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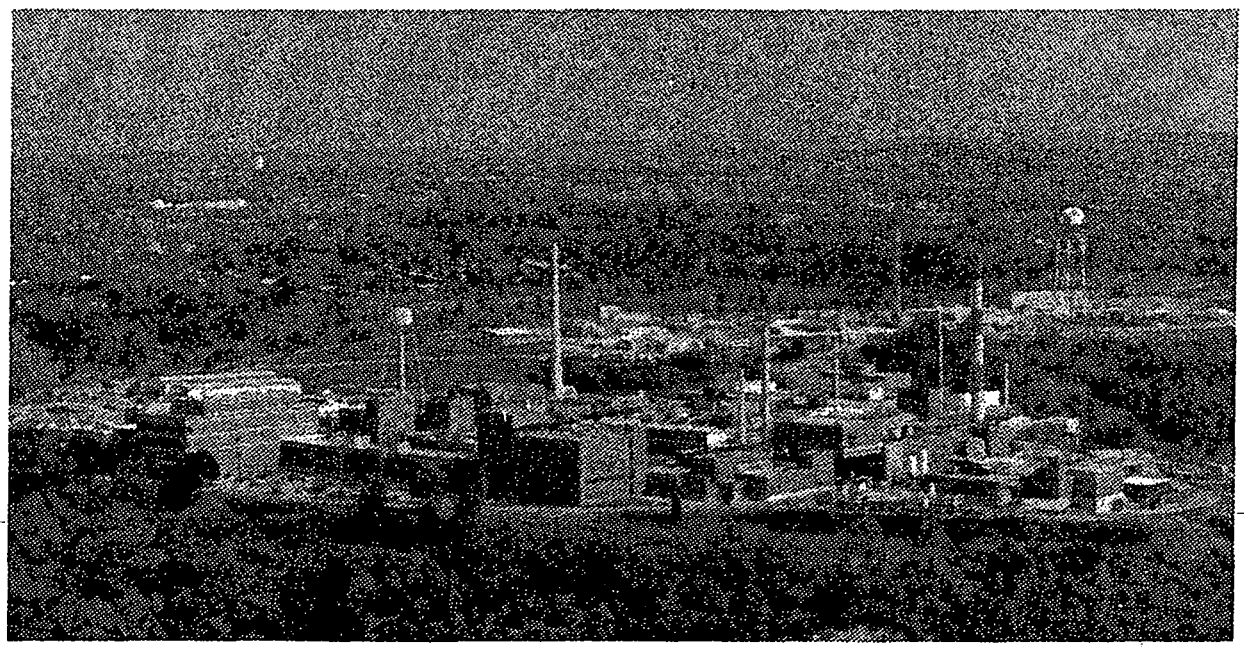
MOUND

Environmental
Restoration
Program

MOUND PLANT
Potential Release Site Package
PRS # 65/402/403/404



REV	DESCRIPTION	DATE
PUBLIC RELEASE **0**	Available for comment.	**Nov. 21, 1996**
FINAL **1**	Comment period expired. No comments. Recommendation page annotated.	Jan. 6, 1997

Miamisburg News
Miamisburg, OH
(W = 7,000)

THE MIAMISBURG/WEST CARROLLTON NEWS
November 27, 1996

MOUND

Environmental Restoration Program

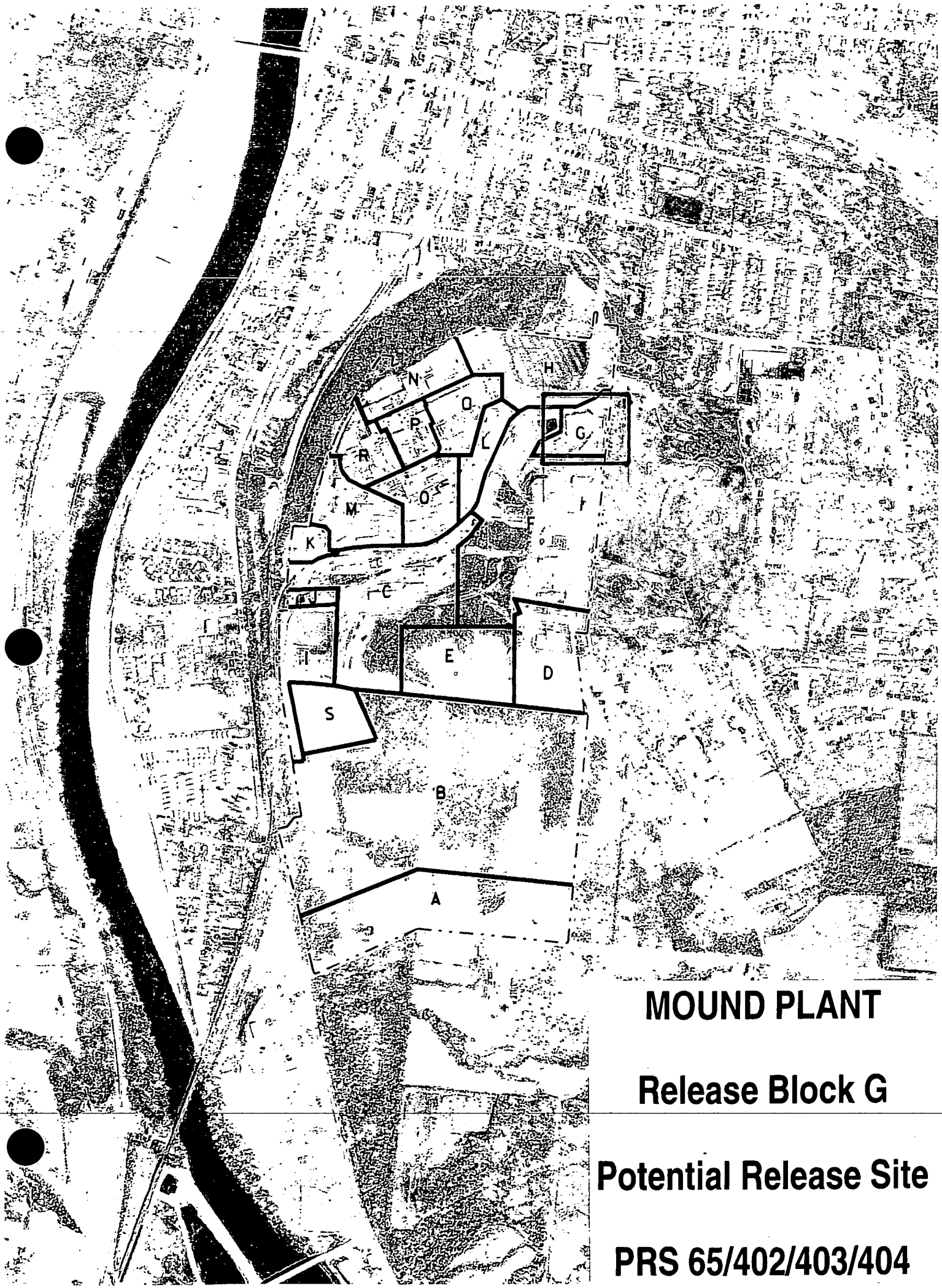
MOUND PLANT POTENTIAL RELEASE SITE PACKAGE

Notice of Public Review Period

The following potential release site (PRS) packages will be available for public review in the CERCLA Public Reading Room, 305 E. Central Ave., Miamisburg, Ohio beginning November 29, 1996. Public comment will be accepted on these packages from November 29, 1996, through January 1, 1997.

PRS 37/399, 57, 58, 65/402/403/404, 75, 85, 86

Questions can be referred to Mound's Community Relations at (513) 865-4140.



MOUND PLANT

Release Block G

Potential Release Site

PRS 65/402/403/404

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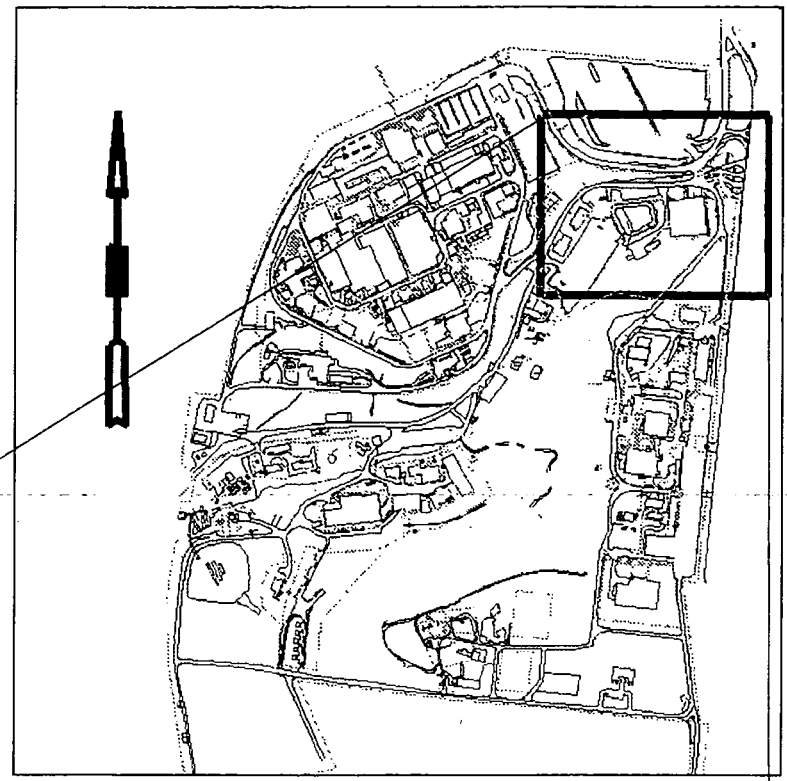
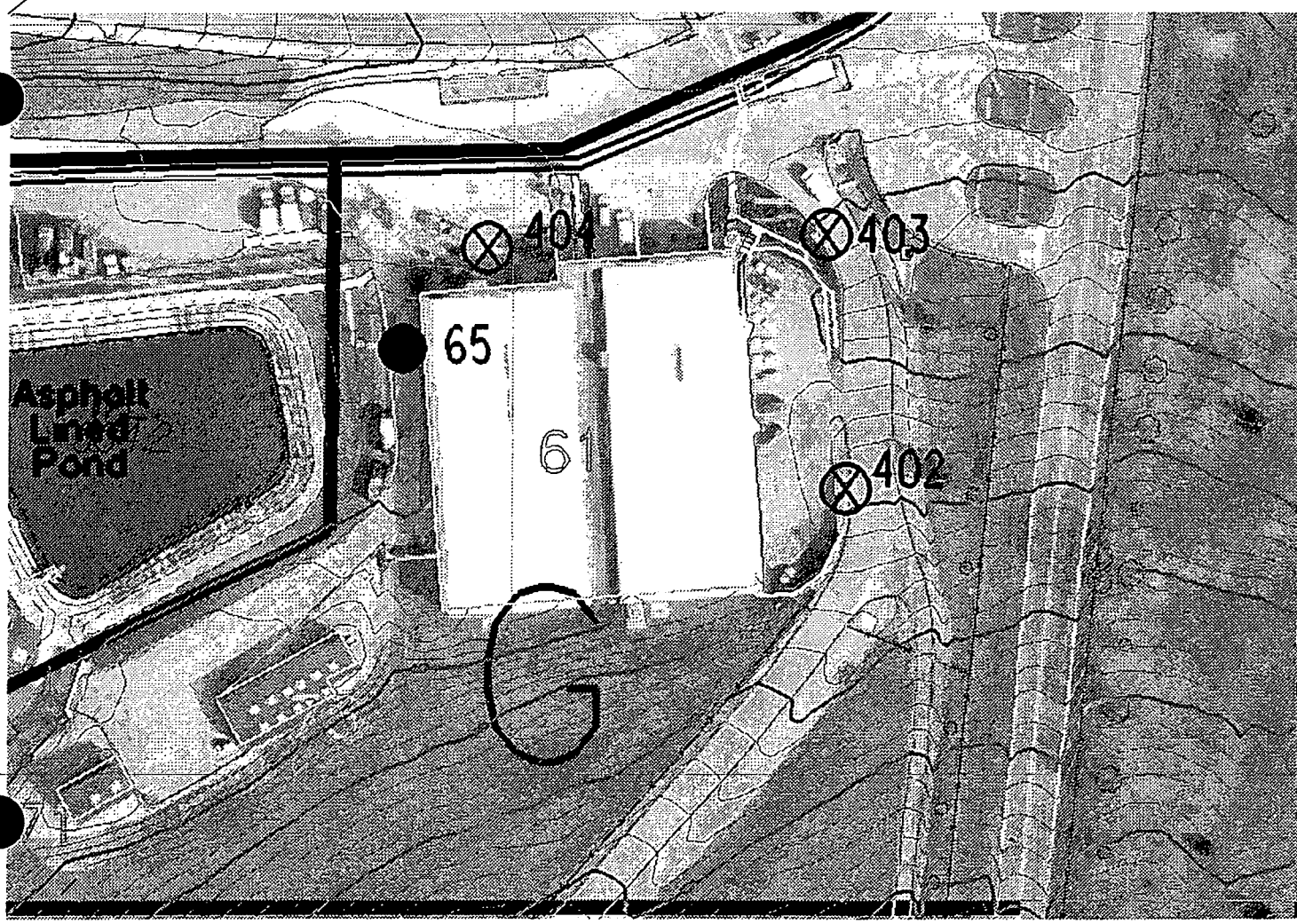
Mound Plant

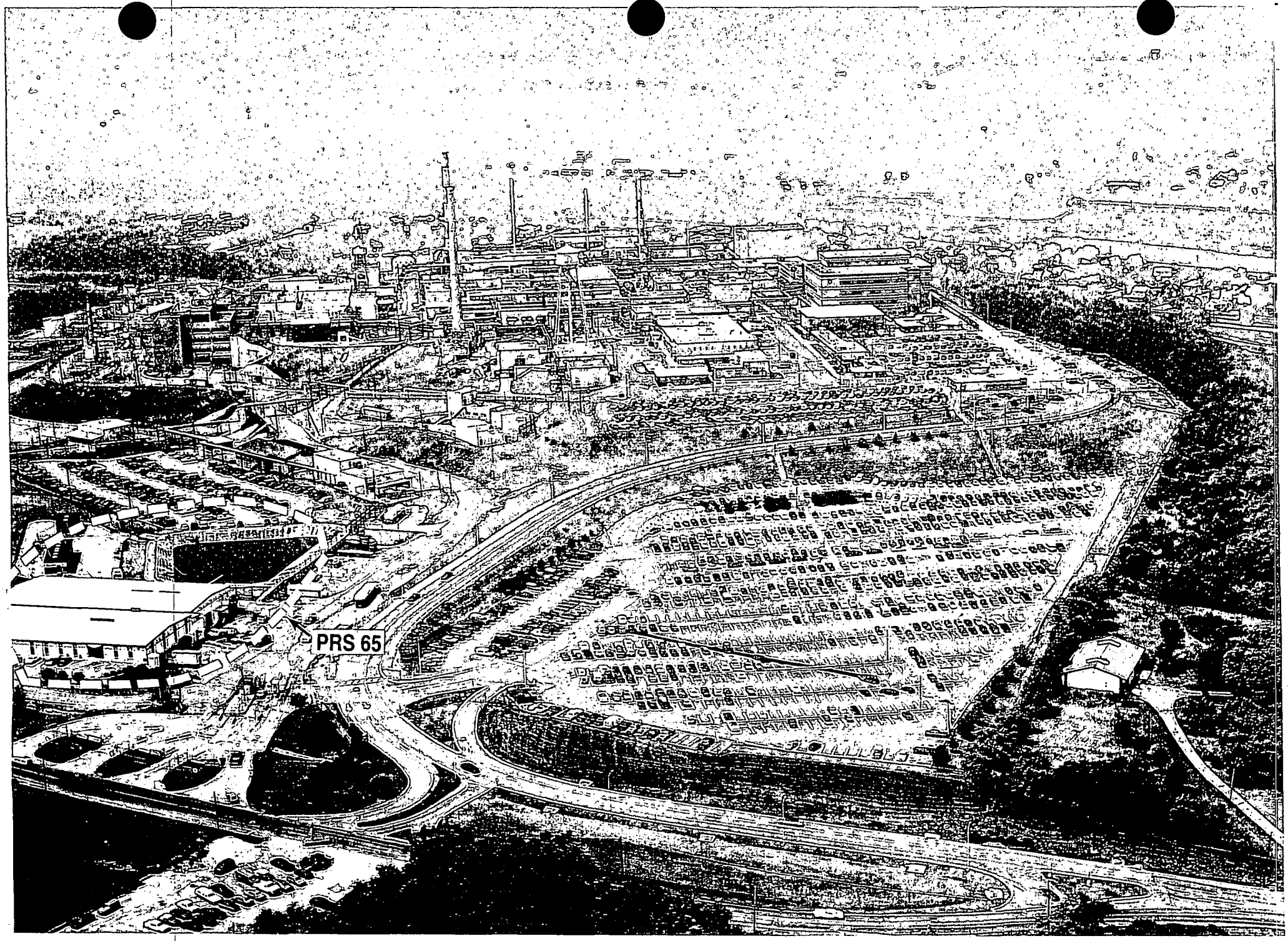
Release Block G

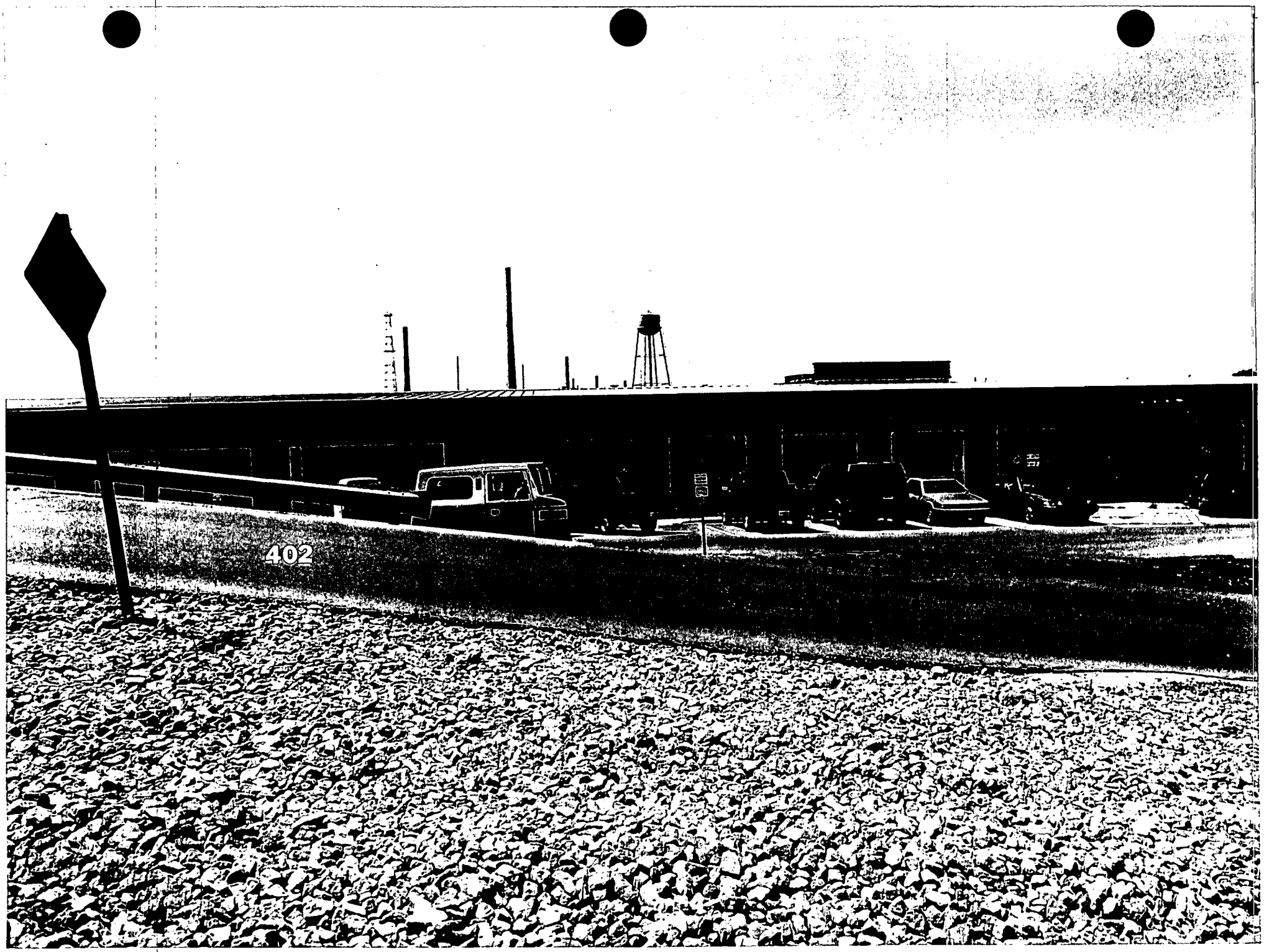
Potential Release Site

PRS 65/402/403/404






PRS 65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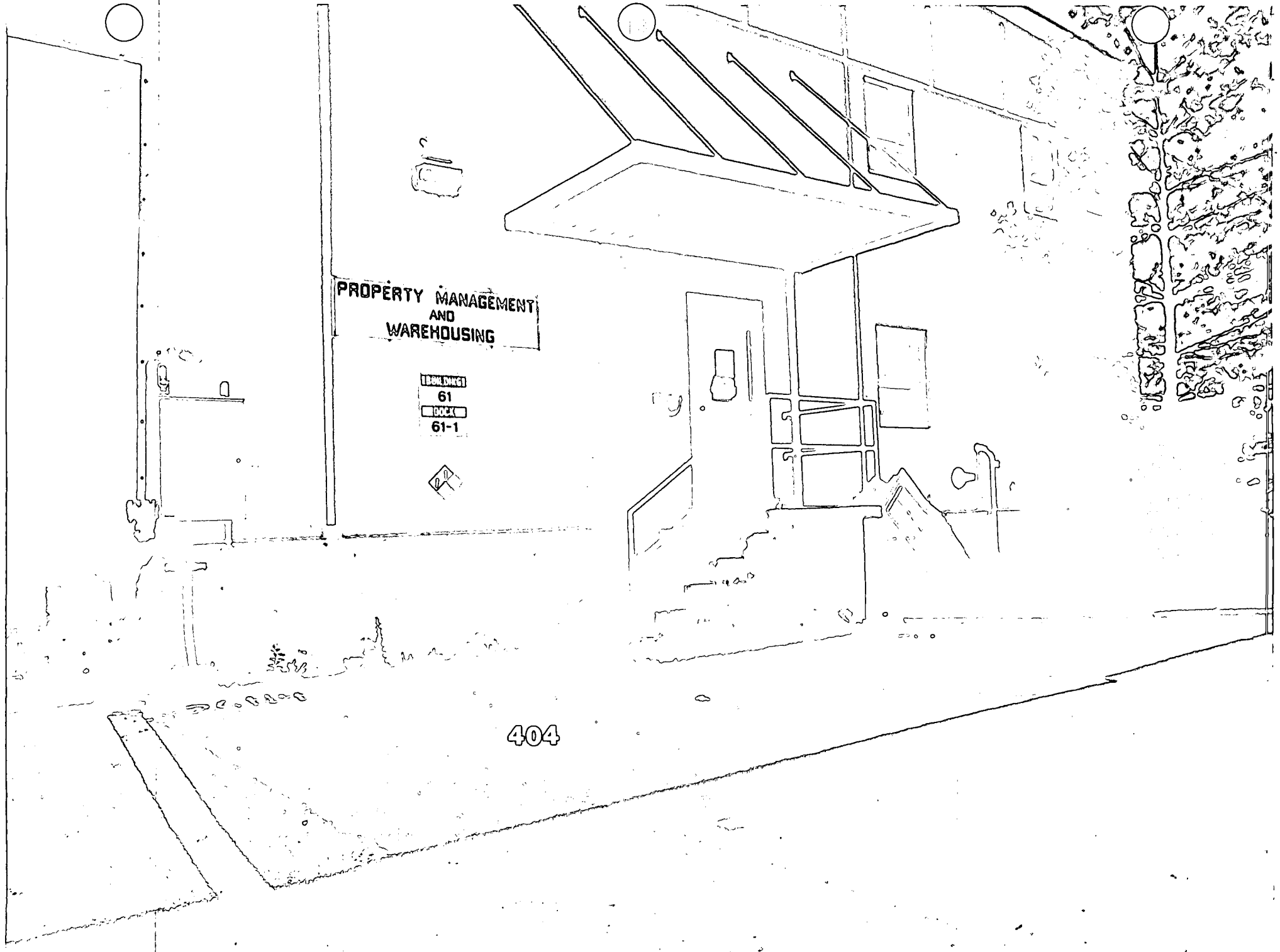
PROPERTY MANAGEMENT
AND
WAREHOUSING
BUILDING
61
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404

PRS 65/402/403/404

PRS HISTORY:

PRS 65 is the historical once known as the Building 61 Heavy Duty Equipment Area. PRSs 402, 403, and 404 are elevated PETREX soil gas locations situated within the Building 61 Heavy Duty Equipment Area. In the 1940's and 1950's, the Building 61 Heavy Duty Equipment Area was used for staging heavy equipment prior to the construction of Building 61. The soil under and around Building 61 may have been contaminated by the dumping or leakage of waste oil associated with equipment maintenance. However, no spills or waste disposal have been documented. Building 61 served as the shipping and receiving center for the Mound Plant until 1996. No radioactive or hazardous waste generating processes are known to have occurred at this location.

