0		566.50	0.00	0.00	0.00
8	2.00	1.80	0		559.38	3.75	9.16	0.00
9	2.00	0.00	0		615.26	0.00	0.00	5.40
10	2.00	0.00	0		602.17	0.00	0.00	0.00

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) GP-1	SURVEY NO. 99-GP-1-05
PURPOSE: SOIL SAMPLES	RWP NO. N/A
	DATE: 011499
	TIME: 1400

MAP/DRAWING

	GPS #'s
(7) SOIL SAMPLES # 99-GP-1-05-01 →	4441
-02 →	4442
-03 →	4443
-04 →	4444
-05 →	4445
-06 →	4446
99-GP-1-05-07 →	4447

SEE ATTACHED MAP FOR SAMPLE LOCATIONS.

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
= mrem/hr neutron
= air sample number
= swipe number
#/α or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
N/A	N/A	N/A

[redacted]

HPI	Date:
7872	011499
HPI	Date:
HPI	Date:
5996	1-25-99

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

N/A

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

N/A

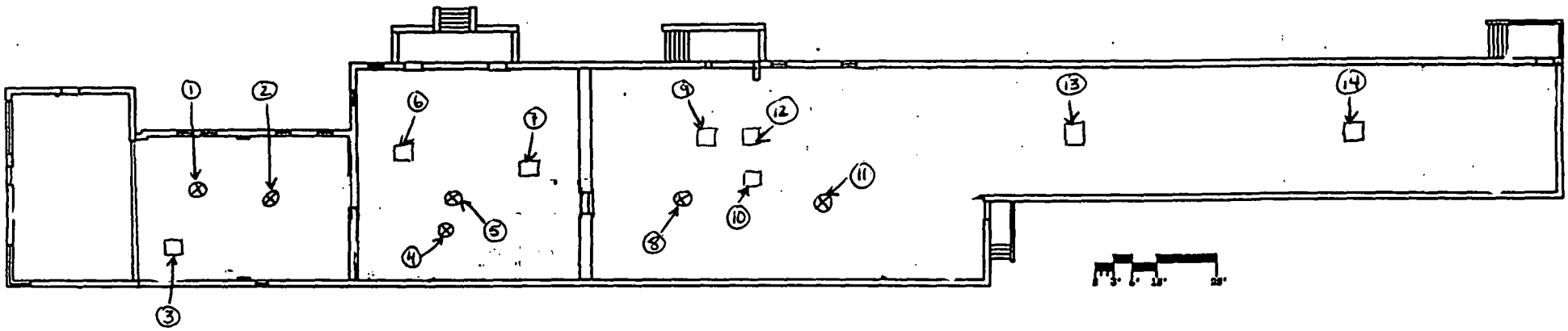
COMMENTS: N/A

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-9620 (2-98)

IND	DATE	REVISION	BY	CHKD	ENG	APPD	B
B	12/12/91	ASBUILT ISSUE	DCW			DVO	



LEGEND:

⊗ = DRAINS

□ = EXHAUST VENTS

GP-1 BLDG
FIRST FLOOR
BLDG CODE:3508

NOT FOR PUBLIC DISSEMINATION

MAY CONTAIN UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION SUBJECT TO SECTION 148 OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED (42 USC 2168). APPROVAL BY THE DEPARTMENT OF ENERGY PRIOR TO RELEASE IS REQUIRED.

SHEET	1	2	3	4	5	6	TITLE	(U) TITLE CLASSIFICATION
SCALE	8						GP-1 BLDG FLOOR PLANS	
DRAW CLASSIFICATION								
DRAWING CLASSIFICATION	UCNI						SIZE D	DRAWING NUMBER FSD911309
DWG TYPE GFP	FORM GP-1 BLDG	CHKD 1484S	SCALE IN USE	SHEET 1 OF 1				
STATUS NO-REL-12/12/91							DRAWN NO-BRS-V3.8	

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR008
Batch Ended: 1/19/99 13:04

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/2/99
Serial Number: 26966-1

Batch ID: T 99-GP-1-08 NEAL [14] 01-19-99 TAS

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	2.23	<MDA	2.23	2.58	<MDA
A2	2	0.00	2.16	<MDA	1.76	2.72	<MDA
A3	3	1.66	1.94	<AL	0.00	1.33	<MDA
A4	4	0.00	1.98	<MDA	2.56	2.78	<MDA
B1	5	0.00	2.04	<MDA	0.00	1.37	<MDA
B2	6	0.00	2.02	<MDA	0.00	1.88	<MDA
B3	7	1.65	1.86	<AL	0.00	1.29	<MDA
B4	8	1.68	1.91	<AL	0.27	2.20	<MDA
C1	9	2.10	2.24	<AL	1.62	2.24	<MDA
C2	10	0.00	2.27	<MDA	0.00	2.01	<MDA
C3	11	0.00	1.98	<MDA	1.34	1.95	<MDA
C4	12	1.65	1.99	<AL	3.43	2.49	<AL
D1	13	0.00	2.16	<MDA	0.03	2.02	<MDA
D2	14	2.12	2.52	<AL	0.00	2.08	<MDA

Protocol #: 1 Name:PW H3 #401388 19-Jan-99 14:04
Region A: LL-UL= 0.5-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region B: LL-UL= 2.0-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region C: LL-UL=40.0-2000 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Time = 2.00 QIP = tSIE/AEC ES Terminator = Count
T 99-GP-1-08 [B1-B14] NEAL/MURPHY 1-19-99 RLH
Conventional DPM
Nuclide 1 = 800
Luminescence Correction On

S#	TIME	CPMA	CPMB	CPMC	FLAG	LUM	tSIE	DPM1	2Sigma
-1	10.00	6.40	6.60	10.20	B	52	628.		0.00
0	2.00	1659.60	1586.40	0.00		1	622.	3765.03	266.10
1	2.00	1.60	0.00	0.30		6	540.	4.11	11.65
2	2.00	4.10	3.90	0.00		9	560.	10.26	13.15
3	2.00	0.00	0.00	0.00		43	568.	0.00	0.00
4	2.00	2.60	2.90	0.00		33	432.	7.14	16.62
5	2.00	0.10	0.00	0.00		14	422.	0.28	12.33
6	2.00	2.10	1.90	0.00		6	572.	5.09	11.25
7	2.00	2.10	2.40	0.00		21	542.	5.38	13.46
8	2.00	8.10	6.40	1.80		16	414.	22.84	18.66
9	2.00	20.60	13.40	0.00		11	551.	52.22	21.83
10	2.00	31.10	25.40	0.00		5	590.	73.21	22.48
11	2.00	2.10	2.90	0.00		33	466.	5.64	16.48
12	2.00	2.10	0.00	0.00		9	497.	5.62	12.99
13	2.00	6.60	4.40	1.80		4	562.	16.45	13.82
14	2.00	2.10	0.40	0.00		11	566.	5.21	12.04

Appendix H

Radon Survey/Information

UNC Geotech

UNC Geotech
2597 B 3/4 Road
P.O. Box 14000
Grand Junction, Colorado 81502-5504
303/242-8621

April 12, 1990

Dennis Murphy
EG&G Mound Applied Technonogies
P.O. Box 3000
Mound Road
Miamisburg, OH 45343-3000

Dear Mr. Murphy:

I have enclosed the results ~~of the radon~~ measurements made at your site as part of the DOE Indoor Radon Study. A copy of these results can be provided in electronic ~~format if desired~~. The results will be forwarded to the study sponsor, the DOE Office of Projects and Facilities Management, by the end of April.

Please contact me at FTS 326-6293 or commercial (303) 248-6293 if you have any questions.

Sincerely yours,

Mark D. Pearson

Mark D. Pearson
Project Manager
UNC Geotech

cc: DOE Points of Contact

Area	Bldg	Bldg Description	Room	Avg Radon pCi/l	Duplicate Radon pCi/l	Monid	Dupid	Monitor Install Date	Monitor Retrieve Date	Comments
	21		ABOVE AIR SAMPLER	161.1	125.0	1678055	1666782	12/14/89	2/16/90	MET - OLD THORIUM STORAGE
	21		ABOVE AIR SAMPLERS	116.7		1668508		12/14/89	2/16/90	MET - OLD THORIUM STORAGE
		SM	19 MID EAST WALL	4.0		1661547		12/12/89	2/19/90	HISTORY OF ELEVATED READINGS
	48		114 B CLOSET ON SPRINKLER PIPE	3.2		1671292		12/12/89	2/19/90	
	19		ROOM 1	2.6		1678051		12/13/89	2/19/90	
		OLD SD BLDG	BASEMENT RIGHT CABINET	2.4		1681555		12/14/89	2/19/90	
	55		1 BELOW THEMOSTAT ON E WALL	2.1		1661515		12/18/89	2/19/90	
	57		ROOM 1	1.9		1681565		12/12/89	2/19/90	
	87		143	1.5		1681563		12/13/89	2/19/90	
	998	FIRE STATION	ROOM 002 EQUIPMENT ROOM WITH SUMP	1.4		1654460		12/12/89	2/19/90	
	24		ROOM 1 PLANT NORTH WALL	1.3		1672087		12/12/89	2/19/90	
		PAINT SHOP	PS 4	1.2		1661516		12/12/89	2/16/90	*
	30		ROOM 3 EAST	1.1		1671262		12/12/89	2/16/90	
	100		103 MIDDLE OF NORTH WALL	1.0		1678060		12/12/89	2/19/90	
	37		6 NORTH WALL	1.0		1678046		12/12/89	2/19/90	
	34		34 A WEST WALL	.9	.6	1672062	1672042	12/12/89	2/19/90	MET
	102		123	.9		1681577		12/14/89	2/19/90	
	61		RM 221 MIDDLE OF NORTH WALL	.9		1681585		12/13/89	2/19/90	
	67		101 H	.9		1678020		12/12/89	2/19/90	
	G-13	LOG	G-514 WEST WALL	.9		1661544		12/12/89	2/16/90	
		T	CORRIDOR 28	.9		1678039		1/15/90	2/19/90	
		T	153	.9		1678067		1/15/90	2/19/90	
		T	78	.9		1678077		1/15/90	2/19/90	
		T	38	.8		1681566		1/15/90	2/19/90	
	105	PARTS MACHINING BUILDING	STAIRWELL NEXT TO ROOM 127	.8		1681564		12/12/89	2/19/90	
	25	ARAC	3 ON BOOK CASE MIDDLE	.8		1671314		12/16/89	2/19/90	
	60		1 ON DOOR TO ROOM 3	.8		1678049		12/12/89	2/19/90	
		A	153C CENTER CUBICLE WEST WALL	.8		1672056		12/14/89	2/16/90	
		C BUILDING OLD CAFETERIA	NORTHEAST SECTION INTERNAL WALL RM2	.8		1672052		12/12/89	2/16/90	
		R BUILDING	68 NORTH WALL	.8		1678068		12/13/89	2/16/90	
		SM	8 WEST WALL AT OLD RECOVERY	.8		1672057		12/11/89	2/16/90	
		MD BLDG	MD 8	.8		1678045		12/18/89	2/16/90	
	87		126	.8		1678032		12/12/89	2/19/90	
	88		ROOM 116 ON NORHT WALL RIGHT OF CEN	.7	.5	1681524	1681535	12/12/89	2/19/90	
	89		101 NEAR BACK CORNER BY ROOF DRAIN	.7	.5	1666783	1668532	12/15/89	2/19/90	
	22		RM 1 EAST CORRIDOR ON STORAGE RACK	.7		1678070		12/13/89	2/19/90	
	56	FIRE PUMP HOUSE	ROOM 1 THERE IS ONLY 1 ROOM	.7		1678066		12/12/89	2/19/90	
		E ANNEX	E 225 EAST WALL	.7		1681552		12/19/89	2/16/90	
		POWER HOUSE PH-1	REPAIR SHOP NORTH EAST CORNER	.7		1678040		12/12/89	2/19/90	
		M BLDG	M-135	.7		1681553		12/12/89	2/16/90	
	26		ROOM 84 SOUTH WEST WALL	.6	.9	1672048	1667159	12/13/89	2/16/90	
	69		RM 7 ON NORTH WALL	.6	.4	1672044	1672077	12/12/89	2/19/90	
	26		ROOM 84 SOUTH WEST WALL	.6		1671279		12/13/89	2/16/90	
	35		RM 7	.6		1654459		12/14/89	2/19/90	
	38	PP BLDG	PP CORR 136	.6		1678016		12/14/89	2/19/90	
	72		ON OVERHEAD DOOR BEAM	.6		1672069		1/03/90	2/19/90	
	93		HALLWAY 107 (MIDWAY)	.6		1681629		12/13/89	2/20/90	
	98	FIRE STATION	ROOM 114 DORM	.6		1661507		12/12/89	2/19/90	
		COS	RM STAIRWELL AT BASEMENT LEVEL	.6		1672086		12/14/89	2/19/90	
		OSM	120 C	.6		1681573		12/12/89	2/16/90	
		SM	150 WEST END GAS BOX	.6		1678043		12/11/89	2/16/90	
		A	34 EAST WALL	.5	.7	1672075	1672051	12/14/89	2/16/90	
	47		102 MIDDLE OF EAST WALL	.5	.5	1658110	1666819	12/12/89	2/16/90	

Bldg	Bldg Description	Room	Avg Radon pCi/l	Duplicate Radon pCi/l	Monid	Dupid	Monitor Install Date	Monitor Retrieve Date	Comments
	R BUILDING	143 NEXT TO NORTH WALL	.5	.5	1660533	1666816	12/13/89	2/16/90	
101		ROOM 5 ON SOUTH WEST WALL IN OFFSET	.5		1671268		12/12/89	2/19/90	
	"B" 175	175 WEST WALL	.5		1678040		12/12/89	2/16/90	
36		ELECTRICAL PANEL RM IN ELECTRONICS	.5		1678062		12/12/89	2/19/90	
40		100	.5		1654480		12/13/89	2/16/90	
43		1 EAST WALL OVER WATER DISPENSER	.5		1678076		12/12/89	2/20/90	
44		ON BULLETIN BOARD	.5		1678047		12/12/89	2/16/90	
47		102 MIDDLE OF EAST WALL	.5		1678058		12/12/89	2/16/90	
50		CELL 113	.5		1681582		12/13/89	2/19/90	
79		CENTRAL HALLWAY WEST OF DOOR TO RM7	.5		1681605		12/18/89	2/16/90	
89		101 NEAR BACK CORNER BY ROOF DRAIN	.5		1678079		12/15/89	2/19/90	
91		1ST FLOOR	.5		1661525		12/15/89	2/16/90	
91		2ND FLOOR OUTSIDE RM215	.5		1681593		12/15/89	2/16/90	
92		HALLWAY RIGHT OFF ROOM 8	.5		1661509		12/12/89	2/19/90	
94		BAY 2 NORTH WALL	.5		1654477		12/12/89	2/19/90	
	A	215 WEST WALL	.5		1681572		12/14/89	2/16/90	
	A	108D WEST WALL	.5		1681580		12/14/89	2/16/90	
	COS	119 N WALL NEAR PUNCH PRESS	.5		1654456		12/12/89	2/19/90	
	COS	319 WALL CABINET TO RIGHT OF SINK	.5		1681590		12/12/89	2/19/90	
	E BUILDING	158 WEST WALL	.5		1678033		12/14/89	2/16/90	
	E BUILDING	103 WEST WALL	.5		1678072		12/14/89	2/16/90	
	E-ANNEX	E 212 NORTH WALL	.5		1681587		12/18/89	2/16/90	
	GH BUILDING	ROOM 2	.5		1678065		12/12/89	2/16/90	
	GP 81	1A MIDDLE OF WEST WALL	.5		1678054		12/12/89	2/19/90	
	H BLDG	ROOM 127	.5		1681511		12/12/89	2/16/90	
	HH	HH-8	.5		1671269		12/18/89	2/19/90	
	I BUILDING	BASEMENT LEFT CRAWL SPACE DOOR	.5		1671260		12/12/89	2/19/90	
	M BUILDING	M 108	.5		1678056		12/15/89	2/19/90	
	OSE	CORRIDOR 437	.5		1661536		12/15/89	2/16/90	
	OSE	CORRIDOR 301 ACROSS FROM WATER FOUN	.5		1672084		12/15/89	2/16/90	
	OSW	4HT FLOOR	.5		1678028		12/12/89	2/16/90	
	OSE	CORR 212 SOUTH WALL NEAR 218 DOOR	.5		1678036		12/15/89	2/16/90	
	OSW	319	.5		1678069		12/13/89	2/16/90	
	OSW	2ND FLOOR	.5		1681611		12/12/89	2/16/90	
	POWER HOUSE PH-1	STATIONARY BOARD CORNER	.5		1678073		12/12/89	2/19/90	
	R BUILDING	145 WEST WALL ABOVE BALANCE	.5		1654538		12/14/89	2/16/90	
	SW/R TRITIUM COMPLEX	128 OVER LARGE METAL FLOOR DISC	.5		1678019		12/12/89	2/16/90	
	W BLDG	W135 WEST CENTRAL WALL	.5		1671283		12/12/89	2/16/90	
	WO BLDG	WOA 110	.5		1671301		12/18/89	2/16/90	
	"B" 124	EAST WALL	.5		1667189		12/12/89	2/16/90	
	OSE	113 BULLETIN BOARD OPPOSITE ELEVATO	.5		1678027		12/15/89	2/16/90	
TF-2		114 EAST WALL CENTER OF ROOM	.4		1678064		12/12/89	2/19/90	
	HH	HH-24	.4		1667187		12/14/89	2/19/90	
	DS BUILDING	CORRIDOR 7 NEXT TO ROOM 216	.4		1661614		12/13/89	2/19/90	
	GP 81	1A MIDDLE OF WEST WALL	.4	.5	1672135	1681542	12/12/89	2/19/90	
105	PARTS MACHINING BUILDING	136 QC OFFICE	.4		1678017		12/12/89	2/19/90	
27		CELL 8 - WALL	.4		1681583		12/12/89	2/19/90	
28	CERAMIC PRODUCTION	101	.4		1672061		12/12/89	2/19/90	
29		HALLWAY	.4		1672105		12/14/89	2/19/90	
	TEST FIRE BUILDING 3	3-315	.4		1672036		12/12/89	2/19/90	
38	PP BLDG	PP CORR 16/BAY 2 WALL	.4		1681570		12/14/89	2/19/90	
39		BREAK RM	.4		1678050		12/14/89	2/19/90	
42		101 B EAST WALL	.4		1678031		12/13/89	2/19/90	

/14/90 Radon Monitor Results for OB Mound Facility

rea	Bldg	Bldg Description	Room	Avg Radon pCi/l	Duplicate Radon pCi/l	Monid	Dupid	Monitor Install Date	Monitor Retrieve Date	Comments
	45		WORK STATION AREA	.4		1681568		12/14/89	2/19/90	
	46		81 EAST WALL	.4		1672078		12/12/89	2/19/90	
	49		WALL OUTSIDE RM 125	.4		1678020		12/14/89	2/19/90	
	51		107 TOP OF FUME HOOD	.4		1681575		12/12/89	2/19/90	
	63		ROOM 134	.4		1672059		12/13/89	2/20/90	
	63W		RM 4	.4		1678078		12/14/89	2/19/90	
	65		ROOM 10 CONFERANCE ROOM	.4		1671284		12/14/89	2/19/90	
	66		OFFICE AREA	.4		1681554		12/12/89	2/19/90	
	68		EAST WALL CENTER BEAM	.4		1681555		12/14/89	2/19/90	
	69		RM 10A	.4		1681576		12/12/89	2/19/90	
	70		170 MEETING ROOM CENTER WALL	.4		1678041		12/12/89	2/19/90	
	88		ROOM 116	.4		1671295		12/12/89	2/19/90	
	95	SH/PP	95- BLD-ROOM81	.4		1661531		12/12/89	2/20/90	
		OS BUILDING	CORRIDOR 2 - 6 FT. ABOVE FLOOR	.4		1678071		12/13/89	2/19/90	
		I	I HALLWAY	.4		1667184		12/12/89	2/19/90	
		N BUILDING	N 21 WEST WALL	.4		1678057		12/15/89	2/20/90	
		POWER HOUSE PH-1	OFFICE SUPERVISOR	.4		1678036		12/12/89	2/19/90	
		R BUILDING	12 SOUTH WALL	.4		1681566		12/13/89	2/19/90	
	34		BURN ROOM			1654481		12/12/89		BURNT (NOT AVAILABLE)
	61		RM 151			1681567		12/13/89		MISSING

Appendix I

Asbestos Summary/Information

MOUND ASBESTOS SURVEY
BUILDING SUMMARY

BUILDING GP-1

FLOORS:	One	PIPE CHASES:	None
DATE BUILT:	1949	PENTHOUSE:	None
CRAWLSPACE:	None	GROSS AREA, SQ. FT.:	7,792
SUSPENDED CEILING:	Yes	ADDITIONS:	1963, 1968, 1980

Asbestos was found to be present in Thermal System Insulation and/or other material in Building GP-1. The homogeneous areas for the suspect Asbestos Containing Materials are shown below. Refer to the Mound Asbestos Survey Sample Data Report for specific information on sample constituents, estimated amounts of the material, assessments, and percentages of each constituent in the sample.

