3001 040615-0011

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

CH2MHILL

ER-047/03
March 6, 2003

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

ATTENTION: Robert S. Rothman

SUBJECT: Contract No. DE-AC24-03OH20152
PRS PACKAGES, FINAL

REFERENCE: Statement of Work Requirement 039 – PRS Documentation

Dear Mr. Provencher:

Rob Rothman from your office has approved the release of the following documents:

- PRS 282 Package, Final
- PRS 124 Package, Final
- PRS ~~430~~ 440 Package, Final
- PRS 437-439 Package, Final
- PRS 423-428 Package, Final

No document changes were required based on public comments. If you or members of your staff have any questions regarding the documents, or if additional support is needed, please contact Dave Rakel at extension 4203.

Sincerely,

Monte A. Williams
Deputy Project Manager, Environmental Restoration

MAW/KMA:jdg

Enclosures

cc: David Seely, USEPA, (1) w/attachment
Brian Nickel, OEPA, (1) w/attachment
Ruth Vandegrift, ODH, (1) w/attachment
Paul Lucas, DOE/MCP, (1) w/attachment
Randy Tormey, DOE/OH, (1) w/attachment
Terry Tracy, DOE/HQ, (1) w/attachment
Dann Bird, MMCIC, (3) w/attachment
J. D. Bonfiglio, MESH, (1) w/attachment
John Fulton, CH2M HILL, w/o attachment
Monte Williams, CH2M HILL, (2) w/attachment
Dave Rakel, CH2M HILL, w/o attachment
Gene Valett, CH2M HILL, w/o attachment
Public Reading Room, (4) w/attachment
Admin Records, (2) w/attachment
DCC, (1) w/attachment

MOUND

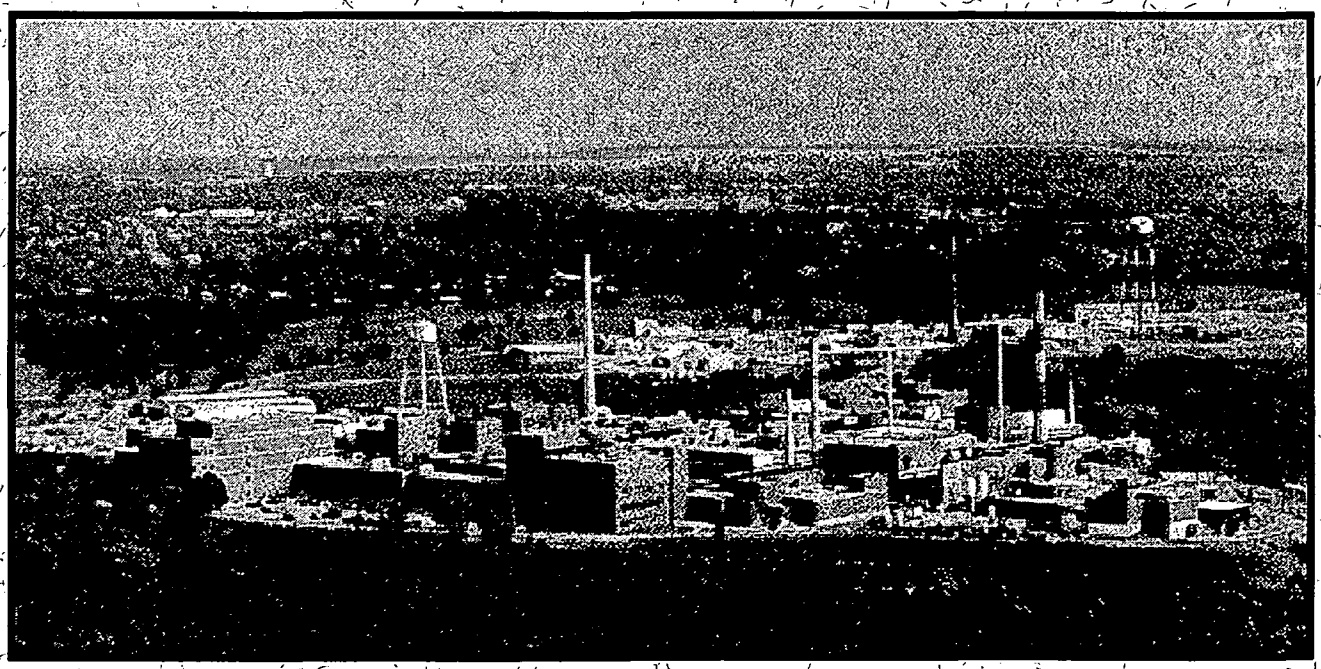
Environmental Restoration Program

Miamisburg Closure Project

Potential Release Site Package

PRS 440

Final
March 2003



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

January 2003

Mr. J. D. Bonfiglio
MESH Advisor
Paragon Associates
89224 Evan Court
Suite 11
Springboro, OH 45066

Dear Mr. Bonfiglio:

The Core Team, consisting of the U.S. Department of Energy Miamisburg Closure Project (DOE-MCP), U.S. Environmental Protection Agency (USEPA), and the Ohio Environmental Protection Agency (OEPA), appreciates your comments on the PRS 423-428, 437-439, and 440 Packages. Attached are our responses.

Should the responses to comments require additional detail, please contact Rob Rothman at (937) 865-3823 and we will gladly arrange a meeting or telephone conference.

Sincerely,

DOE/MCP: 2/27/03
Robert S. Rothman, Remedial Project Manager date

USEPA: 2/2/03
Timothy J. Fischer, Remedial Project Manager date

OEPA: 1/24/03
Brian K. Nickel, Project Manager date

TO: Sharon Cowdrey, MESH **cc:** Paul Lucas, DOE
FROM: J.D. Bonfiglio, MESH
DATE: 11/28/02
SUBJECT: THREE PUBLIC REVIEW DRAFTS ISSUED NOV. 2002 COVERING 10 PRS's

- PRS 423 Through 428 (6)
- PRS 437 Through 439 (3)
- PRS 440 (1)

- PRS 423 – 428 (6) were main hill underground lines running from "H" Building to "WD" Building. Appropriately named "UGLYS" (underground lines) the 6 PRS's comprise about 1100 linear feet of waste lines. These carried radioactive wastes of multiple RADS. At least 8 of these reported in Table 1 had maximum soil analysis values above the guideline value (GV) 10^{-6}.

  These are as follows:

CONTAMINANT	MAXIMUM (pCi/g)	GUIDELINE 10^{-6} VALUE (pCi/g)
COBALT 60	5.01	0.10
CESIUM 137 + D	0.62	0.46
RADIUM 226 + D	30.80	0.14
ACTINIUM 227 + D	9.68	1.00
THORIUM 230 + D	85.12	0.13
THORIUM 232 + D	90.43	0.11
PLUTONIUM 238	329,100	55(10^{-5})
AMERICIUM 241	711.40	4.95

  It is not surprising to see such high values within these waste line PRS's. The Core Team on 7/18/01 signed a response action recommendation, but it has taken until 11/02 (16 months later) for this Public Review Draft to be issued. Apparently more stringent priorities e.g. PRS 66 etc. precluded earlier resolution. The bulk of this document (and the 2 to follow) contain many appendix entries with reference data of many years earlier.

  What this report lacks is when these 6 PRS's will be remediated. Even a hint is better than nothing. Can we put some date on this?

- PRS 437-439 (3) are similar waste lines to the previous except these are lines from manhole 20.
  To "WD" Building. These "UGLY" segments cover about 450 linear feet of waste lines. Manhole 20 first went to /through "SW" Building enroute to "WD" Building. This time 4 contaminants of concern are identified.

CONTAMINANT	MAXIMUM DETECTED	GUIDELINE CRITERIA
BERYLLIUM	0.78 mg/kg	0.70 mg/kg (10^{-6})
PU238	225 pCi/g	55 pCi/g (10^{-5})
TH232 + D	2.2 pCi/g	0.07 pCi/g (10^{-6})
TRITIUM	324996 pCi/g	20000 pCi/L (MCL)

NOTE: Consistency in full names and 10^{-5} or 10^{-6} etc. Would be better.

As with the previous Public Review Draft (6 PRS's), the Core Team again signed off on 7/18/01 with a response action recommendation. Again, when or tentative timing would be helpful.

- PRS 440 is a waste line segment of nearly 350 linear from "SW" Building to "WD" Building. Hot wastes from "SW" Building were discharged into PRS 440. This time contaminants of concern include 3 as shown.

CONTAMINANT	MAXIMUM DETECTED	GUIDELINE CRITERIA
BERYLLIUM*	1.2 mg/kg	0.70 mg/kg
PU238*	225 pCi/g	55 pCi/g
TH232 + D*	5.7 pCi/g	0.07 pCi/g

NOTE: See previous note under PRS 437-9 comments, significant digits should be used [1.20 0.70 etc.]*
[5.70 0.07 etc.].

As with the two previous PRS Public Review Drafts of November 2002, the Core Team signed on 7/18/01 with a response action recommendation and no hint as to the schedule to do so. If a date is unknown then a date to set a date should be provided for tracking and follow-up. It is not good to leave the "Public" dangling and is the dark as to which month/ or year the RA will be begun.

James D. Bonfiglio
11/28/02

Response
All three comments seek information about the schedule for performing these removals. The Action Memorandum, currently in review by the regulators, shows these removals performed in four segments. The first would start in the first half of FY03 and the last would end in the second half of FY04. After the regulators approve it, the Action Memorandum will be available for public review. As the removal is performed, updates will be provided at the MAC/MRC meetings.

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

January 2003

Mr. Daniel Bird, AICP
Planning Manager
Miamisburg Mound Community Improvement Corporation
720 Mound Road
COS Bldg. 4221
Miamisburg, Ohio 45342-6714

Dear Mr. Bird:

The Core Team, consisting of the U.S. Department of Energy Miamisburg Closure Project (DOE-MCP), U.S. Environmental Protection Agency (USEPA), and the Ohio Environmental Protection Agency (OEPA), appreciates your comments on the PRS 423-428, 437-439, and 440 Packages. Attached are our responses.

Should the response to comments require additional detail, please contact Rob Rothman at (937) 865-3823 and we will gladly arrange a meeting or telephone conference.

Sincerely,

DOE/MCP: Robert S. Rothman, Remedial Project Manager — 2/27/03 date

USEPA: Timothy J. Fischer, Remedial Project Manager — 2/7/03 date

OEPA: Brian K. Nickel, Project Manager — 1/22/03 date

Response to Public Comments

from MMICC
on PRS 423-428 Public Review Draft Package
on PRS 437-439 Public Review Draft Package
on PR 440 Public Review Draft Package

Comment 1. From our review of the above mentioned PRS Data Packages, MMCIC concurs that a response action is necessary for these PRS. MMCIC would like to request a copy of the work plan for review when it becomes available.

Response 1. A copy of the requested work plan will be provided for your information after it is finalized.

Comment 2. The PRS data packages were not specific in the response action to be taken for the cleanup of these underground waste lines (UGLys). MMCIC wants to confirm that the cleanup action is appropriate and complete, which would include not only the piping system, but also the soils surrounding the pipes. If the pipes are abandoned in place, the verification sampling must confirm there is no residual contamination, including soils contamination around the pipes.

Comment 3. If any of the lines are to be integrated into the City of Miamisburg's treatment system, the lines and the soils around the pipes must be verified as being free of contamination.

Response 2 & 3. MCP will continue to pursue total compliance with the CERCLA cleanup criteria. This applies to piping as well as soil. We will keep you informed as we move forward and develop the action for the underground waste lines.

Comment 4. It is MMCIC's understanding that the area will be restored to a natural state in accordance with the Mound Reuse Plan.

Response 4. MCP recognizes and fully intends to meet our obligations under The Mound Reuse Plan.

PRS 440

REV	DESCRIPTION	DATE
WORKING DRAFT		**1 May 2001**
DRAFT	DOE review on 29 May 2001. Adjustments incorporated. Distribute for Core Team Review for July binning.	**30 May 2001**
DRAFT PROPOSED FINAL	Revised per OEPA comments of July 2001	**October 2002**
PUBLIC REVIEW DRAFT	No changes from Draft Proposed Final	**November 2002**
FINAL	No changes as a result of public review/comment.	**March 2003**

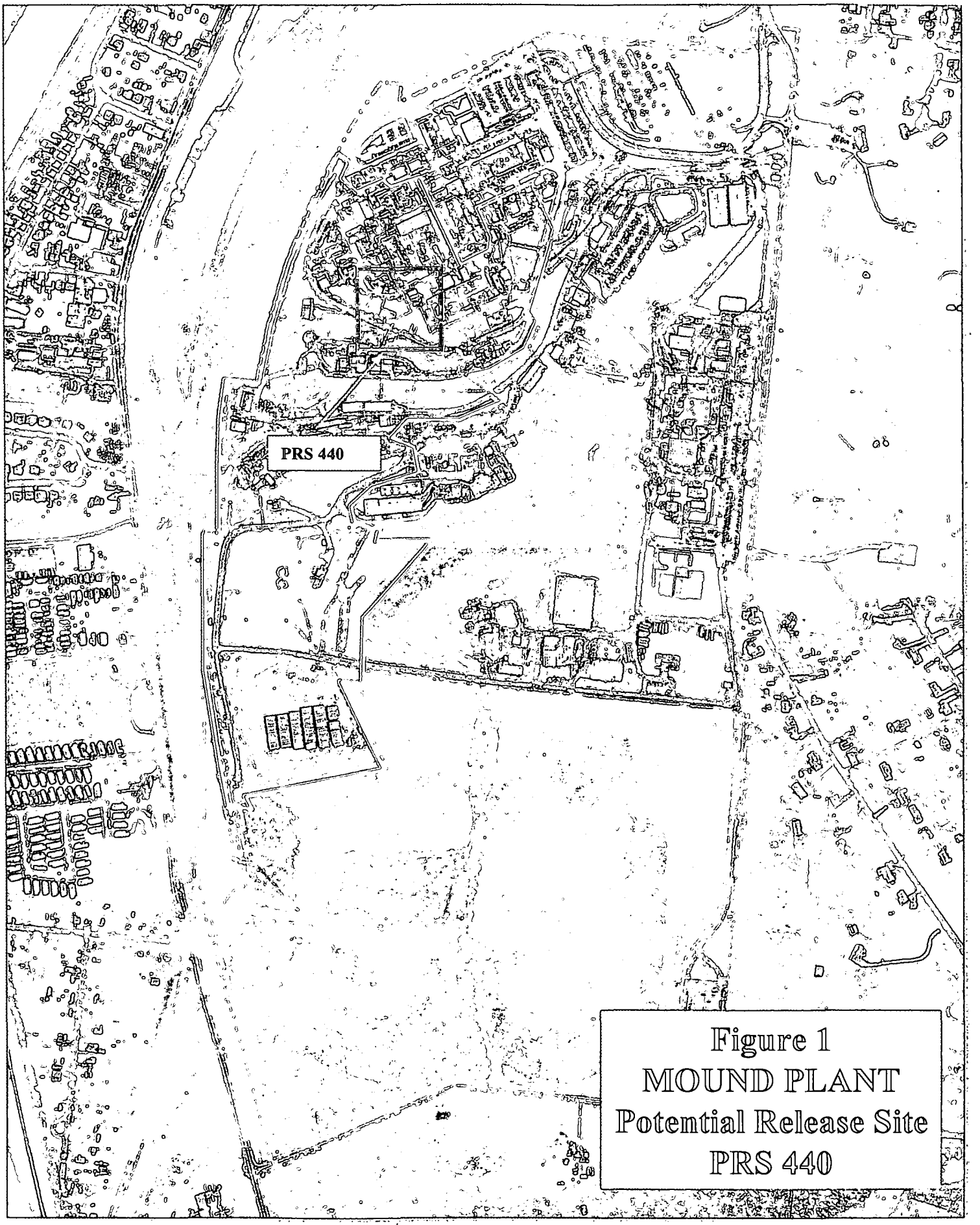
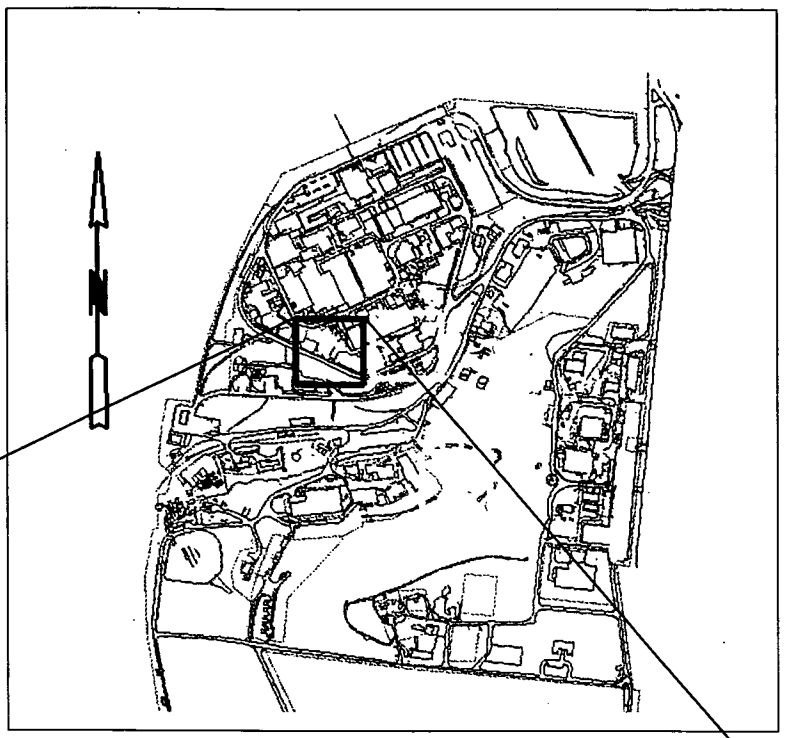
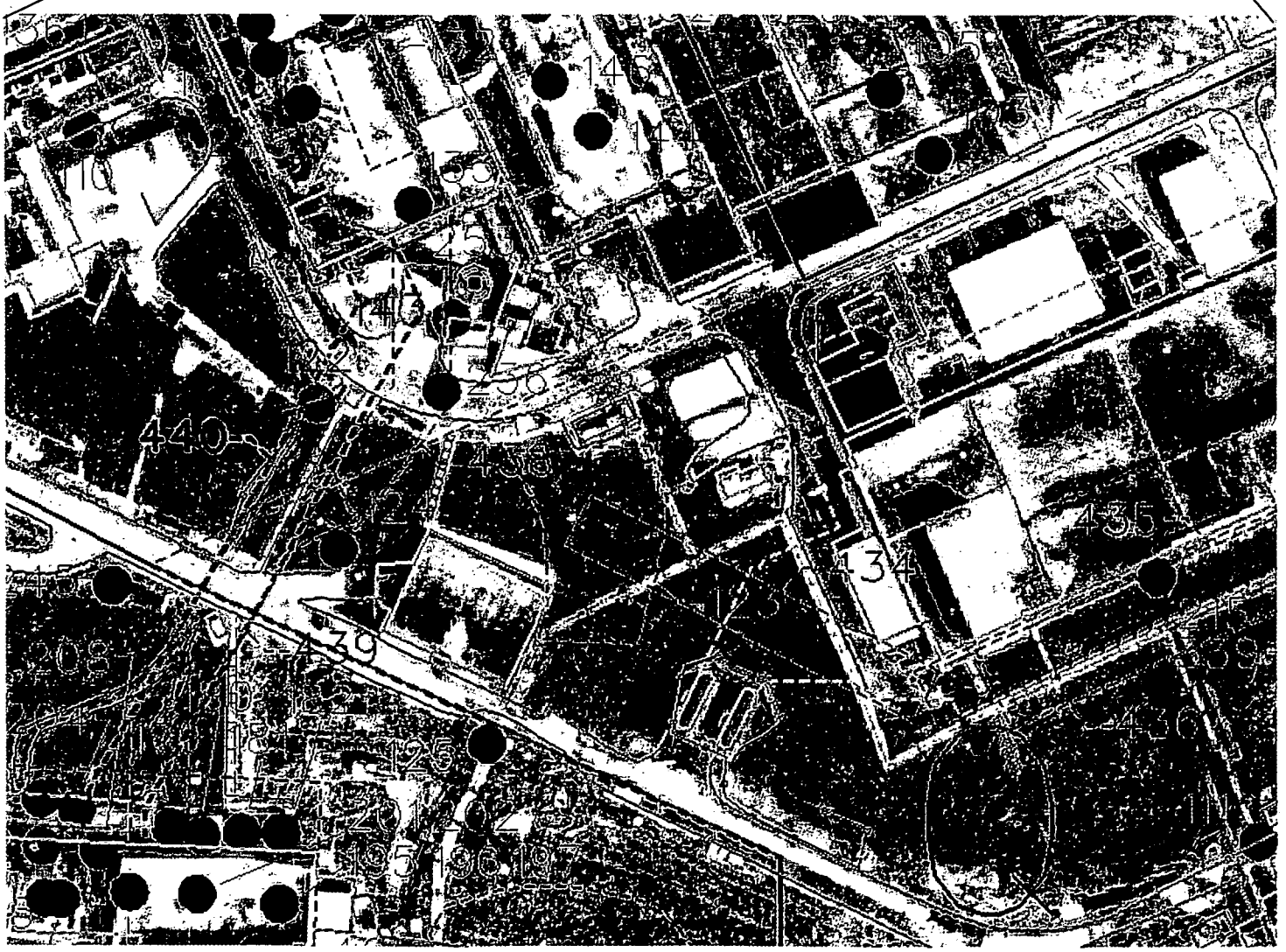


Figure 1
MOUND PLANT
Potential Release Site
PRS 440

Figure 2.
Mound Plant
PRS 440
Main Hill Underground Lines:
Bldg. SW to Bldg. WD

On the map below:
- PRS number and location shown in black
- Fencing shown in red
- Elevation contours shown in brown
- Other PRS's shown in blue





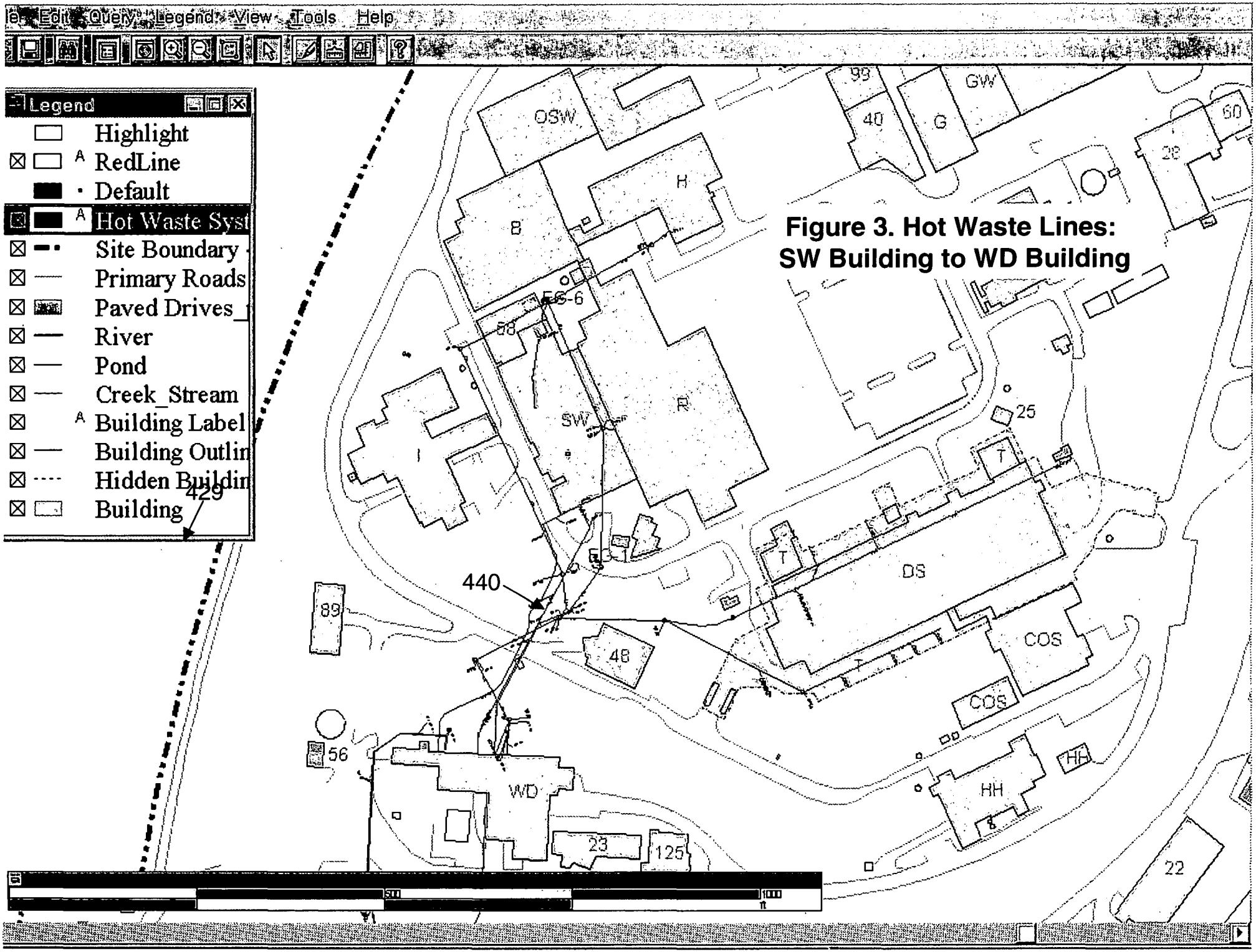


Figure 3. Hot Waste Lines: SW Building to WD Building

PRS 440

Main Hill Underground Lines

SW Building to WD Building

PRS HISTORY:

The majority of Mound Plant Main Hill Underground Waste Lines (Underground Lines/UGLys) were originally grouped as one Potential Release Site (PRS), PRS 122. The document, *Operable Unit 9 Site Scoping Report: Volume 12 - Site Summary Report*, (Reference A), defines PRS 122 to include waste lines from B, H, R, and SW Buildings.

In preparation for review and binning of PRS 122, it became obvious that the grouping of almost 4,000 feet of such line under one PRS was not the most opportune position from which to begin the evaluation process. It was decided that the UGLys could be better studied and recommendation decisions made if the lines were defined to exist in segments. PRS 122 was segmented into PRSs 423 through 440.

PRS 440 identifies one UGLy segment associated with SW Building operations. PRS 440 addresses approximately 350 linear feet of waste line.

BACKGROUND:

Potential Release Site 440 identified the underground line segment that served to carry radioactively contaminated wastes from SW Building (Operations Labs/Tritium Development/Surveillance) operations enroute to the Waste Disposal (WD) Building. Note Figures 2 and 3. Wastes from operations in SW Building were discharged through tanks and sumps to the subject PRS. SW Building tanks and sumps are addressed, in part, by other Potential Release Site Data Packages (PRSs 135, 136, 137, 138, and 139), and are not the subject of this data package other than the contaminants carried.

PRS 440 carried hot wastes from SW Building, south to WD Building. Reference B provides a physical description of Potential Release Site 440.

CONTAMINATION:

SW Building operations provide insight into the contaminants potentially resident in UGLy PRS 440. Note References C and D. Reference D presents potential nuclide contaminants of concern as a function of specific programs and room locations. A briefing presentation (Reference E), given by BWXT of Ohio Soils Project personnel further illuminates the number and variety of contaminants that may impact PRS 440.

Building SW is to be demolished and an Action Memorandum has been generated (Reference F).

Reference G and Table 1 present GIS mapping and sampling information in proximity to the PRS 440 underground process waste line. PRS 124 presents supporting contamination information (Reference H).

Table 1: Selected GIS Mapping/Sampling Information

Contaminant	Maximum Concentration Detected	Guideline Criteria (10^{-6})	Background Value
Beryllium	1.2 mg/kg	0.70 mg/kg	1.3 mg/kg
Pu-238	225 pCi/g	55 pCi/g (10^{-5})	0.13 pCi/g
Th-232+D	5.7 pCi/g	0.07 pCi/g	1.4 pCi/g

+D indicates contributions of decay products were included in calculation of risk guideline value

READING ROOM REFERENCES:

A) *Operable Unit 9 Site Scoping Report: Volume 12 - Site Summary Report* (Excerpt)

C) *Mound Facility Physical Characterization (MLM-3791)*, December 1, 1993 (Excerpt)

D) Mound Technical Manual, MD-22153, Issue 2, *Mound Site Radionuclides By Location* (Excerpt)

F) *Action Memorandum/Engineering Evaluation/Cost Analysis, Buildings R, SW, 58 and 68 Slab Removal Action*, Mound Plant, Miamisburg, Ohio, **DATE**, Final

H) Potential Release Site Data Package (PRS) 124

OTHER REFERENCES:

B) Cost Estimate Assumptions and Ground Rules, B&W Services, Inc.

E) Technical Presentation, Main Hill Underground Lines, PRS 122-124

G) GIS Mapping/Sampling Information

PREPARED BY:

Karen M. Arthur, BWXT of Ohio Soils Project Engineer
Joseph C. Geneczko, BWXT of Ohio Technical Staff
Mary Beth England, BWXT of Ohio Technical Staff

Steven S. Pawel, BWXT of Ohio Technical Staff

REVIEWED BY:

Richard Neff, Department of Energy/MEMP
David A. Rakel, BWXT of Ohio Technical Staff

HISTORICAL/TECHNICAL REVIEWER:

Dan Carfagno, Contractor to Ohio Environmental Protection Agency

MOUND PLANT
PRS #440
MAIN HILL UNDERGROUND LINES
Building SW to Building WD

RECOMMENDATION:

PRS 440 was identified because the underground line segment carried radioactively contaminated effluent from SW Building operations to the Waste Disposal building (WD).

Therefore, a RESPONSE ACTION is recommended for PRS 440.

CONCURRENCE:

DOE/MEMP: _____ 7/18/01
Robert S. Rothman, Remedial Project Manager (date)

USEPA: _____ 7/18/01
Timothy J. Fischer, Remedial Project Manager (date)

OEPA: _____ 7/18/01
Brian K. Nickel, Project Manager (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from Nov. 13, 2002 to Dec. 13, 2002

☐ No comments were received during the comment period.

☑ Comment responses can be found on the First page R of this package.