Note: The Mound plant's Asphalt Pond covers part of what was once the Building 61 Heavy Duty Equipment Area. However, the Asphalt Pond is covered by PRS 68 and is not included in this PRS.

CONTAMINATION:

1. The 1983 ***Radiological Site Survey***[1] investigated plutonium-238 and thorium-232 concentrations in the soil in the vicinity of the historic Building 61 Heavy Duty Equipment Area (PRSs 65, 402, 403, and 404). Surface samples were taken at 19 locations and two core samples were taken at an additional location. Results from this investigation showed:

Contaminant	Maximum Concentration Detected	Guideline Criteria
Plutonium	10 pCi/g (in surface soil)	25 pCi/g (Mound ALARA in surface soil)
Thorium	4 pCi/g (in surface soil)	5 pCi/g[7] (in surface soil)

NOTE: ALARA = As Low As Reasonably Achievable, pCi/g = picocuries/gram

2. The ***OU3, Misc. Sites Limited Field Investigation***[2] sampled soil in the old Heavy Equipment Area. Three of the four soil samples taken in the vicinity of PRS sites 65, 402, 403, and 404 found concentrations of extractable petroleum hydrocarbons above the risk based preliminary remediation goal (OU3 LFI PRG was 105 mg/kg while highest sample concentration was 2600 mg/kg). The OU3 report found that concentrations of VOCs, SVOCs, TAL and inorganics were at "nonsignificant" levels at these sample points.

3. The ***Reconnaissance Sampling Report Soil Gas Survey***[5] found a positive detection of toluene at 104 ppb in the immediate vicinity of PRS 403. The calculated Guideline Criteria for toluene in soil gas is 414,800 ppb.[8]

4. The ***OU5, Operational Area Non-AOC Phase I Investigation***[3] sampled in the vicinity of the historic Heavy Duty Equipment Area for PETREX soil gas information (a qualitative hydrocarbon contamination study). Results showed relatively elevated ion counts at PRS 403 for semivolatiles, PRS 65 and 404 for C5-C11 petroleum hydrocarbons and at PRS 65, 402, 403, and 404 for aromatic hydrocarbons.

5. Due to the PRS 65, 402, 403, and 404 PETREX soil gas results (ref. paragraph #4 above) a follow on investigation named the ***Soil Gas Confirmation Investigation***[9] was conducted.

PRSs 65 and 403:
The 1996 Soil Gas Confirmation Investigation sampled at 5 locations within the historic Building 61 Heavy Duty Equipment Area (PRS 65). Additionally, one of the samples was at the location of PRS 403 (Soil Gas Confirmation sample 43). The locations of the remaining PETREX PRSs, 402 and 404, were not sampled (the Soil Gas Confirmation sample map on page 49 shows their location of the PRSs in relation to the Soil Gas Confirmation sampling locations). At each of the 5 Soil Gas Confirmation sample locations, a composite sample was taken from a depth of one to three feet and analyzed quantitatively for volatiles, semivolatiles, PCBs, pesticides, metals, radionuclides, and explosives.

Results of this investigation showed that all 5 samples contained contaminant concentrations less than the applicable Guideline Criteria[6, 7] with the exception of the following contaminant found at sample location #2:

Contaminant	Maximum Concentration Detected	Calculated Guideline Criteria
Benzo(a)pyrene	1300 ug/kg (in soil)	410 ug/kg[6] (in soil)

ug/kg = microgram per kilogram

PRSs 402 and 404:
PETREX PRS locations 402 and 404 (not sampled during *Soil Gas Confirmation Investigation*) had fewer ion counts than the PETREX sample locations with the highest ion counts *(Soil Gas Confirmation* sample location #2 and #4). Hence, the *Soil Gas Confirmation* sampling results showing sample location #2 is below guideline criteria provides supporting evidence that the risk of contamination at PRS 402 and 404 is also low.

The following table lists the qualitative (*PETREX*) and quantitative (*Soil Gas Confirmation Sampling*) results for the locations with the highest ion counts. The table also compares these results to the relative ion counts for PRSs 402 and 404.

PETREX Soil Gas Contaminant Family	Maximum Ion Count[4]	Confirm Sample #	Confirmation Sample Results that Exceed Guideline Criteria (GC)	Ion Counts at PRSs 402 and 394	
Total Aromatic Hydrocarbons	7,780,673	2	None	4,169,528 5,341,738	402 404
Total Semivolatile Hydrocarbons	7,015,960	2	1300 ug/kg Benzo(a)pyrene (GC = 410 ug/kg [ref 5])	56,159 1220	402 404
Total C5-C11 Petroleum Hydrocarbons	24,166,931	2	None	6,318,480 6,356,322	402 404
Total Halogenated Hydrocarbons	1,370,283	4	None	No Detect No Detect	402 404

The above table and discussion make no conclusions about individual contaminant concentrations at PRSs 402 and 404 only that the overall health risk from PRSs 402 and 404 is expected to be similar to or less than that of the PETREX locations with the highest measured ion counts (Confirmation Sample locations 2 and 4).

READING ROOM REFERENCES:

1) OU9, Site Scoping Report: Volume 12 - Site Summary Report, December 1994. (pages 7-9)
2) OU3, Misc. Sites Ltd. Field Investigation, Volume I, Sect. 1-6, July 1993. (pages 10-24)
3) OU5, Operational Area Phase I Investigation Non-AOC Field Report, Volume II, App. A-G, March 1995. (pages 25-32).
4) OU9, Site Scoping Report: Volume 3 - Radiological Site Survey Report. (pages 33-36)
5) Reconnaissance Sampling Report Soil Gas Survey and Geophysical Investigations, Main Hill and SM/PP Hill, February 1993. (pages 37-38)
6) Risk Based Guideline Values, December 1995, Final.
8) Comparison of Actual Soil Gas Values with Calculated Acceptable Soil Gas Values. (pages 39-41)

OTHER REFERENCES:

7) Code of Federal Regulations, 40 CFR 192.12 and 40 CFR 192.41.
9) Soil Gas Confirmation Sampling Investigation, May 1996, Revision 0. (pages 42-60)

PREPARED BY:

James N. Rigano, Member of EG&G Technical Staff
George Liebson, Member of EG&G Technical Staff

MOUND PLANT
PRS 65/402/403/404
BUILDING 61 HEAVY EQUIPMENT AREA-SOIL CONTAMINATION

RECOMMENDATION:

Potential Release Site (PRS) 65 was identified as the Building 61 Heavy Equipment Storage Area. PRSs 402, 403 and 404 were identified based on soil gas results from the OU5 Operational Area Non AOC Phase I Investigation.

Quantitative sampling in 1996 indicated no contamination above Guideline Criteria with the exception of benzo(a)pyrene which was detected at a concentration of 1,300 ug/kg in the soil. This concentration, although above the 10^{-6} Risk Based Guideline Value of 410 ug/kg is well below the 10^{-5} Risk Based Guideline Value of 4,100 ug/kg. All radionuclide sampling indicate that radionuclides are all below the regulatory guideline criteria.

Therefore, NO FURTHER ASSESSMENT is recommended.

CONCURRENCE:

DOE/MB: Arthur W. Kleinrath, Remedial Project Manager 11/21/96 (date)

USEPA: Timothy J. Fischer, Remedial Project Manager 11/21/96 (date)

OEPA: Brian K. Nickel, Project Manager 11/21/96 (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 11/29/96 to 01/01/97

☒ No comments were received during the comment period.

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

Page R

REFERENCE MATERIAL
PRS 65/402/403/404

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	Re
63	Building 19 Soils	G-5	Grounds	Cobalt-60	10	Cobalt-60	S	10	1 14, 16	SGS[b] Table B.5 Location 5221 Table B.9 RSS[c] Locations C0099, C0100, S0530, S0532, S0533, S0534, S0535, S0538 (Appendix E in Ref. 6)	1: 6
64	Building 19 Historic Gasoline Tank (Tank 238)	G-5	Historical	Gasoline	3	No information on when tanks were removed			No Data		
65	Building 61 Area, Former Heavy Equipment Area	E-10	Historical	Waste oil	1, 5, 7, 18	Suspected	S	7, 10	3, 4, 5, 6, 8 1 14	Tables B.6, B.7, B.8, and B.9 SGS[b], Table B.3 Locations 2216 and 2217 RSS[c] Locations S0233, S0234, S0235, S0236, S0237, S0240 (Appendix E in Ref. 6)	7 1: 6
66	Area 7, Thorium and Polonium Wastes	E-8 E-9 F-8 F-9	Historical	Plutonium-238, Thorium-232 and -238, Polonium-210, Actinium-227, Radium-226, Cesium-137	1, 4, 5, 18	Suspected	S	4, 12, 18	14, 15, 16 1	Table B.1 (Table III.5 in Ref. 6) SGS[b] Table B.3	6 1:

A

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 1992l "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."

ENVIRONMENTAL RESTORATION PROGRAM

OPERABLE UNIT 3 — MISCELLANEOUS SITES
LIMITED FIELD INVESTIGATION REPORT
VOLUME I
SECTIONS 1-6

MOUND PLANT
MIAMISBURG, OHIO

July 1993

DEPARTMENT OF ENERGY

ENVIRONMENTAL RESTORATION PROGRAM
EG&G MOUND APPLIED TECHNOLOGIES

FINAL
(REVISION 0)

to verify the closure of the tank. The Building 51 Waste Solvent Tank sampling activities included the re-opening of the excavation and the sampling of soils through the use of a stainless steel scoop. Soil sample collection at the Building 51 Waste Solvent Tank Area was conducted by WESTON representatives on 28 August 1991. Four soil samples were collected at the edge of the concrete pad approximately 2 ft below the pad. Sample locations are shown in Figure 2.5. The samples were shipped to IT Laboratories for analysis. A summary of soil samples collected at each location listing the sample identification number, sampling depth, date collected, and requested analytical parameters is presented in Table II.5.

Every effort was made to comply with approved sampling protocol; however, some deviations were necessary in order to obtain the required sample. A summary of deviations for the Building 51 Waste Solvent Tank sampling activity is presented below:

- The sampling depth for all surface soil samples at the Building 51 Waste Solvent Tank sites was extended deeper than 0 to 6 inches as specified in the Work Plan at the request of OEPA because of the possible loss of VOCs following tank excavation and removal.
- Because of underground utilities in the area, the tank site was excavated with steeply sloped side walls and excavation could not be sloped or benched to allow access by soil samplers. Therefore, soil samples were collected from the center of the backhoe bucket after the backhoe collected a sample from the designated sampling areas as described in the OU 3 Work Plan.
- The sampling protocol was modified to collect samples from the sides of the in-place concrete foundation pad.

2.6. BUILDING 61 FORMER HEAVY EQUIPMENT AREA

2.6.1. Site History

2.6.1.1. Description of the Building 61 Former Heavy Equipment Area

The Building 61 investigation area consisted of the area around Building 61 and an adjacent asphalt-lined pond. Building 61, the Mound Plant shipping and receiving center, is located in the upper valley between Main Hill and SM/PP Hill in the northeastern portion of Mound Plant (Figure 1.3). Its period of use as a heavy equipment staging area in the early decades of Plant operation (1940s and 1950s) predates the construction of Building 61. Currently, Building 61 is used as a warehouse and office building.

Building 61 is adjacent to the asphalt-lined pond, which is part of the site-wide surface water system designed to control precipitation runoff. The area surrounding Building 61, adjacent to the asphalt-lined pond, is largely covered with asphalt.

2.6.1.2. Potential Area Contaminants

The Building 61 area was used for the staging of heavy equipment; therefore, the area may have been contaminated by the dumping or leakage of waste oil associated with equipment maintenance. However, no spills or waste disposals have been documented (DOE 1986).

2.6.2. Field Investigation Procedures

The objective of sampling at the Building 61 Former Heavy Equipment Area was to identify hazardous contaminants that may be present as a result of past practices at the site. Six soil boring locations were drilled in the area, as shown in Figure 2.6. Soil samples were collected at each boring location using the hollow stem auger and split spoon sampler method. Soil sample collection was conducted by WESTON representatives on 7 to 12 November 1991 and all samples were sent to IT Laboratories for analysis. A summary of soil samples collected at each location listing the sample identification number, sampling depth interval, date sampled, and requested analytical parameters is presented in Table II.6.

Every effort was made to comply with approved sampling protocol; however, some deviations were necessary in order to obtain the required sample. A summary of deviations for each applicable sample is presented below:

- MND33-0051-0001 — Three surface split spoon samples were necessary to obtain the required sample volume. The sampling interval was increased from 0.0 to 0.5 ft BGS to 0.0 to 1.0 ft BGS because a concrete sidewalk was at the surface.
- MND33-0051-0002 — Additional sample from the 5.0- to 7.0-ft split spoon was necessary to obtain the required sample volume.
- MND33-0051-0003 — Additional samples from the 10.0- to 13.0-ft split spoons were necessary to obtain the required sample volume.
- MND33-0051-0004 — Additional sample from the 15.0- to 19.0-ft split spoons were necessary to obtain the required sample volume.
- MND33-0052-0001 — Three surface split spoon samples were necessary to obtain the required sample volume. The sampling interval was increased from 0.0 to 0.5 ft BGS to 0.0 to 1.0 ft BGS because of insufficient sample recovery.
- MND33-0052-0002 — Additional sample from the 5.0- to 7.0-ft BGS split spoon was necessary to obtain the required sample volume.

3.6. BUILDING 61 FORMER HEAVY EQUIPMENT AREA

The Building 61 Former Heavy Equipment Area was used to stage heavy equipment during the 1940s and 1950s prior to construction of Building 61. Building 61 presently serves as the shipping and receiving center for Mound Plant. Soil sampling was conducted in the Building 61 area to assess whether this site has been a source of hazardous constituents released to the environment. The potential site contaminants include waste oil associated with equipment maintenance. A summary description of the Building 61 Former Heavy Equipment Area, including the field investigative procedures, is presented in subsection 2.6.

Twenty-two soil samples and three duplicate samples were collected from six locations (MND33-0051 through MND33-0056) and were analyzed for TCL VOCs, SVOCs, P/PCBs; TAL inorganics; and EPH. The validated analytical results for all analytes detected above laboratory reporting limits in each sample are presented in Table III.10.

3.6.1. Volatile Organic Compounds

Acetone was detected in samples from five of the six soil boring locations at concentrations above laboratory reporting limits but below the PRG. Methylene chloride was also detected in two soil samples at concentrations above laboratory reporting limits but below the PRG. No other VOCs were detected in Building 61 Former Heavy Equipment Area soil samples at concentrations above laboratory reporting limits or PRGs.

3.6.2. Semivolatile Organic Compounds

Semivolatile compounds acenaphthene, bis(2-ethyl hexyl)phthalate, fluoranthene, and phenanthrene were detected in some of the Building 61 Former Heavy Equipment Area soil samples at concentrations above laboratory reporting limits, but below respective PRG values. The occurrence of these compounds at concentrations above laboratory reporting limits and below PRGs is not considered a significant impact to soil quality in the vicinity.

The SVOC pyrene was detected in one soil sample (MND33-0051-0004) at a concentration of 2.0 mG/Kg which is above the PRG of 1.1 in mG/Kg. The isolated occurrence of this compound at a concentration above the PRG is not considered a significant impact to soils in the vicinity. No other SVOCs were detected in site soils at concentrations above PRG values.

6y ≠ 6400 mg/kg from Table 4A RI/FS Baseline HA SAS

3.6.3. Pesticides and Polychlorinated Biphenyls

Pesticide compounds chlordane, alpha-BHC, and dieldrin were detected at concentrations above laboratory reporting limits in some soil samples from the Building 61 Former Heavy Equipment Area. Chlordane was detected in soil samples -0001 and -0002 from location 0051, -0001 from location 0052, and -0002 and -0003 from location 0055 at concentrations above laboratory reporting limits but below the PRG. Chlordane was also detected in soil sample -0001 at location 0055 at a concentration of 0.53 mG/Kg, which is above the PRG of 0.49 mG/Kg. The pesticide alpha-BHC was detected at soil sample -0002 at location 0052 at a concentration above the laboratory reporting limit but below the PRG. The compound dieldrin was also detected in one soil sample (-0001) from location 0055 at a concentration above the laboratory reporting limit but below the PRG. The isolated occurrences of these pesticide compounds at the reported concentrations are not considered a significant impact to site soil quality.

PCBs were not present above PRGs at the site. The only detection of PCBs was in sample MND33-0056-0001, where Aroclor 1254 was present at a concentration of 0.13 mG/Kg, which is below the PRG.

(Bkgd = 4.2 mg/kg

3.6.4. TAL Inorganics

Inorganic compounds were not detected in soils from the Building 61 Former Heavy Equipment Area at concentrations above PRGs or proposed action levels.

3.6.5. Extractable Petroleum Hydrocarbons

Petroleum hydrocarbons were detected at concentrations above the PRG of 105 mG/Kg at 4 of the 22 soil sample locations at the Building 61 Former Heavy Equipment Area and included both surface and subsurface soil samples.

3.6.6. Summary

The analytical results for soils collected at the Building 61 Former Heavy Equipment Area indicate that previous activities at the site may have impacted soil quality in the area. Elevated concentrations of EPH, which may be associated with waste oil from equipment maintenance, have been detected in site soils. As a result of these findings, additional site characterization is recommended.

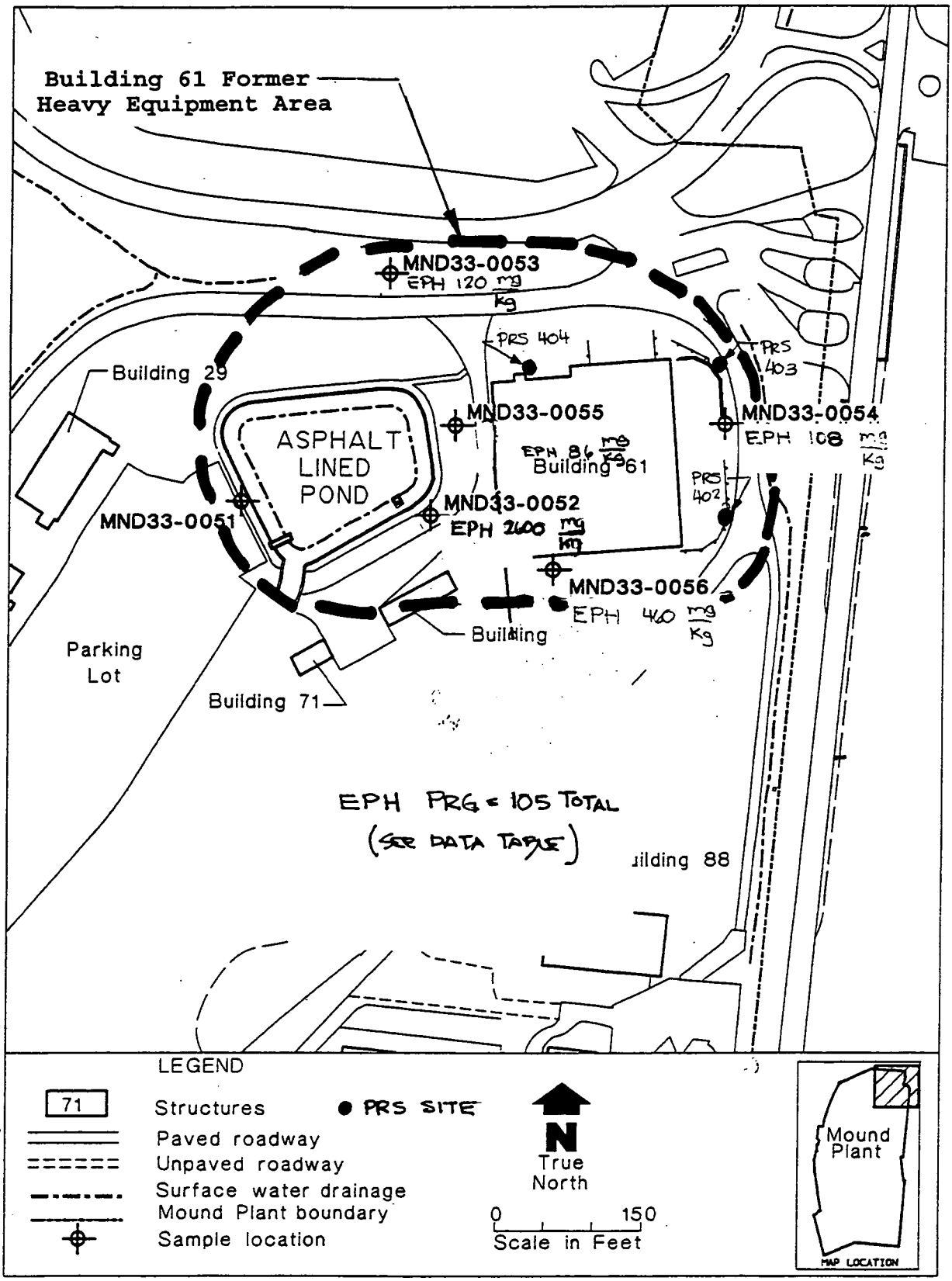


Figure 2.6. Building 61 Former Heavy Equipment Area soil sample locations.

Table II.6. Building 61 Former Heavy Equipment Area Sample Summary

Sample Location	Sample Number	Matrix	Date Sampled	Sample Interval (ft BGS)	Parameters Analyzed
MND33-0051	MND33-0051-0001	Soil	11/7/91	0.0-1.0	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; EPH.
	MND33-0051-0002	Soil	11/7/91	3.0-7.0	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; EPH.
	MND33-0051-0003	Soil	11/7/91	8.0-13.0	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; EPH.
	MND33-0051-1003	Soil	11/7/91	8.0-13.0	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; EPH.
	MND33-0051-0004	Soil	11/7/91	13.0-19.0	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; EPH.
MND33-0052	MND33-0052-0001	Soil	11/8/91	0.0-1.0	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; EPH.
	MND33-0052-1001	Soil	11/8/91	0.0-1.0	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; EPH.
	MND33-0052-0002	Soil	11/8/91	3.0-7.0	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; EPH.
	MND33-0052-0003	Soil	11/9/91	8.0-13.0	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; EPH.
MND33-0053	MND33-0053-0001	Soil	11/9/91	0.0-1.0	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; EPH.
	MND33-0053-5001	Water	11/9/91	---	TCL VOCs.
	MND33-0053-0002	Soil	11/9/91	3.0-5.0	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; EPH.
	MND33-0053-0003	Soil	11/9/91	8.0-10.0	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; EPH.
	MND33-0053-0004	Soil	11/9/91	13.0-15.0	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; EPH.
MND33-0054	MND33-0054-0001	Soil	11/11/91	0.0-1.0	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; EPH.
	MND33-0054-0002	Soil	11/11/91	3.0-5.0	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; EPH.
	MND33-0054-0003	Soil	11/11/91	8.0-10.0	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; EPH.
	MND33-0054-0004	Soil	11/11/91	13.0-15.0	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; EPH.
MND33-0055	MND33-0055-0001	Soil	11/11/91	0.0-1.0	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; EPH.
	MND33-0055-5001	Water	11/11/91	---	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; EPH.
	MND33-0055-0002	Soil	11/11/91	3.0-7.0	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; EPH.
	MND33-0055-0003	Soil	11/11/91	8.0-10.0	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; EPH.
	MND33-0055-0004	Soil	11/11/91	13.0-17.0	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; EPH.
	MND33-0055-1004	Soil	11/11/91	13.0-17.0	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; EPH.
MND33-0056	MND33-0056-0001	Soil	11/12/91	0.0-1.0	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; EPH.
	MND33-0056-0002	Soil	11/12/91	3.0-7.0	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; EPH.
	MND33-0056-0003	Soil	11/12/91	8.0-9.9	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; EPH.