HOMOGENEOUS AREAS
Sample Numbers: 1.223-1.243

No.	Description	Result
1	Pipe Joint Insulation, Type I, Hard Joints w/Fiberglass Runs	Negative
2	Pipe Insulation, Type II, Hard	Positive
3	Pipe Joint Insulation, Type II, Hard	Positive
4	Condensate Tape (White)	Negative
5	Ceiling Tile, CT1-A, (1'x1'), Fissured	Negative
6	Ceiling Tile, CT2-B, (2'x2'), Fissured w/Pinholes	Negative
7	Ceiling Tile, CT3-B, (2'x4'), Fissured w/Pinholes	Negative
8	Drywall	Negative
9	Drywall Joint Compound	Negative

Assumed ACM:	Amount	Location
* Floor Tile	N/A	N/A
** Carpet	N/A	N/A

Drawing Reference: P77

* Floor tile quantities not included in scope.
** Carpet quantities not included in scope.

Building GP1

Inspection Date 1/21/92

Inspector..... Randy Hayes

Sample Numbers..... 1,223 - 1,243

Data Review

The visual inspection and sampling/analysis of "GP1" Building identified only 2 materials as positively containing asbestos. These 2 materials, Pipe Insulation - Hard and Pipe Joint Insulation - Hard are documented as being removed from the building by Alloyd Insulation, Inc. in July 1992 as part of the HVAC Upgrade project. Aside from the pipe insulation, the materials in the building which are assumed to contain asbestos are the floor tile, tile mastic, and carpet mastic.

Data Verification

The abatement work in GP1 took place after the labeling of asbestos materials in the building. During a walk-through of the building related to the potable water project, this planner was not able to locate any material that was still labeled as "asbestos-containing." However a response area to incorporate any material that might remain is included in this plan.

Total Abatement Cost..... $NONE

Total O&M Cost/Year..... $180.00

BUILDING GP1

RESPONSE AREA DESIGNATION..... A

Rooms Included:

1B; 6; 7; 5; 8; 10; 11

Materials Included:

Pipe Insulation - Hard
Pipe Joint Insulation - Hard

Response Area Description

Pipe Insulation - Building (presumed)

Recommended Response O&M

Priority Level..... Planned

Hazard Rank..... 2

Response Justification

This response area is included as a contingency against some of this material remaining in the building subsequent to the abatement action that took place in July 1992. A cursory inspection of the building did not reveal any of the material, but that inspection was not sufficiently thorough to determine that all of the asbestos-containing pipe insulation was gone.

If there is any material remaining its physical assessment would necessarily be "potential for damage," and its Hazard Rank #2.

The recommended response action is to include the area in the plant O&M program. The first re-inspection performed should be exhaustive with the intent to verify positively the absence of any remaining ACM insulation. If none is located, the area can be removed from the O&M program.

Annual O&M Cost..... $120.00

Abatement Cost..... $Not Considered

BUILDING GP1

RESPONSE AREA DESIGNATION..... B

Rooms Included:

1; 1A; 1B; 1C; 2; 2A; 3; 4; 5; 7; 8; 9; 10; 11; 12; 13; 13A; 15; 17; 20; 22; 23

Materials Included:

Floor Tile
Mastic
Carpet Mastic

Response Area Description

Flooring

Recommended Response O&M

Priority Level..... Planned

Hazard Rank..... 1

Response Justification

This material has not been positively identified as asbestos-containing and is currently in good condition with little potential for damage. Therefore, a Hazard Rank #1 is assigned and the material should be included in the O&M program.

An alternative is to sample and analyze the material possibly enabling it to be removed from surveillance with a resultant long-term cost savings.

Sampling and analysis is recommended prior to any activity that might disturb the material or cause it to become friable.

Annual O&M Cost..... $60.00

Abatement Cost..... $Not Considered

FOR ENVIRONS, INC.

CHAIN OF CUSTODY RECORD

1/2

Asbestos Survey Abatement Plans - 18148-00-

PROJECT/CLIENT NAME EG&G Mound Applied Technologies

SAMPLER (Signature) Randell R Hayes II DATE 1/20/92

SAMPLE NO.	LABID	TIME	AIR	BULK	SAMPLE LOCATION/DESCRIPTION	
1.223	920703			✓	PIPE JOINT INSUL TYPE I - HARD FIB RUNS	BUILDING "GP-1"
1.224	920704			✓	"	"
1.225	920705			✓	"	"
1.226	920706			✓	PIPE INSUL TYPE II - HARD	"
1.227	920707			✓	"	"
1.228	920708			✓	"	"
1.229	920709			✓	PIPE JOINT INSUL TYPE II - HARD	"
1.230	920710			✓	"	"
1.231	920711			✓	"	"
1.232	920712			✓	CONDENSATE TAPE (WHITE)	"

SAMPLE CONTAINER	
1. Plastic bag	
2. Cassette	
3. Film canister	✓

ANALYSIS	
1. Fiber counting	
2. Asbestos ID	✓

Relinquished by	Date	Time	Accepted by
Randell R Hayes II	1/21	1:00 p	Lon L. Fisher
Lon L. Fisher			J. Hayes
J. Hayes	2-7		

FOR ENGINEERS, INC.

CHAIN OF CUSTODY RECORD

4/2

PROJECT/CLIENT NAME Asbestos Survey, Abatement Plans - 18148-00 - EG&G Mound Applied Technologies

SAMPLER (Signature) Randell R Hayes II DATE 1/21/92

SAMPLE NO.	LABID	TIME	AIR	BULK	SAMPLE LOCATION/DESCRIPTION	
1.233	920713			✓	CONDENSATE TAPE	BUILDING "GP-1"
1.234	920714			✓	CT1-~~A1~~ - FISSURED	"
1.235	920715			✓	A "	"
1.236	920716			✓	CT2-~~A~~ - FISSURED w/ PINHOLES	"
1.237	920717			✓	B "	"
1.238	920718			✓	CT3-~~A2~~ - FISSURED w/ PINHOLES	"
1.239	920719			✓	B "	"
1.240	920720			✓	DRYWALL	"
1.241	920721			✓	"	"
1.242	920722			✓	DRYWALL JOINT COMPOUND	"
1.243	920723			✓	"	"

SAMPLE CONTAINER	
1. Plastic bag	
2. Cassette	
3. Film canister	✓

ANALYSIS	
1. Fiber counting	
2. Asbestos ID	✓

Relinquished by	Date	Time	Accepted by
Randell R Hayes II	1/21	1:00	Aaron L. Zeck
Aaron L. Zeck			J. Hayes
J. Hayes	2-7		

P D R ENVIRONMENTAL LABORATORIES
2000 Lindell Avenue * (615) 298-2065 * Nashville, TN 37203

BULK ASBESTOS ANALYSIS REPORT
EPA Polarized Light Microscopy Method

---------- SAMPLE INFORMATION ----------

Client:
Sean Fisher
Barge, Waggoner, Sumner & Cannon
162 Third Avenue North
Nashville, TN 37201

Lab ID: 920703
Date Sampled: 01/21/92
Date Received: 02/04/92
Date Analyzed: 02/07/92
Analyst: T. Hayes
Sampled by: CLIENT W/DATA

Sample Description:
EG&G Mound
Pipe joint insulation
Type I - hard fib runs
Building GP-1
1.223

Sample Treatment:
Teased apart with forceps

---------- GROSS SAMPLE APPEARANCE ----------

Is sample friable? YES Are layers obvious? YES
Are fibers visible by stereoscopic examination? YES
Comments: Brown and straight asbestos fibers were detected.

---------- MICROSCOPIC ANALYSIS ----------

ASBESTOS CONSTITUENTS: (Central Stop Dispersion Staining Colors)

Mineral	Percent	Perpendicular	Parallel	RI Oil
Chrysotile	0 %	blue	blue-magenta	1.550
Anthophyllite	0 %	blue	gold-magenta	1.605
Tremolite	0 %	pale blue	yellow	1.605
Actinolite	0 %	magenta	golden yellow	1.630
Amosite	*** %	blue-magenta	golden yellow	1.680
Crocidolite	0 %	red-magenta	blue-magenta	1.700
Total Asbestos	*** %			

OTHER MATERIALS:

Fibrous	
Fibrous Glass	0 %
Mineral Wool	35 %
Cellulose	0 %
Cotton	5 %
Nonfibrous	
Opaques	5 %
Binder	55 %

NOTES:

Method Published in EPA 600/M4-82-020
Quantity by Visual Inspection
QAP Being Implemented

NVLAP Accreditation #1479
*** = < 1% Detected

Reviewed by T. Hayes

P D R ENVIRONMENTAL LABORATORIES
2000 Lindell Avenue * (615) 298-2065 * Nashville, TN 37203

BULK ASBESTOS ANALYSIS REPORT
EPA Polarized Light Microscopy Method

---------- SAMPLE INFORMATION ----------

Client:
Sean Fisher
Barge, Waggoner, Sumner & Cannon
162 Third Avenue North
Nashville, TN 37201

Lab ID: 920704
Date Sampled: 01/21/92
Date Received: 02/04/92
Date Analyzed: 02/07/92
Analyst: T. Hayes
Sampled by: CLIENT W/DATA

Sample Description:
EG&G Mound
Pipe joint insulation
Type I - hard fib runs
Building GP-1
1.224

Sample Treatment:
Teased apart with forceps

---------- GROSS SAMPLE APPEARANCE ----------

Is sample friable? YES Are layers obvious? YES
Are fibers visible by stereoscopic examination? YES
Comments: Brown and straight asbestos fibers were detected.

---------- MICROSCOPIC ANALYSIS ----------

ASBESTOS CONSTITUENTS: (Central Stop Dispersion Staining Colors)

Mineral	Percent	Perpendicular	Parallel	RI Oil
Chrysotile	0 %	blue	blue-magenta	1.550
Anthophyllite	0 %	blue	gold-magenta	1.605
Tremolite	0 %	pale blue	yellow	1.605
Actinolite	0 %	magenta	golden yellow	1.630
Amosite	*** %	blue-magenta	golden yellow	1.680
Crocidolite	0 %	red-magenta	blue-magenta	1.700
Total Asbestos	*** %			

OTHER MATERIALS:

Fibrous	
Fibrous Glass	0 %
Mineral Wool	35 %
Cellulose	0 %
Cotton	5 %
Nonfibrous	
Opaques	5 %
Binder	55 %

NOTES:

Method Published in EPA 600/M4-82-020
Quantity by Visual Inspection
QAP Being Implemented

NVLAP Accreditation #1479
*** = < 1% Detected

Reviewed by T. Hayes

P D R ENVIRONMENTAL LABORATORIES
2000 Lindell Avenue * (615) 298-2065 * Nashville, TN 37203

BULK ASBESTOS ANALYSIS REPORT
EPA Polarized Light Microscopy Method

---------- SAMPLE INFORMATION ----------

Client:
Sean Fisher
Barge, Waggoner, Sumner & Cannon
162 Third Avenue North
Nashville, TN 37201

Lab ID: 920705
Date Sampled: 01/21/92
Date Received: 02/04/92
Date Analyzed: 02/07/92
Analyst: T. Hayes
Sampled by: CLIENT W/DATA

Sample Description:
EG&G Mound
Pipe joint insulation
Type I - hard fib run
Building GP-1
1.225

Sample Treatment:
Teased apart with forceps

---------- GROSS SAMPLE APPEARANCE ----------

Is sample friable? YES Are layers obvious? YES
Are fibers visible by stereoscopic examination? YES
Comments: Brown and straight asbestos fibers were detected.

---------- MICROSCOPIC ANALYSIS ----------

ASBESTOS CONSTITUENTS: (Central Stop Dispersion Staining Colors)

Mineral	Percent	Perpendicular	Parallel	RI Oil
Chrysotile	0 %	blue	blue-magenta	1.550
Anthophyllite	0 %	blue	gold-magenta	1.605
Tremolite	0 %	pale blue	yellow	1.605
Actinolite	0 %	magenta	golden yellow	1.630
Amosite	*** %	blue-magenta	golden yellow	1.680
Crocidolite	0 %	red-magenta	blue-magenta	1.700
Total Asbestos	*** %			

OTHER MATERIALS:

Fibrous		
Fibrous Glass	0	%
Mineral Wool	35	%
Cellulose	0	%
Cotton	5	%
Nonfibrous		
Opaques	5	%
Binder	55	%

NOTES:

Method Published in EPA 600/M4-82-020
Quantity by Visual Inspection
QAP Being Implemented

NVLAP Accreditation #1479
*** = < 1% Detected

Reviewed by T. Hayes

P D R ENVIRONMENTAL LABORATORIES

2000 Lindell Avenue * (615) 298-2065 * Nashville, TN 37203

BULK ASBESTOS ANALYSIS REPORT
EPA Polarized Light Microscopy Method

SAMPLE INFORMATION

Client:
Sean Fisher
Barge, Waggoner, Sumner & Cannon
162 Third Avenue North
Nashville, TN 37201

Lab ID: 920706
Date Sampled: 01/21/92
Date Received: 02/04/92
Date Analyzed: 02/07/92
Analyst: T. Hayes
Sampled by: CLIENT W/DATA

Sample Description:
EG&G Mound
Pipe insulation
Type II - hard
Building GP-1
1.226

Sample Treatment:
Teased apart with forceps

GROSS SAMPLE APPEARANCE

Is sample friable? YES Are layers obvious? NO
Are fibers visible by stereoscopic examination? YES
Comments: White and curly asbestos fibers were detected.

MICROSCOPIC ANALYSIS

ASBESTOS CONSTITUENTS: (Central Stop Dispersion Staining Colors)

Mineral	Percent	Perpendicular	Parallel	RI Oil
Chrysotile	25 %	blue	blue-magenta	1.550
Anthophyllite	0 %	blue	gold-magenta	1.605
Tremolite	0 %	pale blue	yellow	1.605
Actinolite	0 %	magenta	golden yellow	1.630
Amosite	0 %	blue-magenta	golden yellow	1.680
Crocidolite	0 %	red-magenta	blue-magenta	1.700
Total Asbestos	25 %			

OTHER MATERIALS:

Fibrous	
Fibrous Glass	0 %
Mineral Wool	8 %
Cellulose	2 %
Nonfibrous	
Binder	65 %

NOTES:
Method Published in EPA 600/M4-82-020
Quantity by Visual Inspection
QAP Being Implemented
NVLAP Accreditation #1479
*** = < 1% Detected

Reviewed by T. Hayes

P D R ENVIRONMENTAL LABORATORIES
2000 Lindell Avenue * (615) 298-2065 * Nashville, TN 37203

BULK ASBESTOS ANALYSIS REPORT
EPA Polarized Light Microscopy Method

---------- SAMPLE INFORMATION ----------

Client:
Sean Fisher
Barge, Waggoner, Sumner & Cannon
162 Third Avenue North
Nashville, TN 37201

Lab ID: 920707
Date Sampled: 01/21/92
Date Received: 02/04/92
Date Analyzed: 02/07/92
Analyst: T. Hayes
Sampled by: CLIENT W/DATA

Sample Description:
EG&G Mound
Pipe insulation
Type I - hard
Building GP-1
1.227

Sample Treatment:
Teased apart with forceps

---------- GROSS SAMPLE APPEARANCE ----------

Is sample friable? YES Are layers obvious? YES
Are fibers visible by stereoscopic examination? YES
Comments: White and curly asbestos fibers were detected.

---------- MICROSCOPIC ANALYSIS ----------

ASBESTOS CONSTITUENTS: (Central Stop Dispersion Staining Colors)

Mineral	Percent	Perpendicular	Parallel	RI Oil
Chrysotile	30 %	blue	blue-magenta	1.550
Anthophyllite	0 %	blue	gold-magenta	1.605
Tremolite	0 %	pale blue	yellow	1.605
Actinolite	0 %	magenta	golden yellow	1.630
Amosite	0 %	blue-magenta	golden yellow	1.680
Crocidolite	0 %	red-magenta	blue-magenta	1.700
Total Asbestos	30 %			

OTHER MATERIALS:

Fibrous	
Fibrous Glass	0 %
Mineral Wool	8 %
Cellulose	2 %
Cotton	5 %
Nonfibrous	
Opaques	5 %
Binder	50 %

NOTES:

Method Published in EPA 600/M4-82-020
Quantity by Visual Inspection
QAP Being Implemented

NVLAP Accreditation #1479
*** = < 1% Detected

Reviewed by T. Hayes

P D R ENVIRONMENTAL LABORATORIES
2000 Lindell Avenue * (615) 298-2065 * Nashville, TN 37203

BULK ASBESTOS ANALYSIS REPORT
EPA Polarized Light Microscopy Method

---------- SAMPLE INFORMATION ----------

Client:
Sean Fisher
Barge, Waggoner, Sumner & Cannon
162 Third Avenue North
Nashville, TN 37201

Lab ID: 920708
Date Sampled: 01/21/92
Date Received: 02/04/92
Date Analyzed: 02/07/92
Analyst: T. Hayes
Sampled by: CLIENT W/DATA

Sample Description:
EG&G Mound
Pipe insulation
Type II - hard
Building GP-1
1.228

Sample Treatment:
Teased apart with forceps

---------- GROSS SAMPLE APPEARANCE ----------

Is sample friable? YES Are layers obvious? YES
Are fibers visible by stereoscopic examination? YES
Comments: White and curly asbestos fibers were detected.

---------- MICROSCOPIC ANALYSIS ----------

ASBESTOS CONSTITUENTS: (Central Stop Dispersion Staining Colors)

Mineral	Percent	Perpendicular	Parallel	RI Oil
Chrysotile	25 %	blue	blue-magenta	1.550
Anthophyllite	0 %	blue	gold-magenta	1.605
Tremolite	0 %	pale blue	yellow	1.605
Actinolite	0 %	magenta	golden yellow	1.630
Amosite	0 %	blue-magenta	golden yellow	1.680
Crocidolite	0 %	red-magenta	blue-magenta	1.700
Total Asbestos	25 %			

OTHER MATERIALS:

Fibrous	
Fibrous Glass	0 %
Mineral Wool	8 %
Cellulose	2 %
Cotton	5 %
Nonfibrous	
Opaques	5 %
Binder	55 %

NOTES:

Method Published in EPA 600/M4-82-020
Quantity by Visual Inspection
QAP Being Implemented

NVLAP Accreditation #1479
*** = < 1% Detected

Reviewed by T. Hayes

P D R ENVIRONMENTAL LABORATORIES
2000 Lindell Avenue * (615) 298-2065 * Nashville, TN 37203

BULK ASBESTOS ANALYSIS REPORT
EPA Polarized Light Microscopy Method

---------- SAMPLE INFORMATION ----------

Client:
Sean Fisher
Barge, Waggoner, Sumner & Cannon
162 Third Avenue North
Nashville, TN 37201

Lab ID: 920709
Date Sampled: 01/21/92
Date Received: 02/04/92
Date Analyzed: 02/07/92
Analyst: T. Hayes
Sampled by: CLIENT W/DATA

Sample Description:
EG&G Mound
Pipe joint insulation
Type II - hard
Building GP-1
1.229

Sample Treatment:
Teased apart with forceps

---------- GROSS SAMPLE APPEARANCE ----------

Is sample friable? YES Are layers obvious? YES
Are fibers visible by stereoscopic examination? YES
Comments: White and curly asbestos fibers were detected.

---------- MICROSCOPIC ANALYSIS ----------

ASBESTOS CONSTITUENTS: (Central Stop Dispersion Staining Colors)

Mineral	Percent	Perpendicular	Parallel	RI Oil
Chrysotile	10 %	blue	blue-magenta	1.550
Anthophyllite	0 %	blue	gold-magenta	1.605
Tremolite	0 %	pale blue	yellow	1.605
Actinolite	0 %	magenta	golden yellow	1.630
Amosite	0 %	blue-magenta	golden yellow	1.680
Crocidolite	0 %	red-magenta	blue-magenta	1.700
Total Asbestos	10 %			

OTHER MATERIALS:

Fibrous	
Fibrous Glass	0 %
Mineral Wool	15 %
Cellulose	0 %
Cotton	5 %
Nonfibrous	
Opaques	5 %
Binder	65 %

NOTES:

Method Published in EPA 600/M4-82-020
Quantity by Visual Inspection
QAP Being Implemented

NVLAP Accreditation #1479
*** = < 1% Detected

Reviewed by T. Hayes

P D R ENVIRONMENTAL LABORATORIES
2000 Lindell Avenue * (615) 298-2065 * Nashville, TN 37203

BULK ASBESTOS ANALYSIS REPORT
EPA Polarized Light Microscopy Method

---------- SAMPLE INFORMATION ----------

Client:
Sean Fisher
Barge, Waggoner, Sumner & Cannon
162 Third Avenue North
Nashville, TN 37201

Lab ID: 920710
Date Sampled: 01/21/92
Date Received: 02/04/92
Date Analyzed: 02/07/92
Analyst: T. Hayes
Sampled by: CLIENT W/DATA

Sample Description:
EG&G Mound
Pipe joint insulation
Type II - hard
Building GP-1
1.230

Sample Treatment:
Teased apart with forceps

---------- GROSS SAMPLE APPEARANCE ----------

Is sample friable? YES Are layers obvious? YES
Are fibers visible by stereoscopic examination? YES
Comments: White and curly asbestos fibers were detected.