R

REFERENCE MATERIAL FOR PRS 440

Reference A

DUPLICATE
Classification Code: 29-01-01-07-12
Accession No. 9503280015

ENVIRONMENTAL RESTORATION PROGRAM

OPERABLE UNIT 9
SITE SCOPING REPORT:
VOLUME 12 - SITE SUMMARY REPORT

MOUND PLANT
MIAMISBURG, OHIO

December 1994

U.S. DEPARTMENT OF ENERGY
OHIO FIELD OFFICE

ENVIRONMENTAL RESTORATION PROGRAM
EG&G MOUND APPLIED TECHNOLOGIES

FINAL

Description of History and Nature of Waste Handling						Hazardous Conditions and Incidents			Environmental Data		
No.	Site Name	Location	Status	Potential Hazardous Substances	Ref	Releases	Media	Ref	Analytes[a]	Results	Ref
118	M Building Soils	E-7	Grounds	Copper cyanide, Silver cyanide Machine oils, Solvents	4	Oils, Copper cyanide, Silver cyanide	S	10	1 14	SGS[b] Table B.4 Locations 1050, 1051, 1082 Table B.9 RSS[c] Locations S0162, S0163, S0252 (Appendix E in Ref. 6)	12 6
119	Room M-38 Metal Plating Rinse Water Sump (Tank 225)	E-7	Surplus	Rinse waters from metal plating operations. Possible contaminants include nickel, cadmium, silver, gold, manganese, cyanide, and aluminum. Sodium hydroxide solution Potassium permanganate	3, 4	None Suspected			No Data		
120	Room M-108 Metal Plating Rinse Water Tank (Tank 119)	E-7	In service	Rinse waters from metal plating operations. copper, gold, silver, nickel, aluminum, and uranium	3, 4	Silver cyanide	SW	10	No Data		
121	Vapor Degreasers	E-7	In service	Perclene D (perchloroethylene)	4, 5, 18	None Suspected			No Data		
122	Underground Radioactive Waste Lines (Main Hill)	E-6 F-6	Inactive	Alpha wastes from SW Bldg., R Bldg., and H Bldg. Wastewater from B Building Plutonium-238, Cobalt-60	4, 18	Suspected	S	4, 10	No Data		
123	Area 5, Radioactive Waste Line Break	F-6 F-7	Grounds	Cobalt-60, Cesium-137, Plutonium-238	1, 5, 18	Cobalt-60	S	1, 18	2, 14, 16	Table B.1 (Table III.3 in Ref. 6)	6
124	Building 48 Hillside	F-6	Inactive	Plutonium-238		Plutonium-238	S	6	14	Table B.1	6
125	Underground Sanitary Sewer Line G24	F-6	In service	Organic solvents, Plating Solutions, Laboratory chemicals, Nitric acid, Hydrochloric acid, Methylene chloride, Strong acids and bases		Suspected	S	5, 18	3, 4, 5, 6, 14, 16	Tables B.6, B.7, and B.8	7
126	Building 28 Solvent Storage Area	E-8	Grounds	Organic solvents (including alcohol, methylene chloride, and acetone)	4, 5, 9, 18	Suspected	S	4	1	SGS[b] Table B.4 Location 1054	12

Description of History and Nature of Waste Handling						Hazardous Conditions and Incidents			Environmental Data		
No.	Site Name	Location	Status	Potential Hazardous Substances	Ref	Releases	Media	Ref	Analytes[a]	Results	Ref
127	Building 28 Solvent Storage Shed	E-8	In Service	Organic solvents (including alcohol, methylene chloride, and acetone)	4, 5, 18	Suspected	S	4	1	SGS[b] Table B.4 Locations 1190 and 1231	12
128	DS Building Solvent Storage Shed	F-7	In service	Organic solvents (including 1,1,1-trichloroethane, trichlorofluoromethane, ethanol, and trichloroethane)	4, 5, 18	Suspected	S	4	1 14	SGS[b] Table B.4 Location 1194 No Hits Table B.9 RSS[c] Location S0128 (Appendix E in Ref. 6)	12 6
129	B Building Solvent Storage Shed	E-6	Inactive	Organic solvents (including trichloroethene, trichlorofluoromentane, ethanol, methonal, isopropanol, acetone, methylene chloride, toluelene) Oils	4, 5, 18	Suspected	S	4	1 14	SGS[b] Table B.4 Locations 1202, 1203 Table B.9 RSS[c] Location S0146 (Appendix E in Ref. 6)	12 6
130	B Building Temporary Drum Storage Area	E-6	Inactive	Waste solvents, waste oil, and trash from E and B Bldgs.	4						
131	SW Building Soils	E-6 F-6	Grounds	Tritium, Radium-226, Actinium-227, Thorium-232	4, 6, 18	Tritium beneath the building	S	1, 18	14, 16	Table B.1 RSS[c] Locations S0154 and S0180 (Appendix E in Ref. 6)	6
132	Area 15, Entombed SW Cave (Room SW 1-B)	F-6	Historical	Radon-222, Radium-226, Actinium-227, Thorium-228	1, 4, 6, 18	Radon-222	A	1, 6	No Data		
133	SW Building Room 1-A	F-6	Historical	High-activity wastewater from radium and actinium processing, reactor waste including Radium-226, Actinium-227, Cesium-137, Plutonium-238, and Uranium-238.	4	Cesium-137 (sealed in concrete in building floor)		4	No Data		
134	SW Building Drum Storage Area	E-6	In service	Hazardous wastes Asbestos, Waste oils, Antifreeze	4, 5, 18				14	Table B.9 RSS[c] Location S0180 (Appendix E in Ref. 6)	6
135	Room SW-8 Beta Wastewater Tank (Tank 20)	F-6	In service	Tritium	3, 4				No Data		

Description of History and Nature of Waste Handling						Hazardous Conditions and Incidents			Environmental Data		
No.	Site Name	Location	Status	Potential Hazardous Substances	Ref	Releases	Media	Ref	Analytes[a]	Results	Ref
136	Room SW-125 Beta Wastewater Tank (Tank 21)	F-6	In service	Tritium	3, 4	Suspected historical leaks			No Data		
137	Room SW-143 Beta Wastewater Tank (Tank 22)	F-6	In service	Tritium	3, 4	Tanks lined			No Data		
138	Room SW-137 Alpha Wastewater Sump (Tank 23)	E-6 F-6	Inactive	Alpha wastewater from drains, sinks, and processes in SW Bldg - Uranium-238.	3, 4	Suspected uranium-233			No Data		
139	Room SW-10 Beta Wastewater Sump (Tank 226)	F-6	Inactive	tritium	3, 4	Suspected historical leaks, tank lined			No Data		
140	Beta Waste Solidification Facility - SW Building	E-6 F-6	In service	tritium Waste oils including vacuum pump, gear box, and diffusion pump oils.	4				No Data		
141	Tritium Effluent Removal System	E-6	In service	Vacuum pump oils Organic solvents Tritium wastewater		Tritium	A	4, 10	No Data		
142	SW/R Building Solid Radioactive Waste Compactor	E-6 F-6	In service	Tritium	4				No Data		
143	R/SW/T Building Stack Diesel Fuel Storage Tank (Tank 117)	F-6	In service	Diesel fuel	3				1	SGS[b] Table B.5 Location 1021	12
144	R Building Sanitary Waste Collection Tank (Tank 120)	F-6	In service	Sanitary wastes	3, 4				No Data		
145	Room R-128 Alpha Wastewater Tank (Tank 19)	E-6	In service	Alpha wastewater generated in R Bldg. Possible contaminants include Pu-238,-239, Ra-226, and Ac-227	3, 4				No Data		
146	R Building Rooms 121, 144, 146, and 148 entombed drains	F-6	Historical	Radium-226, Actinium-227	4	Sealed in concrete in building floor drains		4	No Data		

- Soil Gas Survey - Freon 11, Freon 113, Trans-1,2-Dichloroethylene, Cis-1,2-Dichloroethylene, 1,1,1-Trichloroethane, Perchloroethylene, Trichloroethylene, Toluene
- Gamma Spectroscopy - Thorium-228, -230, Cobalt-60, Cesium-137, Radium-224, -226, -228, Americium-241, Actinium-227, Bismuth-207, Bismuth-210m, Potassium-40
- Target Analyte List
- Target Compound List (VOC)
- Target Compound List (SVOC)
- Target Compound List (Pesticides/Polychlorinated Biphenyl)
- Dioxins/Furans
- Extractable Petroleum Hydrocarbons (EPH)/Total Petroleum Hydrocarbons (TPH)
- Lithium
- Nitrate/Nitrite
- Chloride
- Explosives
- Plutonium-238
- Plutonium-238, Thorium-232
- Cobalt-60, Cesium-137, Radium-226, Americium-241
- Tritium

eference List

. DOE 1986 "Phase I: Installation Assessment Mound (DRAFT)."
. DOE 1992a "Remedial Investigation/Feasibility Study, Operable Unit 9, Site-Wide Work Plan (Final)."
. DOE 1992c "Mound Plant Underground Storage Tank Program Plan & Regulatory Status Review (Final)."
. DOE 1993a "Site Scoping Report: Vol. 7 - Waste Management (FINAL)."
. EPA 1988a "Preliminary Review/Visual Site Inspection for RCRA Facility Assessment of Mound Plant"
. DOE 1993d "Operable Unit 9, Site Scping Report: Vol. 3 - Radiological Site Survey (FINAL)."
. DOE 1993c "Operable Unit 3, Misc. Sites Limited Field Investigation Report."
DOE 1992d "Reconnaissance Sampling Report Decontamination & Decommissioning Areas, OU6, (FINAL)."
. Fentiman 1990 "Characterization of Mound's Hazardous, Radioactive and Mixed Wastes."
0. DOE 1992f "Operable Unit 9, Site Scpoing Report: Vol. 9 - Spills and Response Actions (FINAL)."
1. Styron and Meyer 1981 "Potable Water Standards Project: Final Report."
2. DOE 1993b "Reconnaissance Sampling Report - Soil Gas Survey & Geophysical Investigations, Mound Plant Main Hill and SM/PP Hill (FINAL)."
3. DOE 1993d "Operable Unit 9, Site Scoping Report: Vol. 3 - Radiological Site Survey (FINAL)."
4. DOE 1991b "Main Hill Seeps, Operable Unit 2, On-Scene Coordinator Report for CERCLA Section 104 Remedial Action, West Powerhouse PCB Site."
5. Halford 1990 "Results of South Pond Sampling."
6. DOE 1993e "Operable Unit 4, Special Canal Sampling Report, Miami Erie Canal."
7. DOE 1990 "Preliminary Results of Reconnaissance Magnetic Survey of Mound Plant Areas 2, 6, 7, and C."
8. DOE 1992a "Remedial Investigation/Feasibility Study, Operable Unit 9, Site-Wide Work Plan (FINAL)."
9. Rogers 1975 "Mound Laboratory Environmental Plutonium Study, 1974."
0. DOE 1992h "Ground Water and Seep Water Quality Data Report Through First Quarter, FY92."
1. Dames and Moore 1976a, b "Potable Water Standards Project Mound Laboratory" and "Evaluation of the Buried Valley Aquifer Adjacent to Mound Laboratory."
2. DOE 1992i "Closure Report, Building 34 - Aviation Fuel Storage Tank."
3. DOE 1992j "Closure Report, Building 51 - Waste Storage Tank."
4. DOE 1994 "Operable Unit 1, Remedial Investigation Report."
5. EG&G 1994 "Active Underground Storage Tank Plan."

Reference B

PRS #	UGLy Subsystem	Line Designation (prelim. cost est.)	Linear Feet (LF)
	Bldg H to Bldg WD	1a	180
	Bldg H to Bldg WD	1b	132
	Bldg H to Bldg WD	2	20
	Bldg H to Bldg WD	5	321
	Bldg H to Bldg WD	6	223
	Bldg H to Bldg WD	7	223
	East Exhaust Tower to Manhole 6	9	285
	East Exhaust Tower to Manhole 6	9a	60
	East Exhaust Tower to Manhole 6	10a	390
	East Exhaust Tower to Manhole 6	11	53
	East Exhaust Tower to Manhole 6	12	56
	South Side of Bldg T to Manhole 8	13a	208
	South Side of Bldg T to Manhole 8	13b	185
	South Side of Bldg T to Manhole 8	14	114
	Manhole 20 to Bldg WD	3	65
	Manhole 20 to Bldg WD	4	150
	Manhole 20 to Bldg WD	4a	223
440	Bldg SW to Bldg WD	8	337

Go to page 13/14.

B&W SERVICES, INC.

BWX Technologies, Inc. *a McDermott company*

To: **Distribution**	
From: **R. S. Kingsley**	*File No.:*
Subject: **Cost Estimate Assumptions and Ground Rules**	*Date:*

Distribution

A Task Force was formed to develop a cost estimate for the remediation of the hot waste sewers at the Mound site. The hot waste sewer lines transported radioactively contaminated hot waste from site research and development, operating, and site support buildings to a waste treatment complex located in the WD Building. Characterization information indicates that several segments of this hot waste sewer system are extensively contaminated with radioactive materials (i.e. >700,000 pCi Co^{60} /100 cm^2 and > 400 nCi Pu^{238}. A series of alternative actions for the disposition of these lines is being developed. The objective of the task force was the estimation of the remediation costs for removal of the lines as one of the options to be considered for treatment action of these lines. This task force was composed of William Crisswell (Roy F Weston construction engineer), Chuck Finkenbein (BWXO radiation protection), Richard Kingsley (BWSI senior supervisory engineer), and Roger Murray (Morrison Knudsen Estimating Manager).

The task force met on March 13, 14, and 15 to develop the work scope and define the assumptions to be used in completing this cost estimate. The meeting:

- Described the underground lines (which the Mound project refers to as the UGLy (Underground Lines),
- Completed two site walk downs of the UGLy lines,
- Described current conditions of the UGLy lines,
- Grouped the underground lines into discrete segments for estimating convenience,
- Identified and defined cost study assumptions, and
- Identified additional information required completing a cost estimate.

Appendix A contains a copy of the view graphs used during the meeting by R. S. Kingsley to kick-off the meeting and describes the problems involved in the remediation of the UGLy lines.

This memo will:

- Describe follow-up actions items required to initiate the cost estimate study,
- Summarize guidance provided by John Price for preparing the UGLy line cost estimate,
- Document the underground line groupings to be used during the cost estimate, and
- Summarize cost study assumptions and ground rules developed by the Task Force for the completion of the Cost Study.

A. Follow-up Action Items

During the course of the three-day Task Force meeting, a series of action items were identified that were to be completed by R. S. Kingsley. These action items include:

1. Identifying the location, number and routing of vertical riser/horizontal lateral lines connecting the T Building to the 8-inch diameter hot waste sewer trunk lines below and adjacent to the DS Building. In addition, it should be determined if these lines are encased in the T Building concrete walls (second priority). This action was completed and drawing sets forwarded to William Murray. The lines are not encased in the T Building walls.

2. Obtaining addition copies of the overall underground utility site plans for William Crisswell and John Murray (first priority). This action was completed.

3. Establishing the disposition of the 8-inch diameter hot waste sewer line along the south side of the DS Building at the present location of the COS Building (included with the second priority). Was this section of hot waste line rerouted, removed, or left in place during construction of the COS building? In addition, the design/construction drawings for the COS building should be located and forwarded to Task Force members. This action was completed. As-built drawings of the COS Building indicate that all effected hot waste sewer risers were removed during COS Building construction. The COS construction drawings were forwarded to Task Force members.

4. Obtaining a set of photographs of the surface above the UGLy lines should be obtained and sent to Roger Murray (third priority). This activity was completed and a set of photographs was forwarded to Roger Murray. In addition, a set of photographs will be placed in the soils group library along with a copy of this memo.

5. Obtaining a set of the original site construction drawings showing the layout of the site and the UGLy pipe trenches should be obtained and sent to Roger Murray. This action item was completed and a set of the original site underground line construction drawings was obtained and forwarded to Roger Murray.

6. In order to develop a remediation schedule, a number of questions must be answered including:

- What happens to Building 48 and when is it scheduled to happen?

- What happens to the T Building ventilation heads houses and when are they scheduled to happen?

- What happens to the pipe bridges and their supported utility systems located south of the DS Building between manhole 8 and 8A and when are they scheduled to happen?

- What happens to the pipe bridges and their supported utility systems located south of DS Building and when are they scheduled to happen?

- What is the disposition of I Building and when is it scheduled to happen?

- What is the color-coding on the hydrants on the west side of the DS Building (i.e. red, red/yellow, and green)?

- What is the disposition of the liquid N_2 system supporting TERF and when is it scheduled to happen?

- What is the disposition of the DS Building emergency generator and when is it scheduled to occur?

The above is a fourth priority in importance. The task force did not complete this action. Answering these questions requires extensive integration with a master site closure plan. A detailed site master closure plan does not exist in sufficient detail to answer these questions. Thus a schedule for remediation of these underground lines cannot be developed at this time.

7. Cost study waste management ground rules and guidelines will be developed in consultation with BWXO waste management personnel (i.e. John Kruger's staff). This discussion should define ground rules for establishing waste packaging, waste disposal, and waste transportation costs. In addition, reference waste disposal sites should be identified by type of contaminated waste produced during UGLy line remediation. Roger Murray completed this action and the results reflected in the cost estimate report.

8. Develop an analysis and sampling plan for excavated waste. This plan should define assumptions for waste characterization during remediation and disposal. In addition the plan should include assumption for the frequency and cost for worker bioassay. Roger Murray completed this action and the results reflected in the cost estimate.

9. Roger Murray will meet with xxx Hall to discuss project cost estimating guidelines.

10. The cost estimate report must include a discussion of the current baseline cost estimate for the remediation of the UGLy lines (directive received from ?? Hall). Guidance provided during this conversation on March 15 includes:

    - John Price will have to provide site support cost estimates

B. Cost Estimate Study Guidance

John Price (BWXO soils project manager) provided guidance for the preparation of a cost estimate for the remediation of the UGLy system. This guidance included:

1. The cost estimate should be organized in the following three categories:

   - Work planning (i.e. engineering planning for UGLy line remediation, etc.),

   - Fieldwork. Fieldwork should include all of the work activities completed in the field to remediate the lines. Fieldwork should include all phase including field mobilization, field execution, line grouting, remediation, bottom-of-hole sampling, sampling and characterization of remediated soils, demobilization etc. The field work cost estimate should contain assumption for the size of the field crew (based upon past experience), number of samples taken per day, assumed ft^3 of soil excavated per day, assumed liner ft. of UGLy line remediated per day, assumed liner ft. of line grouted per day, etc., and

   - Reporting. This activity will include the preparation of final reports documenting the completion of the UGLy line remediation.

2. The Corps of Engineers reviews all project remediation cost estimates. Thus, this cost estimate must be defended to the Corps. For this reason, it is essential that all assumptions etc. used in developing this cost estimate must be documented.

3. The cost estimate should be developed assuming that the work is subcontracted to an outside firm. This includes all aspects of the job including supporting functions such as radiation control technicians, field labor, etc. Two exceptions to guidance include radiochemical laboratory support and project oversight, which will be provided by the Soils Project. In addition, the subcontractor will utilize DOE site equipment.

4. The cost estimate should develop:

   - A low estimate,

   - A medium (i.e. most likely estimate), and

   - Worst estimate.

   These three estimates can be based upon differing remediation assumptions, differing assumptions on the quantities of contaminated soils, differing remediation methodologies, or on combinations of these assumptions. The selection of these conditions is up to the task force. A matrix of the various alternative field conditions (i.e. differing levels of overburden contamination) could be developed and the likely hood that this assumed condition encountered estimated. Than a weighted average cost estimate calculated.

5. The UGLy remediation schedule should be connected to the remediation schedule for:

- TERF (i.e. Tritium Environmental Recovery System),
- Above ground utility system remediation (as shown in the current Primavera schedule),
- Remediation of buildings R, SW, and H, and
- Stack deconstruction.

6. UGLy line remediation is a fourth level WBS (i.e. WBS number 1.2.7.25) The three UGLy system activities (i.e. work planning, fieldwork, and reporting) are WBS level 5 activities. Segment remediation (i.e. Mound labor as $/hr., subcontract cost, etc.) is a level 6 activity, and the details backing up these totals are a WBS level 7 activity.

C. Definition of Underground Line Segments

During the site walk down, the Task Force concluded that it was more efficient to break the UGLy lines down into segments for cost estimating purposes. The following discussions define those segments and summarize the assumptions made for the remediation of each segment. Throughout this discussion, the basic assumptions describe below concerning the UGLy lines and their remediation is applicable. These general assumptions include:

- The UGLy line is bedded in concrete,
- The dimensions of the concrete are 48 inches wide and 12 inches deep,
- A 20 inch wide bucket will be used to excavate the overburden and expose the line,
- The interior of all lines will be grouted prior to remediation, and
- The lines will be cut into segments and removed from the trench.

1. UGLy Line Segment 1A. This UGLy sewer line segment starts 5 ft. from H Building wall, runs ~ 23 ft. in a westerly direction to Manhole HW -22 (which is buried under asphalt) and then on another ~ 157 ft. to Manhole HW -20. During this traverse between the H Building and Manhole HW -22, this UGLy line segment cross beneath a number of other underground utilities including:

   - A 6 inch diameter cast iron (i.e. CIP) water line,
   - A 4 inch diameter CIP sanitary waste line,
   - An 8 inch diameter CIP fire line,
   - A 15 inch diameter concrete (CONC) storm sewer,
   - A second 5 inch diameter CIP water line,

- An ADT cable,
- A 1-4" electrical tile,
- Three 4 inch condensate lines, and
- A second 6-inch diameter vitreous clay (VCP) storm sewer.

In addition, segment 1A crosses beneath the breezeway that also supports a pipe bridge carrying a number of other utility lines.

Assumptions made about UGLy segment 1A include:

- This UGLy segment can be removed following removal of the breezeway and the utility lines that are supported on the pipe bridge attached to it's roof,
- H Building will be removed prior to the remediation of the UGLy line segment,
- Soils surrounding 1 ft. the UGLy line pipe trench contain low level waste,
- This UGLy line segment is 8 inch diameter VCP encased in concrete,
- A 10% excess will be added to the soil excavated from the pipe trench as a contingency for segment structural failure, and
- Overburden above this UGLy line segment is uncontaminated and will be used as backfill.

2. UGLy Line Segment 1B. This UGLy sewer line segment runs ~ 132 ft. in a westerly direction from Manhole HW -20 to Manhole HW 18. During this traverse, this UGLy line segment cross beneath a number of other underground utilities including:

- An abandoned 8 inch diameter CIP line,
- An 8 inch diameter VCP storm sewer,
- A second 8 inch diameter VCP storm sewer,
- A 4 inch diameter CIP water line,
- An abandoned 6 inch diameter CIP water line, and
- An 8-inch diameter ACP fire waterline.

In addition, ~ 87 ft. of segment 1B crosses beneath the elevated Building 58 that house the SW Building ventilation fans and filters. Filtered SW Building room air is discharged from this building directly to an adjacent exhaust stack. Thus, Building 58 must remain active as long as the SW Building contains radioactive contamination. In addition, ~ 20 ft. of this UGLy segment crosses a main Mound site north south roadway.

Assumptions made about UGLy segment 1B include:

- This UGLy segment cannot be removed until after the SW Building has been remediated and Building 58 dismantled.
- This UGLy line segment is 8 in. diameter VCP encased in concrete,
- Soils surrounding 1 ft. the UGLy line pipe trench contain low level waste,
- A 10% excess will be added to the soil excavated from the pipe trench as a contingency for segment structural failure, and
- Overburden above this UGLy line segment is uncontaminated and will be used as backfill.

3. UGLy Line Segment 3. This UGLy sewer line segment runs ~ 65 ft. from Manhole HW-20 in a southerly direction to the northern edge of the SW Building. (NOTE: This sewer segment is part of the hot waste drain line that runs ~ 180 ft. from Manhole HW -20 to Manhole HW -14. Approximately 115 ft. of the line lies beneath the SW building and the remainder lies outside the building. Manhole HW -14 lies inside of the SW Building. This line segment is part of a total ~ 358 ft. hot waste line section that formerly ran from Manhole MH-20 through Manhole MH-12 to Manhole MH-6. This latter hot waste sewer section has been capped and abandoned in place. Remediation of the sections of this UGLy line lying beneath the SW building are the responsibility of the building manager and are not the responsibility of John Price's Soils Group. Thus, the remediation cost for the hot waste sewer segment beneath the SW Building is not included in this cost estimate. The Soils Group will only be responsible for the remediation of the ~65 ft. of this UGLy line segment that runs between Manhole HW-20 and the north outer wall of the SW Building as defined by segment 3.)

   During this traverse of this UGLy line segment between the Manhole HW -20 and the northern wall of the SW Building, this UGLy line segment cross beneath a number of other underground utilities including:

   - A telephone cable,
   - An ADT line,
   - A 24 inch diameter CONC storm sewer,
   - A 8 inch diameter CIP abandoned line, and
   - A 4-inch diameter CIP water line.

   In addition, segment 3 ends at an ~ 18 thick concrete foundation outside of an access door into the SW Building. Formerly, this area was an ~ 10 ft, wide north south alley that ran between the R and SW Buildings. In order to increase the SW Building floor space, a roof was added over the alley along with north and south walls enclosing this alley

creating the addition SW Building floor space. In the process of enclosing this space, Manhole HW-14 was also enclosed within the building.

Assumptions made about UGLy segment 3 include:

- Remediation of this UGLy line segment is not constrained by the presence of the SW Building. Remediation however is constrained by the presence of the other underground utility lines.

- This UGLy line segment is 8 in. diameter VCP encased in concrete,

- Soils surrounding 1 ft. the UGLy line pipe trench contain low level waste,

- A 10% excess will be added to the soil excavated from the pipe trench as a contingency for segment structural failure, and

- Overburden above this UGLy line segment is uncontaminated and will be used as backfill.

- Soils surrounding 1 ft. the UGLy line pipe trench contain low level waste,

- A 10% excess will be added to the soil excavated from the pipe trench as a contingency for segment structural failure, and

- Overburden above this UGLy line segment is uncontaminated and will be used as backfill.

4. UGLy Line Segment 4. This UGLy sewer line segment runs ~ 88 ft. in a south southwesterly direction from the southern outside wall of the SW Building to Manhole HW-12. From Manhole HW-12, this UGLy sewer segment proceeds ~ 64 ft. in a southwesterly direction towards Manhole HW-6. This sewer segment terminates in a blank at ~ 20 ft. before Manhole HW-6 and does not actually enter Manhole HW-6. However, a two inch diameter line continues from the blanked off main 8 inch diameter VCP line to the WD Building. (The 2-inch diameter line will be described as Segment 4-A below). Details of this latter piping logic can be found in Monsanto Research Corp. drawing 5-1398 (reference insert for Manhole HW-6. (NOTE: This sewer segment is part of the hot waste drain line that runs ~ 178 ft. from Manhole HW -14 to Manhole HW -12. Approximately 90 ft. of the line lies beneath the SW building and the remainder lies outside the building. Manhole HW -14 lies inside of the SW Building. This line segment is part of a total ~ 358 ft. hot waste line section that formerly ran from Manhole MH-20 through Manhole MH-12 to Manhole MH-6. This latter hot waste sewer section has been capped and abandoned in place. Remediation of the sections of this UGLy line lying beneath the SW building are the responsibility of the building manager and are not the responsibility of John Price's Soils Group. The Soils Group will only be responsible for the remediation of the ~88 ft. of this UGLy line segment that runs between the south outer wall of the SW Building and Manhole HW-12 and beyond to the line termination as defined by segment 4. The cost estimate does not include the remediation of the hot waste sewer running beneath the SW Building.)

During this traverse between SW Building southern wall and the segments termination at a blank, this UGLy line segment cross beneath a number of other underground utilities including:

- An 8 inch diameter fire line, and
- A 33-inch diameter CONC storm sewer.

Significantly, this sewer segment does not cross over any underground utilities between the south outer wall of the SW Building and Manhole HW-12. However, in this section of the site, this UGLy sewer segment does cross beneath ~ 93 ft. of Mound roadway and SW Building Driveway.

Assumptions made about UGLy segment 4 include:

- Remediation of this UGLy line segment is not constrained by the presence of the SW Building or, in a significant way, by the presence of the other underground utility lines.
- This UGLy line segment is 8 in. diameter VCP encased in concrete,
- Manhole HW-12 is filled with concrete (completed by the waste management group in October 1999.
- Soils surrounding 1 ft. the UGLy line pipe trench contain low level waste,
- A 10% excess will be added to the soil excavated from the pipe trench as a contingency for segment structural failure, and
- Fifty percent of the overburden above this UGLy line segment is contaminated. It is assumed that:
  - 5 % of the overburden is TRU waste,
  - 5 % of the overburden is mixed waste, and
  - 40% of the overburden is low-level waste.

  It is assumed that the balance of the overburden is clean and can be recycled and used as fill.

5. UGLy Line Segment 4A. This UGLy sewer line segment runs ~ 232 ft. in a southwesterly direction from the blank in the 8 inch diameter VCP line described in Segment 4 to the WD Building. Details of the piping logic between these two hot waste sewer line connections can be found in Monsanto Research Corp. drawing 5-1398 (reference insert for Manhole HW-6. (NOTE: This sewer segment does not actually enter Manhole HW-6, but diverts away from the sewer ~ 20 ft. from the sewer. During this traverse between the blank in the 8 in. VCP line and the WD Building, this UGLy line segment cross beneath a number of other underground utilities including:

- An 8 inch diameter VCP hot waste sewer line (described below as UGLy line segment 7),

- Two ten inch diameter concrete storm sewers, and

- An 8-inch diameter ACP fire line.

In addition, this UGLy sewer segment does cross beneath ~ 27 ft. of Mound roadway.

Assumptions made about UGLy segment 4A include:

- Remediation of this UGLy line segment is not constrained in a significant way by the presence of the other underground utility lines. One of the four lines above this sewer segment is another UGLy line segment of the hot waste sewer.

- This UGLy line segment is 2-in. diameter steel saran lined pipe. The line is assumed not to be encased in concrete and that this sewer segment is bedded in a pipe trench in the ground,

- Soils surrounding 1 ft. the UGLy line pipe trench contain low level waste,

- A 10% excess will be added to the soil excavated from the pipe trench as a contingency for segment structural failure, and

- Fifty percent of the overburden above this UGLy line segment is contaminated. It is further assumed that:

  - 5 % of the overburden is TRU waste,

  - 5 % of the overburden is mixed waste, and

  - 40% of the overburden is low-level waste.

  It is assumed that the balance of the overburden is clean and can be recycled and used as fill

6. UGLy Line Segment 5. This UGLy sewer line segment runs ~ 318 ft. in a southerly direction from Manhole HW-18 to HW-16. This UGLy line segment runs parallel to the west outside wall of the SW Building on the far side of the Mound site road that also parallels this SW Building. During this traverse between Manhole HW 18 and HW16, this UGLy line segment cross beneath a number of other underground utilities including:

   - Two ADT ducts,

   - A 2 inch diameter CIP line,

   - A 2-4 inch CND line,

- A 4-4" electrical duct,

- A 3 inch diameter CIP water line, and

- An 8-inch diameter CIP fire line.

