BWX Technologies, Inc.
a McDermott company

3005-030224006

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

SM-041/02
May 2, 2002

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

ATTENTION: Robert S. Rothman

SUBJECT: Contract No. DE-AC24-97OH20044
CLOSEOUT REPORT – BIODEGRADATION BARN AND DROP TOWER - FINAL

REFERENCE: Statement of Work Requirement C.7.1e—Regulator Reports

Dear Mr. Provencher:

Attached is the Final Closeout Report for the Biodegradation Barn and Drop Tower. This report provides summary information on the successful completion of this effort.

The release of this document to USEPA, OEPA, ODH, and the public reading room has been authorized by Rob Rothman of your office.

Please advise if additional copies are required. If you require further information, please contact Bob Ransbottom at Extension 4220.

Sincerely,

R C Ransbottom
for C. D. Thompson

C. D. Thompson
SMPP/TFV Project Manager

CDT/RCR:jdg

Enclosures

cc: Tim Fischer, USEPA, (1) w/attachments
Brian Nickel, OEPA, (1) w/attachments
Ruth Vandegrift, ODH, (1) w/attachments
Frank Schmaltz, DOE/MEMP, (1) w/attachments
Randy Tormey, DOE/OH, (1) w/attachments
Dan Bird, MMCIC, (3) w/attachments
T. Tracy, DOE/HQ, (1) w/attachments
Bob Ransbottom, BWXTO, (1) w/attachments
Budd Thompson, BWXTO, (1) w/attachments
Public Reading Room (5)
DCC

3005-0302240006

MOUND

Environmental Restoration Program

OhioEPA

MOUND PLANT
Closeout Report
Biodegradation Barn and Drop Tower

Final
May 2002

Closeout Report

Biodegradation Barn and Drop Tower

DOE Mound Plant
Miamisburg, Ohio 45343

Prepared for:

United States Department of Energy
Miamisburg Environmental Management Project
P.O. Box 3020
Miamisburg, Ohio 45343-3020

Prepared by:

BWXT of Ohio, Inc.

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1.0 PURPOSE

This is the final report documenting completion of the demolition of the Biodegradation Barn and Drop Tower located within the DOE Mound Site as shown in Figures 1 and 2 (Appendix A). This project was defined in the Job Specific Work Plan No. SM-01-06, Bioremediation Facility and Drop Tower Demolition, August 2001, Rev 2. (copy provided in Appendix B). The scope of work relating to these buildings is considered complete.

2.0 BACKGROUND

2.1 Biodegradation Barn

The Biodegradation Barn (also known as the Bioremediation Facility, Bug Barn, and Biological Treatment System) was a structural steel frame with a steel deck roof, and had no floor and no sides, see Figure 3. Built in 1994, the Biodegradation Barn was designed and used as a covered bed for the biological treatment of petroleum-contaminated soils. The building served this function from 1994 until 1996. After 1996, the Biodegradation Barn was not used.

The roof contained translucent roof panels spaced to provide additional lighting. There were two treatment pads located within the facility. Treatment Pad #1, located in the eastern bay of the facility, was 3,956 square feet. Treatment Pad #2, located in the western bay of the facility, was 2,730 square feet. The treatment process generated byproducts of carbon dioxide and water. The structure had a sprinkler system in the overhead as part of the process. There were two French Drain collection systems surrounding each pad to collect drainage from the process. The drainage systems were routed to two collection sumps. The facility was wired for 110V.

2.2 Drop Tower

The Drop Tower was a 50-foot tall, 30-foot wide (at the base) steel structure (Figure 3). The tower was made of Cor-Ten steel and the ladder, cage, grating and railing were made of other steel products. Built in 1970, the Drop Tower was designed and used to test shipping containers via a "free drop" from a 30-foot elevation. Testing at the Drop Tower ended in the late 1980s, after which the structure was not used.

2.3 Potential Release Sites (PRSs) in Proximity to the Biodegradation Barn and Drop Tower

As a result of the investigations and documentation accomplished to comply with the CERCLA cleanup process via the Federal Facilities Agreement (FFA)/DOE Environmental Restoration (ER) Program, DOE and BWXT of Ohio, Inc. (BWXTO) have tabulated all the PRSs identified under the various regulatory programs in effect at the site. Of these 440 PRSs, six are at or near the Biodegradation Barn and Drop Tower. PRSs in the vicinity of the Biodegradation Barn and Drop Tower are identified in Table 1, and their locations are shown on Figure 2. Additional information is included in Appendix E.

As indicated in the table below, four of the six PRSs in the vicinity of the Biodegradation Barn and Drop Tower require No Further Action. None of the PRSs have environmentally impacted the Biodegradation Barn or Drop Tower.

Table 1: PRSs in Proximity to Biodegradation Barn and Drop Tower

PRS	CERCLA or Bldg. Related	Binning Status	Comments
67	CERCLA	Further Assessment (FA)	Plant Drainage Ditch.
69	CERCLA	FA	Overflow Pond.
81	CERCLA	No Further Action (NFA)	Drilling Mud Drum Storage Area.
345	CERCLA	NFA	Former Equipment Storage Area.
351	CERCLA	NFA	Elevated Soil gas Location.
354	CERCLA	NFA	Elevated Soil gas Location.

3.0 ACTIONS TAKEN

The Biodegradation Barn and Drop Tower were designated Personnel Property, and thus did not require a Building Data Package for demolition. The removal was accomplished as a standard industrial construction demolition. Demolition commenced on August 14, 2001 and was completed on August 28, 2001. Removal of the foundation and footers was completed on September 25, 2001. Photographs taken before and after demolition are provided in Figure 3.

All preparation and demolition activities were performed in accordance with detailed Work Plan (Appendix B) to characterize existing liquids and subsurface soils, perform safe shutdown of utilities, maintain site access control, demolish the structures, and remove the debris.

All pre- and post-demolition soil-sampling results were below applicable screening levels (Appendix C). Liquid waste was removed from the two drainage sumps, and analyzed for Benzene/Toluene/Ethyl Benzene/Xylene (BTEX) and Polyaromatic Hydrocarbons (PAH). No analytes were detected in the liquid waste (Appendix C).

All pre- and post-demolition radiological survey results were below surface release criteria. Walk-over radiological soil surveys were conducted with no elevated fidler readings noted (Appendix D).

Demolition material, waste, and debris were dispositioned as noted in Table 2.

Table 2 - Materials Disposition

Material	Quantity	Method	Location
Construction Debris (metals)	1,210 cubic yards	Recycled	Franklin Metals
Construction Debris (mixed/miscellaneous)	50 cubic yards	Landfill	Koogler/Stoney Hollow
Liquid Waste	400 gallons*	Treatment	ATS

** Liquid waste removed from the two drainage sumps.*

4.0 PROBLEMS ENCOUNTERED

The Biodegradation Barn and Drop Tower and foundation were successfully demolished per the Work Plan. No problems requiring deviation from the Work Plan were encountered.

5.0 RESOURCES COMMITTED

Table 3 lists the personnel organization for the demolition. Table 4 provides a summary of the total demolition cost.

Table 3 - Personnel Organization for the Demolition

Agencies or Parties Involved	Contact	Description of Participation
US EPA HSRM-6J 77 W. Jackson Chicago, IL 60604 312-886-5787	Tim Fischer	Federal agency responsible for Mound Plant oversight.
Ohio EPA 410 E. Fifth Street Dayton, OH 45402-2911 937-285-6468	Brian Nickel	State agency responsible for Mound Plant oversight.
DOE/MEMP P.O. Box 66 1 Mound Road Miamisburg, OH 45343-0066 937-865-3620	Ronald Church / Frank Schmaltz	DOE/MEMP Project Manager responsible for project oversight and success.

Table 3 - Personnel Organization for the Demolition

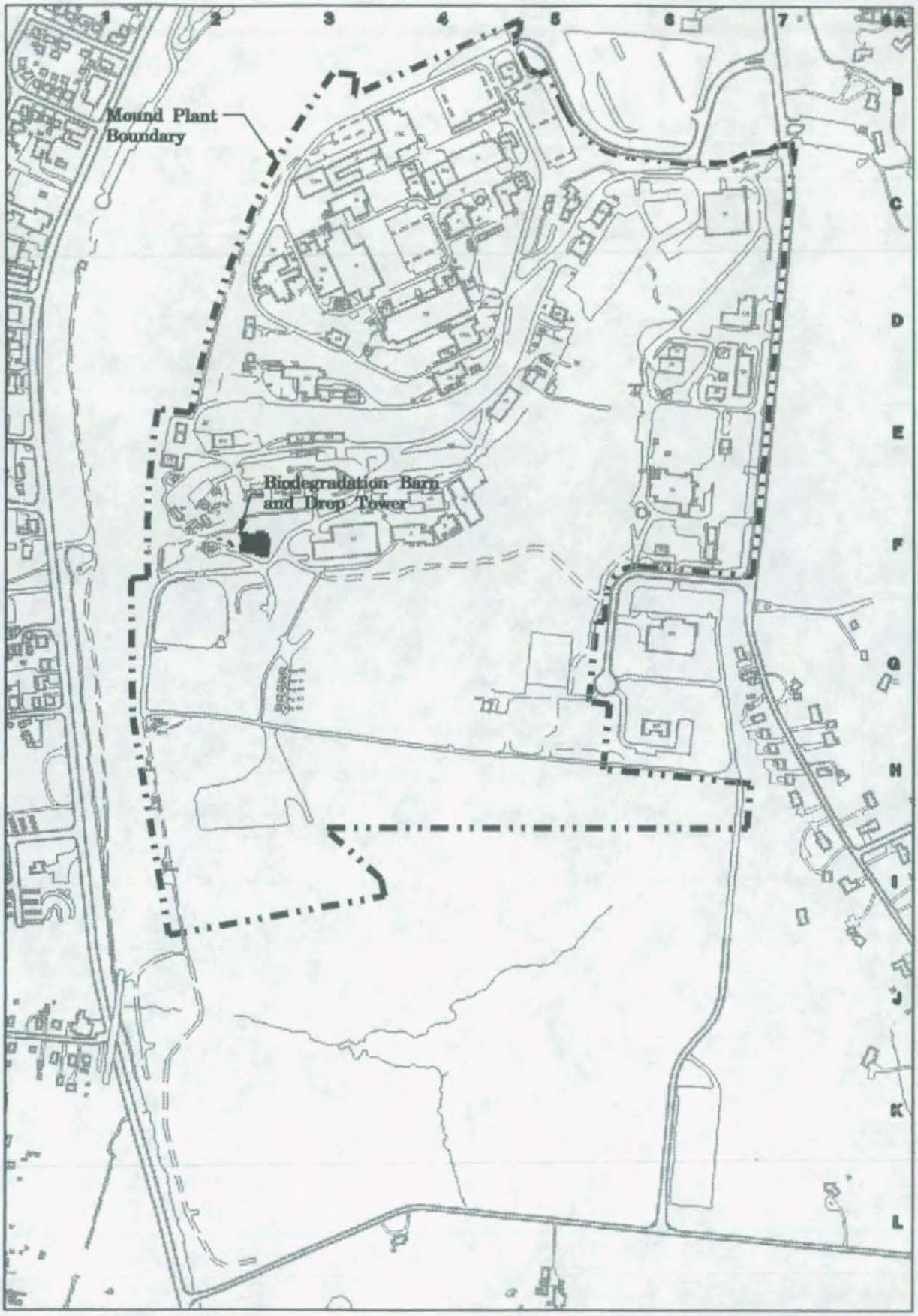
Agencies or Parties Involved	Contact	Description of Participation
BWXT of Ohio, Inc. Main Hill Project P.O. Box 3030 1 Mound Road Miamisburg, OH 45343-3030 937-865-4071	Budd Thompson	Provided the DOE/MEMP Project Manager with technical assistance, administrative support, sampling, decontamination, photo and site documentation, site safety, and report preparation.
BWXT of Ohio, Inc. General Superintendent and Equipment Manager P.O. Box 3030 1 Mound Road Miamisburg, OH 45343-3030 937-865-4071	Budd Thompson	Provided the personnel and equipment necessary for the demolition.

Table 4 - Total Cost

Summary Activity	Cost
Historical D&T Costs	$200
Historical Preservation Report Preparation	$1,000
Work Planning	$150
Safe Shutdown	$500
Characterization	$3,000
Hauling and Disposal	$17,300
Decontamination and Demolition	$18,500
Total	**$40,650**

Appendix A

Figures



Legend

- Structures
- Paved roadway
- Unpaved roadway
- Railroad
- Water course
- Fence
- Mound Plant boundary
- Contour line

0 100 200 400 600 800 1000
Scale In Feet

REV	DATE	REVISION	BY	CHKR	ENG	M
	03/12/02	ISSUE FOR GENERAL USE	SSP			

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 A

( ) TITLE CLASSIFICATION

Figure 1
Location of Biodegradation Barn & Drop Tower

PART CLASSIFICATION

DRAWING CLASSIFICATION: UNCLASSIFIED

SIZE: D

DRAWING NUMBER: gen_site_plan.dgn

JOB NUMBER

DGN TYPE: SITE

DRAWN | CHECK | SCALE: Graphic | SHEET 1 OF

STATUS: MD-RPL-09/14/99 | ORIGIN: MSIA1108 / J

gen_site_plan.dgn

PRS Point

PRS Area

PRS Line

ISS	DATE	REVISION	BY	DWR	ENG	LANDC	APVD	N
	03/12/02		SSP					

MOUND

Environmental Restoration Geographic Information System

SHEET 7 8 9 10 11 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27	
ISSUE	
SHEET 1 2 3 4 5 6	Figure 2 – Biodegradation Barn & Drop Tower and Vicinity
ISSUE	
PART CLASSIFICATION	
DRAWING CLASSIFICATION: UNCLASSIFIED	SIZE / DRAWING NUMBER: vicinity.dgn / JOB NUMBER
DWG TYPE STE / PROJ ER-GIS	CADD / SCALE / SHEET 1 OF
STATUS MD-REL-00/00/00	ORIGIN MSTATION / J

Figure 3:
Biodegradation Barn and Drop Tower

Before and After Demolition

Appendix B

Work Package

JOB SPECIFIC WORK PLAN

Title:	Bioremediation Facility and Drop Tower Demolition		
Work Package No. (JSWP or MSR)	SM-01-06	If MSR Indicate Low, Moderate, or High Hazard MODERATE	Rev. 2

WORK PLAN REVISION SHEET

☒ FIELD COPY

Revision
2

Revision Description: (attach page revisions to form)
Revise Drop Tower demolition procedure.

Reviewed by:	Name	Signature	Date
Project Engineering:	RC Lowrettem	RC Lowrettem	8/28/01
Project Superintendent/Foreman:	M.M. Stromberg	M.M. Stromberg	8/28/01
Radiological Operations:	N/A	N/A	
Industrial Safety & Hygiene:	Jack Wills	Jack Wills	8-27-01
Waste Management:	N/A	N/A	
Environmental Safeguards & Compliance:	N/A	N/A	
Building Manager:	G. Weidenbach	Gary J. Weidenbach	8/29/01
Other:	William J. Thomas	W.J. Thomas	8/28/01

Approved by:

BWXTO Project Manager C.D. Thompson — Name | C.D. Thompson — Signature | 8/29/01 — Date

Concurrence by:

DOE Project Manager _____

Name | Signature | Date

File: JSWP.doc
Rev. 13

JOB SPECIFIC WORK PLAN

Title:	Bioremediation Facility and Drop Tower Demolition		
Work Package No. (JSWP or MSR)	SM-01-06	If MSR Indicate Low, Moderate, or High Hazard MODERATE	Rev. 2

APPROVAL CONTINUATION SHEET

Reviews:

Name	Signature	Date	Department
[illegible]	[illegible]	[illegible]	[illegible]
Norm Raised	[illegible]	8-29-01	[illegible]
Charles Saunders	[illegible]	8-29-01	[illegible]
REX Thompson	Rex Thompson	8-29-01	FM
Mike Walsh	Mike Walsh	8-29-01	D/R
Darin Eversole	[illegible]	8-29-01	DT
[illegible]	[illegible]	[illegible]	[illegible]

Reference Drawings	Rev.	Reference Procedures	Rev.

JOB SPECIFIC WORK PLAN

Title:	Bioremediation Facility and Drop Tower Demolition		
Work Package No. (JSWP or MSR)	SM-01-06	If MSR Indicate Low, Moderate, or High Hazard MODERATE	Rev. 2

REVISION LOG

Revision	Reason	By	Date
1	Revise Bioremediation Facility demolition procedure	R.C. Ransbottom	8/23/01
2	Revise Drop Tower demolition package	R.C. Ransbottom	8/28/01

JOB SPECIFIC WORK PLAN

Title:	Bioremediation Facility and Drop Tower Demolition		
Work Package No. (JSWP or MSR)	SM-01-06	If MSR Indicate Low, Moderate, or High Hazard MODERATE	Rev. 2

JOB STATUS LOG

DATE	TIME	WORK PKG. SECTION	BY	STATUS

JOB SPECIFIC WORK PLAN

Title:	Bioremediation Facility and Drop Tower Demolition		
Work Package No. (JSWP or MSR)	SM-01-06	If MSR Indicate Low, Moderate, or High Hazard MODERATE	Rev. 2

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4. Initial conditions/Prerequisites 1
5. Work Instruction 1

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Appendix B QA

Appendix C Pre-Job Checklists and Updates

Appendix D General Work Plan Checklist (for JSWP)/Work Order Screening Checklist (for MSR)

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Lessons Learned Form

JOB SPECIFIC WORK PLAN

Title:	Bioremediation Facility and Drop Tower Demolition		
Work Package No. (JSWP or MSR)	SM-01-06	If MSR Indicate Low, Moderate, or High Hazard MODERATE	Rev. 2

Job Specific Work Plan

1. **Work Scope** This work plan covers the demolition of the Bioremediation Facility (BDB) also known as the "bug barn" and the adjacent Drop Tower.

2. **Drawing List** See attached annotated photos and maps in Appendix E.

3. **Reference/Lessons Learned List** Two Lessons Learned were found that are not directly related, but bring up some related issues. The first, Crane Tips Over During Ordinary Lift, points out that we must determine the capacity of the grapplers and shears being used on the Drop Tower since they are being used to hold the tower while it is being cut. The second, Underground Corrosion Causes Tower to Collapse, points out that the condition of the underlying structure of the drop tower is not known, so care must be taken to not let the twisting moment caused by the off-center tower while it is being cut and is falling overwhelm the concrete base holding the tower in the ground.

4. **Industrial Hygiene and Safety**
   See the JSHA for precautions to take around heavy duty equipment. A Hot Work Permit is required when torch cutting. Lockout/Tagout (LOTO) the security light circuit adjacent to the drop tower during demolition.

5. **Radiological Requirements**
   The Bioremediation Facility has been characterized and should require minimal surveys. The debris will be radiologically surveyed per the requirements of the radiological Point of Contact.
   The Drop Tower will require surveys prior to disposal. It is expected to find elevated levels of Pb-210 and Po-210 as we have found in other corroded exterior metals on site. The slab material must be rad surveyed prior to taking to the concrete crusher.

6. **Environmental Compliance Requirements**
   Mist the area as required during demolition, to control fugitive dust.

7. **Waste Management Requirements**
   Metals and other above ground materials may be taken to a landfill after being rad surveyed and size reduced. Coordinate rolloff requirements with Waste Management.

