

300' 0406 15-800L



CH2MHILL

CH2M HILL

Mound, Inc.

1 Mound Road

P.O. Box 3030

Miamisburg, OH

45343-3030

ER-038/03

March 3, 2003

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

ATTENTION: Robert S. Rothman

SUBJECT: Contract No. DE-AC24-03OH20152
PRSs 31-36, 125, & 270 PACKAGE, FINAL

REFERENCE: Statement of Work Requirement 039 – PRS Documentation

Dear Mr. Provencher:

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

- PRSs 31-36, 125, & 270 Package, Final

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

Sincerely,

Monte A. Williams
Deputy Project Manager, Environmental Restoration

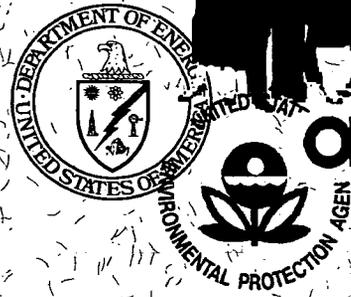
MAW/KMA:jdjg

Enclosures

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



**Environmental
Restoration
Program**

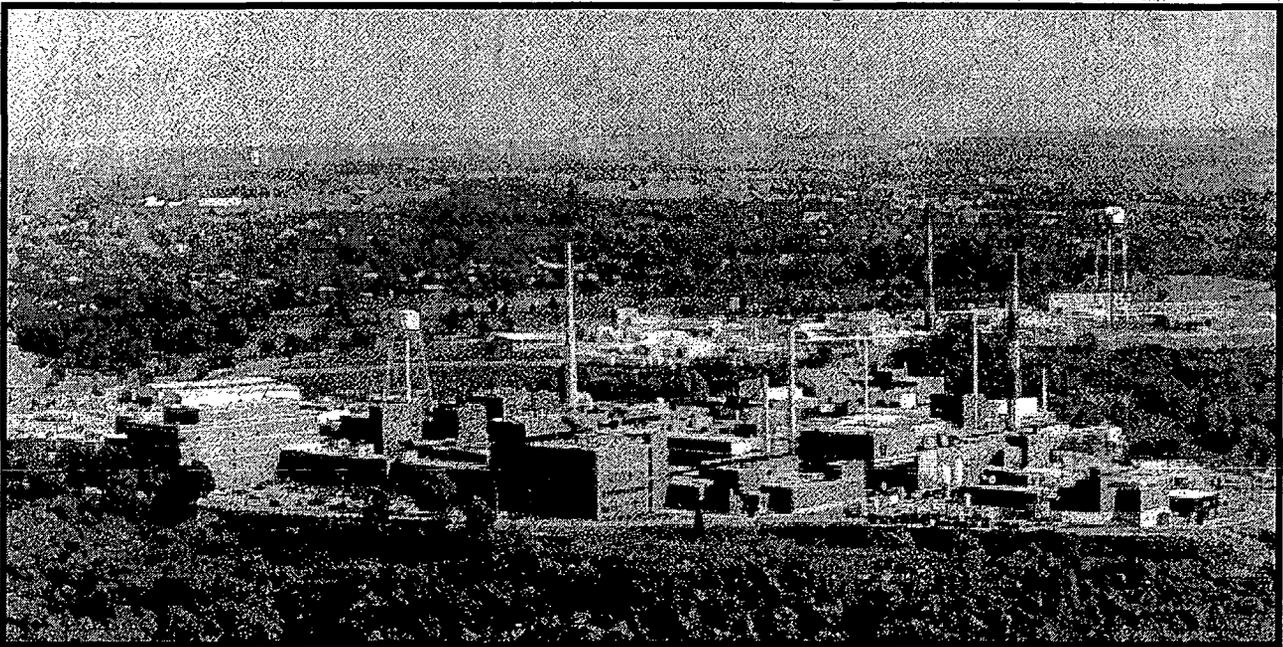


OhioEPA

Miamisburg Closure Project Potential Release Site Package

PRs 31-36, 125, & 270

Final
March 2003





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

February 2003

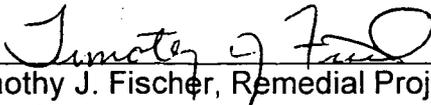
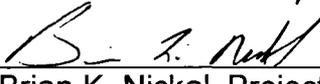
Mr. Daniel Bird, AICP
Planning Manager
Miamisburg Mound Community Improvement Corporation
720 Mound Road
COS Bldg. 4221
Miamisburg, Ohio 45342-6714

Dear Mr. Bird:

The Core Team, consisting of the U.S. Department of Energy Closure Project (DOE-MCP), U.S. Environmental Protection Agency (USEPA), and the Ohio Environmental Protection Agency (OEPA), appreciates your comments on the PRS 31-36, 125, & 270 Package. Attached are our responses.

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

Sincerely,

DOE/MCP:	 _____ Robert S. Rothman, Remedial Project Manager	<u>2/23/03</u> date
USEPA:	 _____ Timothy J. Fischer, Remedial Project Manager	<u>2/19/03</u> date
OEPA:	 _____ Brian K. Nickel, Project Manager	<u>2/19/03</u> date

Response to Public Comments

from MMCIC
on PRS 31-36+ Public Review Draft Package

Substantive Comments

Comment 1. From our review of the above mentioned PRS Data Packages, MMCIC understands that these PRSs were sampled and contaminants were found to be below Risked-Based Guideline Value. This PRS package was binned No Further Action. However, we note that PRS 125 could not be sampled. MMCIC must have every assurance from DOE that this piping system has no residual contamination before ownership can be transferred to MMCIC.

Response 1. MCP will continue to pursue total compliance with the CERCLA cleanup criteria. A method for evaluating the environmental condition of the piping system is still being developed by the Core Team.

Comment 2. The recognized breaks outlined in this PRS data package are only part of the overall concerns for potential contamination from the sanitary sewer system. Since the entire system will be transferred to MMCIC, and subsequently to the City of Miamisburg, it is critical to assure that the entire system, including the sanitary drain lines and surrounding soils, are free from residual contamination.

Response 2. MCP will continue to pursue total compliance with the CERCLA cleanup criteria. A method for evaluating the environmental condition of the piping system is still being developed by the Core Team.

Comment 3. MMCIC understands that DOE is currently in the process of developing a strategy for how best to certify that the entire sewer system is clean and free from residual contamination prior to transfer. It is imperative that the City of Miamisburg representatives be included in the discussions on the overall strategy for certification prior to transfer.

Response 3. We will keep you informed as we move forward and develop the strategy for determining that the entire sewer system is acceptable for transfer. Currently, that strategy is to review the components of the system to be transferred as an entity (like a building). Available information about the environmental condition of the system will be presented in a document similar to a Building Data Package to the Core Team for review and binning.

PRS 31-36, 125, & 270 Package Tracking Sheet

REVISION	DESCRIPTION	DATE
Working Draft (to DOE)		August 2002
Draft (to Core Team)	No comments from USEPA. OEPA comment related to one B(a)P result exceeding 10^{-6} RBGV was addressed in the text. The PRSs were binned NFA on 18 November 2002.	September 2002
Draft Proposed Final	Revised text and recommendation page sent to Core Team on 19 November 2002. No USEPA or OEPA comments.	November 2002
Public Review Draft	Public review period 4 December 2002 to 03 January 2003.	November 2002
Final	No document changes required as a result of public comments (attached). Only changes were cover date and version and this tracking sheet.	February 2003

MOUND



Environmental
Restoration
Program

**MOUND PLANT
POTENTIAL RELEASE
SITE PACKAGE**

Notice of Public Review Period



The following Potential Release Site (PRS) package is available for public review in the CERCLA Public Reading Room, 305 E. Central Ave., Miamisburg, Ohio. Public comment on this document will be accepted 4 December 2002 through 3 January 2003.

PRS 31-36, 125, and 270 : Underground Sanitary Sewer Lines

Questions can be referred to Paul Lucas at (937) 865-4578.

PRSs 31-36, 125, & 270

Underground Sanitary Sewer Lines

Lines G5, G12, G14 East, G14 West, (G19 & G14), G15, G24 & (G6 & 7)

PRS HISTORY:

Potential Release Sites (PRSs) 31-36, 125, and 270 were identified as PRSs as result of **breaks and/or separations** in Mound's **sanitary sewer lines** identified during a 1982 **video survey** of the lines. The concern was the potential release of contaminants into the environment from the identified breaks in the lines. Contaminants of concern for PRS 31-36, 125, and 270 identified in OU9 Volume 12 –Site Scoping Report (Reference 1) were plating shop solutions, laboratory chemicals, nitric acid, hydrochloric acid, methylene chloride, and strong acids and bases. A subsequent project **repaired these lines** by replacing them or by extruding a liner at the point of the breaks.

CONTAMINATION:

Soil (except PRS 125, see note below) around the former breaks in the sanitary sewer lines **was sampled** as part of the 1993 OU3 Miscellaneous Sites Limited Field Investigation (LFI Reference 2). Other than for benzo(a)pyrene, this investigation revealed no chemical contamination above 10^{-6} Risk-Based Guideline Values (RBGVs). One benzo(a)pyrene result of 1.7 mg/kg (10^{-6} RBGV = 0.41 mg/kg) was reported at PRS 270. Radionuclides were not considered COCs in the investigation; however, soil screening was performed. The radiological data was not included in the report. The OU3 Miscellaneous Sites LFI Report recommended no further action involving site characterization or soil remediation at all of the underground sewer line grid locations listed as part of these PRSs.

PRSs 31 and 35 are located within a larger PRS (PRS 41) being further assessed for thorium-232 contamination. Soil in the vicinity of PRS 31 and PRS 35 contains thorium-232 above the screening level, but is attributed to PRS 41 (former thorium drum area) operations and not the sanitary lines. Other than data associated with PRS 41 activities, only one result above screening level was identified in a VistaMap/MEIMS query of subsurface soil in the vicinity of PRSs 31-36, 125, and 270. The result was of thorium-232 at 2.1 pCi/g (screening level of 1.47 pCi/g) that exists in the vicinity of PRS 270. All other data for the PRSs described herein are below applicable screening levels.

Note about PRS 125: Due to auger and split spoon refusal, the steepness of the topography; and the location of the underground utilities, no samples could be collected at the site of PRS 125. The recommendation of the OU3 Miscellaneous Sites LFI Report was that since the sewer lines contain or have contained materials similar to or identical to other OU3 LFI sewer lines, and the nature of the structural deficiencies in the sewer line was similar to other OU3 LFI sewer lines, it is reasonable to assume that soil has not been impacted by site activities and that further investigative activities would not be necessary.

REFERENCES:

- (1) Operable Unit 9 Site Scoping Report: Volume 12 – Site Summary Report, Final, December 1994
- (2) Operable Unit 3 – Miscellaneous Sites Limited Field Investigation Report, Final (Rev. 0), July 1993

Note: the following table of PAH screening levels is presented such that data provided in Reference 2 may be evaluated.

	Analyte	10-6 RBGV or HI=1
PAH constituents	Benzo(a)anthracene	4.1 mg/kg
	Benzo(a)pyrene	0.41 mg/kg
	Benzo(b)fluoranthene	4.1 mg/kg
	Benzo(k)fluoranthene	41.0 mg/kg
	Chrysene	410 mg/kg
	Dibenz(a,h)anthracene	0.41 mg/kg
	Indeno(1,2,3-cd)pyrene	4.1 mg/kg
	Napthalene	Not listed

- (3) Figures

PREPARED BY:

Dennis Gault, BWXTO Soils Project Engineer
Karen Arthur, BWXTO ER QA

RECOMMENDATION

PRS 31-36, 125, & 270 Package

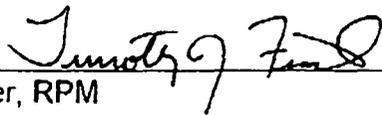
Potential Release Sites (PRSs) 31-36, 125, and 270 were identified as PRSs as a result of breaks and/or separations in Mound's sanitary sewer lines, identified during a 1982 video survey of the lines. Radionuclides were not considered contaminants of concern. The concern was the potential release of non-radioactive contaminants into the environment from the identified breaks in the lines. A subsequent project repaired these lines by replacing them or by extruding a liner at the point of the breaks. Soil sampling was performed and results for all non-radioactive analytes were below 10^{-5} Risk-Based Guideline Values.