BGS – Below Ground Surface
EPH – Extractable petroleum hydrocarbons
ft – Feet
P/PCBs – Pesticides/Polychlorinated Biphenyls
SVOCs – Semivolatile Organic Compounds
TAL – Target Analyte List
TCL – Target Compound List
VOCs – Volatile Organic Compounds

TABLE III.10
BUILDING 61 FORMER HEAVY EQUIPMENT AREA
Location: MND33-0052
Summary of analytical data
for analyte concentrations
above reporting limits
Report Date: 03/05/93

Parameter	Sample Id	Matrix	Units of Measure	Laboratory Reporting Limit	Validated Result (1)	Data Validation Qualifier	PRG	Run Type
ACETONE	0002	S	mG/Kg	0.012	0.032		2.7E+04	I
ALPHA-BHC	0002	S	mG/Kg	0.002	0.003		1.0E-01	I
ALUMINUM, TOTAL	0001	S	mG/Kg	4.	9930.		7.8E+05	I
ALUMINUM, TOTAL	0002	S	mG/Kg	4.	6250.		7.8E+05	I
ALUMINUM, TOTAL	1001	S	mG/Kg	4.	13800.		7.8E+05	I
ALUMINUM, TOTAL	0003	S	mG/Kg	4.	12300.		7.8E+05	I
ARSENIC, TOTAL	0001	S	mG/Kg	.2	6.8	J	2.1E+03	I
ARSENIC, TOTAL	0002	S	mG/Kg	.2	4.9		2.1E+03	I
ARSENIC, TOTAL	1001	S	mG/Kg	.2	5.5		2.1E+03	I
ARSENIC, TOTAL	0003	S	mG/Kg	.2	2.5		2.1E+03	I
BARIUM, TOTAL	0001	S	mG/Kg	.2	41.1	J	1.9E+04	I
BARIUM, TOTAL	0002	S	mG/Kg	.2	36.9		1.9E+04	I
BARIUM, TOTAL	1001	S	mG/Kg	.2	59.8	J	1.9E+04	I
BARIUM, TOTAL	0003	S	mG/Kg	.2	31.1		1.9E+04	I
BERYLLIUM	0001	S	mG/Kg	.1	.55		1.5E-01	I
BERYLLIUM	0002	S	mG/Kg	.1	.44		1.5E-01	I
BERYLLIUM	1001	S	mG/Kg	.1	.81		1.5E-01	I
BERYLLIUM	0003	S	mG/Kg	.1	.56		1.5E-01	I
CALCIUM, TOTAL	0001	S	mG/Kg	3.	136000.	J	NA	I
CALCIUM, TOTAL	0002	S	mG/Kg	3.	149000.		NA	I
CALCIUM, TOTAL	1001	S	mG/Kg	3.	65400.	J	NA	I
CALCIUM, TOTAL	0003	S	mG/Kg	3.	115000.		NA	I
CHLORDANE	0001	S	mG/Kg	0.009	0.012	J	4.9E-01	I
CHROMIUM, TOTAL	0001	S	mG/Kg	1.	11.2		1.4E+03	I
CHROMIUM, TOTAL	0002	S	mG/Kg	1.	7.8		1.4E+03	I
CHROMIUM, TOTAL	1001	S	mG/Kg	1.	16.		1.4E+03	I
CHROMIUM, TOTAL	0003	S	mG/Kg	1.	15.5		1.4E+03	I
COBALT, TOTAL	0001	S	mG/Kg	2.	8.9		3.9E+01	I
COBALT, TOTAL	0002	S	mG/Kg	2.	5.7		3.9E+01	I
COBALT, TOTAL	1001	S	mG/Kg	2.	12.2		3.9E+01	I
COBALT, TOTAL	0003	S	mG/Kg	2.	12.8		3.9E+01	I
COPPER, TOTAL	0001	S	mG/Kg	1.	11.3	J	1.0E+04	I
COPPER, TOTAL	0002	S	mG/Kg	1.	11.5		1.0E+04	I
COPPER, TOTAL	1001	S	mG/Kg	1.	17.7	J	1.0E+04	I
COPPER, TOTAL	0003	S	mG/Kg	1.	20.3		1.0E+04	I
DICHLOROMETHANE-METHYLENE CHLORIDE	0001	S	mG/Kg	0.006	0.009	J	8.5E+01	I
EXTRACTABLE HB HYD AS MOTOR OIL	0001	S	mG/Kg	20.	64.	J	105. total	I
EXTRACTABLE HB HYD AS MOTOR OIL	0002	S	mG/Kg	20.	2600.	J	105. total	I
EXTRACTABLE HB HYD AS MOTOR OIL	1001	S	mG/Kg	20.	40.	J	105. total	I
EXTRACTABLE HB HYD AS MOTOR OIL	0003	S	mG/Kg	20.	39	J	105. total	I
EXTRACTABLE HB HYD AS MOTOR OIL	0003	S	mG/Kg	20.	25	J	105. total	R
IRON, TOTAL	0001	S	mG/Kg	1.	171000.	J	NA	I

PRG - Preliminary Remediation Goals (Risk Based)
J - The associated value is an estimated quantity
I - Initial Analysis
R - Reanalysis
S - Soil
mG/Kg - Milligrams per Kilogram
(1) - This includes laboratory results that were not qualified from data validation, but were accepted by data validators

TABLE III.10
BUILDING 61 FORMER HEAVY EQUIPMENT AREA
Location: MWD33-0051
Summary of analytical data
for analyte concentrations
above reporting limits
Report Date: 03/05/93

Parameter	Sample Id	Matrix	Units of Measure	Laboratory Reporting Limit	Validated Result (1)	Data Validation Qualifier	PRG	Run Type
POTASSIUM, TOTAL	0002	S	mG/Kg	100.	676.		NA	I
POTASSIUM, TOTAL	0003	S	mG/Kg	100.	1990.		NA	I
POTASSIUM, TOTAL	0004	S	mG/Kg	100.	1770.		NA	I
POTASSIUM, TOTAL	1003	S	mG/Kg	100.	1670.		NA	I
PYRENE	0004	S	mG/Kg	0.83	2.	J	1.1E+00	I
SILVER, TOTAL	0002	S	mG/Kg	.5	.56		1.4E+03	I
SILVER, TOTAL	0004	S	mG/Kg	.5	.73		1.4E+03	I
SODIUM, TOTAL	0001	S	mG/Kg	20.	303.		NA	I
SODIUM, TOTAL	0002	S	mG/Kg	20.	195.		NA	I
SODIUM, TOTAL	0003	S	mG/Kg	20.	237.		NA	I
SODIUM, TOTAL	0004	S	mG/Kg	20.	177.		NA	I
SODIUM, TOTAL	1003	S	mG/Kg	20.	224.		NA	I
VANADIUM, TOTAL	0001	S	mG/Kg	1.	12.9		1.9E+03	I
VANADIUM, TOTAL	0002	S	mG/Kg	1.	11.1		1.9E+03	I
VANADIUM, TOTAL	0003	S	mG/Kg	1.	15.5		1.9E+03	I
VANADIUM, TOTAL	0004	S	mG/Kg	1.	31.1		1.9E+03	I
VANADIUM, TOTAL	1003	S	mG/Kg	1.	10.8		1.9E+03	I
ZINC, TOTAL	0001	S	mG/Kg	.5	37.9		5.4E+04	I
ZINC, TOTAL	0002	S	mG/Kg	.5	31.8		5.4E+04	I
ZINC, TOTAL	0003	S	mG/Kg	.5	56.8	J	5.4E+04	I
ZINC, TOTAL	0004	S	mG/Kg	.5	66.6		5.4E+04	I
ZINC, TOTAL	1003	S	mG/Kg	.5	39.6	J	5.4E+04	I

PRG - Preliminary Remediation Goals (Risk Based)
J - The associated value is an estimated quantity
I - Initial Analysis
S - Soil
mG/Kg - Milligrams per Kilogram
(1) - This includes laboratory results that were not qualified from data validation, but were accepted by data validators

TABLE III.10
BUILDING 61 FORMER HEAVY EQUIPMENT AREA
Location: MWD33-0052
Summary of analytical data
for analyte concentrations
above reporting limits
Report Date: 03/05/93

Parameter	Sample Id	Matrix	Units of Measure	Laboratory Reporting Limit	Validated Result (1)	Data Validation Qualifier	PRG	Run Typ
IRON, TOTAL	0002	S	mG/Kg	1.	14400		NA	I
IRON, TOTAL	1001	S	mG/Kg	1.	269000.	J	NA	I
IRON, TOTAL	0003	S	mG/Kg	1.	27700.		NA	I
LEAD, TOTAL	0001	S	mG/Kg	.2	24.5	J	5.3E+01	I
LEAD, TOTAL	0002	S	mG/Kg	.2	16.7		5.3E+01	I
LEAD, TOTAL	1001	S	mG/Kg	.2	11.9	J	5.3E+01	I
LEAD, TOTAL	0003	S	mG/Kg	.2	12.0	J	5.3E+01	I
MAGNESIUM, TOTAL	0001	S	mG/Kg	3.	18000.		NA	I
MAGNESIUM, TOTAL	0002	S	mG/Kg	3.	42800		NA	I
MAGNESIUM, TOTAL	1001	S	mG/Kg	3.	14800.		NA	I
MAGNESIUM, TOTAL	0003	S	mG/Kg	3.	7430.		NA	I
MANGANESE, TOTAL	0001	S	mG/Kg	.2	852.	J	2.7E+04	I
MANGANESE, TOTAL	0002	S	mG/Kg	.2	395.		2.7E+04	I
MANGANESE, TOTAL	1001	S	mG/Kg	.2	579.	J	2.7E+04	I
MANGANESE, TOTAL	0003	S	mG/Kg	.2	879.		2.7E+04	I
MERCURY, TOTAL	0001	S	mG/Kg	.02	0.06	J	8.1E+01	I
NICKEL, TOTAL	0001	S	mG/Kg	2.	14.3	J	5.4E+03	I
NICKEL, TOTAL	0002	S	mG/Kg	2.	9.8		5.4E+03	I
NICKEL, TOTAL	1001	S	mG/Kg	2.	21.7	J	5.4E+03	I
NICKEL, TOTAL	0003	S	mG/Kg	2.	23.4		5.4E+03	I
POTASSIUM, TOTAL	0001	S	mG/Kg	100.	1700.		NA	I
POTASSIUM, TOTAL	0002	S	mG/Kg	100.	888.		NA	I
POTASSIUM, TOTAL	1001	S	mG/Kg	100.	2080.		NA	I
POTASSIUM, TOTAL	0003	S	mG/Kg	100.	1700.		NA	I
SILVER, TOTAL	0001	S	mG/Kg	.5	.57		1.4E+03	I
SILVER, TOTAL	1001	S	mG/Kg	.5	.58		1.4E+03	I
SODIUM, TOTAL	0001	S	mG/Kg	20.	460		NA	I
SODIUM, TOTAL	0002	S	mG/Kg	20.	260		NA	I
SODIUM, TOTAL	1001	S	mG/Kg	20.	519		NA	I
SODIUM, TOTAL	0003	S	mG/Kg	20.	177.		NA	I
VANADIUM, TOTAL	0001	S	mG/Kg	1.	14.5	J	1.9E+03	I
VANADIUM, TOTAL	0002	S	mG/Kg	1.	12.8		1.9E+03	I
VANADIUM, TOTAL	1001	S	mG/Kg	1.	21.4	J	1.9E+03	I
VANADIUM, TOTAL	0003	S	mG/Kg	1.	13.1		1.9E+03	I
ZINC, TOTAL	0001	S	mG/Kg	.5	41.6		5.4E+04	I
ZINC, TOTAL	0002	S	mG/Kg	.5	32.5		5.4E+04	I
ZINC, TOTAL	1001	S	mG/Kg	.5	58.8		5.4E+04	I
ZINC, TOTAL	0003	S	mG/Kg	.5	58.5		5.4E+04	I

PRG - Preliminary Remediation Goals (Risk Based)
J - The associated value is an estimated quantity
I - Initial Analysis
S - Soil
mG/Kg - Milligrams per Kilogram
(1) - This includes laboratory results that were not qualified from data validation, but were accepted by data validators

TABLE III.10
BUILDING 61 FORMER HEAVY EQUIPMENT AREA
Location: MND33-0053
Summary of analytical data
for analyte concentrations
above reporting limits
Report Date: 03/05/93

Parameter	Sample Id	Matrix	Units of Measure	Laboratory Reporting Limit	Validated Result (1)	Data Validation Qualifier	PRG	Run Type
ALUMINUM, TOTAL	0001	S	mG/Kg	4.	9010.		7.8E+05	I
ALUMINUM, TOTAL	0002	S	mG/Kg	4.	8690.		7.8E+05	I
ALUMINUM, TOTAL	0003	S	mG/Kg	4.	11000.		7.8E+05	I
ALUMINUM, TOTAL	0004	S	mG/Kg	4.	4940.		7.8E+05	I
ARSENIC, TOTAL	0001	S	mG/Kg	.2	8.3	J	2.1E+03	I
ARSENIC, TOTAL	0002	S	mG/Kg	.2	6.1	J	2.1E+03	I
ARSENIC, TOTAL	0003	S	mG/Kg	.2	9.5	J	2.1E+03	I
ARSENIC, TOTAL	0004	S	mG/Kg	.2	4.5		2.1E+03	I
BARIUM, TOTAL	0001	S	mG/Kg	.2	57.2		1.9E+04	I
BARIUM, TOTAL	0002	S	mG/Kg	.2	46.8		1.9E+04	I
BARIUM, TOTAL	0003	S	mG/Kg	.2	80.1		1.9E+04	I
BARIUM, TOTAL	0004	S	mG/Kg	.2	47.		1.9E+04	I
BERYLLIUM	0001	S	mG/Kg	.1	.51		1.5E-01	I
BERYLLIUM	0002	S	mG/Kg	.1	.52		1.5E-01	I
BERYLLIUM	0003	S	mG/Kg	.1	.59		1.5E-01	I
BERYLLIUM	0004	S	mG/Kg	.1	.15		1.5E-01	I
BIS(2-ETHYLHEXYL)PHTHALATE	0002	S	mG/Kg	0.73	3.4	J	4.6E+01	I
BIS(2-ETHYLHEXYL)PHTHALATE	0004	S	mG/Kg	0.73	0.88	J	4.6E+01	I
CALCIUM, TOTAL	0001	S	mG/Kg	3.	116000.		NA	I
CALCIUM, TOTAL	0002	S	mG/Kg	3.	106000.		NA	I
CALCIUM, TOTAL	0003	S	mG/Kg	3.	44100.		NA	I
CALCIUM, TOTAL	0004	S	mG/Kg	3.	127000.		NA	I
CHROMIUM, TOTAL	0001	S	mG/Kg	1.	11.5		1.4E+03	I
CHROMIUM, TOTAL	0002	S	mG/Kg	1.	11.1		1.4E+03	I
CHROMIUM, TOTAL	0003	S	mG/Kg	1.	14.2		1.4E+03	I
CHROMIUM, TOTAL	0004	S	mG/Kg	1.	7.8		1.4E+03	I
COBALT, TOTAL	0001	S	mG/Kg	2.	7.8		3.9E+01	I
COBALT, TOTAL	0002	S	mG/Kg	2.	8.		3.9E+01	I
COBALT, TOTAL	0003	S	mG/Kg	2.	7.7		3.9E+01	I
COBALT, TOTAL	0004	S	mG/Kg	2.	5.8		3.9E+01	I
COPPER, TOTAL	0001	S	mG/Kg	1.	14.5		1.0E+04	I
COPPER, TOTAL	0002	S	mG/Kg	1.	14.1		1.0E+04	I
COPPER, TOTAL	0003	S	mG/Kg	1.	16.7		1.0E+04	I
COPPER, TOTAL	0004	S	mG/Kg	1.	14.3		1.0E+04	I
EXTRACTABLE HB HYD AS MOTOR OIL	0001	S	mG/Kg	20.	121	J	105. total	I
EXTRACTABLE HB HYD AS MOTOR OIL	0002	S	mG/Kg	20.	78.	J	105. total	I
EXTRACTABLE HB HYD AS MOTOR OIL	0003	S	mG/Kg	20.	25.	J	105. total	I
EXTRACTABLE HB HYD AS MOTOR OIL	0004	S	mG/Kg	20.	38.	J	105. total	I
IRON, TOTAL	0001	S	mG/Kg	1.	16400.		NA	I
IRON, TOTAL	0002	S	mG/Kg	1.	17500.		NA	I
IRON, TOTAL	0003	S	mG/Kg	1.	22100.		NA	I
IRON, TOTAL	0004	S	mG/Kg	1.	14200.		NA	I
LEAD, TOTAL	0001	S	mG/Kg	.2	19.6		5.3E+01	I
LEAD, TOTAL	0002	S	mG/Kg	.2	10.9		5.3E+01	I

PRG - Preliminary Remediation Goals (Risk Based)
J - The associated value is an estimated quantity
I - Initial Analysis
S - Soil
mG/Kg - Milligrams per Kilogram
(1) - This includes laboratory results that were not qualified from data validation, but were accepted by data validators

TABLE III.10
BUILDING 61 FORMER HEAVY EQUIPMENT AREA
Location: MND33-0054
Summary of analytical data
for analyte concentrations
above reporting limits
Report Date: 03/05/93

Parameter	Sample Id	Matrix	Units of Measure	Laboratory Reporting Limit	Validated Result (1)	Data Validation Qualifier	PRG	Run Type
ACETONE	0001	S	mG/Kg	0.012	0.03	J	2.7E+04	I
ACETONE	0004	S	mG/Kg	0.011	0.031		2.7E+04	I
ALUMINUM, TOTAL	0001	S	mG/Kg	4.	4620.		7.8E+05	I
ALUMINUM, TOTAL	0002	S	mG/Kg	4.	3160.		7.8E+05	I
ALUMINUM, TOTAL	0003	S	mG/Kg	4.	3800.		7.8E+05	I
ALUMINUM, TOTAL	0004	S	mG/Kg	12.	4090.		7.8E+05	I
ARSENIC, TOTAL	0001	S	mG/Kg	.2	3.8		2.1E+03	I
ARSENIC, TOTAL	0002	S	mG/Kg	.2	5.1	J	2.1E+03	I
ARSENIC, TOTAL	0003	S	mG/Kg	.2	7.3	J	2.1E+03	I
ARSENIC, TOTAL	0004	S	mG/Kg	.4	3.1	J	2.1E+03	I
BARIUM, TOTAL	0001	S	mG/Kg	.2	43.4		1.9E+04	I
BARIUM, TOTAL	0002	S	mG/Kg	.2	34.7		1.9E+04	I
BARIUM, TOTAL	0003	S	mG/Kg	.2	28.1		1.9E+04	I
BARIUM, TOTAL	0004	S	mG/Kg	.4	52.1		1.9E+04	I
BERYLLIUM	0001	S	mG/Kg	.1	.27		1.5E-01	I
BERYLLIUM	0002	S	mG/Kg	.1	.23		1.5E-01	I
BERYLLIUM	0003	S	mG/Kg	.1	.24		1.5E-01	I
BIS(2-ETHYLHEXYL)PHTHALATE	0001	S	mG/Kg	0.8	6.4	J	4.6E+01	I
BIS(2-ETHYLHEXYL)PHTHALATE	0002	S	mG/Kg	0.72	7.1	J	4.6E+01	I
BIS(2-ETHYLHEXYL)PHTHALATE	0003	S	mG/Kg	0.73	9.5	J	4.6E+01	I
CALCIUM, TOTAL	0001	S	mG/Kg	3.	76300.		NA	I
CALCIUM, TOTAL	0002	S	mG/Kg	3.	129000.		NA	I
CALCIUM, TOTAL	0003	S	mG/Kg	3.	101000.		NA	I
CALCIUM, TOTAL	0004	S	mG/Kg	4.	105000.		NA	I
CHROMIUM, TOTAL	0001	S	mG/Kg	1.	7.3		1.4E+03	I
CHROMIUM, TOTAL	0002	S	mG/Kg	1.	6.		1.4E+03	I
CHROMIUM, TOTAL	0003	S	mG/Kg	1.	4.6		1.4E+03	I
CHROMIUM, TOTAL	0004	S	mG/Kg	2.	6.		1.4E+03	I
COBALT, TOTAL	0001	S	mG/Kg	2.	3.6		3.9E+01	I
COBALT, TOTAL	0002	S	mG/Kg	2.	3.9		3.9E+01	I
COBALT, TOTAL	0003	S	mG/Kg	2.	4.6		3.9E+01	I
COBALT, TOTAL	0004	S	mG/Kg	2.	5.		3.9E+01	I
COPPER, TOTAL	0001	S	mG/Kg	1.	10.9		1.0E+04	I
COPPER, TOTAL	0002	S	mG/Kg	1.	13.1		1.0E+04	I
COPPER, TOTAL	0003	S	mG/Kg	1.	8.8		1.0E+04	I
COPPER, TOTAL	0004	S	mG/Kg	2.	13.9		1.0E+04	I
CYANIDE	0002	S	mG/Kg	1.	26.5	J	5.4E+03	I
CYANIDE	0003	S	mG/Kg	1.	31.4	J	5.4E+03	I
EXTRACTABLE HB HYD AS MOTOR OIL	0001	S	mG/Kg	20.	53	J	105. total	I
EXTRACTABLE HB HYD AS MOTOR OIL	0002	S	mG/Kg	20.	98	J	105. total	I
EXTRACTABLE HB HYD AS MOTOR OIL	0003	S	mG/Kg	20.	45	J	105. total	I
EXTRACTABLE HB HYD AS MOTOR OIL	0004	S	mG/Kg	20	108	J	105. total	I
IRON, TOTAL	0001	S	mG/Kg	1.	11200.		NA	I

PRG - Preliminary Remediation Goals (Risk Based)
J - The associated value is an estimated quantity
I - Initial Analysis
S - Soil
mG/Kg - Milligrams per Kilogram
(1) - This includes laboratory results that were not qualified from data validation, but were accepted by data validators

TABLE III.10
BUILDING 61 FORMER HEAVY EQUIPMENT AREA
Location: MWD33-0053
Summary of analytical data
for analyte concentrations
above reporting limits
Report Date: 03/05/93

Parameter	Sample Id	Matrix	Units of Measure	Laboratory Reporting Limit	Validated Result (1)	Data Validation Qualifier	PRG	Run Typ
LEAD, TOTAL	0003	S	mG/Kg	.2	8.6		5.3E+01	I
LEAD, TOTAL	0004	S	mG/Kg	.2	6.5	J	5.3E+01	I
MAGNESIUM, TOTAL	0001	S	mG/Kg	3.	36100.		NA	I
MAGNESIUM, TOTAL	0002	S	mG/Kg	3.	30000.		NA	I
MAGNESIUM, TOTAL	0003	S	mG/Kg	3.	17500.		NA	I
MAGNESIUM, TOTAL	0004	S	mG/Kg	3.	54100.		NA	I
MANGANESE, TOTAL	0001	S	mG/Kg	.2	472.		2.7E+04	I
MANGANESE, TOTAL	0002	S	mG/Kg	.2	389.		2.7E+04	I
MANGANESE, TOTAL	0003	S	mG/Kg	.2	464.		2.7E+04	I
MANGANESE, TOTAL	0004	S	mG/Kg	.2	260.		2.7E+04	I
MERCURY, TOTAL	0001	S	mG/Kg	.02	.04		8.1E+01	I
MERCURY, TOTAL	0002	S	mG/Kg	.02	.03		8.1E+01	I
MERCURY, TOTAL	0003	S	mG/Kg	.02	.04		8.1E+01	I
NICKEL, TOTAL	0001	S	mG/Kg	2.	13.6		5.4E+03	I
NICKEL, TOTAL	0002	S	mG/Kg	2.	14.2		5.4E+03	I
NICKEL, TOTAL	0003	S	mG/Kg	2.	18.8		5.4E+03	I
NICKEL, TOTAL	0004	S	mG/Kg	2.	12.8		5.4E+03	I
POTASSIUM, TOTAL	0001	S	mG/Kg	100.	1390.		NA	I
POTASSIUM, TOTAL	0002	S	mG/Kg	100.	1220.		NA	I
POTASSIUM, TOTAL	0003	S	mG/Kg	100.	655.		NA	I
POTASSIUM, TOTAL	0004	S	mG/Kg	100.	1060.		NA	I
SILVER, TOTAL	0003	S	mG/Kg	.5	.74		1.4E+03	I
SODIUM, TOTAL	0001	S	mG/Kg	20.	145.		NA	I
SODIUM, TOTAL	0002	S	mG/Kg	20.	192.		NA	I
SODIUM, TOTAL	0003	S	mG/Kg	20.	334.		NA	I
SODIUM, TOTAL	0004	S	mG/Kg	20.	191.		NA	I
VANADIUM, TOTAL	0001	S	mG/Kg	1.	18.2		1.9E+03	I
VANADIUM, TOTAL	0002	S	mG/Kg	1.	15.1		1.9E+03	I
VANADIUM, TOTAL	0003	S	mG/Kg	1.	22.5		1.9E+03	I
VANADIUM, TOTAL	0004	S	mG/Kg	1.	11.7		1.9E+03	I
ZINC, TOTAL	0001	S	mG/Kg	.5	61.6		5.4E+04	I
ZINC, TOTAL	0002	S	mG/Kg	.5	54.1		5.4E+04	I
ZINC, TOTAL	0003	S	mG/Kg	.5	46.2		5.4E+04	I
ZINC, TOTAL	0004	S	mG/Kg	.5	48.5		5.4E+04	I