8. **Initial Conditions/Prerequisites** Set up a construction area around BDB and the Drop Tower. Set up portable fencing gates across the roadway to prevent traffic from driving through the area at critical times in the demolition. See Drawing 1 in Appendix E.Coordinate access to Building 34 adjacent to the demo site as follows:
   Monday and Thursday – Mark Spivey x3709 and Ed Brummet x4184
   Once a month – Terran through Mark Gilliat x4407

9. **Work Instruction:**

Bioremediation Facility Demo (See drawing 6)

Option 1

9.1. Make a site wide announcement and close the roadway to traffic.

9.2. Using track excavator mounted heavy equipment, cut columns as determined in the field, per agreement with the heavy duty operators and the project foreman, to drop the roof of the Bioremediation Facility in manageable pieces.

9.3. Size reduce debris on the ground. Torch cut as required.

HAZARD	MITIGATION
Burns from torch cutting	Obtain and follow Hot Work permit per MD-10286 O2

Option 2 (See drawing 7)

9.4. Make a site wide announcement and close the roadway to traffic.

9.5. Using track excavator mounted heavy equipment, remove the southeast addition of the bioremediation structure.

9.6. Using track excavator mounted heavy equipment, remove wire cable X-braces on east side of the structure.

9.7. Torch cut the bolts and nuts holding the columns to the piers on the north and south sides of the facility. Torch cut all but the middle bolts and nuts holding the columns to the piers on the east and west sides of the structure.

HAZARD	MITIGATION
Burns from torch cutting	Obtain and follow Hot Work permit per MD-10286 O2

9.8. Position three pieces of track excavator mounted heavy equipment at the south end of the structure. In unison, pull the remaining structure to the south, placing the structure on existing grade.

9.9. Using track excavator mounted shears and grapples, size reduce the metals and stockpile for radiological debris pile surveys prior to loadout into the rolloffs.

Drop Tower Demolition

9.10. **Hold Point:** With the Project Engineer, Site Structural Engineer, and Project Superintendent present, perform a stability test on the tower by gently shoving on it using track excavator mounted heavy duty equipment and observing the vibrational response. Revise plan as necessary to address results of the test.

9.11. Protect the monitoring well between the Drop Tower and the Bioremediation facility by surrounding it with Jersey Bouncers and placing a metal plate on top of them. **(See Drawing 3)**

9.12. **HOLD POINT:** LOTO the security light circuit adjacent to the drop tower prior to demolition.

HAZARD	MITIGATION
Electrical hazard from falling debris	LOTO security light circuit adjacent to drop tower

9.13. Make a sitewide announcement and close the gates to traffic through the area until the shear has completed the demolition.

Option 1: (See Drawings 1, 2, and SM-BDB-082801)

9.14. Using the Model ATB-60 Snorkelift, thread a 5/8" wire rope through the south tower and attach it to the cross support channel on the upper north side of the drop tower. **(See Drawing 1)** using a 4" x 4" wood block for softening and 5/8" #EDF-10177 Crosby clamps **(See Drawing SM-BDB-082801)** **Note: Wire Rope should be at least 180 feet long. If splicing is required, see attached Wire Rope Splicing Detail drawing.**

HAZARD	MITIGATION
Fall Hazard	Tie off while in basket of snorkelift

9.15. Attach the free end of the wire rope to a Volvo hauler located to the south and slightly east of the tower.

9.16. Remove nuts or torch cut all of the bolts attaching the north tower structure to the piers. Leave the bolts intact on the south tower structure. If the nuts cannot be removed or the bolts cut, then weaken the legs of the north tower above the first crossbrace, by torch cutting V notches in the webs of the columns, leaving the flanges intact. Leave the south tower columns intact. Adjust the requirements of the step as required by conditions in the field through consultations between the trades and the field supervision. Consult with the site structural specialist, Bill Johanan x3858 as required.**(See Drawing 2)**

HAZARD	MITIGATION
Burns from torch cutting	Obtain and follow Hot Work permit per MD-10286 O2

9.17. Clear area within a 400 foot radius of the drop tower.

HAZARD	MITIGATION
Struck by flying debris/cable Struck by moving equipment	Clear area within 400 foot radius of tower Wear Hard Hat Safety Glasses, Safety Shoes, Reflective Vest inside construction area

9.18. Using the Volvo loader, carefully pull the tower until it falls to the ground.

9.19. Using the track mount heavy duty equipment, size reduce the tower.

9.20. Stockpile the material until rad surveys are completed, then dispose through Waste Management.

HAZARD	MITIGATION
Struck by flying debris Struck by moving equipment Noise Hazard	Establish construction boundary Wear Hard Hat Safety Glasses, Safety Shoes, Reflective Vest inside construction area Maintain the following distances from operating equipment: Shear – 75 feet Hoe Ram – 50 feet Other heavy duty equipment – 30 feet Bobcat – 15 feet Wear hearing protection while running heavy duty equipment Follow the requirements of MD-10286 D9

Option 2 (See Drawing 4)

9.21. Trades person climbs ladder attached to drop tower to the top and ties off.

9.22. Crane operator positions crane over drop tower hoist assembly.

9.23. Trades person rigs crane hook to the drop tower hoist assembly. (**Note:** The hoist motor, which was sold at auction, may be removed at this time and lowered to the ground using the crane.)
9.24. Trades person descends ladder to the ground.
9.25. Crane operator puts tension on rigging to hold hoist assembly.
9.26. Operator of John Deere 992 track excavator with LaBounty shear cuts all tower legs and backs away.
9.27. The crane operator lowers the hoist assembly to the ground and backs away.
9.28. The 992 operator size reduces the hoist assembly, carefully preserving the hoist for auction purchaser.
9.29. The 992 operator returns to the remaining tower and cuts down the remaining structure and size reduces. Torch cut as required.
9.30. Stockpile the material until rad surveys are completed, then dispose through Waste Management.

HAZARD	MITIGATION
Fall hazard	Use the existing ladder and enclosure for climbing. Tie off when on top of hoist structure. Follow MD-10286 M8
Injury from falling objects	Follow requirements of MD-10508, Mound Hoisting, Rigging, and Forklift Program.
Struck by flying debris Struck by moving equipment Noise Hazard	Establish construction boundary Wear Hard Hat Safety Glasses, Safety Shoes, Reflective Vest inside construction area Maintain the following distances from operating equipment: Shear – 75 feet Hoe Ram – 50 feet Other heavy duty equipment – 30 feet Bobcat – 15 feet Wear hearing protection while running heavy duty equipment Follow the requirements of MD-10286 D9
Burns from torch cutting	Obtain and follow Hot Work permit per MD-10286 O2

Option 3: (See Drawing 5)

9.31. Using two pieces of track excavator mounted heavy equipment, grab each support tower from the west side just above the midpoint. See Drawing 2 in Appendix E.
9.32. Using the LaBounty shear mounted on the John Deere 992 excavator, cut the vertical columns on the east side of each support tower at a height of about 4 feet below the midpoint.
9.33. Continue by taking out an approximate 3 foot section below the cut.
9.34. Reposition and again using the LaBounty shear on the Deere 992, only partially cut the vertical columns on the west side of each support tower at the midpoint.
9.35. Back the 992 away, then utilizing coordination between the two excavators holding the tower, push the top section toward the east until it falls to the ground.
9.36. Using the shear, cut down what remains of the support towers.
9.37. Size reduce and stock pile the materials. Torch cut as required.

9.38. Conduct radiological surveys of the material, then dispose through Waste Management.

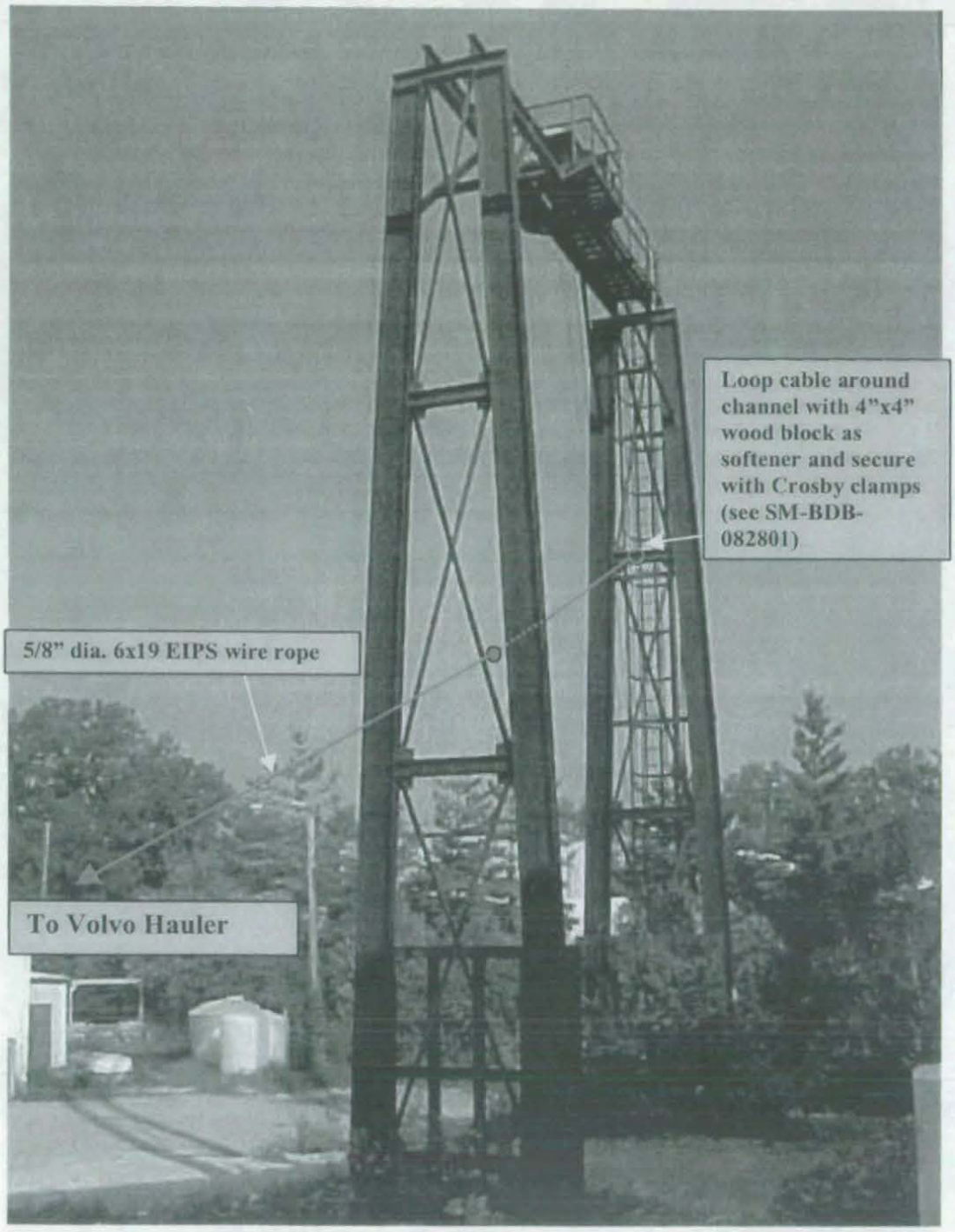
HAZARD	MITIGATION
Struck by flying debris Struck by moving equipment Noise Hazard	Establish construction boundary Wear Hard Hat Safety Glasses, Safety Shoes, Reflective Vest inside construction area Maintain the following distances from operating equipment: Shear – 75 feet Hoe Ram – 50 feet Other heavy duty equipment – 30 feet Bobcat – 15 feet Wear hearing protection while running heavy duty equipment Follow the requirements of MD-10286 D9
Burns from torch cutting	Obtain and follow Hot Work permit per MD-10286 O2

Incident Notification Protocol and Responsibilities:
In an emergency call 911 from a Mound phone or 865-4040 from an outside phone or cell phone.

JOB SPECIFIC WORK PLAN

Title:	Bioremediation Facility and Drop Tower Demolition		
Work Package No. (JSWP or MSR)	SM-01-06	If MSR Indicate Low, Moderate, or High Hazard MODERATE	Rev. 2

DROP TOWER



Option 1
Drawing 1

JOB SPECIFIC WORK PLAN

Title:	Bioremediation Facility and Drop Tower Demolition		
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Option 1
Drawing 2

JOB SPECIFIC WORK PLAN

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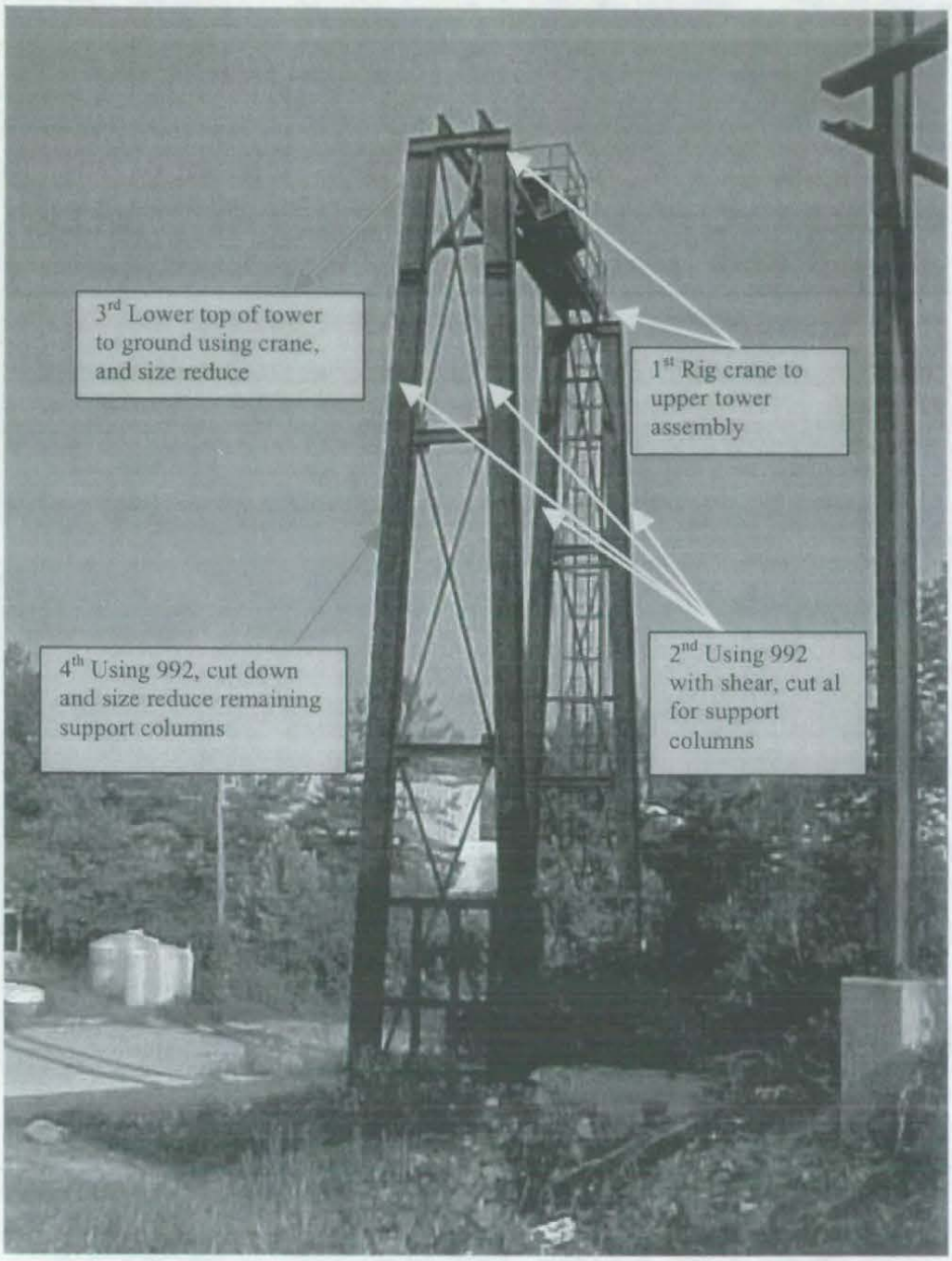
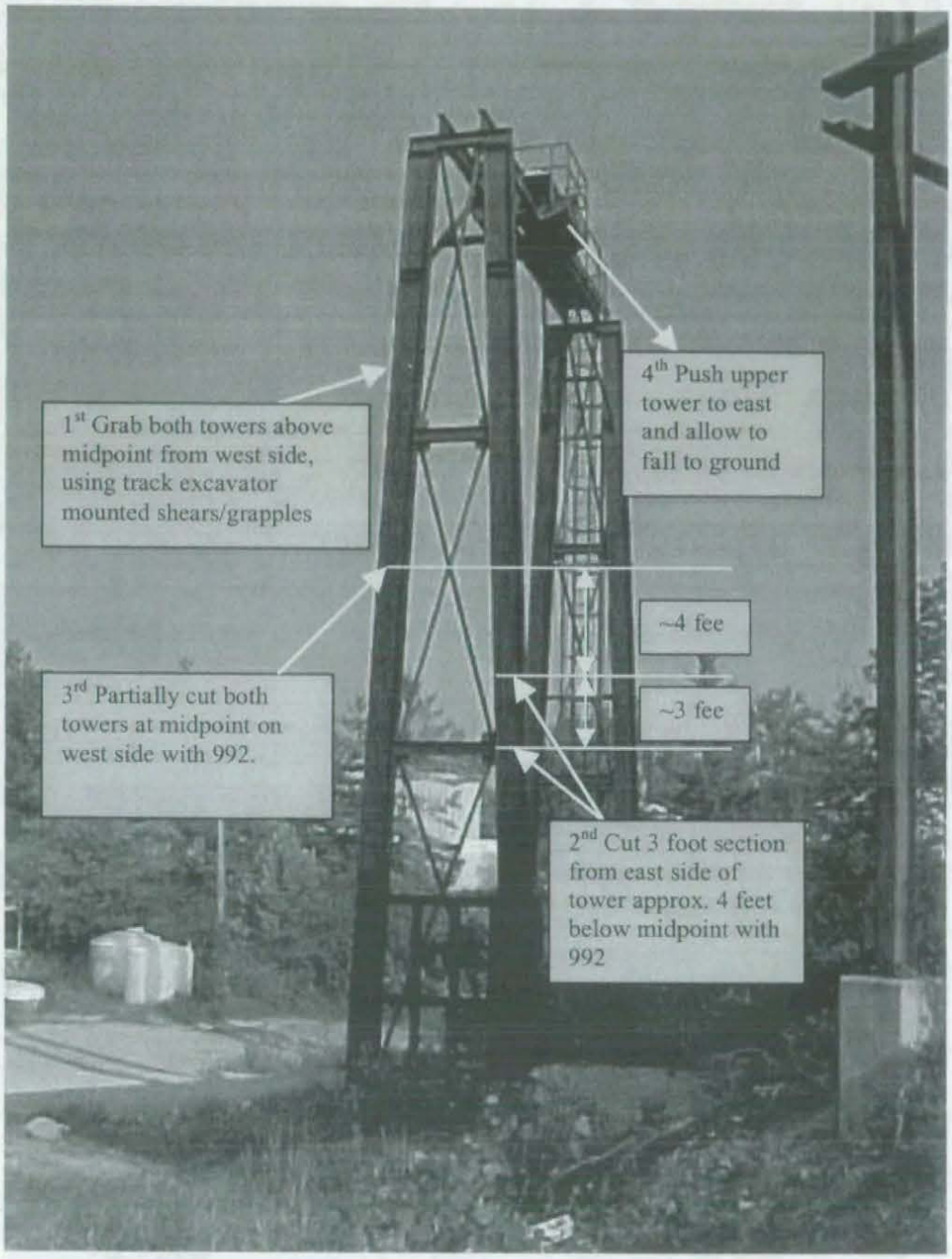
DROP TOWER

Drawing 3



Option 2:
Drawing 4



OPTION 3
Drawing 5

JOB SPECIFIC WORK PLAN

Title:	Bioremediation Facility and Drop Tower Demolition		
Work Package No. (JSWP or MSR)	SM-01-06	If MSR Indicate Low, Moderate, or High Hazard MODERATE	Rev. 2

BIOREMEDIATION FACILITY (BDB)
Option 1
Drawing 6

JOB SPECIFIC WORK PLAN

Title:	Bioremediation Facility and Drop Tower Demolition		
Work Package No. (JSWP or MSR)	SM-01-06	If MSR Indicate Low, Moderate, or High Hazard MODERATE	Rev. 2

BIOREMEDIATION FACILITY (BDB)
Option 2
Drawing 7

SOUTH ELEVATION

EAST ELEVATION

Appendix C

Soil and Wastewater Analytical Results

Bio Barn
Soil BTEX/SVOA
8/9/01

SEVERN
TRENT
SERVICES

STL St. Louis
13715 Rider Trail North
Earth City, MO 63045

Tel 314 298 8566
Fax 314 298 8757
www.stl-inc.com

ANALYTICAL REPORT

BWXT at Mound

Lot #: F1H100228

Gene Jendrek

BWXT of Ohio, Inc
One Mound Road
A-106
Miamisburg, OH 45343

SEVERN TRENT LABORATORIES, INC.