Therefore, the Core Team recommends No Further Assessment for PRSs 31-36, 125, and 270.



Rob Rothman, OSC
U.S. Department of Energy
Miamisburg, Ohio

11-27-02



Tim Fischer, RPM
USEPA
Chicago, Illinois

11/26/02



Brian Nickel
OEPA
Dayton, Ohio

11/27/02

Environmental Restoration Program

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

**MOUND PLANT
MIAMISBURG, OHIO**

December 1994

Final

**U.S. Department of Energy
Ohio Field Office**



EG&G Mound Applied Technologies

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- DOE. 1991a. "Site Scoping Report: Volume 8 - Environmental Monitoring Data." U.S. Department of Energy, Albuquerque Operations Office, Albuquerque, New Mexico. May 1991.
- DOE. 1991b. "Main Hill Seeps, Operable Unit 2, On-Scene Coordinator Report for CERCLA Section 104 Remedial Action, West Powerhouse PCB Site." U.S. Department of Energy, Mound Plant, Miamisburg, Ohio. October 1991.
- DOE. 1992a. "Remedial Investigation/Feasibility Study, Operable Unit 9, Site-Wide Work Plan (Final)." U.S. Department of Energy, Albuquerque Operations Office, Albuquerque, New Mexico. May 1992.
- DOE. 1992b. "Preliminary Floodplain/Wetlands Assessment Report for 10 CFR 1022." U.S. Department of Energy, Albuquerque Operations Office, Albuquerque, New Mexico. August 1992.
- DOE. 1992c. "Mound Plant Underground Storage Tank Program Plan and Regulatory Status Review (FINAL)." U.S. Department of Energy, Albuquerque Operations Office, Albuquerque, New Mexico. November 1992.
- DOE. 1992d. "Reconnaissance Sampling Report Decontamination and Decommissioning Areas, Operable Unit 6 (FINAL)." U.S. Department of Energy, Albuquerque Operations Office, Albuquerque, New Mexico. May 1992.
- DOE. 1992f. "Operable Unit 9, Site Scoping Report: Volume 11—Spills and Response Actions (FINAL)." U.S. Department of Energy, Albuquerque Operations Office, Albuquerque, New Mexico. March 1992.
- DOE. 1992g. "Operable Unit 9, Site Scoping Report: Volume 2 - Geologic Log and Well Information Report." U.S. Department of Energy, Albuquerque Operations Office, Albuquerque, New Mexico. May 1992.
- DOE. 1992h. "Ground Water and Seep Water Quality Data Report Through First Quarter, FY92." U.S. Department of Energy, Albuquerque Operations Office, Albuquerque, New Mexico. November 1992.
- DOE. 1992i. "Closure Report, Building 34 - Aviation Fuel Storage Tank." U.S. Department of Energy, Albuquerque Operations Office, Albuquerque, New Mexico. August 1992.
- DOE. 1992j. "Closure Report, Building 51 - Waste Storage Tank." U.S. Department of Energy, Albuquerque Operations Office, Albuquerque, New Mexico. August 1992.
- DOE. 1992a. "Site Scoping Report: Volume 7 - Waste Management (FINAL)." U.S. Department of Energy, Albuquerque Operations Office, Albuquerque, New Mexico. February 1993.
- DOE. 1993b. "Reconnaissance Sampling Report—Soil Gas Survey and Geophysical Investigations, Mound Plant Main Hill and SM/PP Hill (FINAL)." U.S. Department of Energy, Albuquerque Operations Office, Albuquerque, New Mexico. February 1993.
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Description of History and Nature of Waste Handling						Hazardous Conditions and Incidents			Environmental Data		
No.	Site Name	Location	Status	Potential Hazardous Substances	Ref	Releases	Media	Ref	Analytes ^a	Results	Ref
30	Building 27 Diesel Fuel Storage Tank (Tank 123) (AKA Building 27 Propane Tank)	G-6	Inactive	Tank is actually above ground	3				Not Applicable		
31	Underground Sanitary Sewer Line G5	H-5	In service	Organic solvents	5, 18			7, 18	3, 4, 5, 6, 10, 11, 12, 14, 16	Tables B.6, B.7, and B.8	7
32	Underground Sanitary Sewer Line G12	F-8 G-8		Plating solutions, Laboratory chemicals Nitric acid, Hydrochloric acid Methylene chloride Strong acids and bases		Suspected, not confirmed	S	2, 7	3, 4, 5, 6, 10, 11, 12, 14, 16	Tables B.6, B.7, B.8, and B.9	7
33	Underground Sanitary Sewer Line G14 EAST	H-5 H-6									
34	Underground Sanitary Sewer Line G14 WEST	H-5 H-6									
35	Underground Sanitary Sewer Lines G19 & G14	G-5									
36	Underground Sanitary Sewer Line G15	E-9									
37	Building 51 Waste Solvent Storage Tank (Tank 220)	F-8	Historical	Organic solvents, Paints, Waste oils	3, 4, 5, 18	Tank Removed 1991, VOC residuals	S	4, 23	3, 4, 5, 6, 8	Tables B.6, B.7 and B.8	7, 23
38	Building 51 Waste Incinerator	F-8	Historical	Contaminants listed under Bldg. 51 Waste Solvent Storage Tank (Tank 220)	4, 5		A	4	No Data		
39	Building 51 Waste Incinerator Scrubber	F-8	Historical	Combustion products from Bldg. 51 Waste Incinerator	4, 5	Water released to plant drainage ditch	SW	4	No Data		
40	Building 66 Lot	F-8	Grounds	Plutonium-238 from unknown source	6	Plutonium-238	S	6	13	Table B.1 RSS ^c Location S0323 (Appendix E in Ref. 6)	6

Description of History and Nature of Waste Handling						Hazardous Conditions and Incidents			Environmental Data		
No.	Site Name	Location	Status	Potential Hazardous Substances	Ref	Releases	Media	Ref	Analytes ^a	Results	Ref
118	M Building Soils	E-7	Grounds	Copper cyanide, Silver cyanide Machine oils, Solvents	4	Oils, Copper cyanide, Silver cyanide	S	10	1 14	SGS ^b Table B.4 Locations 1050, 1051, 1062 Table B.9 RSS ^c Locations S0162, S0163, S0252 (Appendix E in Ref. 6)	12 6
119	Room M-38 Metal Plating Rinse Water Sump (Tank 225)	E-7	Surplus	Rinse waters from metal plating operations. Possible contaminants include nickel, cadmium, silver, gold, manganese, cyanide, and aluminum. Sodium hydroxide solution Potassium permanganate	3, 4	None Suspected			No Data		
120	Room M-108 Metal Plating Rinse Water Tank (Tank 119)	E-7	In service	Rinse waters from metal plating operations. copper, gold, silver, nickel, aluminum, and uranium	3, 4	Silver cyanide	SW	10	No Data		
121	Vapor Degreasers	E-7	In service	Perclene D (perchloroethylene)	4, 5, 18	None Suspected			No Data		
122	Underground Radioactive Waste Lines (Main Hill)	E-6 F-6	Inactive	Alpha wastes from SW Bldg., R Bldg., and H Bldg. Wastewater from B Building Plutonium-238, Cobalt-60	4, 18	Suspected	S	4, 10	No Data		
123	Area 5, Radioactive Waste Line Break	F-6 F-7	Grounds	Cobalt-60, Cesium-137, Plutonium-238	1, 5, 18	Cobalt-60	S	1, 18	2, 14, 16	Table B.1 (Table III.3 in Ref. 6)	6
124	Building 48 Hillside	F-6	Inactive	Plutonium-238		Plutonium-238	S	6	14	Table B.1	6
125	Underground Sanitary Sewer-Line G24	F-6	In service	Organic solvents, Plating Solutions, Laboratory chemicals, Nitric acid, Hydrochloric acid, Methylene chloride, Strong acids and bases		Suspected	S	5, 18	3, 4, 5, 6, 14, 16	Tables B.6, B.7, and B.8	7
126	Building 28 Solvent Storage Area	E-8	Grounds	Organic solvents (including alcohol, methylene chloride, and acetone)	4, 5, 9, 18	Suspected	S	4	1	SGS ^b Table B.4 Location 1054	12

Description of History and Nature of Waste Handling						Hazardous Conditions and Incidents			Environmental Data		
No.	Site Name	Location	Status	Potential Hazardous Substances	Ref	Releases	Media	Ref	Analytes ^a	Results	Ref
264	Explosive Waste Storage Bunker (Magazine 53)	I-7	In service	Classified, non-explosive wastes Explosion residuals (primarily aluminum residuals) Contaminants listed under Explosive Waste Storage Bunker (Magazine 53) Detonators, Detonating cord, Thermite, Pyrotechnic powders, Primary explosives High explosive powder, PETN, PBX, RDX, HMX, HNS, CP HNS (hexanitrostilbene)	4, 5, 18	None Suspected			No Data		
265	Biodegradation Unit	I-7	Inactive	Soapy wastewater containing explosives constituents	4, 5, 18	Suspected	S	7, 18	See Pyrotechnic Waste Shed		4
266	Area 8, Thorium-Contaminated Soils from Areas 1 and 9	F-9	Grounds	Thorium-232, Plutonium-238	1, 4, 5, 18	Thorium	S	4, 6	14, 15, 16	Table B.1 (Table V.3 in Ref. 6)	6
267	Area 9, Thorium Storage and Redrumming Area	F-9 G-9	Grounds	Plutonium-238, Thorium Thorium sludge constituents (c)	1, 4, 5, 18	Thorium	S	4, 6	14	Table B.1 (Table V.4 in Ref. 6)	6
268	Building 31, Contaminated Material Storage Building	F-9	In service	Plutonium-238 Thorium Tritium	4 3	None Suspected			See Area 9	Table B.9	6
269	Building 36 Historic Gasoline Tanks (Tanks 239 and 240)	G-10	Historical	Gasoline	3	No information on when tanks were removed			No Data		
270	Underground Sanitary Sewer Lines ^a G6 & G7	G-10	In Service	Organic solvents, plating solutions, laboratory chemicals, nitric acid, hydrochloric acid, methylene chloride, strong acids and bases	4	Suspected VOCs	S	4	3, 4, 5, 6, 9, 10, 11, 12, 13, 16	Tables B.6, B.7, B.8, and B.9	7
271	Building 37 Sanitary Waste Tank (Tank 100)	F-10	In service	Sanitary wastes	3, 4	None Suspected			No Data		

- 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-233
- 14 - Plutonium-238, Thorium-232
- 15 - Cobalt-60, Cesium-137, Radium-226, Americium-241
- 16 - Tritium

Reference List

1. DOE 1986
2. DOE 1992a
3. DOE 1992c
4. DOE 1993a
5. EPA 1988a
6. DOE 1993d
7. DOE 1993c
8. DOE 1992d
9. Fentiman 1990
10. DOE 1992f
11. Styron and Meyer 1981
12. DOE 1993b
13. DOE 1993d
14. DOE 1991b
15. Halford 1990
16. DOE 1993e
17. DOE 1990
18. DOE 1992a
19. Rogers 1975
20. DOE 1992h
21. Dames and Moore 1976a, b
22. DOE 1992i
23. DOE 1992j
24. DOE 1994
25. EG&G 1994