In addition, this UGLy sewer segment crosses beneath the liquid N_2 storage tank farm across from the SW Building. This liquid nitrogen tank farm supplies an inert gas to the Tritium Environmental Recovery system and is an essential utility service to SW Building operations. This UGLy sewer segment also crosses beneath two ~17 ft. wide Mound site roadways. All of these utility systems cover a 136-ft. long section between Manhole 18 and site coordinate STA 5 +00. Thus, approximately 182 ft. of this UGLy line segment does not lie above other site underground utilities and the task force concluded that this ~182 ft. segment between site coordinate STA 5 + 00 and Manhole HW 16 could remediated at any time with limited impact on site operations. Remediation of the remaining ~ 136 ft. of this UGLy line segment must await the final shutdown of the SW Building.

Assumptions made about UGLy segment 5 include:

- This UGLy line segment is 8 inch diameter VCP The line is assumed not to be encased in concrete and that this sewer segment is bedded in a pipe trench in the ground,

- Twenty five percent of the length of this line has failed structurally,

- Ten percent of the overburden is contaminated with low level waste, and

- Twenty five percent of the pipe chase material is contaminated with low-level waste.

7. UGLy Line Segment 6. This 122 ft. long UGLy sewer line segment runs in a southwesterly direction from Manhole HW-16 to HW-6. During this traverse between Manhole HW 16 and HW-6, this UGLy line segment cross beneath a number of other underground utilities including:

   - An 1 1/2 inch diameter steel hot waste line described below as UGLy line segment 8, and

   - A 2-inch diameter saran lined steel hot waste line described above as UGLy line segment 4-A.

   In addition, this UGLy sewer segment crosses beneath a 1-foot wide sidewalk.

   Assumptions made about UGLy segment 6 include:

   - This UGLy line segment is 8 inch diameter VCP The line is assumed not to be encased in concrete and that this sewer segment is bedded in a pipe trench in the ground,

- This UGLy line segment could be remediated at any time with minimal impact upon site operations,

- Ninety five percent of the overburden above this UGLy line segment is contaminated. It is further assumed that:

  - 5 % of the contaminated overburden is TRU waste,

  - 5 % of the contaminated overburden is mixed waste, and

  - 85% of the overburden is low-level waste.

- Twenty five percent of the length of this line has failed structurally, and

- Twenty five percent of the pipe chase material is contaminated in the same percentages described above for the overburden.

8. UGLy Line Segment 7. This UGLy sewer line segment runs ~ 148 ft. in a westerly direction from Manhole HW 6 to Manhole HW 4. The UGLy segment than runs ~ 98 ft. in a northerly direction from Manhole HW 4 to Manhole HW 2. During this ~ 246 ft. traverse between Manhole HW 6 and HW-2, this UGLy line segment cross beneath a number of other underground utilities including:

   - An 1 1/2 inch diameter steel hot waste line described below as UGLy line segment 8,

   - A 2-inch diameter saran lined steel hot waste line described above as UGLy line segment 4-A,

   - Three separate on-ground hot waste lines,

   - A two inch diameter storm sewer, and

   - An 8-inch diameter fire line.

   In addition, this UGLy sewer segment crosses beneath a 5-ft. wide sidewalk and a 12 ft. wide roadway.

   Assumptions made about UGLy segment 7 include:

   - This UGLy line segment is 8 inch diameter VCP The line is assumed not to be encased in concrete and that this sewer segment is bedded in a pipe trench in the ground,

   - This UGLy line segment could be remediated at any time with minimal impact upon site operations. However, it is assumed that the fire line and the storm water sewer will remain in place after the site is turned over to the sewer. Thus, costs will put in

the study to return these utilities to operations. In addition, costs will be put in the study to maintain these utilities during how waste sewer remediation,

- Sixty percent of the overburden above this UGLy line segment is contaminated. It is further assumed that:
  - 5 % of the contaminated overburden is TRU waste,
  - 5 % of the contaminated overburden is mixed waste, and
  - 90% of the overburden is low-level waste.
- Twenty five percent of the length of this line has failed structurally, and
- Twenty five percent of the pipe chase material is contaminated in the same percentages described above for the overburden.

9. UGLy Line Segment 8: This UGLy sewer line segment runs ~ 540 ft. in a southerly and southwesterly direction from the outside south wall of the SW Building to the WD Building. During much of this run, this UGLy sewer segment runs parallel to the UGLy sewer segment described as segment 4A. The two lines are ~ 2 ft. apart for approximately 181 ft. between site coordinates STA 2 + 00 and STA 0 + 70. During this ~ 540 ft. traverse between the SW Building and the WD Building, this UGLy line segment cross beneath a number of other underground utilities including:

   - A 6 inch diameter CIP line,
   - An electrical junction box,
   - An 8 inch diameter hot waste line described in UGLy line segment 7,
   - A 12 inch diameter storm sewer,
   - A 10 inch diameter storm sewer,
   - A 10 inch diameter concrete storm sewer, and
   - An 8-inch diameter ACP fire line.

   In addition, this UGLy sewer segment crosses beneath a 25-ft. wide roadway and a second 21 ft. wide roadway.

   Assumptions made about UGLy segment 6 include:

   - This UGLy line segment is 2-inch diameter welded steel pipe. It is assumed that this line carried only low-level liquid tritium waste and that there were no insoluble compounds present in this waste. The line is assumed not to be encased in concrete and that this sewer segment is bedded in a pipe trench in the ground,

- This UGLy line segment could be remediated at any time with minimal impact upon site operations. However, it is assumed that the fire line and the three storm water sewers will remain in place after the site is turned over to the sewer. Thus, costs will put in the study to return these utilities to operations. In addition, costs will be put in the study to maintain these utilities during how waste sewer remediation,

- The ~ 100 ft. of line to the immediate south of the SW Building is assumed to have fifty percent of the overburden above this UGLy line segment contaminated. It is further assumed that:

  - 5 % of the contaminated overburden is TRU waste,

  - 5 % of the contaminated overburden is mixed waste, and

  - 90% of the overburden is low-level waste.

- The ~ 180 ft. of line that runs parallel to the UGLy line segment 4 A will be remediated with that segment. Thus, the volume of waste (i.e. due to overburden and trench bed contamination) will not be included in the cost estimate (i.e. these costs will not be double counted). Only the actual volume of the UGLy line 8 steel pipe will be included in the cost estimate.

- Remediation of the UGLy line segment will commence at the SW Building and proceed towards the WD Building down the hillside.

10. UGLy Line Segment 9. This UGLy sewer line segment runs ~ 143 ft. in a southeasterly direction from Manhole HW 6 to Manhole HW 8. The UGLy segment than continues in a southeasterly direction for ~ 97 ft. to Manhole HW 8A. This line segment then continues for an additional ~47 ft. in an easterly direction to the edge of the DS Building. This UGLy line segment also contains an ~ 30 ft. length of 3 inch diameter CIP pipe connecting this hot waste sewer to a sump in the T Building ventilation tower adjacent to this UGLy line section. During this ~ 287 ft. traverse between Manhole HW 6 and the western edge of the DS Building, this UGLy line segment crosses beneath a number of other underground utilities including:

    - Two 4 inch electrical conduits, and

    - A 10-inch diameter VCP line.

    In addition, this UGLy sewer segment crosses beneath an overhead pipe bridge containing a number of other active and inactive utility systems.

    Assumptions made about UGLy segment 6 include:

    - This UGLy line segment is 8-inch diameter VCP pipe. According to the original site drawings for the hot waste sewer system, this line segment is not be encased in concrete. It is assumed that the segment is bedded in a pipe trench in the ground. The site drawings also indicate that there is a second abandoned 8-inch diameter hot waste sewer steel line abandoned in-place beneath this segment. The drawing

indicates that this abandoned line is encased in concrete. It is assumed that the upper line segment is slightly contaminated with low-level waste while the abandoned line is high contaminated with low-level waste. Thus, the volume of remediated line waste must be doubled because of the presence of the abandoned line.

- This UGLY line segment could be remediated at any time with minimal impact upon site operations. The major impediment to line remediation is the pipe bridge and it's overhead utilities. Once this pipe bridge is abandoned, this UGLy section can be remediated. These are minimal below grade utility systems that impact the remediation of this UGLy line segment, and

- Twenty five percent of the overburden above this UGLy line segment is contaminated. It is further assumed that:

  - 5 % of the contaminated overburden is TRU waste,

  - 0 % of the contaminated overburden is mixed waste, and

  - 95% of the contaminated overburden is low-level waste.

11. UGLy Line Segment 10. This UGLy sewer line segment runs ~ 304 ft. in an easterly direction along the north side of the DS Building along it's entire length. During this ~ 304 ft. traverse of the DS Building, this UGLy line segment does not cross any other underground utilities. However, there is on lateral tie in a vertical riser from the T Building.

    Assumptions made about UGLy segment 10 include:

    - This UGLy line segment is 8-inch diameter VCP pipe. It is assumed that the line is encased in concrete and that there are no other abandoned underground hot waste lines beneath the north side of the DS Building.

    - The 3-inch diameter, 30-ft. branch line to the T Building ventilation head house sump will also be remediated as part of this UGLy line segment. This line is assumed to contaminated with low level waste,

    - This UGLy line segment is located ~ 9 ft. below the finish grade elevation of the DS Building floor,

    - Based upon the insitu Co^{60} surveillance study, it is assumed that 100% of this UGLy line segment is highly contaminated with low-level waste. In addition, the line segment is contaminated with other gamma emitting radioisotopes.

    - The cost study will assumed that the interior walls and floor of the north side of the DS Building would be removed to expose this hot waste sewer segment.

    - This UGLY line segment could be remediated at any time with minimal impact upon site operations, and

- Ten percent of the overburden above this UGLy line segment is contaminated. It is further assumed that:

  - 0 % of the contaminated overburden is TRU waste,

  - 0 % of the contaminated overburden is mixed waste, and

  - 100% of the contaminated overburden is low-level waste.

12. UGLy Line Segment 11. This UGLy sewer line segment runs ~ 53 ft. in a westerly direction from the east wall of the DS Building to the T Building Exhaust Tower sump. During this ~ 53 ft. traverse, this UGLy line segment does not cross beneath any other underground utilities.

    Assumptions made about UGLy segment 6 include:

    - This UGLy line segment is 8-inch diameter VCP pipe. The line is assumed to be encased in concrete,

    - This UGLy line segment could be remediated at any time with minimal impact upon site operations. The major impediment to line remediation is the pipe bridge and it's overhead utilities, and

    - Ten percent of the overburden above this UGLy line segment is contaminated. It is further assumed that:

      - 0 % of the contaminated overburden is TRU waste,

      - 0 % of the contaminated overburden is mixed waste, and

      - 100% of the contaminated overburden is low level waste.

13. UGLy Line Segment 12. This UGLy sewer line segment is the lateral riser from the T Building sump that transported that building's hot waste to the main hot waste trunk line described in UGLy line segment 10.

    Assumptions made about UGLy segment 12 include:

    - This UGLy line segment is 3-inch diameter pipe,

    - Details of the placement of this UGLy line segment along the T Building wall and the length of the lateral/riser line are assumed to be present in T Building construction drawings.

    - This UGLy line segment could be remediated at any time with minimal impact upon site operations. The major impediment to the remediation of this line segment is the pipe bridge and it's overhead utilities, and

    - Ten percent of the overburden above this UGLy line segment is contaminated. It is further assumed that:

- 0 % of the contaminated overburden is TRU waste,
- 0 % of the contaminated overburden is mixed waste, and
- 100% of the contaminated overburden is low-level waste.

14. UGLy Line Segment 13. This UGLy sewer line segment runs ~ 217 ft. in a southeasterly direction from Manhole HW 8 to Manhole HW 10. The UGLy segment than continues in an easterly direction for ~ 184 ft. This line segment then continues for an additional ~47 ft. in an easterly direction to the edge of the DS Building. During this ~ 287 ft. traverse between Manhole HW 6 and the eastern end of this hot waste line, this UGLy line segment cross beneath a number of other underground utilities including:

    - Two ground wires,
    - An 8 inch diameter CIP sanitary sewer line, and
    - A 12-inch diameter storm water sewer line.

    In addition, this UGLy sewer segment between Manholes HW 8 and HW-10 crosses beneath an overhead pipe bridge containing active and inactive utilities. This UGLY line segment runs parallel to the same pipe bridge for it's entire ~ 184 ft. length.

    Assumptions made about UGLy segment 6 include:

    - The ~ 217 ft. UGLy line segment between Manhole HW 8 and HW 10 is an 8-inch diameter vitreous clay pipe. This pipe segment replaced a 5-inch diameter cast iron pipe that is abandoned in place adjacent to the 8-inch VCP pipe. It is assumed that the original cast iron is highly contaminated with low-level waste and that the replacement segment is slightly contaminated with low-level waste. It is further assumed that the original cast iron line is encased in concrete while the newer line is not encased in concrete and that this sewer segment is bedded in soil. Thus, the volume of remediated line waste must be doubled because of the presence of the abandoned line,
    - The ~ 184 ft. UGLy line segment between Manhole HW 10 and the end of the line is an 8 inch diameter cast iron pipe that is the original line installed at the time of T Building construction.
    - This UGLy line segment could be remediated at any time with minimal impact upon site operations. The major impediment to segment remediation is the pipe bridge and it's overhead utilities. Once this pipe bridge is abandoned, this UGLy section can be remediated. These are minimal below grade utility systems that impact the remediation of this UGLy line segment, and
    - Ten percent of the overburden above this UGLy line segment is contaminated. It is further assumed that:
        - 0 % of the contaminated overburden is TRU waste,

- 0 % of the contaminated overburden is mixed waste, and
- 100% of the contaminated overburden is low-level waste.

15. UGLy Line Segment 14. This UGLy sewer line segment is the three lateral risers from the T Building sumps that transported that building's hot waste to the main hot waste trunk line described in UGLy line segment 13.

    Assumptions made about UGLy segment 14 include:

    - This UGLy line segment consist of three 3-inch diameter pipe vertical riser that carried low risk and high risk wastes from T Building sumps to the hot waste main sewer trunk line for transport to the WD Building,
    - Details of the placement of this UGLy line segment along the T Building wall and the length of the lateral/riser line are assumed to be present in T Building construction drawings.
    - This UGLy line segment could be remediated at any time with minimal impact upon site operations. The major impediment to segment remediation is the pipe bridge and it's overhead utilities, and
    - Ten percent of the overburden above this UGLy line segment is contaminated. It is further assumed that:
        - 0 % of the contaminated overburden is TRU waste,
        - 0 % of the contaminated overburden is mixed waste, and
        - 100% of the contaminated overburden is low-level waste.

D. Cost Study Assumptions and Ground Rules

During the March 13-15 meeting, the Task Force developed a series of ground rules and assumptions for the completion of the cost study. These included general study assumptions and specific study assumptions. The following describes these assumptions.

General Cost Study Assumptions

1. During the Task Force site walk-downs of the UGLy system, it became clear that the remediation of these lines would be compromised and complicated by all of the underground and aboveground utilities serving the site. The aboveground utilities are run on pipe bridges that crisscross the site while the below ground lines run in individual trenches throughout the site. The task force concluded that it would be cost prohibitive to remediate the UGLy lines if the majority of these above and below ground utility systems remained in place. Thus, before the UGLy lines are remediated, the other utilities serving the site must be abandoned, isolated, and removed by others (i.e. the removal of these other utility systems will not be included in this cost estimate). However, the cost for the excavation of an underground utility to gain access to an UGLy line would be included in

the cost estimate. The Task Force believes that certain essential site utilities (e.g. storm water lines) can be handled (i.e. rerouted) during UGLy line remediation. However, the cost for such rerouting and isolation of these essential utilities will not be included in this cost estimated because a master plan for the eventual configuration of the site has not been developed (i.e. which sanitary storm sewers remain and which will require rerouting etc.?). Some examples of the site utilities that will impact UGLy line remediation include:

- Steam distribution from the central site power plant used for plant heat (distributed throughout the site on pipe bridges throughout the site),
- Condensate return to the site power plant (distributed throughout the site on pipe bridges),
- Glycol supply and return for site cooling (distributed throughout on pipe bridges),
- Plant air (distributed throughout the site in underground main headers),
- Process water (distributed throughout the site in underground main headers),
- Etc.

The coordination of UGLy line remediation with the removal of other Mound site utilities was the main problem identified by the Task Force that could affect the UGLY system remediation cost and schedule. Attempting to remediate the UGLY system without shutting down these other site utilities will be prohibitively expensive.

2. A related interference with UGLy system remediation involves utilities serving the SW Building. On of these utilities includes the liquid N_2 cryogenic storage tanks located on the west side of the SW building. This system is a part of the Tritium Environmental Recovery System, which must remain operational until this building is shut down. An UGLy main trunk line runs in a north south direction beneath this tank farm. A second SW Building utility impacting UGLy line remediation is an elevated building (Building 58) which houses the SW Building's HVAC fans and filter systems and thus must remain operational until this building is shut down. An east west UGLy main trunk line is located beneath Building 58. A third SW Building interference with UGLy line remediation is a large number of underground utility lines that serve the building. As a result of these three major interference's, the Task Force assumed that the UGLy lines to the north and west of the SW Building would not be remediated until SW Building operations were terminated.

3. The overburden above an UGLy line segment will be graded by the Task Force on a case-by-case basis estimating the percentage of soil radiological contamination, chemical contamination, and mixed waste contamination above waste disposal limits (depending upon location within the Mound site). This percentage will be applied to the quantity of overburden required to access the UGLy line at the depth in a sewer segment. The volume of overburden above an UGLy system line will be estimated and the volume of radiologically contaminated, chemically contaminated, and mixed waste contaminated soil calculated for each line segment.

4. Any irregularities in the contamination condition of soil overburden will be handled as an overall contingency assigned to each line segment.

5. Soils containing less than radiological contamination and chemical contamination limits will be returned to the site and used as backfill.

6. Fieldwork productivity's (i.e. ft^3 excavated and loaded per day) will be assigned by the type of contamination assumed (i.e. clean soil, low level radiological contamination, TRU radiological contamination). The estimated man-hours will be completed by line segment and the productivity will be added for each segment reflecting productivity and contamination assumptions for that segment.

7. A 20-inch wide bucket will be assumed for the remediation. It is assumed that all UGLy lines were placed in concrete and that this concrete is 48-inch wide concrete and 12 inches deep. The overburden above the line will be excavated in a 1 to 1 slope.

8. A decontamination/change room trailer will be provided at the site to support the field staff. Capabilities of this trailer complex will include change room with lockers, health physics instrumentation for personnel monitoring, and shower room with waste disposal capability.

9. The battery limit for UGLy line remediation will be five ft. from building. Within this limit, the building manager is responsible for UGLy line remediation. The principle exception to this assumption is the DS Building. The remediation of the UGLy line beneath the DS Building (and above the T Building) will be included in the cost estimate. In addition the remediation of all-UGLy line laterals and vertical risers originating in the T Building will be included in the cost estimate. (NOTE: The remediation of the UGLy main trunk line that runs beneath the SW Building and Manhole MH-xx located inside of the SW Building is the responsibility of the SW Building manager and will not be included in this cost estimate.)

10. General contingencies that will be added to the overall cost estimate include unknown TRU contamination, additional unknown mixed waste contamination, and unknown/unidentified UGLy lines. An across the board 15% will be added to the total cost estimate to cover these unknown/unidentified conditions.

    The cost estimate will not include cost for the final grading of the site and the final drainage of the site. Others will estimate this cost when final disposition plans for the site are completed.

Reference C

MLM-3791

EG&G
MOUND APPLIED TECHNOLOGIES

Mound Facility Physical Characterization

Prepared by William R. Tonne with contributors Barbara M. Alexander, Matthew R. Cage, Ernest H. Hase, Mark J. Schmidt, Jeanne E. Schneider, William Slusher, and James E. Todd

December 1, 1993

MOUND

is operated for the
U. S. Department of Energy
under contract No. DE-AC04-88-DP43495

SW BUILDING PHYSICAL CHARACTERIZATION

1) Current Mission Description

a) Facility Capabilities

SW Building is a 43,066-ft^2 building used for tritium component development (CD), component evaluation operations (CEO), tritium recovery (TR), and Material Analysis (MA). Originally constructed in 1950, the SW complex has undergone thirteen major additions.

b) Resources Required to Support Operations

Primary Physical Resources:
- Electricity
- Physical security
- Fire protection, sprinklers, fire department
- Potable water
- Sanitary drains
- HVAC
- Breathing air
- Liquid nitrogen
- Helium, nitrogen, argon gas
- Alpha and beta "hot" drains
- HEPA filtration

Services:
- Human Resources
- Finance and Accounting
- Environmental, Safety, and Health
- Maintenance
- Custodial
- Payroll
- Meal
- Supply

c) Current Safety Envelope

The SW Building operates under the FSAR (Final Safety Analysis Report) MLM-ML-92-42-0001.

d) Current Status

1. No formal CAS review has been done. A quick condition assessment was done in July 1992.

2. No formal CAMP review has been done based on the latest Reconfiguration decision. A CAMP report was submitted on April 1, 1992, which focused on ES&H needs, infrastructure maintenance, and consolidation projects.

2) Future Facility Use

a) Alternate Future Use Scenarios

1. WFO in the same discipline is unknown under recent May 27, 1993, reconfiguration guidance. Probably none.

2. WFO in a new discipline is unknown under recent May 27, 1993, reconfiguration guidance. Probably none.

3. Commercialization possibilities under a lease agreement: Unknown under recent May 27, 1993, reconfiguration guidance. Probably none.

4. Commercialization possibilities under a sale agreement: Unknown under recent May 27, 1993, reconfiguration guidance. Probably none

5. SW Building and equipment is contaminated with radiological materials. A May 1993 Mound Asbestos Survey identified SW as a building that contained asbestos.

b) Facility Modifications Required for Likely Use

None. Tritium recovery facilities could be used for the deactivation of tritium operation areas.

c) Facility Modifications Required for Other Uses

Unknown.

d) Changes to Safety Envelope

Unknown.

e) Cleanup Criteria for Each Future Use Scenario

SW Building is contaminated with radiological materials and asbestos.

f) Disposition of Surplus Equipment

Unknown.

Reference D

04 01 9607250041

MOUND

TECHNICAL MANUAL

MD–22153, ISSUE 1
MOUND SITE RADIONUCLIDES BY LOCATION

Section	Issue
Intro	1
1	1
2	1
3	1
Appen A	1
Appen B	1

Page	Issue
1	1
2	1
3	1

D.V. Eckman, DOE/MB

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TR– Wayne King, BD–91
Paul Lamberger, T–245
Al Ogurek, BD–91
E– M. J. Pacinda
Rob Robinson, A–22
Terry L. Vaughn. BD–91
Ray Weaver, BD–91
Drawing Control, OSW–3
Technical Manuals

CHANGES INCORPORATED

- [ ] Replace
- [ ] Insert (New Pages)
- [ ] Remove
- [ ] Complete Reprint

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

Terry L. Vaughn, Radiological Control Manager 6–22–95

Table 5 - SW BUILDING

ROOMS	RADIONUCLIDES AND RELATED COMPOUNDS	DATE USED
SW-2	H-3	1973-PRES
SW-8	H-3, Xe (all isotopes)	1957-1960
	H-3	1958-PRES
	H-3, U(238)(D,T), Li(D,T), Ba(D,T), Ti(D,T)	1960-1985
	H-3	1963-PRES
SW-9	See Appendix B	1965-PRES
	U(D,T), Li(D,T), U/Al(D,T) See Appendix B	1989-PRES
SW-10	H-3	1967-1972
SW-13, 11, 12, 14, 15, 16	Ru-106, Cs-137, Sb-125, Te-121,127, Zr-93, 95, Nb-94, Sr-90, Pu-238,239, Y-88,90,91, rare earths (especially Ce)	1951-1953
	Th-228,232, U-238, Ra-224,228, Th-232 daughters	1955
	Fe-55,59, Al-26, Ca-45, Co-60, Pa-231, Cu-65.	1956
	See Appendix B.	1959-1965
	H-3, U(D,T), LI(D,T), LiO(D,T), See Appendix B	1959-1978
	See Appendix B.	1964-1967
	H-3, U-238, U(D,T), See Appendix B. .	1968-PRES
	See Appendix B.	1969-1975
	See Appendix B.	1975-1978
SW-19	Ra-226, $Ra(CO_3)$, $Ra(NO_3)_2$, $RaBr_2$, Ac-227, $Ac(C_2O_4)_4$, AcF_2, K-40, Th-228,229,230, radon and daughters	1951-1953
	See Appendix B.	1962-1988
	H-3, Ra daughters, See Appendix B . .	1973-PRES
SW-20, 21	H-3	1961-1973

Table 5 - SW BUILDING

ROOMS	RADIONUCLIDES AND RELATED COMPOUNDS	DATE USED
SW-22	U-232,233, Th-228,229, Ra-224,225, Ac-225, Fr-221, At-217, Th-228 daughters	1966-1975
	Th-230,232, U-234,235,238, Pa-231, Ac-227, Ra-223,224,226, $Ac(NO_3)$, AcO_2.	1970-1979
	Po-208,209,210, Po-210 daughters . . .	1976-1979
	See Appendix B	1984-1986
SW-128, 129, 130,134	Th-230,232, U-234,235,238, Pa-231, Ac-227, Ra-223,224,226	1970-1979
SW-132	Th-230,232, U-234,235,238, Pa-231, Ac-227, Ra-223,224,226, $Ac(NO_3)$, AcO_2.	1970-1979
	Po-208,209,210, Po-210 daughters . . .	1976-1979
SW-136, 137	Th-230,232, U-234,235,238, Pa-231, Ac-227, Ra-223,224,226, $Ac(NO_3)$, AcO_2	1964-1979
SW-140	Ac-227, AcO_2, $Ac(NO_3)_2$, ...	1964-1968
	Th-230,232, U-234,235,238, Pa-231, Ac-227, Ra-223,224,226, $Ac(NO_3)$, AcO_2.	1974-1979
	Po-208,209,210, Po-210 daughters . . .	1976-1979
SW-142	Ra-226, $Ra(CO_3)$, $Ra(NO_3)_2$, $RaBr_2$, Ac-227, $Ac(C_2O_4)_4$, AcF_2, K-40, Th-228,229, 230, Po-208,209,210, radon and daughters	1950-1961
	See Appendix B	1959-1969
	See Appendix B	1962-1967
	H-3, U-238, U(D,T), See Appendix B .	1969-1985
SW-146, 147	H-3, U-238, U(D,T)	1967-1985
	Tritiated stainless steel.	1985-PRES

Table 5 - SW BUILDING

ROOMS	RADIONUCLIDES AND RELATED COMPOUNDS	DATE USED
SW-149, 149A	All radionuclides in SW Building . . . . H-3, HTO, tritiated organics . . . . . . H-3, HTO, tritiated organics	1965-1968 1969-PRES 1980-PRES
SW-150, 152	H-3, U-238(D,T), See Appendix B. . . . See Appendix B	1968-PRES 1973-PRES
SW-200	H-3.	1958-PRES
SW-202	Po-210 . . . . . . H-3.	1958-1962 1963-PRES
SW-205	H-3.	1958-PRES
SW-208	H-3, U-238(D,T), See Appendix B . . . . H-3, U-238(D,T), See Appendix B	1965-1989 1989-PRES
SW-210	H-3, U(238)(D,T), See Appendix B . . .	1968-1989
SW-219	Pu-238/Be, Pu-239/Be, Am-241, Pu-239 . . . . . . Po-210, Pu-238,239 . . . . . . H-3. . . . . . See Appendix B . . . . . . H-3, U-238(D,T), See Appendix B. . . .	 1962-1965 1966-1971 1968-1978 1968-1980 1985-PRES
SW-231	H-3, HTO	1970-PRES
SW-238,240	H-3, U-238(D,T), U-238, See Appendix B	1968-PRES

Note: All references to plutonium-238 was of the mixture ratio identified in the introduction to SW Building above. This mixture also included trace amounts of americium-241, neptunium-237, and uranium-234. Plutonium-239 used in the various projects was over 95% pure with trace amounts of plutonium-240,241. [611]

Reference E

Main Hill Underground Lines

PRSs 122-124

Preview of the PRS Package

Section 5

SW and B Building Service Summaries

HW Sewer Service Summary

- SW Building (Semi-Works Building)
- SW Building was used for the pilot scale testing and demonstration of chemical process technology
  - Tritium Program (1958 to 1998)
    - Radioisotopes include H^3 (95%) and U^{238} (100%)
    - Process operations and HW Sewer issues similar to those described for R Building

HW Sewer Service Summary

- SW Building (contd.)
  - Po^{209} and Pb^{206} Retrieval Program (1976-1979)
    - Po^{209} recovered from old Po^{210} program residues
    - radioisotopes include Po^{208} (0.8%), Po^{209} (87%), and Po^{210} (<0.001%). Pb^{206} in a stable isotope.

HW Sewer Service Summary

- SW Building (contd.)
  - Actinium-227/Radium226 R&D (1951-1953)
    - Pilot scale recovery of Ra^{226} and Ac^{226} recovery and purification pilot scale programs. See R Building discussions for process descriptions.
    - Operations conducted in "old cave"
    - Radioisotopes same as R Building including Ac^{227} (23%), Ra^{226} (98%), Th^{229} (100%), and Po^{209} (74%). In addition, K^{40} (100%) is also reported as a program radionuclide contaminant.

HW Sewer Service Summary

- SW Building (contd.)
  - Pa^{231} Recovery and Purification Program (1956)
    - Radioisotopes include Pa^{231} (100%), Co^{60} (0.4%), and Al^{26} (100%)
    - Processes, chemicals, and HW sewer issues similar to those described for this program conducted in R Building.

HW Sewer Service Summary

- SW Building (contd.)
  - Neutron Source Production (1962-1971)
    - Radioisotopes processed include Pu^{238} (0.8%), Pu^{239} (100%), Am^{241} (95%), and Po^{210} (<.001%).
    - Processes, chemicals, and HW sewer issues similar to those described for this program conducted in R Building.

HW Sewer Service Summary

- SW Building (contd.)
  - Cotter Concentrate Program (Pa^{231} and Th^{230} Recovery From Uranium ore [i.e. Pitch Blend] 1970 to 1979)
    - Radioisotopes include Ra^{226} (99%), Ac^{227} (52%), Th^{230} (100%), Th^{232} (100%), Pa^{231} (100%), U^{233}, U^{234} (100%), U^{235} (100%), and U^{238} (100%).
    - Chemical constituents in ore include Na, Si, V, Pb, Be, Mg, and Ag.

HW Sewer Service Summary

- SW Building (contd.)
  - Cotter Concentrate Program
    - Recover Th^{230} and Pa^{231} from uranium ore refining residues using:
      - HNO_3 dissolution of U refining residues,
      - solvent extraction with di-sec-butylphenyl phosponate/CCl_4 followed by solvent extraction with TOPO/CCl_4,
      - H_2SO_4 striping Th,
      - Pa recovered with di-2-ethylhexyl phosphoric acid/CCl_4.