Ron Martino
Project Manager

September 10, 2001

Case Narrative
LOT NUMBER: **F1H100228**

This report contains the analytical results for the 10 samples received under chain of custody by STL St. Louis on on August 10, 2001. These samples are associated with your BWXT at Mound project.

All applicable quality control procedures met method-specified acceptance criteria except as noted on the following page.

This report is incomplete without the case narrative. All results are based upon sample as received, wet weight, unless noted otherwise.

Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

Nonconformance 06-06000

Affected Samples:
F1H100228 (1): UTBF-8
F1H100228 (2): UTBF-24
F1H100228 (3): UTBM-8
F1H100228 (4): UTBM-24
F1H100228 (5): UTBB-8
F1H100228 (6): UTBB-24
F1H100228 (7): LTBF-8
F1H100228 (8): LTBF-24
F1H100228 (9): LTBB-8
F1H100228 (10): LTBB-24

Affected Methods:
8270C Semivolatiles

Case Narrative:
The RPD for 4-Chloro-3-Methylphenol,4-Nitrophenol,2,4-Dinitrotoluene, and Pentachlorophenol are not within the QC limits for the MS and MSD. The RPD and percent recoveries for these compounds in the LCS and LCS duplicate are in control.

METHODS SUMMARY

F1H100228

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Percent Moisture	MCAWW 160.3 MOD	MCAWW 160.3 MOD
Semivolatile Organic Compounds by GC/MS	SW846 8270C	SW846 3550B
Volatile Organics by GC/MS	SW846 8260B	SW846 5030

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

F1H100228

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
EHTDP	001	UTBF-8	08/09/01	09:00
EHTD8	002	UTBF-24	08/09/01	09:15
EHTEQ	003	UTBM-8	08/09/01	10:30
EHTFL	004	UTBM-24	08/09/01	10:45
EHTFN	005	UTBB-8	08/09/01	11:00
EHTFR	006	UTBB-24	08/09/01	11:15
EHTFT	007	LTBF-8	08/09/01	11:30
EHTFW	008	LTBF-24	08/09/01	11:45
EHTFX	009	LTBB-8	08/09/01	11:50
EHTF2	010	LTBB-24	08/09/01	12:00

NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

BWXT of OHIO, INC

Client Sample ID: UTBF-8

GC/MS Volatiles

Lot-Sample #...: F1H100228-001 **Work Order #...:** EHTDP1AA **Matrix.....:** SOLID
Date Sampled...: 08/09/01 09:00 **Date Received..:** 08/10/01
Prep Date.....: 08/21/01 **Analysis Date..:** 08/21/01
Prep Batch #...: 1233559 **Analysis Time..:** 14:39
Dilution Factor: 1
% Moisture.....: 11 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	5.6	ug/kg
Ethylbenzene	ND	5.6	ug/kg
Toluene	ND	5.6	ug/kg
Xylenes (total)	ND	5.6	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	91	(64 - 112)
Toluene-d8	100	(80 - 114)
Dibromofluoromethane	94	(73 - 127)
1,2-Dichloroethane-d4	100	(68 - 135)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

BWXT of OHIO, INC

Client Sample ID: UTBF-8

GC/MS Semivolatiles

Lot-Sample #...: F1H100228-001 **Work Order #...:** EHTDP1AC **Matrix.....:** SOLID
Date Sampled...: 08/09/01 09:00 **Date Received..:** 08/10/01
Prep Date.....: 08/17/01 **Analysis Date..:** 09/07/01
Prep Batch #...: 1229522 **Analysis Time..:** 00:40
Dilution Factor: 1
% Moisture.....: 11 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Naphthalene	ND	370	ug/kg
2-Methylnaphthalene	ND	370	ug/kg
2-Chloronaphthalene	ND	370	ug/kg
Acenaphthylene	ND	370	ug/kg
Acenaphthene	ND	370	ug/kg
Fluorene	ND	370	ug/kg
Phenanthrene	ND	370	ug/kg
Anthracene	ND	370	ug/kg
Fluoranthene	ND	370	ug/kg
Pyrene	ND	370	ug/kg
Benzo(a)anthracene	ND	370	ug/kg
Benzo(b)fluoranthene	ND	370	ug/kg
Benzo(k)fluoranthene	ND	370	ug/kg
Benzo(a)pyrene	ND	370	ug/kg
Indeno(1,2,3-cd)pyrene	ND	370	ug/kg
Benzo(ghi)perylene	ND	370	ug/kg
Dibenzo(a,h)anthracene	ND	370	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	50	(22 - 119)
Phenol-d5	46	(24 - 127)
Nitrobenzene-d5	48	(39 - 106)
2-Fluorobiphenyl	46	(42 - 106)
2,4,6-Tribromophenol	49	(42 - 120)
Terphenyl-d14	65	(18 - 97)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

BWXT of OHIO, INC

Client Sample ID: UTBF-24

GC/MS Volatiles

Lot-Sample #...: F1H100228-002 **Work Order #...:** EHTD81AA **Matrix.....:** SOLID
Date Sampled...: 08/09/01 09:15 **Date Received..:** 08/10/01
Prep Date.....: 08/22/01 **Analysis Date..:** 08/22/01
Prep Batch #...: 1234468 **Analysis Time..:** 15:35
Dilution Factor: 1
% Moisture.....: 8.4 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	5.5	ug/kg
Ethylbenzene	ND	5.5	ug/kg
Toluene	ND	5.5	ug/kg
Xylenes (total)	ND	5.5	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	92	(64 - 112)
Toluene-d8	103	(80 - 114)
Dibromofluoromethane	98	(73 - 127)
1,2-Dichloroethane-d4	103	(68 - 135)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

BWXT of OHIO, INC

Client Sample ID: UTBF-24

GC/MS Semivolatiles

Lot-Sample #...: F1H100228-002 **Work Order #...:** EHTD81AC **Matrix.....:** SOLID
Date Sampled...: 08/09/01 09:15 **Date Received..:** 08/10/01
Prep Date.....: 08/17/01 **Analysis Date..:** 09/07/01
Prep Batch #...: 1229522 **Analysis Time..:** 08:29
Dilution Factor: 1
% Moisture.....: 8.4 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Naphthalene	ND	360	ug/kg
2-Methylnaphthalene	ND	360	ug/kg
2-Chloronaphthalene	ND	360	ug/kg
Acenaphthylene	ND	360	ug/kg
Acenaphthene	ND	360	ug/kg
Fluorene	ND	360	ug/kg
Phenanthrene	ND	360	ug/kg
Anthracene	ND	360	ug/kg
Fluoranthene	ND	360	ug/kg
Pyrene	ND	360	ug/kg
Benzo(a)anthracene	ND	360	ug/kg
Benzo(b)fluoranthene	ND	360	ug/kg
Benzo(k)fluoranthene	ND	360	ug/kg
Benzo(a)pyrene	ND	360	ug/kg
Indeno(1,2,3-cd)pyrene	ND	360	ug/kg
Benzo(ghi)perylene	ND	360	ug/kg
Dibenzo(a,h)anthracene	ND	360	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	58	(22 - 119)
Phenol-d5	49	(24 - 127)
Nitrobenzene-d5	58	(39 - 106)
2-Fluorobiphenyl	55	(42 - 106)
2,4,6-Tribromophenol	57	(42 - 120)
Terphenyl-d14	64	(18 - 97)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

BWXT of OHIO, INC

Client Sample ID: UTBM-8

GC/MS Volatiles

Lot-Sample #...: F1H100228-003 **Work Order #...:** EHTEQ1AA **Matrix.....:** SOLID
Date Sampled...: 08/09/01 10:30 **Date Received..:** 08/10/01
Prep Date.....: 08/21/01 **Analysis Date..:** 08/21/01
Prep Batch #...: 1233559 **Analysis Time..:** 17:01
Dilution Factor: 1
% Moisture.....: 12 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	5.7	ug/kg
Ethylbenzene	ND	5.7	ug/kg
Toluene	ND	5.7	ug/kg
Xylenes (total)	ND	5.7	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	94	(64 - 112)
Toluene-d8	105	(80 - 114)
Dibromofluoromethane	101	(73 - 127)
1,2-Dichloroethane-d4	107	(68 - 135)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

BWXT of OHIO, INC

Client Sample ID: UTBM-8

GC/MS Semivolatiles

Lot-Sample #...: F1H100228-003 **Work Order #...:** EHTEQ1AC **Matrix.....:** SOLID
Date Sampled...: 08/09/01 10:30 **Date Received..:** 08/10/01
Prep Date.....: 08/17/01 **Analysis Date..:** 09/07/01
Prep Batch #...: 1229522 **Analysis Time..:** 09:04
Dilution Factor: 1
% Moisture.....: 12 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Naphthalene	ND	370	ug/kg
2-Methylnaphthalene	ND	370	ug/kg
2-Chloronaphthalene	ND	370	ug/kg
Acenaphthylene	ND	370	ug/kg
Acenaphthene	ND	370	ug/kg
Fluorene	ND	370	ug/kg
Phenanthrene	ND	370	ug/kg
Anthracene	ND	370	ug/kg
Fluoranthene	ND	370	ug/kg
Pyrene	ND	370	ug/kg
Benzo(a)anthracene	ND	370	ug/kg
Benzo(b)fluoranthene	ND	370	ug/kg
Benzo(k)fluoranthene	ND	370	ug/kg
Benzo(a)pyrene	ND	370	ug/kg
Indeno(1,2,3-cd)pyrene	ND	370	ug/kg
Benzo(ghi)perylene	ND	370	ug/kg
Dibenzo(a,h)anthracene	ND	370	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	55	(22 - 119)
Phenol-d5	50	(24 - 127)
Nitrobenzene-d5	53	(39 - 106)
2-Fluorobiphenyl	53	(42 - 106)
2,4,6-Tribromophenol	62	(42 - 120)
Terphenyl-d14	56	(18 - 97)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

BWXT of OHIO, INC

Client Sample ID: UTBM-24

GC/MS Volatiles

Lot-Sample #...: F1H100228-004 **Work Order #...:** EHTFL1AA **Matrix.....:** SOLID
Date Sampled...: 08/09/01 10:45 **Date Received..:** 08/10/01
Prep Date.....: 08/21/01 **Analysis Date..:** 08/21/01
Prep Batch #...: 1233559 **Analysis Time..:** 17:36
Dilution Factor: 1
% Moisture.....: 8.7 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	5.5	ug/kg
Ethylbenzene	ND	5.5	ug/kg
Toluene	**0.74 J**	**5.5**	**ug/kg**
Xylenes (total)	ND	5.5	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	101	(64 - 112)
Toluene-d8	99	(80 - 114)
Dibromofluoromethane	95	(73 - 127)
1,2-Dichloroethane-d4	104	(68 - 135)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

BWXT of OHIO, INC

Client Sample ID: UTBM-24

GC/MS Semivolatiles

Lot-Sample #...: F1H100228-004 **Work Order #...:** EHTFL1AC **Matrix.....:** SOLID
Date Sampled...: 08/09/01 10:45 **Date Received..:** 08/10/01
Prep Date.....: 08/17/01 **Analysis Date..:** 09/07/01
Prep Batch #...: 1229522 **Analysis Time..:** 09:39
Dilution Factor: 1
% Moisture.....: 8.7 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Naphthalene	ND	360	ug/kg
2-Methylnaphthalene	ND	360	ug/kg
2-Chloronaphthalene	ND	360	ug/kg
Acenaphthylene	ND	360	ug/kg
Acenaphthene	ND	360	ug/kg
Fluorene	ND	360	ug/kg
Phenanthrene	ND	360	ug/kg
Anthracene	ND	360	ug/kg
Fluoranthene	ND	360	ug/kg
Pyrene	ND	360	ug/kg
Benzo(a)anthracene	ND	360	ug/kg
Benzo(b)fluoranthene	ND	360	ug/kg
Benzo(k)fluoranthene	ND	360	ug/kg
Benzo(a)pyrene	ND	360	ug/kg
Indeno(1,2,3-cd)pyrene	ND	360	ug/kg
Benzo(ghi)perylene	ND	360	ug/kg
Dibenzo(a,h)anthracene	ND	360	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	67	(22 - 119)
Phenol-d5	61	(24 - 127)
Nitrobenzene-d5	63	(39 - 106)
2-Fluorobiphenyl	63	(42 - 106)
2,4,6-Tribromophenol	76	(42 - 120)
Terphenyl-d14	72	(18 - 97)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

BWXT of OHIO, INC

Client Sample ID: UTBB-8

GC/MS Volatiles

Lot-Sample #...: F1H100228-005 **Work Order #...:** EHTFN1AA **Matrix.....:** SOLID
Date Sampled...: 08/09/01 11:00 **Date Received..:** 08/10/01
Prep Date.....: 08/21/01 **Analysis Date..:** 08/21/01
Prep Batch #...: 1233559 **Analysis Time..:** 18:12
Dilution Factor: 1
% Moisture.....: 10 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	5.6	ug/kg
Ethylbenzene	ND	5.6	ug/kg
Toluene	ND	5.6	ug/kg
Xylenes (total)	ND	5.6	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	94	(64 - 112)
Toluene-d8	103	(80 - 114)
Dibromofluoromethane	93	(73 - 127)
1,2-Dichloroethane-d4	101	(68 - 135)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

BWXT of OHIO, INC

Client Sample ID: UTBB-8

GC/MS Semivolatiles

Lot-Sample #...: F1H100228-005 **Work Order #...:** EHTFN1AC **Matrix.....:** SOLID
Date Sampled...: 08/09/01 11:00 **Date Received..:** 08/10/01
Prep Date.....: 08/17/01 **Analysis Date..:** 09/07/01
Prep Batch #...: 1229522 **Analysis Time..:** 10:14
Dilution Factor: 1
% Moisture.....: 10 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Naphthalene	ND	370	ug/kg
2-Methylnaphthalene	ND	370	ug/kg
2-Chloronaphthalene	ND	370	ug/kg
Acenaphthylene	ND	370	ug/kg
Acenaphthene	ND	370	ug/kg
Fluorene	ND	370	ug/kg
Phenanthrene	ND	370	ug/kg
Anthracene	ND	370	ug/kg
Fluoranthene	ND	370	ug/kg
Pyrene	ND	370	ug/kg
Benzo(a)anthracene	ND	370	ug/kg
Benzo(b)fluoranthene	ND	370	ug/kg
Benzo(k)fluoranthene	ND	370	ug/kg
Benzo(a)pyrene	ND	370	ug/kg
Indeno(1,2,3-cd)pyrene	ND	370	ug/kg
Benzo(ghi)perylene	ND	370	ug/kg
Dibenzo(a,h)anthracene	ND	370	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	68	(22 - 119)
Phenol-d5	65	(24 - 127)
Nitrobenzene-d5	61	(39 - 106)
2-Fluorobiphenyl	62	(42 - 106)
2,4,6-Tribromophenol	70	(42 - 120)
Terphenyl-d14	67	(18 - 97)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

BWXT of OHIO, INC

Client Sample ID: LTBF-8

GC/MS Semivolatiles

Lot-Sample #...: F1H100228-007 **Work Order #...:** EHTFT1AC **Matrix.....:** SOLID
Date Sampled...: 08/09/01 11:30 **Date Received..:** 08/10/01
Prep Date.....: 08/17/01 **Analysis Date..:** 09/07/01
Prep Batch #...: 1229522 **Analysis Time..:** 11:24
Dilution Factor: 1
% Moisture.....: 13 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Naphthalene	ND	380	ug/kg
2-Methylnaphthalene	ND	380	ug/kg
2-Chloronaphthalene	ND	380	ug/kg
Acenaphthylene	ND	380	ug/kg
Acenaphthene	ND	380	ug/kg
Fluorene	ND	380	ug/kg
Phenanthrene	ND	380	ug/kg
Anthracene	ND	380	ug/kg
Fluoranthene	ND	380	ug/kg
Pyrene	ND	380	ug/kg
Benzo(a)anthracene	ND	380	ug/kg
Benzo(b)fluoranthene	ND	380	ug/kg
Benzo(k)fluoranthene	ND	380	ug/kg
Benzo(a)pyrene	ND	380	ug/kg
Indeno(1,2,3-cd)pyrene	ND	380	ug/kg
Benzo(ghi)perylene	ND	380	ug/kg
Dibenzo(a,h)anthracene	ND	380	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	48	(22 - 119)
Phenol-d5	45	(24 - 127)
Nitrobenzene-d5	43	(39 - 106)
2-Fluorobiphenyl	44	(42 - 106)
2,4,6-Tribromophenol	62	(42 - 120)
Terphenyl-d14	52	(18 - 97)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

BWXT of OHIO, INC

Client Sample ID: LTBF-24

GC/MS Volatiles

Lot-Sample #...: F1H100228-008 **Work Order #...:** EHTFW1AA **Matrix.....:** SOLID
Date Sampled...: 08/09/01 11:45 **Date Received..:** 08/10/01
Prep Date.....: 08/21/01 **Analysis Date..:** 08/22/01
Prep Batch #...: 1234198 **Analysis Time..:** 06:52
Dilution Factor: 1
% Moisture.....: 8.0 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	5.4	ug/kg
Ethylbenzene	ND	5.4	ug/kg
Toluene	**1.7 J**	**5.4**	**ug/kg**
Xylenes (total)	ND	5.4	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	106	(64 - 112)
Toluene-d8	101	(80 - 114)
Dibromofluoromethane	98	(73 - 127)
1,2-Dichloroethane-d4	105	(68 - 135)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