No.	Site Name	Location	Status	Operational Jurisdiction			SWMU	Historic Activities		Further Action Recommended	FFA OU
				Regulated Units	Regulatory Authority	Spill Response		Evidence Of Release	Response Authority		
17	Oil Burn Structure	H-6	Inactive		NA		SWMU	Yes	CERCLA	Yes	5
18	Building 34, Fire Fighting Training Facility Pits	H-5	Inactive	Permit for open burn by RAPCA	CAA		SWMU	Yes	CERCLA	Yes	5
19	Building 34, Historical Firefighting Training Pit	H-5	Historical		NA		SWMU	Yes	CERCLA	Yes	5
20	Building 34 Aviation Fuel Storage Tank (Tank 219)	H-5	Historical			FFA	SWMU	Yes ^b	CERCLA	No	5
21	Building 1 Leach Pit (Area I)	G-6	Surplus		NA		SWMU	No	CERCLA	No	5
22	Building 1 Explosives Wastewater Settling Basin (AKA Building 1 Sump) (Tank 200)	G-6	Surplus		NA		SWMU	No	CERCLA	No	5
23	Building 43 Explosives Wastewater Settling Basin (AKA Building 43 Sump) (Tank 201)	G-6	Surplus		NA		SWMU	No	CERCLA	No	5
24	Building 43 Solvent Storage Tank (Tank 221)	G-6	Never Used removed		NA			No	NA	No	
25	Building 27 Leach Pit (Area I)	H-6	Surplus		NA		SWMU	No	CERCLA	No	5
26	Building 27 Concrete Flume (Tank 217)	G-6	Surplus		NA		SWMU	No	CERCLA	No	5
27	Building 27 Settling Sump (Tank 218)	G-6	Surplus		NA		SWMU	No	CERCLA	No	5
28	Building 27 Solvent/Drum Storage Area	G-6	Surplus		NA		SWMU	No	CERCLA	No	5
29	Building 27 Filtration System	G-6	Inactive	Included in RCRA Part B permit application	RCRA	RCRA	SWMU	No	NA	OM	
30	Building 27 Diesel Fuel Storage Tank (Tank 123) (actually a propane tank)	G-6	Inactive		NA			No	NA	No	
31	Underground Sanitary Sewer Line G5	H-5	In service	Effluent to wastewater treatment (Building 57)	CWA	AEA	SWMU	No	NA	OM	
32	Underground Sanitary Sewer Line G12	F-8					SWMU	No	NA	OM	
33	Underground Sanitary Sewer Line G14 EAST	H-5 H-6					SWMU	No	NA	OM	

No.	Site Name	Location	Status	Operational Jurisdiction			SWMU	Historic Activities		Further Action Recommended	FFA OU
				Regulated Units	Regulatory Authority	Spill Response		Evidence Of Release	Response Authority		
34	Underground Sanitary Sewer Line G14 WEST	H-5 H-6	(Cont.)	(Cont.)	(Cont.)	(Cont.)	SWMU	No	NA	OM	
35	Underground Sanitary Sewer Lines G19 & G14	G-5					SWMU	No	NA	OM	
36	Underground Sanitary Sewer Line G15	E-9					SWMU	No	NA	OM	
37	Building 51 Waste Solvent Storage Tank (Tank 220)	F-8	Historical		NA		SWMU	Yes	CERCLA	Yes	5
38	Building 51 Waste Incinerator	F-8	Historical		NA		SWMU	No	CERCLA	No	5
39	Building 51 Waste Incinerator Scrubber	F-8	Historical		NA		SWMU	No	CERCLA	No	5
40	Building 66 Lot	F-8	Grounds		AEA	AEA		Yes	AEA	D&D	
41	Area 3, Thorium Drum Storage and Redrumming Area	G-5 H-5	Grounds		AEA	AEA		Yes	CERCLA	Yes	5
42	Area A, Construction Soils from T Building	H-5	Grounds		AEA	AEA		Yes ^c	CERCLA	No	5
43	Wastewater Treatment plant Building 57 Grit Chamber (Tank 101)						SWMU	No	NA	OM	
44	Building 57 Grit Conveyor						SWMU	No	NA	OM	
45	Building 57 Comminuter (Tank 102)						SWMU	No	NA	OM	
46	Building 57 Equalization Basin (Tank 103)	H-5	In service	Effluent permitted to discharge under NPDES	CWA	AEA	SWMU	No	NA	OM	
47	Building 57 Equalization Basin (Tank 104)						SWMU	No	NA	OM	
48	Building 57 Equalization Basin (Tank 105)						SWMU	No	NA	OM	
49	Building 57 Equalization Basin (Tank 106)						SWMU	No	NA	OM	
50	Building 57 Aeration Basin (Tank 107)						SWMU	No	NA	OM	

No.	Site Name	Location	Status	Operational Jurisdiction			SWMU	Historic Activities		Further Action Recommended	FFA OU
				Regulated Units	Regulatory Authority	Spill Response		Evidence Of Release	Response Authority		
336	Building 37 Waste Tank (AKA Low Risk Waste Tank (Tank 267))	F-10	In Service	effluent to wastewater treatment (Building 57)	CWA	AEA		No	NA	OM	
337	Building H Condensate Sump (Tank 268)	E-6	In Service		CWA	AEA		No	NA	OM	
338	Building 29 Septic Tank (Tank 270)	E-9	Inactive		AEA	AEA		No	CERCLA	No	5
339	T-44 Wastewater Sump (Tank 250)	F-7	Historical		NA	NA		No	AEA	D&D	
340	T-16b Wastewater Sump (Tank 251)	F-7	Historical		NA	NA		No	AEA	D&D	
341	T-90 Condensate Sump (Tank 269)	F-7	In Service		CWA	AEA		No	NA	OM	
342	T-1 Hot Side Fire Water Tank (Tank 271)	F-7	In Service		AEA	AEA		No	NA	OM	
343	T-20 Fire Water Sump (Tank 272)	F-7	In Service		AEA	AEA		No	NA	OM	
344	T-37 Fire Water Sump (Tank 273)	F-7	In Service		AEA	AEA		No	NA	OM	
345	Area C, Former Equipment Storage Area	H-6	Historical		NA			No	CERCLA	No	5

AEA - Atomic Energy Act of 1954

AKA - Also known as

BUSTR - Bureau of underground storage tank regulation

CAA - Clean Air Act

CWA - Clean Water Act

D&D - Action to be taken by Mound Plant Decommission and Decontamination Program

FUSRAP - Formerly Utilized Sites Remedial Action Program

HWMU - Hazardous waste management unit

NA - Not applicable

^a - Highest plutonium-238 concentration 31.4 pCi/g.

^b - Tank closed August 1992 (DOE 1992i).

^c - To be included as part of Area 3 (#41) investigation.

^d - Actual location unknown, maintained non-public water supply source under SDWA.

^e - Five gallon release less than reportable quantity. (RQ)

NESHAP - National Emission Standard for Hazardous Air Pollutants

NPDES - Nation Pollution Discharge Elimination System

OM - Action to be taken by Mound Plant operations and maintenance

PBR - permit by rule

RAPCA - Regional Air Pollution Control Authority

RCRA - Resources Conservation and Recovery Act

SDWA - Safe Drinking Water Act

SWMU - Solid waste Management unit

Table B.6 - Target Compound List - VOC (a,b)

SITE NAME	Acetone	2-Butanone	Toluene	Benzene	Ethyl Benzene	Xylenes	1,2-Dichloroethane	Methylene Chloride	Perchloroethylene	2-Hexanone	4-Methyl-2-Pentanone	Trichloroethene	1,1,2-Trichloroethane	Carbon Disulfide	1,1,1-Trichloroethane	Chloroform	Freon 11	Freon 113	1,1-Dichloroethane	Bromo-dichloromethane	Bromoform	Reference	
283. Area 1, Bulk Transfer of Thorium Drums (AKA Plutonium Recoverable Waste Storage)	96		10													24							8
285. Area 11, Contamination from SM Building Operations	23	ND	ND	ND	ND	6	ND	ND	ND	ND	ND	ND	ND	ND	41	ND	ND	ND	ND	ND			8
286. Area 16, SM Building Sanitary Sewers Septic Tank/Leach Basin								38							6	11							8
288. Area 17, SM Building Soils												21			19	10							8
300. Area 19, Underground Waste Transfer Line		13																					8
302. Area 10, Acid Leach Field	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8
314. Farm Trash Area	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7

- (a) - All units reported in mg/Kg unless noted otherwise..
- (b) - No soil gas data results are presented.
- (c) - Unit of measure is ug/Kg.
- (d) - No volatile organic constituents were detected in the canal. See reference 16.
- (e) - Note deleted in revision.
- (f) - This site is the same as Site #19.
- (g) - Unit of measure in g/kg
- ND - Not detected.
- Blank - Not analyzed for.

- References:
- 7) DOE-1993c,
 - 8) DOE 1992d
 - 15) Halford 1990
 - 16) DOE 1993e
 - 18) DOE 1992a
 - 22) DOE 1992i
 - 24) DOE 1994

Table B.7. Target Compound List: SVOC, P/PCB, PAH, and EPH (a)

SITE NAME	SVOC	Polycyclic Aromatic Hydrocarbons (PAH)											Pesticides, Polychlorinated Biphenyls						EPH & TPH		
		Bis(2-ethylhexyl)phthalate	Acenaphthene	Anthracene	Phenanthrene	Pyrene	Fluoranthene	Benzopyrene	Benzo(a)fluoranthene	Benzo(a)anthracene	Indeno(1,2,3-CD)pyrene	Chrysene	Benzo(g,h,i)perylene	PCBs	Chlordane	Endrin	Alpha,Beta,Delta, BHC (Lindane)	Dieldrin	4,4'-DDT, 4,4'-DDE	Extractable Petrol. Hydrocarbons	Total Petrol. Hydrocarbons
21. Building 1 Leach Pit (Area 1)	3.0	1.3	0.8	3.9	3.3	5.6	2.3	3.9	2.3	1.3	4.0	1.1	ND	ND	ND	ND	ND	ND	ND	ND	7
25. Building 27 Leach Pit (Area 1)	3.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7
26. Building 27 Concrete Flume (Tank 217)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7
27. Building 27 Settling Sump (Tank 218)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7
28. Building 27 Solvent/Drum Storage Area	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.182	ND	ND	ND	ND	ND	ND	ND	7
31. Underground Sewer Line G5	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7
32. Underground Sewer Line G12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7
33. Underground Sewer Line G14 East	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7
34. Underground Sewer Line G14 West	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7
35. Underground Sewer Lines G19 and G14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7
36. Underground Sewer Line G15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7
37. Building 51 Waste Solvent Storage Tank (Tank 220)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.014	ND	ND	ND	ND	ND	7
65. Building 61 Area, Former Heavy Equipment Area	12	1	ND	1.7	2	2.1	ND	ND	ND	ND	ND	ND	ND	0.53	ND	ND	0.0089	ND	2600	7	
91. Main Hill Seep 0601 (d)																					18
92. Main Hill Seep 0602 (d)																					18

Table B.7. Target Compound List - SVOC, P/PCB, PAH, and EPH (a)

SITE NAME	SVOC	Polycyclic Aromatic Hydrocarbons (PAH)											Pesticides, Polychlorinated Biphenyls						EPH & TPH			
		Bis(2-ethylhexyl)phthalate	Acenaphthene	Anthracene	Phenanthrene	Pyrene	Fluoranthene	Benzopyrene	Benzo(a)fluoranthene	Benzo(a)anthracene	Indeno(1,2,3-CD)pyrene	Chrysene	Benzo(g,h,i)perylene	PCBs	Chlordane	Endrin	Alpha:Beta:Delta, BHC (Lindane)	Dieldrin	4,4'-DDT, 4,4'-DDE	Extractable Petrol. Hydrocarbons	Total Petrol. Hydrocarbons	Reference
261. Trash Burner	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7
270. Underground Sewer Lines G6 and G7	0.89	ND	ND	3.0	3.2	5.2	1.7	1.5	1.9	1.3	2.2	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	7
279. Old Firing Range Drum Storage Area	4.2	6.8	15	73	83	98	35	59	43	23	55	19	0.56	ND	ND	ND	ND	ND	ND	ND	ND	7
280. Waste Oil Drum Field Area	6.5	ND	2.8	11	9.7	11	3.6	2.8	4.2	1.9	ND	2.1	1.15	0.098	0.023	ND	ND	ND	ND	ND	1500	7
283. Area 1, Bulk transfer of Thorium drums (AKA Plutonium recoverable waste storage)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8
285. Area 11, Contamination from SM Building Operations	4700	ND	ND	ND	5000	ND	ND	ND	ND	ND	ND	ND	ND	ND	39	50	ND	ND	ND	ND	ND	8
286. Area 16, SM Building sanitary sewage septic tank/leach field	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8
288. Area 17, SM Building soils	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8
300. Area 19, underground waste transfer line			900	790	900	1,000																8
302. Area D, Acid Leach Field															20	12						8
314. Farm Trash Area	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7

(a) - All units are reported in mg/Kg unless noted otherwise. -
 (b) - Additional data on other analytes are available in reference 16.
 (c) - This site is the same as Site #19.
 (d) - Groundwater data. Unit of measure is mg/L.
 (e) - Unit of measure is g/Kg

References:
 7) DOE-1933c
 8) DOE 1992d
 15) Halford 1990
 16) DOE 1993e
 18) DOE 1992a
 24) DOE 1994

Table B.8. Target Analyte List (TAL) - Inorganics^(a)

SITE NAME	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chloride	Chromium	Cobalt	Copper	Lead	Manganese	Nickel	Nitrate	Nitrite	Silver	Thallium	Zinc	Cyanide	Lithium	Mercury	Vanadium	Reference
300: Area 19; Underground Waste Transfer Line		10.3	521	1.1	4.3		19.8	18.6	17.2	15.1	1,500	43.0			4.2		349				20.7	8
302: Area D, Acid Leach Field		11.7	564	1.8	5.5		21	20.1	20.4	25.7	545	41.1			3.9		342			0.79	26.3	8
314: Farm Trash Area	42.4	5.9	32.4	0.71	7.7		30.5	8.5	18	10.1	306	25.8			17	ND	40.4	0.38		ND	24.2	7

(a) - All units are reported in mg/Kg unless otherwise noted.