HW Sewer Service Summary

- SW Building (contd.)
  - Th^{229} Separation Program (1966-1981)
    - Radioisotopes include U^{232} (84%), U^{233} (100%), Th^{228} (0.15%), and Th^{229} (100%)
    - Th^{229} milked from aged U^{233}
      - isotope used to make Francium-221 and Astatine-217 by neutron irradiation

HW Sewer Service Summary

- SW Building (contd.)
  - Th^{229} Separation Program
    - Recovery process includes
      - U^{233} dissolution in HNO_3,
      - Solvent extraction with di-sec-butylphenyl-phosphonate and TOPO in diethylbenzene,
      - Th stripped from organic with $H_2C_2O_4$ and HNO_3

HW Sewer Service Summary

- SW Building (contd.)
  - Th^{232} Refinery Program (Monex Program [1955])
    - Radioisotopes include Th^{232} (100%), U_{238} (100%), and Ra^{228} (0.5%). In addition, Th^{232} daughters are present including Ra^{228}, Ac^{228}, Th^{228}, Ra^{224}, Rn^{220}, Po^{216}, Pb^{214}, Bi^{212}, and Po^{212} are present. Th^{228} daughters are present including Ra^{224}, Rn^{220}, Po^{216}, Pb^{214}, Bi^{212}, Tl^{208}, and Po^{212}.

HW Sewer Service Summary

- SW Building (contd.)
  - Th^{232} Refinery Program (Monex Program)
    - Develop Th recovery flowsheets for the recovery and refining of Th^{232} from Brazilian ore sludge's and other AEC residues. Refinery designed by never built. Process research continued.

HW Sewer Service Summary

- SW Building (contd.)
  - Th^{232} Refinery Program (Monex Program)
    - Process included
      - NaOH leaching of sludge
      - HCl leaching of sludge
      - sludge dissolution in HNO_3,
      - solvent extraction with TBP/kerosene, and
      - Th stripped from organic with HNO_3
      - Th metal (cleaned in trichloroethylene) also used as process feed

HW Sewer Service Summary

- SW Building (contd.)
  - Hanford/Oak Ridge Waste Reduction Program {i.e. spent nuclear fuel reprocessing} (1951-1953)
    - standard fission products [I.e. Cs^{137}(34%), Sr^{90} [31%], Zr^{93}(100%),Nb^{94} (100%), Ce^{144} (<0.01%), Ru^{106} (<0.01%), Tc^{99} (100%), etc.]
    - Pu^{238} (68%), Pu^{239} (100%),
    - Bismuth Phosphate, Purex Process, Redox Processes

HW Sewer Service Summary

- SW Building (contd.)
  - Hanford/Oak Ridge Waste Reduction Program
    - Processes, chemicals, and HW sewer issues similar to those described for this program conducted in R Building.

Reference F

ACTION MEMORANDUM
ENGINEERING EVALUATION/COST ANALYSIS

BUILDINGS R, SW, 58, AND 68 SLAB REMOVAL ACTION

MOUND PLANT
MIAMISBURG, OHIO

NOVEMBER 2000

Public Review Draft

(Revision 0)

Department of Energy

BWXT of Ohio

Table 5.1 Clean-Up Objectives

Contaminant	Risk Based Guideline Values (10^{-5})[1]	Background Values[4]	Clean-Up Objective
Actinium-227 + decay products in secular equilibrium to Lead-207	10 pCi/g	NA	10 pCi/g
Americium-241	49.5 pCi/g	ND	49.5 pCi/g
Bismuth-207	1.75 pCi/g	ND	1.75 pCi/g
Cesium-137 + decay products in secular equilibrium to Barium-137	4.6 pCi/g	0.42 pCi/g	4.6 pCi/g
Lead-210 + decay products in secular equilibrium to Lead-206	17 pCi/g	NA	17 pCi/g
Protactinium-231 + decay products in secular equilibrium to Lead-207	6.9 pCi/g[6]	NA	6.9 pCi/g
Plutonium-238	55 pCi/g	0.13 pCi/g	55 pCi/g
Plutonium-239/240	55 pCi/g	0.18 pCi/g	55 pCi/g
Radium-226 + decay products in secular equilibrium to Lead-210	1.4 pCi/g	2.0 pCi/g	3.4 pCi/g
Strontium-90 + decay products in secular equilibrium to Zirconium-90	30 pCi/g	0.72 pCi/g	30 pCi/g
Thorium-228 + decay products in secular equilibrium to Lead 208	1 pCi/g[3]	1.5 pCi/g	3.0 pCi/g[5]
Thorium-230 + decay products in secular equilibrium to Lead-206	1.3 pCi/g[2]	1.9 pCi/g	3.2 pCi/g[2]
Thorium-232 + decay products in secular equilibrium to Lead-208	1 pCi/g[3]	1.4 pCi/g	3.0 pCi/g[5]
Tritium	235,000 pCi/g	1.6 pCi/g	235,000 pCi/g
Uranium-233 + decay products in secular equilibrium to Bismuth-209	9.7 pCi/g[6]	NA	9.7 pCi/g
Uranium-234 + decay products in secular equilibrium to Lead-206	1.3 pCi/g[6]	1.1 pCi/g	2.4 pCi/g
Uranium-238 + decay products in secular equilibrium to Lead-206	1.2 pCi/g[2]	1.2 pCi/g	2.4 pCi/g[7]

(1) Mound Plant Construction Worker, 1 x 10^{-5} Risk Based Guideline Value (RBGV) concentrations for soil and sediment (DOE 1997).
(2) Taken from HH Building Action Memo, Draft, July 2000.
(3) Values are presented in "Technical Position Report in Support of the Release Block H Residual Risk Evaluation," Final, Rev. 0, July 1999.
(4) Mound 2000 RREM, Final (DOE 1997).
(5) Core Team approved As Low As Reasonably Achievable (ALARA) concentration value based on the quantification limitations of the Mound on-site screening lab.
(6) Calculations of 10^{-5} Risk Based Guideline Values are attached in Appendix A.
(7) If Uranium-238 is present in concentrations greater than 2.4 pCi/g, evaluate secular equilibrium with daughters. If secular equilibrium exists, use 2.4 pCi/g as clean up goal. If secular equilibrium does not exist, adjust Uranium-238 clean-up goal upward to account for reduced daughter concentrations.
NA = Not Available; ND = Not Detected

9. RECOMMENDATION

This decision document represents the selected removal action for Buildings R, SW, 68 Slab and 58, developed in accordance with CERCLA as amended by SARA, and not inconsistent with the NCP. This decision is based on the administrative record for the site.

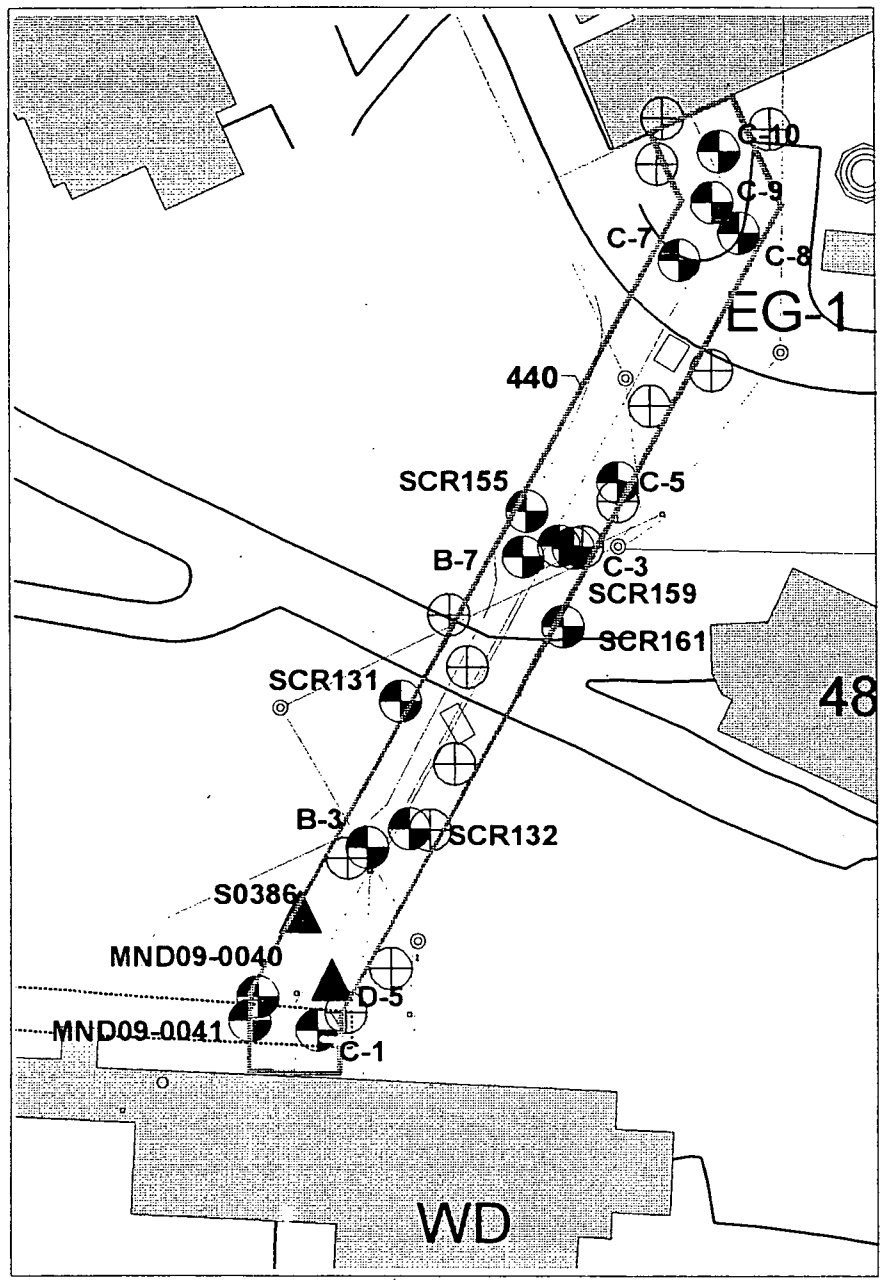
Conditions at the site meet the NCP Section 300.415 (b)(2) criteria for a removal and we recommend initiation of the response action.

Approved:

Art Kleinrath, On Scene Coordinator	DOE/MEMP	10/18/2000 Date
Timothy J. Fischer, Remedial Project Manager	USEPA	11/16/00 Date
Brain K. Nickel, Project Manager	OEPA	10/18/00 Date

Reference G

PRS 440 Sample Locations



PRS 440 Boundary
PRS 440 Hits
PRS 440 Hits Outline
PRS 440 Sample Locations Outline
Soil Boring Outline
Surface Sample Outline
Hot Waste Lines
Line
Manhole
Building Label
Text Bldg ID
Building Outline
Hidden Building Outline
Building Outline
Building
Color Fill
Transportation Text
Textinformation
Roads
Paved Drives/Parking
Unpaved Drives/Parking

20 0 20 40 60 80 100 Feet

N
W E
S

Location_name	Sample_id	Location_typ	Collection_d	Value_name	Measured_valu	Value_un	Detection_	Chem_clas	Start_de	End_dep	CAS_number	Lab_(	Data	Project_cod	Media	Collection_m	Comments
B-3	4003-0014	Borehole	19930811	Aluminum	9620.000	MG/KG		INORG	12.5	14.5	7429-90-5		J	MND16	Soil		
B-3	4003-0014	Borehole	19930811	Arsenic	4.000	MG/KG		INORG	12.5	14.5	7440-38-2			MND16	Soil		
B-3	4003-0014	Borehole	19930811	Barium	25.000	MG/KG		INORG	12.5	14.5	7440-39-3	B	J	MND16	Soil		
B-3	4003-0014	Borehole	19930811	Beryllium	0.660	MG/KG		INORG	12.5	14.5	7440-41-7	B		MND16	Soil		
B-3	4003-0014	Borehole	19930811	Calcium	167000.000	MG/KG		INORG	12.5	14.5	7440-70-2			MND16	Soil		
B-3	4003-0014	Borehole	19930811	Chromium	12.900	MG/KG		INORG	12.5	14.5	7440-47-3		J	MND16	Soil		
B-3	4003-0014	Borehole	19930811	Cobalt	9.000	MG/KG		INORG	12.5	14.5	7440-48-4	B		MND16	Soil		
B-3	4003-0014	Borehole	19930811	Copper	13.100	MG/KG		INORG	12.5	14.5	7440-50-8			MND16	Soil		
B-3	4003-0014	Borehole	19930811	Iron	17300.000	MG/KG		INORG	12.5	14.5	7439-89-6			MND16	Soil		
B-3	4003-0014	Borehole	19930811	Lead	6.200	MG/KG		INORG	12.5	14.5	7439-92-1			MND16	Soil		
B-3	4003-0014	Borehole	19930811	Magnesium	36100.000	MG/KG		INORG	12.5	14.5	7439-95-4			MND16	Soil		
B-3	4003-0014	Borehole	19930811	Manganese	547.000	MG/KG		INORG	12.5	14.5	7439-96-5			MND16	Soil		
B-3	4002-0014	Borehole	19930811	Methylene Chloride	22.000	UG/KG		ORVOA	12.5	14.5	75-09-2		J	MND16	Soil		
B-3	4003-0014	Borehole	19930811	pH	7.400	STD UNIT		GENERA	12.5	14.5	1006			MND16	Soil		
B-3	4003-0014	Borehole	19930811	Potassium	2530.000	MG/KG		INORG	12.5	14.5	7440-09-7			MND16	Soil		2-Exceeds background value.
B-3	4003-0014	Borehole	19930811	Selenium	0.860	MG/KG		INORG	12.5	14.5	7782-49-2	B		MND16	Soil		2-Exceeds background value.
B-3	4003-0014	Borehole	19930811	Sodium	252.000	MG/KG		INORG	12.5	14.5	7440-23-5	B		MND16	Soil		2-Exceeds background value.
B-3	4003-0014	Borehole	19930811	Strontium-90	0.200	PCI/G	0.740	RAD	12.5	14.5	10098-97-2			MND16	Soil		
B-3	4003-0014	Borehole	19930811	Thallium	23.900	MG/KG		INORG	12.5	14.5	7440-28-0			MND16	Soil		2-Exceeds background value.
B-3	4003-0014	Borehole	19930811	Vanadium	13.400	MG/KG		INORG	12.5	14.5	7440-62-2	B		MND16	Soil		
B-3	4003-0014	Borehole	19930811	Zinc	37.200	MG/KG		INORG	12.5	14.5	7440-66-6			MND16	Soil		
B-7	4007-0005	Borehole	19930823	Aluminum	10400.000	MG/KG		INORG	3.5	5.0	7429-90-5			MND16	Soil		
B-7	4007-0005	Borehole	19930823	Arsenic	3.000	MG/KG		INORG	3.5	5.0	7440-38-2			MND16	Soil		
B-7	4007-0005	Borehole	19930823	Barium	52.600	MG/KG		INORG	3.5	5.0	7440-39-3	B		MND16	Soil		
B-7	4007-0005	Borehole	19930823	Beryllium	0.780	MG/KG		INORG	3.5	5.0	7440-41-7	B		MND16	Soil		1-Exceeds soil 10-6 GV.
B-7	4007-0005	Borehole	19930823	Calcium	222000.000	MG/KG		INORG	3.5	5.0	7440-70-2			MND16	Soil		
B-7	4007-0005	Borehole	19930823	Chromium	12.400	MG/KG		INORG	3.5	5.0	7440-47-3		J	MND16	Soil		
B-7	4007-0005	Borehole	19930823	Cobalt	6.800	MG/KG		INORG	3.5	5.0	7440-48-4	B		MND16	Soil		
B-7	4007-0005	Borehole	19930823	Copper	8.500	MG/KG		INORG	3.5	5.0	7440-50-8	B		MND16	Soil		
B-7	4007-0005	Borehole	19930823	Iron	17900.000	MG/KG		INORG	3.5	5.0	7439-89-6			MND16	Soil		
B-7	4007-0005	Borehole	19930823	Lead	8.700	MG/KG		INORG	3.5	5.0	7439-92-1		J	MND16	Soil		
B-7	4007-0005	Borehole	19930823	Magnesium	7150.000	MG/KG		INORG	3.5	5.0	7439-95-4			MND16	Soil		
B-7	4007-0005	Borehole	19930823	Manganese	574.000	MG/KG		INORG	3.5	5.0	7439-96-5			MND16	Soil		
B-7	4007-0005	Borehole	19930823	Neptunium-237	-0.240	PCI/G	0.180	RAD	3.5	5.0	13994-20-2			MND16	Soil		
B-7	4007-0005	Borehole	19930823	pH	6.800	STD UNIT		GENERA	3.5	5.0	1006			MND16	Soil		
B-7	4007-0005	Borehole	19930823	Plutonium-238	0.680	PCI/G	0.160	RAD	3.5	5.0	13981-16-3	*		MND16	Soil		2-Exceeds background value.
B-7	4007-1007	Borehole	19930823	Plutonium-238	0.690	PCI/G	0.140	RAD	3.5	5.0	13981-16-3			MND16	Soil		2-Exceeds background value.
B-7	4007-1007	Borehole	19930823	Plutonium-239/240	0.027	PCI/G	0.100	RAD	3.5	5.0	PU-239/240			MND16	Soil		
B-7	4007-0005	Borehole	19930823	Plutonium-239/240	0.099	PCI/G	0.120	RAD	3.5	5.0	PU-239/240			MND16	Soil		
B-7	4007-0005	Borehole	19930823	Plutonium-242	-0.077	PCI/G	0.710	RAD	3.5	5.0	13982-10-0			MND16	Soil		
B-7	4007-1007	Borehole	19930823	Plutonium-242	0.240	PCI/G	0.380	RAD	3.5	5.0	13982-10-0			MND16	Soil		
B-7	4007-0005	Borehole	19930823	Potassium	2960.000	MG/KG		INORG	3.5	5.0	7440-09-7		J	MND16	Soil		2-Exceeds background value.
B-7	4007-0005	Borehole	19930823	Sodium	176.000	MG/KG		INORG	3.5	5.0	7440-23-5	B		MND16	Soil		
B-7	4007-1007	Borehole	19930823	Strontium-90	0.160	PCI/G	0.510	RAD	3.5	5.0	10098-97-2			MND16	Soil		
B-7	4007-0005	Borehole	19930823	Strontium-90	0.730	PCI/G	0.720	RAD	3.5	5.0	10098-97-2	N		MND16	Soil		2-Exceeds background value.
B-7	4007-0005	Borehole	19930823	Thallium	15.700	MG/KG		INORG	3.5	5.0	7440-28-0	B		MND16	Soil		2-Exceeds background value.
B-7	4007-1007	Borehole	19930823	Uranium-234	0.510	PCI/G	0.380	RAD	3.5	5.0	13966-29-5			MND16	Soil		
B-7	4007-0005	Borehole	19930823	Uranium-234	0.670	PCI/G	0.260	RAD	3.5	5.0	13966-29-5			MND16	Soil		
B-7	4007-1007	Borehole	19930823	Uranium-238	-0.018	PCI/G	0.310	RAD	3.5	5.0	7440-61-1			MND16	Soil		
B-7	4007-0005	Borehole	19930823	Uranium-238	0.130	PCI/G	0.210	RAD	3.5	5.0	7440-61-1			MND16	Soil		
B-7	4007-1007	Borehole	19930823	Uranium-238	0.280	PCI/G	0.340	RAD	3.5	5.0	7440-61-1			MND16	Soil		
B-7	4007-0005	Borehole	19930823	Uranium-238	1.000	PCI/G	0.230	RAD	3.5	5.0	7440-61-1			MND16	Soil		
B-7	4007-0005	Borehole	19930823	Vanadium	14.700	MG/KG		INORG	3.5	5.0	7440-62-2	B		MND16	Soil		
B-7	4007-0005	Borehole	19930823	Zinc	41.500	MG/KG		INORG	3.5	5.0	7440-66-6			MND16	Soil		
C-1	5001-0003	Borehole	19930805	Acetone	28.000	UG/KG		ORVOA	2.0	4.0	67-64-1		J	MND16	Soil		
C-1	5001-0003	Borehole	19930805	Aluminum	3440.000	MG/KG		INORG	2.0	4.0	7429-90-5		J	MND16	Soil		
C-1	5001-0003	Borehole	19930805	Arsenic	6.000	MG/KG		INORG	2.0	4.0	7440-38-2			MND16	Soil		
C-1	5001-0003	Borehole	19930805	Barium	41.200	MG/KG		INORG	2.0	4.0	7440-39-3	B	J	MND16	Soil		
C-1	5001-0003	Borehole	19930805	Beryllium	0.230	MG/KG		INORG	2.0	4.0	7440-41-7	B		MND16	Soil		
C-1	5001-0003	Borehole	19930805	Calcium	97800.000	MG/KG		INORG	2.0	4.0	7440-70-2			MND16	Soil		
C-1	5001-0003	Borehole	19930805	Chromium	6.500	MG/KG		INORG	2.0	4.0	7440-47-3		J	MND16	Soil		
C-1	5001-0003	Borehole	19930805	Cobalt	3.100	MG/KG		INORG	2.0	4.0	7440-48-4	B		MND16	Soil		
C-1	5001-0003	Borehole	19930805	Fluoranthene	170.000	UG/KG		ORSVO	2.0	4.0	206-44-0	J		MND16	Soil		
C-1	5001-0003	Borehole	19930805	Iron	9010.000	MG/KG		INORG	2.0	4.0	7439-89-6			MND16	Soil		
C-1	5001-0003	Borehole	19930805	Lead	8.700	MG/KG		INORG	2.0	4.0	7439-92-1			MND16	Soil		
C-1	5001-0003	Borehole	19930805	Magnesium	39700.000	MG/KG		INORG	2.0	4.0	7439-95-4			MND16	Soil		
C-1	5001-0003	Borehole	19930805	Manganese	330.000	MG/KG		INORG	2.0	4.0	7439-96-5			MND16	Soil		
C-1	5001-0003	Borehole	19930805	pH	7.200	STD UNIT		GENERA	2.0	4.0	1006			MND16	Soil		
C-1	5001-0003	Borehole	19930805	Potassium	634.000	MG/KG		INORG	2.0	4.0	7440-09-7	B		MND16	Soil		
C-1	5001-0003	Borehole	19930805	Pyrene	160.000	UG/KG		ORSVO	2.0	4.0	129-00-0	J		MND16	Soil		
C-1	5001-0003	Borehole	19930805	Selenium	0.590	MG/KG		INORG	2.0	4.0	7782-49-2	B		MND16	Soil		2-Exceeds background value.
C-1	5001-0003	Borehole	19930805	Sodium	150.000	MG/KG		INORG	2.0	4.0	7440-23-5	B		MND16	Soil		
C-1	5001-0003	Borehole	19930805	Thallium	13.000	MG/KG		INORG	2.0	4.0	7440-28-0			MND16	Soil		2-Exceeds background value.
C-1	5001-0003	Borehole	19930805	Tritium	-0.050	PCI/G	0.380	RAD	2.0	4.0	10028-17-8	N		MND16	Soil		

Location_name	Sample_id	Location_typ	Collection_d	Value_name	Measured_valu	Value_un	Detection_	Chem_clas	Start_de	End_dep	CAS_number	Lab_	Data	Project_cod	Media	Collection_m	Comments
C-1	5001-0003	Borehole	19930805	Vanadium	9.400	MG/KG		INORG	2.0	4.0	7440-62-2	B		MND16	Soil		
C-1	5001-0003	Borehole	19930805	Xylenes, Total	24.000	UG/KG		ORVOA	2.0	4.0	1330-20-7		J	MND16	Soil		
C-1	5001-0003	Borehole	19930805	Zinc	29.400	MG/KG		INORG	2.0	4.0	7440-66-6			MND16	Soil		
C-10	5010-0001	Borehole	19930909	Tritium	0.290	PCI/G	0.330	RAD	1.0	3.0	10028-17-8			MND16	Soil		
C-3	5003-0006	Borehole	19930820	Tritium	0.120	PCI/G	0.360	RAD	5.5	7.5	10028-17-8			MND16	Soil		
C-5	5005-0014	Borehole	19930819	Tritium	0.720	PCI/G	0.360	RAD	13.5	14.7	10028-17-8			MND16	Soil		
C-5	5005-1014	Borehole	19930819	Tritium	0.870	PCI/G	0.360	RAD	13.5	14.7	10028-17-8			MND16	Soil		
C-7	5007-0013	Borehole	19930913	Tritium	97.000	PCI/G	0.360	RAD	13.0	15.0	10028-17-8			MND16	Soil		2-Exceeds background value.
C-8	5008-0010	Borehole	19930909	Tritium	90.000	PCI/G	0.410	RAD	9.5	11.5	10028-17-8			MND16	Soil		2-Exceeds background value.
C-9	5009-0006	Borehole	19930909	Aluminum	1940.000	MG/KG		INORG	5.0	7.0	7429-90-5			MND16	Soil		
C-9	5009-0006	Borehole	19930909	Arsenic	3.600	MG/KG		INORG	5.0	7.0	7440-38-2		J	MND16	Soil		
C-9	5009-0006	Borehole	19930909	Barium	17.700	MG/KG		INORG	5.0	7.0	7440-39-3	B		MND16	Soil		
C-9	5009-0006	Borehole	19930909	Butyl Benzyl Phthalate	440.000	UG/KG		ORSVO	5.0	7.0	85-68-7	J		MND16	Soil		
C-9	5009-0006	Borehole	19930909	Calcium	171000.000	MG/KG		INORG	5.0	7.0	7440-70-2			MND16	Soil		
C-9	5009-0006	Borehole	19930909	Chromium	5.800	MG/KG		INORG	5.0	7.0	7440-47-3		J	MND16	Soil		
C-9	5009-0006	Borehole	19930909	Cobalt	2.700	MG/KG		INORG	5.0	7.0	7440-48-4	B		MND16	Soil		
C-9	5009-0006	Borehole	19930909	Copper	7.400	MG/KG		INORG	5.0	7.0	7440-50-8	B		MND16	Soil		
C-9	5009-0006	Borehole	19930909	Iron	7170.000	MG/KG		INORG	5.0	7.0	7439-89-6			MND16	Soil		
C-9	5009-0006	Borehole	19930909	Lead	4.600	MG/KG		INORG	5.0	7.0	7439-92-1		J	MND16	Soil		
C-9	5009-0006	Borehole	19930909	Magnesium	59800.000	MG/KG		INORG	5.0	7.0	7439-95-4			MND16	Soil		2-Exceeds background value.
C-9	5009-0006	Borehole	19930909	Manganese	223.000	MG/KG		INORG	5.0	7.0	7439-96-5			MND16	Soil		
C-9	5009-0006	Borehole	19930909	pH	9.200	STD UNIT		GENERA	5.0	7.0	1006			MND16	Soil		
C-9	5009-0006	Borehole	19930909	Sodium	177.000	MG/KG		INORG	5.0	7.0	7440-23-5	B		MND16	Soil		
C-9	5009-0006	Borehole	19930909	Thallium	12.700	MG/KG		INORG	5.0	7.0	7440-28-0	B		MND16	Soil		2-Exceeds background value.
C-9	5009-0006	Borehole	19930909	Tritium	2.100	PCI/G	0.330	RAD	5.0	7.0	10028-17-8			MND16	Soil		2-Exceeds background value.
C-9	5009-0006	Borehole	19930909	Vanadium	7.100	MG/KG		INORG	5.0	7.0	7440-62-2	B		MND16	Soil		
C-9	5009-0006	Borehole	19930909	Zinc	25.300	MG/KG		INORG	5.0	7.0	7440-66-6			MND16	Soil		
D-5	9207070009	Surface loca	19920707	Tritium	0.000	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9207080009	Surface loca	19920708	Tritium	0.000	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9503280021	Surface loca	19950322	Tritium	0.000	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9503290009	Surface loca	19950329	Tritium	0.000	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9504110009	Surface loca	19950411	Tritium	0.043	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9206150009	Surface loca	19920615	Tritium	0.089	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9503270009	Surface loca	19950327	Tritium	0.146	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9408230008	Surface loca	19940823	Tritium	0.233	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9206250009	Surface loca	19920625	Tritium	0.285	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9208190020	Surface loca	19920819	Tritium	0.289	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9207090009	Surface loca	19920709	Tritium	0.298	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9503280021	Surface loca	19950322	Tritium	0.308	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9502270009	Surface loca	19950227	Tritium	0.377	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9508020015	Surface loca	19950802	Tritium	0.388	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9502230009	Surface loca	19950223	Tritium	0.393	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9309010022	Surface loca	19930901	Tritium	0.404	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9504060060	Surface loca	19950406	Tritium	0.413	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9206170009	Surface loca	19920617	Tritium	0.442	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9503160009	Surface loca	19950316	Tritium	0.469	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9207090009	Surface loca	19920709	Tritium	0.480	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9503200009	Surface loca	19950320	Tritium	0.550	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9207020009	Surface loca	19920702	Tritium	0.563	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9503280009	Surface loca	19950328	Tritium	0.607	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9504060046	Surface loca	19950405	Tritium	0.627	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9205220009	Surface loca	19920522	Tritium	0.637	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9208190008	Surface loca	19920818	Tritium	0.692	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9308160009	Surface loca	19930816	Tritium	0.695	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9506150015	Surface loca	19950613	Tritium	0.717	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9506150007	Surface loca	19950615	Tritium	0.718	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9312220009	Surface loca	19931222	Tritium	0.725	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9206230009	Surface loca	19920623	Tritium	0.768	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9408240008	Surface loca	19940824	Tritium	0.775	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9206010022	Surface loca	19920601	Tritium	0.780	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9504100009	Surface loca	19950410	Tritium	0.784	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9504190009	Surface loca	19950419	Tritium	0.796	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9507110009	Surface loca	19950711	Tritium	0.819	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9504060060	Surface loca	19950406	Tritium	0.820	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9207010009	Surface loca	19920701	Tritium	0.843	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9308300009	Surface loca	19930830	Tritium	0.847	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9206240009	Surface loca	19920624	Tritium	0.872	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9508160017	Surface loca	19950810	Tritium	0.899	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9508160037	Surface loca	19950815	Tritium	0.912	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9205050009	Surface loca	19920505	Tritium	0.921	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9503150009	Surface loca	19950315	Tritium	0.927	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9205070009	Surface loca	19920507	Tritium	0.928	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9507170009	Surface loca	19950717	Tritium	0.981	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9506200009	Surface loca	19950620	Tritium	0.982	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	