BWXT of OHIO, INC

Client Sample ID: LTBF-24

GC/MS Semivolatiles

Lot-Sample #...: F1H100228-008 **Work Order #...:** EHTFW1AC **Matrix.....:** SOLID
Date Sampled...: 08/09/01 11:45 **Date Received..:** 08/10/01
Prep Date.....: 08/17/01 **Analysis Date..:** 09/07/01
Prep Batch #...: 1229522 **Analysis Time..:** 11:59
Dilution Factor: 1
% Moisture.....: 8.0 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Naphthalene	ND	360	ug/kg
2-Methylnaphthalene	ND	360	ug/kg
2-Chloronaphthalene	ND	360	ug/kg
Acenaphthylene	ND	360	ug/kg
Acenaphthene	ND	360	ug/kg
Fluorene	ND	360	ug/kg
Phenanthrene	ND	360	ug/kg
Anthracene	ND	360	ug/kg
Fluoranthene	ND	360	ug/kg
Pyrene	ND	360	ug/kg
Benzo(a)anthracene	ND	360	ug/kg
Benzo(b)fluoranthene	ND	360	ug/kg
Benzo(k)fluoranthene	ND	360	ug/kg
Benzo(a)pyrene	ND	360	ug/kg
Indeno(1,2,3-cd)pyrene	ND	360	ug/kg
Benzo(ghi)perylene	ND	360	ug/kg
Dibenzo(a,h)anthracene	ND	360	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	61	(22 - 119)
Phenol-d5	62	(24 - 127)
Nitrobenzene-d5	53	(39 - 106)
2-Fluorobiphenyl	55	(42 - 106)
2,4,6-Tribromophenol	67	(42 - 120)
Terphenyl-d14	75	(18 - 97)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

BWXT of OHIO, INC

Client Sample ID: LTBB-8

GC/MS Volatiles

Lot-Sample #...:	F1H100228-009	**Work Order #...:**	EHTFX1AA	**Matrix.....:**	SOLID
Date Sampled...:	08/09/01 11:50	**Date Received..:**	08/10/01		
Prep Date.....:	08/21/01	**Analysis Date..:**	08/22/01		
Prep Batch #...:	1234198	**Analysis Time..:**	07:28		
Dilution Factor:	1				
% Moisture.....:	8.1	**Method.....:**	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	5.4	ug/kg
Ethylbenzene	ND	5.4	ug/kg
Toluene	**0.74 J**	**5.4**	**ug/kg**
Xylenes (total)	ND	5.4	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	97	(64 - 112)
Toluene-d8	100	(80 - 114)
Dibromofluoromethane	94	(73 - 127)
1,2-Dichloroethane-d4	100	(68 - 135)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

BWXT of OHIO, INC

Client Sample ID: LTBB-8

GC/MS Semivolatiles

Lot-Sample #...: F1H100228-009 **Work Order #...:** EHTFX1AC **Matrix.....:** SOLID
Date Sampled...: 08/09/01 11:50 **Date Received..:** 08/10/01
Prep Date.....: 08/17/01 **Analysis Date..:** 09/07/01
Prep Batch #...: 1229522 **Analysis Time..:** 12:34
Dilution Factor: 1
% Moisture.....: 8.1 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Naphthalene	ND	360	ug/kg
2-Methylnaphthalene	ND	360	ug/kg
2-Chloronaphthalene	ND	360	ug/kg
Acenaphthylene	ND	360	ug/kg
Acenaphthene	ND	360	ug/kg
Fluorene	ND	360	ug/kg
Phenanthrene	ND	360	ug/kg
Anthracene	ND	360	ug/kg
Fluoranthene	ND	360	ug/kg
Pyrene	ND	360	ug/kg
Benzo(a)anthracene	ND	360	ug/kg
Benzo(b)fluoranthene	ND	360	ug/kg
Benzo(k)fluoranthene	ND	360	ug/kg
Benzo(a)pyrene	ND	360	ug/kg
Indeno(1,2,3-cd)pyrene	ND	360	ug/kg
Benzo(ghi)perylene	ND	360	ug/kg
Dibenzo(a,h)anthracene	ND	360	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	64	(22 - 119)
Phenol-d5	62	(24 - 127)
Nitrobenzene-d5	58	(39 - 106)
2-Fluorobiphenyl	59	(42 - 106)
2,4,6-Tribromophenol	75	(42 - 120)
Terphenyl-d14	70	(18 - 97)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

BWXT of OHIO, INC

Client Sample ID: LTBB-24

GC/MS Volatiles

Lot-Sample #...:	F1H100228-010	**Work Order #...:**	EHTF21AA	**Matrix.....:**	SOLID
Date Sampled...:	08/09/01 12:00	**Date Received..:**	08/10/01		
Prep Date.....:	08/22/01	**Analysis Date..:**	08/22/01		
Prep Batch #...:	1234468	**Analysis Time..:**	13:49		
Dilution Factor:	1				
% Moisture.....:	7.6	**Method.....:**	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	5.4	ug/kg
Ethylbenzene	ND	5.4	ug/kg
Toluene	**1.1 J**	**5.4**	**ug/kg**
Xylenes (total)	ND	5.4	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	98	(64 - 112)
Toluene-d8	99	(80 - 114)
Dibromofluoromethane	94	(73 - 127)
1,2-Dichloroethane-d4	101	(68 - 135)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

BWXT of OHIO, INC

Client Sample ID: LTBB-24

GC/MS Semivolatiles

Lot-Sample #...: F1H100228-010 **Work Order #...:** EHTF21AC **Matrix.....:** SOLID
Date Sampled...: 08/09/01 12:00 **Date Received..:** 08/10/01
Prep Date.....: 08/17/01 **Analysis Date..:** 09/07/01
Prep Batch #...: 1229522 **Analysis Time..:** 13:09
Dilution Factor: 1
% Moisture.....: 7.6 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Naphthalene	ND	360	ug/kg
2-Methylnaphthalene	ND	360	ug/kg
2-Chloronaphthalene	ND	360	ug/kg
Acenaphthylene	ND	360	ug/kg
Acenaphthene	ND	360	ug/kg
Fluorene	ND	360	ug/kg
Phenanthrene	ND	360	ug/kg
Anthracene	ND	360	ug/kg
Fluoranthene	ND	360	ug/kg
Pyrene	ND	360	ug/kg
Benzo(a)anthracene	ND	360	ug/kg
Benzo(b)fluoranthene	ND	360	ug/kg
Benzo(k)fluoranthene	ND	360	ug/kg
Benzo(a)pyrene	ND	360	ug/kg
Indeno(1,2,3-cd)pyrene	ND	360	ug/kg
Benzo(ghi)perylene	ND	360	ug/kg
Dibenzo(a,h)anthracene	ND	360	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	62	(22 - 119)
Phenol-d5	62	(24 - 127)
Nitrobenzene-d5	54	(39 - 106)
2-Fluorobiphenyl	58	(42 - 106)
2,4,6-Tribromophenol	75	(42 - 120)
Terphenyl-d14	72	(18 - 97)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

BWXT of OHIO, INC

Client Sample ID: UTBF-8

General Chemistry

Lot-Sample #...: F1H100228-001 Work Order #...: EHTDP Matrix.....: SOLID
Date Sampled...: 08/09/01 09:00 Date Received..: 08/10/01
% Moisture.....: 11

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	10.6	0.10	%	MCAWW 160.3 MOD	08/15/01	1228304

Dilution Factor: 1 Analysis Time..: 12:20

BWXT of OHIO, INC

Client Sample ID: UTBF-24

General Chemistry

Lot-Sample #...: F1H100228-002 **Work Order #...:** EHTD8 **Matrix.....:** SOLID
Date Sampled...: 08/09/01 09:15 **Date Received..:** 08/10/01
% Moisture.....: 8.4

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	**8.4**	**0.10**	**%**	**MCAWW 160.3 MOD**	**08/15/01**	**1228304**

Dilution Factor: 1 Analysis Time..: 12:20

BWXT of OHIO, INC

Client Sample ID: UTBM-8

General Chemistry

Lot-Sample #...: F1H100228-003 **Work Order #...:** EHTEQ **Matrix.....:** SOLID
Date Sampled...: 08/09/01 10:30 **Date Received..:** 08/10/01
% Moisture.....: 12

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	**11.7**	**0.10**	**%**	**MCAWW 160.3 MOD**	**08/15/01**	**1228304**

Dilution Factor: 1 Analysis Time..: 12:20

BWXT of OHIO, INC

Client Sample ID: UTBM-24

General Chemistry

Lot-Sample #...: F1H100228-004 **Work Order #...:** EHTFL **Matrix.....:** SOLID
Date Sampled...: 08/09/01 10:45 **Date Received..:** 08/10/01
% Moisture.....: 8.7

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	**8.7**	**0.10**	**%**	**MCAWW 160.3 MOD**	**08/15/01**	**1228304**

Dilution Factor: 1 Analysis Time..: 12:20

BWXT of OHIO, INC

Client Sample ID: UTBB-8

General Chemistry

Lot-Sample #...: F1H100228-005 **Work Order #...:** EHTFN **Matrix.....:** SOLID
Date Sampled...: 08/09/01 11:00 **Date Received..:** 08/10/01
% Moisture.....: 10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	**10.3**	**0.10**	**%**	**MCAWW 160.3 MOD**	**08/15/01**	**1228304**

Dilution Factor: 1 Analysis Time..: 12:20

BWXT of OHIO, INC

Client Sample ID: UTBB-24

General Chemistry

Lot-Sample #...: F1H100228-006 **Work Order #...:** EHTFR **Matrix.....:** SOLID
Date Sampled...: 08/09/01 11:15 **Date Received..:** 08/10/01
% Moisture.....: 9.1

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	**9.1**	**0.10**	**%**	**MCAWW 160.3 MOD**	**08/15/01**	**1228304**

Dilution Factor: 1 Analysis Time..: 12:20

BWXT of OHIO, INC

Client Sample ID: LTBF-8

General Chemistry

Lot-Sample #...: F1H100228-007 **Work Order #...:** EHTFT **Matrix.....:** SOLID
Date Sampled...: 08/09/01 11:30 **Date Received..:** 08/10/01
% Moisture.....: 13

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	**12.8**	**0.10**	**%**	**MCAWW 160.3 MOD**	**08/15/01**	**1228304**

Dilution Factor: 1 Analysis Time..: 12:20

BWXT of OHIO, INC

Client Sample ID: LTBF-24

General Chemistry

Lot-Sample #...: F1H100228-008 **Work Order #...:** EHTFW **Matrix.....:** SOLID
Date Sampled...: 08/09/01 11:45 **Date Received..:** 08/10/01
% Moisture.....: 8.0

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	**8.0**	**0.10**	**%**	**MCAWW 160.3 MOD**	**08/15/01**	**1228304**

Dilution Factor: 1 Analysis Time..: 12:20

BWXT of OHIO, INC

Client Sample ID: LTBB-8

General Chemistry

Lot-Sample #...: F1H100228-009 **Work Order #...:** EHTFX **Matrix.....:** SOLID
Date Sampled...: 08/09/01 11:50 **Date Received..:** 08/10/01
% Moisture.....: 8.1

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	**8.1**	**0.10**	**%**	**MCAWW 160.3 MOD**	**08/15/01**	**1228304**

Dilution Factor: 1 Analysis Time..: 12:20

BWXT of OHIO, INC

Client Sample ID: LTBB-24

General Chemistry

Lot-Sample #...: F1H100228-010 Work Order #...: EHTF2 Matrix.....: SOLID
Date Sampled...: 08/09/01 12:00 Date Received..: 08/10/01
% Moisture.....: 7.6

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	7.6	0.10	%	MCAWW 160.3 MOD	08/15/01	1228304

Dilution Factor: 1 Analysis Time..: 12:20

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: F1H100228 **Work Order #...:** EJCHN1AA **Matrix.....:** SOLID
MB Lot-Sample #: F1H210000-559

Prep Date.....: 08/21/01 **Analysis Time..:** 09:55
Analysis Date..: 08/21/01 **Prep Batch #...:** 1233559
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	ND	5.0	ug/kg	SW846 8260B
Ethylbenzene	ND	5.0	ug/kg	SW846 8260B
Toluene	ND	5.0	ug/kg	SW846 8260B
Xylenes (total)	ND	5.0	ug/kg	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	88	(64 - 112)
Toluene-d8	93	(80 - 114)
Dibromofluoromethane	91	(73 - 127)
1,2-Dichloroethane-d4	98	(68 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: F1H100228 **Work Order #...:** EH7T31AA **Matrix.....:** SOLID
MB Lot-Sample #: F1H170000-S22

Prep Date.....: 08/17/01 **Analysis Time..:** 22:54
Analysis Date..: 09/06/01 **Prep Batch #...:** 1229522
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Naphthalene	ND	330	ug/kg	SW846 8270C
2-Methylnaphthalene	ND	330	ug/kg	SW846 8270C
2-Chloronaphthalene	ND	330	ug/kg	SW846 8270C
Acenaphthylene	ND	330	ug/kg	SW846 8270C
Acenaphthene	ND	330	ug/kg	SW846 8270C
Fluorene	ND	330	ug/kg	SW846 8270C
Phenanthrene	ND	330	ug/kg	SW846 8270C
Anthracene	ND	330	ug/kg	SW846 8270C
Fluoranthene	ND	330	ug/kg	SW846 8270C
Pyrene	ND	330	ug/kg	SW846 8270C
Benzo(a)anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(k)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	SW846 8270C
Benzo(ghi)perylene	ND	330	ug/kg	SW846 8270C
Dibenzo(a,h)anthracene	ND	330	ug/kg	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	53	(22 - 119)
Phenol-d5	50	(24 - 127)
Nitrobenzene-d5	56	(39 - 106)
2-Fluorobiphenyl	56	(42 - 106)
2,4,6-Tribromophenol	47	(42 - 120)
Terphenyl-d14	63	(18 - 97)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: F1H100228 **Work Order #...:** EJCVT1AA **Matrix.....:** SOLID
MB Lot-Sample #: F1H220000-198

Prep Date.....: 08/21/01 **Analysis Time..:** 22:00
Analysis Date..: 08/21/01 **Prep Batch #...:** 1234198
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	ND	5.0	ug/kg	SW846 8260B
Ethylbenzene	ND	5.0	ug/kg	SW846 8260B
Toluene	ND	5.0	ug/kg	SW846 8260B
Xylenes (total)	ND	5.0	ug/kg	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	89	(64 - 112)
Toluene-d8	91	(80 - 114)
Dibromofluoromethane	94	(73 - 127)
1,2-Dichloroethane-d4	102	(68 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: F1H100228 **Work Order #...:** EJD561AA **Matrix.....:** SOLID
MB Lot-Sample #: F1H220000-468

Prep Date.....: 08/22/01 **Analysis Time..:** 09:41
Analysis Date..: 08/22/01 **Prep Batch #...:** 1234468
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	ND	5.0	ug/kg	SW846 8260B
Ethylbenzene	ND	5.0	ug/kg	SW846 8260B
Toluene	ND	5.0	ug/kg	SW846 8260B
Xylenes (total)	ND	5.0	ug/kg	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	92	(64 - 112)
Toluene-d8	96	(80 - 114)
Dibromofluoromethane	96	(73 - 127)
1,2-Dichloroethane-d4	102	(68 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: F1H100228 **Work Order #...:** EH7T31AC-LCS **Matrix.....:** SOLID
LCS Lot-Sample#: F1H170000-522 EH7T31AD-LCSD
Prep Date.....: 08/17/01 **Analysis Date..:** 09/06/01
Prep Batch #...: 1229522 **Analysis Time..:** 23:30
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Phenol	56	(22 - 107)			SW846 8270C
	57	(22 - 107)	0.91	(0-27)	SW846 8270C
2-Chlorophenol	63	(35 - 102)			SW846 8270C
	60	(35 - 102)	4.2	(0-33)	SW846 8270C
1,4-Dichlorobenzene	53	(20 - 107)			SW846 8270C
	53	(20 - 107)	0.25	(0-35)	SW846 8270C
N-Nitrosodi-n-propyl-amine	56	(22 - 118)			SW846 8270C
	59	(22 - 118)	6.4	(0-33)	SW846 8270C
1,2,4-Trichloro-benzene	60	(33 - 104)			SW846 8270C
	61	(33 - 104)	1.7	(0-35)	SW846 8270C
4-Chloro-3-methylphenol	56	(23 - 118)			SW846 8270C
	54	(23 - 118)	2.8	(0-30)	SW846 8270C
4-Nitrophenol	41	(13 - 125)			SW846 8270C
	43	(13 - 125)	5.3	(0-37)	SW846 8270C
2,4-Dinitrotoluene	57	(28 - 118)			SW846 8270C
	54	(28 - 118)	6.1	(0-25)	SW846 8270C
Pentachlorophenol	37	(12 - 117)			SW846 8270C
	52	(12 - 117)	34	(0-35)	SW846 8270C
Acenaphthene	63	(27 - 112)			SW846 8270C
	65	(27 - 112)	2.2	(0-27)	SW846 8270C
Pyrene	75	(21 - 115)			SW846 8270C
	78	(21 - 115)	3.8	(0-31)	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	65	(22 - 119)
	64	(22 - 119)
Phenol-d5	61	(24 - 127)
	56	(24 - 127)
Nitrobenzene-d5	64	(39 - 106)
	65	(39 - 106)
2-Fluorobiphenyl	66	(42 - 106)
	68	(42 - 106)
2,4,6-Tribromophenol	63	(42 - 120)
	64	(42 - 120)
Terphenyl-d14	77	(18 - 97)

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: F1H100228 **Work Order #...:** EH7T31AC-LCS **Matrix.....:** SOLID
LCS Lot-Sample#: F1H170000-522 EH7T31AD-LCSD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
	80	(18 - 97)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: F1H100228 **Work Order #...:** EJCVT1AC-LCS **Matrix.....:** SOLID
LCS Lot-Sample#: F1H220000-198 EJCVT1AD-LCSD
Prep Date.....: 08/21/01 **Analysis Date..:** 08/21/01
Prep Batch #...: 1234198 **Analysis Time..:** 23:46
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Chlorobenzene	**100**	**(78 - 118)**			**SW846 8260B**
	96	**(78 - 118)**	**3.7**	**(0-20)**	**SW846 8260B**
1,1-Dichloroethene	**104**	**(64 - 133)**			**SW846 8260B**
	109	**(64 - 133)**	**4.6**	**(0-61)**	**SW846 8260B**
Trichloroethene	**101**	**(61 - 122)**			**SW846 8260B**
	108	**(61 - 122)**	**6.1**	**(0-21)**	**SW846 8260B**
1,4-Dichlorobenzene	**90**	**(75 - 125)**			**SW846 8260B**
	99	**(75 - 125)**	**9.8**	**(0-25)**	**SW846 8260B**
Benzene	**96**	**(73 - 126)**			**SW846 8260B**
	108	**(73 - 126)**	**12**	**(0-30)**	**SW846 8260B**
Toluene	**88**	**(74 - 119)**			**SW846 8260B**
	100	**(74 - 119)**	**13**	**(0-29)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	80	(64 - 112)
	91	(64 - 112)
Toluene-d8	95	(80 - 114)
	95	(80 - 114)
Dibromofluoromethane	91	(73 - 127)
	97	(73 - 127)
1,2-Dichloroethane-d4	96	(68 - 135)
	103	(68 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: F1H100228 **Work Order #...:** EJCHN1AC **Matrix.....:** SOLID
LCS Lot-Sample#: F1H210000-559
Prep Date.....: 08/21/01 **Analysis Date..:** 08/21/01
Prep Batch #...: 1233559 **Analysis Time..:** 10:30
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Chlorobenzene	**93**	**(78 - 118)**	**SW846 8260B**
1,1-Dichloroethene	**85**	**(64 - 133)**	**SW846 8260B**
Trichloroethene	**100**	**(61 - 122)**	**SW846 8260B**
1,4-Dichlorobenzene	**99**	**(75 - 125)**	**SW846 8260B**
Benzene	**101**	**(73 - 126)**	**SW846 8260B**
Toluene	**93**	**(74 - 119)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	90	(64 - 112)
Toluene-d8	93	(80 - 114)
Dibromofluoromethane	98	(73 - 127)
1,2-Dichloroethane-d4	103	(68 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: F1H100228 **Work Order #...:** EJD561AC **Matrix.....:** SOLID
LCS Lot-Sample#: F1H220000-468
Prep Date.....: 08/22/01 **Analysis Date..:** 08/22/01
Prep Batch #...: 1234468 **Analysis Time..:** 10:16
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Chlorobenzene	**100**	**(78 - 118)**	**SW846 8260B**
1,1-Dichloroethene	**102**	**(64 - 133)**	**SW846 8260B**
Trichloroethene	**99**	**(61 - 122)**	**SW846 8260B**
1,4-Dichlorobenzene	**87**	**(75 - 125)**	**SW846 8260B**
Benzene	**95**	**(73 - 126)**	**SW846 8260B**
Toluene	**88**	**(74 - 119)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	82	(64 - 112)
Toluene-d8	95	(80 - 114)
Dibromofluoromethane	94	(73 - 127)
1,2-Dichloroethane-d4	97	(68 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: F1H100228 **Work Order #...:** EHTDP1AD-MS **Matrix.....:** SOLID
MS Lot-Sample #: F1H100228-001 EHTDP1AE-MSD
Date Sampled...: 08/09/01 09:00 **Date Received..:** 08/10/01
Prep Date.....: 08/21/01 **Analysis Date..:** 08/21/01
Prep Batch #...: 1233559 **Analysis Time..:** 15:14
Dilution Factor: 1 **% Moisture.....:** 11