(b) - Additional data on other analytes are available in reference #19.

(c) - this site is the same as Site #19.

(d) - Groundwater data. Unit of measure is mg/L.

ND - Not detected.

NA - Not analyzed for.

References:

- 7) DOE 1993c,
- 8) DOE 1992d
- 15) Halford 1990
- 16) DOE 1993e
- 18) DOE 1992a
- 24) DOE 1994

Table B.9. Summary of Radiological Data^(a,b)

Site Name	Radiological Contaminants														Reference	
	Potassium-40	Plutonium-239	Plutonium-238	Cesium-137	Thorium-Total	Tritium	Thorium-232	Cobalt-60	Radium-224, -226, -228	Radon-222	Americium-241	Actinium-227	Uranium-233, -234, -238	Bismuth-210m		Bismuth-207
308. Site Survey Project Potential Hot Spot Location C0028			11.4		109.											6
309. Site Survey Project Potential Hot Spot Location S0307			5.36		6.46											6
310. Site Survey Project Potential Hot Spot Location S0647				270				1.3								6
311. Site Survey Project Potential Hot Spot Location S0706			28.9													6
312. Site Survey Project Potential Hot Spot Location S0971			0.15		5.02	2										6
313. Site Survey Project Potential Hot Spot Location S0982			0.43		14.94											6
314. Farm Trash Area			0.02				<2									7
319. Epoxy Resin Disposal																7

(a) - All units are reported in pCi/g unless otherwise noted. -
 (b) - Blank spaces implies not sampled.
 (c) - Additional data on other analytes are available in reference 16.
 (d) - Groundwater data. Unit of measure is pCi/L.
 (e) - This site is the same as Site #19.
 (f) - Groundwater data. Unit of measure is nCi/L.

LDL - Lower Detection Limit.
 -ND - Not detected.
 NA - Not analyzed for.
 NR - No result reported.

References:
 6) DOE 1993d
 7) DOE 1993c.
 11) Styron and Meyer 1981
 13) DOE 1993d
 18) DOE 1992a
 24) DOE 1994

Table B.7. Target Compound List - SVOC, P/PCB, PAH, and EPH (a)

SITE NAME	SVOC	Polycyclic Aromatic Hydrocarbons (PAH)											Pesticides, Polychlorinated Biphenyls						EPH & TPH			
	Bis(2-ethylhexyl)phthalate	Acenaphthene	Anthracene	Phenanthrene	Pyrene	Fluoranthene	Benzopyrene	Benzo fluoranthene	Benzoanthracene	Indeno(1,2,3-CD)pyrene	Chrysene 1	Benzo(g,h,i)perylene	PCBs	Chlordane	Endrin	Alpha,Beta,Delta, BHC (Lindane)	Dieldrin	4,4'-DDT, 4,4'-DDE	Extractable Petrol. Hydrocarbons	Total Petrol. Hydrocarbons	Reference	
95. Main Hill Seep 0605 (d)																					18	
97. Main Hill Seep 0607 (d)																						18
98. Main Hill Seep 0608 (d)																						18
112. Paint Shop Area	1.7	ND	ND	0.83	1.3	1.3	0.35	0.75	0.51	ND	0.73	ND	ND	ND	ND	ND	ND	ND			7	
114-117. Powerhouse Area Fuel Tanks (Tanks 113, 114, 115, 116)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	48000		7	
125. Underground Sanitary Sewer Line G24																					7	
159. Area 4A, Sewage Sludge Drying Pits																					8	
172. WDA Building Basement Wash Sump (AKA Glass Melter Room Sump)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		7	
174. WD Building Drum Staging Area	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			7	
175. Area 4, WD Building Influent Tank Overflow																					8	
178. Area 14, Radioactive Waste Line Break	4,800				2,800											13.0		2754			8	
258. Area H Open Burn Pit (AKA Pyrotechnic Waste Disposal Area)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			7	
259. Pyrotechnic Waste Shed	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			7	
260. Thermal Treatment Unit	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			7	

Table B.7. Target Compound List - SVOC, P/PCB, PAH, and EPH (a)

SITE NAME	SVOC	Polycyclic Aromatic Hydrocarbons (PAH)											Pesticides, Polychlorinated Biphenyls						EPH & TPH		
	Bis(2-ethylhexyl)phthalate	Acenaphthene	Anthracene	Phenanthrene	Pyrene	Fluoranthene	Benzopyrene	Benzofluoranthene	Benzoanthracene	Indeno(1,2,3-CD)pyrene	Chrysene	Benzo(g,h,i)perylene	PCBs	Chlordane	Endrin	Alpha,Beta,Delta, BHC (Lindane)	Dieldrin	4,4'-DDT, 4,4'-DDE	Extractable Petrol. Hydrocarbons	Total Petrol. Hydrocarbons	Reference
261. Trash Burner	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			7
270. Underground Sewer Lines G6 and G7	0.89	ND	ND	3.0	3.2	5.2	1.7	1.5	1.9	1.3	2.2	1.3	ND	ND	ND	ND	ND	ND			7
279. Old Firing Range Drum Storage Area	4.2	6.8	15	73	83	98	35	59	43	23	55	19	0.56	ND	ND	ND	ND	ND			7
280. Waste Oil Drum Field Area	6.5	ND	2.8	11	9.7	11	3.6	2.8	4.2	1.9	ND	2.1	1.15	0.098	0.023	ND	ND	ND		1500	7
283. Area 1. Bulk transfer of Thorium drums (AKA Plutonium recoverable waste storage)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8
285. Area 11. Contamination from SM Building Operations	4700	ND	ND	ND	5000	ND	ND	ND	ND	ND	ND	ND	ND	ND	39	50	ND	ND	ND	ND	8
286. Area 16. SM Building sanitary sewage septic tank/leach field	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8
288. Area 17. SM Building soils	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8
300. Area 19. underground waste transfer line			900	790	900	1,000															8
302. Area D. Acid Leach Field															20	12					8
314. Farm Trash Area	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			7

(a) - All units are reported in mg/Kg unless noted otherwise.
 (b) - Additional data on other analytes are available in reference 16.
 (c) - This site is the same as Site #19.
 (d) - Groundwater data. Unit of measure is mg/L.
 (e) - Unit of measure is g/Kg

References:
 7) DOE 1933c
 8) DOE 1992d
 15) Halford 1990
 16) DOE 1993e
 18) DOE 1992a
 24) DOE 1994

Table B.8. Target Analyte List (TAL) - Inorganics^(a)

SITE NAME	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chloride	Chromium	Cobalt	Copper	Lead	Manganese	Nickel	Nitrate	Nitrite	Silver	Thallium	Zinc	Cyanide	Lithium	Mercury	Vanadium	Reference
169. Area A4 WD building sewage sludge drying pits		18.6								105												8
172. WDA Building Basement Wash Sump (Tank 11) (AKA Glass Melter Room Sump) (4)	ND	ND	0.0062	ND	ND		ND	ND	0.0157	ND	0.0079	ND			ND	ND	0.0757	ND		ND	ND	7
174. WD Building Drum Staging Area	26.9	3.3	127	0.67	4.7		163	9.8	36.2	123	639	71.6			14.8	ND	126	ND		ND	19.5	7
175. Area 4, WD building influent tank overflow		7.6	465	1.2	7.5			13.6	13.3	27.2	565						303				20.2	8
176. Area 14, radioactive waste line break		6.2	623	1.3	7.2			19.9				46.7			4.0					0.91	22.3	8
258. Area H Open Burn Pit (AKA Pyrotechnic Waste Disposal Area)	44.5	9.1	13.9	1.8	11.7	ND	31.3	15.2	38.7	23.7	982	44.1	54.8	ND	20.4	ND	91.2	0.32		1.4	35.7	7
259. Pyrotechnic Waste Shed	25.1	8.6	89.1	1.7	4		37	11.6	27.5	15	538	27.9			20.8	ND	72.1	1.7		0.32	33.1	7
260. Thermal Treatment Unit	29.7	11.4	117	2.3	5.7		32.2	14	240	220	8,190	154			17.7	0.65	80.9	0.45		0.31	40	7
261. Trash Burner	5.7	19.5	82.7	2.2	1.1		15.3	11.4	1,100	15.4	290	14.8			3.7	ND	463	ND		ND	31.9	7
270. Underground Sewer Lines G6 and G7	32.3	7.1	58.8	1.4	7.9	121.3	25.1	9	63.2	39.1	562	22.7	129	5.02	16.7	ND	288	ND	ND	ND	20.9	7
279. Old Firing Range Drum Storage Area	39.2	7.5	90.4	0.98	10.2		28.9	14.2	25.2	31.3	698	25.6			18.6	ND	754	0.62		0.04	27	7
280. Waste Oil Drum Field Area	13.6	19.2	116	0.91	1.8		29.9	13.5	29.7	35.2	688	33.7			17	ND	73.4	8.9		1.0	35	7
283. Area 1, Bulk Transfer of Thorium Drums (AKA Plutonium Recoverable Waste Storage)		10.9	604	1.9	8.1		34.8	17.7	18.5	45.0		796			4.4		825			1.4	33.4	8
285. Area 11, Contamination from SM Building Operations		5.3	481	1.3	8.0		17.8	13.8	12.9	15.7		39.9									26.1	8
286. Area 16, SM Building Sanitary Sewage Septic Tank/Leach Field		6.5	491	1.6	5.0			16.6	14.5	41.7	440	39			2.8		327			0.24	22.2	8
288. Area 17, SM Building soils		9.6		1.1	9.6		19.0	16.8	18.1	27.0		31.7			3.2							8

Reference 2

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)**

2. STUDY AREA INVESTIGATION

This section provides a summarized history of each investigation area, including potential area contaminants. Field investigation procedures are also summarized in this section for each investigation area and include sample specifications, figures showing each sample location, and a summary of deviations from the approved sampling protocol.

Field activities for the OU 3 LFI followed the approved protocol as documented in the OU 3 Work Plan and the Quality Assurance Project Plan (QAPP) and included the ER Program Standard Operating Procedures (SOPs). All soil, sediment, and surface water samples collected during the OU 3 LFI were field screened for VOCs and radioactivity. Surface water samples were field tested for a number of additional parameters as documented in the OU 3 Work Plan. Additional field parameters were collected at each sample area as detailed in the OU 3 Work Plan, QAPP, and Health and Safety Plan. The results of the field screening program were used to guide sampling activities and sample collection. Individual field screening results for each sample collected are not included in this report.

Prior environmental samples were collected for analysis from the Area H Thermal Treatment Unit, the Waste Oil Drum Field, and the Farm Trash Area during the 1987 DOE Environmental Survey. However, the results of this study were not available for inclusion into the OU 3 LFI report.