Location_name	Sample_id	Location_typ	Collection_d	Value_name	Measured_valu	Value_un	Detection_	Chem_clas	Start_de	End_dep	CAS_number	Lab_	Data	Project_cod	Media	Collection_m	Comments
D-5	9504190009	Surface loca	19950419	Tritium	1.014	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9506150024	Surface loca	19950614	Tritium	1.017	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9503300009	Surface loca	19950330	Tritium	1.028	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9307270009	Surface loca	19930727	Tritium	1.045	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9205140009	Surface loca	19920514	Tritium	1.048	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9504060033	Surface loca	19950404	Tritium	1.063	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9408230008	Surface loca	19940823	Tritium	1.083	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9401260009	Surface loca	19940126	Tritium	1.102	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9205180009	Surface loca	19920518	Tritium	1.107	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9205060009	Surface loca	19920506	Tritium	1.111	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9505090009	Surface loca	19950509	Tritium	1.114	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9310050021	Surface loca	19931004	Tritium	1.132	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9209080009	Surface loca	19920903	Tritium	1.150	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9309090021	Surface loca	19930902	Tritium	1.160	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9507200009	Surface loca	19950720	Tritium	1.166	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9506050007	Surface loca	19950605	Tritium	1.178	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9508020008	Surface loca	19950801	Tritium	1.190	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9506280009	Surface loca	19950628	Tritium	1.212	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9507100009	Surface loca	19950710	Tritium	1.229	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9309010009	Surface loca	19930831	Tritium	1.237	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9503230009	Surface loca	19950323	Tritium	1.261	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9505230008	Surface loca	19950523	Tritium	1.261	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9505250009	Surface loca	19950525	Tritium	1.271	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9505240009	Surface loca	19950524	Tritium	1.273	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9506060008	Surface loca	19950606	Tritium	1.303	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9506120017	Surface loca	19950608	Tritium	1.315	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9205050009	Surface loca	19920505	Tritium	1.320	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9206300009	Surface loca	19920630	Tritium	1.338	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9206180009	Surface loca	19920618	Tritium	1.341	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9508230007	Surface loca	19950823	Tritium	1.350	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9401250009	Surface loca	19940125	Tritium	1.354	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9502080007	Surface loca	19950208	Tritium	1.356	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9208250008	Surface loca	19920825	Tritium	1.360	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9506060008	Surface loca	19950606	Tritium	1.371	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9401240007	Surface loca	19940124	Tritium	1.378	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9208240008	Surface loca	19920824	Tritium	1.385	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9205130009	Surface loca	19920512	Tritium	1.395	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9506120028	Surface loca	19950612	Tritium	1.399	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9206230009	Surface loca	19920623	Tritium	1.417	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9506120009	Surface loca	19950607	Tritium	1.425	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9504200009	Surface loca	19950420	Tritium	1.427	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9205210009	Surface loca	19920521	Tritium	1.458	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9504170009	Surface loca	19950417	Tritium	1.486	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9206290009	Surface loca	19920629	Tritium	1.490	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9507130009	Surface loca	19950713	Tritium	1.493	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9408220009	Surface loca	19940822	Tritium	1.498	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9309010009	Surface loca	19930831	Tritium	1.499	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9506120028	Surface loca	19950612	Tritium	1.529	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9207140009	Surface loca	19920714	Tritium	1.530	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9209080009	Surface loca	19920903	Tritium	1.542	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9408090010	Surface loca	19940808	Tritium	1.552	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9408180009	Surface loca	19940818	Tritium	1.555	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9207060009	Surface loca	19920706	Tritium	1.561	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9504170021	Surface loca	19950412	Tritium	1.571	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9412210009	Surface loca	19941221	Tritium	1.576	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9503020009	Surface loca	19950302	Tritium	1.580	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9507190009	Surface loca	19950719	Tritium	1.588	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9205190008	Surface loca	19920519	Tritium	1.588	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9308170009	Surface loca	19930817	Tritium	1.594	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9508160007	Surface loca	19950809	Tritium	1.601	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9309080021	Surface loca	19930907	Tritium	1.603	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9409220009	Surface loca	19940922	Tritium	1.615	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9503140009	Surface loca	19950314	Tritium	1.618	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9505310009	Surface loca	19950531	Tritium	1.618	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9506220009	Surface loca	19950622	Tritium	1.643	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9209170008	Surface loca	19920917	Tritium	1.654	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9501310008	Surface loca	19950131	Tritium	1.659	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9301250020	Surface loca	19930120	Tritium	1.665	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9506190009	Surface loca	19950619	Tritium	1.675	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9507180009	Surface loca	19950718	Tritium	1.676	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9505170008	Surface loca	19950517	Tritium	1.686	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9508080016	Surface loca	19950803	Tritium	1.689	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9307130009	Surface loca	19930713	Tritium	1.702	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9403220009	Surface loca	19940322	Tritium	1.706	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	

Location_name	Sample_id	Location_typ	Collection_d	Value_name	Measured_valu	Value_un	Detection	Chem_cla	Start_de	End_de	CAS_number	Lab_	Data	Project_cod	Media	Collection_m	Comments
D-5	9307150009	Surface loca	19930714	Tritium	1.734	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9408090010	Surface loca	19940808	Tritium	1.744	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9308040009	Surface loca	19930803	Tritium	1.764	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9505300013	Surface loca	19950530	Tritium	1.769	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9502070009	Surface loca	19950207	Tritium	1.771	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9507120029	Surface loca	19950706	Tritium	1.775	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9209140009	Surface loca	19920914	Tritium	1.780	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9502280009	Surface loca	19950228	Tritium	1.784	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9504180009	Surface loca	19950418	Tritium	1.787	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9508220018	Surface loca	19950821	Tritium	1.792	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9308120009	Surface loca	19930812	Tritium	1.793	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9507310008	Surface loca	19950731	Tritium	1.793	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9507310008	Surface loca	19950731	Tritium	1.793	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9507100009	Surface loca	19950710	Tritium	1.816	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9508160027	Surface loca	19950814	Tritium	1.822	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9307220009	Surface loca	19930722	Tritium	1.847	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9301250020	Surface loca	19930120	Tritium	1.850	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9306020023	Surface loca	19930602	Tritium	1.865	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9403230009	Surface loca	19940323	Tritium	1.879	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9401270009	Surface loca	19940127	Tritium	1.881	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9205040009	Surface loca	19920504	Tritium	1.887	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9408030009	Surface loca	19940803	Tritium	1.919	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9307270009	Surface loca	19930727	Tritium	1.925	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9507120007	Surface loca	19950712	Tritium	1.931	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9306030009	Surface loca	19930603	Tritium	1.935	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9209080034	Surface loca	19920908	Tritium	1.942	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9502220009	Surface loca	19950222	Tritium	1.946	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9208120009	Surface loca	19920812	Tritium	1.946	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9209220009	Surface loca	19920921	Tritium	1.962	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9308110009	Surface loca	19930810	Tritium	1.982	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9308120009	Surface loca	19930812	Tritium	1.988	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9504130009	Surface loca	19950413	Tritium	1.995	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9507120020	Surface loca	19950705	Tritium	1.997	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9505180008	Surface loca	19950518	Tritium	2.000	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9409210009	Surface loca	19940921	Tritium	2.003	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9306020023	Surface loca	19930602	Tritium	2.005	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9309280009	Surface loca	19930928	Tritium	2.019	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9312200009	Surface loca	19931220	Tritium	2.019	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9502210007	Surface loca	19950213	Tritium	2.024	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9307260009	Surface loca	19930726	Tritium	2.026	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9205200011	Surface loca	19920520	Tritium	2.045	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9307120009	Surface loca	19930712	Tritium	2.056	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9309290009	Surface loca	19930929	Tritium	2.081	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9506010009	Surface loca	19950601	Tritium	2.084	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9206040009	Surface loca	19920604	Tritium	2.099	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9506270009	Surface loca	19950627	Tritium	2.105	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9312210009	Surface loca	19931221	Tritium	2.118	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9206010009	Surface loca	19920528	Tritium	2.123	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9308250009	Surface loca	19930825	Tritium	2.123	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9507260009	Surface loca	19950726	Tritium	2.128	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9306240009	Surface loca	19930624	Tritium	2.135	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9506220009	Surface loca	19950622	Tritium	2.136	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9505010009	Surface loca	19950501	Tritium	2.142	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9401190007	Surface loca	19940119	Tritium	2.143	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9209160008	Surface loca	19920915	Tritium	2.152	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9305260009	Surface loca	19930526	Tritium	2.194	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9508220029	Surface loca	19950822	Tritium	2.222	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9505150008	Surface loca	19950515	Tritium	2.239	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9502070009	Surface loca	19950207	Tritium	2.275	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9401180007	Surface loca	19940118	Tritium	2.277	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9505080009	Surface loca	19950508	Tritium	2.287	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9208200009	Surface loca	19920820	Tritium	2.289	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9409210009	Surface loca	19940921	Tritium	2.291	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9401200007	Surface loca	19940120	Tritium	2.300	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9205130022	Surface loca	19920513	Tritium	2.312	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9205200011	Surface loca	19920520	Tritium	2.336	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9409280009	Surface loca	19940928	Tritium	2.337	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9508170007	Surface loca	19950816	Tritium	2.343	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9505220008	Surface loca	19950522	Tritium	2.387	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9506210009	Surface loca	19950621	Tritium	2.391	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9205260009	Surface loca	19920526	Tritium	2.393	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9308260009	Surface loca	19930826	Tritium	2.399	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9207130009	Surface loca	19920713	Tritium	2.433	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9205110009	Surface loca	19920511	Tritium	2.449	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	

Location_name	Sample_id	Location_typ	Collection_d	Value_name	Measured_valu	Value_un	Detection	Chem_cla	Start_de	End_dep	CAS_number	Lab_	Data	Project_cod	Media	Collection_m	Comments
D-5	9209160021	Surface loca	19920916	Tritium	2.452	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9309300009	Surface loca	19930930	Tritium	2.464	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9508210007	Surface loca	19950817	Tritium	2.478	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9307280009	Surface loca	19930728	Tritium	2.481	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9505180008	Surface loca	19950518	Tritium	2.495	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9307210009	Surface loca	19930721	Tritium	2.501	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9504060009	Surface loca	19950403	Tritium	2.525	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9503210009	Surface loca	19950321	Tritium	2.604	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9504260009	Surface loca	19950426	Tritium	2.630	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9502060009	Surface loca	19950206	Tritium	2.635	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9501300008	Surface loca	19950130	Tritium	2.641	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9507270009	Surface loca	19950727	Tritium	2.643	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9309150009	Surface loca	19930915	Tritium	2.646	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9508170007	Surface loca	19950816	Tritium	2.652	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9206160009	Surface loca	19920616	Tritium	2.685	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9506260009	Surface loca	19950626	Tritium	2.693	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9312160009	Surface loca	19931216	Tritium	2.707	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9507030009	Surface loca	19950703	Tritium	2.762	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9502010009	Surface loca	19950201	Tritium	2.768	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9505040009	Surface loca	19950504	Tritium	2.778	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9309170009	Surface loca	19930916	Tritium	2.793	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9312020009	Surface loca	19931202	Tritium	2.798	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9308180009	Surface loca	19930818	Tritium	2.805	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9307200009	Surface loca	19930720	Tritium	2.829	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9208170008	Surface loca	19920817	Tritium	2.857	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9307290009	Surface loca	19930729	Tritium	2.859	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9305270009	Surface loca	19930527	Tritium	2.902	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9209100022	Surface loca	19920910	Tritium	2.914	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9206110009	Surface loca	19920611	Tritium	2.924	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9505160008	Surface loca	19950516	Tritium	2.931	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9312150009	Surface loca	19931215	Tritium	2.934	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9306220009	Surface loca	19930622	Tritium	2.942	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9503010009	Surface loca	19950301	Tritium	2.943	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9505020009	Surface loca	19950502	Tritium	2.948	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9501310023	Surface loca	19950125	Tritium	2.988	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9307080022	Surface loca	19930708	Tritium	3.004	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9502020012	Surface loca	19950202	Tritium	3.014	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9506290009	Surface loca	19950629	Tritium	3.020	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9403210051	Surface loca	19940321	Tritium	3.037	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9505040009	Surface loca	19950504	Tritium	3.102	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9205270009	Surface loca	19920527	Tritium	3.117	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9310060008	Surface loca	19931006	Tritium	3.153	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9306230009	Surface loca	19930623	Tritium	3.175	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9305110009	Surface loca	19930511	Tritium	3.210	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9311080009	Surface loca	19931108	Tritium	3.235	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9507240009	Surface loca	19950724	Tritium	3.238	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9307080022	Surface loca	19930708	Tritium	3.276	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9502090007	Surface loca	19950209	Tritium	3.299	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9208170008	Surface loca	19920817	Tritium	3.320	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9507240009	Surface loca	19950724	Tritium	3.341	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9208110009	Surface loca	19920811	Tritium	3.395	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9401120009	Surface loca	19940112	Tritium	3.404	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9305250009	Surface loca	19930525	Tritium	3.408	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9503060009	Surface loca	19950306	Tritium	3.468	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9308240009	Surface loca	19930824	Tritium	3.471	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9408040021	Surface loca	19940804	Tritium	3.487	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9311080009	Surface loca	19931108	Tritium	3.522	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9508080006	Surface loca	19950808	Tritium	3.575	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9306210009	Surface loca	19930621	Tritium	3.596	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9502200008	Surface loca	19950220	Tritium	3.601	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9505100008	Surface loca	19950510	Tritium	3.613	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9206090009	Surface loca	19920609	Tritium	3.620	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9206100009	Surface loca	19920610	Tritium	3.637	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9504240009	Surface loca	19950424	Tritium	3.665	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9504270009	Surface loca	19950427	Tritium	3.747	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9404120009	Surface loca	19940412	Tritium	3.750	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9305130009	Surface loca	19930512	Tritium	3.803	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9308200009	Surface loca	19930819	Tritium	3.808	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9401200007	Surface loca	19940120	Tritium	3.901	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9502200008	Surface loca	19950220	Tritium	3.923	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9301180008	Surface loca	19930118	Tritium	3.996	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9312130009	Surface loca	19931213	Tritium	4.031	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9508080024	Surface loca	19950807	Tritium	4.100	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9508080024	Surface loca	19950807	Tritium	4.111	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	

Location_name	Sample_id	Location_typ	Collection_d	Value_name	Measured_valu	Value_un	Detection	Chem_clas	Start_de	End_dep	CAS_number	Lab_	Data	Project_cod	Media	Collection_m	Comments
D-5	9206220008	Surface loca	19920622	Tritium	4.133	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9503130009	Surface loca	19950313	Tritium	4.153	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9507250009	Surface loca	19950725	Tritium	4.181	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9309230009	Surface loca	19930923	Tritium	4.229	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9407200009	Surface loca	19940720	Tritium	4.231	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9210190006	Surface loca	19921015	Tritium	4.257	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9312060009	Surface loca	19931206	Tritium	4.284	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9312140009	Surface loca	19931214	Tritium	4.319	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9308020009	Surface loca	19930802	Tritium	4.333	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9501240022	Surface loca	19950124	Tritium	4.369	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9306210009	Surface loca	19930621	Tritium	4.425	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9502140007	Surface loca	19950214	Tritium	4.495	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9301250008	Surface loca	19930119	Tritium	4.501	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9403240009	Surface loca	19940324	Tritium	4.548	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9404130009	Surface loca	19940413	Tritium	4.615	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9306020009	Surface loca	19930601	Tritium	4.619	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9306020009	Surface loca	19930601	Tritium	4.619	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9402080009	Surface loca	19940208	Tritium	4.736	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9309270024	Surface loca	19930927	Tritium	4.757	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9312010009	Surface loca	19931201	Tritium	4.760	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9505110008	Surface loca	19950511	Tritium	4.783	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9309220009	Surface loca	19930922	Tritium	4.851	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9307060009	Surface loca	19930706	Tritium	4.953	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9501190037	Surface loca	19950119	Tritium	4.980	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9206080009	Surface loca	19920608	Tritium	5.087	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9208270009	Surface loca	19920827	Tritium	5.099	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9306300022	Surface loca	19930629	Tritium	5.150	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9312090009	Surface loca	19931209	Tritium	5.224	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9209100009	Surface loca	19920909	Tritium	5.266	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9209100009	Surface loca	19920909	Tritium	5.266	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9501190022	Surface loca	19950118	Tritium	5.295	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9404140009	Surface loca	19940414	Tritium	5.300	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9208130009	Surface loca	19920813	Tritium	5.306	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9403210009	Surface loca	19940315	Tritium	5.372	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9402080009	Surface loca	19940208	Tritium	5.381	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9408150009	Surface loca	19940815	Tritium	5.438	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9503070009	Surface loca	19950307	Tritium	5.440	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9502150007	Surface loca	19950215	Tritium	5.463	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9403210022	Surface loca	19940316	Tritium	5.464	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9504250009	Surface loca	19950425	Tritium	5.493	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9402070008	Surface loca	19940207	Tritium	5.566	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9408030021	Surface loca	19940801	Tritium	5.671	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9312090009	Surface loca	19931209	Tritium	5.709	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9408250019	Surface loca	19940811	Tritium	5.712	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9412200009	Surface loca	19941220	Tritium	5.801	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9309140021	Surface loca	19930914	Tritium	5.830	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9408030034	Surface loca	19940802	Tritium	5.931	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9311290009	Surface loca	19931129	Tritium	5.942	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9408090023	Surface loca	19940809	Tritium	5.981	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9503070009	Surface loca	19950307	Tritium	6.005	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9312080009	Surface loca	19931208	Tritium	6.013	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9206080009	Surface loca	19920608	Tritium	6.052	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9501170009	Surface loca	19950117	Tritium	6.307	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9302090009	Surface loca	19930209	Tritium	6.313	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9307060023	Surface loca	19930701	Tritium	6.347	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9403210009	Surface loca	19940315	Tritium	6.378	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9403210038	Surface loca	19940317	Tritium	6.448	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9208100009	Surface loca	19920810	Tritium	6.625	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9401030009	Surface loca	19940103	Tritium	6.716	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9503090009	Surface loca	19950309	Tritium	6.756	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9402240009	Surface loca	19940224	Tritium	6.768	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9408100009	Surface loca	19940810	Tritium	6.841	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9402240009	Surface loca	19940224	Tritium	6.968	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9308240021	Surface loca	19930823	Tritium	6.971	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9502210018	Surface loca	19950221	Tritium	7.092	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9208060008	Surface loca	19920806	Tritium	7.233	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9403090009	Surface loca	19940309	Tritium	7.241	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9401060009	Surface loca	19940106	Tritium	7.415	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9403140009	Surface loca	19940314	Tritium	7.443	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9306170009	Surface loca	19930617	Tritium	7.772	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9505030009	Surface loca	19950503	Tritium	7.927	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9411010009	Surface loca	19941101	Tritium	7.948	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9403080009	Surface loca	19940308	Tritium	7.957	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9402160009	Surface loca	19940216	Tritium	8.346	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	

Location_name	Sample_id	Location_typ	Collection_d	Value_name	Measured_valu	Value_un	Detection	Chem_clas	Start_de	End_dep	CAS_number	Lab_	Data	Project_cod	Media	Collection_m	Comments
D-5	9305180009	Surface loca	19930518	Tritium	8.413	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9306160009	Surface loca	19930616	Tritium	8.450	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9501240009	Surface loca	19950123	Tritium	8.560	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9501170021	Surface loca	19950116	Tritium	8.632	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9402090009	Surface loca	19940209	Tritium	8.841	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9401130009	Surface loca	19940113	Tritium	8.948	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9404050009	Surface loca	19940405	Tritium	8.969	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9209010009	Surface loca	19920831	Tritium	8.974	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9402230009	Surface loca	19940223	Tritium	8.995	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9403310009	Surface loca	19940331	Tritium	9.249	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9401310009	Surface loca	19940131	Tritium	9.299	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9501240009	Surface loca	19950123	Tritium	9.306	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9305060009	Surface loca	19930506	Tritium	9.360	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9408040009	Surface loca	19940728	Tritium	9.501	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9502160007	Surface loca	19950216	Tritium	9.518	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9403310009	Surface loca	19940331	Tritium	9.585	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9401050009	Surface loca	19940105	Tritium	9.616	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9408040021	Surface loca	19940804	Tritium	9.654	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9309200009	Surface loca	19930920	Tritium	9.712	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9401100009	Surface loca	19940110	Tritium	9.949	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9305240009	Surface loca	19930524	Tritium	10.033	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9402280009	Surface loca	19940228	Tritium	10.110	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9411020009	Surface loca	19941102	Tritium	10.158	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9312070009	Surface loca	19931207	Tritium	10.186	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9409280009	Surface loca	19940928	Tritium	10.187	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9402070044	Surface loca	19940203	Tritium	10.430	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9306150009	Surface loca	19930615	Tritium	10.565	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9309200009	Surface loca	19930920	Tritium	10.614	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9501110009	Surface loca	19950111	Tritium	10.897	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9306280009	Surface loca	19930628	Tritium	10.998	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9305050009	Surface loca	19930505	Tritium	11.010	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9403070009	Surface loca	19940307	Tritium	11.018	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9403100009	Surface loca	19940310	Tritium	11.089	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9501120009	Surface loca	19950112	Tritium	11.154	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9501030021	Surface loca	19950102	Tritium	11.218	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9410270009	Surface loca	19941027	Tritium	11.232	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9406220009	Surface loca	19940622	Tritium	11.299	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9310050008	Surface loca	19931005	Tritium	11.374	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9403300009	Surface loca	19940330	Tritium	11.385	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9401110009	Surface loca	19940111	Tritium	11.451	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9408170009	Surface loca	19940817	Tritium	11.456	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9401040009	Surface loca	19940104	Tritium	11.600	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9310050008	Surface loca	19931005	Tritium	11.675	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9410250009	Surface loca	19941025	Tritium	11.727	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9410270009	Surface loca	19941027	Tritium	11.763	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9410190047	Surface loca	19941020	Tritium	11.938	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9401040009	Surface loca	19940104	Tritium	11.960	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9411030009	Surface loca	19941103	Tritium	12.008	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9403070022	Surface loca	19940303	Tritium	12.012	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9301140007	Surface loca	19930114	Tritium	12.025	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9410260009	Surface loca	19941026	Tritium	12.034	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9501040009	Surface loca	19950104	Tritium	12.089	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9309210009	Surface loca	19930921	Tritium	12.111	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9402170009	Surface loca	19940217	Tritium	12.114	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9401170009	Surface loca	19940117	Tritium	12.189	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9403020009	Surface loca	19940302	Tritium	12.198	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9403290009	Surface loca	19940329	Tritium	12.709	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9305130023	Surface loca	19930513	Tritium	12.804	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9412150009	Surface loca	19941215	Tritium	12.815	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9306300009	Surface loca	19930630	Tritium	12.835	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9501030034	Surface loca	19941226	Tritium	12.892	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9412150009	Surface loca	19941215	Tritium	12.920	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9410130009	Surface loca	19941013	Tritium	13.093	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9403010009	Surface loca	19940301	Tritium	13.226	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9407250009	Surface loca	19940725	Tritium	13.502	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9305130023	Surface loca	19930513	Tritium	13.596	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9410110009	Surface loca	19941011	Tritium	13.643	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9501030009	Surface loca	19950103	Tritium	13.694	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9410310009	Surface loca	19941031	Tritium	13.697	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9410120009	Surface loca	19941012	Tritium	13.758	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9303220023	Surface loca	19930317	Tritium	13.930	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9303220023	Surface loca	19930317	Tritium	13.930	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9306080023	Surface loca	19930608	Tritium	14.058	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9407190009	Surface loca	19940719	Tritium	14.183	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	

Location_name	Sample_id	Location_typ	Collection_d	Value_name	Measured_valu	Value_un	Detection	Chem_clas	Start_de	End_de	CAS_number	Lab_	Data	Project_cod	Media	Collection_m	Comments
D-5	9410190033	Surface loca	19941019	Tritium	14.242	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9302030032	Surface loca	19930202	Tritium	14.438	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9305100009	Surface loca	19930510	Tritium	14.709	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9412120009	Surface loca	19941212	Tritium	15.349	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9412120009	Surface loca	19941212	Tritium	15.349	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9410040009	Surface loca	19941004	Tritium	15.434	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9303090009	Surface loca	19930309	Tritium	15.450	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9406230009	Surface loca	19940623	Tritium	15.460	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9410190009	Surface loca	19941017	Tritium	15.524	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9402150009	Surface loca	19940215	Tritium	15.626	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9407070009	Surface loca	19940707	Tritium	15.660	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9406210009	Surface loca	19940621	Tritium	15.713	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9410190021	Surface loca	19941018	Tritium	15.868	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9311300009	Surface loca	19931130	Tritium	15.933	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9306140009	Surface loca	19930614	Tritium	16.141	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9411070009	Surface loca	19941107	Tritium	16.319	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9410240009	Surface loca	19941024	Tritium	16.578	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9404040009	Surface loca	19940404	Tritium	16.854	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9409270009	Surface loca	19940927	Tritium	16.888	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9412080009	Surface loca	19941208	Tritium	17.212	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9407270009	Surface loca	19940727	Tritium	17.994	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9501050009	Surface loca	19950105	Tritium	18.004	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9306080009	Surface loca	19930607	Tritium	18.030	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9407260009	Surface loca	19940726	Tritium	18.261	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9303220009	Surface loca	19930318	Tritium	18.450	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9305040023	Surface loca	19930504	Tritium	18.799	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9303100008	Surface loca	19930310	Tritium	18.964	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9412070009	Surface loca	19941207	Tritium	19.273	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9406080009	Surface loca	19940608	Tritium	19.660	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9306090009	Surface loca	19930609	Tritium	19.781	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9412130009	Surface loca	19941213	Tritium	19.857	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9412140009	Surface loca	19941214	Tritium	20.043	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9303110021	Surface loca	19930311	Tritium	20.154	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405260009	Surface loca	19940526	Tritium	20.248	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405260009	Surface loca	19940526	Tritium	20.248	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9305200009	Surface loca	19930520	Tritium	20.254	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9412190009	Surface loca	19941219	Tritium	20.478	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9406300009	Surface loca	19940630	Tritium	20.491	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9411220009	Surface loca	19941122	Tritium	20.553	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9303100008	Surface loca	19930310	Tritium	20.640	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9407060009	Surface loca	19940706	Tritium	20.913	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9303080009	Surface loca	19930308	Tritium	21.010	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9406300009	Surface loca	19940630	Tritium	21.061	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9404070009	Surface loca	19940407	Tritium	21.100	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9302040008	Surface loca	19930204	Tritium	21.323	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9403280009	Surface loca	19940328	Tritium	21.366	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9302040008	Surface loca	19930204	Tritium	21.425	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9402220009	Surface loca	19940222	Tritium	21.662	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9412060009	Surface loca	19941206	Tritium	21.741	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9407180009	Surface loca	19940718	Tritium	21.977	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9406220025	Surface loca	19940616	Tritium	22.351	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9411290009	Surface loca	19941129	Tritium	22.395	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9411160009	Surface loca	19941116	Tritium	22.504	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9407050009	Surface loca	19940705	Tritium	22.566	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9306100009	Surface loca	19930610	Tritium	22.876	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9411230009	Surface loca	19941123	Tritium	23.088	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9402100001	Surface loca	19940202	Tritium	23.099	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9303040009	Surface loca	19930304	Tritium	23.250	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9303170023	Surface loca	19930316	Tritium	23.378	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9407130009	Surface loca	19940713	Tritium	24.255	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9411280009	Surface loca	19941128	Tritium	24.279	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9404110009	Surface loca	19940411	Tritium	24.279	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9406290009	Surface loca	19940629	Tritium	24.718	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9402070021	Surface loca	19940201	Tritium	24.822	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9302160009	Surface loca	19930216	Tritium	25.188	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9411300009	Surface loca	19941130	Tritium	25.424	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9407200009	Surface loca	19940720	Tritium	25.548	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9406280009	Surface loca	19940628	Tritium	25.722	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9406150009	Surface loca	19940615	Tritium	25.840	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9410050009	Surface loca	19941005	Tritium	26.124	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9406290009	Surface loca	19940629	Tritium	26.201	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9411300009	Surface loca	19941130	Tritium	26.294	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9302110009	Surface loca	19930210	Tritium	26.761	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9407110009	Surface loca	19940711	Tritium	26.852	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	

Location_name	Sample_id	Location_typ	Collection_d	Value_name	Measured_valu	Value_un	Detection	Chem_clas	Start_de	End_dep	CAS_number	Lab_	Data	Project_cod	Media	Collection_m	Comments
D-5	9304280009	Surface loca	19930428	Tritium	27.282	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9302080008	Surface loca	19930208	Tritium	28.067	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9412050009	Surface loca	19941205	Tritium	28.239	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9411170009	Surface loca	19941117	Tritium	28.250	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9406220038	Surface loca	19940620	Tritium	28.306	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9404060009	Surface loca	19940406	Tritium	28.490	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9407140009	Surface loca	19940714	Tritium	28.789	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9305170009	Surface loca	19930517	Tritium	29.114	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9303170009	Surface loca	19930315	Tritium	29.346	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9305190008	Surface loca	19930519	Tritium	29.419	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9404180009	Surface loca	19940418	Tritium	29.529	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9412010009	Surface loca	19941201	Tritium	29.537	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9405250009	Surface loca	19940525	Tritium	29.725	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9406270009	Surface loca	19940627	Tritium	29.942	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9410060009	Surface loca	19941006	Tritium	30.449	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9406090009	Surface loca	19940609	Tritium	30.557	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9302230009	Surface loca	19930223	Tritium	31.080	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9409290009	Surface loca	19940929	Tritium	31.453	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9407210009	Surface loca	19940721	Tritium	31.527	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9302230009	Surface loca	19930223	Tritium	31.692	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9302110021	Surface loca	19930211	Tritium	33.155	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9411210009	Surface loca	19941121	Tritium	33.440	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9303020009	Surface loca	19930302	Tritium	34.182	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9210260008	Surface loca	19921026	Tritium	34.486	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9410100009	Surface loca	19941010	Tritium	35.120	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9303030009	Surface loca	19930303	Tritium	35.215	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9305040037	Surface loca	19930429	Tritium	35.267	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9410100009	Surface loca	19941010	Tritium	35.319	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9407120009	Surface loca	19940712	Tritium	35.921	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9406140009	Surface loca	19940614	Tritium	36.114	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9302180009	Surface loca	19930218	Tritium	36.451	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9405190009	Surface loca	19940519	Tritium	36.939	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9303010032	Surface loca	19930301	Tritium	37.691	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9304270009	Surface loca	19930427	Tritium	38.332	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9410050009	Surface loca	19941005	Tritium	38.818	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9304270009	Surface loca	19930427	Tritium	38.911	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9406060009	Surface loca	19940606	Tritium	41.065	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9406010009	Surface loca	19940601	Tritium	41.065	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9302170009	Surface loca	19930217	Tritium	41.497	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9304020008	Surface loca	19930323	Tritium	41.650	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9402210009	Surface loca	19940221	Tritium	42.354	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9302010019	Surface loca	19930128	Tritium	42.514	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9304260009	Surface loca	19930426	Tritium	43.580	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9408160009	Surface loca	19940816	Tritium	43.916	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9405240009	Surface loca	19940524	Tritium	45.335	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9406070009	Surface loca	19940607	Tritium	45.352	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9405240009	Surface loca	19940524	Tritium	45.432	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9212020009	Surface loca	19921202	Tritium	45.758	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9303230009	Surface loca	19930322	Tritium	46.504	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9211190009	Surface loca	19921119	Tritium	46.957	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9302010031	Surface loca	19930201	Tritium	47.269	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9302010031	Surface loca	19930201	Tritium	47.269	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9212020009	Surface loca	19921202	Tritium	47.562	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9405310009	Surface loca	19940531	Tritium	48.653	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9305040009	Surface loca	19930503	Tritium	49.472	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9302010007	Surface loca	19930127	Tritium	50.132	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9302030008	Surface loca	19930203	Tritium	50.915	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9304220009	Surface loca	19930422	Tritium	52.364	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9212010009	Surface loca	19921201	Tritium	53.126	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9302220009	Surface loca	19930222	Tritium	53.742	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9301260007	Surface loca	19930126	Tritium	54.028	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9304210009	Surface loca	19930421	Tritium	54.449	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9210120007	Surface loca	19921012	Tritium	56.018	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9304200009	Surface loca	19930420	Tritium	56.378	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9406020009	Surface loca	19940602	Tritium	59.286	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9304190009	Surface loca	19930419	Tritium	59.516	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9304190009	Surface loca	19930419	Tritium	59.516	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9208050009	Surface loca	19920805	Tritium	67.213	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9209220023	Surface loca	19920922	Tritium	69.727	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9209220023	Surface loca	19920922	Tritium	70.412	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9301140018	Surface loca	19930113	Tritium	72.774	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9212230009	Surface loca	19921223	Tritium	72.920	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9302150009	Surface loca	19930215	Tritium	74.781	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	
D-5	9405040009	Surface loca	19940504	Tritium	75.068	PCI/L		RAD	0.0	0.0	10028-17-8			MWS	Groundv	Unknown	