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Chlorobenzene	**104**	**(78 - 118)**			**SW846 8260B**
	91	**(78 - 118)**	**13**	**(0-20)**	**SW846 8260B**
1,1-Dichloroethene	**86**	**(64 - 133)**			**SW846 8260B**
	86	**(64 - 133)**	**0.67**	**(0-61)**	**SW846 8260B**
Trichloroethene	**98**	**(61 - 122)**			**SW846 8260B**
	98	**(61 - 122)**	**0.47**	**(0-21)**	**SW846 8260B**
1,4-Dichlorobenzene	**102**	**(75 - 125)**			**SW846 8260B**
	97	**(75 - 125)**	**4.9**	**(0-25)**	**SW846 8260B**
Benzene	**97**	**(73 - 126)**			**SW846 8260B**
	102	**(73 - 126)**	**5.9**	**(0-30)**	**SW846 8260B**
Toluene	**99**	**(74 - 119)**			**SW846 8260B**
	98	**(74 - 119)**	**0.97**	**(0-29)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	93	(64 - 112)
	98	(64 - 112)
Toluene-d8	103	(80 - 114)
	99	(80 - 114)
Dibromofluoromethane	93	(73 - 127)
	99	(73 - 127)
1,2-Dichloroethane-d4	100	(68 - 135)
	104	(68 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: F1H100228 **Work Order #...:** EHTDP1AF-MS **Matrix.....:** SOLID
MS Lot-Sample #: F1H100228-001 EHTDP1AG-MSD
Date Sampled...: 08/09/01 09:00 **Date Received..:** 08/10/01
Prep Date.....: 08/17/01 **Analysis Date..:** 09/07/01
Prep Batch #...: 1229522 **Analysis Time..:** 01:15
Dilution Factor: 1 **% Moisture.....:** 11

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Phenol	49	(22 - 107)			SW846 8270C
	59	(22 - 107)	19	(0-27)	SW846 8270C
2-Chlorophenol	52	(35 - 102)			SW846 8270C
	65	(35 - 102)	23	(0-33)	SW846 8270C
1,4-Dichlorobenzene	50	(20 - 107)			SW846 8270C
	57	(20 - 107)	13	(0-35)	SW846 8270C
N-Nitrosodi-n-propyl-amine	49	(22 - 118)			SW846 8270C
	59	(22 - 118)	18	(0-33)	SW846 8270C
1,2,4-Trichloro-benzene	55	(33 - 104)			SW846 8270C
	60	(33 - 104)	7.0	(0-35)	SW846 8270C
4-Chloro-3-methylphenol	42	(23 - 118)			SW846 8270C
	59 p	(23 - 118)	35	(0-30)	SW846 8270C
4-Nitrophenol	25 J	(13 - 125)			SW846 8270C
	41 p	(13 - 125)	48	(0-37)	SW846 8270C
2,4-Dinitrotoluene	42	(28 - 118)			SW846 8270C
	66 p	(28 - 118)	44	(0-25)	SW846 8270C
Pentachlorophenol	21 J	(12 - 117)			SW846 8270C
	36 p	(12 - 117)	54	(0-35)	SW846 8270C
Acenaphthene	55	(27 - 112)			SW846 8270C
	66	(27 - 112)	17	(0-27)	SW846 8270C
Pyrene	68	(21 - 115)			SW846 8270C
	79	(21 - 115)	15	(0-31)	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	51	(22 - 119)
	68	(22 - 119)
Phenol-d5	46	(24 - 127)
	64	(24 - 127)
Nitrobenzene-d5	52	(39 - 106)
	65	(39 - 106)
2-Fluorobiphenyl	52	(42 - 106)
	63	(42 - 106)
2,4,6-Tribromophenol	50	(42 - 120)
	71	(42 - 120)

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: F1H100228 **Work Order #...:** EHTDP1AF-MS **Matrix.....:** SOLID
MS Lot-Sample #: F1H100228-001 EHTDP1AG-MSD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Terphenyl-d14	65	(18 - 97)
	73	(18 - 97)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight.

p Relative percent difference (RPD) is outside stated control limits.

J Estimated result. Result is less than RL.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: F1H100228 **Work Order #...:** EHTF21AF-MS **Matrix.....:** SOLID
MS Lot-Sample #: F1H100228-010 EHTF21AG-MSD
Date Sampled...: 08/09/01 12:00 **Date Received..:** 08/10/01
Prep Date.....: 08/22/01 **Analysis Date..:** 08/22/01
Prep Batch #...: 1234468 **Analysis Time..:** 14:24
Dilution Factor: 1 **% Moisture.....:** 7.6

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Chlorobenzene	**105**	**(78 - 118)**			**SW846 8260B**
	101	**(78 - 118)**	**3.9**	**(0-20)**	**SW846 8260B**
1,1-Dichloroethene	**109**	**(64 - 133)**			**SW846 8260B**
	105	**(64 - 133)**	**4.2**	**(0-61)**	**SW846 8260B**
Trichloroethene	**102**	**(61 - 122)**			**SW846 8260B**
	98	**(61 - 122)**	**3.6**	**(0-21)**	**SW846 8260B**
1,4-Dichlorobenzene	**94**	**(75 - 125)**			**SW846 8260B**
	91	**(75 - 125)**	**3.0**	**(0-25)**	**SW846 8260B**
Benzene	**102**	**(73 - 126)**			**SW846 8260B**
	101	**(73 - 126)**	**0.55**	**(0-30)**	**SW846 8260B**
Toluene	**97**	**(74 - 119)**			**SW846 8260B**
	96	**(74 - 119)**	**0.85**	**(0-29)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	94	(64 - 112)
	93	(64 - 112)
Toluene-d8	102	(80 - 114)
	100	(80 - 114)
Dibromofluoromethane	98	(73 - 127)
	94	(73 - 127)
1,2-Dichloroethane-d4	100	(68 - 135)
	98	(68 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight.

BWXT of OHIO, INC

Client Sample ID: UTBB-24

GC/MS Semivolatiles

Lot-Sample #...: F1H100228-006 **Work Order #...:** EHTFR1AC **Matrix.....:** SOLID
Date Sampled...: 08/09/01 11:15 **Date Received..:** 08/10/01
Prep Date.....: 08/17/01 **Analysis Date..:** 09/07/01
Prep Batch #...: 1229522 **Analysis Time..:** 10:49
Dilution Factor: 1
% Moisture.....: 9.1 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Naphthalene	ND	360	ug/kg
2-Methylnaphthalene	ND	360	ug/kg
2-Chloronaphthalene	ND	360	ug/kg
Acenaphthylene	ND	360	ug/kg
Acenaphthene	ND	360	ug/kg
Fluorene	ND	360	ug/kg
Phenanthrene	ND	360	ug/kg
Anthracene	ND	360	ug/kg
Fluoranthene	ND	360	ug/kg
Pyrene	ND	360	ug/kg
Benzo(a)anthracene	ND	360	ug/kg
Benzo(b)fluoranthene	ND	360	ug/kg
Benzo(k)fluoranthene	ND	360	ug/kg
Benzo(a)pyrene	ND	360	ug/kg
Indeno(1,2,3-cd)pyrene	ND	360	ug/kg
Benzo(ghi)perylene	ND	360	ug/kg
Dibenzo(a,h)anthracene	ND	360	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	61	(22 - 119)
Phenol-d5	57	(24 - 127)
Nitrobenzene-d5	55	(39 - 106)
2-Fluorobiphenyl	56	(42 - 106)
2,4,6-Tribromophenol	73	(42 - 120)
Terphenyl-d14	63	(18 - 97)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: F1H100228 **Work Order #...:** EH2P81AD-MS **Matrix.....:** SOLID
MS Lot-Sample #: F1H150189-001 EH2P81AE-MSD
Date Sampled...: 08/13/01 09:06 **Date Received..:** 08/15/01
Prep Date.....: 08/21/01 **Analysis Date..:** 08/22/01
Prep Batch #...: 1234198 **Analysis Time..:** 01:33
Dilution Factor: 1 **% Moisture.....:** 13

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Chlorobenzene	**92**	**(78 - 118)**			**SW846 8260B**
	101	**(78 - 118)**	**9.4**	**(0-20)**	**SW846 8260B**
1,1-Dichloroethene	**107**	**(64 - 133)**			**SW846 8260B**
	105	**(64 - 133)**	**1.2**	**(0-61)**	**SW846 8260B**
Trichloroethene	**104**	**(61 - 122)**			**SW846 8260B**
	101	**(61 - 122)**	**2.8**	**(0-21)**	**SW846 8260B**
1,4-Dichlorobenzene	**98**	**(75 - 125)**			**SW846 8260B**
	92	**(75 - 125)**	**5.8**	**(0-25)**	**SW846 8260B**
Benzene	**107**	**(73 - 126)**			**SW846 8260B**
	100	**(73 - 126)**	**6.6**	**(0-30)**	**SW846 8260B**
Toluene	**95**	**(74 - 119)**			**SW846 8260B**
	95	**(74 - 119)**	**0.02**	**(0-29)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	96	(64 - 112)
	88	(64 - 112)
Toluene-d8	92	(80 - 114)
	97	(80 - 114)
Dibromofluoromethane	96	(73 - 127)
	95	(73 - 127)
1,2-Dichloroethane-d4	101	(68 - 135)
	101	(68 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

BWXT of OHIO, INC

Client Sample ID: LTBF-8

GC/MS Volatiles

Lot-Sample #...: F1H100228-007 **Work Order #...:** EHTFT1AA **Matrix.....:** SOLID
Date Sampled...: 08/09/01 11:30 **Date Received..:** 08/10/01
Prep Date.....: 08/21/01 **Analysis Date..:** 08/21/01
Prep Batch #...: 1233559 **Analysis Time..:** 19:23
Dilution Factor: 1
% Moisture.....: 13 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	5.7	ug/kg
Ethylbenzene	ND	5.7	ug/kg
Toluene	ND	5.7	ug/kg
Xylenes (total)	ND	5.7	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	100	(64 - 112)
Toluene-d8	100	(80 - 114)
Dibromofluoromethane	96	(73 - 127)
1,2-Dichloroethane-d4	104	(68 - 135)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

BWXT of OHIO, INC

Client Sample ID: UTBB-24

GC/MS Volatiles

Lot-Sample #...: F1H100228-006 **Work Order #...:** EHTFR1AA **Matrix.....:** SOLID
Date Sampled...: 08/09/01 11:15 **Date Received..:** 08/10/01
Prep Date.....: 08/21/01 **Analysis Date..:** 08/21/01
Prep Batch #...: 1233559 **Analysis Time..:** 18:48
Dilution Factor: 1
% Moisture.....: 9.1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	5.5	ug/kg
Ethylbenzene	ND	5.5	ug/kg
Toluene	**1.5 J**	**5.5**	**ug/kg**
Xylenes (total)	ND	5.5	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	86	(64 - 112)
Toluene-d8	102	(80 - 114)
Dibromofluoromethane	93	(73 - 127)
1,2-Dichloroethane-d4	102	(68 - 135)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F1H100228 **Work Order #...:** EHTF2-SMP **Matrix.....:** SOLID
EHTF2-DUP

Date Sampled...: 08/09/01 12:00 **Date Received..:** 08/10/01

% Moisture.....: 7.6

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture						SD Lot-Sample #:	F1H100228-010	
	7.6	7.2	%	5.7	(0-0.0)	MCAWW 160.3 MOD	08/15/01	1228304

Dilution Factor: 1 Analysis Time..: 12:20

Leachate / Runoff
BTEX
PAH

SEVERN TRENT SERVICES

STL St. Louis
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ANALYTICAL REPORT

BWXT at Mound

Lot #: F1F290246

Gene Jendrek

BWXT of Ohio, Inc
One Mound Road
A-106
Miamisburg, OH 45343

SEVERN TRENT LABORATORIES, INC.

Ron Martino
Project Manager

July 27, 2001

STL St. Louis is a part of Severn Trent Laboratories, Inc.

Case Narrative
LOT NUMBER: **F1F290246**

This report contains the analytical results for the two samples received under chain of custody by STL St. Louis on on June 29, 2001. These samples are associated with your BWXT at Mound project.

All applicable quality control procedures met method-specified acceptance criteria except as noted on the following page.

This report is incomplete without the case narrative. All results are based upon sample as received, wet weight, unless noted otherwise.

Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

Nonconformance 06-05317

Affected Samples:
F1F290246 (1): LEACHATE
F1F290246 (2): RUNOFF

Affected Methods:
8270C Semivolatiles

Case Narrative:
The 120 ug/ml and 160 ug/ml initial calibration standards exhibited peak saturation for some compounds. This was due to a relatively high sensitivity of the instrument. The initial calibration met method criteria and thus, the average response factors were used for calculations of the subsequent samples. All samples with a target compound result above the highest standard that did not saturated will be re-analyzed by dilution or re-analyzed within an initial calibration sequence with a higher upper calibration range.

METHODS SUMMARY

F1F290246

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Semivolatile Organic Compounds by GC/MS	SW846 8270C	SW846 3510C
Volatile Organics by GC/MS	SW846 8260B	SW846 5030B/826

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

F1F290246

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
EFQXA	001	LEACHATE	06/28/01	
EFQXM	002	RUNOFF	06/28/01	

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

BWXT of OHIO, INC

Client Sample ID: LEACHATE

GC/MS Volatiles

Lot-Sample #...: F1F290246-001
Date Sampled...: 06/28/01
Prep Date.....: 07/09/01
Prep Batch #...: 1192114
Dilution Factor: 1

Work Order #...: EFQXA1AA
Date Received..: 06/29/01
Analysis Date..: 07/09/01
Analysis Time..: 19:58

Matrix.....: WATER

Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	107	(72 - 116)
Toluene-d8	114	(79 - 124)
Dibromofluoromethane	86	(71 - 128)
1,2-Dichloroethane-d4	84	(65 - 126)

BWXT of OHIO, INC

Client Sample ID: LEACHATE

GC/MS Semivolatiles

Lot-Sample #...: F1F290246-001 Work Order #...: EFQXA1AC Matrix.....: WATER
Date Sampled...: 06/28/01 Date Received..: 06/29/01
Prep Date.....: 07/03/01 Analysis Date..: 07/25/01
Prep Batch #...: 1184527 Analysis Time..: 19:58
Dilution Factor: 1

Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthene	ND	10	ug/L
Acenaphthylene	ND	10	ug/L
Anthracene	ND	10	ug/L
Benzo(a)anthracene	ND	10	ug/L
Benzo(b)fluoranthene	ND	10	ug/L
Benzo(k)fluoranthene	ND	10	ug/L
Benzo(ghi)perylene	ND	10	ug/L
Benzo(a)pyrene	ND	10	ug/L
2-Chloronaphthalene	ND	10	ug/L
Dibenz(a,h)anthracene	ND	10	ug/L
Fluoranthene	ND	10	ug/L
Fluorene	ND	10	ug/L
Indeno(1,2,3-cd)pyrene	ND	10	ug/L
2-Methylnaphthalene	ND	10	ug/L
Naphthalene	ND	10	ug/L
Phenanthrene	ND	10	ug/L
Pyrene	ND	10	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	49	(10 - 85)
Phenol-d5	34	(10 - 95)
Nitrobenzene-d5	49	(32 - 93)
2-Fluorobiphenyl	55	(29 - 101)
2,4,6-Tribromophenol	74	(27 - 117)
Terphenyl-d14	67	(18 - 94)

BWXT of OHIO, INC

Client Sample ID: RUNOFF

GC/MS Volatiles

Lot-Sample #...: F1F290246-002 Work Order #...: EFQXM1AA Matrix.....: WATER
Date Sampled...: 06/28/01 Date Received..: 06/29/01
Prep Date.....: 07/09/01 Analysis Date..: 07/09/01
Prep Batch #...: 1192114 Analysis Time..: 20:35
Dilution Factor: 1
Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	106	(72 - 116)
Toluene-d8	105	(79 - 124)
Dibromofluoromethane	102	(71 - 128)
1,2-Dichloroethane-d4	109	(65 - 126)

BWXT of OHIO, INC

Client Sample ID: RUNOFF

GC/MS Semivolatiles

Lot-Sample #...: F1F290246-002 Work Order #...: EFQXM1AC Matrix.....: WATER
Date Sampled...: 06/28/01 Date Received..: 06/29/01
Prep Date.....: 07/03/01 Analysis Date..: 07/25/01
Prep Batch #...: 1184527 Analysis Time..: 20:38
Dilution Factor: 1

Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthene	ND	10	ug/L
Acenaphthylene	ND	10	ug/L
Anthracene	ND	10	ug/L
Benzo(a)anthracene	ND	10	ug/L
Benzo(b)fluoranthene	ND	10	ug/L
Benzo(k)fluoranthene	ND	10	ug/L
Benzo(ghi)perylene	ND	10	ug/L
Benzo(a)pyrene	ND	10	ug/L
2-Chloronaphthalene	ND	10	ug/L
Dibenz(a,h)anthracene	ND	10	ug/L
Fluoranthene	ND	10	ug/L
Fluorene	ND	10	ug/L
Indeno(1,2,3-cd)pyrene	ND	10	ug/L
2-Methylnaphthalene	ND	10	ug/L
Naphthalene	ND	10	ug/L
Phenanthrene	ND	10	ug/L
Pyrene	ND	10	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	49	(10 - 85)
Phenol-d5	33	(10 - 95)
Nitrobenzene-d5	47	(32 - 93)
2-Fluorobiphenyl	54	(29 - 101)
2,4,6-Tribromophenol	68	(27 - 117)
Terphenyl-d14	65	(18 - 94)