---------- MICROSCOPIC ANALYSIS ----------

ASBESTOS CONSTITUENTS: (Central Stop Dispersion Staining Colors)

Mineral	Percent	Perpendicular	Parallel	RI Oil
Chrysotile	10 %	blue	blue-magenta	1.550
Anthophyllite	0 %	blue	gold-magenta	1.605
Tremolite	0 %	pale blue	yellow	1.605
Actinolite	0 %	magenta	golden yellow	1.630
Amosite	0 %	blue-magenta	golden yellow	1.680
Crocidolite	0 %	red-magenta	blue-magenta	1.700
Total Asbestos	10 %			

OTHER MATERIALS:

Fibrous	
Fibrous Glass	0 %
Mineral Wool	15 %
Cellulose	0 %
Cotton	5 %
Nonfibrous	
Opaques	5 %
Binder	65 %

NOTES:

Method Published in EPA 600/M4-82-020
Quantity by Visual Inspection
QAP Being Implemented

NVLAP Accreditation #1479
*** = < 1% Detected

Reviewed by T. Hayes

P D R ENVIRONMENTAL LABORATORIES
2000 Lindell Avenue * (615) 298-2065 * Nashville, TN 37203

BULK ASBESTOS ANALYSIS REPORT
EPA Polarized Light Microscopy Method

---------- SAMPLE INFORMATION ----------

Client:
Sean Fisher
Barge, Waggoner, Sumner & Cannon
162 Third Avenue North
Nashville, TN 37201

Lab ID: 920711
Date Sampled: 01/21/92
Date Received: 02/04/92
Date Analyzed: 02/07/92
Analyst: T. Hayes
Sampled by: CLIENT W/DATA

Sample Description:
EG&G Mound
Pipe joint insulation
Type II - hard
Building GP-1
1.231

Sample Treatment:
Teased apart with forceps

---------- GROSS SAMPLE APPEARANCE ----------

Is sample friable? YES Are layers obvious? YES
Are fibers visible by stereoscopic examination? YES
Comments: White and curly asbestos fibers were detected.

---------- MICROSCOPIC ANALYSIS ----------

ASBESTOS CONSTITUENTS: (Central Stop Dispersion Staining Colors)

Mineral	Percent	Perpendicular	Parallel	RI Oil
Chrysotile	10 %	blue	blue-magenta	1.550
Anthophyllite	0 %	blue	gold-magenta	1.605
Tremolite	0 %	pale blue	yellow	1.605
Actinolite	0 %	magenta	golden yellow	1.630
Amosite	0 %	blue-magenta	golden yellow	1.680
Crocidolite	0 %	red-magenta	blue-magenta	1.700
Total Asbestos	10 %			

OTHER MATERIALS:

Fibrous	
Fibrous Glass	0 %
Mineral Wool	20 %
Cellulose	0 %
Cotton	5 %
Nonfibrous	
Opaques	5 %
Binder	60 %

NOTES:

Method Published in EPA 600/M4-82-020
Quantity by Visual Inspection
QAP Being Implemented

NVLAP Accreditation #1479
*** = < 1% Detected

Reviewed by T. Hayes

P D R ENVIRONMENTAL LABORATORIES
2000 Lindell Avenue * (615) 298-2065 * Nashville, TN 37203

BULK ASBESTOS ANALYSIS REPORT
EPA Polarized Light Microscopy Method

SAMPLE INFORMATION

Client:
Sean Fisher
Barge, Waggoner, Sumner & Cannon
162 Third Avenue North
Nashville, TN 37201

Lab ID: 920712
Date Sampled: 01/21/92
Date Received: 02/04/92
Date Analyzed: 02/07/92
Analyst: T. Hayes
Sampled by: CLIENT W/DATA

Sample Description:
EG&G Mound
Condensate tape
Building GP-1
1.232

Sample Treatment:
Broken apart with force

GROSS SAMPLE APPEARANCE

Is sample friable? NO Are layers obvious? NO
Are fibers visible by stereoscopic examination? NO
Comments: No asbestos fibers were detected.

MICROSCOPIC ANALYSIS

ASBESTOS CONSTITUENTS: (Central Stop Dispersion Staining Colors)

Mineral	Percent	Perpendicular	Parallel	RI Oil
Chrysotile	0 %	blue	blue-magenta	1.550
Anthophyllite	0 %	blue	gold-magenta	1.605
Tremolite	0 %	pale blue	yellow	1.605
Actinolite	0 %	magenta	golden yellow	1.630
Amosite	0 %	blue-magenta	golden yellow	1.680
Crocidolite	0 %	red-magenta	blue-magenta	1.700
Total Asbestos	0 %			

OTHER MATERIALS:

Fibrous	
Fibrous Glass	0 %
Mineral Wool	0 %
Cellulose	20 %
Nonfibrous	
Foam	25 %
Vermiculite	5 %
Binder	50 %

NOTES:

Method Published in EPA 600/M4-82-020
Quantity by Visual Inspection
QAP Being Implemented
NVLAP Accreditation #1479
*** = < 1% Detected

Reviewed by T. Hayes

P D R ENVIRONMENTAL LABORATORIES

2000 Lindell Avenue * (615) 298-2065 * Nashville, TN 37203

BULK ASBESTOS ANALYSIS REPORT
EPA Polarized Light Microscopy Method

SAMPLE INFORMATION

Client:
Sean Fisher
Barge, Waggoner, Sumner & Cannon
162 Third Avenue North
Nashville, TN 37201

Lab ID: 920713
Date Sampled: 01/21/92
Date Received: 02/04/92
Date Analyzed: 02/07/92
Analyst: T. Hayes
Sampled by: CLIENT W/DATA

Sample Description:
EG&G Mound
Condensate tape
Building GP-1
1.233

Sample Treatment:
Broken apart with force

GROSS SAMPLE APPEARANCE

Is sample friable? NO Are layers obvious? NO
Are fibers visible by stereoscopic examination? NO
Comments: No asbestos fibers were detected.

MICROSCOPIC ANALYSIS

ASBESTOS CONSTITUENTS: (Central Stop Dispersion Staining Colors)

Mineral	Percent	Perpendicular	Parallel	RI Oil
Chrysotile	0 %	blue	blue-magenta	1.550
Anthophyllite	0 %	blue	gold-magenta	1.605
Tremolite	0 %	pale blue	yellow	1.605
Actinolite	0 %	magenta	golden yellow	1.630
Amosite	0 %	blue-magenta	golden yellow	1.680
Crocidolite	0 %	red-magenta	blue-magenta	1.700
Total Asbestos	0 %			

OTHER MATERIALS:

Fibrous	
Fibrous Glass	0 %
Mineral Wool	0 %
Cellulose	20 %
Nonfibrous	
Foam	22 %
Vermiculite	8 %
Binder	50 %

NOTES:

Method Published in EPA 600/M4-82-020
Quantity by Visual Inspection
QAP Being Implemented
NVLAP Accreditation #1479
*** = < 1% Detected

Reviewed by T. Hayes

P D R ENVIRONMENTAL LABORATORIES
2000 Lindell Avenue * (615) 298-2065 * Nashville, TN 37203

BULK ASBESTOS ANALYSIS REPORT
EPA Polarized Light Microscopy Method

---------- SAMPLE INFORMATION ----------

Client:
Sean Fisher
Barge, Waggoner, Sumner & Cannon
162 Third Avenue North
Nashville, TN 37201

Lab ID: 920714
Date Sampled: 01/21/92
Date Received: 02/04/92
Date Analyzed: 02/07/92
Analyst: T. Hayes
Sampled by: CLIENT W/DATA

Sample Description:
EG&G Mound
CT1-A1 fissured
Building GP-1
1.234

Sample Treatment:
Teased apart with forceps

---------- GROSS SAMPLE APPEARANCE ----------

Is sample friable? YES Are layers obvious? YES
Are fibers visible by stereoscopic examination? YES
Comments: No asbestos fibers were detected.

---------- MICROSCOPIC ANALYSIS ----------

ASBESTOS CONSTITUENTS: (Central Stop Dispersion Staining Colors)

Mineral	Percent	Perpendicular	Parallel	RI Oil
Chrysotile	0 %	blue	blue-magenta	1.550
Anthophyllite	0 %	blue	gold-magenta	1.605
Tremolite	0 %	pale blue	yellow	1.605
Actinolite	0 %	magenta	golden yellow	1.630
Amosite	0 %	blue-magenta	golden yellow	1.680
Crocidolite	0 %	red-magenta	blue-magenta	1.700
Total Asbestos	0 %			

OTHER MATERIALS:

Fibrous	
Fibrous Glass	0 %
Mineral Wool	35 %
Cellulose	50 %
Nonfibrous	
Opaques	5 %
Binder	10 %

NOTES:

Method Published in EPA 600/M4-82-020
Quantity by Visual Inspection
QAP Being Implemented
NVLAP Accreditation #1479
*** = < 1% Detected

Reviewed by T. Hayes

P D R ENVIRONMENTAL LABORATORIES

2000 Lindell Avenue * (615) 298-2065 * Nashville, TN 37203

BULK ASBESTOS ANALYSIS REPORT
EPA Polarized Light Microscopy Method

SAMPLE INFORMATION

Client:
Sean Fisher
Barge, Waggoner, Sumner & Cannon
162 Third Avenue North
Nashville, TN 37201

Lab ID: 920715
Date Sampled: 01/21/92
Date Received: 02/04/92
Date Analyzed: 02/07/92
Analyst: T. Hayes
Sampled by: CLIENT W/DATA

Sample Description:
EG&G Mound
CT1-A1 fissured
Building GP-1
1.235

Sample Treatment:
Teased apart with forceps

GROSS SAMPLE APPEARANCE

Is sample friable? YES Are layers obvious? YES
Are fibers visible by stereoscopic examination? YES
Comments: No asbestos fibers were detected.

MICROSCOPIC ANALYSIS

ASBESTOS CONSTITUENTS: (Central Stop Dispersion Staining Colors)

Mineral	Percent	Perpendicular	Parallel	RI Oil
Chrysotile	0 %	blue	blue-magenta	1.550
Anthophyllite	0 %	blue	gold-magenta	1.605
Tremolite	0 %	pale blue	yellow	1.605
Actinolite	0 %	magenta	golden yellow	1.630
Amosite	0 %	blue-magenta	golden yellow	1.680
Crocidolite	0 %	red-magenta	blue-magenta	1.700
Total Asbestos	0 %			

OTHER MATERIALS:

Fibrous	
Fibrous Glass	0 %
Mineral Wool	35 %
Cellulose	50 %
Nonfibrous	
Opaques	5 %
Binder	10 %

NOTES:

Method Published in EPA 600/M4-82-020
Quantity by Visual Inspection
QAP Being Implemented
NVLAP Accreditation #1479
*** = < 1% Detected

Reviewed by T. Hayes

P D R ENVIRONMENTAL LABORATORIES
2000 Lindell Avenue * (615) 298-2065 * Nashville, TN 37203

BULK ASBESTOS ANALYSIS REPORT
EPA Polarized Light Microscopy Method

---------- SAMPLE INFORMATION ----------

Client:
Sean Fisher
Barge, Waggoner, Sumner & Cannon
162 Third Avenue North
Nashville, TN 37201

Lab ID: 920716
Date Sampled: 01/21/92
Date Received: 02/04/92
Date Analyzed: 02/07/92
Analyst: T. Hayes
Sampled by: CLIENT W/DATA

Sample Description:
EG&G Mound
CT2-H fissured w/ pinholes
Building GP-1
1.236

Sample Treatment:
Teased apart with forceps

---------- GROSS SAMPLE APPEARANCE ----------

Is sample friable? YES Are layers obvious? YES
Are fibers visible by stereoscopic examination? YES
Comments: No asbestos fibers were detected.

---------- MICROSCOPIC ANALYSIS ----------

ASBESTOS CONSTITUENTS: (Central Stop Dispersion Staining Colors)

Mineral	Percent	Perpendicular	Parallel	RI Oil
Chrysotile	0 %	blue	blue-magenta	1.550
Anthophyllite	0 %	blue	gold-magenta	1.605
Tremolite	0 %	pale blue	yellow	1.605
Actinolite	0 %	magenta	golden yellow	1.630
Amosite	0 %	blue-magenta	golden yellow	1.680
Crocidolite	0 %	red-magenta	blue-magenta	1.700
Total Asbestos	0 %			

OTHER MATERIALS:

Fibrous	
Fibrous Glass	0 %
Mineral Wool	30 %
Cellulose	40 %
Nonfibrous	
Perlite	20 %
Opaques	2 %
Binder	8 %

NOTES:

Method Published in EPA 600/M4-82-020
Quantity by Visual Inspection
QAP Being Implemented
NVLAP Accreditation #1479
*** = < 1% Detected

Reviewed by T. Hayes

P D R ENVIRONMENTAL LABORATORIES
2000 Lindell Avenue * (615) 298-2065 * Nashville, TN 37203

BULK ASBESTOS ANALYSIS REPORT
EPA Polarized Light Microscopy Method

SAMPLE INFORMATION

Client:
Sean Fisher
Barge, Waggoner, Sumner & Cannon
162 Third Avenue North
Nashville, TN 37201

Lab ID: 920717
Date Sampled: 01/21/92
Date Received: 02/04/92
Date Analyzed: 02/07/92
Analyst: T. Hayes
Sampled by: CLIENT W/DATA

Sample Description:
EG&G Mound
CT2-H Fissured w/ pinholes
Building GP-1
12.37

Sample Treatment:
Teased apart with forceps

GROSS SAMPLE APPEARANCE

Is sample friable? YES Are layers obvious? YES
Are fibers visible by stereoscopic examination? YES
Comments: No asbestos fibers were detected.

MICROSCOPIC ANALYSIS

ASBESTOS CONSTITUENTS: (Central Stop Dispersion Staining Colors)

Mineral	Percent	Perpendicular	Parallel	RI Oil
Chrysotile	0 %	blue	blue-magenta	1.550
Anthophyllite	0 %	blue	gold-magenta	1.605
Tremolite	0 %	pale blue	yellow	1.605
Actinolite	0 %	magenta	golden yellow	1.630
Amosite	0 %	blue-magenta	golden yellow	1.680
Crocidolite	0 %	red-magenta	blue-magenta	1.700
Total Asbestos	0 %			

OTHER MATERIALS:

Fibrous		
Fibrous Glass	0	%
Mineral Wool	30	%
Cellulose	40	%
Nonfibrous		
Perlite	20	%
Opaques	2	%
Binder	8	%

NOTES:
Method Published in EPA 600/M4-82-020
Quantity by Visual Inspection
QAP Being Implemented
NVLAP Accreditation #1479
*** = < 1% Detected

Reviewed by T. Hayes

P D R ENVIRONMENTAL LABORATORIES
2000 Lindell Avenue * (615) 298-2065 * Nashville, TN 37203

BULK ASBESTOS ANALYSIS REPORT
EPA Polarized Light Microscopy Method

---------- SAMPLE INFORMATION ----------

Client:
Sean Fisher
Barge, Waggoner, Sumner & Cannon
162 Third Avenue North
Nashville, TN 37201

Lab ID: 920718
Date Sampled: 01/21/92
Date Received:02/04/92
Date Analyzed:02/07/92
Analyst:T. Hayes
Sampled by: CLIENT W/DATA

Sample Description:
EG&G Mound
CT3-A2 fissured w/ pinholes
Building GP-1
1.238

Sample Treatment:
Teased apart with forceps

---------- GROSS SAMPLE APPEARANCE ----------

Is sample friable? YES Are layers obvious? YES
Are fibers visible by stereoscopic examination? YES
Comments: No asbestos fibers were detected.

---------- MICROSCOPIC ANALYSIS ----------

ASBESTOS CONSTITUENTS: (Central Stop Dispersion Staining Colors)

Mineral	Percent	Perpendicular	Parallel	RI Oil
Chrysotile	0 %	blue	blue-magenta	1.550
Anthophyllite	0 %	blue	gold-magenta	1.605
Tremolite	0 %	pale blue	yellow	1.605
Actinolite	0 %	magenta	golden yellow	1.630
Amosite	0 %	blue-magenta	golden yellow	1.680
Crocidolite	0 %	red-magenta	blue-magenta	1.700
Total Asbestos	0 %			

OTHER MATERIALS:

Fibrous	
Fibrous Glass	0 %
Mineral Wool	30 %
Cellulose	40 %
Nonfibrous	
Perlite	20 %
Opaques	5 %
Binder	5 %

NOTES:

Method Published in EPA 600/M4-82-020
Quantity by Visual Inspection
QAP Being Implemented
NVLAP Accreditation #1479
*** = < 1% Detected

Reviewed by T. Hayes

P D R ENVIRONMENTAL LABORATORIES
2000 Lindell Avenue * (615) 298-2065 * Nashville, TN 37203

BULK ASBESTOS ANALYSIS REPORT
EPA Polarized Light Microscopy Method

SAMPLE INFORMATION

Client:
Sean Fisher
Barge, Waggoner, Sumner & Cannon
162 Third Avenue North
Nashville, TN 37201

Lab ID: 920719
Date Sampled: 01/21/92
Date Received: 02/04/92
Date Analyzed: 02/07/92
Analyst: T. Hayes
Sampled by: CLIENT W/DATA

Sample Description:
EG&G Mound
CT3-A2 fissured w/ pinholes
Building GP-1
1.239

Sample Treatment:
Teased apart with forceps

GROSS SAMPLE APPEARANCE

Is sample friable? YES Are layers obvious? YES
Are fibers visible by stereoscopic examination? YES
Comments: No asbestos fibers were detected.

MICROSCOPIC ANALYSIS

ASBESTOS CONSTITUENTS: (Central Stop Dispersion Staining Colors)

Mineral	Percent	Perpendicular	Parallel	RI Oil
Chrysotile	0 %	blue	blue-magenta	1.550
Anthophyllite	0 %	blue	gold-magenta	1.605
Tremolite	0 %	pale blue	yellow	1.605
Actinolite	0 %	magenta	golden yellow	1.630
Amosite	0 %	blue-magenta	golden yellow	1.680
Crocidolite	0 %	red-magenta	blue-magenta	1.700
Total Asbestos	0 %			

OTHER MATERIALS:

Fibrous	
Fibrous Glass	0 %
Mineral Wool	30 %
Cellulose	40 %
Nonfibrous	
Perlite	20 %
Opaques	5 %
Binder	5 %

NOTES:

Method Published in EPA 600/M4-82-020
Quantity by Visual Inspection
QAP Being Implemented
NVLAP Accreditation #1479
*** = < 1% Detected

Reviewed by T. Hayes

P D R ENVIRONMENTAL LABORATORIES
2000 Lindell Avenue * (615) 298-2065 * Nashville, TN 37203

BULK ASBESTOS ANALYSIS REPORT
EPA Polarized Light Microscopy Method

SAMPLE INFORMATION

Client:
Sean Fisher
Barge, Waggoner, Sumner & Cannon
162 Third Avenue North
Nashville, TN 37201

Lab ID: 920720
Date Sampled: 01/21/92
Date Received: 02/04/92
Date Analyzed: 02/07/92
Analyst: T. Hayes
Sampled by: CLIENT W/DATA

Sample Description:
EG&G Mound
Drywall
Building GP-1
1.240

Sample Treatment:
Broken apart with force

GROSS SAMPLE APPEARANCE

Is sample friable? NO Are layers obvious? YES
Are fibers visible by stereoscopic examination? YES
Comments: No asbestos fibers were detected.

MICROSCOPIC ANALYSIS

ASBESTOS CONSTITUENTS: (Central Stop Dispersion Staining Colors)

Mineral	Percent	Perpendicular	Parallel	RI Oil
Chrysotile	0 %	blue	blue-magenta	1.550
Anthophyllite	0 %	blue	gold-magenta	1.605
Tremolite	0 %	pale blue	yellow	1.605
Actinolite	0 %	magenta	golden yellow	1.630
Amosite	0 %	blue-magenta	golden yellow	1.680
Crocidolite	0 %	red-magenta	blue-magenta	1.700
Total Asbestos	0 %			

OTHER MATERIALS:

Fibrous	
Fibrous Glass	5 %
Mineral Wool	0 %
Cellulose	25 %
Nonfibrous	
Gypsum	55 %
Binder	10 %
Opaques	5 %

NOTES:
Method Published in EPA 600/M4-82-020
Quantity by Visual Inspection
QAP Being Implemented
NVLAP Accreditation #1479
*** = < 1% Detected

Reviewed by T. Hayes

P D R ENVIRONMENTAL LABORATORIES
2000 Lindell Avenue * (615) 298-2065 * Nashville, TN 37203

BULK ASBESTOS ANALYSIS REPORT
EPA Polarized Light Microscopy Method

SAMPLE INFORMATION

Client:
Sean Fisher
Barge, Waggoner, Sumner & Cannon
162 Third Avenue North
Nashville, TN 37201

Lab ID: 920721
Date Sampled: 01/21/92
Date Received: 02/04/92
Date Analyzed: 02/07/92
Analyst: T. Hayes
Sampled by: CLIENT W/DATA

Sample Description:
EG&G Mound
Drywall
Building GP-1
1.241

Sample Treatment:
Broken apart with force

GROSS SAMPLE APPEARANCE

Is sample friable? NO Are layers obvious? YES
Are fibers visible by stereoscopic examination? YES
Comments: No asbestos fibers were detected.