Location_name	Sample_id	Location_typ	Collection_d	Value_name	Measured_val	Value_un	Detection	Chem_clas	Start_de	End_dep	CAS_number	Lab_	Data	Project_cod	Media	Collection_m	Comments
D-5	9303010008	Surface loca	19930224	Tritium	76.141	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405030009	Surface loca	19940503	Tritium	77.919	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405230009	Surface loca	19940523	Tritium	80.417	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9304150009	Surface loca	19930415	Tritium	82.181	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9207160007	Surface loca	19920716	Tritium	83.609	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9406060009	Surface loca	19940606	Tritium	83.900	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9301060008	Surface loca	19930106	Tritium	84.214	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405160009	Surface loca	19940516	Tritium	84.607	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405120009	Surface loca	19940512	Tritium	86.181	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9406130009	Surface loca	19940613	Tritium	89.719	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9301050008	Surface loca	19930105	Tritium	90.619	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9301050008	Surface loca	19930105	Tritium	91.773	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9406130009	Surface loca	19940613	Tritium	92.100	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9211090008	Surface loca	19921105	Tritium	101.607	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9212080009	Surface loca	19921208	Tritium	104.269	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9207270007	Surface loca	19920727	Tritium	111.162	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9304080019	Surface loca	19930408	Tritium	112.437	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9304080019	Surface loca	19930408	Tritium	112.544	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405180009	Surface loca	19940518	Tritium	115.751	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9301070008	Surface loca	19930107	Tritium	116.528	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9210190006	Surface loca	19921015	Tritium	129.465	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9211230009	Surface loca	19921123	Tritium	137.682	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9212030009	Surface loca	19921203	Tritium	139.087	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405020035	Surface loca	19940502	Tritium	139.100	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405020009	Surface loca	19940427	Tritium	139.955	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9301040020	Surface loca	19921225	Tritium	140.342	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9211240009	Surface loca	19921124	Tritium	146.290	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9212090009	Surface loca	19921209	Tritium	146.616	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9208040007	Surface loca	19920804	Tritium	156.122	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9304120009	Surface loca	19930412	Tritium	156.980	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405020023	Surface loca	19940428	Tritium	163.634	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9210140017	Surface loca	19921008	Tritium	164.417	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405110009	Surface loca	19940511	Tritium	167.183	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9404190009	Surface loca	19940419	Tritium	170.601	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9404190009	Surface loca	19940419	Tritium	172.211	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9212220009	Surface loca	19921222	Tritium	175.015	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405190009	Surface loca	19940519	Tritium	175.511	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9207210008	Surface loca	19920721	Tritium	177.493	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9207200009	Surface loca	19920720	Tritium	177.947	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9301120008	Surface loca	19930112	Tritium	186.275	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9207300009	Surface loca	19920730	Tritium	187.853	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9207280008	Surface loca	19920728	Tritium	195.226	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9207280008	Surface loca	19920728	Tritium	195.915	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9212150009	Surface loca	19921215	Tritium	201.925	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9209280009	Surface loca	19920928	Tritium	208.154	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9304130009	Surface loca	19930413	Tritium	214.763	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9207290009	Surface loca	19920729	Tritium	217.539	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9207220008	Surface loca	19920722	Tritium	219.760	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9211250009	Surface loca	19921125	Tritium	224.216	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9212100009	Surface loca	19921210	Tritium	233.219	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405100009	Surface loca	19940510	Tritium	249.555	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405100009	Surface loca	19940510	Tritium	249.555	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9208030009	Surface loca	19920803	Tritium	256.425	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405050009	Surface loca	19940505	Tritium	261.212	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9304140009	Surface loca	19930414	Tritium	262.014	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9212160009	Surface loca	19921216	Tritium	264.491	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405050009	Surface loca	19940505	Tritium	265.852	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9301040032	Surface loca	19921228	Tritium	278.903	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9301110008	Surface loca	19930111	Tritium	287.910	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9211300009	Surface loca	19921130	Tritium	301.144	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9212140009	Surface loca	19921214	Tritium	302.265	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9404260009	Surface loca	19940426	Tritium	333.546	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9208030024	Surface loca	19920723	Tritium	362.581	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9301040008	Surface loca	19930104	Tritium	367.340	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9301040044	Surface loca	19921230	Tritium	371.881	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9212070009	Surface loca	19921207	Tritium	376.877	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9301040057	Surface loca	19930102	Tritium	418.086	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9212210009	Surface loca	19921221	Tritium	435.664	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9209300008	Surface loca	19920929	Tritium	462.050	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9209300020	Surface loca	19920930	Tritium	536.981	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405090009	Surface loca	19940509	Tritium	576.206	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9404250009	Surface loca	19940425	Tritium	1163.424	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9404210009	Surface loca	19940421	Tritium	1171.916	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9404200009	Surface loca	19940420	Tritium	2458.234	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	

Location_name	Sample_id	Location_typ	Collection_di	Value_name	Measured_valu	Value_un	Detection	Chem_clas	Start_de	End_dep	CAS_number	Lab_(	Data	Project_cod	Media	Collection_m	Comments
MND09-0040	0040-0002	Borehole	19890816	Aluminum	8120.000	MG/KG	0.000	INORG	0.5	2.0	7429-90-5			OU6RECON	Soil		
MND09-0040	0040-0001	Borehole	19890816	Aluminum	9860.000	MG/KG	0.000	INORG	0.0	0.5	7429-90-5			OU6RECON	Soil		
MND09-0040	0040-0002	Borehole	19890816	Arsenic	3.700	MG/KG	0.000	INORG	0.5	2.0	7440-38-2			OU6RECON	Soil		
MND09-0040	0040-0001	Borehole	19890816	Arsenic	3.900	MG/KG	0.000	INORG	0.0	0.5	7440-38-2			OU6RECON	Soil		
MND09-0040	0040-0002	Borehole	19890816	Barium	351.000	MG/KG	0.000	INORG	0.5	2.0	7440-39-3			OU6RECON	Soil		2-Exceeds background value.
MND09-0040	0040-0001	Borehole	19890816	Barium	465.000	MG/KG	0.000	INORG	0.0	0.5	7440-39-3			OU6RECON	Soil		2-Exceeds background value.
MND09-0040	0040-0002	Borehole	19890816	Beryllium	1.000	MG/KG	0.000	INORG	0.5	2.0	7440-41-7			OU6RECON	Soil		1-Exceeds soil 10-6 GV.
MND09-0040	0040-0001	Borehole	19890816	Beryllium	1.200	MG/KG	0.000	INORG	0.0	0.5	7440-41-7			OU6RECON	Soil		1-Exceeds soil 10-6 GV.
MND09-0040	0040-0001	Borehole	19890816	Cadmium	4.500	MG/KG	0.000	INORG	0.0	0.5	7440-43-9			OU6RECON	Soil		2-Exceeds background value.
MND09-0040	0040-0002	Borehole	19890816	Cadmium	5.000	MG/KG	0.000	INORG	0.5	2.0	7440-43-9			OU6RECON	Soil		2-Exceeds background value.
MND09-0040	0040-0002	Borehole	19890816	Calcium	112000.000	MG/KG	0.000	INORG	0.5	2.0	7440-70-2	*		OU6RECON	Soil		
MND09-0040	0040-0001	Borehole	19890816	Calcium	113000.000	MG/KG	0.000	INORG	0.0	0.5	7440-70-2	*		OU6RECON	Soil		
MND09-0040	0040-0002	Borehole	19890816	Chromium	14.700	MG/KG	0.000	INORG	0.5	2.0	7440-47-3	*		OU6RECON	Soil		
MND09-0040	0040-0001	Borehole	19890816	Chromium	18.000	MG/KG	0.000	INORG	0.0	0.5	7440-47-3	*		OU6RECON	Soil		
MND09-0040	0040-0002	Borehole	19890816	Cobalt	10.700	MG/KG	0.000	INORG	0.5	2.0	7440-48-4			OU6RECON	Soil		
MND09-0040	0040-0001	Borehole	19890816	Cobalt	13.600	MG/KG	0.000	INORG	0.0	0.5	7440-48-4			OU6RECON	Soil		
MND09-0040	0040-0002	Borehole	19890816	Copper	10.600	MG/KG	0.000	INORG	0.5	2.0	7440-50-8			OU6RECON	Soil		
MND09-0040	0040-0001	Borehole	19890816	Copper	13.300	MG/KG	0.000	INORG	0.0	0.5	7440-50-8			OU6RECON	Soil		
MND09-0040	0040-0002	Borehole	19890816	Iron	15900.000	MG/KG	0.000	INORG	0.5	2.0	7439-89-6	E		OU6RECON	Soil		
MND09-0040	0040-0001	Borehole	19890816	Iron	20700.000	MG/KG	0.000	INORG	0.0	0.5	7439-89-6	E		OU6RECON	Soil		
MND09-0040	0040-0001	Borehole	19890816	Lead	11.500	MG/KG	0.000	INORG	0.0	0.5	7439-92-1			OU6RECON	Soil		
MND09-0040	0040-0002	Borehole	19890816	Lead	27.200	MG/KG	0.000	INORG	0.5	2.0	7439-92-1			OU6RECON	Soil		
MND09-0040	0040-0001	Borehole	19890816	Magnesium	20600.000	MG/KG	0.000	INORG	0.0	0.5	7439-95-4	*		OU6RECON	Soil		
MND09-0040	0040-0002	Borehole	19890816	Magnesium	28300.000	MG/KG	0.000	INORG	0.5	2.0	7439-95-4	*		OU6RECON	Soil		
MND09-0040	0040-0002	Borehole	19890816	Manganese	392.000	MG/KG	0.000	INORG	0.5	2.0	7439-96-5			OU6RECON	Soil		
MND09-0040	0040-0001	Borehole	19890816	Manganese	565.000	MG/KG	0.000	INORG	0.0	0.5	7439-96-5			OU6RECON	Soil		
MND09-0040	0040-0002	Borehole	19890816	Nickel	26.900	MG/KG	0.000	INORG	0.5	2.0	7440-02-0	*		OU6RECON	Soil		
MND09-0040	0040-0001	Borehole	19890816	Nickel	32.500	MG/KG	0.000	INORG	0.0	0.5	7440-02-0	*		OU6RECON	Soil		2-Exceeds background value.
MND09-0040	0040-0002	Borehole	19890816	Plutonium-238	10.000	PCI/G		RAD	0.5	2.0	13981-16-3			OU6RECON	Soil		1-Exceeds soil 10-6 GV. 2-Exceeds background value.
MND09-0040	0040-0001	Borehole	19890816	Plutonium-238	12.000	PCI/G		RAD	0.0	0.5	13981-16-3			OU6RECON	Soil		1-Exceeds soil 10-6 GV. 2-Exceeds background value.
MND09-0040	0040-0002	Borehole	19890816	Potassium	1780.000	MG/KG	0.000	INORG	0.5	2.0	7440-09-7			OU6RECON	Soil		
MND09-0040	0040-0001	Borehole	19890816	Potassium	2030.000	MG/KG	0.000	INORG	0.0	0.5	7440-09-7			OU6RECON	Soil		2-Exceeds background value.
MND09-0040	0040-0002	Borehole	19890816	Sodium	1540.000	MG/KG	0.000	INORG	0.5	2.0	7440-23-5			OU6RECON	Soil		2-Exceeds background value.
MND09-0040	0040-0001	Borehole	19890816	Sodium	2140.000	MG/KG	0.000	INORG	0.0	0.5	7440-23-5			OU6RECON	Soil		2-Exceeds background value.
MND09-0040	0040-0002	Borehole	19890816	Thallium	0.220	MG/KG	0.000	INORG	0.5	2.0	7440-28-0	B		OU6RECON	Soil		
MND09-0040	0040-0001	Borehole	19890816	Thorium-232	0.800	PCI/G		RAD	0.0	0.5	7440-29-1			OU6RECON	Soil		
MND09-0040	0040-0002	Borehole	19890816	Thorium-232	5.700	PCI/G		RAD	0.5	2.0	7440-29-1			OU6RECON	Soil		1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
MND09-0040	0040-0001	Borehole	19890816	Vanadium	19.800	MG/KG	0.000	INORG	0.0	0.5	7440-62-2			OU6RECON	Soil		
MND09-0040	0040-0002	Borehole	19890816	Vanadium	20.200	MG/KG	0.000	INORG	0.5	2.0	7440-62-2			OU6RECON	Soil		
MND09-0040	0040-0002	Borehole	19890816	Zinc	230.000	MG/KG	0.000	INORG	0.5	2.0	7440-66-6			OU6RECON	Soil		2-Exceeds background value.
MND09-0040	0040-0001	Borehole	19890816	Zinc	303.000	MG/KG	0.000	INORG	0.0	0.5	7440-66-6			OU6RECON	Soil		2-Exceeds background value.
MND09-0041	0041-0001	Borehole	19890816	Aluminum	611.000	MG/KG	0.000	INORG	0.0	0.5	7429-90-5			OU6RECON	Soil		
MND09-0041	0041-0004	Borehole	19890816	Aluminum	1680.000	MG/KG	0.000	INORG	4.0	6.0	7429-90-5			OU6RECON	Soil		
MND09-0041	0041-0005	Borehole	19890816	Aluminum	2100.000	MG/KG	0.000	INORG	6.0	8.0	7429-90-5			OU6RECON	Soil		
MND09-0041	0041-0002	Borehole	19890816	Aluminum	2290.000	MG/KG	0.000	INORG	0.5	2.0	7429-90-5			OU6RECON	Soil		
MND09-0041	0041-0001	Borehole	19890816	Arsenic	1.900	MG/KG	0.000	INORG	0.0	0.5	7440-38-2	B		OU6RECON	Soil		
MND09-0041	0041-0004	Borehole	19890816	Arsenic	2.500	MG/KG	0.000	INORG	4.0	6.0	7440-38-2			OU6RECON	Soil		
MND09-0041	0041-0005	Borehole	19890816	Arsenic	2.700	MG/KG	0.000	INORG	6.0	8.0	7440-38-2			OU6RECON	Soil		
MND09-0041	0041-0002	Borehole	19890816	Arsenic	7.600	MG/KG	0.000	INORG	0.5	2.0	7440-38-2			OU6RECON	Soil		
MND09-0041	0041-0001	Borehole	19890816	Barium	216.000	MG/KG	0.000	INORG	0.0	0.5	7440-39-3			OU6RECON	Soil		2-Exceeds background value.
MND09-0041	0041-0005	Borehole	19890816	Barium	258.000	MG/KG	0.000	INORG	6.0	8.0	7440-39-3			OU6RECON	Soil		2-Exceeds background value.
MND09-0041	0041-0004	Borehole	19890816	Barium	268.000	MG/KG	0.000	INORG	4.0	6.0	7440-39-3			OU6RECON	Soil		2-Exceeds background value.
MND09-0041	0041-0002	Borehole	19890816	Barium	315.000	MG/KG	0.000	INORG	0.5	2.0	7440-39-3			OU6RECON	Soil		2-Exceeds background value.
MND09-0041	0041-0001	Borehole	19890816	Beryllium	0.690	MG/KG	0.000	INORG	0.0	0.5	7440-41-7	B		OU6RECON	Soil		
MND09-0041	0041-0005	Borehole	19890816	Beryllium	0.740	MG/KG	0.000	INORG	6.0	8.0	7440-41-7	B		OU6RECON	Soil		1-Exceeds soil 10-6 GV.
MND09-0041	0041-0002	Borehole	19890816	Beryllium	0.770	MG/KG	0.000	INORG	0.5	2.0	7440-41-7	B		OU6RECON	Soil		1-Exceeds soil 10-6 GV.
MND09-0041	0041-0004	Borehole	19890816	Beryllium	0.780	MG/KG	0.000	INORG	4.0	6.0	7440-41-7	B		OU6RECON	Soil		1-Exceeds soil 10-6 GV.
MND09-0041	0041-0005	Borehole	19890816	Cadmium	5.800	MG/KG	0.000	INORG	6.0	8.0	7440-43-9			OU6RECON	Soil		2-Exceeds background value.
MND09-0041	0041-0002	Borehole	19890816	Cadmium	6.600	MG/KG	0.000	INORG	0.5	2.0	7440-43-9			OU6RECON	Soil		2-Exceeds background value.
MND09-0041	0041-0004	Borehole	19890816	Cadmium	6.700	MG/KG	0.000	INORG	4.0	6.0	7440-43-9			OU6RECON	Soil		2-Exceeds background value.
MND09-0041	0041-0001	Borehole	19890816	Cadmium	7.500	MG/KG	0.000	INORG	0.0	0.5	7440-43-9			OU6RECON	Soil		2-Exceeds background value.
MND09-0041	0041-0002	Borehole	19890816	Calcium	123000.000	MG/KG	0.000	INORG	0.5	2.0	7440-70-2	*		OU6RECON	Soil		
MND09-0041	0041-0001	Borehole	19890816	Calcium	144000.000	MG/KG	0.000	INORG	0.0	0.5	7440-70-2	*		OU6RECON	Soil		
MND09-0041	0041-0004	Borehole	19890816	Calcium	145000.000	MG/KG	0.000	INORG	4.0	6.0	7440-70-2	*		OU6RECON	Soil		
MND09-0041	0041-0001	Borehole	19890816	Chromium	5.400	MG/KG	0.000	INORG	0.0	0.5	7440-47-3	*		OU6RECON	Soil		
MND09-0041	0041-0004	Borehole	19890816	Chromium	7.000	MG/KG	0.000	INORG	4.0	6.0	7440-47-3	*		OU6RECON	Soil		
MND09-0041	0041-0005	Borehole	19890816	Chromium	9.300	MG/KG	0.000	INORG	6.0	8.0	7440-47-3	*		OU6RECON	Soil		
MND09-0041	0041-0002	Borehole	19890816	Chromium	11.000	MG/KG	0.000	INORG	0.5	2.0	7440-47-3	*		OU6RECON	Soil		
MND09-0041	0041-0001	Borehole	19890816	Cobalt	5.600	MG/KG	0.000	INORG	0.0	0.5	7440-48-4	B		OU6RECON	Soil		
MND09-0041	0041-0005	Borehole	19890816	Cobalt	6.100	MG/KG	0.000	INORG	6.0	8.0	7440-48-4	B		OU6RECON	Soil		
MND09-0041	0041-0004	Borehole	19890816	Cobalt	6.200	MG/KG	0.000	INORG	4.0	6.0	7440-48-4	B		OU6RECON	Soil		
MND09-0041	0041-0002	Borehole	19890816	Cobalt	6.300	MG/KG	0.000	INORG	0.5	2.0	7440-48-4	B		OU6RECON	Soil		
MND09-0041	0041-0004	Borehole	19890816	Copper	2.800	MG/KG	0.000	INORG	4.0	6.0	7440-50-8	B		OU6RECON	Soil		
MND09-0041	0041-0005	Borehole	19890816	Copper	3.500	MG/KG	0.000	INORG	6.0	8.0	7440-50-8	B		OU6RECON	Soil		

Location_name	Sample_id	Location_typ	Collection_d	Value_name	Measured_valu	Value_un	Detection	Chem_clas	Start_de	End_dep	CAS_number	Lab_	Data	Project_cod	Media	Collection_m	Comments
D-5	9303010008	Surface loca	19930224	Tritium	76.141	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405030009	Surface loca	19940503	Tritium	77.919	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405230009	Surface loca	19940523	Tritium	80.417	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9304150009	Surface loca	19930415	Tritium	82.181	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9207160007	Surface loca	19920716	Tritium	83.609	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9406060009	Surface loca	19940606	Tritium	83.900	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9301060008	Surface loca	19930106	Tritium	84.214	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405160009	Surface loca	19940516	Tritium	84.607	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405120009	Surface loca	19940512	Tritium	86.181	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9406130009	Surface loca	19940613	Tritium	89.719	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9301050008	Surface loca	19930105	Tritium	90.619	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9301050008	Surface loca	19930105	Tritium	91.773	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9406130009	Surface loca	19940613	Tritium	92.100	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9211090008	Surface loca	19921105	Tritium	101.607	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9212080009	Surface loca	19921208	Tritium	104.269	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9207270007	Surface loca	19920727	Tritium	111.162	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9304080019	Surface loca	19930408	Tritium	112.437	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9304080019	Surface loca	19930408	Tritium	112.544	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405180009	Surface loca	19940518	Tritium	115.751	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9301070008	Surface loca	19930107	Tritium	116.528	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9210190006	Surface loca	19921015	Tritium	129.465	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9211230009	Surface loca	19921123	Tritium	137.682	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9212030009	Surface loca	19921203	Tritium	139.087	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405020035	Surface loca	19940502	Tritium	139.100	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405020009	Surface loca	19940427	Tritium	139.955	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9301040020	Surface loca	19921225	Tritium	140.342	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9211240009	Surface loca	19921124	Tritium	146.290	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9212090009	Surface loca	19921209	Tritium	146.616	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9208040007	Surface loca	19920804	Tritium	156.122	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9304120009	Surface loca	19930412	Tritium	156.980	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405020023	Surface loca	19940428	Tritium	163.634	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9210140017	Surface loca	19921008	Tritium	164.417	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405110009	Surface loca	19940511	Tritium	167.183	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9404190009	Surface loca	19940419	Tritium	170.601	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9404190009	Surface loca	19940419	Tritium	172.211	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9212220009	Surface loca	19921222	Tritium	175.015	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405190009	Surface loca	19940519	Tritium	175.511	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9207210008	Surface loca	19920721	Tritium	177.493	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9207200009	Surface loca	19920720	Tritium	177.947	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9301120008	Surface loca	19930112	Tritium	186.275	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9207300009	Surface loca	19920730	Tritium	187.853	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9207280008	Surface loca	19920728	Tritium	195.226	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9207280008	Surface loca	19920728	Tritium	195.915	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9212150009	Surface loca	19921215	Tritium	201.925	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9209280009	Surface loca	19920928	Tritium	208.154	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9304130009	Surface loca	19930413	Tritium	214.763	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9207290009	Surface loca	19920729	Tritium	217.539	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9207220008	Surface loca	19920722	Tritium	219.760	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9211250009	Surface loca	19921125	Tritium	224.216	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9212100009	Surface loca	19921210	Tritium	233.219	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405100009	Surface loca	19940510	Tritium	249.555	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405100009	Surface loca	19940510	Tritium	249.555	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9208030009	Surface loca	19920803	Tritium	256.425	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405050009	Surface loca	19940505	Tritium	261.212	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9304140009	Surface loca	19930414	Tritium	262.014	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9212160009	Surface loca	19921216	Tritium	264.491	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405050009	Surface loca	19940505	Tritium	265.852	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9301040032	Surface loca	19921228	Tritium	278.903	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9301110008	Surface loca	19930111	Tritium	287.910	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9211300009	Surface loca	19921130	Tritium	301.144	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9212140009	Surface loca	19921214	Tritium	302.265	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9404260009	Surface loca	19940426	Tritium	333.546	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9208030024	Surface loca	19920723	Tritium	362.581	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9301040008	Surface loca	19930104	Tritium	367.340	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9301040044	Surface loca	19921230	Tritium	371.881	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9212070009	Surface loca	19921207	Tritium	376.877	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9301040057	Surface loca	19930102	Tritium	418.086	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9212210009	Surface loca	19921221	Tritium	435.664	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9209300008	Surface loca	19920929	Tritium	462.050	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9209300020	Surface loca	19920930	Tritium	536.981	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9405090009	Surface loca	19940509	Tritium	576.206	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9404250009	Surface loca	19940425	Tritium	1163.424	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9404210009	Surface loca	19940421	Tritium	1171.916	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	
D-5	9404200009	Surface loca	19940420	Tritium	2458.234	PCi/L		RAD	0.0	0.0	10028-17-8			MWS	Ground	Unknown	