Three OU 3 investigation sites are included in the RCRA Part B Permit Application (DOE 1993). Additional activities may be performed as part of the RCRA work at the Area H Thermal Treatment Unit, the glass melter room thermal treatment unit, and the Building 27 filtration system. The details of the RCRA activities have not been incorporated into this report.

Sample designation for the OU 3 LFI involved five types of quality assurance/quality control (QA/QC) samples. The QA/QC sample type and nomenclature is presented below:

MND33 (OU 3 designation) - 0000 (sample location) - 0000 (sample ID number)

<u>Sample Type</u>	<u>Nomenclature</u>
Field Duplicates	MND33-0000-1000
Trip Blanks	MND33-0000-2000
Sample Bank Blanks	MND33-0000-3000
Equipment Blanks	MND33-0000-4000
Field (Ambient) Blanks	MND33-0000-5000

The sample locations are shown in Figure 2.24. The soils encountered during sampling ranged from a brown gravelly sandy to clayey silt, to a coarse angular gravel. Groundwater was not encountered during sampling activities. 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.23.

No known deviations from the approved project protocol occurred during soil sampling activities at the Farm Trash Area.

2.25. UNDERGROUND SEWER LINES GRID G5

Mound Plant engineering drawings of sewer lines are organized by grid blocks. Therefore, the sampling of soils adjacent to lines at multiple locations was differentiated by the grid designations of the lines.

A TV-screening survey was performed by Mound Plant personnel in 1987 on all of the underground sewer lines to identify sections of sewer lines needing repair or replacement. If a sewer line was found to be damaged or broken and it was decided that the line would be repaired instead of replaced, a fiberglass-like material (insitu form) was used to repair the line. For each repair, a sleeve of the fiberglass-like material was driven into the pipe by adding pressurized water to the line. This forced the material to conform and adhere to the pipe side wall. Sampling locations were chosen adjacent to previously identified breaks, even if they have since been repaired.

2.25.1. Site History

2.25.1.1. Description of the Underground Sewer Lines Grid G5

The underground sewer lines in Grid G5 are used to convey sanitary wastewater from the Plant sites to the sewage disposal building area (Building 57). The sewer lines in this grid area are constructed of 8-inch vitrified clay pipe and 8-inch ductile iron pipe.

2.25.1.2 Potential Area Contaminants

Sanitary wastewater is transported to the sanitary wastewater treatment plant through the underground sewer lines. Sources of wastewater conveyed through the underground sewer lines may include one or more of the following; restrooms, showers, laundry facilities, laboratory sinks, and rinses from a small metal-refinishing operation. Some of the laboratory sinks have reportedly received small amounts of solvents,

photographic solutions, acids, and bases. Based on the site history, it is not possible to determine if the system has received RCRA-regulated materials or to determine which listings are applicable.

Past releases from the underground sewer lines caused by leakage from broken pipes have been documented. In previous investigations of the sewer system, pipe and joint breaks, misalignments, cracks, sags, and obstructions were found.

2.25.2. Field Investigation Procedures

The objective of sampling adjacent to the underground sewer lines was to identify releases of hazardous contaminants that may have resulted from leakage. WESTON representatives conducted sampling activities at the Underground Sewer Lines Grid G5 area on 9 December 1991 and 14 February 1992. Soil samples were collected by hollow stem auger drilling techniques from one interval near two manhole locations. Power auger/hand auger borings were attempted at two locations but were unsuccessful at reaching the desired sampling interval and a laboratory sample was not collected. All samples were shipped to IT Laboratories for analysis.

Sample locations are shown on Figure 2.25. The soils encountered during drilling ranged from a dark gray-brown, coarse to fine sandy silt to a pale olive clayey silt with little to no sand. Groundwater was not encountered during drilling. A summary of soil samples collected at this location listing the sample identification number, sampling depth interval, date sampled, and requested analytical parameters is presented in Table II.24.

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 is presented below:

- MND33-0080-0001 — Interval 1.5 to 3.5 ft BGS. Sample from two boreholes was necessary to obtain the required sample volume. One split spoon was obtained at the required interval from each borehole.
- MND33-0081-0001 — Interval 5.5 to 7.5 ft BGS. Sample from two boreholes was necessary to obtain the required sample. One split spoon was obtained at the required interval from each borehole.
- MND33-0137-0001 — Interval 5.5 to 7.5 ft BGS. No sample was taken because of the inability to reach the required sample depth.
- MND33-0138-0001 — Interval 5.5 to 7.5 ft BGS. No sample was taken because of the inability to reach the required sample depth.

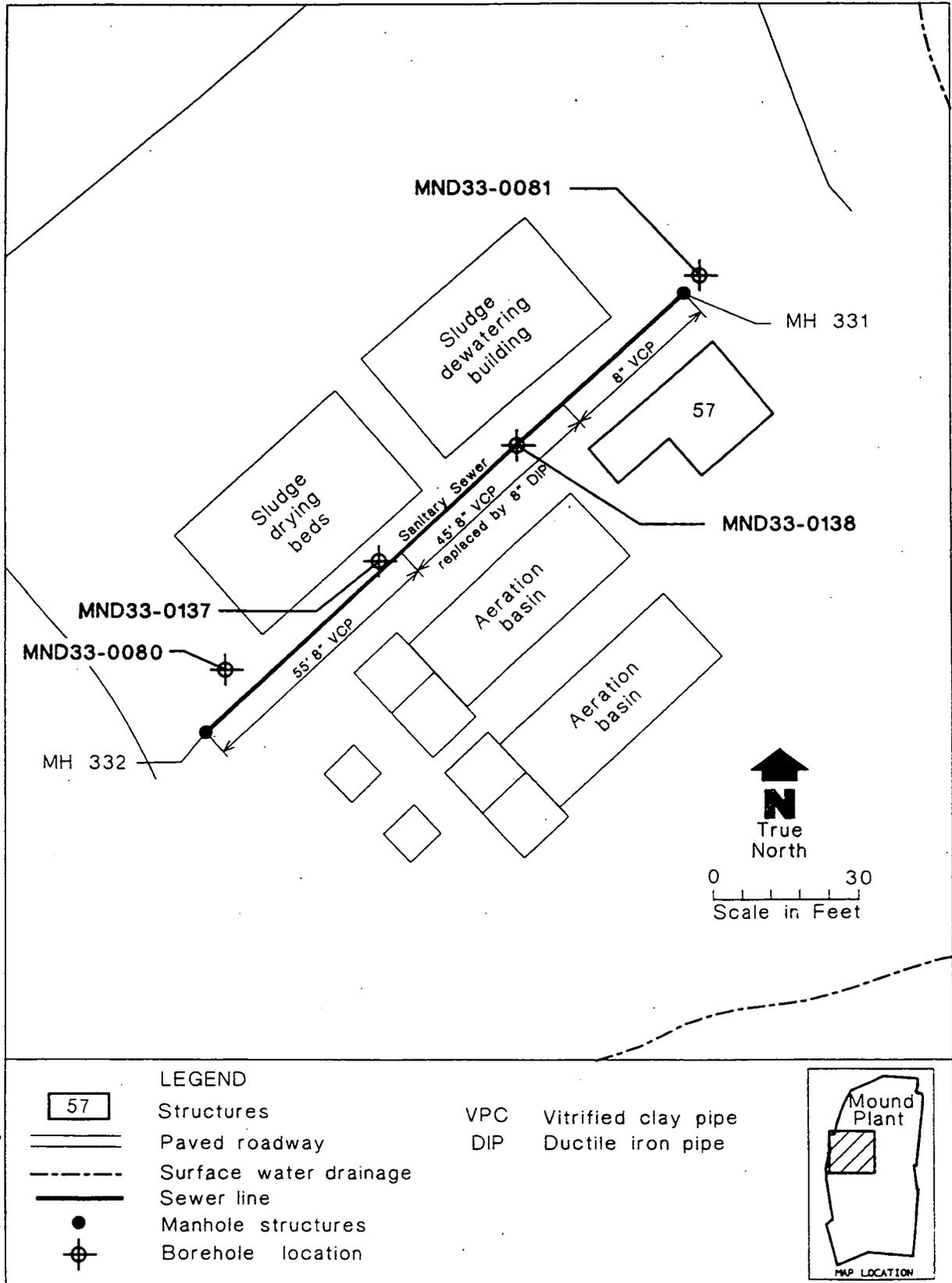


Figure 2.25. Underground Sewer Lines Grid G5 soil sample locations.

Table II.24. Underground Sewer Lines Grid G5 Sample Summary

Sample Location	Sample Number	Matrix	Date Sampled	Sample Interval (ft BGS)	Parameters Analyzed
MND33-0080	MND33-0080-0001	Soil	12/09/91	1.5-3.5	TCL VOCs, SVOCs, P/PCBs; TAL inorganics; explosives; chloride; nitrites/nitrates.
MND33-0081	MND33-0081-0001	Soil	12/09/91	5.5-7.5	TCL VOCs, SVOCs, P/PCBs; TAL inorganics; explosives; chloride; nitrites/nitrates.
MND33-0137	No samples were collected				
MND33-0138	No samples were collected				

BGS – Below Ground Surface

ft – Feet

P/PCBs – Pesticides/Polychlorinated Biphenyls

SVOCs – Semivolatile Organic Compounds

TAL – Target Analyte List

TCL – Target Compound List

VOCs – Volatile Organic Compounds

2.26. UNDERGROUND SEWER LINES GRIDS G6 AND G7

2.26.1. Site History

2.26.1.1. Description of the Underground Sewer Lines Grids G6 and G7

The underground sewer lines in Grids G6 and G7 are used to convey sanitary wastewater from the Plant sites to the sewage disposal building area (Building 57). The sewer lines in these grids are constructed of either 6- or 8-inch vitrified clay pipe, as well as some sections of 8-inch PVC pipe.

2.26.1.2. Potential Area Contaminants

Sanitary wastewater is transported to the sanitary wastewater treatment plant through the underground sewer lines. Sources of wastewater conveyed through the underground sewer lines may include one or more of the following; restrooms, showers, laundry facilities, laboratory sinks, and rinses from a small metal-refinishing operation. Some of the laboratory sinks have reportedly received small amounts of solvents, photographic solutions, acids, and bases. Based on the site history, it is not possible to determine if the system has received RCRA-regulated materials or to determine which listings are applicable.

Past releases from the underground sewer lines caused by leakage from broken pipes have been documented. In previous investigations of the sewer system, pipe and joint breaks, misalignments, cracks, sags, and obstructions were found.

2.26.2. Field Investigation Procedures

The objective of sampling adjacent to the underground sewer lines was to identify releases of hazardous contaminants that may have resulted from leakage. WESTON representatives conducted sampling activities at the Underground Sewer Lines Grids G6 and G7 area on 21 and 22 November 1991 and 5 February 1992. Soil samples were collected by hollow stem auger drilling techniques from one interval at four locations. A sediment sample was collected from inside the sewer line at manhole no. 1008 at Grid G7 using a stainless steel scoop. All samples were shipped to IT Laboratories for analysis.