MICROSCOPIC ANALYSIS

ASBESTOS CONSTITUENTS: (Central Stop Dispersion Staining Colors)

Mineral	Percent	Perpendicular	Parallel	RI Oil
Chrysotile	0 %	blue	blue-magenta	1.550
Anthophyllite	0 %	blue	gold-magenta	1.605
Tremolite	0 %	pale blue	yellow	1.605
Actinolite	0 %	magenta	golden yellow	1.630
Amosite	0 %	blue-magenta	golden yellow	1.680
Crocidolite	0 %	red-magenta	blue-magenta	1.700
Total Asbestos	0 %			

OTHER MATERIALS:

Fibrous	
Fibrous Glass	5 %
Mineral Wool	0 %
Cellulose	25 %
Nonfibrous	
Gypsum	55 %
Binder	10 %
Opaques	5 %

NOTES:
Method Published in EPA 600/M4-82-020
Quantity by Visual Inspection
QAP Being Implemented
NVLAP Accreditation #1479
*** = < 1% Detected

Reviewed by T. Hayes

P D R ENVIRONMENTAL LABORATORIES
2000 Lindell Avenue * (615) 298-2065 * Nashville, TN 37203

BULK ASBESTOS ANALYSIS REPORT
EPA Polarized Light Microscopy Method

SAMPLE INFORMATION

Client:
Sean Fisher
Barge, Waggoner, Sumner & Cannon
162 Third Avenue North
Nashville, TN 37201

Lab ID: 920722
Date Sampled: 01/21/92
Date Received: 02/04/92
Date Analyzed: 02/07/92
Analyst: T. Hayes
Sampled by: CLIENT W/DATA

Sample Description:
EG&G Mound
Drywall joint compound
Building GP-1
1.242

Sample Treatment:
Teased apart with forceps

GROSS SAMPLE APPEARANCE

Is sample friable? YES Are layers obvious? YES
Are fibers visible by stereoscopic examination? YES
Comments: No asbestos fibers were detected.

MICROSCOPIC ANALYSIS

ASBESTOS CONSTITUENTS: (Central Stop Dispersion Staining Colors)

Mineral	Percent	Perpendicular	Parallel	RI Oil
Chrysotile	0 %	blue	blue-magenta	1.550
Anthophyllite	0 %	blue	gold-magenta	1.605
Tremolite	0 %	pale blue	yellow	1.605
Actinolite	0 %	magenta	golden yellow	1.630
Amosite	0 %	blue-magenta	golden yellow	1.680
Crocidolite	0 %	red-magenta	blue-magenta	1.700
Total Asbestos	0 %			

OTHER MATERIALS:

Fibrous	
Fibrous Glass	0 %
Mineral Wool	0 %
Cellulose	5 %
Nonfibrous	
Mica	15 %
Opaques	10 %
Binder	70 %

NOTES:
Method Published in EPA 600/M4-82-020
Quantity by Visual Inspection
QAP Being Implemented
NVLAP Accreditation #1479
*** = < 1% Detected

Reviewed by T. Hayes

P D R ENVIRONMENTAL LABORATORIES

2000 Lindell Avenue * (615) 298-2065 * Nashville, TN 37203

BULK ASBESTOS ANALYSIS REPORT
EPA Polarized Light Microscopy Method

SAMPLE INFORMATION

Client:
Sean Fisher
Barge, Waggoner, Sumner & Cannon
162 Third Avenue North
Nashville, TN 37201

Lab ID: 920723
Date Sampled: 01/21/92
Date Received: 02/04/92
Date Analyzed: 02/07/92
Analyst: T. Hayes
Sampled by: CLIENT W/DATA

Sample Description:
EG&G Mound
Drywall joint compound
Building GP-1
1.243

Sample Treatment:
Broken apart with force

GROSS SAMPLE APPEARANCE

Is sample friable? NO Are layers obvious? YES
Are fibers visible by stereoscopic examination? YES
Comments: No asbestos fibers were detected.

MICROSCOPIC ANALYSIS

ASBESTOS CONSTITUENTS: (Central Stop Dispersion Staining Colors)

Mineral	Percent	Perpendicular	Parallel	RI Oil
Chrysotile	0 %	blue	blue-magenta	1.550
Anthophyllite	0 %	blue	gold-magenta	1.605
Tremolite	0 %	pale blue	yellow	1.605
Actinolite	0 %	magenta	golden yellow	1.630
Amosite	0 %	blue-magenta	golden yellow	1.680
Crocidolite	0 %	red-magenta	blue-magenta	1.700
Total Asbestos	0 %			

OTHER MATERIALS:

Fibrous	
Fibrous Glass	0 %
Mineral Wool	0 %
Cellulose	35 %
Nonfibrous	
Mica	10 %
Opaques	10 %
Binder	45 %

NOTES:
Method Published in EPA 600/M4-82-020
Quantity by Visual Inspection
QAP Being Implemented
NVLAP Accreditation #1479
*** = < 1% Detected

Reviewed by T. Hayes

4.12 Building GP 1

The following asbestos-containing materials were identified in Building GP 1:

- Pipe wrapping
- Cementitious insulation
- Preformed-block pipe insulation
- Floor tile

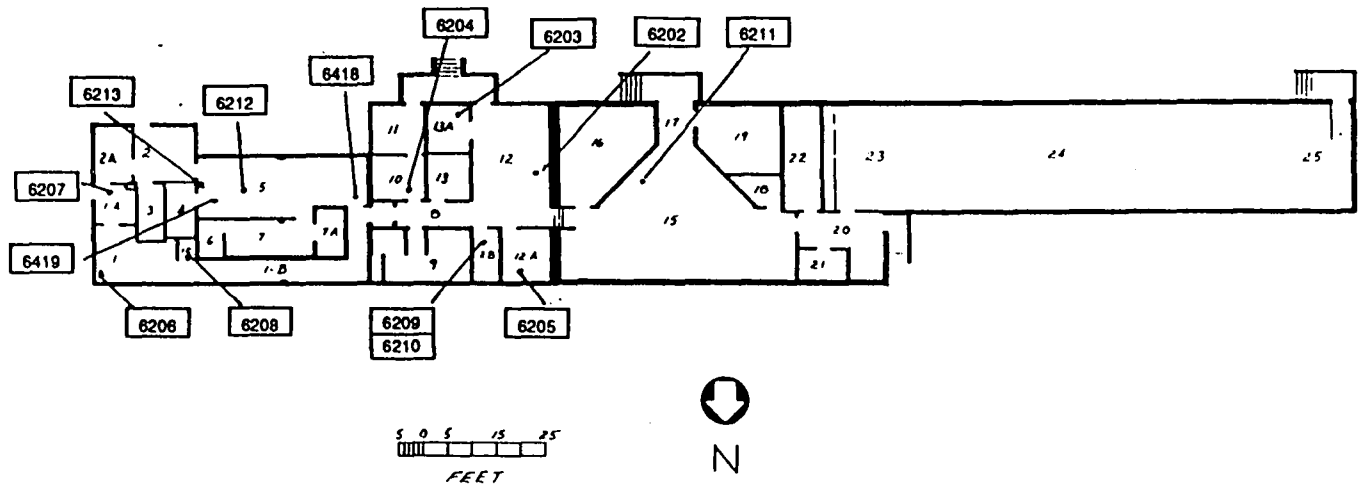
Three homogeneous areas of asbestos-containing thermal system insulation were identified during the inspection of Building GP 1. Preformed-block pipe insulation was identified on steam lines throughout the building. This insulation was found to be in good condition, with the exception of the material in Room 5. Minor physical damage noted throughout the line can be repaired by use of rewettable cloth jacketing to seal exposed areas and prevent fiber release. All other thermal system insulation (cementitious insulation and pipe wrapping) was found to be in good condition and does not present a hazard in its current state. All remaining ACM should be managed by a comprehensive O&M program and periodically reinspected.

TABLE 1. HOMOGENEOUS AREAS OF SUSPECT ASBESTOS-CONTAINING MATERIALS IN BUILDING GUARDPOST 1, EG&G MOUND APPLIED TECHNOLOGIES, INC.
(Inspected September 1, 1988)

Homogeneous area No.	Type of material	Description of homogeneous area	Does homogeneous material contain asbestos? (assumed/sampled)
1	Miscellaneous	White 2-ft by 2-ft small dot and gash ceiling tile, located in Room 12 and throughout the building	No/sampled
2	Miscellaneous	White 1-ft by 1-ft ceiling tile located in Room 1 and throughout the building	No/sampled
3	Miscellaneous	White 2-ft by 4-ft large dot and gash ceiling tile, located in Room 1C and throughout the building	No/sampled
4	Thermal system insulation	Pipe wrap on water lines	No/sampled
5	Thermal system insulation	Cementitious insulation of fittings between sections of fibrous-glass pipe insulation	No/sampled
6	Thermal system insulation	Preformed-block pipe insulation on steam lines throughout the building	Yes/sampled
7	Thermal system insulation	Floor tile located throughout the building	Yes/sampled

TABLE 2. DATA SUMMARY FOR BULK SAMPLES OF SUSPECT ASBESTOS-CONTAINING MATERIALS IN GUARDPOST 1, EG&G MOUND APPLIED TECHNOLOGIES, INC.

Homo-geneous area No.	Field sample No.	Sample date (1988)	PEI Laboratory requisition No.	Floor/room No.	Sample location	Asbestos fiber content
1	MRC-6202	9/1	T8-09-021-18A	G/12	West wall of room	None detected
	MRC-6203	9/1	T8-09-021-19A	G/13A	Southwest corner	None detected
	MRC-6204	9/1	T8-09-021-20A	G/10	North side of room, above door to Corridor 8	None detected
2	MRC-6205	9/1	T8-09-021-21A	G/12A	North wall of room	None detected
	MRC-6206	9/1	T8-09-021-22A	G/1	Northeast corner	None detected
	MRC-6207	9/1	T8-09-021-23A	G/1A No. 109	South wall, above entrance to Room 2A	None detected
3	MRC-6208	9/1	T8-09-021-24A	G/1C	Next to light fixture	None detected
	MRC-6209	9/1	T8-09-021-25A	G/12B	Above entrance	None detected
	MRC-6210	9/1	T8-09-021-26A	G/12B	Duplicate of sample MRC-6209	None detected
4	MRC-6211	9/1	T8-09-021-27A	G/15	Southeast wall above water fountain	5% chrysotile
	MRC-6212	9/1	T8-09-021-28A	G/5	Center of room on capped line	7% chrysotile 7% amosite
	MRC-6213	9/1	T8-09-021-29A	G/5	East side of room between doors to Rooms 2 and 4	None detected
	MRC-6419	9/20	T8-09-168-12A	G/5	Above door to Room 4	None detected
6	MRC-6418	9/20	T8-09-168-11A	G/5	Above door to Corridor 1	10% chrysotile



MONSANTO RESEARCH CORPORATION
MOUND LABORATORY
MIAMISBURG, OHIO

PROGRAM TITLE: SMALL SCALE FLOOR PLANS

DRAWING TITLE: GUARDPOST 1 (1)

DWG. TYPE: ARH

DWG. CLASSIFICATION
LEVEL & CAT: UNCL
BY: [illegible]
TITLE
DATE: 10/1/81

CODE IDENT. NO. 14065

H	11-83	REVISED	GB				
F	3-81	REVISED	MWD				
ISS	DATE	REVISION	BY	CHK'D	APV'D	M	

DESIGNER N.W. DERAUGH	DATE 4-28-81	PROJ MGR	
CHECKER	DATE	ASST ENG	
DESIGN ENG	DATE	ENG MGR	
APV'D	DATE		
SCALE 1/16" = 1'-0"		W.O. NO	
JOB NO		DWG NO	

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Asbestos Inspection and Assessment Summary
EG&G Mound Applied Technologies

Building	Inspector	Inspection date	Homo-geneous area no.	Floor/Room/Location	Material type	Approximate amount of material	*Friable ?	Condition of the material	Potential for disturbance	Hazard rank	Response priority	Response action
Building G	D. Ellcessor	03/10/89	3	G/Room 1	Preformed-block pipe insulation	298 ft	Yes	Good	Low	7	4	3
Building G	D. Ellcessor	03/10/89	4	G/Room 1	Air-cell paper pipe insulation	130 ft	Yes	Good	Low	7	4	3
Building G	D. Ellcessor	03/10/89	2	G/Room 2	Cementitious insulation	2 fittings	No	Good	Low	7	7	4
Building G	D. Ellcessor	03/10/89	6	G/Room 4	Floor tile	120 sq ft	No	Good	Low	7	7	4
Building G	D. Ellcessor	03/10/89	6	G/Room 5	Floor tile	120 sq ft	No	Good	Low	7	7	4
Building G	D. Ellcessor	03/10/89	6	G/Room 5A	Floor tile	120 sq ft	No	Good	Low	7	7	4
Building G	D. Ellcessor	03/10/89	6	G/Room 7	Floor tile	25 sq ft	No	Good	Low	7	7	4
Building G	D. Ellcessor	03/10/89	3	G/Room 9	Preformed-block pipe insulation	30 ft	Yes	Fair	Moderate	3	1	3
Building G	D. Ellcessor	03/10/89	4	G/Room 9	Air-cell paper pipe insulation	3 feet	Yes	Good	Low	7	4	3
Building GH	R. Schraft	10/25/88	1	1/Room 10	Cementitious insulation	5 fittings	No	Good	High	5	7	4
Building GH	R. Schraft	10/25/88	1	1/Room 11	Cementitious insulation	6 fittings	No	Good	High	5	7	4
Building GH	R. Schraft	10/25/88	1	1/Room 20	Cementitious insulation	23 fittings	No	Good	High	5	7	4
Building GH	R. Schraft	10/25/88	1	1/Room 20 crawl space	Cementitious insulation	8 fittings	No	Good	High	5	7	4
Building GH	R. Schraft	10/25/88	4	Throughout selected areas of building	Floor tile	169 sq feet	No	Good	High	5	7	4
Building GH44	R. Schraft	10/27/88	1	1/Throughout the building	Floor tile	360 sq feet	No	Good	Low	7	7	4
Building GIS44	R. Schraft	11/07/88	1	1/Room 1	Floor tile	96 sq feet	No	Good	High	5	7	4
Building GP1	D. Ellcessor	09/01/88	6	G/Corridor 1B, above ceiling tile	Preformed-block pipe insulation	9 feet	No	Good	Low	7	7	4
Building GP1	D. Ellcessor	09/01/88	6	G/Corridor 8, above ceiling tile	Preformed-block pipe insulation	8 feet	No	Good	Low	7	7	4
Building GP1	D. Ellcessor	09/01/88	6	G/Room 10, above ceiling tile	Preformed-block pipe insulation	15 feet	No	Good	Low	7	7	4
Building GP1	D. Ellcessor	09/01/88	6	G/Room 11, above ceiling tile	Preformed-block pipe insulation	10 feet	No	Good	Low	7	7	4
Building GP1	D. Ellcessor	09/01/88	4	G/Room 15	Pipe wrapping	10 feet	No	Good	Low	7	7	4
Building GP1	D. Ellcessor	09/01/88	5	G/Room 4	Cementitious insulation	2 fittings	No	Good	Low	7	7	4
Building GP1	D. Ellcessor	09/01/88	5	G/Room 5	Cementitious insulation	10 fittings	No	Good	Low	7	7	4
Building GP1	D. Ellcessor	09/01/88	6	G/Room 5	Preformed-block pipe insulation	30 feet	Yes	Fair	Low	4	1	3
Building GP1	D. Ellcessor	09/01/88	5	G/Room 7, above ceiling tile	Cementitious insulation	5 fittings	No	Good	Low	7	7	4
Building GP1	D. Ellcessor	09/01/88	7	Throughout the building	Floor tile	1800 sq feet	No	Good	Low	7	7	4
Building GP44	R. Schraft	11/07/88	1	1/Room 1	Floor tile	100 sq feet	No	Good	High	5	7	4
Building GW	G. Marshall	09/16/88	6	1/Corridor hallway outside room 23	Floor tile	100 sq feet	No	Good	Low	7	7	4
Building GW	G. Marshall	09/16/88	3	1/Corridor outside room 23, north wall above door	Pipe wrapping	25 feet	No	Good	Low	7	7	4
Building GW	G. Marshall	09/16/88	6	1/Room 112	Floor tile	144 sq feet	No	Good	Low	7	7	4
Building GW	G. Marshall	09/16/88	1	1/Room 112, southeast corner	Cementitious insulation	12 fittings	No	Good	Low	7	7	4
Building GW	G. Marshall	09/16/88	2	1/Room 114, table on south wall	Transite	12 sq feet	No	Good	Low	7	7	4
Building GW	G. Marshall	09/16/88	3	1/Room 117	Pipe wrapping	15 feet	No	Good	Low	7	7	4
Building GW	G. Marshall	09/16/88	6	1/Room 117	Floor tile	144 sq feet	No	Good	Low	7	7	4
Building GW	G. Marshall	09/16/88	1	1/Room 117, northeast corner	Cementitious insulation	17 fittings	No	Good	Low	7	7	4
Building GW	G. Marshall	09/16/88	6	1/Room 222	Floor tile	144 sq feet	No	Good	Low	7	7	4
Building GW	G. Marshall	09/16/88	1	1/Room 23, pipe chase	Cementitious insulation	17 fittings	Yes	Poor	Low	1	1	3
Building H	D. Ellcessor	08/12/88	8	1/Corridor outside laundry & credit union	Preformed-block pipe insulation	86 feet	No	Good	High	5	7	4
Building H	D. Ellcessor	08/12/88	8	1/Corridor outside penthouse entrance, pipe chase	Preformed-block pipe insulation	160 feet	Yes	Good	Low	7	7	4
Building H	D. Ellcessor	08/12/88	12	1/Crawl Space over rooms 124,125 & 135	Cementitious insulation	2 fittings	No	Good	Low	7	7	4
Building H	D. Ellcessor	08/12/88	12	1/Crawl space E of room 137 & W of Labs	Cementitious insulation	12 fittings	Yes	Good	Low	7	7	4
Building H	D. Ellcessor	08/12/88	11	1/Crawl space E of room 137 & W of Labs	Air-cell paper pipe insulation	220 feet	Yes	Fair	Low	4	6	3
Building H	D. Ellcessor	08/12/88	8	1/Crawl space over rooms 124,125 & 135	Preformed-block pipe insulation	25 feet	Yes	Good	Low	7	7	4
Building H	D. Ellcessor	08/12/88	8	1/Crawl space over rooms 129,132,133 & 134	Preformed-block pipe insulation	50 feet	Yes	Poor	Low	1	5	2
Building H	D. Ellcessor	08/12/88	12	1/Crawl space over rooms 129-134	Cementitious insulation	8 fittings	Yes	Poor	Low	1	5	2
Building H	D. Ellcessor	08/12/88	9	1/Room 103	Transite	100 sq feet	No	Good	Low	7	7	4
Building H	D. Ellcessor	08/12/88	12	1/Room 103A, above ceiling tile	Cementitious insulation	2 fittings	No	Good	Low	7	7	4
Building H	D. Ellcessor	08/12/88	9	1/Room 104	Transite	60 sq feet	No	Good	Low	7	7	4

USE CATEGORY	
C	This procedure shall be available to workers, though not necessarily at the work location. This procedure may be performed without referring to the procedure; however, the user is still responsible for adhering to the procedure.

ML-9771A

TECHNICAL MANUAL

MD-10391, ISSUE 5
ASBESTOS PROGRAM MANUAL

MOUND

ML-5872(1-89)

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50	3		
51	3		
52	3		

T. C. Fort, DOE/MEMP

D. B. Armstrong, A-133
L. R. Bauer, A-206
TR- E. Kirk, OSW-3
M. D. Miller, A-270
J. M. Schneider, BD. 61
A. W. Upshaw, W-209
E- G. Witt, OSW-3
Medical, A-127
Drawing Control, OSW-309
Technical Manuals, OSW-327

This issue has been reviewed and approved for publication by TR, Evan Kirk.

2/23/99
Date

CHANGES INCORPORATED

- [x] Replace Pages 1, 2, 15, 16, 17, 18, 23, 24, 55, 56, 59, 60, 77 and 78
- [ ] Insert (New Pages)
- [ ] Remove
- [ ] Complete Reprint

All appropriate reviews were conducted. This issue is authorized for use by Advance Change Order on file in Technical Manuals.