PRG - Preliminary Remediation Goals (Risk Based)
J - The associated value is an estimated quantity
I - Initial Analysis
S - Soil
mG/Kg - Milligrams per Kilogram
(1) - This includes laboratory results that were not qualified from data validation, but were accepted by data validators

TABLE III.10
BUILDING 61 FORMER HEAVY EQUIPMENT AREA
Location: MND33-0054
Summary of analytical data
for analyte concentrations
above reporting limits
Report Date: 03/05/93

Parameter	Sample Id	Matrix	Units of Measure	Laboratory Reporting Limit	Validated Result (1)	Data Validation Qualifier	PRG	Run Type
ACETONE	0001	S	mG/Kg	0.012	0.03	J	2.7E+04	I
ACETONE	0004	S	mG/Kg	0.011	0.031		2.7E+04	I
ALUMINUM, TOTAL	0001	S	mG/Kg	4.	4620.		7.8E+05	I
ALUMINUM, TOTAL	0002	S	mG/Kg	4.	3160.		7.8E+05	I
ALUMINUM, TOTAL	0003	S	mG/Kg	4.	3800.		7.8E+05	I
ALUMINUM, TOTAL	0004	S	mG/Kg	12.	4090.		7.8E+05	I
ARSENIC, TOTAL	0001	S	mG/Kg	.2	3.8		2.1E+03	I
ARSENIC, TOTAL	0002	S	mG/Kg	.2	5.1	J	2.1E+03	I
ARSENIC, TOTAL	0003	S	mG/Kg	.2	7.3	J	2.1E+03	I
ARSENIC, TOTAL	0004	S	mG/Kg	.4	3.1	J	2.1E+03	I
BARIUM, TOTAL	0001	S	mG/Kg	.2	43.4		1.9E+04	I
BARIUM, TOTAL	0002	S	mG/Kg	.2	34.7		1.9E+04	I
BARIUM, TOTAL	0003	S	mG/Kg	.2	28.1		1.9E+04	I
BARIUM, TOTAL	0004	S	mG/Kg	.4	52.1		1.9E+04	I
BERYLLIUM	0001	S	mG/Kg	.1	.27		1.5E-01	I
BERYLLIUM	0002	S	mG/Kg	.1	.23		1.5E-01	I
BERYLLIUM	0003	S	mG/Kg	.1	.24		1.5E-01	I
BIS(2-ETHYLHEXYL)PHTHALATE	0001	S	mG/Kg	0.8	6.4	J	4.6E+01	I
BIS(2-ETHYLHEXYL)PHTHALATE	0002	S	mG/Kg	0.72	7.1	J	4.6E+01	I
BIS(2-ETHYLHEXYL)PHTHALATE	0003	S	mG/Kg	0.73	9.5	J	4.6E+01	I
CALCIUM, TOTAL	0001	S	mG/Kg	3.	76300.		NA	I
CALCIUM, TOTAL	0002	S	mG/Kg	3.	129000.		NA	I
CALCIUM, TOTAL	0003	S	mG/Kg	3.	101000.		NA	I
CALCIUM, TOTAL	0004	S	mG/Kg	4.	105000.		NA	I
CHROMIUM, TOTAL	0001	S	mG/Kg	1.	7.3		1.4E+03	I
CHROMIUM, TOTAL	0002	S	mG/Kg	1.	6.		1.4E+03	I
CHROMIUM, TOTAL	0003	S	mG/Kg	1.	4.6		1.4E+03	I
CHROMIUM, TOTAL	0004	S	mG/Kg	2.	6.		1.4E+03	I
COBALT, TOTAL	0001	S	mG/Kg	2.	3.6		3.9E+01	I
COBALT, TOTAL	0002	S	mG/Kg	2.	3.9		3.9E+01	I
COBALT, TOTAL	0003	S	mG/Kg	2.	4.6		3.9E+01	I
COBALT, TOTAL	0004	S	mG/Kg	2.	5.		3.9E+01	I
COPPER, TOTAL	0001	S	mG/Kg	1.	10.9		1.0E+04	I
COPPER, TOTAL	0002	S	mG/Kg	1.	13.1		1.0E+04	I
COPPER, TOTAL	0003	S	mG/Kg	1.	8.8		1.0E+04	I
COPPER, TOTAL	0004	S	mG/Kg	2.	13.9		1.0E+04	I
CYANIDE	0002	S	mG/Kg	1.	26.5	J	5.4E+03	I
CYANIDE	0003	S	mG/Kg	1.	31.4	J	5.4E+03	I
EXTRACTABLE HB HYD AS MOTOR OIL	0001	S	mG/Kg	20.	53	J	105. total	I
EXTRACTABLE HB HYD AS MOTOR OIL	0002	S	mG/Kg	20.	98	J	105. total	I
EXTRACTABLE HB HYD AS MOTOR OIL	0003	S	mG/Kg	20.	45	J	105. total	I
EXTRACTABLE HB HYD AS MOTOR OIL	0004	S	mG/Kg	20	108	J	105. total	I
IRON, TOTAL	0001	S	mG/Kg	1.	11200.		NA	I

PRG - Preliminary Remediation Goals (Risk Based)
J - The associated value is an estimated quantity
I - Initial Analysis
S - Soil
mG/Kg - Milligrams per Kilogram
(1) - This includes laboratory results that were not qualified from data validation, but were accepted by data validators

TABLE III.10
BUILDING 61 FORMER HEAVY EQUIPMENT AREA
Location: MND33-0053
Summary of analytical data
for analyte concentrations
above reporting limits
Report Date: 03/05/93

Parameter	Sample Id	Matrix	Units of Measure	Laboratory Reporting Limit	Validated Result (1)	Data Validation Qualifier	PRG	Run Type
ALUMINUM, TOTAL	0001	S	mG/Kg	4.	9010.		7.8E+05	I
ALUMINUM, TOTAL	0002	S	mG/Kg	4.	8690.		7.8E+05	I
ALUMINUM, TOTAL	0003	S	mG/Kg	4.	11000.		7.8E+05	I
ALUMINUM, TOTAL	0004	S	mG/Kg	4.	4940.		7.8E+05	I
ARSENIC, TOTAL	0001	S	mG/Kg	.2	8.3	J	2.1E+03	I
ARSENIC, TOTAL	0002	S	mG/Kg	.2	6.1	J	2.1E+03	I
ARSENIC, TOTAL	0003	S	mG/Kg	.2	9.5	J	2.1E+03	I
ARSENIC, TOTAL	0004	S	mG/Kg	.2	4.5		2.1E+03	I
BARIUM, TOTAL	0001	S	mG/Kg	.2	57.2		1.9E+04	I
BARIUM, TOTAL	0002	S	mG/Kg	.2	46.8		1.9E+04	I
BARIUM, TOTAL	0003	S	mG/Kg	.2	80.1		1.9E+04	I
BARIUM, TOTAL	0004	S	mG/Kg	.2	47.		1.9E+04	I
BERYLLIUM	0001	S	mG/Kg	.1	.51		1.5E-01	I
BERYLLIUM	0002	S	mG/Kg	.1	.52		1.5E-01	I
BERYLLIUM	0003	S	mG/Kg	.1	.59		1.5E-01	I
BERYLLIUM	0004	S	mG/Kg	.1	.15		1.5E-01	I
BIS(2-ETHYLHEXYL)PHTHALATE	0002	S	mG/Kg	0.73	3.4	J	4.6E+01	I
BIS(2-ETHYLHEXYL)PHTHALATE	0004	S	mG/Kg	0.73	0.88	J	4.6E+01	I
CALCIUM, TOTAL	0001	S	mG/Kg	3.	116000.		NA	I
CALCIUM, TOTAL	0002	S	mG/Kg	3.	106000.		NA	I
CALCIUM, TOTAL	0003	S	mG/Kg	3.	44100.		NA	I
CALCIUM, TOTAL	0004	S	mG/Kg	3.	127000.		NA	I
CHROMIUM, TOTAL	0001	S	mG/Kg	1.	11.5		1.4E+03	I
CHROMIUM, TOTAL	0002	S	mG/Kg	1.	11.1		1.4E+03	I
CHROMIUM, TOTAL	0003	S	mG/Kg	1.	14.2		1.4E+03	I
CHROMIUM, TOTAL	0004	S	mG/Kg	1.	7.8		1.4E+03	I
COBALT, TOTAL	0001	S	mG/Kg	2.	7.8		3.9E+01	I
COBALT, TOTAL	0002	S	mG/Kg	2.	8.		3.9E+01	I
COBALT, TOTAL	0003	S	mG/Kg	2.	7.7		3.9E+01	I
COBALT, TOTAL	0004	S	mG/Kg	2.	5.8		3.9E+01	I
COPPER, TOTAL	0001	S	mG/Kg	1.	14.5		1.0E+04	I
COPPER, TOTAL	0002	S	mG/Kg	1.	14.1		1.0E+04	I
COPPER, TOTAL	0003	S	mG/Kg	1.	16.7		1.0E+04	I
COPPER, TOTAL	0004	S	mG/Kg	1.	14.3		1.0E+04	I
EXTRACTABLE HB HYD AS MOTOR OIL	0001	S	mG/Kg	20.	121	J	105. total	I
EXTRACTABLE HB HYD AS MOTOR OIL	0002	S	mG/Kg	20.	78.	J	105. total	I
EXTRACTABLE HB HYD AS MOTOR OIL	0003	S	mG/Kg	20.	25.	J	105. total	I
EXTRACTABLE HB HYD AS MOTOR OIL	0004	S	mG/Kg	20.	38.	J	105. total	I
IRON, TOTAL	0001	S	mG/Kg	1.	16400.		NA	I
IRON, TOTAL	0002	S	mG/Kg	1.	17500.		NA	I
IRON, TOTAL	0003	S	mG/Kg	1.	22100.		NA	I
IRON, TOTAL	0004	S	mG/Kg	1.	14200.		NA	I
LEAD, TOTAL	0001	S	mG/Kg	.2	19.6		5.3E+01	I
LEAD, TOTAL	0002	S	mG/Kg	.2	10.9		5.3E+01	I

PRG - Preliminary Remediation Goals (Risk Based)
J - The associated value is an estimated quantity
I - Initial Analysis
S - Soil
mG/Kg - Milligrams-per-Kilogram
(1) - This includes laboratory results that were not qualified from data validation, but were accepted by data validators

TABLE III.10
BUILDING 61 FORMER HEAVY EQUIPMENT AREA
Location: MWD33-0054
Summary of analytical data
for analyte concentrations
above reporting limits
Report Date: 03/05/93

Parameter	Sample Id	Matrix	Units of Measure	Laboratory Reporting Limit	Validated Result (1)	Data Validation Qualifier	PRG	Run Type
IRON, TOTAL	0002	S	mG/Kg	1.	11000.		NA	I
IRON, TOTAL	0003	S	mG/Kg	1.	7870.		NA	I
IRON, TOTAL	0004	S	mG/Kg	2.	12200.		NA	I
LEAD, TOTAL	0001	S	mG/Kg	.2	11.5		5.3E+01	I
LEAD, TOTAL	0002	S	mG/Kg	.2	6.7		5.3E+01	I
LEAD, TOTAL	0003	S	mG/Kg	.2	4.8	J	5.3E+01	I
LEAD, TOTAL	0004	S	mG/Kg	.4	5.6	J	5.3E+01	I
LITHIUM, TOTAL	0001	S	mG/Kg	1.	6.1		5.4E+03	I
LITHIUM, TOTAL	0002	S	mG/Kg	1.	6.		5.4E+03	I
LITHIUM, TOTAL	0003	S	mG/Kg	1.	9.3		5.4E+03	I
LITHIUM, TOTAL	0004	S	mG/Kg	.2	9.8		5.4E+03	I
MAGNESIUM, TOTAL	0001	S	mG/Kg	3.	31700.		NA	I
MAGNESIUM, TOTAL	0002	S	mG/Kg	3.	48300.		NA	I
MAGNESIUM, TOTAL	0003	S	mG/Kg	3.	36800.		NA	I
MAGNESIUM, TOTAL	0004	S	mG/Kg	10.	39700.		NA	I
MANGANESE, TOTAL	0001	S	mG/Kg	.2	270.		2.7E+04	I
MANGANESE, TOTAL	0002	S	mG/Kg	.2	215.		2.7E+04	I
MANGANESE, TOTAL	0003	S	mG/Kg	.2	203.		2.7E+04	I
MANGANESE, TOTAL	0004	S	mG/Kg	.4	183.		2.7E+04	I
NICKEL, TOTAL	0001	S	mG/Kg	2.	9.8		5.4E+03	I
NICKEL, TOTAL	0002	S	mG/Kg	2.	9.		5.4E+03	I
NICKEL, TOTAL	0003	S	mG/Kg	2.	11.		5.4E+03	I
NICKEL, TOTAL	0004	S	mG/Kg	4.	11.2		5.4E+03	I
POTASSIUM, TOTAL	0001	S	mG/Kg	100.	440.		NA	I
POTASSIUM, TOTAL	0002	S	mG/Kg	100.	451.		NA	I
POTASSIUM, TOTAL	0003	S	mG/Kg	100.	955.		NA	I
POTASSIUM, TOTAL	0004	S	mG/Kg	20.	739.		NA	I
SODIUM, TOTAL	0001	S	mG/Kg	20.	406.		NA	I
SODIUM, TOTAL	0002	S	mG/Kg	20.	385.		NA	I
SODIUM, TOTAL	0003	S	mG/Kg	20.	582.		NA	I
SODIUM, TOTAL	0004	S	mG/Kg	20.	420.		NA	I
VANADIUM, TOTAL	0001	S	mG/Kg	1.	13.5		1.9E+03	I
VANADIUM, TOTAL	0002	S	mG/Kg	1.	8.7		1.9E+03	I
VANADIUM, TOTAL	0003	S	mG/Kg	1.	6.8		1.9E+03	I
VANADIUM, TOTAL	0004	S	mG/Kg	2.	8.8		1.9E+03	I
ZINC, TOTAL	0001	S	mG/Kg	.5	41.2		5.4E+04	I
ZINC, TOTAL	0002	S	mG/Kg	.5	30.5		5.4E+04	I
ZINC, TOTAL	0003	S	mG/Kg	.5	31.3		5.4E+04	I
ZINC, TOTAL	0004	S	mG/Kg	1.	46.9		5.4E+04	I

PRG - Preliminary Remediation Goals (Risk Based)
J - The associated value is an estimated quantity
I - Initial Analysis
S - Soil
mG/Kg - Milligrams per Kilogram
(1) - This includes laboratory results that were not qualified from data validation, but were accepted by data validators

TABLE III.10
BUILDING 61 FORMER HEAVY EQUIPMENT AREA
Location: MWD33-0055
Summary of analytical data
for analyte concentrations
above reporting limits
Report Date: 03/05/93

Parameter	Sample Id	Matrix	Units of Measure	Laboratory Reporting Limit	Validated Result (1)	Data Validation Qualifier	PRG	Ru Ty
ACETONE	0003	S	mG/Kg	0.011	0.012		2.7E+04	I
ALUMINUM, TOTAL	0001	S	mG/Kg	12.	8750.		7.8E+05	I
ALUMINUM, TOTAL	0002	S	mG/Kg	12.	7910.		7.8E+05	I
ALUMINUM, TOTAL	0003	S	mG/Kg	12.	7220.		7.8E+05	I
ALUMINUM, TOTAL	0004	S	mG/Kg	12.	2650.		7.8E+05	I
ALUMINUM, TOTAL	1004	S	mG/Kg	12.	3350.		7.8E+05	I
ARSENIC, TOTAL	0001	S	mG/Kg	.4	8.7	J	2.1E+03	I
ARSENIC, TOTAL	0002	S	mG/Kg	.4	9.4	J	2.1E+03	I
ARSENIC, TOTAL	0003	S	mG/Kg	.4	4.1	J	2.1E+03	I
ARSENIC, TOTAL	0004	S	mG/Kg	.4	7.6	J	2.1E+03	I
ARSENIC, TOTAL	1004	S	mG/Kg	.4	2.7	J	2.1E+03	I
BARIUM, TOTAL	0001	S	mG/Kg	.4	61.6		1.9E+04	I
BARIUM, TOTAL	0002	S	mG/Kg	.4	46.5		1.9E+04	I
BARIUM, TOTAL	0003	S	mG/Kg	.4	41.7		1.9E+04	I
BARIUM, TOTAL	0004	S	mG/Kg	.4	19.9		1.9E+04	I
BARIUM, TOTAL	1004	S	mG/Kg	.4	27.2		1.9E+04	I
BERYLLIUM	0001	S	mG/Kg	.4	.52		1.5E-01	I
BERYLLIUM	0002	S	mG/Kg	.4	.45		1.5E-01	I
BERYLLIUM	0003	S	mG/Kg	.4	.41		1.5E-01	I
CALCIUM, TOTAL	0001	S	mG/Kg	4.	51000.		NA	I
CALCIUM, TOTAL	0002	S	mG/Kg	4.	76300.		NA	I
CALCIUM, TOTAL	0003	S	mG/Kg	4.	99100.		NA	I
CALCIUM, TOTAL	0004	S	mG/Kg	4.	166000.		NA	I
CALCIUM, TOTAL	1004	S	mG/Kg	4.	63700.		NA	I
CHLORDANE	0001	S	mG/Kg	0.009	0.53	J	4.9E-01	I
CHLORDANE	0002	S	mG/Kg	0.009	0.029	J	4.9E-01	I
CHLORDANE	0003	S	mG/Kg	0.009	0.018	J	4.9E-01	I
CHROMIUM, TOTAL	0001	S	mG/Kg	2.	11.8		1.4E+03	I
CHROMIUM, TOTAL	0002	S	mG/Kg	2.	10.4		1.4E+03	I
CHROMIUM, TOTAL	0003	S	mG/Kg	2.	8.9		1.4E+03	I
CHROMIUM, TOTAL	0004	S	mG/Kg	2.	3.8		1.4E+03	I
CHROMIUM, TOTAL	1004	S	mG/Kg	2.	5.1		1.4E+03	I
COBALT, TOTAL	0001	S	mG/Kg	2.	7.8		3.9E+01	I
COBALT, TOTAL	0002	S	mG/Kg	2.	7.7		3.9E+01	I
COBALT, TOTAL	0003	S	mG/Kg	2.	6.9		3.9E+01	I
COBALT, TOTAL	0004	S	mG/Kg	2.	3.5		3.9E+01	I
COBALT, TOTAL	1004	S	mG/Kg	2.	3.1		3.9E+01	I
COPPER, TOTAL	0001	S	mG/Kg	2.	14.2		1.0E+04	I
COPPER, TOTAL	0002	S	mG/Kg	2.	17.3		1.0E+04	I
COPPER, TOTAL	0003	S	mG/Kg	2.	13.1		1.0E+04	I
COPPER, TOTAL	0004	S	mG/Kg	2.	9.7		1.0E+04	I
COPPER, TOTAL	1004	S	mG/Kg	2.	7.2		1.0E+04	I
DIELDRIN	0001	S	mG/Kg	0.0014	0.0069		4.0E-02	I
EXTRACTABLE HB HYD AS MOTOR OIL	0001	S	mG/Kg	20	90	J	105. total	I

PRG - Preliminary Remediation Goals (Risk Based)
J - The associated value is an estimated quantity
I - Initial Analysis
S - Soil
mG/Kg - Milligrams per Kilogram
(1) - This includes laboratory results that were not qualified from data validation, but were accepted by data validators

TABLE III.10
BUILDING 61 FORMER HEAVY EQUIPMENT AREA
Location: MND33-0055
Summary of analytical data
for analyte concentrations
above reporting limits
Report Date: 03/05/93

Parameter	Sample Id	Matrix	Units of Measure	Laboratory Reporting Limit	Validated Result (1)	Data Validation Qualifier	PRG	Run Type
EXTRACTABLE HB HYD AS MOTOR OIL	0002	S	mG/Kg	20	35	J	105. total	I
EXTRACTABLE HB HYD AS MOTOR OIL	0003	S	mG/Kg	20	86	J	105. total	I
EXTRACTABLE HB HYD AS MOTOR OIL	0004	S	mG/Kg	20	78	J	105. total	I
EXTRACTABLE HB HYD AS MOTOR OIL	1004	S	mG/Kg	20	47	J	105. total	I
IRON, TOTAL	0001	S	mG/Kg	2.	17000.		NA	I
IRON, TOTAL	0002	S	mG/Kg	2.	18300.		NA	I
IRON, TOTAL	0003	S	mG/Kg	2.	14900.		NA	I
IRON, TOTAL	0004	S	mG/Kg	2.	7690.		NA	I
IRON, TOTAL	1004	S	mG/Kg	2.	8280.		NA	I
LEAD, TOTAL	0001	S	mG/Kg	.4	11.6		5.3E+01	I
LEAD, TOTAL	0002	S	mG/Kg	.4	12.		5.3E+01	I
LEAD, TOTAL	0003	S	mG/Kg	.4	8.6	J	5.3E+01	I
LEAD, TOTAL	0004	S	mG/Kg	.4	8.4	J	5.3E+01	I
LEAD, TOTAL	1004	S	mG/Kg	.4	7.2	J	5.3E+01	I
LITHIUM, TOTAL	0001	S	mG/Kg	.2	9.8		5.4E+03	I
LITHIUM, TOTAL	0002	S	mG/Kg	.2	12.4		5.4E+03	I
LITHIUM, TOTAL	0003	S	mG/Kg	.2	11.4		5.4E+03	I
LITHIUM, TOTAL	0004	S	mG/Kg	.2	6.8		5.4E+03	I
LITHIUM, TOTAL	1004	S	mG/Kg	.2	7.2		5.4E+03	I
MAGNESIUM, TOTAL	0001	S	mG/Kg	10.	19200.		NA	I
MAGNESIUM, TOTAL	0002	S	mG/Kg	10.	30500.		NA	I
MAGNESIUM, TOTAL	0003	S	mG/Kg	10.	29900.		NA	I
MAGNESIUM, TOTAL	0004	S	mG/Kg	10.	81500.		NA	I
MAGNESIUM, TOTAL	1004	S	mG/Kg	10.	22200.		NA	I
MANGANESE, TOTAL	0001	S	mG/Kg	.4	503.		2.7E+04	I
MANGANESE, TOTAL	0002	S	mG/Kg	.4	376.		2.7E+04	I
MANGANESE, TOTAL	0003	S	mG/Kg	.4	546.		2.7E+04	I
MANGANESE, TOTAL	0004	S	mG/Kg	.4	158.		2.7E+04	I
MANGANESE, TOTAL	1004	S	mG/Kg	.4	150.		2.7E+04	I
MERCURY, TOTAL	0001	S	mG/Kg	.04	.1		8.1E+01	I
MERCURY, TOTAL	0002	S	mG/Kg	.02	.03		8.1E+01	I
NICKEL, TOTAL	0001	S	mG/Kg	4.	12.8		5.4E+03	I
NICKEL, TOTAL	0002	S	mG/Kg	4.	16.2		5.4E+03	I
NICKEL, TOTAL	0003	S	mG/Kg	4.	16.8		5.4E+03	I
NICKEL, TOTAL	0004	S	mG/Kg	4.	7.4		5.4E+03	I
NICKEL, TOTAL	1004	S	mG/Kg	4.	7.8		5.4E+03	I
POTASSIUM, TOTAL	0001	S	mG/Kg	20.	868.		NA	I
POTASSIUM, TOTAL	0002	S	mG/Kg	20.	711.		NA	I
POTASSIUM, TOTAL	0003	S	mG/Kg	20.	1060.		NA	I
POTASSIUM, TOTAL	0004	S	mG/Kg	20.	359.		NA	I
POTASSIUM, TOTAL	1004	S	mG/Kg	20.	725.		NA	I
SODIUM, TOTAL	0001	S	mG/Kg	20.	205.		NA	I
SODIUM, TOTAL	0002	S	mG/Kg	20.	272.		NA	I
SODIUM, TOTAL	0003	S	mG/Kg	20.	177.		NA	I
SODIUM, TOTAL	0004	S	mG/Kg	20.	185.		NA	I
SODIUM, TOTAL	1004	S	mG/Kg	20.	104.		NA	I