The sample locations for Grids G6 and G7 are shown on Figure 2.26. The soils encountered during drilling consisted of a pale brown, coarse to fine gravelly sandy silt. Bedrock was encountered in some of the boreholes at depths ranging from 4.0 to 6.0 ft BGS, as determined by auger and split spoon refusal. Groundwater was not encountered during drilling. A summary of soil samples collected at this location

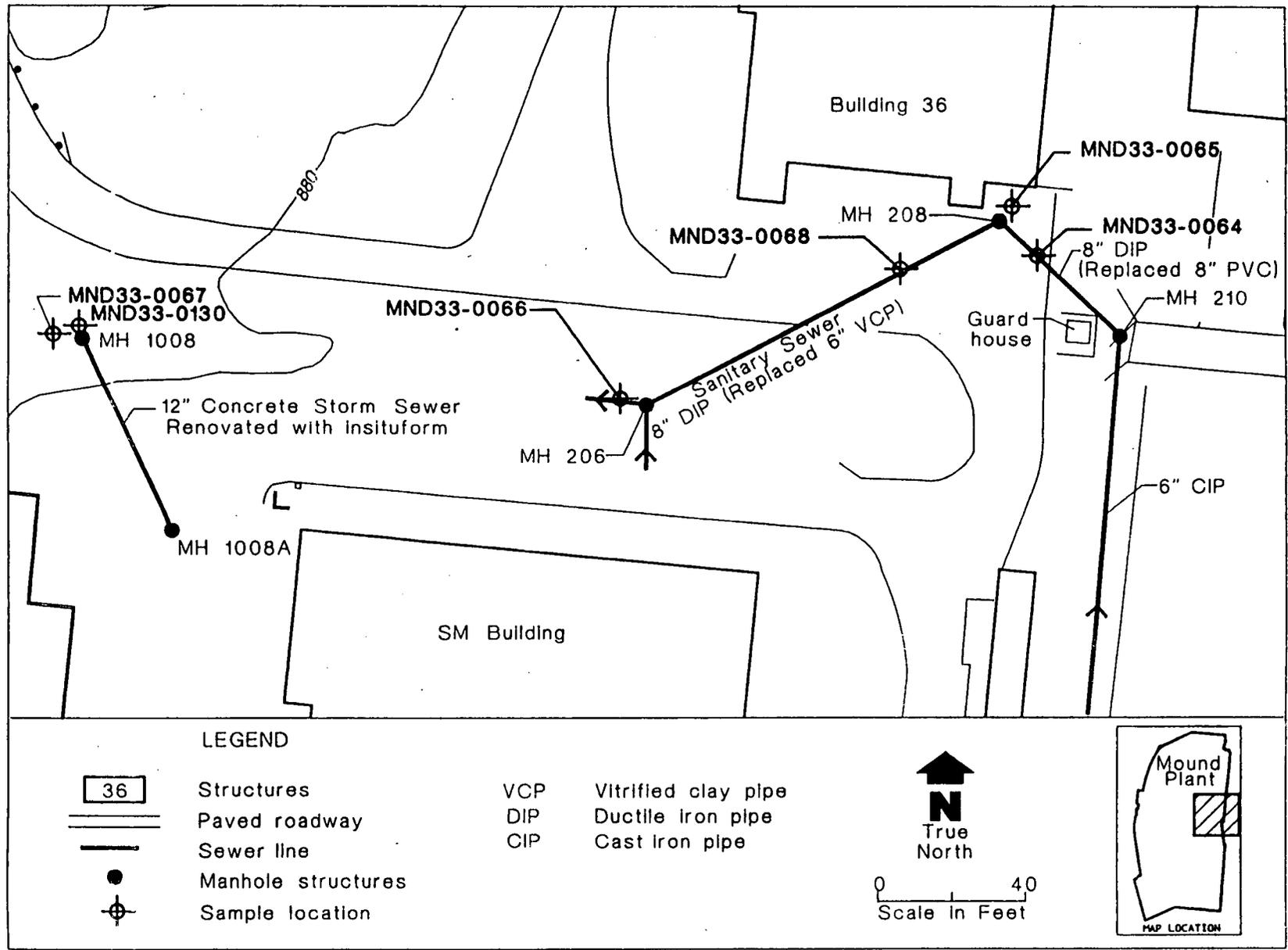


Figure 2.26. Underground sewer lines Grid G6 and Grid G7 soil sample locations.

listing the sample identification number, sampling depth interval, date sampled, and requested analytical parameters is presented in Table II.25.

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 is presented below:

- MND33-0064-0001 — Interval 4.0 to 8.0 ft BGS. Additional sample material from the 6.0- to 8.0-ft split spoon was necessary to obtain the required sample volume.
- MND33-0065-0001 — Interval 4.5 to 8.0 ft BGS. Additional sample material from the 6.0- to 8.0-ft split spoon was necessary to obtain the required sample volume for TCL VOCs only. Insufficient soil was recovered to collect soil for the remainder of the requested analytical parameters and insufficient area was available to place an additional borehole for additional recovery.
- MND33-0066-0001 — Interval 4.0 to 6.0 ft BGS. Two boreholes were attempted. No sample was collected because of insufficient recovery.
- MND33-0067-0001 — Interval 8.0 to 10.0 ft BGS. Two 8.0- to 10.0-ft split spoon samples, from two boreholes, were necessary to obtain the required volume for TCL VOCs only. There was insufficient recovery to collect remainder of sample.
- MND33-0068-0001 — Interval 4.5 to 8.5 ft BGS. Two 4.5- to 8.5-ft split spoon samples, from two boreholes, were necessary to obtain the required sample volume.

2.27. UNDERGROUND SEWER LINES GRID G12

2.27.1. Site History

2.27.1.1. Description of the Underground Sewer Lines Grid G12

The underground sewer line in Grid G12 is used to convey sanitary wastewater from the Plant sites to the sewage disposal building area (Building 57). The sewer lines in this grid are constructed of 8-inch-diameter vitrified clay pipe and 8-inch-diameter PVC pipe.

2.27.1.2. Potential Area Contaminants

Sanitary wastewater is transported to the sanitary wastewater treatment plant through the underground sewer lines. Sources of wastewater conveyed through the underground sewer lines may include one or more of the following; restrooms, showers, laundry facilities, laboratory sinks, and rinses from a small metal-

Table II.25. Underground Sewer Lines Grids G6 and G7 Sample Summary

Sample Location	Sample Number	Matrix	Date Sampled	Sample Interval (ft BGS)	Parameters Analyzed
MND33-0064	MND33-0064-0001	Soil	11/21/91	4.0-8.0	TCL VOCs, SVOCs, P/PCBs; TAL inorganics; explosives; chloride; nitrites/nitrates; tritium.
MND33-0065	MND33-0065-0001	Soil	11/21/91	4.5-8.0	TCL VOCs.
MND33-0066	MND33-0066-0001	Soil	11/21/91	4.0-6.0	Insufficient recovery, no sample collected.
MND33-0067	MND33-0067-0001	Soil	11/22/91	8.0-10.0	TCL VOCs.
MND33-0068	MND33-0068-0001	Soil	11/22/91	4.5-8.5	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; explosives; chloride; nitrites/nitrates; tritium.
	MND33-0068-5001	Water	11/22/91	---	TCL VOCs.
MND33-0130	MND33-0130-0001	Sediment	02/05/92	---	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; explosives; chloride; nitrites/nitrates; tritium.
	MND33-0130-1001	Sediment	02/05/92	---	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; explosives; chloride; nitrites/nitrates; tritium.

BGS - Below Ground Surface

ft - Feet

P/PCBs - Pesticides/Polychlorinated Biphenyls

SVOCs - Semivolatile Organic Compounds

TAL - Target Analyte List

TCL - Target Compound List

VOCs - Volatile Organic Compounds

refinishing operation. Some of the laboratory sinks have reportedly received small amounts of solvents, photographic solutions, acids, and bases. Based on the site history, it is not possible to determine if the system has received RCRA-regulated materials or to determine which listings are applicable.

Past releases from the underground sewer lines caused by leakage from broken pipes have been documented. In previous investigations of the sewer system, pipe and joint breaks, misalignments, cracks, sags, and obstructions were found.

2.27.2. Field Investigation Procedures

The objective of sampling adjacent to the underground sewer lines was to identify releases of hazardous contaminants that may have resulted from leakage. WESTON representatives conducted sampling activities at the Underground Sewer Lines Grid G12 area on 15 February 1992. Soil samples were collected using hollow stem auger drilling techniques from one interval at a single location near monitor well 0111. All samples collected by WESTON were shipped to IT Laboratories for analysis.

The sample location is shown on Figure 2.27. A summary of soil samples collected at this location listing the sample identification number, sampling depth interval, date sampled, and requested analytical parameters is presented in Table II.26.

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 is presented below:

- MND33-0139-0001 — Interval 20.0 to 24.0 ft BGS. Additional sample material from the 22.0- to 24.0-ft BGS split spoon was necessary to obtain the required sample volume for the sample and duplicate.

2.28. UNDERGROUND SEWER LINES GRID G14 WEST

2.28.1. Site History

2.28.1.1. Description of the Underground Sewer Lines Grid G14 West

The underground sewer lines in Grid G14 West are used to convey sanitary wastewater from the Plant sites to the sewage disposal building area (Building 57). The sewer lines in this grid are constructed of 6-inch and 8-inch-diameter vitrified clay pipe.

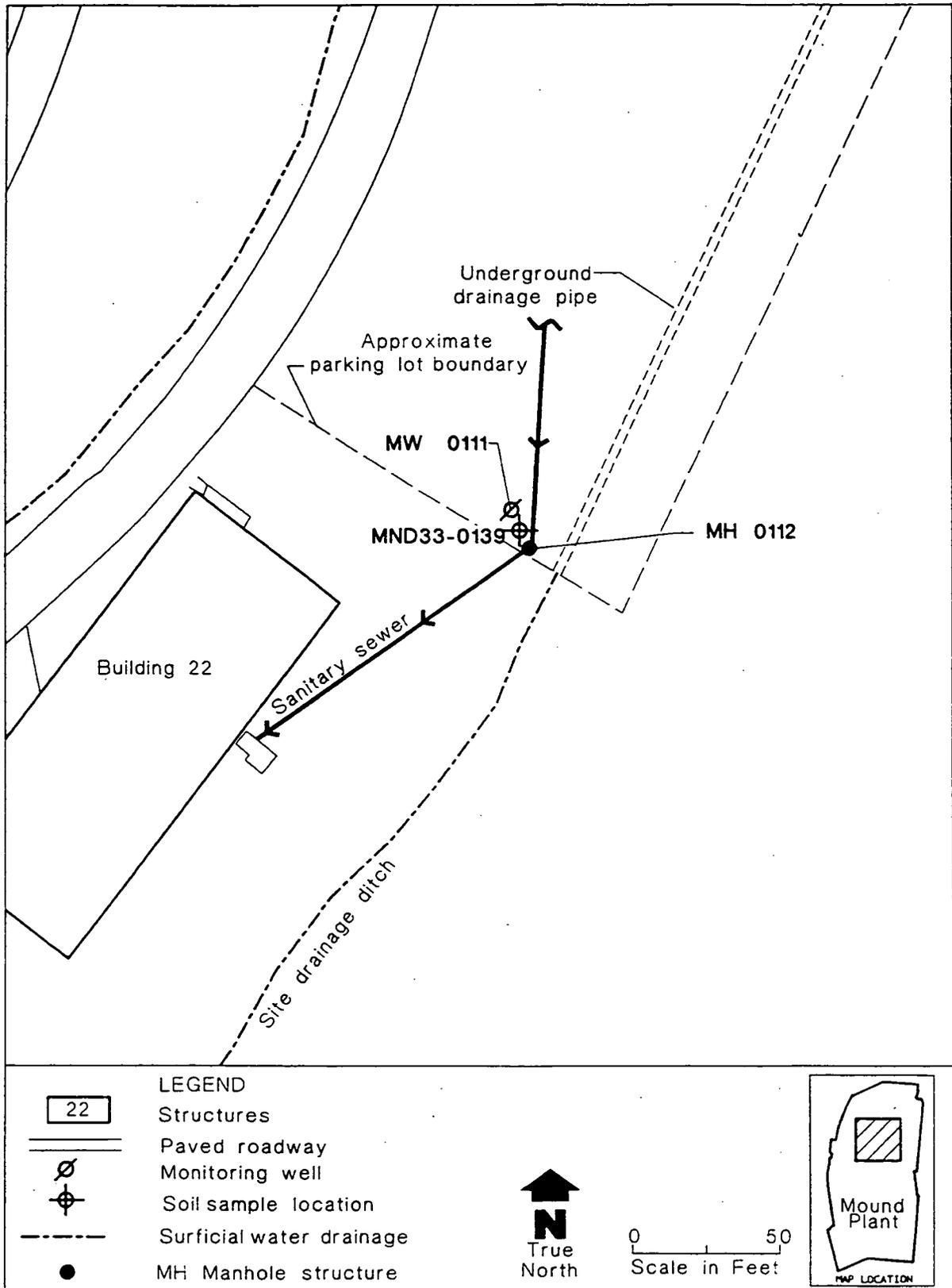


Figure 2.27. Underground sewer lines Grid G12 soil sample locations.