M. D. Miller, Manager 11-12-98
Industrial Safety & Health

TR - TECHNICAL RESPONSIBILITY E - EDITOR

TABLE 1
BUILDING INFORMATION FOR EG&G MOUND FACILITY

Compiled by: Mound Industrial Hygiene

BUILDING NAME	YEAR CONSTRUCTED	SQUARE FOOTAGE	ACBM[1] ?
A	1948	55,582	Yes
B	1948	27,735	Yes
C	1948	13,403	Yes
COS	1986	64,654	Suspected[2]
DS	1965	47,810	Yes
E	1948	47,755	Yes
EG1	1973	240	Suspected[2]
EG2	1973	240	Suspected[2]
EG4	1958	148	Suspected[2]
EG6	1975	240	Suspected[2]
EG7	1972	80	Suspected[2]
FH1	1948	400	No
FH2	1948	400	No
G	1948	7,518	Yes
GH	1948	5,347	Yes
GH44	1963	365	Assumed[3]
GIS	1948	166	Yes
GP-1	1949	7,792	Yes
GP44	1971	365	Assumed[3]
GW	1968	9,782	Yes
H	1948	17,334	Yes
HH	1948	15,276	Yes

BUILDING NAME	YEAR CONSTRUCTED	SQUARE FOOTAGE	ACBM[1] ?
I	1948	25,736	Yes
M	1948	56,018	Yes
OSE	1986	90,072	Assumed[3]
OSW	1974	54,280	Yes
P	1948	15,143	Yes
PH	1948	646	Yes
PS	1963	2,288	Yes
R	1948	55,003	Yes
SD	1948	1,593	Yes
SST	1973	590	Suspected[2]
SW	1951	43,066	Yes
T	1948	172,963	Yes
W	1948	32,484	Yes
WD	1948	16,216	Yes
WDA	1966	5,000	Yes
WH1	1960	374	No
WH2	1960	374	No
WH3	1960	128	No
1	1957	986	Yes
2	1959	6,291	Yes
3	1964	12,391	Yes
5	1948	314	No
6	1948	90	No
7	1986	387	No
8	1986	66	No

BUILDING NAME	YEAR CONSTRUCTED	SQUARE FOOTAGE	ACBM[1] ?
10	1986	66	No
11	1986	372	No
13	1960	47	Suspected[2]
14	1986	53	Suspected[2]
16	1960	480	Yes
17	1961	1,120	Yes
19	1963	4,480	No
20	1986	303	No
21	1966	4,069	Suspected[2]
22	1966	9,090	No
23	1966	3,422	Yes
24	1966	840	Yes
25	1966	430	Yes
26	1965	800	Assumed[3]
27	1968	5,285	Yes
28	1966	11,329	Yes
29	1964	6,601	Yes
30	1964	740	Yes
31	1966	8,740	Suspected[2]
33	1965	1,344	Yes
34	1965	1,100	No
35	----	2,500	Yes
36	1968	4,255	Yes
37	1968	2,463	Yes
38	1968	44,327	Yes

BUILDING NAME	YEAR CONSTRUCTED	SQUARE FOOTAGE	ACBM[1] ?
39	1967	3,515	No
40	1968	12,227	Yes
42	1969	2,892	Yes
43	1969	1,516	Yes
44	1969	2,480	Yes
45	1970	2,775	Yes
46	1969	2,439	Yes
47	1969	3,611	Yes
48	1970	7,950	Yes
49	1970	14,929	Yes
50	1971	14,849	Yes
51	1972	3,541	Assumed[3]
52	1973	78	No
53	1986	239	No
54	1986	331	No
55	1973	330	No
56	1973	613	Yes
57	1975	510	Yes
58	1977	6,110	No
59	1978	668	Suspected[2]
60	1980	3,958	Yes
61	1983	45,490	Suspected[2]
62	1980	290	Yes
63	1981	16,461	Assumed[3]
64	----	72	No

BUILDING NAME	YEAR CONSTRUCTED	SQUARE FOOTAGE	ACBM[1] ?
65	1979	2,400	Assumed[3]
66	1979	600	Suspected[2]
67	1982	3,787	Assumed[3]
68	1979	1,990	Suspected[2]
69	1981	1,620	Suspected[2]
70	1982	3,366	Suspected[2]
71	1983	800	Suspected[2]
72	1983	2,400	No
73	1983	2,200	Suspected[2]
74	1986	400	Suspected[2]
79	1983	1,650	Suspected[2]
80	1986	314	No
81	1986	314	No
82	1986	314	No
83	1986	314	No
84	1986	314	No
85	1988	3,160	No
87	1988	38,882	No
88	1983	7,200	Assumed[3]
89	1984	4,830	Assumed[3]
90	1983	656	Suspected[2]
91	1984	8,065	Suspected[2]
92	1984	1,600	Suspected[2]
93	1984	2,936	Suspected[2]
94	1984	1,240	Assumed[3]

BUILDING NAME	YEAR CONSTRUCTED	SQUARE FOOTAGE	ACBM[1] ?
95	1985	2,000	Suspected[2]
96	----	432	Suspected[2]
98	1988	8,517	Suspected[2]
99	1989	11,412	Suspected[2]
100	1989	6,292	Suspected[2]
101	1986	1,815	Suspected[2]
102	1987	10,982	Suspected[2]
104	----	1,800	Suspected[2]
105	----	38,027	Suspected[2]
106	----	180	Suspected[2]
107	----	70	Suspected[2]
112	----	785	Suspected[2]
113	----	547	Suspected[2]
114	----	432	Suspected[2]
119	----	350	Suspected[2]
120	----	350	Suspected[2]

NOTES: (1) ACBM - Asbestos-containing building materials.

(2) Building is noted to contain "suspect" asbestos-containing building materials. Industrial hygiene building files lack building construction or asbestos survey information.

(3) Building is noted to contain "suspect" asbestos-containing flooring tile or sheet goods.

Appendix J

Lead Summary/Information

SURFACE MONITORING RESULTS

Sample Location	Sample Results (ug/ft2)
Ceiling 10-12' from Bullet trap	86
Ceiling 8' from Bullet trap	91
Ceiling 5-6' from Bullet trap	130
Left Wall 12-14' from Bullet trap	120
Left Wall 8-10' from Bullet trap	690
Left Wall 5-6' from Bullet trap	130
Right Wall 13-15' from Bullet trap	140
Right Wall 10-12' from Bullet trap	160
Right Wall 6-8' from Bullet trap	160
Floor 15-17' from Bullet trap	1,800
Floor 8-10' from Bullet trap	3,300
Floor 5-6' from Bullet trap	2,900
Bullet Trap Face (Left Side)	230,000
Bullet Trap Face (Center)	420,000
Bullet Trap Face (Right Side)	98,000
Floor Backside of the Bullet trap	48,000
Floor Backside of the Bullet trap	59,000
Floor Backside of the Bullet trap	62,000
Inside the front HVAC unit for the range	2,300

Appendix K

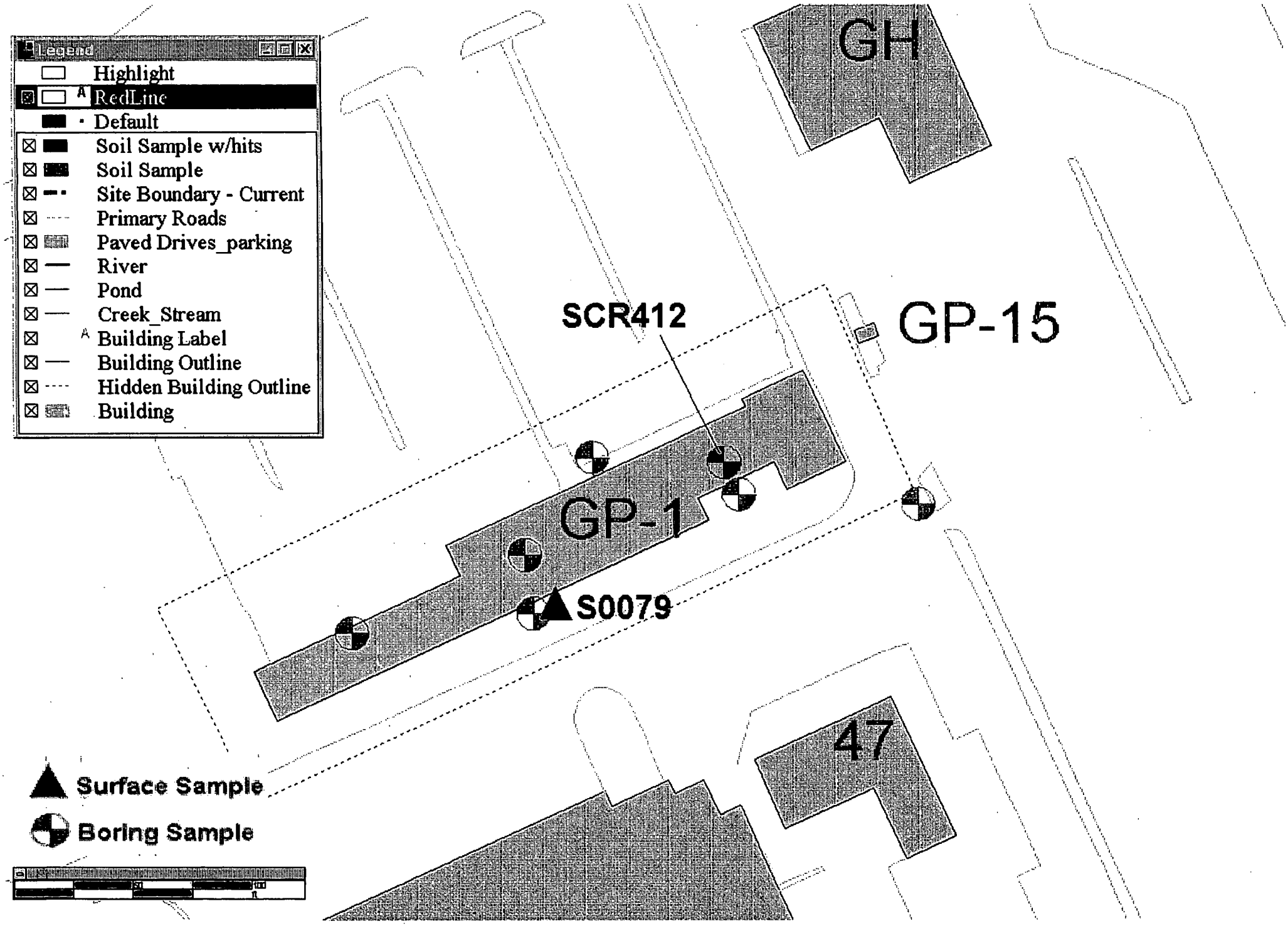
Chemical Summary/Information

(There is no chemical summary/information available.)

Appendix L

Noted Soil Sampling, Vicinity

Appendix L samples that exceeds comparison values are noted on the spreadsheet in the right-most column and with bold numbers in the "Measured Value" column. The constituent of concern may be addressed in the Parameter Name attachment to the appendix. This attachment lists comparison values in its right-most column, and reference sources in its left-most column. (The Core Team has agreed that a Pu-238 criteria of 55 pCi/g is appropriate for evaluating Building GP-1 Soils.)


Legend
Highlight
RedLine
Default
Soil Sample w/hits
Soil Sample
Site Boundary - Current
Primary Roads
Paved Drives_parking
River
Pond
Creek_Stream
Building Label
Building Outline
Hidden Building Outline
Building
GH
SCR412
GP-15
GP-1
S0079
47
Surface Sample
Boring Sample

Location_n	Sample_i	Location_t	Collection_	Med	Value_name	Measure	Value_u	Detectio	Chem_c	Star	End	Depth	Cas_number	Lab	Project_code	Dat	Comments
S0079	3039	Surface lo	19831001	Soil	Plutonium-238	0.03	PCI/G	0.01	RAD	0	0	FT	13981-16-3		RSS		
S0079	3039	Surface lo	19831001	Soil	Tritium	1.32	PCI/ML		RAD	0	0	FT	10028-17-8		RSS		
SCR412	9208045	Borehole	19920804	Soil	Plutonium-238	**35.00**	PCI/G		RAD	0	0	FT	13981-16-3		SCRDATA		Exceeds soil 10-6 GV. Exceeds background value. Exceeds other criteria.

comp_no	par_code	parameter name	comparison value	units
1	7440-41-7	Beryllium	7.00E-01	MG/KG
1	7440-43-9	Cadmium	5.00E+04	MG/KG
1	7440-47-3	Chromium	7.50E+03	MG/KG
1	121-82-4	RDX	2.70E+01	UG/KG
1	72-55-9	4,4'-DDE	9.00E+00	MG/KG
1	50-29-3	4,4'-DDT	9.00E+00	MG/KG
1	12672-29-6	Aroclor-1248	3.85E-01	MG/KG
1	11096-82-5	Aroclor-1260	3.85E-01	MG/KG
1	319-85-7	Beta-BHC	1.65E+00	MG/KG
1	60-57-1	Dieldrin	1.85E-01	MG/KG
1	56-55-3	Benzo(a)anthracene	4.10E+00	MG/KG
1	50-32-8	Benzo(a)pyrene	4.10E-01	MG/KG
1	205-99-2	Benzo(b)fluoranthene	4.10E+00	MG/KG
1	207-08-9	Benzo(k)fluoranthene	4.10E+01	MG/KG
1	117-81-7	Bis(2-ethylhexyl)phthalate	2.15E+02	MG/KG
1	218-01-9	Chrysene	4.10E+02	MG/KG
1	53-70-3	Dibenz(a,h)anthracene	4.10E-01	MG/KG
1	193-39-5	Indeno(1,2,3-cd)pyrene	4.10E+00	MG/KG
1	78-59-1	Isophorone	3.15E+03	MG/KG
1	86-30-6	N-Nitrosodiphenylamine	6.00E+02	MG/KG
1	87-86-5	Pentachlorophenol	2.50E+01	MG/KG
1	107-06-2	1,2-Dichloroethane	1.10E+01	MG/KG
1	71-43-2	Benzene	3.20E+01	MG/KG
1	75-27-4	Bromodichloromethane	4.80E+01	MG/KG
1	75-25-2	Bromoform	3.75E+02	MG/KG
1	56-23-5	Carbon Tetrachloride	1.20E+01	MG/KG
1	67-66-3	Chloroform	1.55E+01	MG/KG
1	124-48-1	Dibromochloromethane	3.55E+01	MG/KG
1	75-09-2	Dichloromethane	3.95E+02	MG/KG
1	79-01-6	Trichloroethene	1.25E+02	MG/KG
1	AC-227	Actinium-227	1.00E+00	PCI/G
1	14596-10-2	Americium-241	4.95E+00	PCI/G
1	13982-38-2	Bismuth-207	1.75E-01	PCI/G
1	BI-207	Bismuth-207	1.75E-01	PCI/G
1	10045-97-3	Cesium-137	4.60E-01	PCI/G
1	10198-40-0	Cobalt-60	1.00E-01	PCI/G
1	13981-16-3	Plutonium-238	5.50E+00	PCI/G
1	15117-48-3	Plutonium-239	5.50E+00	PCI/G
1	PU239/240	Plutonium-240	5.50E+00	PCI/G
1	13982-63-3	Radium-226	1.40E-01	PCI/G
1	10098-97-2	Strontium-90	3.00E+00	PCI/G
1	14274-82-9	Thorium-228	8.50E-01	PCI/G
1	14269-63-7	Thorium-230	4.40E+01	PCI/G
1	7440-29-1	Thorium-232	5.00E+01	PCI/G
1	10028-17-8	Tritium	2.35E+04	PCI/G
1	U-233	Uranium-233	3.70E+01	PCI/G
1	13966-29-5	Uranium-234	3.75E+01	PCI/G
1	15117-96-1	Uranium-235	3.35E+00	PCI/G
1	24678-82-8	Uranium-238	1.10E+01	PCI/G
2	7429-90-5	Aluminum	19000	MG/KG

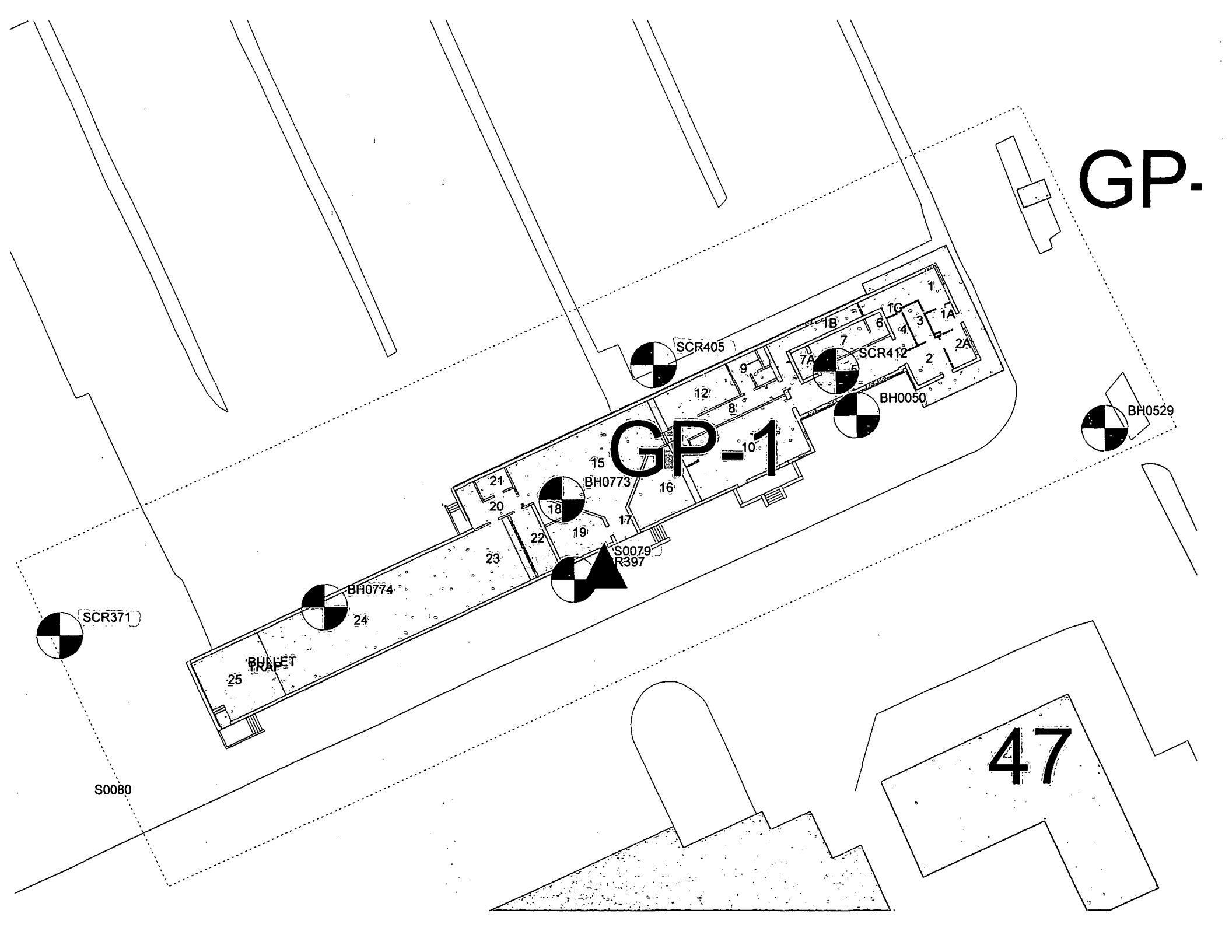
comp_no	par_code	parameter name	comparison value	units
2	7440-38-2	Arsenic	8.6	MG/KG
2	7440-39-3	Barium	180	MG/KG
2	7440-69-9	Bismuth	ND	MG/KG
2	7440-41-7	Beryllium	1.3	MG/KG
2	7440-43-9	Cadmium	2.1	MG/KG
2	7440-70-2	Calcium	310000	MG/KG
2	7440-47-3	Chromium	20	MG/KG
2	7440-48-4	Cobalt	19	MG/KG
2	7440-50-8	Copper	26	MG/KG
2	57-12-5	Cyanide	ND	MG/KG
2	7439-89-6	Iron	35000	MG/KG
2	7439-92-1	Lead	48	MG/KG
2	7439-93-2	Lithium	26	MG/KG
2	7439-95-4	Magnesium	40000	MG/KG
2	7439-96-5	Manganese	1400	MG/KG
2	7439-97-6	Mercury	ND	MG/KG
2	7439-98-7	Molybdenum	27	MG/KG
2	7440-02-0	Nickel	32	MG/KG
2	7440-09-7	Potassium	1900	MG/KG
2	7440-22-4	Silver	1.7	MG/KG
2	7782-49-2	Selenium	ND	MG/KG
2	7440-23-5	Sodium	240	MG/KG
2	7440-28-0	Thallium	0.46	MG/KG
2	7440-31-5	Tin	20	MG/KG
2	7440-62-2	Vanadium	25	MG/KG
2	7440-66-6	Zinc	140	MG/KG
2	72-54-8	4,4'-DDD	4.2	MG/KG
2	72-55-9	4,4'-DDE	4.3	MG/KG
2	50-29-3	4,4'-DDT	13	MG/KG
2	309-00-2	Aldrin	ND	MG/KG
2	5103-71-9	Alpha Chlordane	ND	MG/KG
2	319-84-6	Alpha-BHC	ND	MG/KG
2	12672-29-6	Aroclor-1248	ND	MG/KG
2	11097-69-1	Aroclor-1254	58	MG/KG
2	11096-82-5	Aroclor-1260	ND	MG/KG
2	319-85-7	Beta-BHC	ND	MG/KG
2	60-57-1	Dieldrin	ND	MG/KG
2	959-98-8	Endosulfan I	ND	MG/KG
2	1031-07-8	Endosulfan Sulfate	ND	MG/KG
2	72-20-8	Endrin	ND	MG/KG
2	7421-93-4	Endrin Aldehyde	ND	MG/KG
2	53494-70-5	Endrin Ketone	ND	MG/KG
2	5103-74-2	Gamma Chlordane	ND	MG/KG
2	58-89-9	Gamma-BHC (Lindane)	ND	MG/KG
2	76-44-8	Heptachlor	ND	MG/KG
2	1024-57-3	Heptachlor Epoxide	ND	MG/KG
2	72-43-5	Methoxychlor	30	MG/KG
2	77-47-4	Hexachlorocyclopentadiene	ND	MG/KG
2	14596-10-2	Americium-241	ND	MG/KG
2	13982-38-2	Bismuth-207	ND	MG/KG