PRG - Preliminary Remediation Goals (Risk Based)
J - The associated value is an estimated quantity
I - Initial Analysis
S - Soil
mG/Kg - Milligrams per Kilogram
(1) - This includes laboratory results that were not qualified from data validation, but were accepted by data validators

TABLE III.10
BUILDING 61 FORMER HEAVY EQUIPMENT AREA
Location: MWD33-0055
Summary of analytical data
for analyte concentrations
above reporting limits
Report Date: 03/05/93

Parameter	Sample Id	Matrix	Units of Measure	Laboratory Reporting Limit	Validated Result (1)	Data Validation Qualifier	PRG	Run Typ
VANADIUM, TOTAL	0001	S	mG/Kg	2.	17.2		1.9E+03	I
VANADIUM, TOTAL	0002	S	mG/Kg	2.	15.6		1.9E+03	I
VANADIUM, TOTAL	0003	S	mG/Kg	2.	12.8		1.9E+03	I
VANADIUM, TOTAL	0004	S	mG/Kg	2.	5.7		1.9E+03	I
VANADIUM, TOTAL	1004	S	mG/Kg	2.	6.1		1.9E+03	I
ZINC, TOTAL	0001	S	mG/Kg	1.	45.3		5.4E+04	I
ZINC, TOTAL	0002	S	mG/Kg	1.	51.9		5.4E+04	I
ZINC, TOTAL	0003	S	mG/Kg	1.	34.5		5.4E+04	I
ZINC, TOTAL	0004	S	mG/Kg	1.	21.9		5.4E+04	I
ZINC, TOTAL	1004	S	mG/Kg	1.	25.		5.4E+04	I

PRG - Preliminary Remediation Goals (Risk Based)
I - Initial Analysis
S - Soil
mG/Kg - Milligrams per Kilogram
(1) - This includes laboratory results that were not qualified from data validation, but were accepted by data validators

TABLE III.10
BUILDING 61 FORMER HEAVY EQUIPMENT AREA
Location: MND33-0056
Summary of analytical data
for analyte concentrations
above reporting limits
Report Date: 03/05/93

Parameter	Sample Id	Matrix	Units of Measure	Laboratory Reporting Limit	Validated Result (1)	Data Validation Qualifier	PRG	Run Type
ACETONE	0003	S	mG/Kg	0.011	0.053	J	2.7E+04	I
ALUMINUM, TOTAL	0001	S	mG/Kg	4.	9050.		7.8E+05	I
ALUMINUM, TOTAL	0002	S	mG/Kg	4.	12700.		7.8E+05	I
ALUMINUM, TOTAL	0003	S	mG/Kg	4.	8930.		7.8E+05	I
ANTIMONY, TOTAL	0002	S	mG/Kg	3.	4.3	J	1.1E+02	I
AROCLOR-1254	0001	S	mG/Kg	0.09	0.13	J	50. total	I
ARSENIC, TOTAL	0001	S	mG/Kg	.2	6.9	J	2.1E+03	I
ARSENIC, TOTAL	0003	S	mG/Kg	.2	7.		2.1E+03	I
BARIUM, TOTAL	0001	S	mG/Kg	.2	50.5		1.9E+04	I
BARIUM, TOTAL	0002	S	mG/Kg	.2	17.4		1.9E+04	I
BARIUM, TOTAL	0003	S	mG/Kg	.2	41.2		1.9E+04	I
BERYLLIUM	0001	S	mG/Kg	.1	.51		1.5E-01	I
BERYLLIUM	0002	S	mG/Kg	.1	.62		1.5E-01	I
BERYLLIUM	0003	S	mG/Kg	.1	.43		1.5E-01	I
BIS(2-ETHYLHEXYL)PHTHALATE	0001	S	mG/Kg	0.75	6.5	J	4.6E+01	I
BIS(2-ETHYLHEXYL)PHTHALATE	0002	S	mG/Kg	0.75	5.	J	4.6E+01	I
BIS(2-ETHYLHEXYL)PHTHALATE	0003	S	mG/Kg	0.73	12.	J	4.6E+01	I
CALCIUM, TOTAL	0001	S	mG/Kg	3.	65800.		NA	I
CALCIUM, TOTAL	0002	S	mG/Kg	3.	59400.		NA	I
CALCIUM, TOTAL	0003	S	mG/Kg	3.	85000.		NA	I
CHROMIUM, TOTAL	0001	S	mG/Kg	1.	11.7		1.4E+03	I
CHROMIUM, TOTAL	0002	S	mG/Kg	1.	15.5		1.4E+03	I
CHROMIUM, TOTAL	0003	S	mG/Kg	1.	12.		1.4E+03	I
COBALT, TOTAL	0001	S	mG/Kg	2.	9.2		3.9E+01	I
COBALT, TOTAL	0002	S	mG/Kg	2.	12.1		3.9E+01	I
COBALT, TOTAL	0003	S	mG/Kg	2.	11.1		3.9E+01	I
COPPER, TOTAL	0001	S	mG/Kg	1.	26.1		1.0E+04	I
COPPER, TOTAL	0002	S	mG/Kg	1.	20.9		1.0E+04	I
COPPER, TOTAL	0003	S	mG/Kg	1.	19.		1.0E+04	I
DICHLOROMETHANE-METHYLENE CHLORIDE	0003	S	mG/Kg	0.006	0.01		8.5E+01	I
EXTRACTABLE HB HYD AS MOTOR OIL	0001	S	mG/Kg	20.	60.	J	105. total	I
EXTRACTABLE HB HYD AS MOTOR OIL	0002	S	mG/Kg	20.	35.	J	105. total	I
EXTRACTABLE HB HYD AS MOTOR OIL	0003	S	mG/Kg	20.	458.	J	105. total	I
IRON, TOTAL	0001	S	mG/Kg	1.	22700.		NA	I
IRON, TOTAL	0002	S	mG/Kg	1.	24200.	J	NA	I
IRON, TOTAL	0003	S	mG/Kg	1.	21200.	J	NA	I
LEAD, TOTAL	0001	S	mG/Kg	.2	6.		5.3E+01	I
LEAD, TOTAL	0003	S	mG/Kg	.2	7.5	J	5.3E+01	I
MAGNESIUM, TOTAL	0001	S	mG/Kg	3.	15300.		NA	I

PRG - Preliminary Remediation Goals (Risk Based)
J - The associated value is an estimated quantity
I - Initial Analysis
S - Soil
mG/Kg - Milligrams per Kilogram
(1) - This includes laboratory results that were not qualified from data validation, but were accepted by data validators

TABLE III.10
BUILDING 61 FORMER HEAVY EQUIPMENT AREA
Location: MWD33-0056
Summary of analytical data
for analyte concentrations
above reporting limits
Report Date: 03/05/93

Parameter	Sample Id	Matrix	Units of Measure	Laboratory Reporting Limit	Validated Result (1)	Data Validation Qualifier	PRG	Run Type
MAGNESIUM, TOTAL	0002	S	mG/Kg	3.	12400.		NA	I
MAGNESIUM, TOTAL	0003	S	mG/Kg	3.	12200.	J	NA	I
MANGANESE, TOTAL	0001	S	mG/Kg	.2	566.		2.7E+04	I
MANGANESE, TOTAL	0002	S	mG/Kg	.2	512.	J	2.7E+04	I
MANGANESE, TOTAL	0003	S	mG/Kg	.2	610.	J	2.7E+04	I
MERCURY, TOTAL	0001	S	mG/Kg	.02	.04		8.1E+01	I
NICKEL, TOTAL	0001	S	mG/Kg	2.	18.1		5.4E+03	I
NICKEL, TOTAL	0002	S	mG/Kg	2.	21.8		5.4E+03	I
NICKEL, TOTAL	0003	S	mG/Kg	2.	19.1		5.4E+03	I
POTASSIUM, TOTAL	0001	S	mG/Kg	100.	1100.		NA	I
POTASSIUM, TOTAL	0002	S	mG/Kg	100.	2840.		NA	I
POTASSIUM, TOTAL	0003	S	mG/Kg	100.	1340.		NA	I
SODIUM, TOTAL	0001	S	mG/Kg	20.	111.		NA	I
SODIUM, TOTAL	0002	S	mG/Kg	20.	126.		NA	I
SODIUM, TOTAL	0003	S	mG/Kg	20.	149.		NA	I
VANADIUM, TOTAL	0001	S	mG/Kg	1.	14.4		1.9E+03	I
VANADIUM, TOTAL	0002	S	mG/Kg	1.	14.2		1.9E+03	I
VANADIUM, TOTAL	0003	S	mG/Kg	1.	11.3		1.9E+03	I
ZINC, TOTAL	0001	S	mG/Kg	.5	60.3		5.4E+04	I
ZINC, TOTAL	0002	S	mG/Kg	.5	46.5	J	5.4E+04	I
ZINC, TOTAL	0003	S	mG/Kg	.5	41.6	J	5.4E+04	I

PRG - Preliminary Remediation Goals (Risk Based)
J - The associated value is an estimated quantity
I - Initial Analysis
S - Soil
mG/Kg - Milligrams per Kilogram
(1) - This includes laboratory results that were not qualified from data validation, but were accepted by data validators

Environmental Restoration Program

OPERABLE UNIT 5
OPERATIONAL AREA PHASE I INVESTIGATION
NON-AOC FIELD REPORT

MOUND PLANT
MIAMISBURG, OHIO

VOLUME II - APPENDICES A-G

March 1995

Draft

U.S. Department of Energy
Ohio Field Office

EG&G Mound Applied Technologies

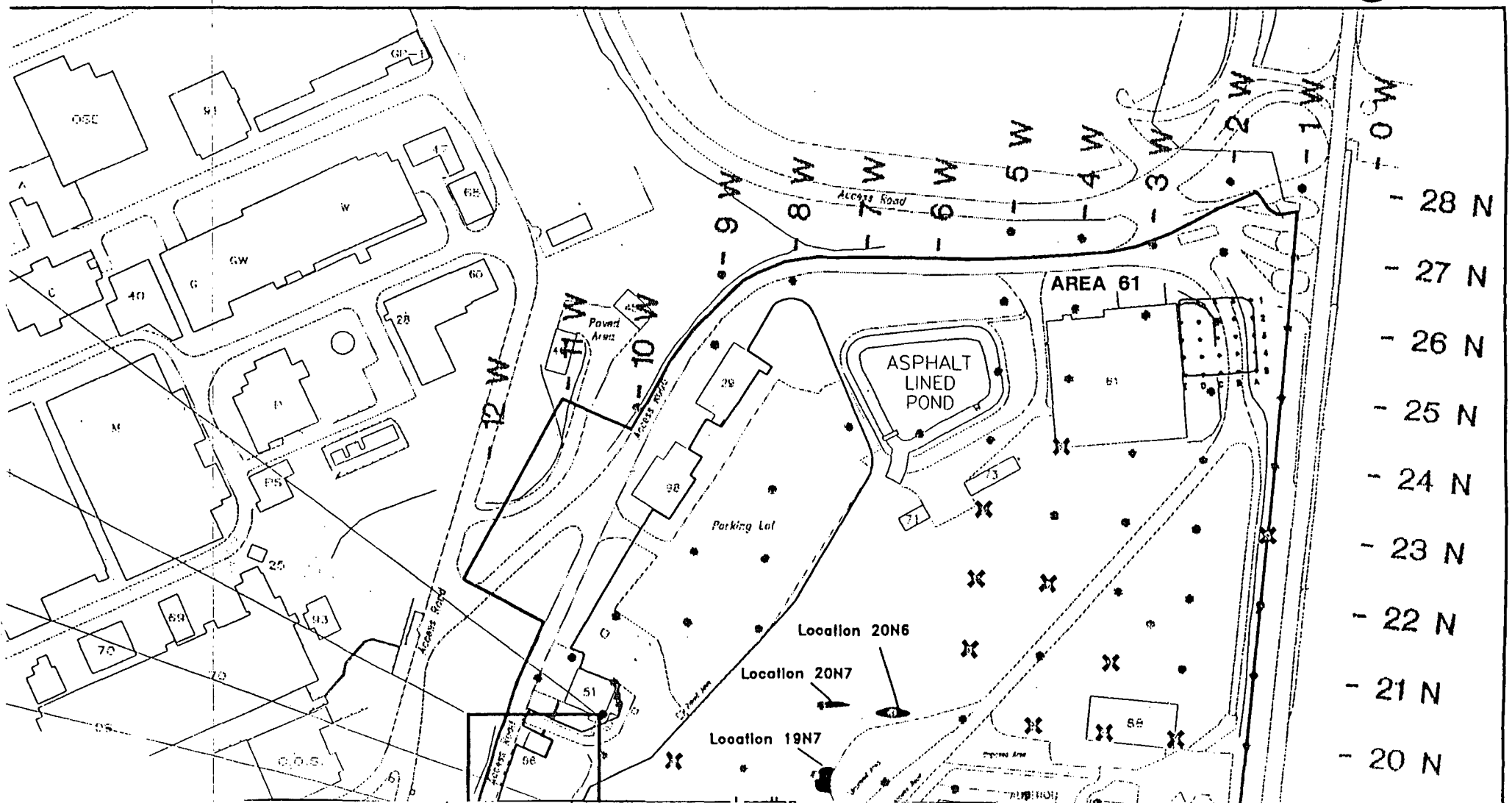


FIGURE: PLATE 2

TITLE: OU5 OPERATION AREA PHASE I NON-AOC FIELD REPORT
AREAS OF ELEVATED RADIOLOGICAL ACTIVITY (FIDLER SURVEY)

Mound Plant

Location Map

N True North

Contour Interval 10 ft.

100 0 100 200

SCALE (FEET)

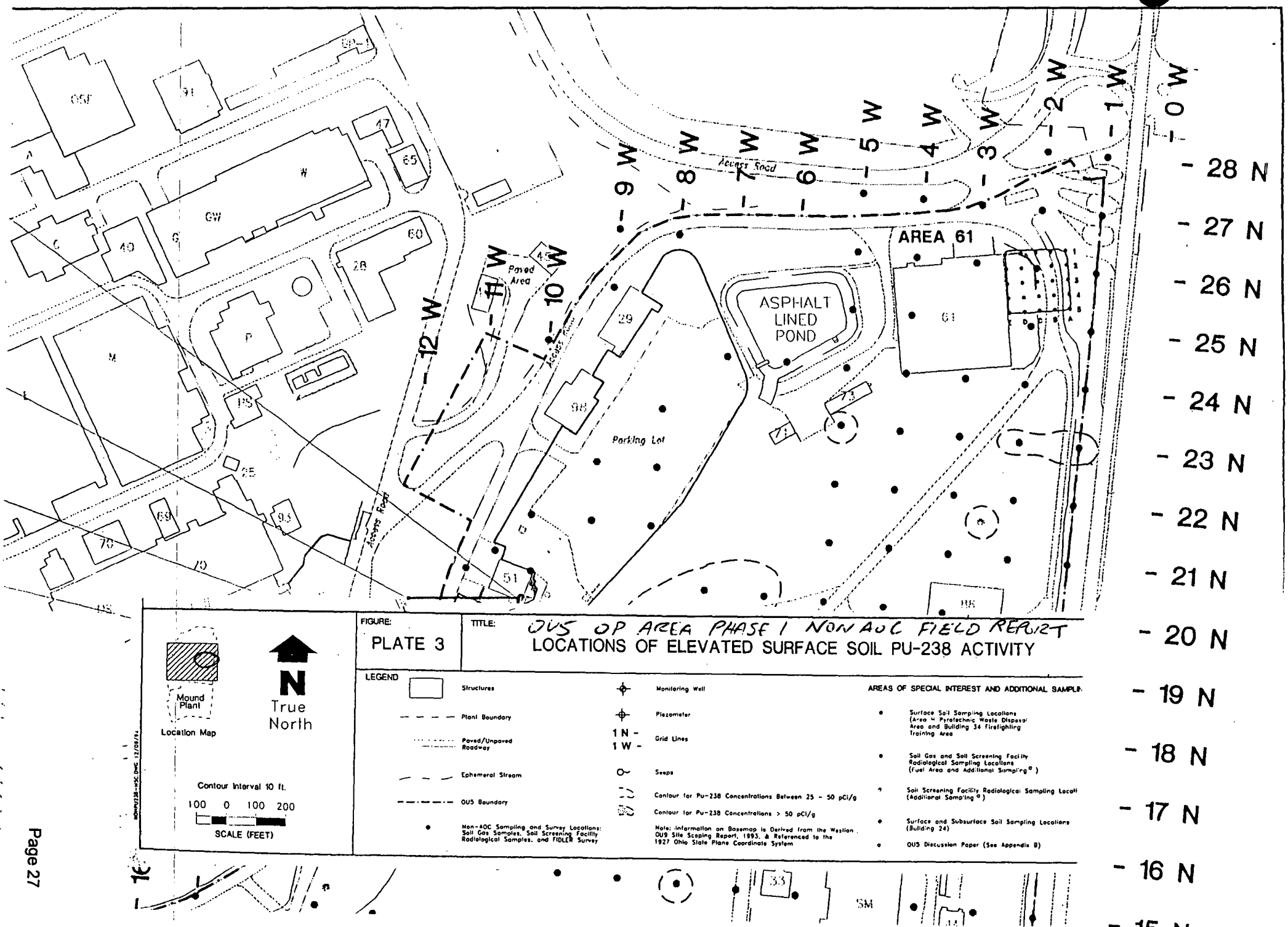
LEGEND

- Structures
- Plant Boundary
- Paved/Unpaved Roadway
- Ephemeral Stream
- OU5 Boundary
- Seeps
- Non-AOC Sampling and Survey Locations: Soil Gas Samples, Soil Screening Facility Radiological Samples, and FIDLER Survey
- Monitoring Well
- Piezometer
- 1 N - 1 W - Grid Lines
- Points of Elevated Radiological Activity (Fidler Survey)
- Areas of Elevated Radiological Activity (Fidler Survey)

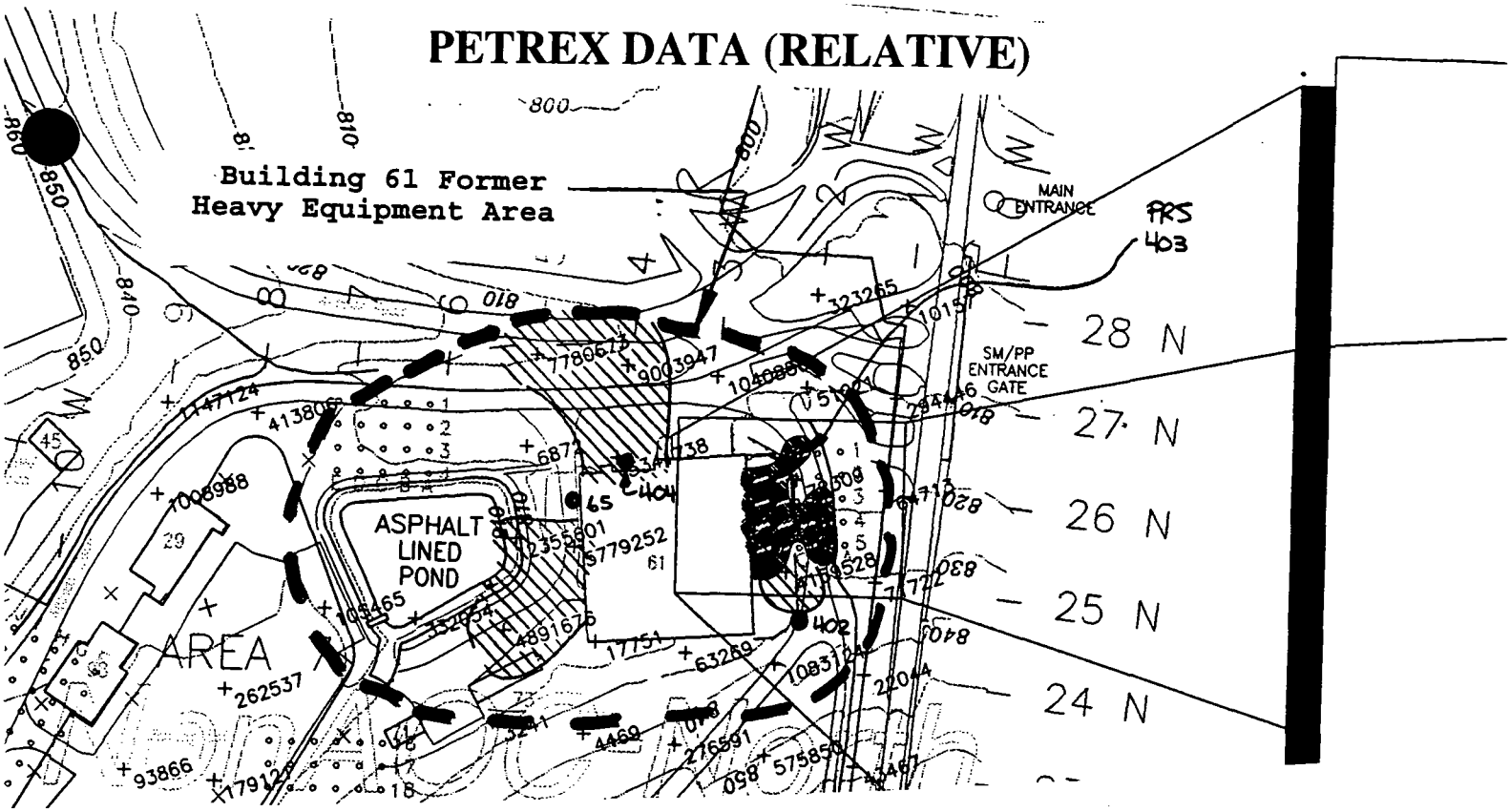
Note: Information on Basemap is Derived from the Weston OU9 Site Scoping Report, 1993, & Referenced to the 1927 Ohio State Plane Coordinate System