Location_name	Sample_id	Location_ty	Collection_d	Value_name	Measured_valu	Value_un	Detection	Chem_clas	Start_de	End_dep	CAS_number	Lab_	Data	Project_cod	Media	Collection_m	Comments
MND09-0040	0040-0002	Borehole	19890816	Aluminum	8120.000	MG/KG	0.000	INORG	0.5	2.0	7429-90-5			OU6RECON	Soil		
MND09-0040	0040-0001	Borehole	19890816	Aluminum	9860.000	MG/KG	0.000	INORG	0.0	0.5	7429-90-5			OU6RECON	Soil		
MND09-0040	0040-0002	Borehole	19890816	Arsenic	3.700	MG/KG	0.000	INORG	0.5	2.0	7440-38-2			OU6RECON	Soil		
MND09-0040	0040-0001	Borehole	19890816	Arsenic	3.900	MG/KG	0.000	INORG	0.0	0.5	7440-38-2			OU6RECON	Soil		
MND09-0040	0040-0002	Borehole	19890816	Barium	351.000	MG/KG	0.000	INORG	0.5	2.0	7440-39-3			OU6RECON	Soil		2-Exceeds background value.
MND09-0040	0040-0001	Borehole	19890816	Barium	465.000	MG/KG	0.000	INORG	0.0	0.5	7440-39-3			OU6RECON	Soil		2-Exceeds background value.
MND09-0040	0040-0002	Borehole	19890816	Beryllium	1.000	MG/KG	0.000	INORG	0.5	2.0	7440-41-7			OU6RECON	Soil		1-Exceeds soil 10-6 GV.
MND09-0040	0040-0001	Borehole	19890816	Beryllium	1.200	MG/KG	0.000	INORG	0.0	0.5	7440-41-7			OU6RECON	Soil		1-Exceeds soil 10-6 GV.
MND09-0040	0040-0001	Borehole	19890816	Cadmium	4.500	MG/KG	0.000	INORG	0.0	0.5	7440-43-9			OU6RECON	Soil		2-Exceeds background value.
MND09-0040	0040-0002	Borehole	19890816	Cadmium	5.000	MG/KG	0.000	INORG	0.5	2.0	7440-43-9			OU6RECON	Soil		2-Exceeds background value.
MND09-0040	0040-0002	Borehole	19890816	Calcium	112000.000	MG/KG	0.000	INORG	0.5	2.0	7440-70-2	*		OU6RECON	Soil		
MND09-0040	0040-0001	Borehole	19890816	Calcium	113000.000	MG/KG	0.000	INORG	0.0	0.5	7440-70-2	*		OU6RECON	Soil		
MND09-0040	0040-0002	Borehole	19890816	Chromium	14.700	MG/KG	0.000	INORG	0.5	2.0	7440-47-3	*		OU6RECON	Soil		
MND09-0040	0040-0001	Borehole	19890816	Chromium	18.000	MG/KG	0.000	INORG	0.0	0.5	7440-47-3	*		OU6RECON	Soil		
MND09-0040	0040-0002	Borehole	19890816	Cobalt	10.700	MG/KG	0.000	INORG	0.5	2.0	7440-48-4			OU6RECON	Soil		
MND09-0040	0040-0001	Borehole	19890816	Cobalt	13.600	MG/KG	0.000	INORG	0.0	0.5	7440-48-4			OU6RECON	Soil		
MND09-0040	0040-0002	Borehole	19890816	Copper	10.600	MG/KG	0.000	INORG	0.5	2.0	7440-50-8			OU6RECON	Soil		
MND09-0040	0040-0001	Borehole	19890816	Copper	13.300	MG/KG	0.000	INORG	0.0	0.5	7440-50-8			OU6RECON	Soil		
MND09-0040	0040-0002	Borehole	19890816	Iron	15900.000	MG/KG	0.000	INORG	0.5	2.0	7439-89-6	E		OU6RECON	Soil		
MND09-0040	0040-0001	Borehole	19890816	Iron	20700.000	MG/KG	0.000	INORG	0.0	0.5	7439-89-6	E		OU6RECON	Soil		
MND09-0040	0040-0001	Borehole	19890816	Lead	11.500	MG/KG	0.000	INORG	0.0	0.5	7439-92-1			OU6RECON	Soil		
MND09-0040	0040-0002	Borehole	19890816	Lead	27.200	MG/KG	0.000	INORG	0.5	2.0	7439-92-1			OU6RECON	Soil		
MND09-0040	0040-0001	Borehole	19890816	Magnesium	20600.000	MG/KG	0.000	INORG	0.0	0.5	7439-95-4	*		OU6RECON	Soil		
MND09-0040	0040-0002	Borehole	19890816	Magnesium	28300.000	MG/KG	0.000	INORG	0.5	2.0	7439-95-4	*		OU6RECON	Soil		
MND09-0040	0040-0002	Borehole	19890816	Manganese	392.000	MG/KG	0.000	INORG	0.5	2.0	7439-96-5			OU6RECON	Soil		
MND09-0040	0040-0001	Borehole	19890816	Manganese	565.000	MG/KG	0.000	INORG	0.0	0.5	7439-96-5			OU6RECON	Soil		
MND09-0040	0040-0002	Borehole	19890816	Nickel	26.900	MG/KG	0.000	INORG	0.5	2.0	7440-02-0	*		OU6RECON	Soil		
MND09-0040	0040-0001	Borehole	19890816	Nickel	32.500	MG/KG	0.000	INORG	0.0	0.5	7440-02-0	*		OU6RECON	Soil		2-Exceeds background value.
MND09-0040	0040-0002	Borehole	19890816	Plutonium-238	10.000	PCI/G		RAD	0.5	2.0	13981-16-3			OU6RECON	Soil		1-Exceeds soil 10-6 GV. 2-Exceeds background value.
MND09-0040	0040-0001	Borehole	19890816	Plutonium-238	12.000	PCI/G		RAD	0.0	0.5	13981-16-3			OU6RECON	Soil		1-Exceeds soil 10-6 GV. 2-Exceeds background value.
MND09-0040	0040-0002	Borehole	19890816	Potassium	1780.000	MG/KG	0.000	INORG	0.5	2.0	7440-09-7			OU6RECON	Soil		
MND09-0040	0040-0001	Borehole	19890816	Potassium	2030.000	MG/KG	0.000	INORG	0.0	0.5	7440-09-7			OU6RECON	Soil		2-Exceeds background value.
MND09-0040	0040-0002	Borehole	19890816	Sodium	1540.000	MG/KG	0.000	INORG	0.5	2.0	7440-23-5			OU6RECON	Soil		2-Exceeds background value.
MND09-0040	0040-0001	Borehole	19890816	Sodium	2140.000	MG/KG	0.000	INORG	0.0	0.5	7440-23-5			OU6RECON	Soil		2-Exceeds background value.
MND09-0040	0040-0002	Borehole	19890816	Thallium	0.220	MG/KG	0.000	INORG	0.5	2.0	7440-28-0	B		OU6RECON	Soil		
MND09-0040	0040-0001	Borehole	19890816	Thorium-232	0.800	PCI/G		RAD	0.0	0.5	7440-29-1			OU6RECON	Soil		
MND09-0040	0040-0002	Borehole	19890816	Thorium-232	5.700	PCI/G		RAD	0.5	2.0	7440-29-1			OU6RECON	Soil		1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
MND09-0040	0040-0001	Borehole	19890816	Vanadium	19.800	MG/KG	0.000	INORG	0.0	0.5	7440-62-2			OU6RECON	Soil		
MND09-0040	0040-0002	Borehole	19890816	Vanadium	20.200	MG/KG	0.000	INORG	0.5	2.0	7440-62-2			OU6RECON	Soil		
MND09-0040	0040-0002	Borehole	19890816	Zinc	230.000	MG/KG	0.000	INORG	0.5	2.0	7440-66-6			OU6RECON	Soil		2-Exceeds background value.
MND09-0040	0040-0001	Borehole	19890816	Zinc	303.000	MG/KG	0.000	INORG	0.0	0.5	7440-66-6			OU6RECON	Soil		2-Exceeds background value.
MND09-0041	0041-0001	Borehole	19890816	Aluminum	611.000	MG/KG	0.000	INORG	0.0	0.5	7429-90-5			OU6RECON	Soil		
MND09-0041	0041-0004	Borehole	19890816	Aluminum	1680.000	MG/KG	0.000	INORG	4.0	6.0	7429-90-5			OU6RECON	Soil		
MND09-0041	0041-0005	Borehole	19890816	Aluminum	2100.000	MG/KG	0.000	INORG	6.0	8.0	7429-90-5			OU6RECON	Soil		
MND09-0041	0041-0002	Borehole	19890816	Aluminum	2290.000	MG/KG	0.000	INORG	0.5	2.0	7429-90-5			OU6RECON	Soil		
MND09-0041	0041-0001	Borehole	19890816	Arsenic	1.900	MG/KG	0.000	INORG	0.0	0.5	7440-38-2	B		OU6RECON	Soil		
MND09-0041	0041-0004	Borehole	19890816	Arsenic	2.500	MG/KG	0.000	INORG	4.0	6.0	7440-38-2			OU6RECON	Soil		
MND09-0041	0041-0005	Borehole	19890816	Arsenic	2.700	MG/KG	0.000	INORG	6.0	8.0	7440-38-2			OU6RECON	Soil		
MND09-0041	0041-0002	Borehole	19890816	Arsenic	7.600	MG/KG	0.000	INORG	0.5	2.0	7440-38-2			OU6RECON	Soil		
MND09-0041	0041-0001	Borehole	19890816	Barium	216.000	MG/KG	0.000	INORG	0.0	0.5	7440-39-3			OU6RECON	Soil		2-Exceeds background value.
MND09-0041	0041-0005	Borehole	19890816	Barium	258.000	MG/KG	0.000	INORG	6.0	8.0	7440-39-3			OU6RECON	Soil		2-Exceeds background value.
MND09-0041	0041-0004	Borehole	19890816	Barium	268.000	MG/KG	0.000	INORG	4.0	6.0	7440-39-3			OU6RECON	Soil		2-Exceeds background value.
MND09-0041	0041-0002	Borehole	19890816	Barium	315.000	MG/KG	0.000	INORG	0.5	2.0	7440-39-3			OU6RECON	Soil		2-Exceeds background value.
MND09-0041	0041-0001	Borehole	19890816	Beryllium	0.690	MG/KG	0.000	INORG	0.0	0.5	7440-41-7	B		OU6RECON	Soil		
MND09-0041	0041-0005	Borehole	19890816	Beryllium	0.740	MG/KG	0.000	INORG	6.0	8.0	7440-41-7	B		OU6RECON	Soil		1-Exceeds soil 10-6 GV.
MND09-0041	0041-0002	Borehole	19890816	Beryllium	0.770	MG/KG	0.000	INORG	0.5	2.0	7440-41-7	B		OU6RECON	Soil		1-Exceeds soil 10-6 GV.
MND09-0041	0041-0004	Borehole	19890816	Beryllium	0.780	MG/KG	0.000	INORG	4.0	6.0	7440-41-7	B		OU6RECON	Soil		1-Exceeds soil 10-6 GV.
MND09-0041	0041-0005	Borehole	19890816	Cadmium	5.800	MG/KG	0.000	INORG	6.0	8.0	7440-43-9			OU6RECON	Soil		2-Exceeds background value.
MND09-0041	0041-0002	Borehole	19890816	Cadmium	6.600	MG/KG	0.000	INORG	0.5	2.0	7440-43-9			OU6RECON	Soil		2-Exceeds background value.
MND09-0041	0041-0004	Borehole	19890816	Cadmium	6.700	MG/KG	0.000	INORG	4.0	6.0	7440-43-9			OU6RECON	Soil		2-Exceeds background value.
MND09-0041	0041-0001	Borehole	19890816	Cadmium	7.500	MG/KG	0.000	INORG	0.0	0.5	7440-43-9			OU6RECON	Soil		2-Exceeds background value.
MND09-0041	0041-0002	Borehole	19890816	Calcium	123000.000	MG/KG	0.000	INORG	0.5	2.0	7440-70-2	*		OU6RECON	Soil		
MND09-0041	0041-0001	Borehole	19890816	Calcium	144000.000	MG/KG	0.000	INORG	0.0	0.5	7440-70-2	*		OU6RECON	Soil		
MND09-0041	0041-0004	Borehole	19890816	Calcium	145000.000	MG/KG	0.000	INORG	4.0	6.0	7440-70-2	*		OU6RECON	Soil		
MND09-0041	0041-0001	Borehole	19890816	Chromium	5.400	MG/KG	0.000	INORG	0.0	0.5	7440-47-3	*		OU6RECON	Soil		
MND09-0041	0041-0004	Borehole	19890816	Chromium	7.000	MG/KG	0.000	INORG	4.0	6.0	7440-47-3	*		OU6RECON	Soil		
MND09-0041	0041-0005	Borehole	19890816	Chromium	9.300	MG/KG	0.000	INORG	6.0	8.0	7440-47-3	*		OU6RECON	Soil		
MND09-0041	0041-0002	Borehole	19890816	Chromium	11.000	MG/KG	0.000	INORG	0.5	2.0	7440-47-3	*		OU6RECON	Soil		
MND09-0041	0041-0001	Borehole	19890816	Cobalt	5.600	MG/KG	0.000	INORG	0.0	0.5	7440-48-4	B		OU6RECON	Soil		
MND09-0041	0041-0005	Borehole	19890816	Cobalt	6.100	MG/KG	0.000	INORG	6.0	8.0	7440-48-4	B		OU6RECON	Soil		
MND09-0041	0041-0004	Borehole	19890816	Cobalt	6.200	MG/KG	0.000	INORG	4.0	6.0	7440-48-4	B		OU6RECON	Soil		
MND09-0041	0041-0002	Borehole	19890816	Cobalt	6.300	MG/KG	0.000	INORG	0.5	2.0	7440-48-4	B		OU6RECON	Soil		
MND09-0041	0041-0004	Borehole	19890816	Copper	2.800	MG/KG	0.000	INORG	4.0	6.0	7440-50-8	B		OU6RECON	Soil		
MND09-0041	0041-0005	Borehole	19890816	Copper	3.500	MG/KG	0.000	INORG	6.0	8.0	7440-50-8	B		OU6RECON	Soil		

Location_name	Sample_id	Location_typ	Collection_d	Value_name	Measured_valu	Value_un	Detection	Chem_clas	Start_de	End_dep	CAS_number	Lab_	Data	Project_cod	Media	Collection_m	Comments
MND09-0041	0041-0002	Borehole	19890816	Copper	4.400	MG/KG	0.000	INORG	0.5	2.0	7440-50-8	B		OU6RECON	Soil		
MND09-0041	0041-0001	Borehole	19890816	Iron	4350.000	MG/KG	0.000	INORG	0.0	0.5	7439-89-6	E		OU6RECON	Soil		
MND09-0041	0041-0004	Borehole	19890816	Iron	4870.000	MG/KG	0.000	INORG	4.0	6.0	7439-89-6	E		OU6RECON	Soil		
MND09-0041	0041-0005	Borehole	19890816	Iron	5330.000	MG/KG	0.000	INORG	6.0	8.0	7439-89-6	E		OU6RECON	Soil		
MND09-0041	0041-0002	Borehole	19890816	Iron	6280.000	MG/KG	0.000	INORG	0.5	2.0	7439-89-6	E		OU6RECON	Soil		
MND09-0041	0041-0005	Borehole	19890816	Lead	4.500	MG/KG	0.000	INORG	6.0	8.0	7439-92-1			OU6RECON	Soil		
MND09-0041	0041-0004	Borehole	19890816	Lead	6.200	MG/KG	0.000	INORG	4.0	6.0	7439-92-1			OU6RECON	Soil		
MND09-0041	0041-0002	Borehole	19890816	Lead	11.200	MG/KG	0.000	INORG	0.5	2.0	7439-92-1			OU6RECON	Soil		
MND09-0041	0041-0001	Borehole	19890816	Lead	15.200	MG/KG	0.000	INORG	0.0	0.5	7439-92-1			OU6RECON	Soil		
MND09-0041	0041-0005	Borehole	19890816	Magnesium	52700.000	MG/KG	0.000	INORG	6.0	8.0	7439-95-4	*		OU6RECON	Soil		2-Exceeds background value.
MND09-0041	0041-0002	Borehole	19890816	Magnesium	55700.000	MG/KG	0.000	INORG	0.5	2.0	7439-95-4	*		OU6RECON	Soil		2-Exceeds background value.
MND09-0041	0041-0004	Borehole	19890816	Magnesium	64500.000	MG/KG	0.000	INORG	4.0	6.0	7439-95-4	*		OU6RECON	Soil		2-Exceeds background value.
MND09-0041	0041-0001	Borehole	19890816	Magnesium	78200.000	MG/KG	0.000	INORG	0.0	0.5	7439-95-4	*		OU6RECON	Soil		2-Exceeds background value.
MND09-0041	0041-0001	Borehole	19890816	Manganese	133.000	MG/KG	0.000	INORG	0.0	0.5	7439-96-5			OU6RECON	Soil		
MND09-0041	0041-0005	Borehole	19890816	Manganese	230.000	MG/KG	0.000	INORG	6.0	8.0	7439-96-5			OU6RECON	Soil		
MND09-0041	0041-0004	Borehole	19890816	Manganese	234.000	MG/KG	0.000	INORG	4.0	6.0	7439-96-5			OU6RECON	Soil		
MND09-0041	0041-0002	Borehole	19890816	Manganese	332.000	MG/KG	0.000	INORG	0.5	2.0	7439-96-5			OU6RECON	Soil		
MND09-0041	0041-0001	Borehole	19890816	Nickel	10.600	MG/KG	0.000	INORG	0.0	0.5	7440-02-0	*		OU6RECON	Soil		
MND09-0041	0041-0004	Borehole	19890816	Nickel	15.300	MG/KG	0.000	INORG	4.0	6.0	7440-02-0	*		OU6RECON	Soil		
MND09-0041	0041-0005	Borehole	19890816	Nickel	16.600	MG/KG	0.000	INORG	6.0	8.0	7440-02-0	*		OU6RECON	Soil		
MND09-0041	0041-0002	Borehole	19890816	Nickel	18.700	MG/KG	0.000	INORG	0.5	2.0	7440-02-0	*		OU6RECON	Soil		
MND09-0041	0041-0002	Borehole	19890816	Plutonium-238	5.000	PCI/G		RAD	0.5	2.0	13981-16-3			OU6RECON	Soil		2-Exceeds background value.
MND09-0041	0041-0005	Borehole	19890816	Plutonium-238	6.000	PCI/G		RAD	6.0	8.0	13981-16-3			OU6RECON	Soil		1-Exceeds soil 10-6 GV. 2-Exceeds background value.
MND09-0041	0041-0003	Borehole	19890816	Plutonium-238	7.000	PCI/G		RAD	2.0	4.0	13981-16-3			OU6RECON	Soil		1-Exceeds soil 10-6 GV. 2-Exceeds background value.
MND09-0041	0041-0004	Borehole	19890816	Plutonium-238	9.000	PCI/G		RAD	4.0	6.0	13981-16-3			OU6RECON	Soil		1-Exceeds soil 10-6 GV. 2-Exceeds background value.
MND09-0041	0041-0001	Borehole	19890816	Plutonium-238	10.000	PCI/G		RAD	0.0	0.5	13981-16-3			OU6RECON	Soil		1-Exceeds soil 10-6 GV. 2-Exceeds background value.
MND09-0041	0041-0001	Borehole	19890816	Potassium	425.000	MG/KG	0.000	INORG	0.0	0.5	7440-09-7	B		OU6RECON	Soil		
MND09-0041	0041-0004	Borehole	19890816	Potassium	526.000	MG/KG	0.000	INORG	4.0	6.0	7440-09-7	B		OU6RECON	Soil		
MND09-0041	0041-0005	Borehole	19890816	Potassium	541.000	MG/KG	0.000	INORG	6.0	8.0	7440-09-7	B		OU6RECON	Soil		
MND09-0041	0041-0002	Borehole	19890816	Potassium	651.000	MG/KG	0.000	INORG	0.5	2.0	7440-09-7	B		OU6RECON	Soil		
MND09-0041	0041-0001	Borehole	19890816	Sodium	1160.000	MG/KG	0.000	INORG	0.0	0.5	7440-23-5			OU6RECON	Soil		2-Exceeds background value.
MND09-0041	0041-0005	Borehole	19890816	Sodium	1300.000	MG/KG	0.000	INORG	6.0	8.0	7440-23-5			OU6RECON	Soil		2-Exceeds background value.
MND09-0041	0041-0004	Borehole	19890816	Sodium	1390.000	MG/KG	0.000	INORG	4.0	6.0	7440-23-5			OU6RECON	Soil		2-Exceeds background value.
MND09-0041	0041-0002	Borehole	19890816	Sodium	1450.000	MG/KG	0.000	INORG	0.5	2.0	7440-23-5			OU6RECON	Soil		2-Exceeds background value.
MND09-0041	0041-0002	Borehole	19890816	Thallium	0.220	MG/KG	0.000	INORG	0.5	2.0	7440-28-0	B		OU6RECON	Soil		
MND09-0041	0041-0001	Borehole	19890816	Thorium-232	0.200	PCI/G		RAD	0.0	0.5	7440-29-1			OU6RECON	Soil		
MND09-0041	0041-0003	Borehole	19890816	Thorium-232	0.400	PCI/G		RAD	2.0	4.0	7440-29-1			OU6RECON	Soil		
MND09-0041	0041-0005	Borehole	19890816	Thorium-232	0.500	PCI/G		RAD	6.0	8.0	7440-29-1			OU6RECON	Soil		
MND09-0041	0041-0004	Borehole	19890816	Thorium-232	2.300	PCI/G		RAD	4.0	6.0	7440-29-1			OU6RECON	Soil		1-Exceeds soil 10-6 GV. 2-Exceeds background value.
MND09-0041	0041-0002	Borehole	19890816	Thorium-232	4.600	PCI/G		RAD	0.5	2.0	7440-29-1			OU6RECON	Soil		1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
MND09-0041	0041-0002	Borehole	19890816	Vanadium	18.100	MG/KG	0.000	INORG	0.5	2.0	7440-62-2			OU6RECON	Soil		
MND09-0041	0041-0005	Borehole	19890816	Vanadium	18.500	MG/KG	0.000	INORG	6.0	8.0	7440-62-2			OU6RECON	Soil		
MND09-0041	0041-0001	Borehole	19890816	Vanadium	18.900	MG/KG	0.000	INORG	0.0	0.5	7440-62-2			OU6RECON	Soil		
MND09-0041	0041-0004	Borehole	19890816	Vanadium	20.100	MG/KG	0.000	INORG	4.0	6.0	7440-62-2			OU6RECON	Soil		
MND09-0041	0041-0001	Borehole	19890816	Zinc	127.000	MG/KG	0.000	INORG	0.0	0.5	7440-66-6			OU6RECON	Soil		
MND09-0041	0041-0005	Borehole	19890816	Zinc	157.000	MG/KG	0.000	INORG	6.0	8.0	7440-66-6			OU6RECON	Soil		2-Exceeds background value.
MND09-0041	0041-0004	Borehole	19890816	Zinc	157.000	MG/KG	0.000	INORG	4.0	6.0	7440-66-6			OU6RECON	Soil		2-Exceeds background value.
MND09-0041	0041-0002	Borehole	19890816	Zinc	182.000	MG/KG	0.000	INORG	0.5	2.0	7440-66-6			OU6RECON	Soil		2-Exceeds background value.
S0386	4094	Surface loca	19831001	Plutonium-238	2.190	PCI/G	0.010	RAD	0.0	0.0	13981-16-3			RSS	Soil	Not Applicabl	2-Exceeds background value.
SCR131	9311161-M3	Borehole	19931116	Plutonium-238	25.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value.
SCR131	93111092	Borehole	19931110	Plutonium-238	25.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value.
SCR131	9311125-M	Borehole	19931111	Plutonium-238	25.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value.
SCR131	9311167	Borehole	19931116	Plutonium-238	26.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR131	93111219	Borehole	19931112	Plutonium-238	26.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR131	9311161-M1	Borehole	19931116	Plutonium-238	26.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR131	9311164-M5	Borehole	19931116	Plutonium-238	26.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR131	9311169	Borehole	19931116	Plutonium-238	26.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR131	9311124-M	Borehole	19931111	Plutonium-238	27.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR131	93111518	Borehole	19931115	Plutonium-238	27.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR131	93111140	Borehole	19931111	Plutonium-238	27.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR131	9311168	Borehole	19931116	Plutonium-238	28.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR131	9311126	Borehole	19931111	Plutonium-238	28.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR131	93111520	Borehole	19931115	Plutonium-238	28.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR131	93111519	Borehole	19931115	Plutonium-238	28.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR131	93111220	Borehole	19931112	Plutonium-238	29.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR131	9311155-M1	Borehole	19931115	Plutonium-238	30.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR131	9311162-M2	Borehole	19931116	Plutonium-238	31.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR131	93111515	Borehole	19931115	Plutonium-238	34.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR131	9311123-M	Borehole	19931111	Plutonium-238	34.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR131	93111141	Borehole	19931111	Plutonium-238	35.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR132	88022529	Borehole	19880224	Plutonium-238	25.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value.
SCR132	88022546	Borehole	19880224	Plutonium-238	26.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR132	88022534	Borehole	19880224	Plutonium-238	30.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR132	88022531	Borehole	19880224	Plutonium-238	32.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.

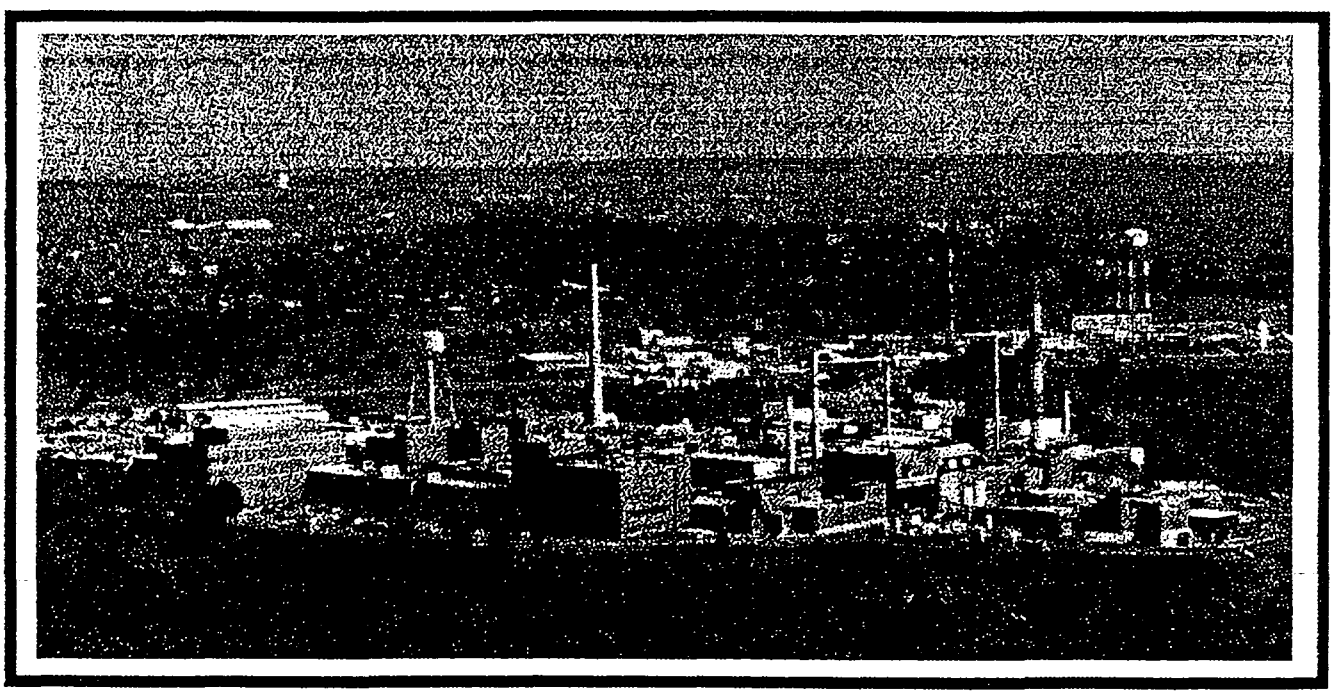
Location_name	Sample_id	Location_ty	Collection_d	Value_name	Measured_valu	Value_un	Detection	Chem_clas	Start_de	End_dep	CAS_number	Lab_	Data	Project_cod	Media	Collection_m	Comments
SCR132	88022548	Borehole	19880224	Plutonium-238	33.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR132	88022545	Borehole	19880224	Plutonium-238	33.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR132	88022528	Borehole	19880224	Plutonium-238	33.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR132	88022550	Borehole	19880224	Plutonium-238	34.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR132	88022533	Borehole	19880224	Plutonium-238	79.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR132	88022533	Borehole	19880224	Thorium-232	3.100	PCI/G		RAD	0.0	0.0	7440-29-1			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR155	8802256	Borehole	19880224	Plutonium-238	26.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR155	8802255	Borehole	19880224	Plutonium-238	26.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR155	8802251	Borehole	19880224	Plutonium-238	27.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR155	88022523	Borehole	19880224	Plutonium-238	28.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR155	88022517	Borehole	19880224	Plutonium-238	31.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR155	88022525	Borehole	19880224	Plutonium-238	35.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR155	88022511	Borehole	19880224	Plutonium-238	37.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR155	8802253	Borehole	19880224	Plutonium-238	74.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR155	8802253	Borehole	19880224	Thorium-232	2.200	PCI/G		RAD	0.0	0.0	7440-29-1			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value.
SCR159	90072559	Borehole	19900725	Plutonium-238	26.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR159	90072554	Borehole	19900725	Plutonium-238	27.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR159	90072555	Borehole	19900725	Plutonium-238	29.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR159	90072560	Borehole	19900725	Plutonium-238	30.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR159	90072561	Borehole	19900725	Plutonium-238	31.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR159	90072557	Borehole	19900725	Plutonium-238	225.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR161	9312024-O	Borehole	19931202	Plutonium-238	26.000	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.

Reference H

MOUND

Environmental
Restoration
Program

MOUND PLANT
Potential Release Site Package
PRS #124



PRS 124

REV	DESCRIPTION	DATE
WORKING DRAFT		Apr. 11, 2001
DRAFT	DOE / BWXTO review of Working Draft on April 16, 2001. Distribute for Core Team evaluation (binning) in May 2001.	Apr. 16, 2001
DRAFT PROPOSED FINAL		
PUBLIC REVIEW DRAFT		
FINAL		

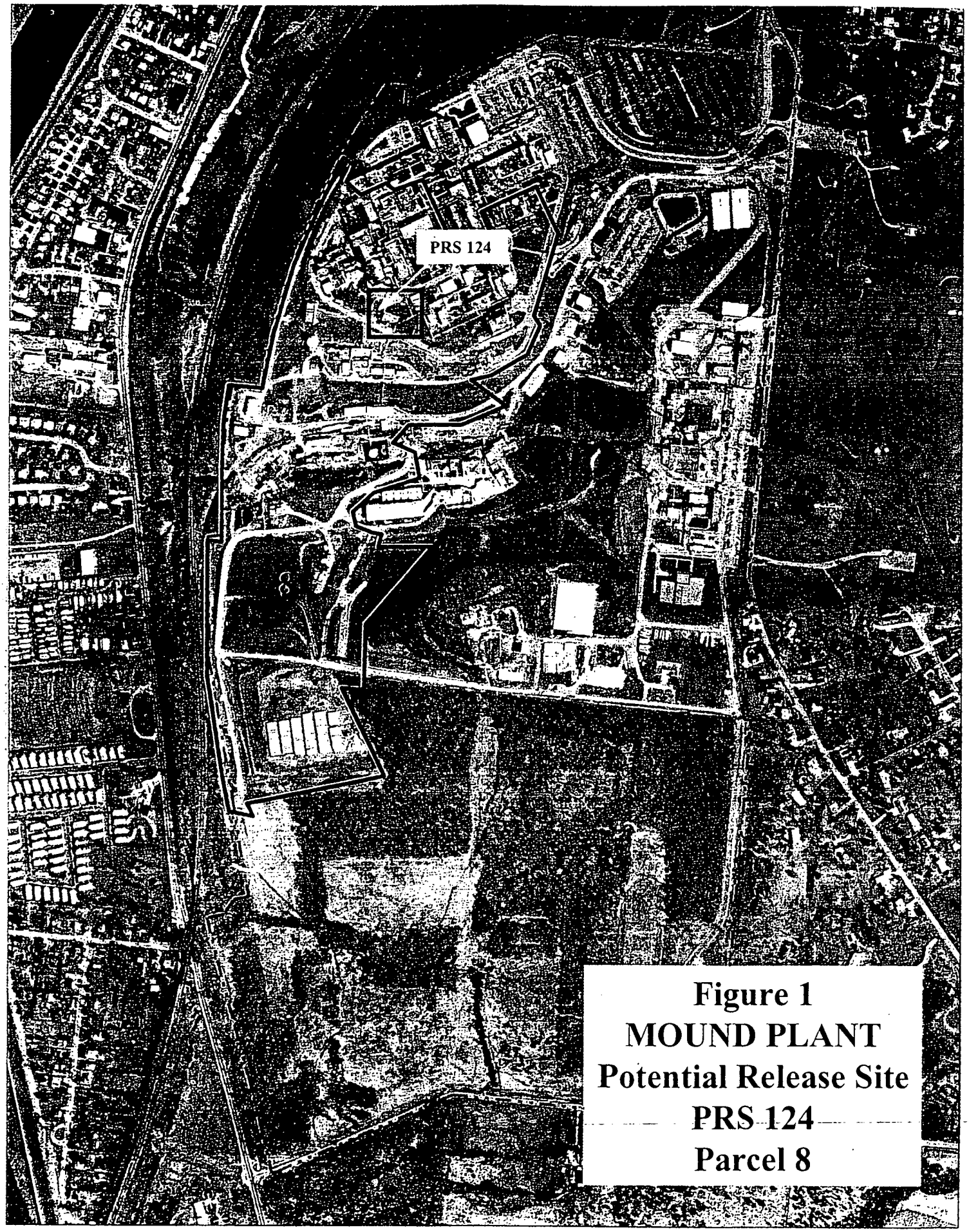
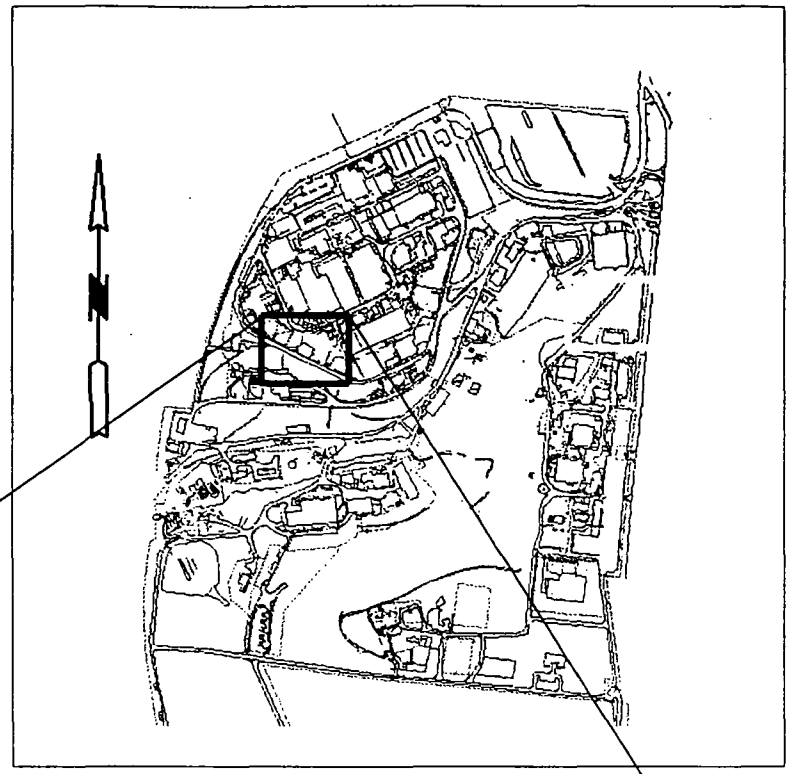
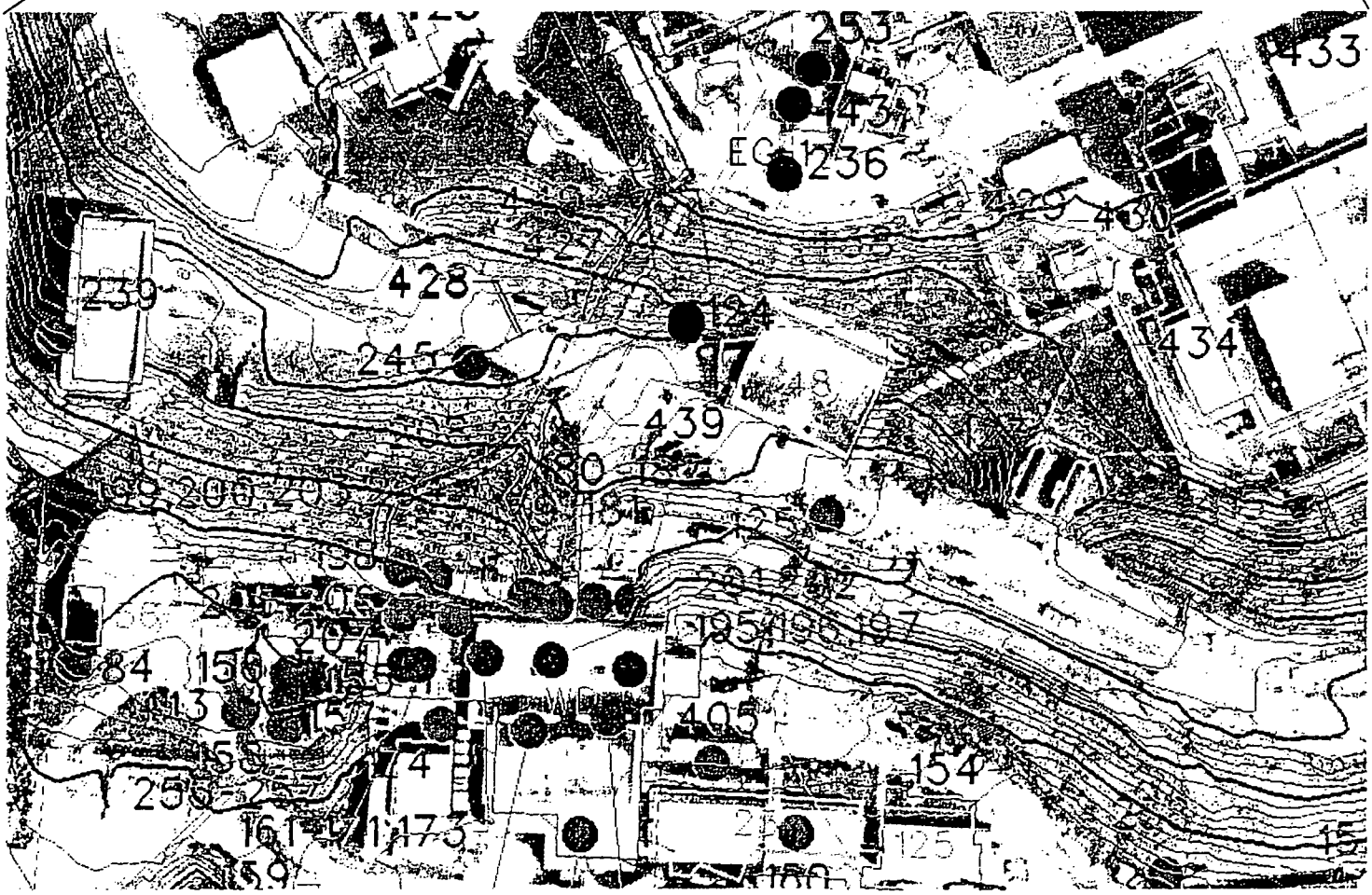