comp_no	par_code	parameter name	comparison value	units
2	BI-207	Bismuth-207	ND	MG/KG
2	BI-210M	Bismuth-210m	ND	MG/KG
2	10045-97-3	Cesium-137	0.42	PCI/G
2	13981-16-3	Plutonium-238	0.13	PCI/G
2	13966-00-2	Potassium-40	37	PCI/G
2	13982-63-3	Radium-226	2	PCI/G
2	10098-97-2	Strontium-90	0.72	PCI/G
2	14274-82-9	Thorium-228	1.5	PCI/G
2	14269-63-7	Thorium-230	1.9	PCI/G
2	7440-29-1	Thorium-232	1.4	PCI/G
2	10028-17-8	Tritium	1.6	PCI/G
2	13966-29-5	Uranium-234	1.1	PCI/G
2	15117-96-1	Uranium-235	0.11	PCI/G
2	24678-82-8	Uranium-238	1.2	PCI/G
3	7439-92-1	Lead	400	MG/KG
3	13982-63-3	Radium-226	5	PCI/G
3	13981-16-3	Plutonium-238	25	PCI/G
3	7440-29-1	Thorium-232	5	PCI/G
5	7440-36-0	Antimony	0.0006	MG/L
5	7440-38-2	Arsenic	0.05	MG/L
5	7440-39-3	Barium	2	MG/L
5	7440-41-7	Beryllium	0.004	MG/L
5	7440-43-9	Cadmium	0.005	MG/L
5	7440-47-3	Chromium	0.1	MG/L
5	7440-50-8	Copper	1.3	MG/L
5	57-12-5	Cyanide	0.2	MG/L
5	7439-92-1	Lead	0.015	MG/L
5	7439-97-6	Mercury	0.002	MG/L
5	7440-02-0	Nickel	0.1	MG/L
5	7782-49-2	Selenium	0.05	MG/L
5	7440-28-0	Thallium	0.002	MG/L
5	16984-48-8	Flouride	4	MG/L
5	NO3	Nitrate	10	MG/L
5	NO2	Nitrite	1	MG/L
5	57-74-9	Chlordane	0.002	MG/L
5	72-20-8	Endrin	0.002	MG/L
5	76-44-8	Heptachlor	0.0004	MG/L
5	1024-57-3	Heptachlor Epoxide	0.0002	MG/L
5	72-43-5	Methoxychlor	0.04	MG/L
5	8001-35-2	Toxaphene	0.003	MG/L
5	120-82-1	1,2,4-Trichlorobenzene	0.07	MG/L
5	95-95-4	2,4,5-Trichlorophenol	0.05	MG/L
5	50-32-8	Benzo(a)pyrene	0.002	MG/L
5	118-74-1	Hexachlorobenzene	0.001	MG/L
5	77-47-4	Hexachlorocyclopentadiene	0.05	MG/L
5	87-86-5	Pentachlorophenol	0.001	MG/L
5	71-55-6	1,1,1-Trichloroethane	0.2	MG/L
5	79-00-5	1,1,2-Trichloroethane	0.005	MG/L
5	75-35-4	1,1-Dichloroethene	0.007	MG/L
5	156-59-2	1,2-cis-Dichloroethene	0.07	MG/L

comp_no	par_code	parameter name	comparison value	units
5	107-06-2	1,2-Dichloroethane	0.005	MG/L
5	78-87-5	1,2-Dichloropropane	0.005	MG/L
5	106-46-7	1,4-Dichlorobenzene	0.075	MG/L
5	108-90-7	Chlorobenzene	0.1	MG/L
5	96-12-8	Dibromochloropropane	0.0002	MG/L
5	106-93-4	1,2-Dibromoethane	0.00005	MG/L
5	95-50-1	1,2-Dichlorobenzene	0.6	MG/L
5	75-09-2	Dichloromethane (Methylene Chloride)	0.005	MG/L
5	88-85-7	Dinoseb	0.007	MG/L
5	1746-01-6	Dioxin	0.00000003	MG/L
5	94-75-7	2,4-D	0.07	MG/L
5	156-60-5	1,2-trans-Dichloroethene	0.01	MG/L
5	71-43-2	Benzene	0.005	MG/L
5	75-27-4	Bromodichloromethane	0.008	MG/L
5	75-25-2	Bromoform	0.008	MG/L
5	56-23-5	Carbon Tetrachloride	0.005	MG/L
5	67-66-3	Chloroform	0.008	MG/L
5	100-41-4	Ethylbenzene	0.07	MG/L
5	58-89-9	Gamma-BHC (Lindane)	0.0002	MG/L
5	117-81-7	bis(2-ethylhexyl)phthalate	0.006	MG/L
5	100-42-5	Styrene	0.1	MG/L
5	127-18-4	Tetrachloroethene	0.005	MG/L
5	108-88-3	Toluene	1	MG/L
5	79-01-6	Trichloroethene	0.005	MG/L
5	75-01-4	Vinyl Chloride	0.002	MG/L
5	1330-20-7	Xylenes, Total	10	MG/L
5	AC-227	Actinium-227	0.4	PCI/L
5	14596-10-2	Americium-241	1.2	PCI/L
5	13982-38-2	Bismuth-207	1200	PCI/L
5	10045-97-3	Cesium-137	120	PCI/L
5	10198-40-0	Cobalt-60	400	PCI/L
5	13981-16-3	Plutonium-238	1.6	PCI/L
5	13982-63-3	Radium-226	4	PCI/L
5	10098-97-2	Strontium-90	40	PCI/L
5	14274-82-9	Thorium-228	16	PCI/L
5	14269-63-7	Thorium-230	12	PCI/L
5	7440-29-1	Thorium-232	2	PCI/L
5	10028-17-8	Tritium	20000	PCI/L
5	U-233	Uranium-233	20	PCI/L
5	13966-29-5	Uranium-234	20	PCI/L
5	15117-96-1	Uranium-235	24	PCI/L
5	24678-82-8	Uranium-238	24	PCI/L
6	7440-47-3	Chromium	1.10E+03	MG/KG
6	7440-36-0	Antimony	8.50E+01	MG/KG
6	7440-38-2	Arsenic	6.40E+01	MG/KG
6	7440-39-3	Barium	1.50E+04	MG/KG
6	7440-41-7	Beryllium	1.10E+03	MG/KG
6	7440-43-9	Cadmium	2.10E+02	MG/KG
6	57-12-5	Cyanide	4.30E+03	MG/KG
6	7439-96-5	Manganese	2.70E+04	MG/KG

comp_no	par_code	parameter name	comparison value	units
6	7439-97-6	Mercury	6.40E+01	MG/KG
6	7440-02-0	Nickel	4.30E+03	MG/KG
6	7440-22-4	Silver	1.10E+03	MG/KG
6	7440-62-2	Vanadium	1.50E+03	MG/KG
6	7440-66-6	Zinc	6.40E+04	MG/KG
6	2691-41-0	HMX	1.10E+04	UG/KG
6	121-82-4	RDX	6.40E+04	UG/KG
6	50-29-3	4,4'-DDT	1.10E+02	MG/KG
6	11097-69-1	Aroclor-1254	4.30E+00	MG/KG
6	60-57-1	Dieldrin	1.10E+01	MG/KG
6	106-44-5	4-Methylphenol	1.10E+03	MG/KG
6	120-12-7	Anthracene	6.40E+04	MG/KG
6	65-85-0	Benzoic Acid	8.50E+05	MG/KG
6	117-81-7	Bis(2-ethylhexyl)phthalate	4.30E+03	MG/KG
6	85-68-7	Butyl Benzyl Phthalate	4.30E+04	MG/KG
6	84-74-2	Di-n-butyl Phthalate	2.10E+04	MG/KG
6	117-84-0	Di-n-octyl Phthalate	4.30E+03	MG/KG
6	206-44-0	Fluoranthene	8.50E+03	MG/KG
6	78-59-1	Isophorone	4.30E+04	MG/KG
6	87-86-5	Pentachlorophenol	6.40E+03	MG/KG
6	108-95-2	Phenol	1.30E+05	MG/KG
6	129-00-0	Pyrene	6.40E+03	MG/KG
6	75-34-3	1,1-Dichloroethane	7.80E+00	MG/KG
6	156-60-5	1,2-trans-Dichloroethene	4.30E+03	MG/KG
6	108-10-1	2-Methyl-4-pentanone	7.00E+02	MG/KG
6	67-64-1	Acetone	2.10E+04	MG/KG
6	75-27-4	Bromodichloromethane	4.30E+03	MG/KG
6	75-25-2	Bromoform	4.30E+03	MG/KG
6	75-15-0	Carbon Disulfide	2.80E+02	MG/KG
6	56-23-5	Carbon Tetrachloride	1.50E+02	MG/KG
6	75-00-3	Chloroethane	1.60E+02	MG/KG
6	67-66-3	Chloroform	2.10E+03	MG/KG
6	124-48-1	Dibromochloromethane	4.30E+03	MG/KG
6	75-09-2	Dichloromethane	1.00E+03	MG/KG
6	100-41-4	Ethylbenzene	4.80E-01	MG/KG
6	110-54-3	Hexane	9.10E+01	MG/KG
6	127-18-4	Tetrachloroethene	2.10E+03	MG/KG
6	108-88-3	Toluene	2.50E+02	MG/KG
6	75-69-4	Trichlorofluoromethane	7.30E+02	MG/KG
6	1330-20-7	Xylenes, Total	4.30E+05	MG/KG
6	78-93-3	2-Butanone	9.30E+03	MG/KG

1 Value is 10-6 Risk-Based Guide Value
2 Value is OU9 Soil Background Value
3 Value is other criteria, I.e. 5 pCi/g for certain radionuclides
25 pCi/g plutonium
5 Value is MCL
6 Value is the Guide Value based on the hazard index


GP-
GP-1
47
SCR405
SCR412
BH0050
BH0529
BH0773
BH0774
SCR371
S0079
R397
S0080
BULLET TRAP
1
1A
1B
2
2A
3
4
5
6
7
7A
8
9
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12
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TC

Soil Sample

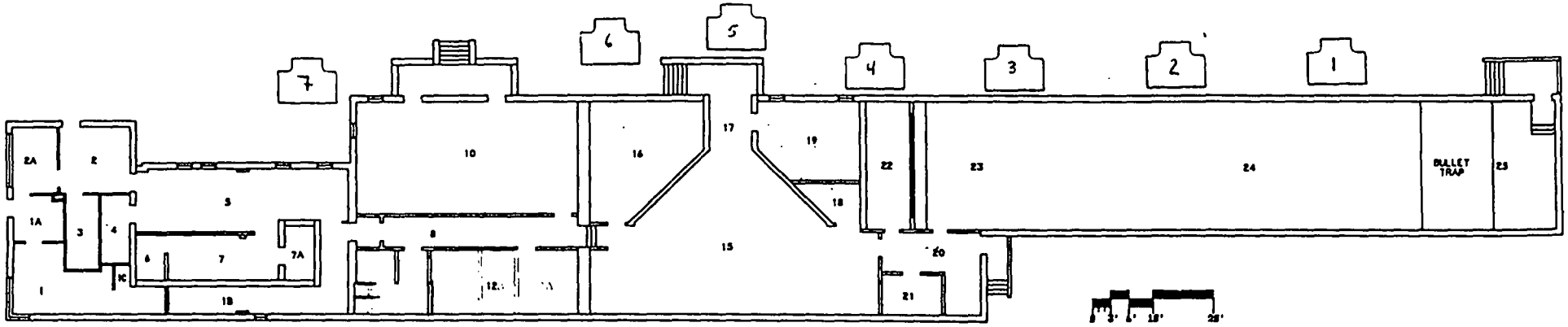
Project_code	Location_name	Chem_class	Value_name	Measured_value	Value_units	Lab_qualifier
RSS	S0079	RAD	Plutonium-238	0.03	PCI/G	
RSS	S0079	RAD	Tritium	1.32	PCI/ML	
RSS	S0079	RAD	Thorium-232	2.0	PCI/G	U
SCRDATA	SCR371	RAD	Plutonium-238	12.0	PCI/G	U
SCRDATA	SCR371	RAD	Thorium-232	1.0	PCI/G	U
SCRDATA	SCR371	RAD	Plutonium-238	15.0	PCI/G	U
SCRDATA	SCR371	RAD	Thorium-232	1.0	PCI/G	U
SCRDATA	SCR371	RAD	Plutonium-238	14.0	PCI/G	U
SCRDATA	SCR371	RAD	Thorium-232	0.8	PCI/G	U
SCRDATA	SCR371	RAD	Plutonium-238	11.0	PCI/G	U
SCRDATA	SCR371	RAD	Thorium-232	0.7	PCI/G	U
SCRDATA	SCR397	RAD	Plutonium-238	1.0	PCI/G	U
SCRDATA	SCR397	RAD	Thorium-232	0.6	PCI/G	U
SCRDATA	SCR397	RAD	Plutonium-238	7.0	PCI/G	U
SCRDATA	SCR397	RAD	Thorium-232	0.8	PCI/G	U
SCRDATA	SCR405	RAD	Plutonium-238	0.0	PCI/G	U
SCRDATA	SCR405	RAD	Thorium-232	1.0	PCI/G	U
SCRDATA	SCR405	RAD	Plutonium-238	4.0	PCI/G	U
SCRDATA	SCR405	RAD	Thorium-232	1.4	PCI/G	U
SCRDATA	SCR405	RAD	Plutonium-238	8.0	PCI/G	U
SCRDATA	SCR405	RAD	Thorium-232	1.3	PCI/G	U
SCRDATA	SCR405	RAD	Plutonium-238	0.0	PCI/G	U
SCRDATA	SCR405	RAD	Thorium-232	1.4	PCI/G	U
SCRDATA	SCR405	RAD	Plutonium-238	0.0	PCI/G	U
SCRDATA	SCR405	RAD	Thorium-232	0.6	PCI/G	U
SCRDATA	SCR405	RAD	Plutonium-238	8.0	PCI/G	U
SCRDATA	SCR405	RAD	Thorium-232	1.7	PCI/G	U

Soil Sample

Project_code	Location_name	Chem_class	Value_name	Measured_value	Value_units	Lab_qualifier
SCRDATA	SCR412	RAD	Plutonium-238	1.0	PCI/G	U
SCRDATA	SCR412	RAD	Thorium-232	0.7	PCI/G	U
SCRDATA	SCR412	RAD	Plutonium-238	35.0	PCI/G	
SCRDATA	SCR412	RAD	Thorium-232	0.6	PCI/G	U
SCRDATA	SCR412	RAD	Plutonium-238	11.0	PCI/G	U
SCRDATA	SCR412	RAD	Thorium-232	0.5	PCI/G	U

Radiological Soil Sampling Data

REV	DATE	REVISION	BY	CHKR	ENG	LPMED	APVD	R
B	12/12/91	ASBUILT ISSUE	DCW				DVD	



✳ NOTE: [#] DENOTES SOIL SAMPLE LOCATIONS

GP-1 BLDG
FIRST FLOOR
BLDG CODE:3508

APPROVALS: DATE:
VETT COMMITTEE REQUIRED:
___NONE ___TRUEDOC ___TEDOC ___EVDOC
TECH. REDP. ___
BR. PRNL. ___
TRUEDOC ___
TEDOC ___
EVDOC ___

NOT FOR PUBLIC DISSEMINATION

MAY CONTAIN UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION SUBJECT TO SECTION 148 OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED (42 USC 2168). APPROVAL BY THE DEPARTMENT OF ENERGY PRIOR TO RELEASE IS REQUIRED.

DESIGN DWG | PROJ RVW
SPONS | DWG SUPV
UP & EE | PLCN REV
DWG RVW
APVD | DATE

SHEET 1 2 3 4 5 6
ISSUE B
PART CLASSIFICATION
DRAWING CLASSIFICATION UCNI
TITLE (U) TITLE CLASSIFICATION
GP-1 BLDG
FLOOR PLANS
SIZE D | DRAWING NUMBER FSD911309 | JOB NUMBER 12335
DWG TYPE GFP | PRNT GP-1 BLDG | CARDS 14863 | SCALE AS NOTED | SHEET 1 OF 1
STATUS MD-REL-12/12/91 | ORIGIN MD-BR3-V3.B

Pg. 4 of 1+

SOIL ANALYSIS REPORT

FIELD SAMPLE ID: 004441
LAB SAMPLE ID: ML800219
FILE ID: MG200008.S0
PRIORITY: Y

Description\Location:
S#1 RSDS-99-GPI-05-02

Collector: HP#7868

Date Received: 1/18/99 **Date Collected:**

Radionuclide		Activity (pCi/g)	MDA (pCi/g)	MD-10438 Limit (pCi/g)
Co-60	*	0.02	0.05	45,000
Cs-137		0.17	0.05	45,000
Pb-210	*	0.00	1.07	45,000
Ra-226		2.81	1.03	800
Ac-227 (D)	*	0.00	0.37	40
Th-230	*	5.52	9.89	800
Th-232 (D)		0.64	0.14	130
Pu-238	*	7.86	29.24	500
Am-241	*	0.06	0.10	500

Other Nuclides:

Radionuclide	Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)

Σ DOT 0.04 nCi/g

Σ Respirator 0.09

Σ Respirator <1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4.

Σ DOT 2 nCi/g limit, total activity.

(D) Denotes identification by daughter emissions.
Sample is assumed to be in secular equilibrium.

* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

Comments:

Date: 1/18/99 Counted By: 5890 Analyzed By: 6086 INITIALS [redacted] -18-99

SOIL ANALYSIS REPORT

FIELD SAMPLE ID: 004441
LAB SAMPLE ID: ML800226
FILE ID: MG100202.S0
PRIORITY: Y

Description\Location:
S#1 RSDS-99-GP1-05-02
10 HOUR RE-COUNT

Collector: HP#7868

Date Received: 1/18/99 **Date Collected:**

Radionuclide	Activity (pCi/g)	MDA (pCi/g)	MD-10438 Limit (pCi/g)
Co-60	0.03	0.02	45,000
Cs-137	0.15	0.02	45,000
Pb-210	1.92	0.25	45,000
Ra-226	2.27	0.31	800
Ac-227 (D) *	0.00	0.09	40
Th-230 *	1.70	2.33	800
Th-232 (D)	0.57	0.07	130
Pu-238 *	0.00	6.23	500
Am-241 *	0.00	0.03	500

Other Nuclides:

Radionuclide	Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)

Σ DOT 0.01 nCi/g

Σ Respirator 0.02

Σ Respirator <1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4.

Σ DOT 2 nCi/g limit, total activity.

(D) Denotes identification by daughter emissions.
Sample is assumed to be in secular equilibrium.

* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

Comments:

Date: 1/19/99 Counted By: 6086 Analyzed By: 6086 INITIALS [redacted] 1-19-99

SOIL ANALYSIS REPORT

FIELD SAMPLE ID: 004442
LAB SAMPLE ID: ML800227
FILE ID: MG200012.S0
PRIORITY: Y

Description\Location:
S#2 RSDS-99-GPI-05-02
10 HOUR RE-COUNT

Collector: HP#7868

Date Received: 1/18/99 **Date Collected:**

Radionuclide		Activity (pCi/g)	MDA (pCi/g)	MD-10438 Limit (pCi/g)
Co-60	*	0.00	0.02	45,000
Cs-137		0.12	0.02	45,000
Pb-210	*	0.00	0.41	45,000
Ra-226		2.48	0.42	800
Ac-227 (D)		0.26	0.14	40
Th-230	*	0.00	4.54	800
Th-232 (D)		0.52	0.07	130
Pu-238		16.20	11.50	500
Am-241	*	0.00	0.05	500

Other Nuclides:

Radionuclide	Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)

Σ DOT 0.02 nCi/g

Σ Respirator 0.05

Σ Respirator <1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4.

Σ DOT 2 nCi/g limit, total activity.

(D) Denotes identification by daughter emissions.
Sample is assumed to be in secular equilibrium.

* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

Comments:

Date: 1/19/99 Counted By: 6086 Analyzed By: 6086 INITIALS [redacted] 1-19-99

SOIL ANALYSIS REPORT

FIELD SAMPLE ID: 004447
LAB SAMPLE ID: ML800233
FILE ID: MG100205.S0
PRIORITY: Y

Description\Location:
S#7 RSDS-99-GP1-05-02
10 HOUR RE-COUNT

Collector: HP#7868

Date Received: 1/19/99 **Date Collected:**

Radionuclide		Activity (pCi/g)	MDA (pCi/g)	MD-10438 Limit (pCi/g)
Co-60	•	0.01	0.03	45,000
Cs-137		0.08	0.02	45,000
Pb-210		2.05	0.26	45,000
Ra-226		1.78	0.30	800
Ac-227 (D)	*	0.06	0.09	40
Th-230	*	0.00	2.57	800
Th-232 (D)		0.56	0.08	130
Pu-238	*	2.31	6.45	500
Am-241	*	0.00	0.03	500

Other Nuclides:

Radionuclide	Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)

Σ DOT 0.01 nCi/g

Σ Respirator 0.03

Σ Respirator <1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4.

Σ DOT 2 nCi/g limit, total activity.

(D) Denotes identification by daughter emissions.
Sample is assumed to be in secular equilibrium.

* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

Comments:

Date: 1/21/99 Counted By: 6086 Analyzed By: 6086 INITIALS [redacted] 1-21-99

SOIL ANALYSIS REPORT

FIELD SAMPLE ID: 004442
LAB SAMPLE ID: ML800220
FILE ID: MG100199.S0
PRIORITY: Y

Description\Location:
S#2 RSDS-99-GPI-05-02

Collector: HP#7868

Date Received: 1/18/99 **Date Collected:**

Radionuclide		Activity (pCi/g)	MDA (pCi/g)	MD-10438 Limit (pCi/g)
Co-60	•	0.01	0.06	45,000
Cs-137		0.10	0.04	45,000
Pb-210		1.93	0.50	45,000
Ra-226		1.19	0.64	800
Ac-227 (D)	•	0.15	0.17	40
Th-230		6.09	4.25	800
Th-232 (D)		0.56	0.15	130
Pu-238	*	0.00	15.30	500
Am-241	*	0.02	0.05	500

Other Nuclides:

Radionuclide	Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)

Σ DOT 0.03 nCi/g

Σ Respirator 0.05

Σ Respirator <1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4.

Σ DOT 2 nCi/g limit, total activity.