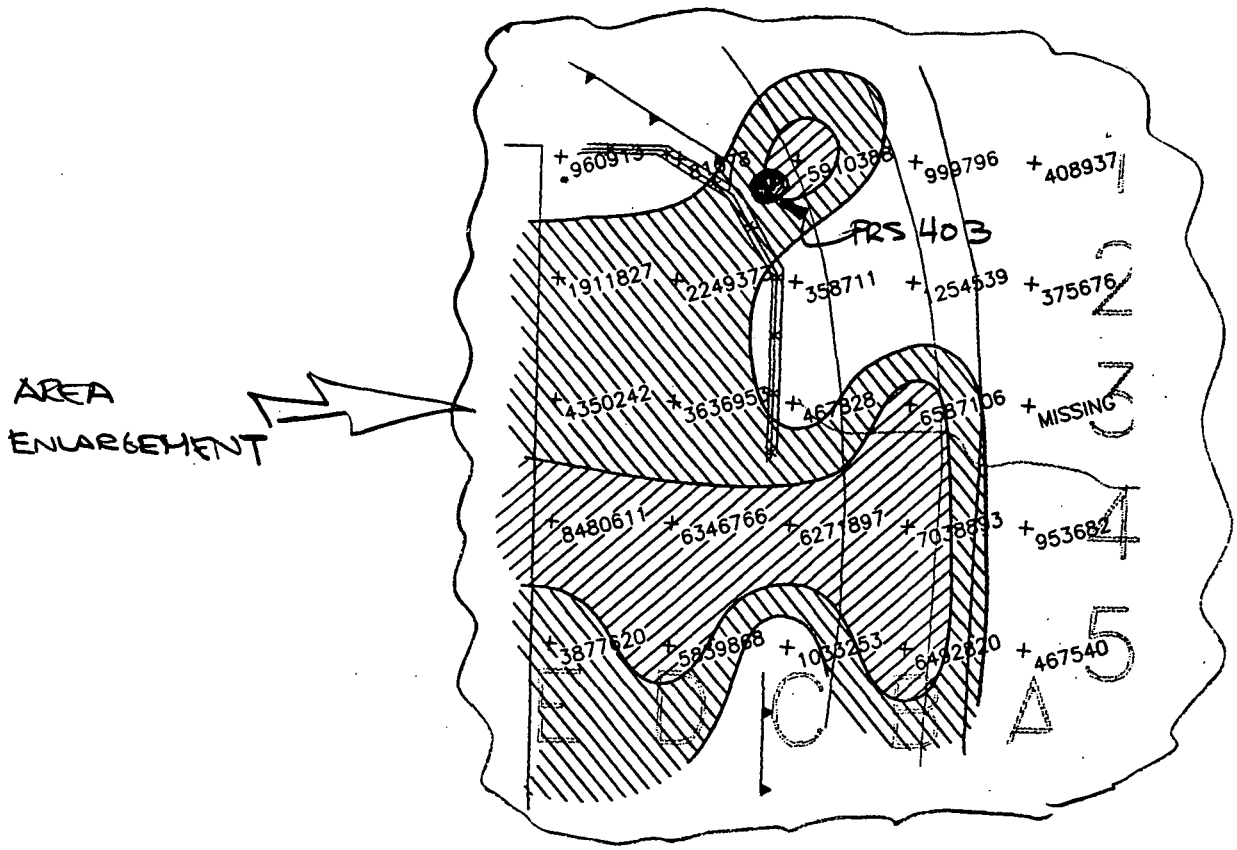
AREAS OF SPECIAL INTEREST AND ADDITIONAL SAMPLING °

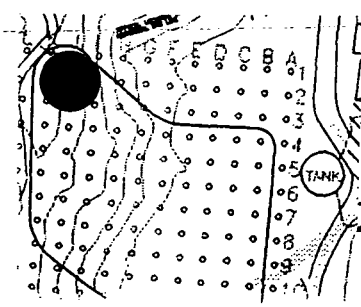
- Surface Soil Sampling Locations (Area 1 - Pyrotechnic Waste Disposal Area and Building 34 Firefighting Training Area
- Soil Gas and Soil Screening Facility Radiological Sampling Locations (Fuel Area and Additional Sampling°)
- Soil Screening Facility Radiological Sampling Locations (Additional Sampling °)
- Surface and Subsurface Soil Sampling Locations (Building 24)
- OU5 Discussion Paper (See Appendix B)


AREA 61
ASPHALT LINED POND
Parking Lot
Access Road
Paved Area
Mound Plant
Location Map
True North
Contour Interval 10 ft.
100 0 100 200
SCALE (FEET)
FIGURE:
PLATE 3
TITLE:
OU5 OP AREA PHASE I NON AOC FIELD REPORT
LOCATIONS OF ELEVATED SURFACE SOIL PU-238 ACTIVITY
LEGEND
Structures
Plant Boundary
Paved/Unpaved Roadway
Ephemeral Stream
OU5 Boundary
Non-AOC Sampling and Survey Locations: Soil Gas Samples, Soil Screening Facility Radiological Samples, and FIDLER Survey
Monitoring Well
Piezometer
1 N -
1 W -
Grid Lines
Seeps
Contour for Pu-238 Concentrations Between 25 - 50 pCi/g
Contour for Pu-238 Concentrations > 50 pCi/g
Note: Information on Basemap is Derived from the Westion OU9 Site Scoping Report, 1993, & Referenced to the 1927 Ohio State Plane Coordinate System
AREAS OF SPECIAL INTEREST AND ADDITIONAL SAMPLE
Surface Soil Sampling Locations (Area 4 Pyrotechnic Waste Disposal Area and Building 34 Firefighting Training Area
Soil Gas and Soil Screening Facility Radiological Sampling Locations (Fuel Area and Additional Sampling a)
Soil Screening Facility Radiological Sampling Locati (Additional Sampling a)
Surface and Subsurface Soil Sampling Locations (Building 24)
OU5 Discussion Paper (See Appendix B)
- 28 N
- 27 N
- 26 N
- 25 N
- 24 N
- 23 N
- 22 N
- 21 N
- 20 N
- 19 N
- 18 N
- 17 N
- 16 N
- 15 N
12 W
11 W
10 W
9 W
8 W
7 W
6 W
5 W
4 W
3 W
2 W
1 W
0 W

PETREX DATA (RELATIVE)







LEGEND

(in ion counts):

NonAOC–North	Area 61
≥ 10,000,000	≥ 5,800,000
1,500,000–9,999,999	1,400,000–5,799,999

Features:

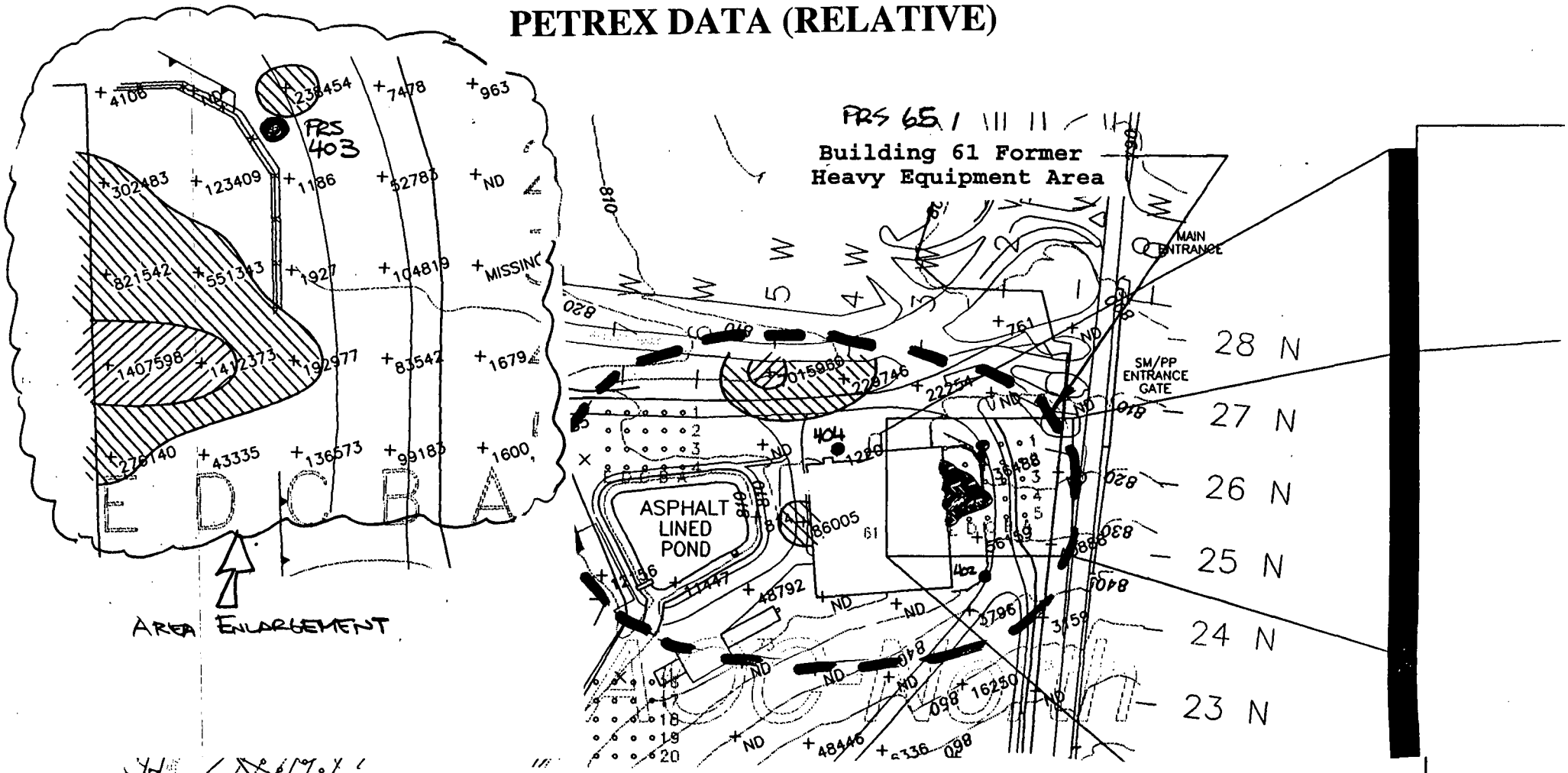
+ PETREX Sample Location
ND Not Detected
T Denotes interference by terpenes; see text.

Relative Response

Total Aromatic Hydrocarbons

Plate 2

PETREX DATA (RELATIVE)



LEGEND

Relative Response Values (in ion counts):			
-West	NonAOC–East	NonAOC–North	Area 61
0	≥ 300,000	≥ 800,000	≥ 1,400,000
99,999	30,000–299,999	80,000–799,999	180,000–1,399,999

Features:
+ PETREX Sample Location
ND Not Detected

Relative Response
Total Semivolatile Hydrocarbons

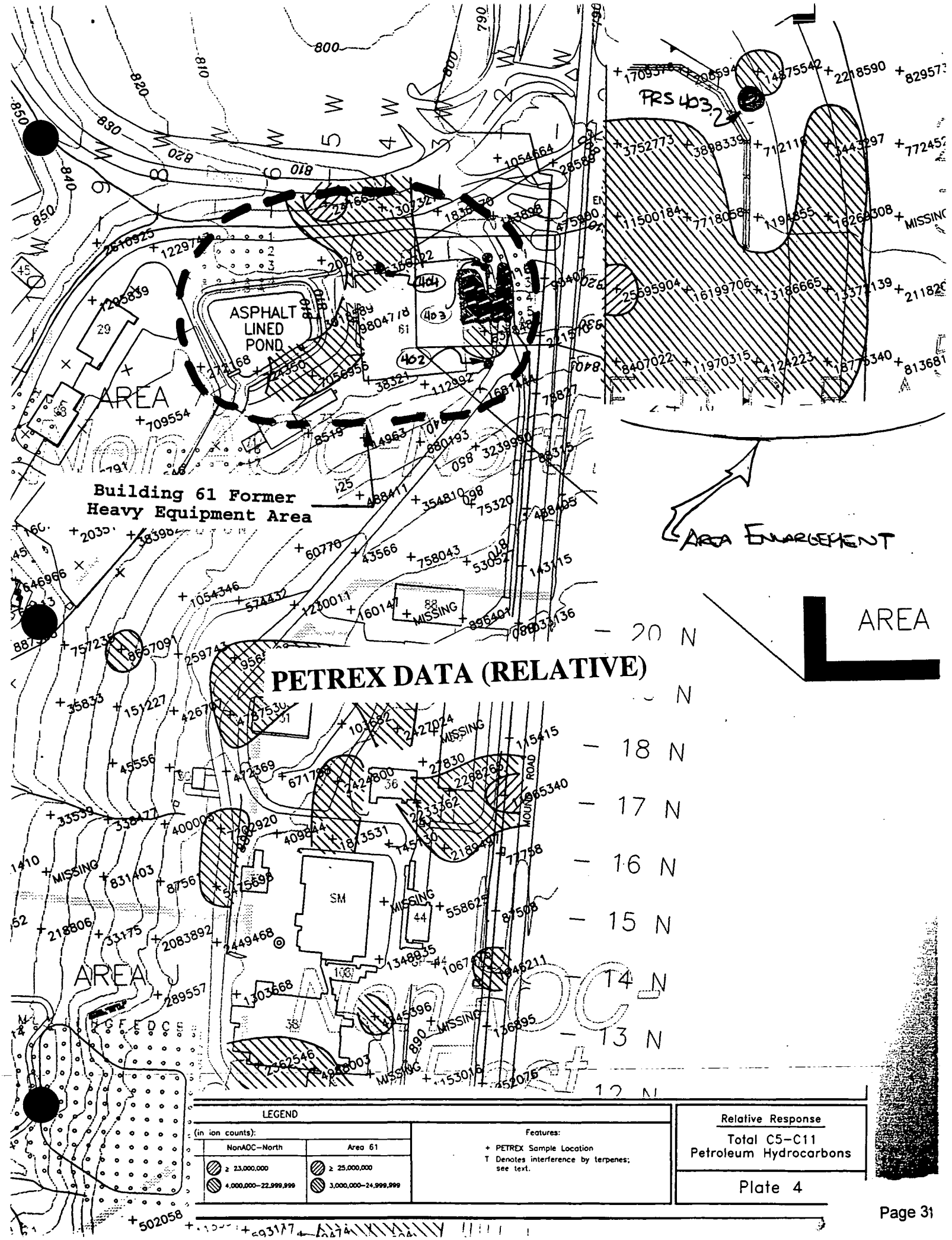
Plate 3

AREA

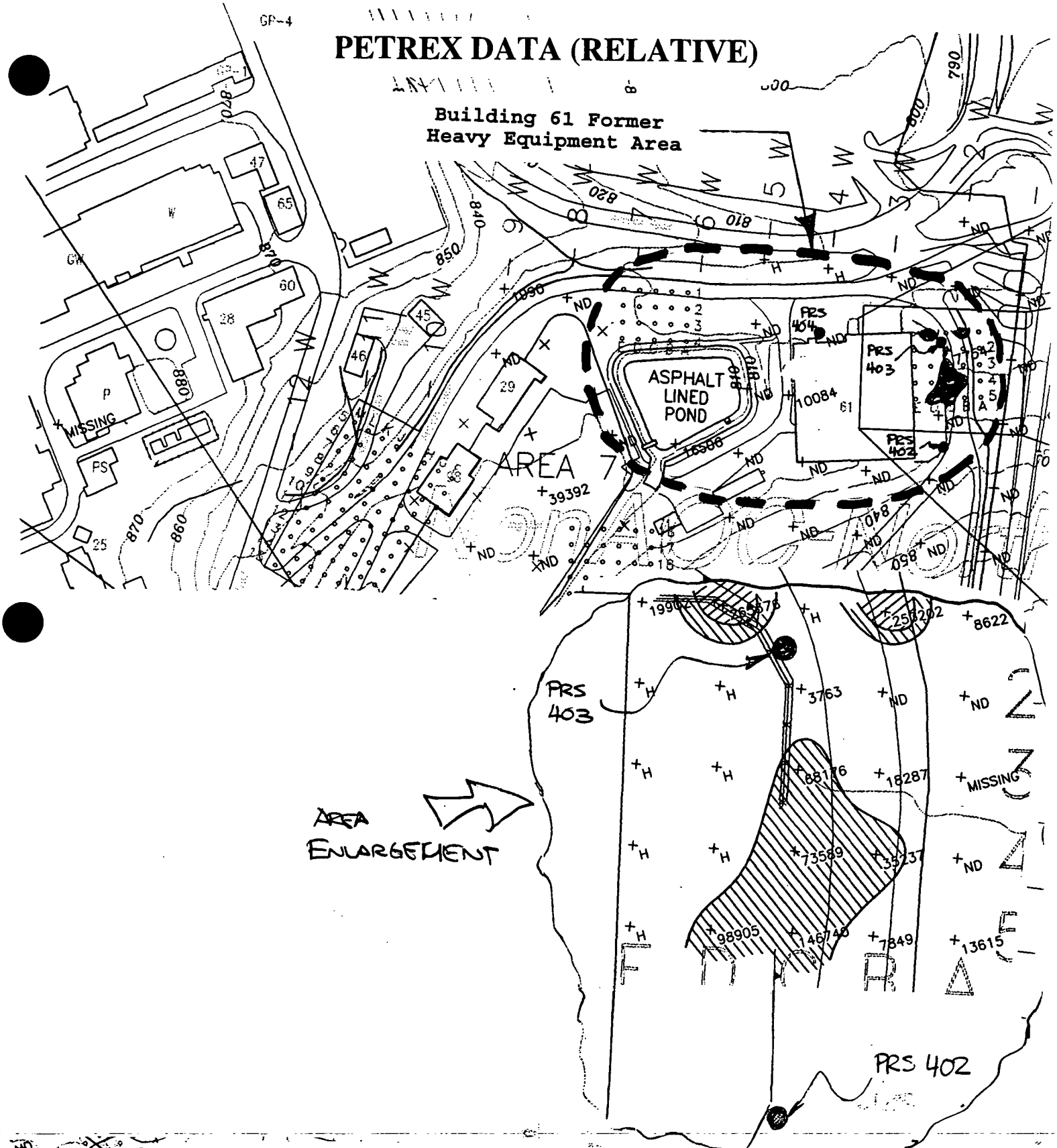
MOUND SOIL SCREEN DATA

RADIOLOGICAL DATA (FIDLER SURVEY MOUND SOIL SCREENING FACILITY DATA) FOR NON-AOC POINTS

	FIDLER SURVEY DATA					MOUND SOIL SCREENING FACILITY DATA			
SMPID	Contamination Criteria CH1	FIDLER Readings CH1	Contamination Criteria CH2	FIDLER Readings CH2	FIDLER Readings Out Channel	Plutonium - 238		Thorium - 232	
	Units: CPM	Units: CPM	Units: KCPM	Units: KCPM	Units: KCPM	Units: pCi/g		Units: pCi/g	
	RESULTS	RESULTS	RESULTS	RESULTS	RESULTS	RESULTS	Note:	RESULTS	Note:
23N05	152.1	100	8.45	7.0	NC	25	b	1.1	a
23N08	152.1	65	8.45	4.5	NC	WIPE	c	WIPE	c
24N01	253.5	150	12.48	9.5	NC	9	a	1.4	a
24N02	176.8	90	8.97	4.0	NC	WIPE	c	WIPE	c
24N03	176.8	135	8.97	6.5	NC	8	a	1.2	a
24N04	176.8	145	8.97	7.5	NC	21	a	1	a
24N05	176.8	70	8.97	4.0	NC	WIPE	c	WIPE	c
24N06	176.8	70	8.97	3.5	NC	WIPE	c	WIPE	c
24N07	176.8	70	8.97	4.5	NC	WIPE	c	WIPE	c
24N10	157.3	90	8.45	5.5	NC	NC		NC	
25N01	253.5	145	12.48	9.0	NC	20	a	1.2	a
PRS 402 → 25N02	152.1	50	8.45	3.5	NC	WIPE	c	WIPE	c
25N04	130	50	6.5	5.5	NC	11	a	0.7	a
25N05	176.8	70	8.97	3.0	NC	NR		NR	
25N09	157.3	65	8.45	6.0	NC	NR		NR	
26N01	253.5	115	12.48	8.5	NC	14	a	1.2	a
PRS 403 → 26N02	152.1	100	8.45	5.5	NC	9	a	0.4	a
26N03	130	40	6.5	3.5	NC	NC		NC	
PRS 404 → 26N04	152.1	50	8.45	4.0	NC	WIPE	c	WIPE	c
26N05	176.8	100	8.97	5.5	NC	14	a	0.7	a
26N08	157.3	85	8.45	5.0	NC	WIPE	c	WIPE	c
26N09	157.3	50	8.45	5.0	NC	5	a	0.6	a
27N01	253.5	105	12.48	5.5	NC	12	a	0.7	a
27N02	152.1	20	8.45	4.0	NC	19	a	1.1	a
27N03	152.1	75	8.45	4.0	NC	WIPE	c	WIPE	c
27N04	152.1	75	8.45	3.5	NC	NR		NR	
27N05	130	50	6.5	3.5	NC	NR		NR	
28N01	253.5	130	12.48	9.0	NC	19	a	1	a
28N02	152.1	80	8.45	5.0	NC	13	a	0.9	a


PETREX DATA (RELATIVE)
Building 61 Former Heavy Equipment Area
ASPHALT LINED POND
AREA
AREA ENLARGEMENT
PRS 403.2
MISSING
SM
ROAD
LEGEND
(in ion counts):
NonAOC–North
Area 61
≥ 23,000,000
4,000,000–22,999,999
≥ 25,000,000
3,000,000–24,999,999
Features:
+ PETREX Sample Location
T Denotes interference by terpenes; see text.
Relative Response
Total C5–C11 Petroleum Hydrocarbons
Plate 4

PETREX DATA (RELATIVE)



LEGEND

Response Values (in ion counts):		
NonAOC–East	NonAOC–North	Area 61
80,000	≥ 400,000	≥ 250,000
0,000–79,999	40,000–399,999	35,000–249,999

Features:

+ PETREX Sample Location
ND Not Detected
H Denotes interference by petroleum hydrocarbons; see text.
● PRS LOCATION

Relative Response

Total Halogenated Hydrocarbons

Plate 5

Duplicate

EG+G-29-01-01-07-03

#9406140006

ENVIRONMENTAL RESTORATION PROGRAM

OPERABLE UNIT 9, SITE SCOPING REPORT: VOLUME 3 - RADIOLOGICAL SITE SURVEY

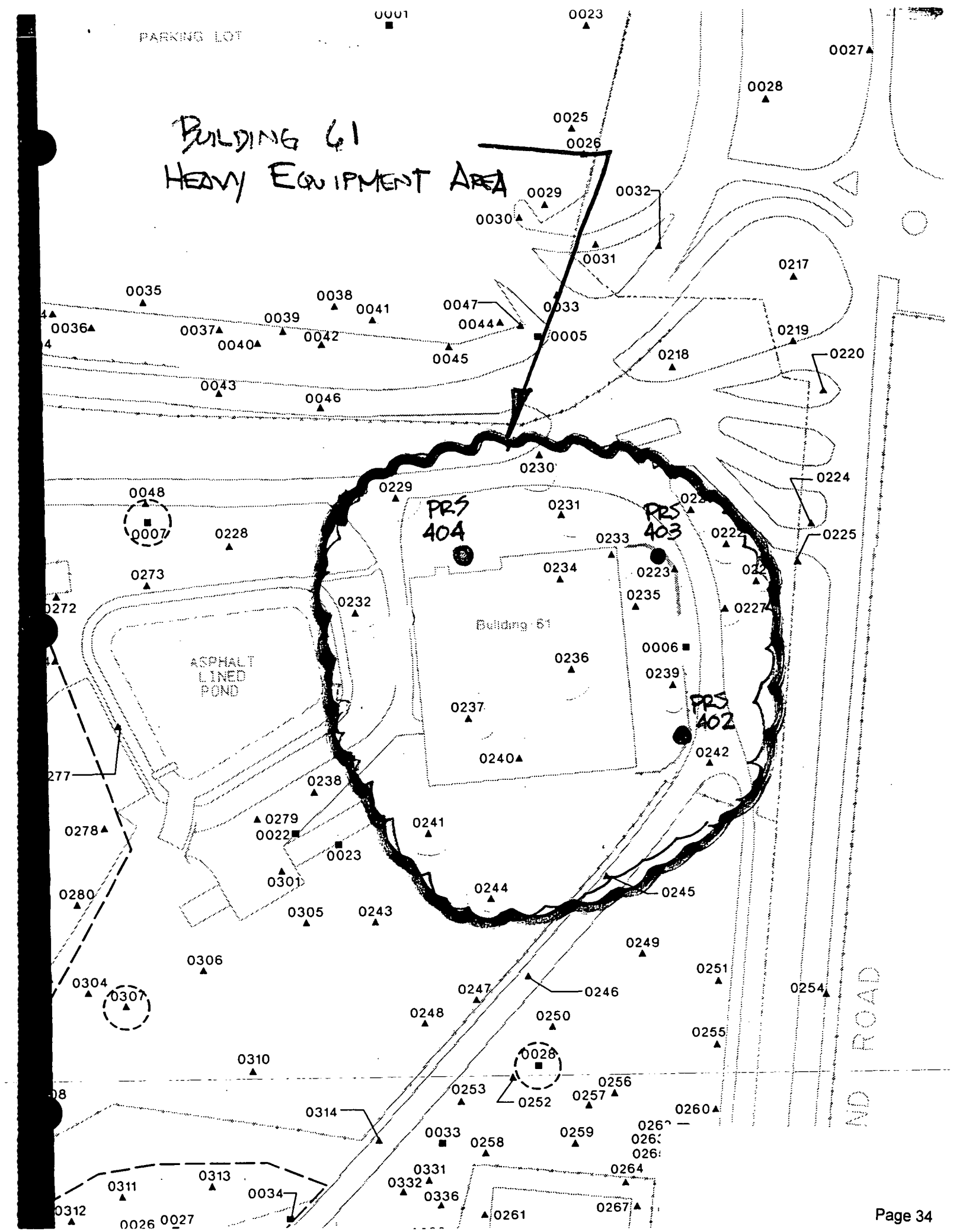
MOUND PLANT
MIAMISBURG, OHIO

June 1993

DEPARTMENT OF ENERGY
ALBUQUERQUE FIELD OFFICE

ENVIRONMENTAL RESTORATION PROGRAM
EG&G MOUND APPLIED TECHNOLOGIES

FINAL


BUILDING 61
HEAVY EQUIPMENT AREA
PARKING LOT
PRS 404
PRS 403
PRS 402
Building 61
ASPHALT LINED POND
ND ROAD

Map Location[a]	Coordinates South	Coordinates West	MRC ID No.	Mo-Yr	Depth (inch)	Pu-238 (pCi/g)	Thorium[b] (pCi/g)	Tritium (pCi/mL)	Co-60 (pCi/g)	Cs-137 (pCi/g)	Ra-226 (pCi/g)	Am-241 (pCi/g)
S0218	1875	1385	2977	10-83	0	2.03	b					
S0219	1900	1280	6742	08-84	0	3.94	b		LDL	0.6	0.7	LDL
S0220	1950	1275	2978	10-83	0	1.50	b	0.71				
S0221	1995	1425	2974	10-83	0	0.74	b	0.52				
S0222	2035	1410	6743	08-84	0	2.34	b					
S0223	2035	1460	6746	08-84	0	2.56	b		LDL	1.3	1.2	LDL
S0224	2050	1335	2979	10-83	0	1.34[c]	b					
S0225	2075	1360	6744	08-84	0	2.47	b					
S0226	2075	1400	2975	10-83	0	3.78	b	0.99				
S0227	2085	1435	6745	08-84	0	2.96	b					
C0005	1800	1480	8344	11-84	54	0.01	b					
			8345	11-84	108	0.04	b					
S0228	1850	1805	2866	10-83	0	1.07	b					
S0229	1875	1655	2865	10-83	0	1.06	b					
S0230	1895	1525	2868	10-83	0	3.34	b					
S0231	1950	1530	6747	08-84	0	0.04	b					
S0232	1950	1730	2863	10-83	0	0.56	b					
S0233	2000	1505	6749	08-84	0	1.52	b					
S0234	2000	1555	6748	08-84	0	0.20	b					