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: F1F290246 **Work Order #...:** EF0AG1AA **Matrix.....:** WATER
MB Lot-Sample #: F1G030000-527
Prep Date.....: 07/03/01 **Analysis Time..:** 21:17
Analysis Date..: 07/25/01 **Prep Batch #...:** 1184527
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acenaphthene	ND	10	ug/L	SW846 8270C
Acenaphthylene	ND	10	ug/L	SW846 8270C
Anthracene	ND	10	ug/L	SW846 8270C
Benzo(a)anthracene	ND	10	ug/L	SW846 8270C
Benzo(b)fluoranthene	ND	10	ug/L	SW846 8270C
Benzo(k)fluoranthene	ND	10	ug/L	SW846 8270C
Benzo(ghi)perylene	ND	10	ug/L	SW846 8270C
Benzo(a)pyrene	ND	10	ug/L	SW846 8270C
2-Chloronaphthalene	ND	10	ug/L	SW846 8270C
Dibenz(a,h)anthracene	ND	10	ug/L	SW846 8270C
Fluoranthene	ND	10	ug/L	SW846 8270C
Fluorene	ND	10	ug/L	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	10	ug/L	SW846 8270C
2-Methylnaphthalene	ND	10	ug/L	SW846 8270C
Naphthalene	ND	10	ug/L	SW846 8270C
Phenanthrene	ND	10	ug/L	SW846 8270C
Pyrene	ND	10	ug/L	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	53	(10 - 85)
Phenol-d5	36	(10 - 95)
Nitrobenzene-d5	49	(32 - 93)
2-Fluorobiphenyl	56	(29 - 101)
2,4,6-Tribromophenol	76	(27 - 117)
Terphenyl-d14	79	(18 - 94)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: F1F290246
MB Lot-Sample #: F1G110000-114
Work Order #...: EF5271AA
Matrix.....: WATER
Prep Date.....: 07/09/01
Analysis Time..: 10:14
Analysis Date..: 07/09/01
Prep Batch #...: 1192114
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	1.0	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	107	(72 - 116)
Toluene-d8	101	(79 - 124)
Dibromofluoromethane	98	(71 - 128)
1,2-Dichloroethane-d4	104	(65 - 126)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: F1F290246
LCS Lot-Sample#: F1G030000-527
Prep Date.....: 07/03/01
Prep Batch #...: 1184527
Dilution Factor: 1

Work Order #...: EF0AG1AC-LCS
EF0AG1AD-LCSD
Analysis Date..: 07/25/01
Analysis Time..: 21:56

Matrix.....: WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Phenol	27	(10 - 82)			SW846 8270C
	26	(10 - 82)	2.8	(0-23)	SW846 8270C
2-Chlorophenol	46	(22 - 89)			SW846 8270C
	49	(22 - 89)	6.1	(0-27)	SW846 8270C
1,4-Dichlorobenzene	39	(18 - 92)			SW846 8270C
	45	(18 - 92)	14	(0-25)	SW846 8270C
N-Nitrosodi-n-propyl-amine	40	(26 - 112)			SW846 8270C
	46	(26 - 112)	13	(0-34)	SW846 8270C
1,2,4-Trichloro-benzene	37	(18 - 98)			SW846 8270C
	43	(18 - 98)	15	(0-20)	SW846 8270C
4-Chloro-3-methylphenol	47	(25 - 105)			SW846 8270C
	47	(25 - 105)	1.0	(0-21)	SW846 8270C
4-Nitrophenol	17	(10 - 89)			SW846 8270C
	13	(10 - 89)	27	(0-33)	SW846 8270C
2,4-Dinitrotoluene	37	(31 - 111)			SW846 8270C
	40	(31 - 111)	8.5	(0-28)	SW846 8270C
Pentachlorophenol	37	(14 - 111)			SW846 8270C
	31	(14 - 111)	16	(0-20)	SW846 8270C
Acenaphthene	43	(29 - 105)			SW846 8270C
	51	(29 - 105)	15	(0-18)	SW846 8270C
Pyrene	48	(28 - 114)			SW846 8270C
	58	(28 - 114)	20	(0-20)	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	46	(10 - 85)
	48	(10 - 85)
Phenol-d5	34	(10 - 95)
	32	(10 - 95)
Nitrobenzene-d5	41	(32 - 93)
	47	(32 - 93)
2-Fluorobiphenyl	45	(29 - 101)
	52	(29 - 101)
2,4,6-Tribromophenol	62	(27 - 117)
	64	(27 - 117)
Terphenyl-d14	49	(18 - 94)
	59	(18 - 94)

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: F1F290246 Work Order #...: EF0AG1AC-LCS Matrix.....: WATER
LCS Lot-Sample#: F1G030000-527 EF0AG1AD-LCSD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: F1F290246 Work Order #...: EF5271AC Matrix.....: WATER
LCS Lot-Sample#: F1G110000-114
Prep Date.....: 07/09/01 Analysis Date..: 07/09/01
Prep Batch #...: 1192114 Analysis Time..: 17:32
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Chlorobenzene	**99**	**(75 - 128)**	**SW846 8260B**
1,1-Dichloroethene	**110**	**(63 - 133)**	**SW846 8260B**
Trichloroethene	**90**	**(74 - 118)**	**SW846 8260B**
1,4-Dichlorobenzene	**99**	**(75 - 125)**	**SW846 8260B**
Benzene	**103**	**(76 - 121)**	**SW846 8260B**
Toluene	**99**	**(77 - 120)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	102	(72 - 116)
Toluene-d8	100	(79 - 124)
Dibromofluoromethane	101	(71 - 128)
1,2-Dichloroethane-d4	103	(65 - 126)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: F1F290246 **Work Order #...:** EFN5F1A0-MS **Matrix.....:** WATER
MS Lot-Sample #: F1F280294-007 EFN5F1A1-MSD
Date Sampled...: 06/27/01 14:57 **Date Received..:** 06/28/01
Prep Date.....: 07/09/01 **Analysis Date..:** 07/09/01
Prep Batch #...: 1192114 **Analysis Time..:** 15:44
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Chlorobenzene	**98**	(75 - 128)			**SW846 8260B**
	98	(75 - 128)	0.03	(0-15)	**SW846 8260B**
1,1-Dichloroethene	**108**	(63 - 133)			**SW846 8260B**
	112	(63 - 133)	4.2	(0-32)	**SW846 8260B**
Trichloroethene	**91**	(74 - 118)			**SW846 8260B**
	90	(74 - 118)	1.4	(0-16)	**SW846 8260B**
1,4-Dichlorobenzene	**95**	(75 - 125)			**SW846 8260B**
	96	(75 - 125)	0.74	(0-25)	**SW846 8260B**
Benzene	**99**	(76 - 121)			**SW846 8260B**
	100	(76 - 121)	0.88	(0-24)	**SW846 8260B**
Toluene	**103**	(77 - 120)			**SW846 8260B**
	102	(77 - 120)	1.3	(0-25)	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	115	(72 - 116)
	112	(72 - 116)
Toluene-d8	106	(79 - 124)
	106	(79 - 124)
Dibromofluoromethane	96	(71 - 128)
	97	(71 - 128)
1,2-Dichloroethane-d4	105	(65 - 126)
	103	(65 - 126)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

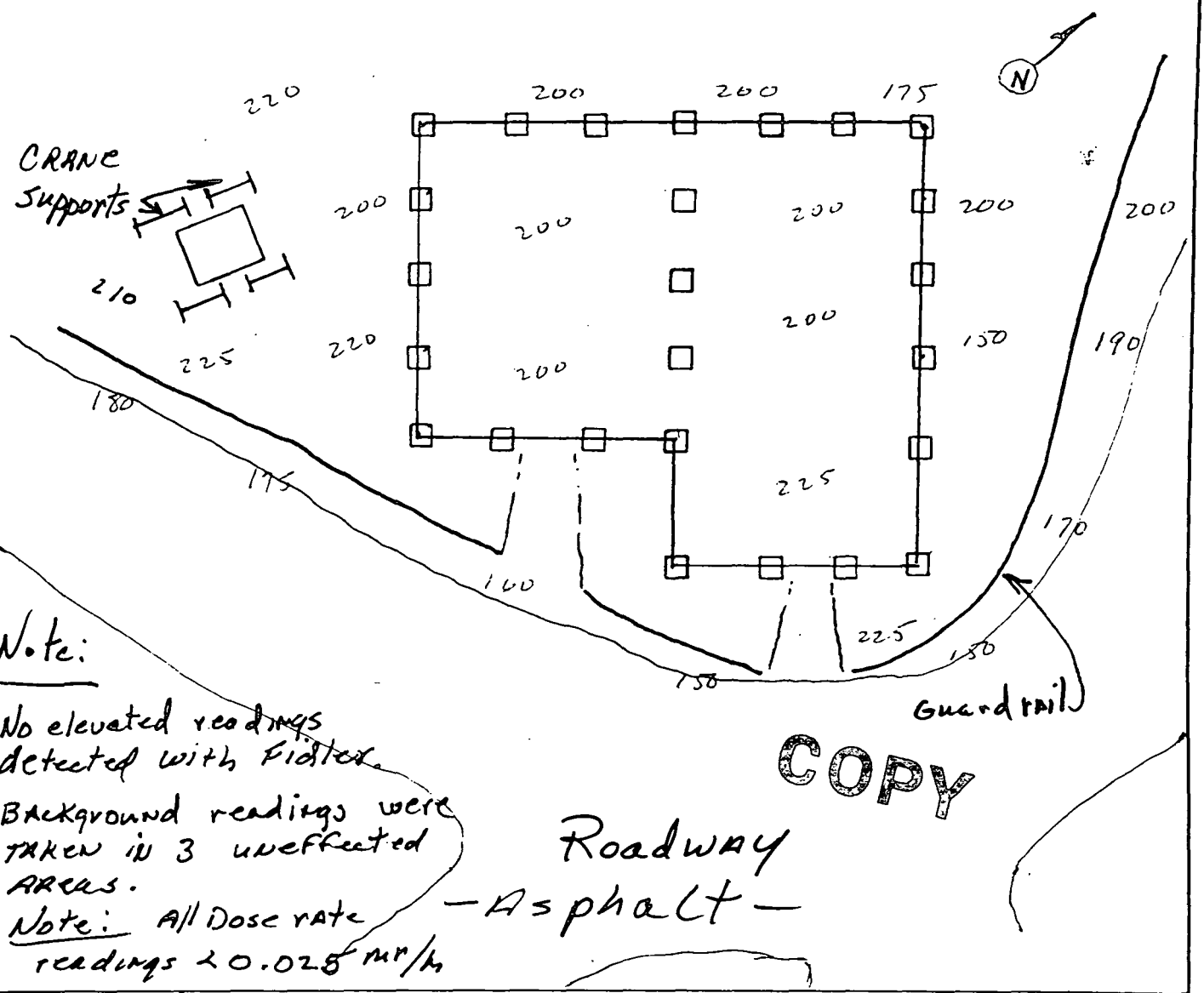
Appendix D

Radiological Summary

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) Bug Barn / Soil	SURVEY NO. 01-TF-1163
PURPOSE: Pre Job Survey	RWP NO. N/A
	DATE: 6-25-01
	TIME: 1000

MAP/DRAWING



Note:

No elevated readings detected with Fidler.

Background readings were taken in 3 unaffected areas.

Note: All Dose rate readings < 0.025 mr/h

COPY

LEGEND: # ~~= mrem/hr (γ) whole body~~ 2al 6-25-01 = cpm/surface; #5 ~~mrem/hr (β+γ+n) extremity on contact~~ 2al 6-25-01 reading with Fidler; △# = 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
Fidler	3853/3854	8-23-01
Bicron ZRem	3930	7-31-01
	N	
	A	

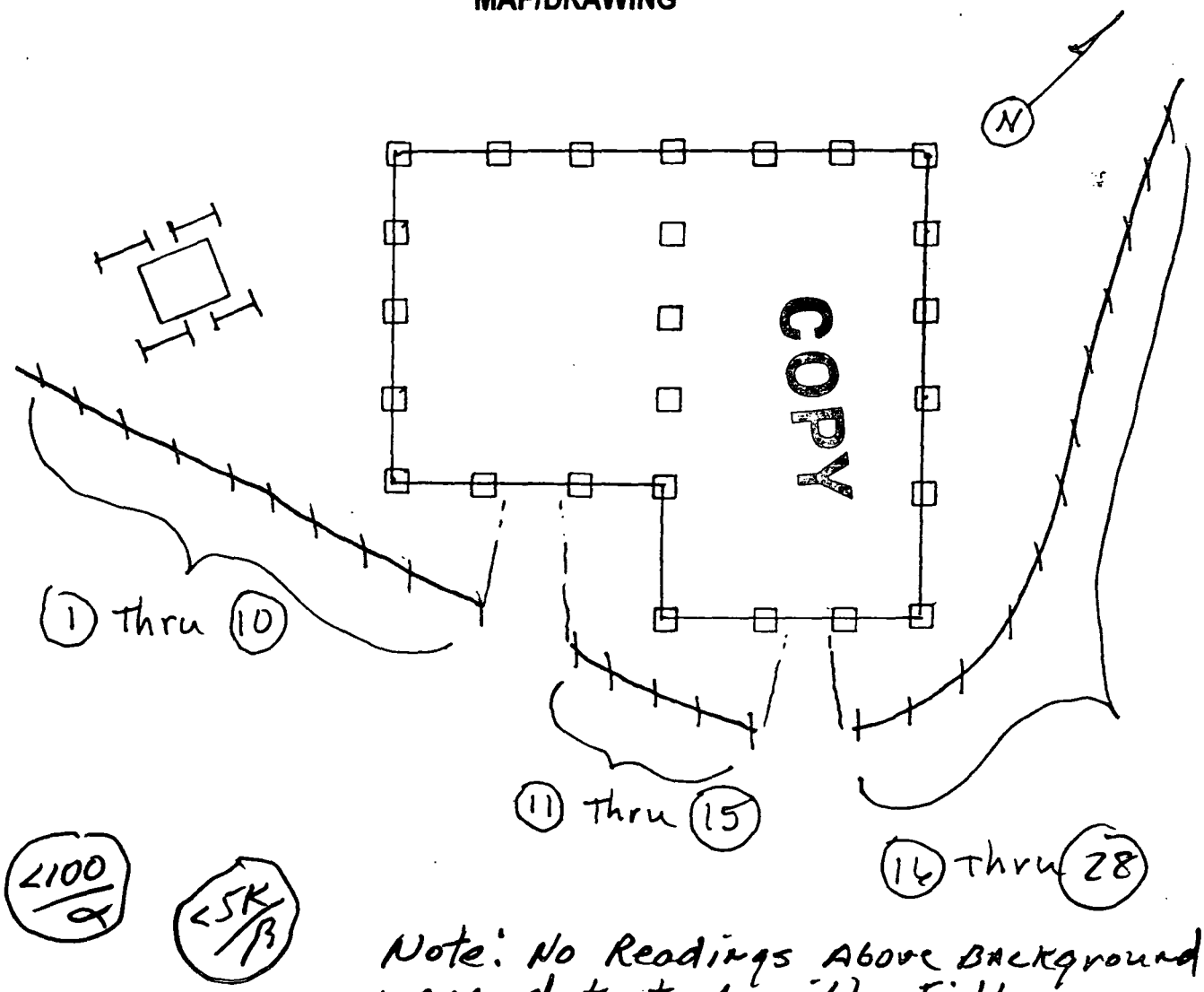
Completed by: (Signature) [signature]	HP # [redacted]	Date: 6-25-01
Completed by: (Print Name) TOM C. DAVIS		
Counted by: (Signature) N	HP #	Date:
Counted by: (Print Name) A		
Reviewed/Approved by: (Signature) CA Hill	HP # [redacted]	Date: 7-16-01
Reviewed/Approved by: (Print Name) C.A. Hill		

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) Bug Barn / Guard Rail	SURVEY NO. 01-TF-1181
PURPOSE: Job coverage. Survey of newly exposed surfaces as guard rail supports removed.	RWP NO. N/A
	DATE: 6-27-01
	TIME: 1200

MAP/DRAWING



Note: No Readings Above Background were detected with Fidler.

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	5364-5285	7-16-01
Fidler	3853-3954	8-23-01
	N	
	A	

Completed by: (Signature)	[redacted]	Date: 7-9-01
Completed by: (Print Name) Tom C. Davis		
Counted by: (Signature) R Smith-Brown	[redacted]	Date: 7/3/01
Counted by: (Print Name) R Smith-Brown		
Reviewed/Approved by: (Signature) C A Hill	[redacted]	Date: 7-12-01
Reviewed/Approved by: (Print Name) C.A. Hill		

for (ng)

ML-9620 (2-98)

Survey No. 01-TF 1181

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTA	CHED	Guard Rail
2				Posts
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
			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-9620A (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMEAR011
Batch Ended: 7/3/2001 9:55
Cal. Due Date: 4/25/2003
Serial Number: 26966-3

Batch ID: 01-TF-1181 DAVIS(28)

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	1.91		2.73	2.39	
A2	2	1.30	1.81		1.23	1.96	
A3	3	3.41	2.88		0.00	1.77	
A4	4	0.00	1.91		1.14	2.04	
B1	5	0.00	2.03		1.24	2.16	
B2	6	0.00	1.93		0.21	1.69	
B3	7	1.62	2.02		1.37	2.20	
B4	8	0.00	1.89		0.00	1.18	
C1	9	0.00	2.21		13.79	4.64	
C2	10	0.00	1.83		1.66	2.01	
C3	11	0.00	2.05		0.71	1.76	
C4	12	0.00	1.90		0.00	1.17	
D1	13	0.00	2.01		0.00	1.26	
D2	14	0.00	2.07		0.00	1.76	
D3	15	1.46	2.12		0.00	1.83	
D4	16	0.00	2.07		0.65	2.11	
A1	17	0.87	1.90		1.36	2.07	
A2	18	0.00	1.81		1.41	1.96	
A3	19	1.38	2.05		0.12	1.77	
A4	20	0.00	1.90		0.00	1.67	
B1	21	1.38	2.06		4.82	3.05	
B2	22	0.00	1.95		1.40	2.06	
B3	23	0.00	2.02		1.53	2.20	
B4	24	0.00	1.89		0.00	1.18	
C1	25	1.55	2.11		2.51	2.78	
C2	26	1.57	1.84		2.66	2.31	

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMEAR011
Batch Ended: 7/3/2001 9:55
Cal. Due Date: 4/25/2003
Serial Number: 26966-3

Batch ID: 01-TF-1181 DAVIS(28)

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
C3	27	0.00	2.08		4.43	2.78	
C4	28	0.00	1.93		2.88	2.32	

Time: 2.00
Data Mode: DPM Nuclide: H3 QUENCH Quench Set: H3QUENCH
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 -	18.6	0	0.0	7.17
Region B:	2.0 -	18.6	0	0.0	6.96
Region C:	40.0 -	2000	0	0.0	11.60