Table II.26. Underground Sewer Lines Grid G12 Sample Summary

Sample Location	Sample Number	Matrix	Date Sampled	Sample Interval (ft BGS)	Parameters Analyzed
MND33-0139	MND33-0139-0001	Soil	02/15/92	20.0-24.0	TCL VOCs, SVOCs, P/PCBs; TAL inorganics; explosives; chloride; nitrites/nitrates; tritium.
	MND33-0139-1001	Soil	02/15/92	20.0-24.0	TCL VOCs, SVOCs, P/PCBs; TAL inorganics; explosives; chloride; nitrites/nitrates; tritium.

BGS - Below Ground Surface

ft - Feet

P/PCBs - Pesticides/Polychlorinated Biphenyls

SVOCs - Semivolatile Organic Compounds

TAL - Target Analyte List

TCL - Target Compound List

VOCs - Volatile Organic Compounds

2.28.1.2. Potential Area Contaminants

Sanitary wastewater is transported to the sanitary wastewater treatment plant through the underground sewer lines. Sources of wastewater conveyed through the underground sewer lines may include one or more of the following; restrooms, showers, laundry facilities, laboratory sinks, and rinses from a small metal-finishing operation. Some of the laboratory sinks have reportedly received small amounts of solvents, photographic solutions, acids, and bases. Based on the site history, it is not possible to determine if the system has received RCRA-regulated materials or to determine which listings are applicable.

Past releases from the underground sewer lines caused by leakage from broken pipes have been documented. In previous investigations of the sewer system, pipe and joint breaks, misalignments, cracks, sags, and obstructions were found.

2.28.2. Field Investigation Procedures

The objective of sampling adjacent to the underground sewer lines was to identify releases of hazardous contaminants that may have resulted from leakage. WESTON representatives conducted sampling activities at the Underground Sewer Lines Grid G14 West area on 1 July 1991. Soil samples were collected by hollow stem auger drilling techniques from one interval at one location. All samples were shipped to IT Laboratories for analysis.

The Grid G14 West sample location is shown on Figure 2.28. The soils encountered during drilling consisted of a silty clay, with some sand and gravel. Groundwater was not encountered during drilling. A summary of soil samples collected at this location listing the sample identification number, sampling depth interval, date sampled, and requested analytical parameters is presented in Table II.27.

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 is presented below:

- The boring location was moved from its original location approximately 2.0 ft southeast because of auger refusal at 7.0 ft BGS. Additional split spoons were collected from 12.0 to 15.0 ft BGS in order to obtain sufficient sample volume.

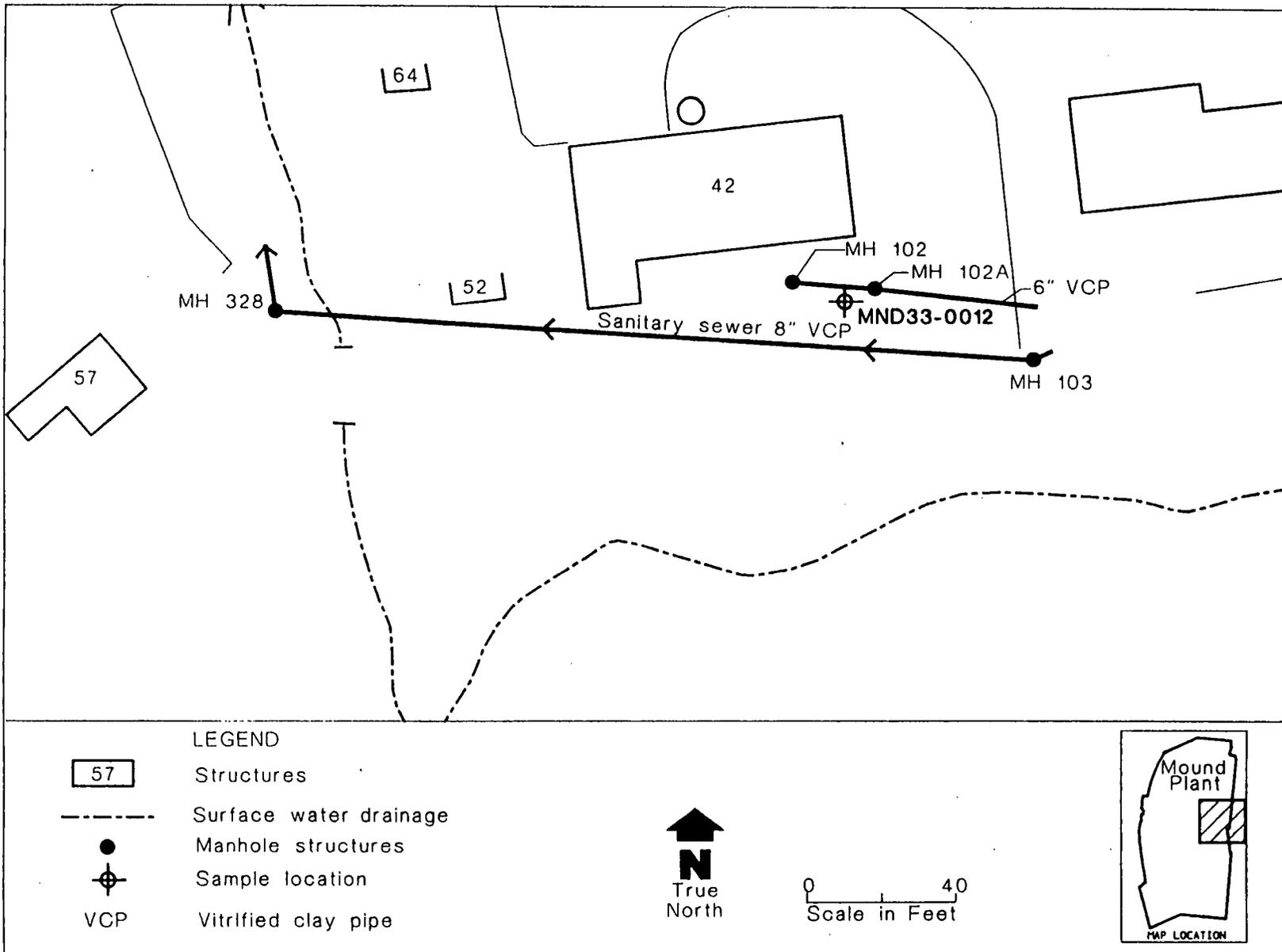


Figure 2.28. Underground sewer lines Grid G14 West soil sample locations.

Table II.27. Underground Sewer Lines Grid G14 West Sample Summary

Sample Location	Sample Number	Matrix	Date Sampled	Sample Interval (ft BGS)	Parameters Analyzed
MND33-0012	MND33-0012-0001	Soil	07/01/91	10.0-15.0	TCL VOCs, SVOCs, P/PCBs; TAL inorganics; explosives; chloride; nitrites/nitrates; tritium.

BGS – Below Ground Surface

ft – Feet

P/PCBs – Pesticides/Polychlorinated Biphenyls

SVOCs – Semivolatile Organic Compounds

TAL – Target Analyte List

TCL – Target Compound List

VOCs – Volatile Organic Compounds

2.29. UNDERGROUND SEWER LINES GRID G14 EAST

2.29.1. Site History

2.29.1.1. Description of the Underground Sewer Lines Grid G14 East

The underground sewer lines in Grid G14 East are used to convey sanitary wastewater from the Plant sites to the sewage disposal building area (Building 57). The sewer lines in this grid area are constructed of 6-inch and 8-inch diameter vitrified clay pipe.

2.29.1.2. Potential Area Contaminants

Sanitary wastewater is transported to the sanitary wastewater treatment plant through the underground sewer lines. Sources of wastewater conveyed through the underground sewer lines may include one or more of the following; restrooms, showers, laundry facilities, laboratory sinks, and rinses from a small metal-refinishing operation. Some of the laboratory sinks have reportedly received small amounts of solvents, photographic solutions, acids, and bases. Based on the site history, it is not possible to determine if the system has received RCRA-regulated materials or which listings are applicable. Past releases from the underground sewer lines caused by leakage from broken pipes have been documented. In previous investigations of the sewer system, pipe and joint breaks, misalignments, cracks, sags, and obstructions were found.

2.29.2. Field Investigation Procedures

The objective of sampling adjacent to the underground sewer lines was to identify releases of hazardous contaminants that may have resulted from leakage. WESTON representatives conducted sampling activities at the Underground Sewer lines Grid G14 East area on 1 July 1991. Soil samples were collected by hollow-stem auger drilling techniques from one interval at one location. All samples were shipped to IT Laboratories for analysis.

The sample location is shown on Figure 2.29. The soils encountered during drilling consisted of a silty clay. Groundwater was not encountered during drilling. A summary of soil samples collected at this location listing the sample identification number, sampling depth interval, date sampled, and requested analytical parameters is presented in Table II.28.

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 is presented below:

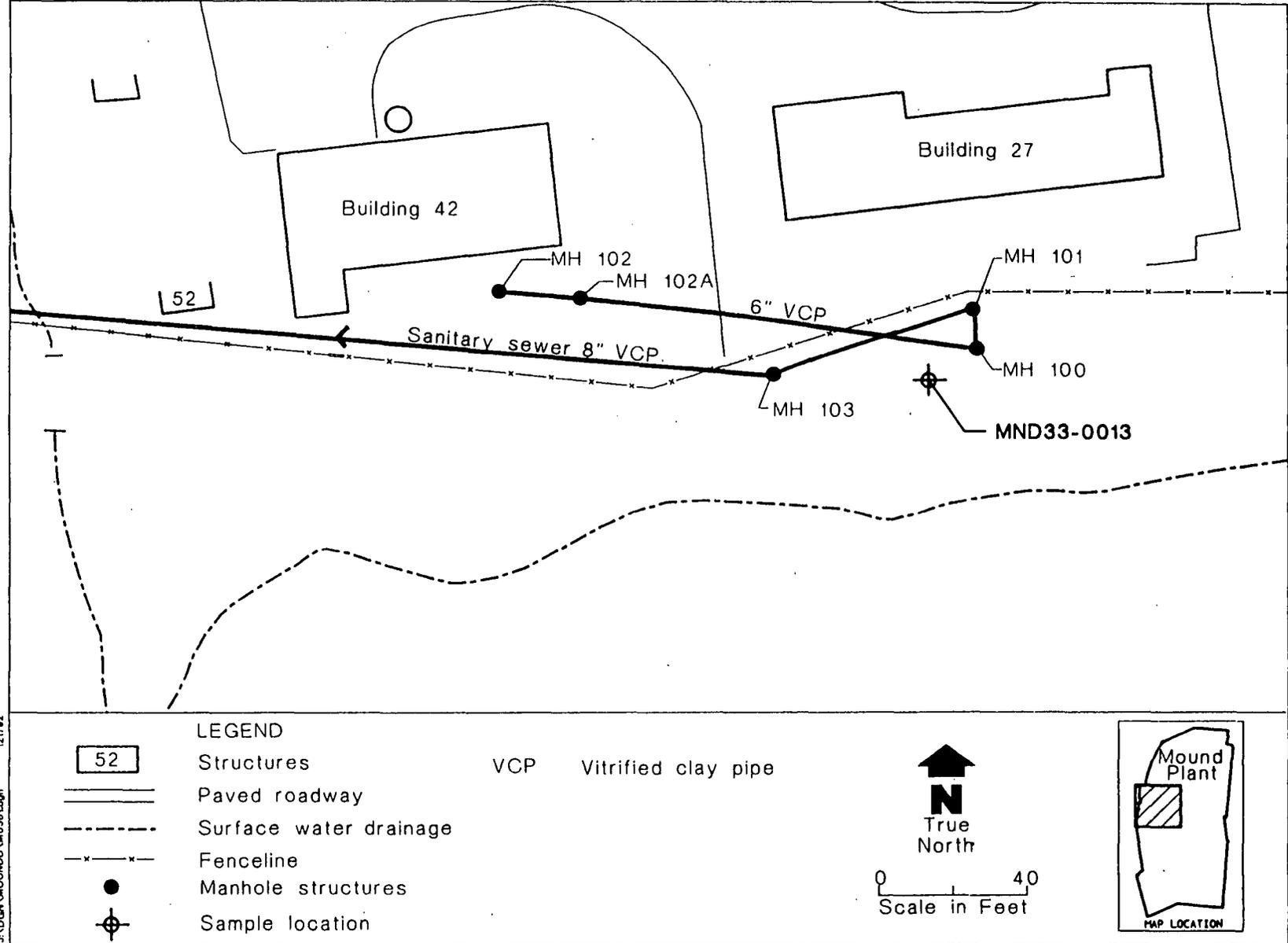


Figure 2.29. Underground sewer lines Grid G14 East soil sample locations.