Figure 1
MOUND PLANT
Potential Release Site
PRS 124
Parcel 8

Figure 2
Mound Plant
PRS 124
Building 48 Hillside

On the map below:
- PRS number and location shown in black
- Fencing shown in red
- Elevation contours shown in brown
- Other PRS's shown in blue





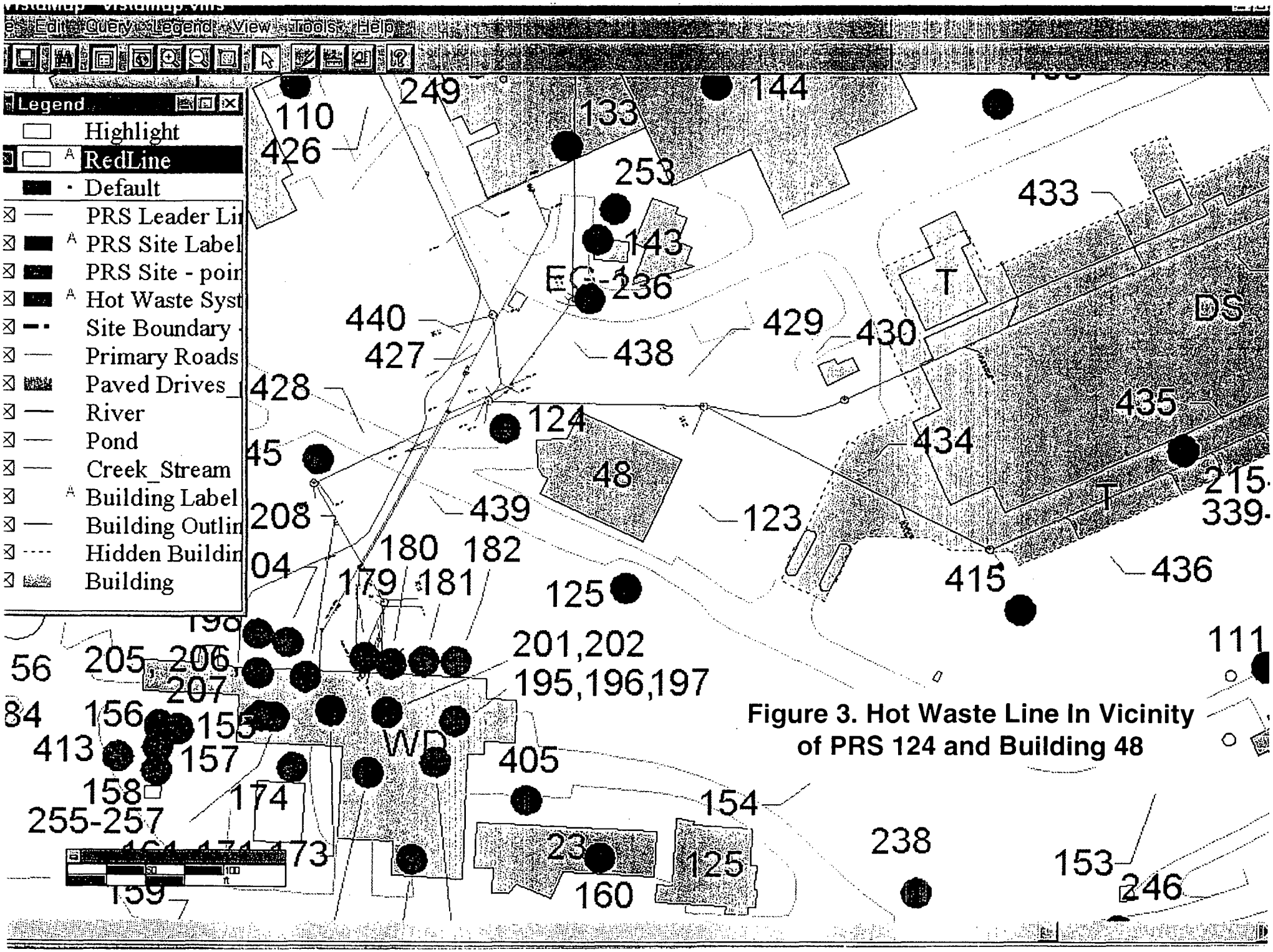


Figure 3. Hot Waste Line In Vicinity of PRS 124 and Building 48

Figure 4
Building 48 Hillside

PRS 124

PRS HISTORY:

The document, Operable Unit 9, Site Scoping Report; Volume 12 - Site Summary Report [1], identifies PRS 124 as the Mound Plant *Building 48 Hillside*. This reference also declares that plutonium-238 in soil is the suspected contaminant of concern. GIS [2] mapping / sampling information indicates that the area of concern is located adjacent to a radiological process line manhole northwest of Building 48. Several Main Hill radiological process waste lines join near this location and continue to the Waste Disposal (WD) Building. Note Figure 3 and also Reference 3. This reference declares that "The contamination encountered at the Building 48 hillside is attributed to a release of 7.64 mCi of plutonium-238 in November 1967." It is also noted that the incident is documented in the Site Scoping Report, Volume 11; Spills and Response Actions [4].

BACKGROUND:

On November 9, 1967, 1500 - 2000 gallons of low-level radioactive wastewater was accidentally released during waste line repair[4]. Soil sampling accomplished in support of a construction project (Circa 1986) indicated plutonium-238 concentrations as high as 32 nCi/g. These concentrations required that the construction project be abandoned. Construction borings were backfilled and contamination was left in place for future D&D activities [3].

CONTAMINATION:

Table 1: Soil Analysis Report, Soils Identified With PRS 124[2]

Contaminant	Maximum Level (pCi/g)	Guideline Value (10^{-6}) (pCi/g)	Background Value (pCi/g)
Plutonium 238 (SCR191)	2902.0	55.0 (10^{-5})	0.13
Plutonium 238 (SCR159)	225.0	55.0 (10^{-5})	0.13
Plutonium 238 (SCR155)	74.0	55.0 (10^{-5})	0.13
Thorium 230 (MND17-5001)	5.23	0.13	1.90
Thorium 232 (SCR191)	182.2	0.11	1.40
Thorium 232 (SCR155)	2.20	0.11	1.40

READING ROOM REFERENCES:

1) Operable Unit 9, Site Scoping Report: Volume 12 - Site Summary Report, December 1994

3) Operable Unit 9, Site Scoping Report: Volume 3 - Radiological Site Survey, June 1993

4) Operable Unit 9, Site Scoping Report: Volume 11 - Spills and Response Actions, March 1992

OTHER REFERENCES:

2) GIS Mapping / Sampling Information

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Richard Neff, Department of Energy / MEMP

MOUND PLANT
PRS 124

Building 48 Hillside

RECOMMENDATION:

CONCURRENCE:

DOE/MEMP: _____
Robert S. Rothman, Remedial Project Manager (date)

USEPA: _____
Timothy J. Fischer, Remedial Project Manager (date)

OEPA: _____
Brian K. Nickel, Project Manager (date)

SUMMARY OF COMMENTS AND RESPONSES

Comment period from _____ to _____

___ No comments were received during the comment period.

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

REFERENCE MATERIAL FOR PRS 124

Reference 1

DUPLICATE
Classification Code 29-01-01-07-13
Accession No. 9503250005

ENVIRONMENTAL RESTORATION PROGRAM

OPERABLE UNIT 9
SITE SCOPING REPORT:
VOLUME 12 - SITE SUMMARY REPORT

MOUND PLANT
MIAMISBURG, OHIO

December 1994

U.S. DEPARTMENT OF ENERGY
OHIO FIELD OFFICE

ENVIRONMENTAL RESTORATION PROGRAM
EG&G MOUND APPLIED TECHNOLOGIES

FINAL

Description of History and Nature of Waste Handling						Hazardous Conditions and Incidents			Environmental Data		
No.	Site Name	Location	Status	Potential Hazardous Substances	Ref	Releases	Media	Ref	Analytes[a]	Results	Ref
118	M Building Soils	E-7	Grounds	Copper cyanide, Silver cyanide Machine oils, Solvents	4	Oils, Copper cyanide, Silver cyanide	S	10	1 14	SGS[b] Table B.4 Locations 1050, 1051, 1062 Table B.9 RSS[c] Locations S0162, S0163, S0252 (Appendix E in Ref. 6)	12 6
119	Room M-38 Metal Plating Rinse Water Sump (Tank 226)	E-7	Surplus	Rinse waters from metal plating operations. Possible contaminants include nickel, cadmium, silver, gold, manganese, cyanide, and aluminum. Sodium hydroxide solution Potassium permanganate	3, 4	None Suspected			No Data		
120	Room M-108 Metal Plating Rinse Water Tank (Tank 119)	E-7	In service	Rinse waters from metal plating operations. copper, gold, silver, nickel, aluminum, and uranium	3, 4	Silver cyanide	SW	10	No Data		
121	Vapor Degreasers	E-7	In service	Perclene D (perchloroethylene)	4, 5, 18	None Suspected			No Data		
122	Underground Radioactive Waste Lines (Main Hill)	E-6 F-6	Inactive	Alpha wastes from SW Bldg., R Bldg., and H Bldg. Wastewater from B Building Plutonium-238, Cobalt-60	4, 18	Suspected	S	4, 10	No Data		
123	Area 5, Radioactive Waste Line Break	F-6 F-7	Grounds	Cobalt-60, Cesium-137, Plutonium-238	1, 5, 18	Cobalt-60	S	1, 18	2, 14, 16	Table B.1 (Table III.3 in Ref. 6)	6
124	Building 48 Hillside	F-6	Inactive	Plutonium-238		Plutonium-238	S	6	14	Table B.1	6
125	Underground Sanitary Sewer Line G24	F-6	In service	Organic solvents, Plating Solutions, Laboratory chemicals, Nitric acid, Hydrochloric acid, Methylene chloride, Strong acids and bases		Suspected	S	5, 18	3, 4, 5, 6, 14, 16	Tables B.6, B.7, and B.8	7
26	Building 28 Solvent Storage Area	E-8	Grounds	Organic solvents (including alcohol, methylene chloride, and acetone)	4, 5, 9, 18	Suspected	S	4	1	SGS[b] Table B.4 Location 1054	12

Scoping Report
Vol. 12

Table A.1

1 - Soil Gas Survey - Freon 11, Freon 113, Trans-1,2-Dichloroethylene, Cis-1,2-Dichloroethylene, 1,1,1-Trichloroethane, Perchloroethylene, Trichloroethylene, Toluene
2 - Gamma Spectroscopy - Thorium-228, -230, Cobalt-60, Cesium-137, Radium-224, -226, -228, Americium-241, Actinium-227, Bismuth-207, Bismuth-210m, Potassium-40
3 - Target Analyte List
4 - Target Compound List (VOC)
5 - Target Compound List (SVOC)
6 - Target Compound List (Pesticides/Polychlorinated Biphenyl)
7 - Dioxins/Furans
8 - Extractable Petroleum Hydrocarbons (EPH)/Total Petroleum Hydrocarbons (TPH)
9 - Lithium
10 - Nitrate/Nitrite
11 - Chloride
12 - Explosives
13 - Plutonium-238
14 - Plutonium-238, Thorium-232
15 - Cobalt-60, Cesium-137, Radium-226, Americium-241
16 - Tritium

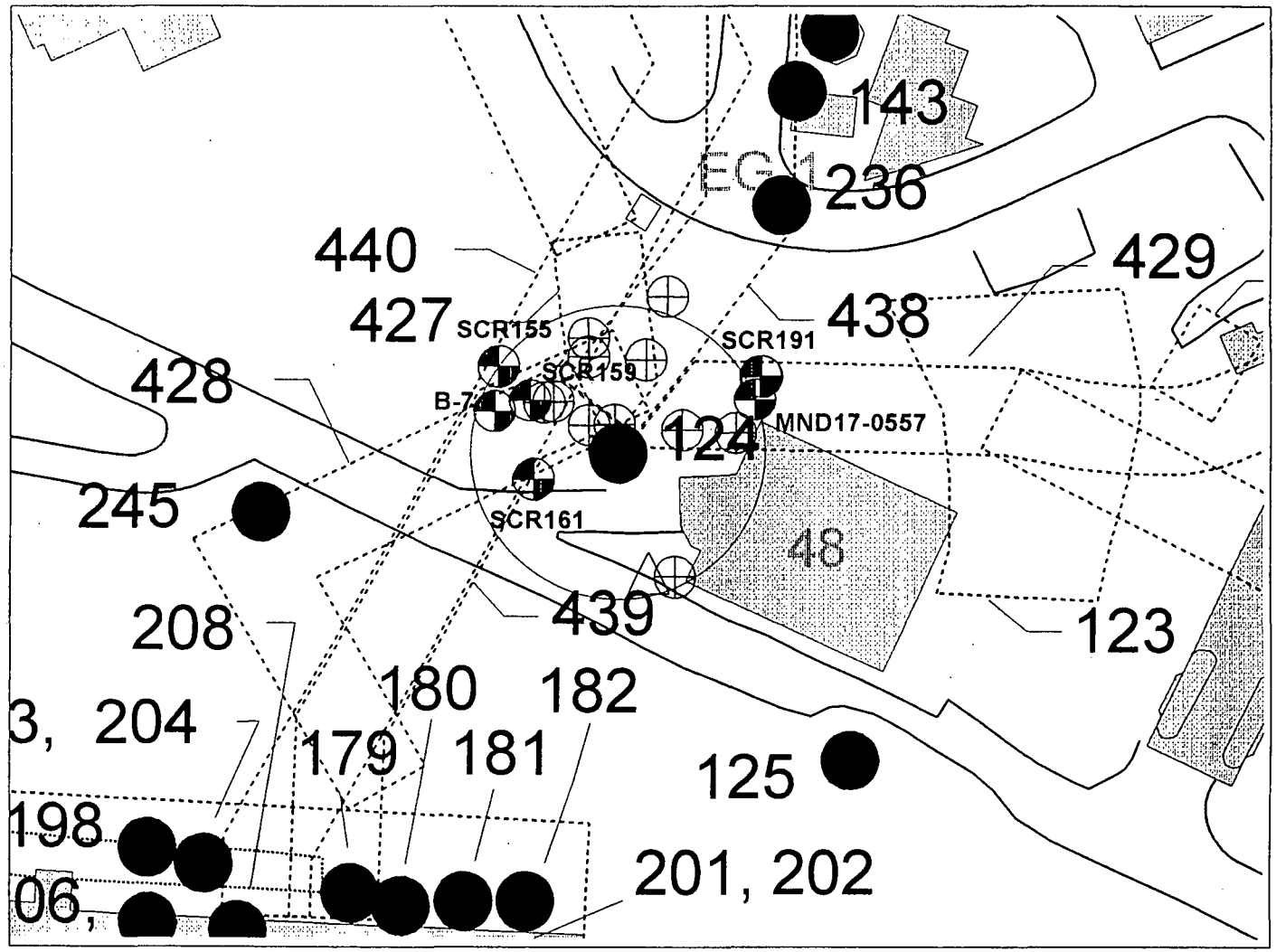
Reference List

1. DOE 1986 "Phase I: Installation Assessment Mound [DRAFT]."
2. DOE 1992a "Remedial Investigation/Feasibility Study, Operable Unit 9, Site-Wide Work Plan (Final)."
3. DOE 1992c "Mound Plant Underground Storage Tank Program Plan & Regulatory Status Review (Final)."
4. DOE 1993a "Site Scoping Report: Vol. 7 - Waste Management (FINAL)."
5. EPA 1988a "Preliminary Review/Visual Site Inspection for RCRA Facility Assessment of Mound Plant"
6. DOE 1993d "Operable Unit 9, Site Scping Report: Vol. 3 - Radiological Site Survey (FINAL)."
7. DOE 1993c "Operable Unit 3, Misc. Sites Limited Field Investigation Report."
8. DOE 1992d "Reconnaissance Sampling Report Decontamination & Decommissioning Areas, OU6, (FINAL)."
9. Fentiman 1990 "Characterization of Mound's Hazardous, Radioactive and Mixed Wastes."
10. DOE 1992f "Operable Unit 9, Site Scpoing Report: Vol. 9 - Spills and Response Actions (FINAL)."
11. Styron and Meyer 1981 "Potable Water Standards Project: Final Report."
12. DOE 1993b "Reconnaissance Sampling Report - Soil Gas Survey & Geophysical Investigations, Mound Plant Main Hill and SM/PP Hill (FINAL)."
13. DOE 1993d "Operable Unit 9, Site Scoping Report: Vol. 3 - Radiological Site Survey (FINAL)."
14. DOE 1991b "Main Hill Seeps, Operable Unit 2, On-Scene Coordinator Report for CERCLA Section 104 Remedial Action, West Powerhouse PCB Site."
15. Halford 1990 "Results of South Pond Sampling."
16. DOE 1993e "Operable Unit 4, Special Canal Sampling Report, Miami Erie Canal."
17. DOE 1990 "Preliminary Results of Reconnaissance Magnetic Survey of Mound Plant Areas 2, 6, 7, and C."
18. DOE 1992a "Remedial Investigation/Feasibility Study, Operable Unit 9, Site-Wide Work Plan (FINAL)."
19. Rogers 1975 "Mound Laboratory Environmental Plutonium Study, 1974."
20. DOE 1992h "Ground Water and Seep Water Quality Data Report Through First Quarter, FY92."
21. Dames and Moore 1976a, b "Potable Water Standards Project Mound Laboratory" and "Evaluation of the Buried Valley Aquifer Adjacent to Mound Laboratory."
22. DOE 1992i "Closure Report, Building 34 - Aviation Fuel Storage Tank."
23. DOE 1992j "Closure Report, Building 51 - Waste Storage Tank."
24. DOE 1994 "Operable Unit 1, Remedial Investigation Report."
25. EG&G 1994 "Active Underground Storage Tank Plan."

Update 11/8/95
Scoping Rpt Vol 12

Reference 2

PRS 124 Sample Locations
Plutonium and Thorium Detects



20 0 20 40 60 80 100 120 140 160 Feet

N
W E
S

Location_name	Sample_id	Location_typ	Collection_d	Value_name	Measured_	Value_unit	Detectio	Chem_c	Start_de	End_dep	CAS_number	Lab_q	Data_	Project_code	Media	Collection_m	Comments
MND17-0557	0557-5001	Borehole	19950822	Thorium-230	5.23	PCI/G		RAD	0.0	0.5	14269-63-7			MND17	Soil	Split spoon	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
MND17-0557	0557-5001	Borehole	19950822	Thorium-232	0.25	PCI/G		RAD	0.0	0.5	7440-29-1			MND17	Soil	Split spoon	
MND17-0557	0557-5004	Borehole	19950823	Thorium-232	0.69	PCI/G		RAD	0.5	4.0	7440-29-1			MND17	Soil	Split spoon	
MND17-0557	0557-5008	Borehole	19950823	Thorium-232	0.72	PCI/G		RAD	4.0	8.0	7440-29-1			MND17	Soil	Split spoon	
SCR191	8802151	Borehole	19880215	Plutonium-238	2902.00	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR191	8802151	Borehole	19880215	Thorium-232	182.20	PCI/G		RAD	0.0	0.0	7440-29-1			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR191	8802154	Borehole	19880215	Plutonium-238	1279.00	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR191	8802154	Borehole	19880215	Thorium-232	59.90	PCI/G		RAD	0.0	0.0	7440-29-1			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR191	8802152	Borehole	19880215	Plutonium-238	1118.00	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR191	8802152	Borehole	19880215	Thorium-232	106.90	PCI/G		RAD	0.0	0.0	7440-29-1			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR191	8802155	Borehole	19880215	Plutonium-238	195.00	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR191	8802155	Borehole	19880215	Thorium-232	8.20	PCI/G		RAD	0.0	0.0	7440-29-1			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR191	8802153	Borehole	19880215	Plutonium-238	39.00	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR191	8802153	Borehole	19880215	Thorium-232	2.80	PCI/G		RAD	0.0	0.0	7440-29-1			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value.
SCR161	9312024-Q	Borehole	19931202	Plutonium-238	26.00	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR159	90072559	Borehole	19900725	Plutonium-238	26.00	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR159	90072555	Borehole	19900725	Plutonium-238	29.00	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR159	90072560	Borehole	19900725	Plutonium-238	30.00	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR159	90072557	Borehole	19900725	Plutonium-238	225.00	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR159	90072561	Borehole	19900725	Plutonium-238	31.00	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR159	90072554	Borehole	19900725	Plutonium-238	27.00	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR155	88022511	Borehole	19880224	Plutonium-238	37.00	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR155	8802251	Borehole	19880224	Plutonium-238	27.00	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR155	88022517	Borehole	19880224	Plutonium-238	31.00	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR155	8802253	Borehole	19880224	Plutonium-238	74.00	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR155	8802253	Borehole	19880224	Thorium-232	2.20	PCI/G		RAD	0.0	0.0	7440-29-1			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value.
SCR155	8802256	Borehole	19880224	Plutonium-238	26.00	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR155	8802255	Borehole	19880224	Plutonium-238	26.00	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR155	88022525	Borehole	19880224	Plutonium-238	35.00	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
SCR155	88022523	Borehole	19880224	Plutonium-238	28.00	PCI/G		RAD	0.0	0.0	13981-16-3			SCRDATA	Soil	Unknown	1-Exceeds soil 10-6 GV. 2-Exceeds background value. 3-Exceeds other criteria.
B-7	4007-0005	Borehole	19930823	Plutonium-238	0.68	PCI/G	0.16	RAD	3.5	5.0	13981-16-3	*		MND16	Soil		2-Exceeds background value.
B-7	4007-1007	Borehole	19930823	Plutonium-238	0.69	PCI/G	0.14	RAD	3.5	5.0	13981-16-3			MND16	Soil		2-Exceeds background value.

Reference 3

ENVIRONMENTAL RESTORATION PROGRAM

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was detected in the samples from this location (a maximum of 0.98 pCi/g of plutonium-238 and less than 2 pCi/g of thorium).

Area D was not identified in the original Site Survey Project Report (Stought et al. 1988), but it has always been included as one of the sites to be addressed by the Mound Plant D&D Program. No significant radioactive contamination was identified during the Site Survey Project, either in the original report or by this evaluation. This is consistent with the site history for this area, which indicates that any nitric acid released would have been raw material prior to processing and, therefore, not contaminated. The D&D of Area D is being conducted as part of the D&D of Building 38 and its utility systems.

The maximum depth sampled in Area D was 180 inches. Borehole data in Mound Plant drawing #FSE16472, reproduced in the Site Scoping Report: Volume II Addendum (DOE 1992f) indicate that the depth to bedrock in this area of the SM/PP Hill ranges from approximately 108 to 228 inches, but this may vary greatly due to the presence of fill dirt. The boring log for location C0146 is not available, so it cannot be determined if bedrock was reached during the sampling.

4.1.9. Building 48 Hillside

A note in the Site Survey Project Report (Table 2.1 in Stought et al. 1988) indicated that elevated levels of plutonium-238 were discovered in an area designated as Block 19. The area of concern is actually located adjacent to a process sewer manhole northwest of Building 48 on the south slope of the Main Hill (Plate 1). This area is referred to as the Building 48 hillside in this report. The Building 48 hillside is also west of Area 5, but is not currently included in the boundaries of Area 5. Internal Mound Plant memoranda reviewed for this report substantiate the note in the project report (Stought et al. 1988) that plutonium-238 concentrations are as high as 32 nCi/g (Draper 1986a). The data sheets are included in Appendix E. The levels of plutonium-238 encountered required that the construction project be abandoned, so the initial holes were simply backfilled and the contamination left in place. The contamination encountered at the Building 48 hillside is attributed to a release of 7.64 mCi of plutonium-238 in November 1967. This incident is listed in the Site Scoping Report: Volume 11: Spills and Response Actions (DOE 1992h). As the Building 48 hillside is associated with the soils adjacent to the alpha waste water sewer lines, similar problems may be anticipated along the length of the lines. These lines are scheduled to undergo D&D.

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OPERABLE UNIT 9,
SITE SCOPING REPORT
VOLUME 11 - SPILLS AND RESPONSE ACTIONS

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Table II.1. Summary of Spills and Environmental Releases from Records of the Safety Office

Date	Location	Material	Amount	Incident	Response
02/12/63	South end SW Bldg.	H-3	"Low-level"	Fire of paper covering metal during cutting and drumming for disposal (63-13).	MRC Incident Investigation Report No. 63-13 (2/14/63).
03/04/63	Historic landfill	Misc. chemicals	Unknown	Explosion of incompatible chemicals in deteriorated containers; no radioactivity.	MRC Incident Investigation Report No. 63-19 (2/19/63).
10/27/64	SM Bldg.	Pu-238	Unknown	Methanol vapors inside fumehood exploded; possible air release.	MRC Incident Investigation Final Report 11/23/64 - record incomplete. Use of flammable solvents within gloveboxes prohibited by AEC.
02/26/65	SM Bldg.	Pu-238	Unknown	Ruptured can of trash in Room 26; possible air release; possible water release.	MRC report 3/2/65 - record incomplete.
03/08/65	SM Bldg.	Pu-238	Unknown	Acid release in Room 59; possible air release.	MRC report 3/8/65 - record incomplete.
08/27/65	SM Bldg.	Pu-238	Unknown	Fire in Room 38; possible air release.	MRC report 9/7/65 - record incomplete.
05/20/66	SM Bldg.	H-3	Unknown	Unidentified release of tritium to SW stack.	MRC Incident Investigation Report No. 66-26 (5/27/66). Recommendations to re-evaluate mechanical and engineering conditions of ERS.
09/08/67	WTS west of SM Bldg.	Pu-238	Unknown	Flanges in line found unbolted; low-risk line contaminated, including soil to 15 ft downslope; high-risk line not in use yet.	MRC Incident Investigation Report No. 67-21 (10/10/67). Soil cleanup proposed (no cleanup guideline given) with periodic system inspections.
11/09/67	Wasteline south of SW/R Bldgs.	"Low-level radioactivity"	1,500-2,000 gals	During wasteline repair wastewater spilled across road to storm drains and then to drainage ditch; about 7.65 millicuries released.	MRC Incident Description 11/17/67. 10 on-plant and 7 off-plant water samples collected 5 to 20 minutes after spill; highest air reading 1200 dis/min/mL; highest water reading 216.0 dis/min/mL at culvert exit to drainage ditch.
03/30/68	SM Bldg.	Pu-238	Unknown	Reversal of air flow in SM stack; possible air release.	MRC Incident Investigation Report No. 68-8 (4/10/68).