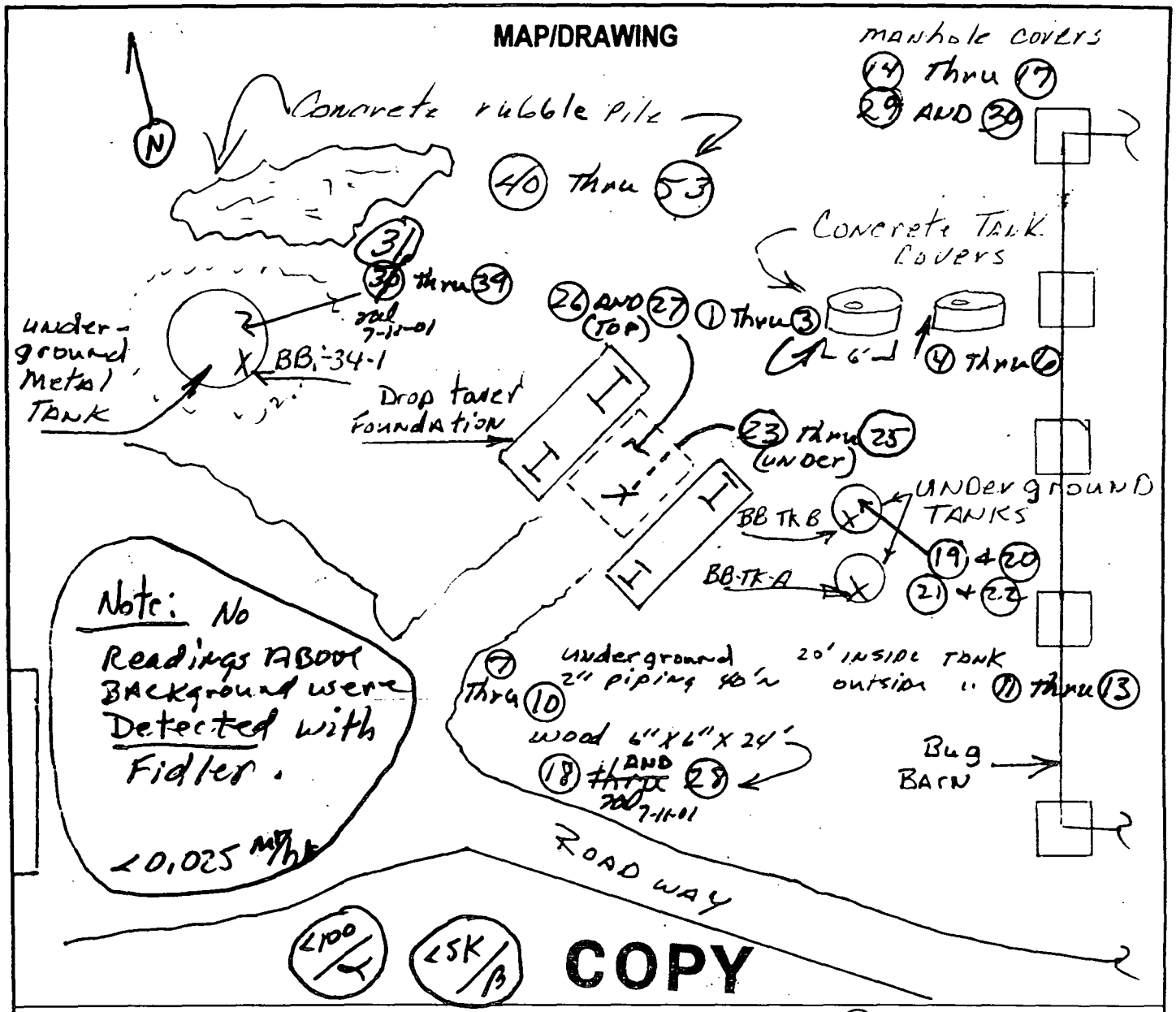
Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
01-TF-1181 DAVIS(30-25) 28 BSB
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\PROT3.DAT
Count Data Filename: c:\data\SDATA3.DAT
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	7.17	6.96	0	B	544.76		0.00	11.60
0	2.00	855.57	792.32	0		531.90	1780.35	160.60	0.87
1	2.00	0.00	0.00	0		489.93	0.00	0.00	0.00
2	2.00	0.83	0.88	0		535.67	1.72	9.01	0.00
3	2.00	2.15	2.35	0		558.85	4.36	9.42	0.00
4	2.00	2.28	2.36	0		516.26	4.81	9.85	0.40
5	2.00	0.00	0.00	0		426.46	0.00	0.00	0.00
6	2.00	0.33	0.54	0		403.45	0.81	10.33	0.00
7	2.00	0.00	0.00	0		466.73	0.00	0.00	0.00
8	2.00	0.00	0.00	0		552.58	0.00	0.00	0.00
9	2.00	0.00	0.00	0		212.87	0.00	0.00	3.40
10	2.00	0.00	0.00	0		315.85	0.00	0.00	0.00
11	2.00	0.00	0.00	0		482.79	0.00	0.00	0.00
12	2.00	1.72	1.42	0		542.71	3.54	9.37	0.00
13	2.00	0.00	0.00	0		660.03	0.00	0.00	0.00
14	2.00	0.00	0.00	0		385.17	0.00	0.00	0.00
15	2.00	0.00	0.00	0		503.67	0.00	0.00	0.00
16	2.00	1.70	1.57	0		630.52	3.24	8.66	0.00
17	2.00	0.00	0.00	0		561.07	0.00	0.00	0.00
18	2.00	0.00	0.00	0		546.71	0.00	0.00	0.00
19	2.00	0.33	0.04	0		546.13	0.68	8.68	0.00
20	2.00	0.00	0.00	0		487.46	0.00	0.00	0.00
21	2.00	0.00	0.00	0		567.68	0.00	0.00	0.00
22	2.00	0.00	0.00	0		613.70	0.00	0.00	4.40
23	2.00	0.83	0.91	0		516.55	1.75	9.17	0.00
24	2.00	0.00	0.00	0		367.09	0.00	0.00	3.40
25	2.00	0.00	0.00	0		368.80	0.00	0.00	0.00
26	2.00	0.00	0.00	0		491.41	0.00	0.00	0.00
27	2.00	0.00	0.00	0		597.58	0.00	0.00	0.00
28	2.00	0.00	0.00	0		476.52	0.00	0.00	0.00

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM)	SURVEY NO. 01-TF-1233
PURPOSE: CONFIRM CLEAN LIMITS SURVEY all items removed FROM SOIL, AND SCAN SOIL	RWP NO. N/A
	DATE: 7-11-01
	TIME: 0930

MAP/DRAWING



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	5285-5364	7-16-01
Fidler	3853-3854	8-23-01
Bicron	3900	7-31-01
	N	
	A	

Completed by: (Signature)	HP # [redacted]	Date: 7-12-01
Completed by: (Print Name) TOM C. DAVIS		
Counted by: (Signature) D Smith-Brown	HP # [redacted]	Date: 7/12/01
Counted by: (Print Name) D Smith-Brown		
Reviewed/Approved by: (Signature) CA Hill	HP # [redacted]	Date: 7-12-01
Reviewed/Approved by: (Print Name) C.A. Hill		

ML-9620 (2-98)

Survey No. 01-TF-1233

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTACHED		well Cover
2				
3				
4				
5				
6				
7				Piping
8				
9				
10				
11				
12				
13				
14				manhole Cover
15				
16				
17				
18				WOOD
19				TANK
20				
21				
22				
23				metal Plate
24				
25				
26				
27				
28				WOOD
29				manhole Cover
30				
31				TANK
32				
33				
34				
35				

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
36	SEE	ATTACHED		TANK
37				
38				
39				
40				Concrete
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				
51				
52				
53				
		N	A	

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.

ML-9620A (4-98)

zal

Alpha/Beta Analysis

Batch ID: 01-TF-1233 DAVIS(53) BSB

Batch File: Smear Unit 1 - 200107120755

Group: A

Device: Unit 1

Geometry: Swipe/Smear

Serial Number: 64937

Acquisition Date: 7/12/2001

Count Time (min): 1.5

Recalibration Date: 5/22/2003

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
1	135	3.61	5.66	2.77	4.68
2	112	0.00	0.66	3.93	5.21
3	12	0.00	0.66	0.51	3.40
4	78	3.61	5.66	0.50	3.40
5	93	1.62	4.03	2.78	4.68
6	85	5.59	6.91	2.77	4.69
7	7	0.00	0.66	2.79	4.68
8	100	3.61	5.66	0.50	3.40
9	10	1.62	4.03	2.78	4.68
10	7	3.61	5.66	1.64	4.09
11	39	1.62	4.03	5.06	5.68
12	129	1.62	4.03	0.51	3.40
13	9	3.61	5.66	2.77	4.68
14	42	0.00	0.66	2.79	4.68
15	111	1.62	4.03	0.51	3.40
16	75	0.00	0.66	8.48	6.91
17	107	3.60	5.66	3.91	5.21
18	125	3.60	5.66	3.91	5.21
19	10	0.00	0.66	0.51	3.40
20	60	5.59	6.91	5.04	5.68

zal zal

Alpha/Beta Analysis

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
21	23	3.60	5.66	5.05	5.68
22	109	1.62	4.03	0.51	3.40
23	5	0.00	0.66	3.93	5.21
24	13	0.00	0.66	3.93	5.21
25	86	0.00	0.66	1.65	4.09
26	13	0.00	0.66	0.51	3.40
27	30	3.61	5.66	2.77	4.68
28	59	1.62	4.03	3.92	5.21
29	4	5.59	6.91	5.04	5.68
30	17	5.59	6.91	3.90	5.21
31	12	0.00	0.66	3.93	5.21
32	138	5.59	6.91	1.63	4.10
33	124	1.62	4.03	3.92	5.21
34	132	3.60	5.66	3.91	5.21
35	58	3.61	5.66	2.77	4.68
36	73	1.62	4.03	0.51	3.40
37	142	0.00	0.66	5.06	5.68
38	119	1.62	4.03	6.19	6.12
39	62	5.59	6.91	2.77	4.69
40	2	0.00	0.66	5.06	5.68
41	33	1.62	4.03	2.78	4.68
42	85	1.62	4.03	1.64	4.09
43	72	1.62	4.03	1.64	4.09
44	29	3.60	5.66	6.19	6.12
45	33	1.62	4.03	2.78	4.68
46	35	0.00	0.66	0.00	2.53
47	128	3.61	5.66	2.77	4.68

Alpha/Beta Analysis

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
48	64	0.00	0.66	0.00	2.53
49	37	1.62	4.03	3.92	5.21
50	3	0.00	0.66	0.51	3.40
51	144	0.00	0.66	0.51	3.40
52	11	1.62	4.03	1.64	4.09
53	17	1.62	4.03	2.78	4.68

Time: 2.00
Data Mode: DPM Nuclide: H3 QUENCH Quench Set: H3QUENCH
Background Subtract: 1st Vial

	LL	UL	LOR	25%	BKG
Region A:	0.5	- 18.6	0	0.0	7.62
Region B:	2.0	- 19.0	0	0.0	7.21
Region C:	40.0	- 2000	0	0.0	10.41

Quench Indicator: tSIE AEC
Ext Std Terminator: Count
01-TP-1230 04/13/00-05:53 BEB
Luminescence Correction On
Coincidence Timeins): 18
Delay Before Burstins): Normal
Protocol Data Filename: C:\DATA\PROT2.dat
Count Data Filename: C:\DATA\SDATA2.DAT
Spectrum Data Drive & Path: C:\DATA

S#	TIME	CPM1	TIME	LUM	FLAG	tSIE	DPM1	2SIGMA	CPMC
-1	10.00	7.62	7.21	0	B	543.81		0.000	10.41
0	2.00	480.10	472.40	0		492.00	958.96	79.940	2.09
1	2.00	1.58	1.57	0		557.22	2.97	8.726	0.00
2	2.00	8.88	7.79	0		591.66	16.23	11.012	0.00
3	2.00	2.12	2.19	0		588.52	4.07	8.746	3.02
4	2.00	3.87	4.28	0		581.40	7.15	9.427	6.29
5	2.00	5.32	5.27	0		611.58	9.67	9.706	6.19
6	2.00	14.06	17.35	0		619.91	25.12	12.239	11.09
7	2.00	0.82	1.25	0		470.91	1.79	8.122	0.00
8	2.00	6.38	5.18	0		570.92	11.87	10.391	7.59
9	2.00	8.09	7.67	0		540.84	15.47	11.250	0.59
10	2.00	0.00	0.00	0		577.02	0.00	0.000	1.59
11	2.00	0.00	0.00	0		560.57	0.00	0.000	5.09
12	2.00	0.00	0.00	0		398.71	0.00	0.000	12.71
13	2.00	3.14	3.50	0		475.57	6.36	10.059	6.09
14	2.00	13.29	15.35	0		544.04	25.32	12.833	13.59
15	2.00	6.38	6.52	0		594.19	11.64	10.187	8.32
16	2.00	7.48	6.40	0		585.54	13.76	10.626	9.09
17	2.00	12.32	12.79	0		601.34	22.45	11.959	13.09
18	2.00	8.91	9.17	0		574.46	16.54	11.186	10.03
19	2.00	6.86	6.71	0		493.51	13.72	11.314	17.09
20	2.00	2.38	1.59	0		556.24	4.48	9.054	0.69
21	2.00	1.88	2.29	0		586.78	3.45	8.625	5.59
22	2.00	12.81	11.41	0		518.63	24.98	12.984	1.54
23	2.00	1.38	0.79	0		553.30	2.60	8.673	1.59
24	2.00	5.57	5.38	0		500.89	11.03	10.762	6.09
25	2.00	3.38	3.08	0		563.82	6.33	9.380	7.09
26	2.00	0.00	0.00	0		610.45	0.00	0.000	6.09
27	2.00	2.38	2.79	0		597.98	4.32	8.736	6.09
28	2.00	2.06	1.23	0		601.98	3.73	8.585	3.09
29	2.00	6.38	5.57	0		569.33	11.89	10.405	0.00
30	2.00	4.38	4.29	0		558.69	8.23	9.794	3.59
31	2.00	2.07	1.98	0		513.32	4.05	9.280	5.59
32	2.00	0.49	0.00	0		496.42	0.98	8.734	0.00
33	2.00	1.88	2.24	5		475.24	3.81	9.529	3.61
34	2.00	1.38	1.72	0		483.25	2.77	9.240	3.09

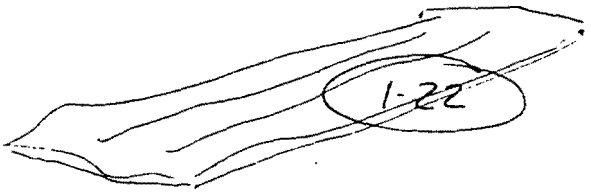
S#	TIME	CPMA	CPMB	LUM	FLAG	tIME	DPM1	SIGMA	CPMC
35	2.00	0.34	0.13	0		517.30	0.67	8.501	0.59
36	2.00	0.00	0.00	0		488.00	0.00	0.000	3.59
37	2.00	0.38	0.29	0		512.91	0.73	8.445	0.00
38	2.00	3.38	3.67	0		532.72	6.48	9.608	2.09
39	2.00	2.38	2.12	0		542.52	4.54	9.164	1.00
40	2.00	0.00	0.10	0		787.17	0.00	0.000	0.00
41	2.00	1.98	2.39	0		618.17	2.55	8.461	0.59
42	2.00	1.38	0.55	0		574.24	1.32	8.317	2.54
43	2.00	6.32	5.33	0		615.75	11.47	10.004	7.59
44	2.00	0.00	0.00	0		591.46	0.00	0.000	1.55
45	2.00	0.00	0.00	0		541.75	0.00	0.000	1.09
46	2.00	2.31	2.38	0		534.55	4.08	8.467	0.00
47	2.00	0.00	0.00	0		591.14	0.00	0.000	0.00
48	2.00	0.00	0.00	0		615.40	0.00	0.000	1.09
49	2.00	2.05	1.97	0		627.57	3.65	8.425	4.09
50	2.00	0.88	1.29	0		567.07	1.64	8.364	0.59
51	2.00	0.00	0.00	0		580.96	0.00	0.000	2.59
52	2.00	0.00	0.00	0		521.36	0.00	0.000	1.09
53	2.00	0.00	0.00	0		538.54	0.00	0.000	2.09

RSDS # 01-TF-1233

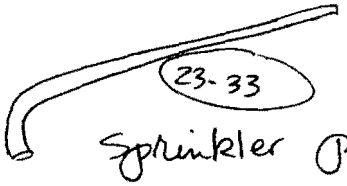
RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) East end of long barn.	SURVEY NO. 01-TF-1252
PURPOSE: Cursory survey prior to exiting for disposal	RWP NO. N/A
	DATE: 7-16-01
	TIME: 1230

MAP/DRAWING

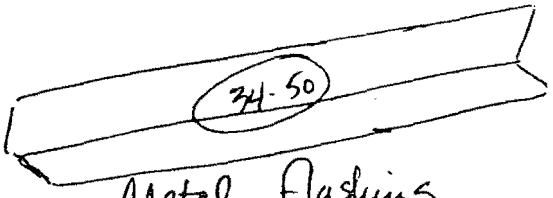


Fiberglass roofing sheets



Sprinkler piping

COPY



Metal flashing

Results of direct readings were <100. dpm/100 cm² α.
No γ readings above background were measured (<10 μr.)
Direct β⁻ readings were not attainable with NE Electra, due to intensity of light (reflected sunlight.)

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	5599/5600	12-11-01
Bicron μr	3930	7-31-01
Bicron Fidler	3716/3713	9-2-01
	N	
	A	

Completed by: (Signature)	HP # [redacted]	Date: 7-19-01
Completed by: (Print Name) Gary Wood		
Counted by: (Signature)	[redacted]	Date: 7/16/01
Counted by: (Print Name) L Smith-Brown		
Reviewed/Approved by: (Signature)	HP # [redacted]	Date: 7-19-01
Reviewed/Approved by: (Print Name) C.A. Hill		

ML-9620 (2-98)

11.4 (ED) Dxl

Survey No. 01-TF-1252

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE ATTACHED		SHEETS	Fiberglass Roofing
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				Sprinkler pipe
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				Flashing
35				

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
36	SEE ATTACHED		SHEET	Flashing
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				
N				
A				

COMMENTS: Swipes were field counted, with results < 1K dpm/100 cm² α, β-

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 needed, mark N/A.