(D) Denotes identification by daughter emissions.
Sample is assumed to be in secular equilibrium.

* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

Comments:

Date: 1/18/99 Counted By: 5890 Analyzed By: 6086 INITIALS [redacted] 1-18-99

SOIL ANALYSIS REPORT

FIELD SAMPLE ID: 004443
LAB SAMPLE ID: ML800228
FILE ID: MG100203.S0
PRIORITY: Y

Description\Location:
S#3 RSDS-99-GP1-05-02
10 HOUR RE-COUNT

Collector: HP#7868

Date Received: 1/18/99 **Date Collected:**

Radionuclide		Activity (pCi/g)	MDA (pCi/g)	MD-10438 Limit (pCi/g)
Co-60	*	0.01	0.02	45,000
Cs-137		0.13	0.01	45,000
Pb-210		1.42	0.25	45,000
Ra-226		1.70	0.29	800
Ac-227 (D)	*	0.00	0.08	40
Th-230	*	0.00	2.21	800
Th-232 (D)		0.48	0.06	130
Pu-238	*	2.06	5.40	500
Am-241	*	0.00	0.02	500

Other Nuclides:

Radionuclide	Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)

Σ DOT 0.01 nCi/g

Σ Respirator 0.02

Σ Respirator <1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4.

Σ DOT 2 nCi/g limit, total activity.

(D) Denotes identification by daughter emissions.
Sample is assumed to be in secular equilibrium.

* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

Comments:

Date: 1/20/99 Counted By: 5801 Analyzed By: 6086 INITIALS [redacted] -20-99

SOIL ANALYSIS REPORT

FIELD SAMPLE ID: 004443
LAB SAMPLE ID: ML800221
FILE ID: MG100200.S0
PRIORITY: Y

Description\Location:
S#3 RSDS-99-GPI-05-02

Collector: HP#7868

Date Received: 1/18/99 **Date Collected:**

Radionuclide		Activity (pCi/g)	MDA (pCi/g)	MD-10438 Limit (pCi/g)
Co-60	*	0.00	0.06	45,000
Cs-137		0.12	0.05	45,000
Pb-210		1.65	0.45	45,000
Ra-226		2.03	0.53	800
Ac-227 (D)	*	0.00	0.19	40
Th-230	*	0.99	4.92	800
Th-232 (D)		0.48	0.15	130
Pu-238	*	0.00	12.70	500
Am-241	*	0.00	0.06	500

Other Nuclides:

Radionuclide	Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)

Σ DOT 0.02 nCi/g

Σ Respirator 0.04

Σ Respirator <1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4.

Σ DOT 2 nCi/g limit, total activity.

(D) Denotes identification by daughter emissions.
Sample is assumed to be in secular equilibrium.

* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

Comments:

Date: 1/18/99 Counted By: 5890 Analyzed By: 6086 INITIALS [redacted] -18-99

SOIL ANALYSIS REPORT

FIELD SAMPLE ID: 004444
LAB SAMPLE ID: ML800229
FILE ID: MG200013.S0
PRIORITY: Y

Description\Location:
S#4 RSDS-99-GPI-05-02
10 HOUR RE-COUNT

Collector: HP#7868

Date Received: 1/18/99 **Date Collected:**

Radionuclide		Activity (pCi/g)	MDA (pCi/g)	MD-10438 Limit (pCi/g)
Co-60	*	0.01	0.02	45,000
Cs-137	*	0.01	0.02	45,000
Pb-210	*	0.00	0.41	45,000
Ra-226		3.53	0.45	800
Ac-227 (D)	*	0.05	0.16	40
Th-230	*	1.80	4.64	800
Th-232 (D)		0.76	0.07	130
Pu-238	*	0.00	13.46	500
Am-241	*	0.00	0.05	500

Other Nuclides:

Radionuclide	Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)

Σ DOT 0.02 nCi/g

Σ Respirator 0.05

Σ Respirator <1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4.

Σ DOT 2 nCi/g limit, total activity.

(D) Denotes identification by daughter emissions.
Sample is assumed to be in secular equilibrium.

* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

Comments:

Date: 1/20/99 Counted By: 5801 Analyzed By: 6086 INITIALS [redacted] 1-20-99

SOIL ANALYSIS REPORT

FIELD SAMPLE ID: 004444
LAB SAMPLE ID: ML800222
FILE ID: MG200009.S0
PRIORITY: Y

Description\Location: S#4 RSDS-99-GPI-05-02

Collector: HP#7868

Date Received: 1/18/99 **Date Collected:**

Radionuclide		Activity (pCi/g)	MDA (pCi/g)	MD-10438 Limit (pCi/g)
Co-60	*	0.05	0.05	45,000
Cs-137	*	0.00	0.06	45,000
Pb-210	*	0.00	0.92	45,000
Ra-226		3.88	0.99	800
Ac-227 (D)		0.43	0.33	40
Th-230		17.88	8.42	800
Th-232 (D)		0.94	0.18	130
Pu-238	*	16.62	26.99	500
Am-241		0.11	0.10	500

Other Nuclides:

Radionuclide	Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)

Σ DOT 0.05 nCi/g

Σ Respirator 0.10

Σ Respirator <1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4.

Σ DOT 2 nCi/g limit, total activity.

(D) Denotes identification by daughter emissions.
Sample is assumed to be in secular equilibrium.

* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

Comments:

Date: 1/18/99 Counted By: 5890 Analyzed By: 6086 INITIALS [redacted] 1-18-99

SOIL ANALYSIS REPORT

FIELD SAMPLE ID: 004445
LAB SAMPLE ID: ML800230
FILE ID: MG200015.S0
PRIORITY: Y

Description\Location:
S#5 RSDS-99-GP1-05-02
10 HOUR RE-COUNT

Collector: HP#7868

Date Received: 1/19/99 **Date Collected:**

Radionuclide		Activity (pCi/g)	MDA (pCi/g)	MD-10438 Limit (pCi/g)
Co-60	•	0.00	0.02	45,000
Cs-137		0.08	0.02	45,000
Pb-210	*	0.00	0.41	45,000
Ra-226		2.89	0.41	800
Ac-227 (D)		0.33	0.14	40
Th-230	•	0.00	4.42	800
Th-232 (D)		0.66	0.06	130
Pu-238	•	0.00	12.91	500
Am-241	*	0.00	0.05	500

Other Nuclides:

Radionuclide	Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)

Σ DOT 0.02 nCi/g

Σ Respirator 0.05

Σ Respirator <1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4.

Σ DOT 2 nCi/g limit, total activity.

(D) Denotes identification by daughter emissions.
Sample is assumed to be in secular equilibrium.

* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

Comments:

Date: 1/21/99 Counted By: 6086 Analyzed By: 6086 INITIALS [redacted] 1-21-99

SOIL ANALYSIS REPORT

FIELD SAMPLE ID: 004445
LAB SAMPLE ID: ML800223
FILE ID: MG100201.S0
PRIORITY: Y

Description\Location:
S#5 RSDS-99-GPI-05-02

Collector: HP#7868

Date Received: 1/18/99 **Date Collected:**

Radionuclide		Activity (pCi/g)	MDA (pCi/g)	MD-10438 Limit (pCi/g)
Co-60	*	0.00	0.06	45,000
Cs-137		0.06	0.05	45,000
Pb-210		1.64	0.56	45,000
Ra-226		2.48	0.56	800
Ac-227 (D)	*	0.00	0.22	40
Th-230	•	0.00	5.90	800
Th-232 (D)		0.50	0.18	130
Pu-238	•	0.00	15.43	500
Am-241	*	0.00	0.06	500

Other Nuclides:

Radionuclide	Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)

Σ DOT 0.03 nCi/g

Σ Respirator 0.05

Σ Respirator <1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4.

Σ DOT 2 nCi/g limit, total activity.

(D) Denotes identification by daughter emissions.
Sample is assumed to be in secular equilibrium.

* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

Comments:

Date: 1/18/99 Counted By: 5890 Analyzed By: 6086 INITIALS [redacted] 1-18-99

SOIL ANALYSIS REPORT

FIELD SAMPLE ID: 004446
LAB SAMPLE ID: ML800231
FILE ID: MG100204.S0
PRIORITY: Y

Description\Location:
S#6 RSDS-99-GP1-05-02
10 HOUR RE-COUNT

Collector: HP#7868

Date Received: 1/19/99 **Date Collected:**

Radionuclide		Activity (pCi/g)	MDA (pCi/g)	MD-10438 Limit (pCi/g)
Co-60	*	0.01	0.02	45,000
Cs-137		0.05	0.02	45,000
Pb-210		1.78	0.26	45,000
Ra-226		2.00	0.26	800
Ac-227 (D)	*	0.01	0.08	40
Th-230	*	0.00	2.35	800
Th-232 (D)		0.60	0.07	130
Pu-238	*	0.00	5.83	500
Am-241	*	0.00	0.02	500

Other Nuclides:

Radionuclide	Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)

Σ DOT 0.01 nCi/g

Σ Respirator 0.02

Σ Respirator <1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4.

Σ DOT 2 nCi/g limit, total activity.

(D) Denotes identification by daughter emissions.
Sample is assumed to be in secular equilibrium.

* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

Comments:

Date: 1/21/99 Counted By: 6086 Analyzed By: 6086 INITIALS [redacted] 1-21-99

SOIL ANALYSIS REPORT

FIELD SAMPLE ID: 004446
LAB SAMPLE ID: ML800224
FILE ID: MG200010.S0
PRIORITY: Y

Description\Location:
S#6 RSDS-99-GPI-05-02

Collector: HP#7868

Date Received: 1/18/99 **Date Collected:**

Radionuclide		Activity (pCi/g)	MDA (pCi/g)	MD-10438 Limit (pCi/g)
Co-60	*	0.00	0.05	45,000
Cs-137		0.09	0.04	45,000
Pb-210	*	0.00	0.90	45,000
Ra-226		2.62	0.95	800
Ac-227 (D)	*	0.12	0.31	40
Th-230		8.35	8.04	800
Th-232 (D)		0.50	0.15	130
Pu-238	*	0.00	27.51	500
Am-241	*	0.02	0.10	500

Other Nuclides:

Radionuclide	Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)

Σ DOT 0.04 nCi/g

Σ Respirator 0.08

Σ Respirator <1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4.

Σ DOT 2 nCi/g limit, total activity.

(D) Denotes identification by daughter emissions.
Sample is assumed to be in secular equilibrium.

* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

Comments:

Date: 1/18/99 Counted By: 5890 Analyzed By: 6086 INITIALS [redacted] 1-18-99

SOIL ANALYSIS REPORT

FIELD SAMPLE ID: 004447
LAB SAMPLE ID: ML800225
FILE ID: MG200011.S0
PRIORITY: Y

Description\Location:
S#7 RSDS-99-GPI-05-02

Collector: HP#7868

Date Received: 1/18/99 **Date Collected:**

Radionuclide		Activity (pCi/g)	MDA (pCi/g)	MD-10438 Limit (pCi/g)
Co-60		0.05	0.03	45,000
Cs-137		0.13	0.05	45,000
Pb-210	•	0.00	1.30	45,000
Ra-226		3.50	1.14	800
Ac-227 (D)	•	0.29	0.39	40
Th-230	*	3.14	10.82	800
Th-232 (D)		0.68	0.20	130
Pu-238	*	5.19	18.50	500
Am-241	*	0.03	0.12	500

Other Nuclides:

Radionuclide	Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)

Σ DOT 0.04 nCi/g

Σ Respirator 0.07

Σ Respirator <1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4.

Σ DOT 2 nCi/g limit, total activity.

(D) Denotes identification by daughter emissions.
Sample is assumed to be in secular equilibrium.

* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

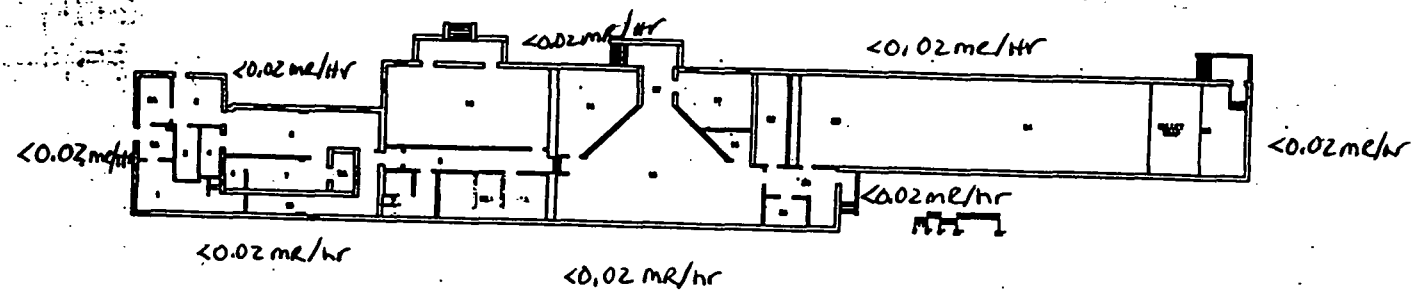
Comments:

Date: 1/19/99 Counted By: 5890 Analyzed By: 6086 INITIALS [redacted] 1-19-99

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG/AREA/ROOM) GP-1	SURVEY NO. 99-GP-1-07
PURPOSE: EXTERIOR Radiation SURVEY FOR RELEASE	RWP NO. N/A
	DATE: 01/18/99
	TIME: 1240

MAP/DRAWING



*DOSE RATES TAKEN ~ 15 ft. outside of Bldg.

GP-1 BLDG
FIRST FLOOR
BLDG CODE:3508

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
BICRON uR	3929	04/08/99
	A	
N		

[redacted]

	HPs	Date:
	7873	01/18/99
	HPs	Date:
	HPs	Date:
	5996	1-19-99

ML-0620 (2-96)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
N/A	N/A	N/A	N/A	N/A

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comm
N/A	N/A	N/A	N/A	N/A

COMMENTS: RADIATION SURVEY ONLY

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-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET

R-214 B-14 P1

LOCATION: (BLDG/AREA/ROOM) GP-1 ROOF	SURVEY NO. 99-GP-1-08
PURPOSE: SURVEY OF VENTS/DRAINS ON ROOF	RWP NO. N/A
	DATE: 011999
	TIME: 1030

MAP/DRAWING

SEE ATTACHED MAP FOR SURVEY LOCATION

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
= mrem/hr neutron
= air sample number
= swipe number
#/α or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NE ELECTRA	5303/5315	060999
N A	N A	N A

[redacted]

HPs 7873 7872	Date: 011999
HPs 3374	Date: 01-19-99
HPs 5996	Date: 7-20-99

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1 - 14	SEE	ATTACHED	→	→
		N/A		

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

COMMENTS: DIRECT READINGS TAKEN AT SMEAR LOCATIONS N/A

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-9620 (2-98)

Appendix M

Occurrence Reports

(There are no occurrence reports for this building.)

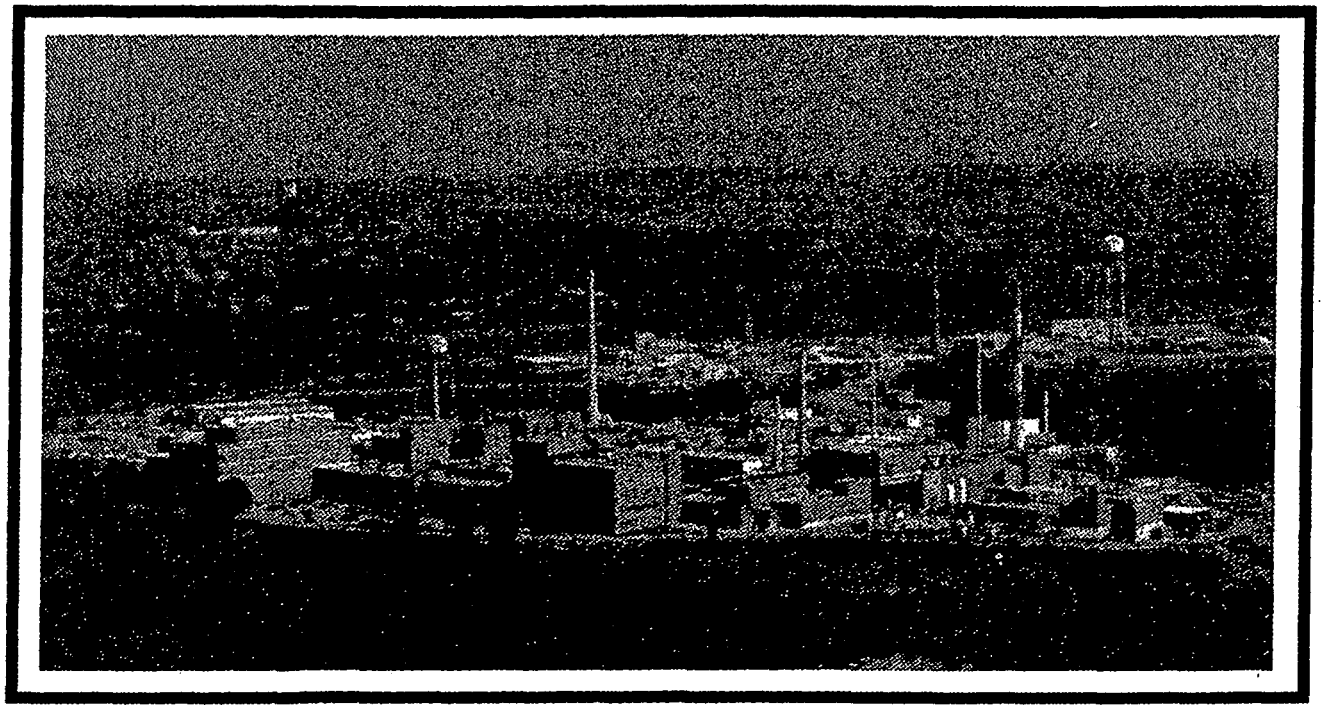
Appendix N

PRS Information

MOUND

Environmental
Restoration
Program

MOUND PLANT
Potential Release Site Package
PRS # 241



MOUND PLANT
PRS 241
Soil Contamination-Main Hill Parking Lot Area

RECOMMENDATION:

PRS 241 consists of the northwest parking lots, including the parking lots east of OSE building, south of GH building and the parking lot north of A Building. This PRS was created due to the Soil Gas Survey and Geophysical Investigation - Reconnaissance Sampling Report, Feb.1993 because of several positive soil gas detections. These areas have always been and still are parking lots. No operations are known to have been performed in the parking lots east of OSE Building and north of A Building that would generate hazardous or radioactive wastes.

In 1992, reconnaissance soil gas sampling detected 8 ppb of trichloroethene (TCE) and 255 ppb toluene. These results were below calculated acceptable soil gas values. In addition, all radionuclides are at or below guideline criteria.

Therefore, NO FURTHER ASSESSMENT is recommended for PRS 241.