Map Location[a]	Coordinates South	Coordinates West	MRC ID No.	Mo-Yr	Depth (inch)	Pu-238 (pCi/g)	Thorium[b] (pCi/g)	Tritium (pCi/mL)	Co-60 (pCi/g)	Cs-137 (pCi/g)	Ra-226 (pCi/g)	Am-241 (pCi/g)
S0235	2050	1505	6750	08-84	0	0.09	b					
S0236	2075	1580	2867	10-83	0	10.35[c]	b					
S0237	2075	1680	6751	08-84	0	0.02	b					
S0238	2075	1830	2864	10-83	0	0.09	b					
C0006	2100	1480	8354	11-84	54	0.03	3.24					
			8355	11-84	108	0.05	2.65					
S0239	2125	1505	2815	10-83	0	0.21	b					
S0240	2125	1655	6494	08-84	0	4.45	b					
S0241	2150	1755	2809	10-83	0	4.51	b					
S0242	2200	1505	2812	10-83	0	2.18	b	0.62				
S0243	2200	1830	6496	08-84	0	0.77	b					
S0244	2225	1730	6495	08-84	0	3.82	b		LDL	1.1	1.2	LDL
S0245	2250	1630	6498	08-84	0	0.46	b					
S0246	2300	1730	2811	10-83	0	0.92	b					
S0247	2300	1780	6499	08-84	0	3.82	b					
S0248	2300	1830	6497	08-84	0	9.00[c]	3.73[c]					
S0249	2325	1630	6502	08-84	0	3.92	b		LDL	1.4	1.2	LDL
S0250	2350	1730	6501	08-84	0	4.63	b					
S0251	2375	1580	2814	10-83	0	2.13	b					

RECONNAISSANCE SAMPLING REPORT
SOIL GAS SURVEY AND GEOPHYSICAL INVESTIGATIONS
MOUND PLANT MAIN HILL AND SM/PP HILL

REPORT
APPENDICES A, B AND D

FEBRUARY 1993

TABLE II.12. SUMMARY OF POSITIVE DETECTIONS–MAIN PARKING LOT AND SOUTHWEST OF MAIN HILL (ppb)

SAMPLE ID	SAMPLE DATE	FREON 11	FREON 113	TRAN–12DCE	CIS–12DCE	111TCA	PCE	TCE	TOLUENE
MND–01–2216–0005	28 SEP 92	---	---	---	---	---	---	---	104
MND–01–2219–0005	28 SEP 92	---	---	---	---	---	---	---	11
MND–01–5221–0005	27 SEP 92	21	131	---	---	---	---	66	16 *
MND–01–5222–0005	27 SEP 92	---	---	---	---	---	---	---	11 *
MND–01–5222–1005	27 SEP 92	---	---	---	---	---	---	---	16 *
MND–01–5225–0005	27 SEP 92	---	---	---	---	---	---	---	13 *
MND–01–5226–0005	27 SEP 92	---	---	---	---	---	---	---	82 *

Notes:

Only sample locations having positive detections are shown.

*: Associated trip, ambient, equipment or field blank contained specified compound.

B: Indicates blank sample.

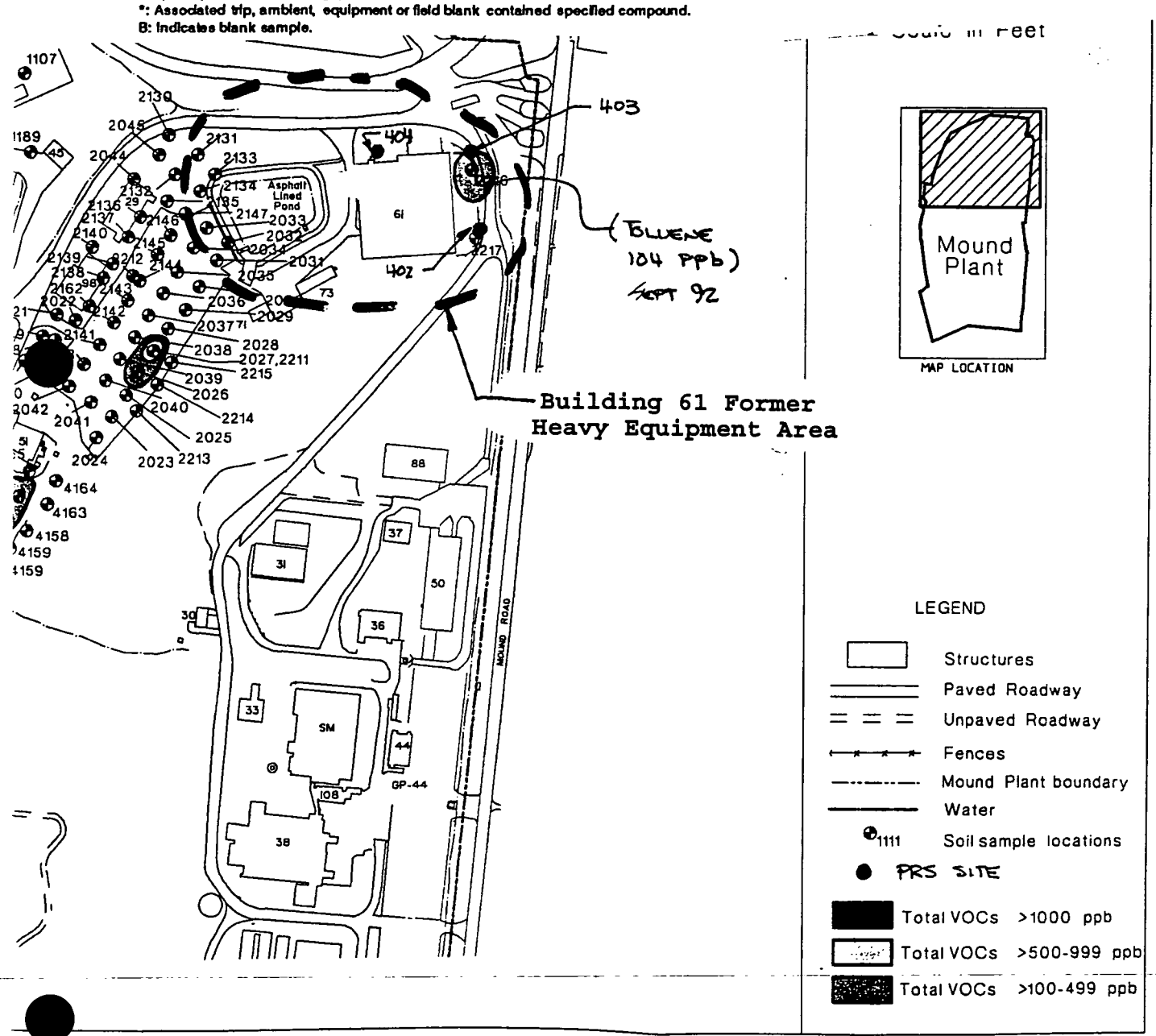


Figure 2.43. Color illustration of elevated detection locations.

From Reconnaissance Sampling Report — Soil Gas Survey and Geophysical Investigations Feb 93.

COMPARISON OF ACTUAL SOIL GAS VALUES WITH CALCULATED ACCEPTABLE SOIL GAS VALUES

SCREENING POTENTIAL RELEASE SITES BASED ON SOIL GAS READINGS

Soil gas readings can be utilized in the PRS screening process to identify potential release sites that may present a potential soil contamination problem for volatile organics. The soil gas survey that was conducted at Mound as part of the "Reconnaissance Sampling Report--Soil Gas Survey and Geophysical Investigations, Mound Plant Main Hill and SM/PP Hill" investigated 8 volatile compounds. The concentrations of these compounds in the in the vapor phase within the pore spaces of the soil can be correlated to the actual soil contaminant concentrations by utilizing a method developed by ICF Kaiser Engineers. This technique has been used with US EPA Region IX approval at a large Superfund site contaminated with many of the same chemicals found at relatively low levels in soils at the Mound Plant.

The soil concentration can be estimated from the soil gas values by the following equation:

$$Ct = (Cg/Pb)*[[Pb * Kd / H] + [pw / H] + [pt - pw]]$$

where

Cg	concentration of volatile chemical concentrations as soil vapor in ng/ml
Pb	Bulk density of the soil in g/ml
Kd	soil/water partition coefficient in ml/g
H	Dimensionless Henry's Law Constant
pw	water filled porosity
pt	total porosity
Ct	target soil concentration in ng/g or ug/kg (ppb)

The technique that Mound Plant will use for screening a PRS, is to compare the soil gas values obtained at a PRS with soil gas concentrations that are known to be below any regulatory or health based level of concern. The risk based guideline values for the Mound Plant (DOE, December 1995) soils are based upon 10^{-6} risk levels or a hazard index of 1. These values correspond to direct soil exposure to persons who's activities place them at the highest risk, in particular inhalation and ingestion by a Mound Plant construction worker.

Another potential exposure path must be considered, however. The potential for some of the organic contaminants to leach into ground water must be considered in developing protective soil screening levels. A "Mound Plant Soil Screening Level" paper explains the calculation of soil screening levels. For all of the chemicals that the soil gas survey identified, the calculated soil screening level soil concentrations are below the standard guideline values, therefore they are more conservative and are appropriate to be used as the basis for the soil gas calculations.

By re-arranging the equation, and using either the soil guideline values or the soil screening levels as the target soil concentration, a soil gas concentration can be calculated; this calculated soil gas concentration can be compared to the actual observed soil gas values:

$$Cg = (Pb*Ct)/[[Pb*Kd/H] + [pw/H] + [pt-pw]]$$

The values of the soil specific and chemical parameters for this equation are summarized as follows:

Pb	1.6	Bulk density of the soil in g/ml
pw	0.15	water filled porosity
pt	0.43	total porosity
foc	0.02	fraction organic material in soil (used in developing the SSL values)

Typical chemicals that are detected with soil gas sampling are					
NAME	H	Kd	Calculated Acceptable	Calculated Acceptable	Calculated Acceptable
			Soil Screening Level Value	Soil Gas Reading	Soil Gas Reading
		ml/g	mg/kg (ppm)	ng/ml	ppb
Toluene	2.52E-01	3.42	22.06	1.56E+03	414600
Trichloroethene (TCE)	4.35E-01	2.24	0.07	1.26E+01	2400
111 Trichloroethane (TCA)	7.63E-01	2.2	3.01	9.46E+02	173400
Trans-1,2 Dichloroethene (DCE)	2.29E-01	1	0.70	1.41E+02	35700
cis-1,2 Dichloroethene (DCE)	1.85E-01	2.78	0.31	1.97E+01	5600
Freon 11	NA	NA			
Freon 113	NA	NA			
Tetrachloroethene (PCE)	7.09E-01	2.78	0.09	2.13E+01	3100

na not available

IF THE SOIL GAS READING IS BELOW THE VALUES IN THE CALCULATED SOIL GAS READING COLUMN (SHADED), THEN THERE IS NO THREAT TO GROUNDWATER FROM THIS PRS.

The soil screening level values are calculated using the Soil Screening Methodology. The Potential Release Site is assumed to be more than 100 meters from a potential drinking water source with an aquifer thickness of 15 meters and a source size of 10 meters. The hydraulic gradient is assumed to be 0.01 which is conservative for most of the Mound Plant PRSs. In special instances where the PRS lies less than 100 meters from a potential drinking water source, or the hydraulic gradient is much less than 0.01, new SSL values and new acceptable soil gas values will be calculated for that particular PRS.

MOUND

Environmental
Restoration
Program

Further Assessment

Soil Gas Confirmation Sampling

Mound Plant
Miamisburg, Ohio

May 1996

Revision 0

Department of Energy

EG&G Mound Applied Technologies

Table I.1 Soil Analyte List

Volatile Organic Compounds

Acetone	Dibromochloromethane	4-Methyl-2-Pentanone
Benzene	1,1-Dichloroethane	Styrene
Bromodichloromethane	1,2-Dichloroethane	1,1,2,2-Tetrachloroethane
Bromoform	1,1-Dichloroethene	Tetrachloroethene
Bromomethane	1,2-Dichloroethene (total)	1,1,1-Trichloroethane
2-Butanone	1,2-Dichloropropane	1,1,2-Trichloroethane-
Carbon Disulfide	cis-1,3-Dichloropropene	Trichloroethene
Carbon Tetrachloride	trans-1,3-Dichloropropene	Toluene
Chlorobenzene	Ethylbenzene	Vinyl Acetate
Chloroethane	2-Hexanone	Vinyl Chloride
Chloroform	Methylene Chloride	Xylenes (total)
Chloromethane		

Semivolatile Organic Compounds

Acenaphthene	Chrysene	Hexachlorobenzene
Acenaphthylene	Dibenz(a,h)anthracene	Hexachlorobutadiene
Anthracene	Dibenzofuran	Hexachlorocyclopentadiene
Benzo(a)anthracene	1,2-Dichlorobenzene	Hexachloroethane
Benzo(a)pyrene	1,3-Dichlorobenzene	Indeno(1,2,3-cd)pyrene
Benzo(b)fluoranthene	1,4-Dichlorobenzene	Isophorone
Benzo(g,h,i)perylene	3,3-Dichlorobenzidine	2-Methylnaphthalene
Benzo(k)fluoranthene	2,4-Dichlorophenol	2-Methylphenol
bis(2-Chloroethoxy)methane	Diethylphthalate	4-Methylphenol
bis(2-Chloroethyl)ether	2,4-Dimethylphenol	Naphthalene
bis(2-Ethylhexyl)phthalate	Dimethyphthalate	2-Nitroaniline
4-Bromophenyl-phenylether	Di-n-butylphthalate	3-Nitroaniline
Butylbenzylphthalate	Di-n-octylphthalate	4-Nitroaniline
Carbazole	4,6-Dinitro-2-methylphenol	Nitrobenzene
4-Chloroaniline	2,4-Dinitrophenol	2-Nitrophenol
4-Chloro-3-methylphenol	2,4-Dinitrotoluene	4-Nitrophenol
2-Chloronaphthalene	2,6-Dinitrotoluene	N-Nitroso-di-n-propylamine
2-Chlorophenol	Fluoranthene	N-Nitroso-diphenylamine
4-Chlorophenyl-phenylether	Fluorene	2,2-oxybis(1-Chloropropane)
Pentachlorophenol	Pyrene	2,4,5-Trichlorobenzene
Phenanthrene	1,2,4-Trichlorobenzene	2,4,6-Trichlorobenzene
Phenol		

Table I.1 Soil Analyte List (Continued)

Pesticides/PCB's		
Aroclor-1016	Delta-BHC	Endosulfan II
Aroclor-1221	Gamma-BHC	Endosulfan sulfate
Aroclor-1232	alpha-Chlordane	Endrin
Aroclor-1242	gamma-Chlordane	Endrin aldehyde
Aroclor-1248	4,4'-DDD	Endrin ketone
Aroclor-1254	4,4'-DDE	Heptachlor
Aroclor-1260	4,4'-DDT	Heptachlor epoxide
Aldrin	Dieldrin	Methoxychlor
Alpha-BHC	Endosulfan I	Toxaphene
Beta-BHC		
Inorganics		
Aluminum	Copper	Potassium
Antimony	Cyanide	Selenium
Arsenic	Iron	Silver
Barium	Lead	Sodium
Beryllium	Lithium	Thallium
Bismuth	Magnesium	Tin
Cadmium	Manganese	Vanadium
Calcium	Mercury	Zinc
Chromium	Molybdenum	Nitrate/Nitrite
Cobalt	Nickel	Explosives (USATHAMA,PETN)
Radionuclides		
Americium-241	Plutonium-238	Thorium-230
Bismuth-207	Plutonium-239/240	Thorium-232
Bismuth-210	Potassium-40	Uranium-234
Cesium-137	Radium-226	Uranium-235
Cobalt-60	Thorium-228	Uranium-238

1.2. SAMPLE NUMBERING SCHEME

The sample identification numbers were assigned by Mound to each location in the following format: XXX-AAA-######. For each location, the first three characters were SGC, identifying the sample as part of the soil gas confirmation study. The next three characters represented the area from which each sample was taken:

A03 = Area 3
A07 = Area 7
A13 = Area 13
A21 = Area 21
A22 = Area 22
SDB = Area SDB
AOJ = Area AOJ
NAC = Non-AOC areas (Area of Concern)
SAN = Sanitary area

The final six digits were a sequential number beginning with 000001. The samples related to this study begin with 000001 and end with 000102. Due to an error in surveying, samples 000099 and 000100 were taken from the wrong locations. The sites were resurveyed and the samples were taken again, renamed as 000101 and 000102. No other problems arose with the sample identification.

1.3 SURVEYING

Prior to this sampling event, surveying relocated each of the 100 sites based on coordinates from a previous soil gas sampling event. Surveyors from Barge, Waggoner, Sumner and Cannon, of Miamisburg, Ohio, completed the task, using a benchmark map of approximately 50 locations with state plane coordinates provided by EG&G. Each point was relocated with an accuracy of ±6 inches and identified with either a 3-foot stake with orange flagging tape and the sample identification number or a pin driven into the ground through orange flagging with the sample identification number written on the flagging. The surveyed sampling locations are shown on Figure 1.1.

1.4 UTILITIES CLEARANCE/VARIANCES

After surveying, all sites were checked for the presence of underground utilities by EG&G personnel. The requirement states that sample sites must be located five feet or more from utilities. Situations in which the 5-foot rule was not met were handled in one of three ways: 1) **relocations** - sample sites were placed 5 feet or more from utility markings and normal sampling procedures were followed; 2) **hand-digging** - the VOC sample soil was collected using the core sampler, which was driven only to the depth necessary to collect the VOC sample, and the remaining soil was collected using a hand auger; or 3) **variances to the 5-foot clearance requirement** - some sites were located near visible utilities, so after safe clearance was established, normal sampling procedures were followed. Alternatively, some locations had underground utilities at relitivley deeper depths. At these locations, normal sampling procedures were followed except that digging/coring was limited to two feet instead of the established three feet. No utilities were damaged during the sampling event.

Some locations had no utility interference but still could not be sampled to three feet due to "refusal"--an inability to drive the sampler deeper. This usually indicates that bedrock or large gravel has been reached. In such cases, multiple shallow cores were taken.

A complete list of sites with variances to the original soil gas sampling location or depth can be found in Table I.2.

1.5 SOIL SAMPLING METHODOLOGY

Soil was collected at each location using either a van-mounted Geoprobe® rig equipped with a core sampler, an electric hammer equipped with a core sampler, or a hand auger. The device chosen depended upon the particulars of the location. Acetate liners were used in the Geoprobe® core barrel and the hand-held core sampler. The liners were cut open with utility knives, using a new blade at each site.

The first six inches of the core, designated for radionuclide analysis, were removed using a clean, stainless steel scoop and placed in a clean stainless steel bowl to be homogenized. Soil was cut from between the 6-inch and 1-1/2 foot depth and placed directly into jars appropriate for volatile organic compound (VOC) analysis, leaving as little headspace as possible. The remaining soil was then placed into another clean stainless steel bowl. If necessary to obtain sufficient sample volume, another core was taken, and the above process was repeated. When enough soil was collected to fill all the sample jars, the contents of both bowls were individually homogenized and used to fill their respective containers. The jars were labeled prior to being filled. Each sample was then secured with a custody seal, sealed in a plastic bag and stored in a refrigerator in Building 19. Radiological samples were delivered to the Mound Environmental Laboratory for screening. Several duplicate radiological samples were collected and set aside for later analysis by the Mound wet chemistry laboratory. After screening clearance was obtained from the Mound Environmental Laboratory, the samples were sealed in coolers and shipped to off-site contract laboratories for analysis. The contract laboratory for radionuclide analysis was Quanterra Environmental Services in Richland, Washington. All other analyses were completed by Roy F. Weston, Incorporated Laboratory in Lionville, Pennsylvania.

Table I.2. Variance From 3-Foot Sampling Depth Specification

Location	Description of Variance
SGC-NAC-000001	Core sampler hit refusal at 2 feet.
SGC-NAC-000002	Relocated due to utilities.
SGC-NAC-000003	Core sampler hit refusal at 2 feet.
SGC-NAC-000004	Core sampler hit refusal at 18 inches.
SGC-NAC-000005	Drilled to 1 foot, hand-augered rest due to utilities.
SGC-NAC-000006	Drilled to 1 foot, hand-augered rest due to utilities.
SGC-NAC-000007	Core sampler hit refusal at 18 inches.
SGC-NAC-000008	Drilled to 2 feet due to utilities.
SGC-NAC-000010	Drilled to 1 foot; hand-augered rest due to utilities; flag against building, so sample taken 6 feet from flag.
SGC-NAC-000012	Drilled to 2 feet due to utilities.
SGC-SAN-000018	Core sampler hit refusal at 2 feet; relocated from inside clarifier.
SGC-NAC-000029	Core sampler hit refusal at 18 inches.
SGC-A61-000043	Sampled 1 foot from flag.
SGC-A61-000047	Drilled to 2 feet due to utilities.
SGC-A61-000048	Drilled to 2 feet due to utilities.
SGC-A61-000049	Relocated due to utilities.
SGC-A61-000051	Core sampler hit refusal at 18 inches.
SGC-A61-000052	Relocated due to utilities; core sampler hit refusal at 18 inches.
SGC-A61-000053	Core sampler hit refusal at 2 feet.
SGC-A13-000056	Core sampler hit refusal at 18 inches
SGC-A13-000058	Drilled to 1 foot, hand-augered rest due to utilities.
SGC-A13-000060	Core sampler hit refusal at 1 foot.
SGC-AOJ-000064	Core sampler hit refusal at 2 - 3 inches.
SGC-AOJ-000066	Core sampler hit refusal at 4 inches.
SGC-AOJ-000067	Core sampler hit refusal at 6 inches.
SGC-AOJ-000069	Core sampler hit refusal at 2 feet.
SGC-A03-000080	Core sampler hit refusal at 20 inches
SGC-A03-000081	Drilled to 2 feet due to utilities.
SGC-A03-000082	Drilled to 1 foot, hand-augered rest due to utilities.
SGC-A03-000083	Sampled 25 feet from original location due to storm sewer; core sampler hit refusal at 18 inches.
SGC-A03-000087	Core sampler hit refusal at 2 feet.
SGC-A21-000088	Core sampler hit refusal at 18 inches.
SGC-A21-000090	Core sampler hit refusal at 20 inches.
SGC-SDB-000097	Relocated due to utilities.
SGC-SDB-000098	Relocated from inside a building.
SGC-SDB-000101	Relocation of SGC-SDB-000099; first location surveyed incorrectly.
SGC-SDB-000102	Relocation of SGC-SDB-000100; first location surveyed incorrectly.