Alpha/Beta Analysis

Batch ID: 01-TF-1252 WOOD(50) BSB

Batch File: Smear Unit 1 - 200107161622

Group: F

Device: Unit 1

Geometry: Swipe/Smear

Serial Number: 64937

Acquisition Date: 7/16/2001

Count Time (min): 1.5

Recalibration Date: 5/22/2003

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
1	13	1.62	4.03	0.51	3.40
2	39	0.00	0.66	0.51	3.40
3	100	3.61	5.66	2.77	4.68
4	49	0.00	0.66	0.51	3.40
5	115	0.00	0.66	6.20	6.12
6	47	7.58	7.98	1.62	4.10
7	117	5.59	6.91	1.63	4.10
8	136	0.00	0.66	1.65	4.09
9	68	3.61	5.66	2.77	4.68
10	12	1.62	4.03	3.92	5.21
11	70	0.00	0.66	0.00	2.53
12	17	3.61	5.66	0.50	3.40
13	132	9.57	8.91	1.61	4.10
14	14	0.00	0.66	2.79	4.68
15	144	0.00	0.66	5.06	5.68
16	93	3.61	5.66	1.64	4.09
17	25	1.62	4.03	2.78	4.68
18	107	3.61	5.66	1.64	4.09
19	96	1.62	4.03	1.64	4.09
20	113	1.62	4.03	1.64	4.09

✓ DW ✓ DW

Alpha/Beta Analysis

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
21	39	1.62	4.03	2.78	4.68
22	20	0.00	0.66	3.93	5.21
23	76	3.60	5.66	3.91	5.21
24	39	3.61	5.66	2.77	4.68
25	148	1.62	4.03	5.06	5.68
26	130	3.60	5.66	6.19	6.12
27	15	0.00	0.66	1.65	4.09
28	5	1.62	4.03	2.78	4.68
29	38	3.61	5.66	2.77	4.68
30	140	0.00	0.66	1.65	4.09
31	29	5.59	6.91	2.77	4.69
32	139	0.00	0.66	1.65	4.09
33	40	1.62	4.03	0.51	3.40
34	113	0.00	0.66	0.51	3.40
35	15	1.62	4.03	5.06	5.68
36	146	0.00	0.66	2.79	4.68
37	39	5.59	6.91	3.90	5.21
38	43	0.00	0.66	2.79	4.68
39	25	0.00	0.66	2.79	4.68
40	17	0.00	0.66	6.20	6.12
41	74	0.00	0.66	2.79	4.68
42	129	3.61	5.66	1.64	4.09
43	139	9.56	8.91	6.17	6.13
44	140	1.62	4.03	5.06	5.68
45	1	1.62	4.03	5.06	5.68
46	140	5.59	6.91	1.63	4.10
47	37	1.61	4.03	9.61	7.28

✓ DW ✓ DW

Alpha/Beta Analysis

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
48	1	0.00	0.66	2.79	4.68
49	47	1.62	4.03	2.78	4.68
50	19	5.59	6.91	6.18	6.12

Time: 2.00
Data Mode: DPM Nuclide: H3 QUENCH Quench Set: H3QUENCH
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5	18.6	0	0.0	7.00
Region B:	2.0	18.6	0	0.0	6.93
Region C:	40.0	2000	0	0.0	11.60

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
01-TF-1252 4000(50) 30-25 BSB
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

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
-1	10.00	7.00	6.93	11.60	655.31	0	B		0.00
0	2.00	684.20	658.66	1.90	535.40	0		1390.37	126.80
1	2.00	1.50	0.89	1.90	548.57	6		3.01	8.94
2	2.00	1.63	0.45	5.39	536.94	0		3.17	5.71
3	2.00	0.00	0.00	8.40	571.94	0		0.00	0.00
4	2.00	1.50	1.07	2.97	570.60	0		2.96	8.79
5	2.00	3.50	3.31	4.40	593.32	0		6.77	9.48
6	2.00	1.00	0.75	0.00	428.22	0		1.88	9.19
7	2.00	0.00	0.00	0.00	600.05	0		0.00	1.77
8	2.00	0.50	0.00	0.00	600.96	0		0.96	8.11
9	2.00	3.05	1.88	4.40	582.08	0		5.95	9.36
10	2.00	1.00	0.98	0.00	498.87	0		2.11	9.17
11	2.00	2.38	2.45	0.00	601.81	0		4.57	8.93
12	2.00	2.50	2.57	2.52	583.20	0		4.88	9.13
13	2.00	2.39	2.46	0.90	572.39	0		4.70	9.18
14	2.00	5.00	4.54	2.90	454.35	0		11.16	11.54
15	2.00	1.00	0.77	0.00	616.67	0		1.90	8.23
16	2.00	0.00	0.00	0.00	512.96	0		0.00	0.00
17	2.00	1.01	0.59	0.00	609.68	0		1.93	8.28
18	2.00	2.11	2.18	1.90	585.69	0		4.11	8.93
19	2.00	4.26	4.01	0.04	624.16	0		8.03	9.51
20	2.00	0.00	0.00	3.58	609.39	0		0.00	0.00
21	2.00	0.00	0.00	0.00	651.15	0		0.00	0.00
22	2.00	4.00	4.07	3.65	579.71	0		7.83	9.76
23	2.00	0.00	0.00	0.00	467.57	0		0.00	0.00
24	2.00	6.50	6.20	0.00	553.18	0		13.01	10.97
25	2.00	2.50	2.31	2.90	597.67	0		4.82	9.01
26	2.00	0.00	0.00	0.00	600.40	0		0.00	0.00
27	2.00	0.50	0.57	0.00	591.95	0		0.97	8.17
28	2.00	4.72	4.48	2.90	621.98	0		8.92	9.70
29	2.00	4.00	3.35	1.86	573.79	0		7.87	9.81
30	2.00	0.50	0.33	0.00	583.42	0		0.98	8.23
31	2.00	0.00	0.00	0.42	516.55	0		0.00	0.00
32	2.00	2.19	2.07	0.90	574.23	0		4.31	9.05
33	2.00	3.50	3.57	0.00	551.79	0		7.01	9.79
34	2.00	2.21	1.79	0.00	591.98	0		4.29	8.93
35	2.00	3.56	3.50	0.00	522.81	0		7.31	10.06

RSDS # 01-TF-1252 7 of 1

17 Jul 2001 08:06 ALPHA/BETA - 1.09 Page #2 D

Protocol #: 1 PW H3 #403727 User : 526

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM FLAG	DPM1	2SIGMA
36	2.00	1.00	0.52	0.90	600.55	0	1.92	8.34
37	2.00	0.00	0.00	0.00	556.73	0	0.00	0.00
38	2.00	2.00	1.57	1.40	581.54	0	3.91	8.92
39	2.00	3.00	3.07	0.00	580.24	0	5.87	9.35
40	2.00	2.78	2.71	3.90	527.83	0	5.69	9.68
41	2.00	3.50	3.06	0.90	591.86	0	6.78	9.46
42	2.00	0.10	0.00	0.00	585.00	0	0.19	8.03
43	2.00	2.89	2.80	0.00	543.04	0	5.84	9.60
44	2.00	0.00	0.00	3.70	522.66	0	0.00	0.00
45	2.00	3.94	4.01	1.90	575.38	0	7.73	9.77
46	2.00	0.00	0.00	0.00	566.73	0	0.00	0.00
47	2.00	1.09	0.57	0.40	495.26	0	2.32	9.22
48	2.00	0.00	0.00	0.00	595.19	0	0.00	0.00
1 MISSING TUBE(S)								
50	2.00	1.50	1.57	0.00	594.37	0	2.90	8.60

#49 caught in 5100 7/17/01

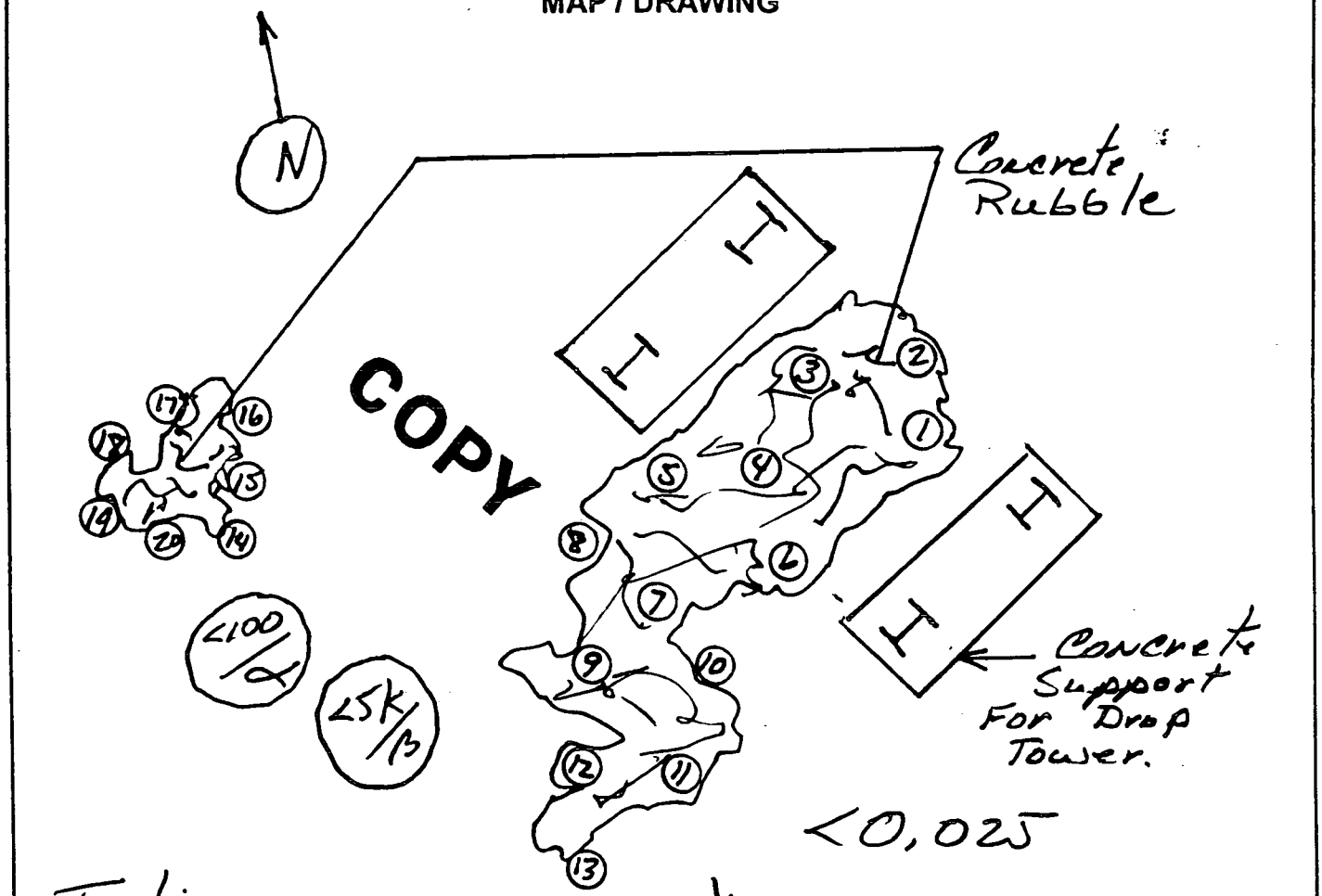
✓ DW

K-1/K-27 P3 T409

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG. / ROOM / AREA) West of Bug Barn/Outside	SURVEY NO. 01-TF-1263
PURPOSE: Confirm Clean Limits on Items Removed From Soil.	RWP NO. N/A
	DATE: 07-17-01
	TIME: 0910

MAP / DRAWING



Tool:
Hammer Tip — 21
Left Track O/S — 22
Right Track O/S I/S — 23
" " — 24

*No elevated Readings were detected with The Fidler.
Bkgrd Concrete 150, soil 200 ±20

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
K = factor of 1000
— · — · · = radiological boundary
△# = mrem/hr neutron
(#) = swipe number
[#] = air sample number
(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
Bicron U Rem	3930	7-31-01
NE Electra	5267-5440	11-15-01
Fidler	3716-3713	9-2-01
	N/A	

Completed by: (Signature)	[redacted]	Date: 7-19-01
Completed by: (Print Name)	Tom C. DAVIS	
Counted by: (Signature)	[redacted]	Date: 7-18-01
Counted by: (Print Name)	Kay HUDAK	
Reviewed/Approved by: (Signature)	[redacted]	Date: 7/28/01
Reviewed/Approved by: (Print Name)	V. FILEPPI	

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Survey No. 01-TF-1263

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1-20	SEE	ATTACHED		Concrete
21-24		*		Tool

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

COMMENTS: * BKgnd is in CPM, CN-1

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 needed, mark N/A.

ML-9620A (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Red
Data file name: SMEAR007
Batch Ended: 7/18/2001 13:48

Crosstalk correction performed.

Recalibration Date: 11/8/2001
Serial Number: 26966-2

Batch ID: T 01-TF-1263 [24] DAVIS 7-18-01 RLH

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.0	2.1		1.8	2.3	
A2	2	0.0	2.1		3.2	2.6	
A3	3	0.0	1.9		0.7	1.8	
A4	4	0.0	1.9		0.0	1.3	
B1	5	0.0	2.2		2.3	2.6	
B2	6	0.0	2.0		0.8	2.3	
B3	7	0.0	1.9		2.0	2.4	
B4	8	0.0	1.9		2.4	2.7	
C1	9	0.0	2.0		1.3	2.2	
C2	10	0.0	2.2		0.0	1.6	
C3	11	0.0	1.9		0.0	1.3	
C4	12	0.0	2.0		2.7	2.5	
D1	13	0.0	2.1		0.0	1.5	
D2	14	0.0	2.1		0.0	2.0	
D3	15	0.0	2.1		5.4	3.1	
D4	16	0.0	2.0		0.0	1.4	
A1	17	1.6	2.1		0.0	1.4	
A2	18	1.6	2.1		0.0	1.4	
A3	19	1.3	1.9		0.0	1.3	
A4	20	0.0	1.9		1.0	1.7	
B1	21	1.7	2.1		0.0	1.9	
B2	22	0.0	2.0		0.8	2.3	
B3	23	0.0	1.9		0.0	1.4	
B4	24	0.0	1.9		0.1	2.1	

Time: 2.00
Data Mode: DPM Nuclide: SM6L2 Quench Set: SM_GLASS
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 -	18.6	0	0.0	4.10
Region B:	2.0 -	18.6	0	0.0	3.93
Region C:	40.0 -	2000	0	0.0	4.50

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
T 01-TF-1263 [X1-X24] DAVIS 7-18-01 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\SDATA3.DAT
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	4.10	0	B	677.91		0.00	4.50
0	2.00	961.15	0		580.10	1965.35	148.27	0.00
1	2.00	1.40	9		660.79	2.68	6.80	0.50
2	2.00	1.10	18		566.96	2.27	7.17	0.21
3	2.00	0.40	0		594.73	0.81	6.59	1.00
4	2.00	2.40	8		664.40	4.58	7.31	0.00
5	2.00	0.00	0		631.71	0.00	0.00	0.50
6	2.00	0.00	14		670.46	0.00	0.00	0.00
7	2.00	0.00	0		671.44	0.00	0.00	0.00
8	2.00	0.90	0		635.35	1.76	6.66	0.50
9	2.00	0.00	33		594.68	0.00	0.00	0.00
10	2.00	1.40	9		627.78	2.75	6.99	1.00
11	2.00	0.00	0		679.27	0.00	0.00	4.00
12	2.00	0.09	0		620.24	0.18	6.26	0.00
13	2.00	1.92	0		669.37	3.66	7.05	0.00
14	2.00	0.00	0		614.06	0.00	0.00	0.00
15	2.00	0.00	0		639.73	0.00	0.00	0.00
16	2.00	0.00	0		465.86	0.00	0.00	0.00
17	2.00	0.00	0		542.46	0.00	0.00	0.00
18	2.00	1.40	9		483.87	3.14	7.97	0.00
19	2.00	0.00	0		578.38	0.00	0.00	0.00
20	2.00	0.40	0		620.17	0.79	6.45	0.29
21	2.00	1.40	0		561.24	2.91	7.39	0.00
22	2.00	0.00	0		483.13	0.00	0.00	0.00
23	2.00	0.00	20		492.00	0.00	0.00	0.50
24	2.00	0.00	0		574.41	0.00	0.00	0.00

Appendix E

PRS Information

Recommendation pages are not generated for PRSs that require Further Assessment (FA). Accordingly, there are no recommendation pages included for PRSs 67 and 69.

MOUND PLANT
PRS 345
FORMER EQUIPMENT STORAGE SITE
NEAR AREA C

RECOMMENDATION:

The area became a Potential Release Site (PRS) because it was used by contractors in the 1980s as an equipment yard and staging area. The area was erroneously associated with both the Area C (Lithium Burn Area) and the Past Hazardous Waste Storage Facility in the OU9 Site Scoping Report: Volume 12 - Site Summary Report. There is no relationship between this location and operations conducted at either the Past Hazardous Waste Storage Facility or Area C. No radioactive or hazardous waste generating processes are known to have occurred at this location. Sampling investigations within this PRS resulted in no detections for all volatile organic compounds (VOCs). Additionally, plutonium-238 is below the Mound As Low As Reasonably Achievable (ALARA) goal of 25 pCi/g and the 10^{-5} Guideline Value of 55 pCi/g. Thorium concentrations were below the regulatory standard of 5 pCi/g surface. Therefore, it is recommended that NO FURTHER ASSESSMENT is required for PRS 345.

CONCURRENCE:

DOE/MB: Arthur W. Kleinrath, Remedial Project Manager — 5/8/96 (date)

USEPA: Timothy J. Fischer, Remedial Project Manager — 5/8/96 (date)

OHIO EPA: Brian K. Nickel, Project Manager — 5/8/96 (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 6/18/96 6/19/96 to 7/15/96 7/17/96

☒ No comments were received during the comment period.

☐ Comment responses can be found on page_____ of this package.

MOUND PLANT
PRS 351/352/353/357/359/360/361/362/385/386/387
SOIL CONTAMINATION

RECOMMENDATION:

PRSs 351, 352, 353, 357, 359, 360, 361, 362, 385, 386, and 387 are located in the western sector of the original Mound plant. These soil locations were identified as PRSs due to qualitative hydrocarbon detections found during the PETREX soil gas portion of the ***OU5, Non Area of Concern*** investigation. No radioactive or hazardous waste generating processes or activities are known to have occurred at these PRSs.

In 1996, the Soil Gas Confirmation sampling effort sampled the locations with the highest ion counts (confirmation sample locations 7, 11, and 18) in the western sector and discovered no contamination above the 10^{-6} risk range. PRSs 351, 352, 353, 357, 359, 360, 361, 362, 385, 386, and 387 were not sampled as part of the *Soil Gas Confirmation Sampling* but the PRSs had lower ion counts than confirmation sample locations 7, 11, and 18. This implies that these PRSs will have similar or lower health risk.

All radiological samples collected near these PRSs indicate that radionuclides are below their applicable 10^{-6} Risk Based Guideline Criteria, ALARA, regulatory, or background levels. Therefore, NO FURTHER ASSESSMENT is recommended.

CONCURRENCE:

DOE/MB: Arthur W. Kleinrath 11/20/96
Arthur W. Kleinrath, Remedial Project Manager (date)

USEPA: Timothy J. Fischer 11/20/96
Timothy J. Fischer, Remedial Project Manager (date)

OEPA: Brian K. Nickel 11/26/96
Brian K. Nickel, Project Manager (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 12/19/96 to 1/23/97

☒ No comments were received during the comment period.

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

Page R

MOUND PLANT
PRS 354
SOIL CONTAMINATION

RECOMMENDATION:

Potential Release Site (PRS) 354 was identified due to detections of plutonium found during the Mound Soil Screening Analysis performed as part of the June 1994 OU5, Operational Area Phase I Investigation. This location is in the southern sector of the Mound Plant, with no known history of radiological or hazardous chemical processes or activities. All measured thorium concentrations are below Regulatory Criteria and plutonium concentrations are at or below the 10^{-5} Risk Based Guideline Value. Therefore, NO FURTHER ASSESSMENT is recommended for PRS 354.

CONCURRENCE:

DOE/MEMP: Arthur Kleinrath 8/7/97
Arthur W. Kleinrath, Remedial Project Manager (date)

USEPA: Timothy J. Fischer 8/7/97
Timothy J. Fischer, Remedial Project Manager (date)

OEPA: Brian K. Nickel 8/7/97
Brian K. Nickel, Project Manager (date)

SUMMARY OF COMMENTS AND RESPONSES:

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

☐ No comments were received during the comment period.

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