CONCURRENCE:

DOE/MEMP: Arthur W. Kleinrath 5/13/97
Arthur W. Kleinrath, Remedial Project Manager (date)

USEPA: Timothy J. Fischer 5/13/97
Timothy J. Fischer, Remedial Project Manager (date)

OEPA: Brian K. Nickel 5/14/97
Brian K. Nickel, Project Manager (date)

SUMMARY OF COMMENTS AND RESPONSES:

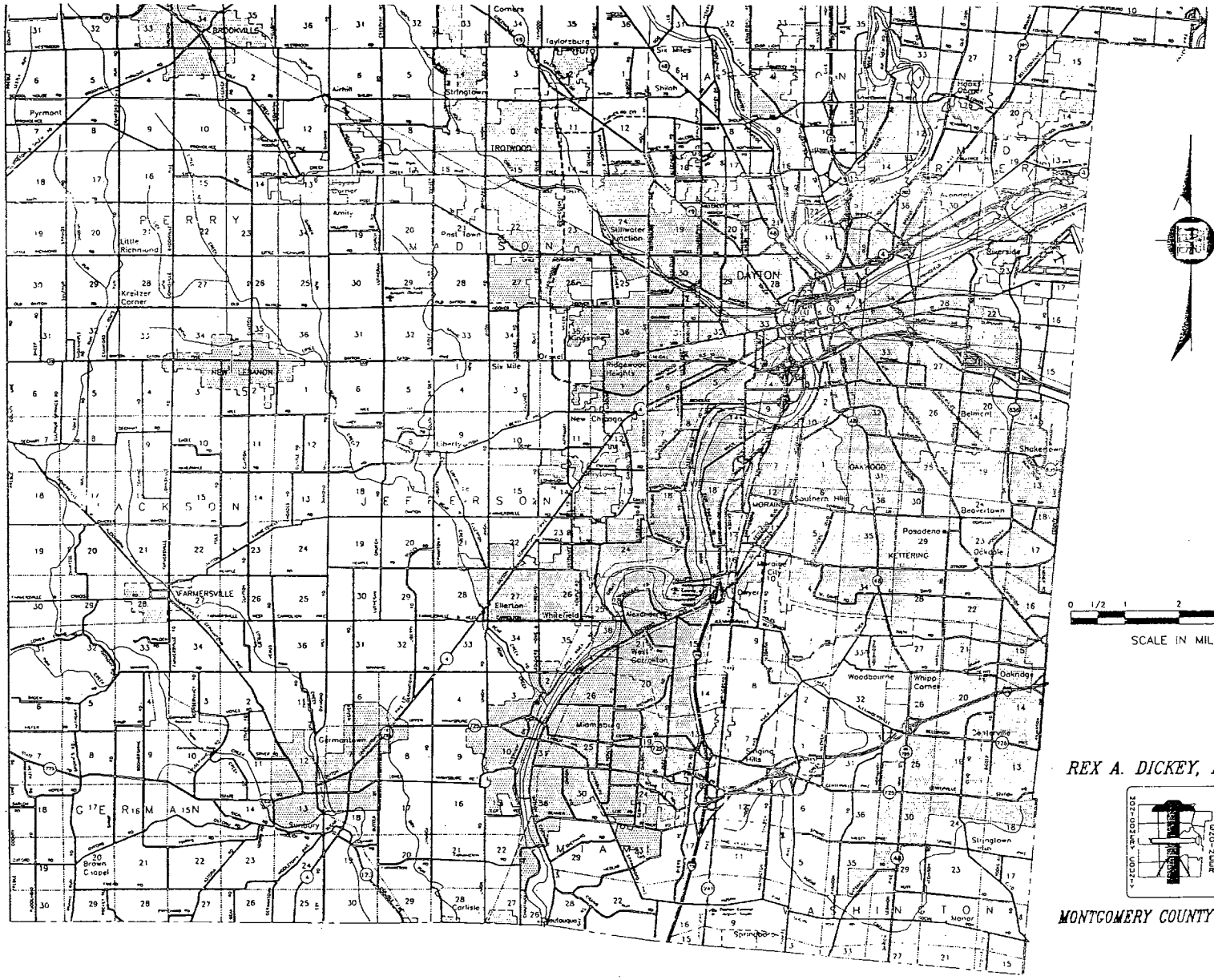
Comment period from 6/17/97 to 7/18/97

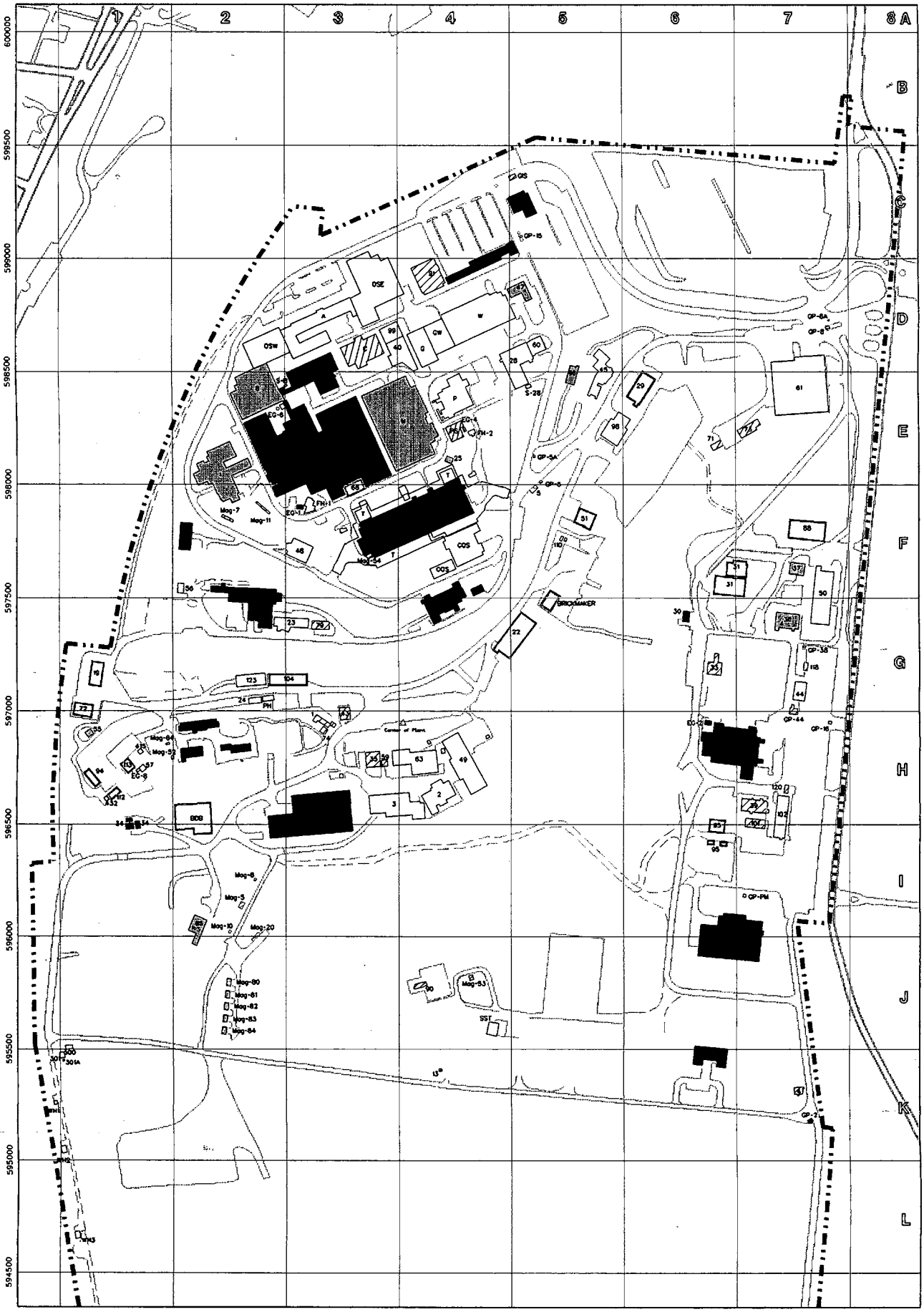
☐ No comments were received during the comment period.

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

Page Redacted

Contains Proprietary Information


BROOKVILLE
Pyrmont
Taylorsburg
Six Miles
Shiloh
Stringtown
TROTWOOD
Little Richmond
Kreitzer Corner
Stillwater Junction
DAYTON
Riverside
NEW LEMANON
Six Mile
Ridgewood Heights
New Chicago
Liberty
Belmont
Shakeetown
OAKWOOD
Southern Hills
Beaverlotown
Pasadena
KETTERING
Ockwood
FARMERSVILLE
Ellerton
Whitefield
Miamisburg
West Carrollton
Woodbourne
Whipp Corner
Oakridge
Germantown
Singing Hills
Stringtown Glen
Brown Chapel
Carlisle
Manor
Springboro
SCALE IN MILES
REX A. DICKEY, P.E.,P.S.
MONTGOMERY COUNTY ENGINEER
FEBRUARY, 1992



Legend

- To Be Demolished (CERCLA)
- To Be Demolished (Construction)
- Personal Property
- Hatch: Removed/Demolished
- Transfer (Waiting Evaluation)
- Transfer (NFA)
- Transfer (FA)
- Transfer (RA)

0 100 200 400 600 800 1000
Scale in Feet

ISS	DATE	REVISION	BY	CHKR	ENG	M
	05/25/99	UPDATE	MR			

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

(U) TITLE CLASSIFICATION

Building Disposition Core Team

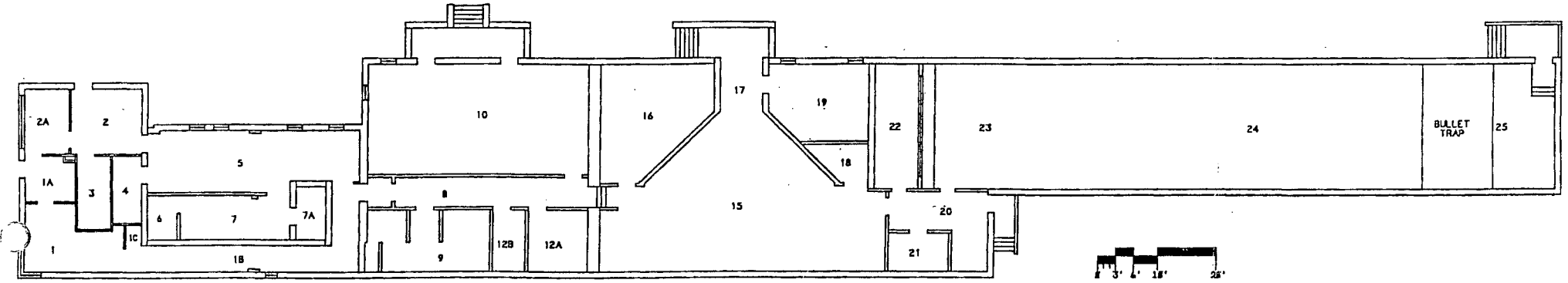
05/25/99

DRAWING CLASSIFICATION	SIZE	DRAWING NUMBER	JOB NUMBER
UNCLASSIFIED	D	bldg_disp.dgn	

DWG TYPE	PRMG	CAGEC	SCALE	SHEET 1 OF
STATUS		ORIGIN	MSTATION 5.0	

A B C D

ISS	DATE	REVISION	BY	CHKR	ENG	LPAEC	APVD	R
Ø	12/12/91	ASBUILT ISSUE	DCW				DVD	



UNCLASSIFIED

DERIVATIVE CLASSIFIER

R.D. Myers

(Title) R. Class. Anal. 2/29/96 (Date)

GP-1 BLDG
FIRST FLOOR
BLDG CODE:3508

DOC. NO:	DATE:
COMMITTEE REQUIRED:	
___TRUEDOC ___TEDOC ___EVDOC	
TECH. REWP.	
G. MGR.	
TRUEDOC	
TEDOC	
EVDOC	

NOT FOR PUBLIC DISSEMINATION

MAY CONTAIN UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION SUBJECT TO SECTION 148 OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED (42 USC 2168). APPROVAL BY THE DEPARTMENT OF ENERGY PRIOR TO RELEASE IS REQUIRED.

DESIGN ENG	PROJ MGR
SPONS	ENG SUPV
LP & EC	PEER REV
ENG MGR	
APVD	DATE

SHEET	1	2	3	4	5	6
ISSUE	Ø					

PART CLASSIFICATION

DRAWING CLASSIFICATION: UCNI

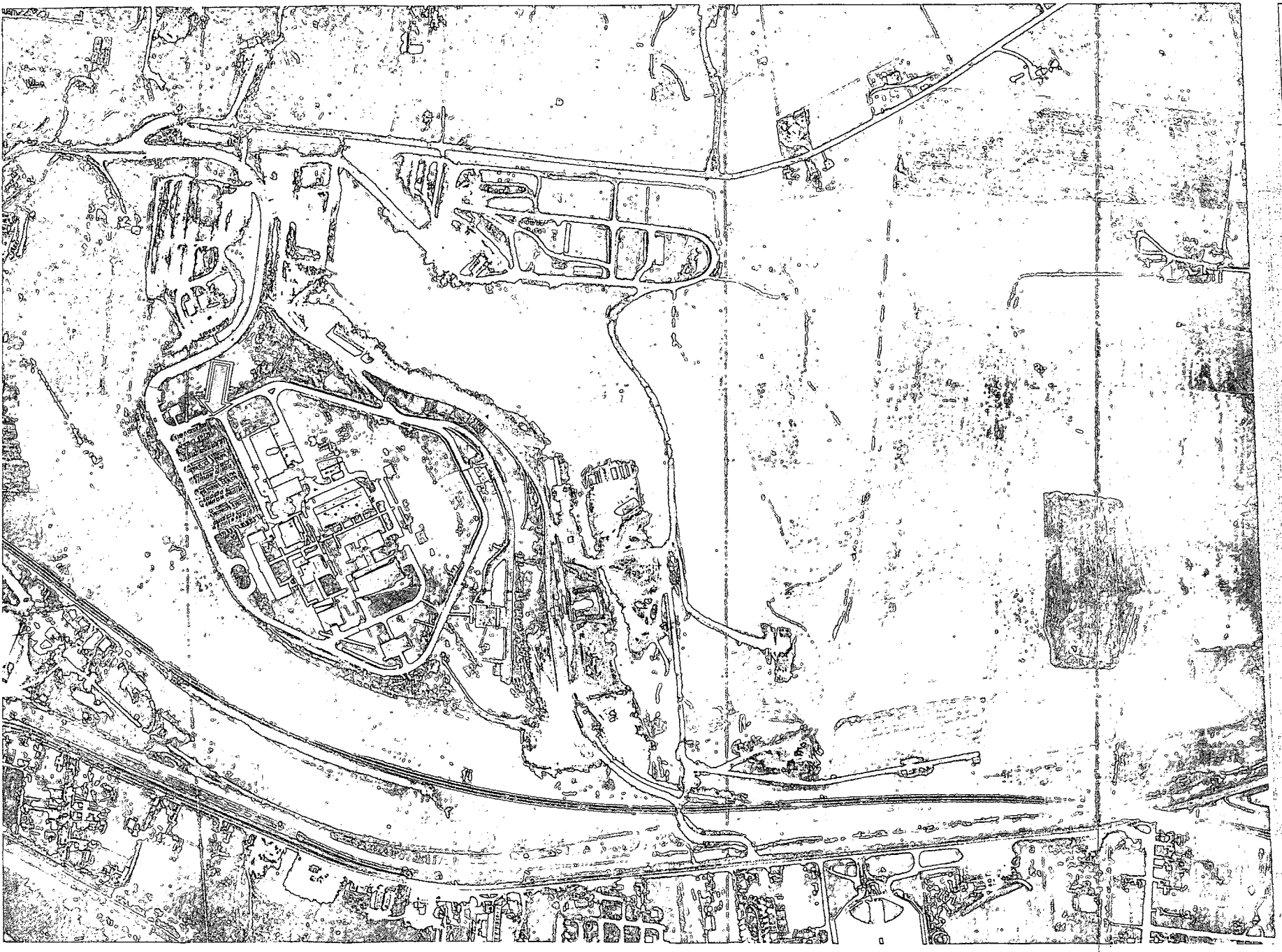
TITLE (U) TITLE CLASSIFICATION
GP-1 BLDG
FLOOR PLANS

SIZE	DRAWING NUMBER	JOB NUMBER
D	FSD911309	12335

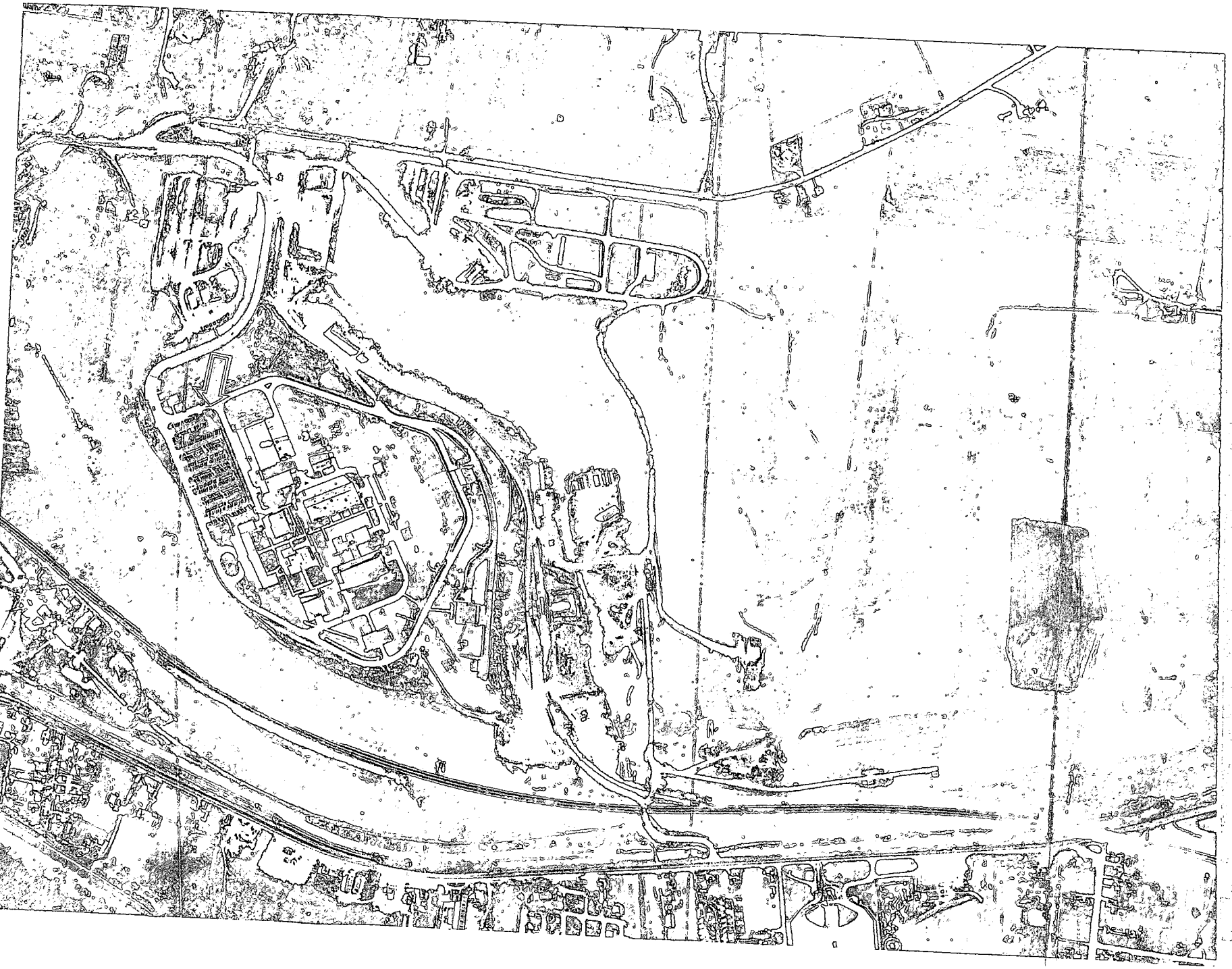
DWG TYPE	PROM	CARDS	SCALE	SHEET
SFP	GP-1 BLDG	14865	AS NOTED	1 OF 1

STATUS MD-REL-12/12/91 ORIGIN MD-BR3-V3.Ø

9-10-61



11/08/49



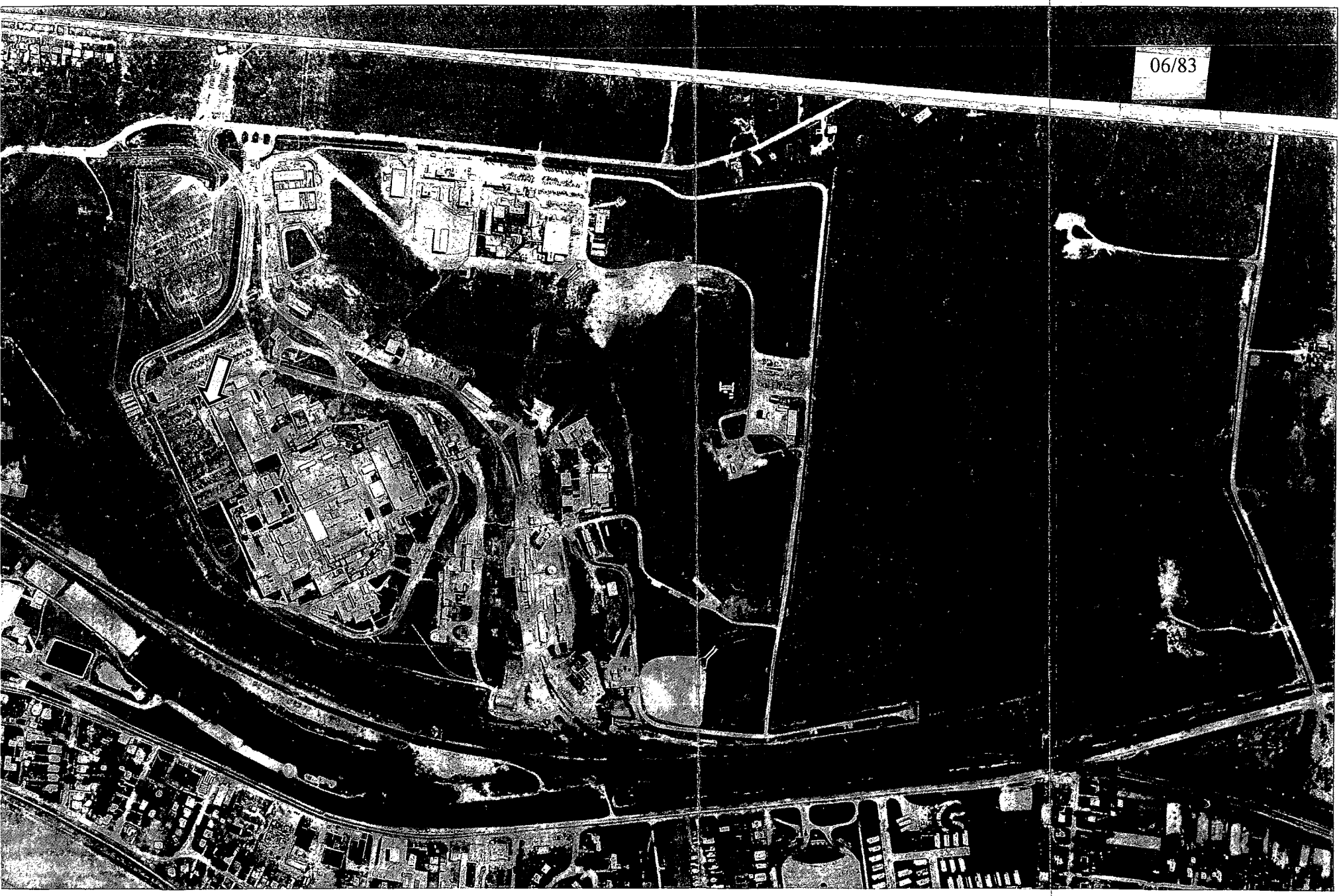
11/08/49

11/19/59
1959-20-72

04/07/65

03/30/68

04/14/73


06/83

04/04/94