SOIL GAS CONFIRMATION SAMPLING

☞-*NORTHERN SECTOR*-☜
(Sample #s 1-4, 31, 40, 41)

AND

☞-*BUILDING 61 SECTOR*-☜
(Sample #s 42-45)

NOTE: This page was inserted for clarity. This page is not a part of the "Soil Gas Confirmation Sampling Report"

Table A.1. Soil Gas Confirmation Detected Volatile Organic Compounds

ANALYTE	SGC NAC 000002	SGC NAC 000003	SGC NAC 000004	SGC NAC 000005	SGC NAC 000006	SGC NAC 000007	Background	10^{-6} Construction Worker Guidelines
VOLATILES (μg/Kg)								
Acetone	36						NA	105000000
1,2-Dichloroethene (total)							NA	21500000
2-Butanone	12						NA	46500000
Benzene	1 J						NA	8900
Carbon Disulfide							NA	1400000
Chloroform			67				NA	NA
Chloromethane							NA	NA
Ethylbenzene							NA	480
Methylene Chloride	6			7			NA	NA
Tetrachloroethene							NA	10500000
Toluene	1 J	1 J					NA	1250000
Trichloroethene							NA	41000
Xylene (total)							NA	2150000000

J - Numerical value is an estimated quantity
NA - Value not available
D - Sample was diluted
C - Estimated due to error in calibration
μg/kg - micrograms per kilogram

Table A.1. Soil Gas Confirmation Detected Volatile Organic Compounds (cont.)

ANALYTE	SGC A61 000042	SGC A61 000043	SGC A61 000045	SGC A61 000046	SGC A61 000053	SGC A61 000054	Background	10^{-6} Construction Worker Guidelines
VOLATILES (µg/Kg)								
Acetone			8 J	17			NA	105000000
1,2-Dichloroethene (total)							NA	21500000
2-Butanone		5 J-C	5 J				NA	46500000
Benzene							NA	8900
Carbon Disulfide							NA	1400000
Chloroform							NA	NA
Chloromethane							NA	NA
Ethylbenzene							NA	480
Methylene Chloride	6	9	8	9	4 J	7	NA	NA
Tetrachloroethene							NA	10500000
Toluene		2 J	3 J				NA	1250000
Trichloroethene							NA	41000
Xylene (total)							NA	2150000000

J - Numerical value is an estimated quantity
NA - Value not available
D - Sample was diluted
C - Estimated due to error in calibration
µg/kg - micrograms per kilogram

Table A.2. Soil Gas Confirmation Detected Semivolatile Organic Compounds

ANALYTE	SGC NAC 000001	SGC NAC 000002	SGC NAC 000003	SGC NAC 000004	SGC NAC 000005	SGC NAC 000006	Background	10^{-6} Construction Worker Guidelines
SEMIVOLATILES (µg/Kg)								
Acenaphthene		190 J	63 J				NA	NA
Acenaphthylene		730				42 J	NA	NA
Anthracene		1300	66 J		25	55 J	NA	320000000
Benzo(a)anthracene		1500	180 J		160 J	350 J	NA	4100
Benzo(a)pyrene		1300	180 J		200 J	4[illegible]	NA	410
Benzo(b)fluoranthene		1000	[illegible] J		190 J	460	NA	4100
Benzo(g,h,i)perylene		550	110 J		1[illegible] J	260 J	NA	NA
Benzo(k)fluoranthene		1000	160		190 J	440	NA	41000
Bis(2-ethylhexyl)phthalate							NA	215000
Butylbenzylphthalate							NA	215000000
Carbazole		600	62 J			34 J	NA	NA
Chrysene		1500	2[illegible] J		240 J	490	NA	410000
Di-n-butyl phthalate	120 J			280 J			NA	105000000
Di-n-octyl phthalate							NA	21500000
Dibenz(a,h)anthracene		180 J	40 J		37	87 J	NA	410
Dibenzofuran		1100	23 J				NA	NA
Diethyl phthalate							NA	NA
Fluoranthene		3400 D	480		400 J	800	NA	42500000
Fluorene		1500	42 J				NA	NA
Indeno(1,2,3-cd)pyrene		690	12 J		130 J	320 J	NA	4100
2-Methylnaphthalene		970					NA	NA
Naphthalene		4000 D	24 J				NA	NA
Phenanthrene		4700 D	380		150 J	2[illegible] J	NA	NA
Phenol							NA	650000000
Pyrene	24 J	2700 D	440		340 J	730	NA	32000000

J - Numerical value is an estimated quantity
NA - Value not available
D - Sample was diluted
C - Estimated due to error in calibration
µg/kg - micrograms per kilogram

Table A.2. Soil Gas Confirmation Detected Semivolatile Organic Compounds (cont.)

ANALYTE	SGC NAC 00038	SGC A66 000040	SGC A66 000041	SGC A61 000042	SGC A61 000043	SGC A61 000044	Background	10^{-6} Construction Worker Guidelines
SEMIVOLATILES (μg/Kg)								
Acenaphthene		130 J	7 J				NA	NA
Acenaphthylene							NA	NA
Anthracene		150 J	110 J				NA	320000000
Benzo(a)anthracene		550	420				NA	4100
Benzo(a)pyrene		570	430				NA	410
Benzo(b)fluoranthene		540	80				NA	4100
Benzo(g,h,i)perylene		400	310 J				NA	NA
Benzo(k)fluoranthene		550	360 J				NA	41000
Bis(2-ethylhexyl)phthalate			4400 D				NA	215000
Butylbenzylphthalate							NA	215000000
Carbazole		180 J	97 J				NA	NA
Chrysene		680	490		23 J		NA	410000
Di-n-butyl phthalate	240					34 J	NA	105000000
Di-n-octyl phthalate							NA	21500000
Dibenz(a,h)anthracene		120 J	92 J				NA	410
Dibenzofuran		48 J	35				NA	NA
Diethyl phthalate							NA	NA
Fluoranthene		1500	1000	26 J	25 J		NA	42500000
Fluorene		74	60 J				NA	NA
Indeno(1,2,3-cd)pyrene		370 J	290 J				NA	4100
2-Methylnaphthalene							NA	NA
Naphthalene		26 J	26 J				NA	NA
Phenanthrene		400	720		25 J		NA	NA
Phenol							NA	650000000
Pyrene		1200	880	21 J	30 J		NA	32000000

J - Numerical value is an estimated quantity
NA - Value not available
D - Sample was diluted
C - Estimated due to error in calibration
μg/kg - micrograms per kilogram

Table A.4. Soil Gas Confirmation Detected TAL Inorganics

ANALYTE	SGC NAC 000001		SGC NAC 000002		SGC NAC 000003		SGC NAC 000004		SGC NAC 000005		SGC NAC 000006		Background	10^{-6} Construction Worker Guidelines
INORGANICS (mg/kg)														
Aluminum	11000		4190		[illegible]		11400		7970		7780		19000	NA
Antimony			0.23	B			0.24	B	0.41	B			NA	425
Arsenic	1.5	B	2.1	B	2.9	B	1.4	B	[illegible]		7.2		8.6	320
Barium	48.6		20.7	B	23.7	B	7.1	B	73.6		86.4		180	75000
Beryllium	0.56				0.12	B	0.6[illegible]		0.38		0.28		1.3	0.7
Bismuth													NA	NA
Cadmium			0.25	B	0.19	B			0.36	B	0.[illegible]	B	2.1	1050
Calcium	162000		159000		95[illegible]		152000		1[illegible]		86200		310000	NA
Chromium	13.2		6.7		3.8		15.2		13		11.6		20	1050000
Cobalt	9.8	B	4.5	B	2.3	B	10.1	B	7.6	B	7.6	B	19	NA
Copper	16.2		11.9		9.9		[illegible] 14 17.1		14.5		15.2		26	NA
Cyanide													ND	21400
Iron	213[illegible]		10600		5680		21800		17200		17700		35000	NA
Lead	6.7		5.2		[illegible]		8.6		30.9		25.1		48	NA
Lithium	21		12.5	B	6.2	B	23	B	[illegible]	B	10.3	B	26	NA
Magnesium	6160		57800		27900		5670		5210		35600		40000	NA
Manganese	695		384		270		612		383		589		1400	135000
Mercury					0.13								NC	320
Molybdenum	0.43	B	1.2	B	0.77	B			1.7	B	1.[illegible]	B	27	NA
Nickel	[illegible]		9.9		6.4	B	20.6		11.1		16.1		32	21500
Potassium	178[illegible]		742	B	346	B	2080		[illegible]74	B	744	B	1900	NA
Selenium													NA	NA
Silver					0.24	B							1700	5500000
Sodium	228	B	888	B	150	B	137	B	411	B	348	B	240	NA
Thallium							[illegible] 14						460	NA
Tin	[illegible]	B					[illegible]	B	1	B			20	NA
Vanadium	14.[illegible]		8.3		4.7		16.3		23.1		18.9		25	7500
Zinc	53.3		29.5				67		59		69.2		140	320000

B - Analyte detected below CRDL but above instrument detection limit
NC - Background value not computed
mg/kg - milligrams per kilogram

Table A.4. Soil Gas Confirmation Detected TAL Inorganics (cont.)

ANALYTE	SGC NAC 000037		SGC NAC 000038		SGC NAC 000039		SGC A66 000040		SGC A66 000041		SGC A61 000042		Background	10^{-6} Construction Worker Guidelines
INORGANICS (mg/kg)														
Aluminum	15700		7000		15400		6600		3030		4860		19000	NA
Antimony					0.27	B					0.79	B	NA	425
Arsenic	4.5		8.3		3.1		7.3		3.2		6.4		8.6	320
Barium	97.1		58.4		122		71.1		19.1	B	37.3	BJ	180	75000
Beryllium	0.9		0.46		0.92		0.13	B			0.13	B	1.3	0.7
Bismuth	1.7	B	1.4	B									NA	NA
Cadmium													2.1	1050
Calcium	10100		8000		3980		159000		189000		189000		310000	NA
Chromium	20.8		11.1		19		7		6.7		8	J	20	1050000
Cobalt	13.2	B	7.7		13.5		4.9	B	3.3	B	6.1	B	19	NA
Copper	19.4		14.2		20.8		9.7		22.1		13.1	J	26	NA
Cyanide							0.59	B	0.56	B			ND	21400
Iron	30900		18100		2690		13800		8000		14500	J	35000	NA
Lead	11.1		11.2		12.8		23		11.3		9.2	J	48	NA
Lithium	24.6	B	14.2	B	15.8	B	12.3	B	11.7	B	14.3	B	26	NA
Magnesium	4430		29000		3790		8000		68600		23400	J	40000	NA
Manganese	1120		799		1400		596		273		784	J	1400	135000
Mercury													NC	320
Molybdenum	0.7	B	1.1	B	1.3	B	0.9	B	0.62	B	1.6	B	27	NA
Nickel	26.6		18.1		29.3		9.8		6	B	14.8		32	21500
Potassium	2650	B	1160	B	2320	B	536	B	562	B	600	B	1900	NA
Selenium											0.45	BJ	NA	NA
Silver									0.3	B			1700	5500000
Sodium	305	B	1[illegible]	B	99.8	B	6[illegible]	B	329	B	1540	J	240	NA
Thallium											0.67	BJ	460	NA
Tin					1.6	B					4.4	B	20	NA
Vanadium	25.9		17		9.3		12.2		7.1	B	10.4	J	25	7500
Zinc	71.3		47.8		71.[illegible]		34		16.8		39.1	J	140	320000

B - Analyte detected below CRDL but above instrument detection limit
NC - Background value not computed
mg/kg - milligrams per kilogram

Table A.4. Soil Gas Confirmation Detected TAL Inorganics (cont.)

ANALYTE	SGC A61 000043		SGC A61 000044		SGC A61 000045		SGC A61 000046		SGC A61 000047		SGC A61 000048		Background	10^{-6} Construction Worker Guidelines
INORGANICS (mg/kg)														
Aluminum	3600		1540		1900		14700		8630		1230		19000	NA
Antimony			0.23	B									NA	425
Arsenic	3		5.1		3.7		2.1	B	[illegible]		3.6		8.6	320
Barium	23.8	BJ	23.8	B	16.7	B	45	B	45.4	B	16.7	B	180	75000
Beryllium			0.1	B	0.12	B	0.86		0.25				1.3	0.7
Bismuth	-						1.5	B					NA	NA
Cadmium			0.1	B					0.42	B	0.1[illegible]	B	2.1	1050
Calcium	161000		152000		148000		58000		124000		193000		310000	NA
Chromium	8.2	J	4.2		4.6		20.8		[illegible]2.3		4.8		20	1050000
Cobalt	4.4	B	2.8	B	2.4	B	19.4		9.1	B	1.5	B	19	NA
Copper	10.7	J	10		8.1		24.4		17.5		5.1	B	26	NA
Cyanide													ND	21400
Iron	10300	J	8100		6910		30400		19900		4[illegible]0		35000	NA
Lead	5.9	J	6.3		5		2.6		11.5		5		48	NA
Lithium	12.6	B	7.4	B	5.6	B	38.6		19	B	4.6		26	NA
Magnesium	61000	J	55600		65800		10500		33700		108000		40000	NA
Manganese	388	J	261		235		1080		[illegible]		221		1400	135000
Mercury									0.13				NC	320
Molybdenum	1.3	B	2.5	B	1.7	B			2.1	B	1.7	B	27	NA
Nickel	10.4		7.3	B	6.7	B	34.6		19.6		[illegible]		32	21500
Potassium	572	B	287	B	441	B	3280		1210		297	B	1900	NA
Selenium													NA	NA
Silver							0.21	B					1700	5500000
Sodium	818	BJ	218	B	566	B	216	B	439	B	998	B	240	NA
Thallium													460	NA
Tin	1.1	B			1.2	B	1.2	B					20	NA
Vanadium	12.4	J	5.5		7.1		19.7		15.5		7.6		25	7500
Zinc	25.9	J	29.5		25.7		66.6		57.4		13.1		140	320000

B - Analyte detected below CRDL but above instrument detection limit
NC - Background value not computed

Table A.5. Soil Gas Confirmation Detected Nitrate-Nitrite

ANALYTE	SGC NAC 000001	SGC NAC 000002	SGC NAC 000003	SGC NAC 000004	SGC NAC 000005	SGC NAC 000006	Background	10^{-6} Construction Worker Guidelines
GENERAL ANALYTES								
% Solids (%)	83.9	93.8	88.5	83.3	78.4	75.0	NA	NA
Nitrate/Nitrite (MG-N/KG)	2.0	1.8	1.2	[illegible]	7.2	4.8	26	NA

ANALYTE	SGC NAC 000007	SGC NAC 000008	SGC NAC 000009	SGC NAC 000010	SGC NAC 000011	SGC NAC 000012	Background	10^{-6} Construction Worker Guidelines
GENERAL ANALYTES								
% Solids (%)	83.9	95.0	78.9	[illegible]	90.1	84.7	NA	NA
Nitrate/Nitrite (MG-N/KG)	1.6	26.5	2.2	5.5	5.3	[illegible]	26	NA

ANALYTE	SGC NAC 000013	SGC NAC 000014	SGC NAC 000015	SGC NAC 000016	SGC NAC 000017	SGC SAN 000018	Background	10^{-6} Construction Worker Guidelines
GENERAL ANALYTES								
% Solids (%)	[illegible]	80.9	74.0	85.[illegible]	72.8	[illegible]	NA	NA
Nitrate/Nitrite (MG-N/KG)	2.1	4.9	[illegible]	2.4	6.4	13.[illegible]	26	NA

ANALYTE	SGC NAC 000019	SGC NAC 000020	SGC NAC 000021	SGC NAC 000022	SGC NAC 000023	SGC NAC 000024	Background	10^{-6} Construction Worker Guidelines
GENERAL ANALYTES								
% Solids (%)	85.3	87.6	77.4	78.[illegible]	77.5	89.5	NA	NA
Nitrate/Nitrite (MG-N/KG)	6.5	2.1	6.1	2.2	11.6	2.[illegible]	26	NA

Table A.6. Soil [illegible]on Detected Radionuclides

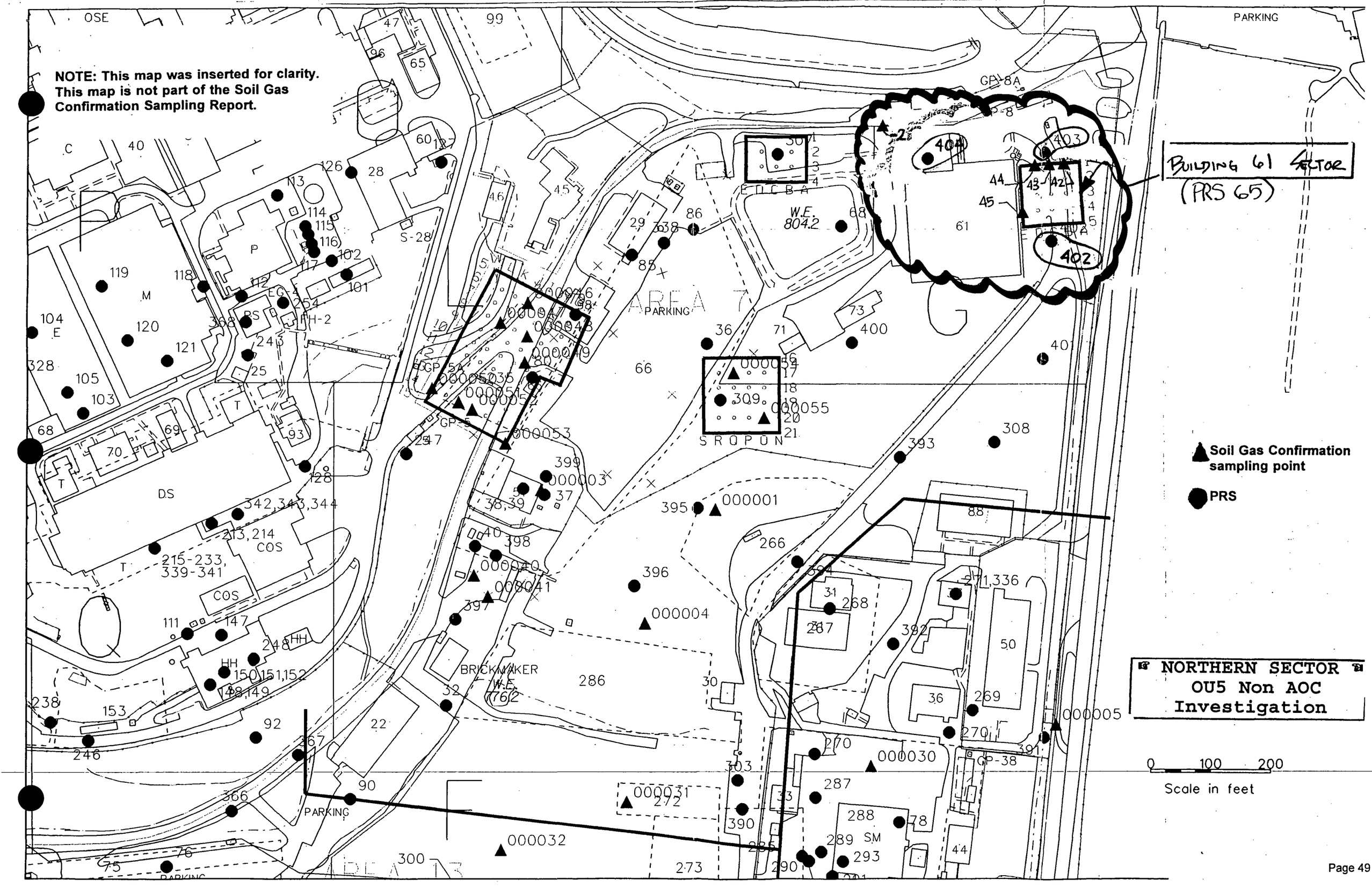
ANALYTE	SGC NAC 000001	SGC NAC 000002	SGC NAC 000003	SGC NAC 000004	SGC NAC 000005	SGC NAC 000006	SGC NAC 000007	Background	10^{-6} Construction Worker Guidelines
RADIONUCLIDES (pCi/g)									
Americium-241								ND	4.95
Bismuth-207								ND	0.175
Bismuth-210								ND	NA
Cesium-137						0.861		0.42	0.46
Cobalt-60	-							NC	0.1
Plutonium-238	1.42	0.0690	0.833	0.0870	0.543	32	0.537	0.13	5.5
Plutonium-239/240			0.0252					0.18	5.5
Potassium-40	2.7	2.95	6.53	27.4	15.1	14.3	10.8	37	NA
Radium-226	1.03	0.478	0.508	1.16	1.22	0.870	.537	2	0.14
Thorium-228	1.52	0.277	0.870	1.24	1.5	1.06	0.43	1.5	0.85
Thorium-230	0.814	0.374	0.62	0.980	1.19	1.18	0.582	1.9	44
Thorium-232	1.30	0.184	0.315	1.17	0.950	1.18	0.328	1.4	50
Uranium-234	2.9	0.401	0.419	0.345	0.874	0.[illegible]1	0.551	1.1	37.5
Uranium-235	0.097		0.0400	0.03	0.0328			0.11	3.35
Uranium-238	2.35	0.392	0.512	0.918	0.913	0.815	0.574	1.2	11

Table A.6. Soil Gas Confirmation Detected Radionuclides (cont.)

ANALYTE	SGC A61 000043	SGC A61 000044	SGC A61 000045	SGC A61 000046	SGC A61 000047	SGC A61 000048	SGC A61 000049	Background	10^{-6} Construction Worker Guidelines
RADIONUCLIDES									
Americium-241								ND	4.95
Bismuth-207								ND	0.175
Bismuth-210								ND	NA
Cesium-137								0.42	0.46
Cobalt-60								NC	0.1
Plutonium-238	0.104	0.109	0.0344	0.173	0.0549	0.00517	0.0[illegible]	0.13	5.5
Plutonium-239/240		0.00343						0.18	5.5
Potassium-40	10.9	12.9	4.87	20.9	18.0	2.93	3.55	37	NA
Radium-226	0.640	0.964	0.660	0.690	0.727	0.325	0.549	2	0.14
Thorium-228	0.681	0.634	0.196	0.786	0.790	0.11[illegible]	0.204	1.5	0.85
Thorium-230	0.791	1.10	0.689	0.7[illegible]9	0.729	0.249	0.426	1.9	44
Thorium-232	0.592	0.593	0.287	0.883	0.627	0.114	0.158	1.4	50
Uranium-234	0.581	0.682	0.892	0.707	0.705	0.201	0.[illegible]7	1.1	37.5
Uranium-235	0.0440	0.0417		0.0475	0.0240			0.11	3.35
Uranium-238	0.606	0.876	0.605	0.870	0.853	0.160	0.302	1.2	11

Table A.6. Soil Gas Confirmation Detected Radionuclides (cont.)

ANALYTE	SGC NAC 000036	SGC NAC 000037	SGC NAC 000038	SGC NAC 000039	SGC A66 000040	SGC A66 000041	SGC A61 000042	Background	10^{-6} Construction Worker Guidelines
RADIONUCLIDES (pCi/g)									
Americium-241								ND	4.95
Bismuth-207								ND	0.175
Bismuth-210								ND	NA
Cesium-137		0.305	0.600				0.201	0.42	0.46
Cobalt-60								NC	0.1
Plutonium-238	0.195	[illegible]	0.0754	0.144	0.264	[illegible]	0.937	0.13	5.5
Plutonium-239/240		0.00848	0.00898					0.18	5.5
Potassium-40	18.7	19.8	17.7	24.4	[illegible]	18.2	7.05	37	NA
Radium-226	1.26	1.29	[illegible]	1.06	0.43[illegible]	0.834	0.635	2	0.14
Thorium-228	1.50	1.08	1.05	0.987	0.319	0.755	1.01	1.5	0.85
Thorium-230	1.27	1.12	1.23	1.24	0.416	1.10	0.578	1.9	44
Thorium-232	1.50	[illegible]	1.01	[illegible]	0.380	[illegible]	1.11	1.4	50
Uranium-234	1.02	1.02	0.999	0.853	0.477	0.811	0.417	1.1	37.5
Uranium-235	0.0656	0.0504	0.0493	0.0316				0.11	3.35
Uranium-238	1.05	1.15	1.13	1.02	0.444	0.918	0.602	1.2	11


NOTE: This map was inserted for clarity.
This map is not part of the Soil Gas
Confirmation Sampling Report.
BUILDING 61 SECTOR
(PRS 65)
Soil Gas Confirmation sampling point
PRS
NORTHERN SECTOR
OU5 Non AOC
Investigation
0 100 200
Scale in feet
AREA 7
PARKING
SROPUN
BRICKMAKER
W.E. 804.2
W.E. 776.2
DS
COS
M
P
G
S.M
000001
000003
000004
000005
000030
000031
000032
000035
000040
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