Table II.28. Underground Sewer Lines Grid G14 East Sample Summary

Sample Location	Sample Number	Matrix	Date Sampled	Sample Interval (ft BGS)	Parameters Analyzed
MND33-0013	MND33-0013-0001	Soil	07/01/91	7.0-12.5	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; explosives; chloride; nitrites/nitrates; tritium.

BGS – Below Ground Surface

ft – Feet

P/PCBs – Pesticides/Polychlorinated Biphenyls

SVOCs – Semivolatile Organic Compounds

TAL – Target Analyte List

TCL – Target Compound List

VOCs – Volatile Organic Compounds

- Sample boring location was moved from its original location to a location approximately 5 ft southeast because of the presence of underground utilities. Additional split spoons were collected from 8.0 to 12.5 ft BGS in order to collect sufficient sample volume.

2.30. UNDERGROUND SEWER LINES GRID G15

2.30.1. Site History

2.30.1.1. Description of the Underground Sewer Lines Grid G15 Area

The underground sewer lines located throughout Mound Plant are used to convey sanitary and industrial wastewater and storm runoff from Plant sites to the sewage disposal building area (Building 57). The Grid G15 site contains 8-inch sanitary sewer pipes.

2.30.1.2. Potential Area Contaminants

Sanitary and industrial wastewater is transported to the sanitary wastewater treatment plant through the underground sewer lines. Sources of wastewater conveyed through the underground sewer lines include restrooms, showers, laundry facilities, laboratory sinks, and rinses from a small metal-refinishing operation. Some of the laboratory sinks have reportedly received small amounts of solvents, photographic solutions, acids, and bases. Based on this site history, it is not possible to determine if the system has received RCRA-regulated materials or which listings are applicable.

2.30.2. Field Investigation Procedures

The objective of sampling adjacent to some of the underground sewer lines was to identify releases of hazardous contaminants that may have resulted from leakage. Figure 2.30 shows the sampling locations in relation to the vitrified clay sewer line in areas of known or suspected leaks at Grid G15. Two sampling locations were next to the sanitary sewer line southwest of manhole no. 122 at distances of 40 and 160 ft and the third location was adjacent to manhole no. 0122.

A summary of the soil samples collected at Grid G15 listing the sample identification number, sampling depth interval, date sampled, and requested analytical parameters is presented in Table II.29. A summary of deviations from the approved sampling protocol is presented below:

Table II.29. Underground Sewer Lines Grid G15 Sample Summary

Sample Location	Sample Number	Matrix	Date Sampled	Sample Interval (ft BGS)	Parameters Analyzed
MND33-0106	MND33-0106-0001	Soil	1/18/92	13.5-15.5	TCL VOCs, SVOCs, and P/PCBs; TAL Inorganics; explosives; tritium; chloride; nitrites/nitrates.
	MND33-0106-1001	Soil	1/18/92	13.5-15.5	TCL VOCs, SVOCs, and P/PCBs; TAL Inorganics; explosives; tritium; chloride; nitrites/nitrates.
	MND33-0106-0002	Soil	1/18/92	17.5-19.5	TCL VOCs.
MND33-0107	MND33-0107-0001	Soil	1/18/92	12.5-14.5	TCL VOCs, SVOCs, and P/PCBs; TAL Inorganics; explosives; tritium; chloride; nitrites/nitrates.
	MND33-0107-4001	Water	1/19/92	---	TCL VOCs, SVOCs, and P/PCBs; TAL Inorganics; explosives; tritium; chloride; nitrites/nitrates.
MND33-0116	MND33-0116-0001	Soil	1/29/92	12.5-14.2	TCL VOCs, SVOCs, and P/PCBs; TAL Inorganics; explosives; tritium; chloride; nitrites/nitrates.
	MND33-0116-5001	Water	1/29/92	---	TCL VOCs.

BGS - Below Ground Surface

ft - Feet

P/PCBs - Pesticides/Polychlorinated Biphenyls

SVOCs - Semivolatile Organic Compounds

TAL - Target Analyte List

TCL - Target Compound List

VOCs - Volatile Organic Compounds

- Figure 16.7 Grid G15 in the OU 3 Work Plan indicates an abandoned 8-inch vitrified clay pipe sewer line and an 8-inch PVC sewer line. EG&G Mound representatives indicate that the vitrified clay pipe line is still in use and has not been abandoned and the 8-inch PVC line was not installed. Soil samples were collected from the locations specified in the OU 3 Work Plan.
- MND33-0106-0002 — An additional sample was collected at a depth interval of 17.5 to 19.5 ft BGS, because of the elevated OVA field screening instrument readings at the previous depth interval at location A.
- MND33-0116-0001 — The first attempt to collect a sample at this location was on 19 January 1992 (borehole 0108). Auger refusal met at 12.0 ft. Borehole was offset, where auger refusal was met at 2.5 ft. No samples were collected at this time. Sample collected on 29 January 1992 from offset borehole 0116.

2.31. UNDERGROUND SEWER LINES GRID G19/14

2.31.1. Site History

2.31.1.1. Description of the Underground Sewer Lines Grid G19/14 Area

The underground sewer lines located throughout Mound Plant are used to convey sanitary and industrial wastewater and storm runoff from Plant sites to the sewage disposal building area (Building 57). The Grid G19/14 area contains 8-inch vitrified clay pipe used to convey sanitary wastewater.

According to the Work Plan Figure for Grid G19/14, certain construction work was conducted which resulted in an abandoned line and a newly constructed line to take its place. According to EG&G Mound representatives, the construction work was never conducted and the abandoned lines are still in use. In some instances, insitu form work was accomplished instead of new construction.

2.31.1.2. Potential Area Contaminants

Sanitary and industrial wastewater is transported to the sanitary wastewater treatment plant through the underground sewer lines. Sources of wastewater conveyed through the underground sewer lines include restrooms, showers, laundry facilities, laboratory sinks, and rinses from a small metal-refinishing operation. Some of the laboratory sinks have reportedly received small amounts of solvents, photographic solutions, acids, and bases. Based on this site history, it is not possible to determine if the system has received RCRA-regulated materials or which listings are applicable.

2.31.2. Field Investigation Procedures

The objective of sampling adjacent to the grid G19/14 underground sewer lines was to identify releases of hazardous contaminants that may have resulted from leakage. Sampling activities were conducted on 29 January 1992, and 12 February 1992 by WESTON representatives. Activities included subsurface soil sampling by hollow stem auger drilling techniques. All samples were shipped to IT Laboratories for analysis.

Soil sample locations for grid G19/14 are shown on Figure 2.31 and are positioned along the vitrified clay pipe sanitary sewer line. 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.30.

Every effort has been 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:

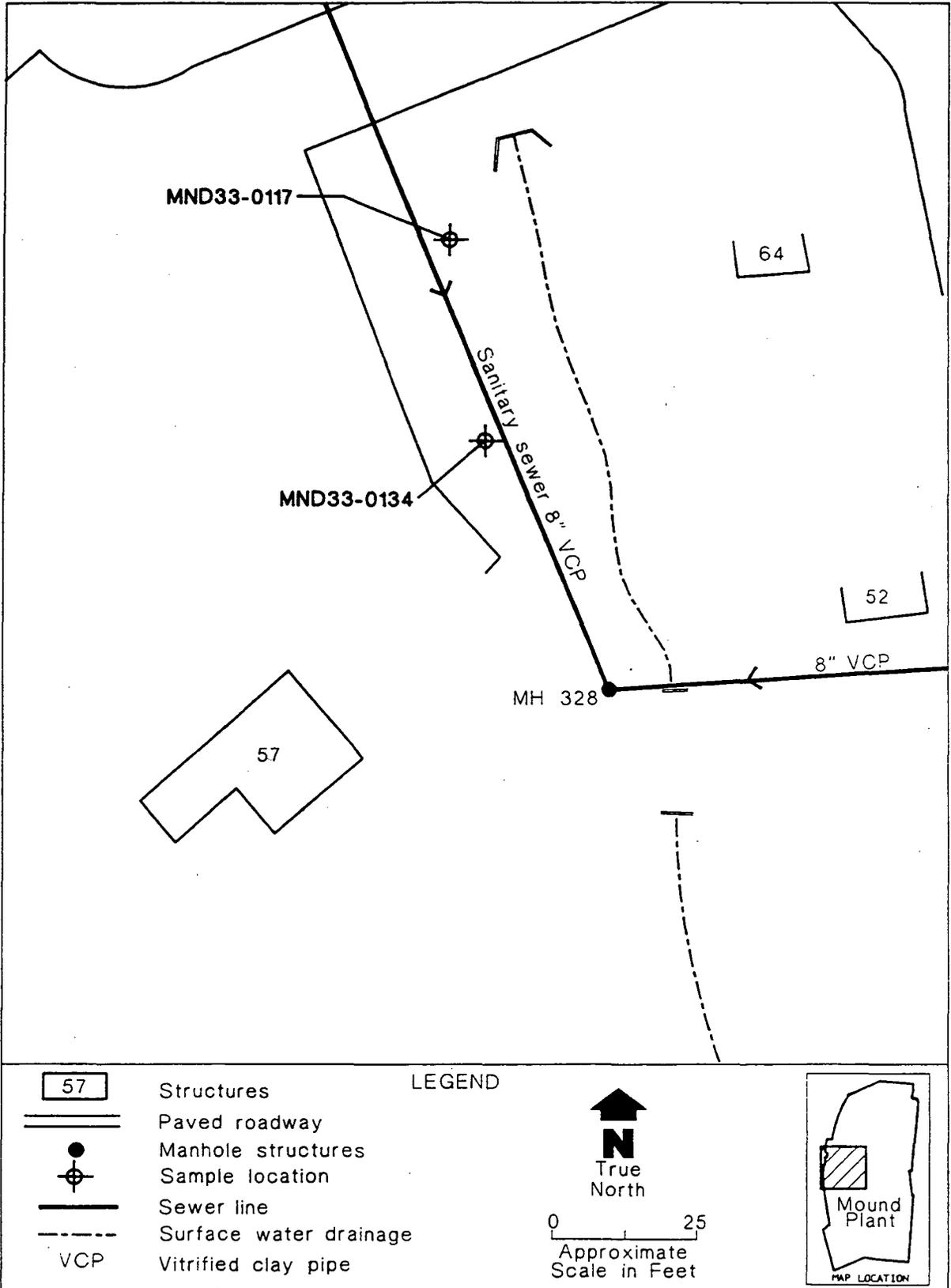
- MND33-0117-0001 — Interval 9.0 to 13.0 ft BGS. Additional sample from the 11.0- to 13.0-ft BGS split spoon was necessary to obtain the required sample volume for the sample and duplicate. Groundwater was encountered at 13.0 ft BGS.
- MND33-0134-0001 — Interval 7.0 to 11.0 ft BGS. Additional sample from the 9.0- to 11.0-ft BGS split spoon was necessary to obtain the required sample volume.
- MND33-0134-0002 — Interval 11.0 to 15.0 ft BGS. Additional sample from the 13.0- to 15.0-ft BGS split spoon was necessary to obtain the required sample volume. Groundwater was encountered at 14.5 ft BGS.

2.32. UNDERGROUND SEWER LINES GRID G24

2.32.1. Site History

2.32.1.1. Description of the Underground Sewer Lines Grid G24 Area

The underground sewer lines located throughout Mound Plant are used to convey sanitary and industrial wastewater and storm runoff from Plant sites to the wastewater treatment sewage disposal building. The Grid G24 area contains abandoned 8-inch vitrified clay pipe and active 8-inch PVC pipe to transport sanitary sewage.



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Figure 2.31. Underground sewer lines Grid G19/14 soil sample locations.

Table II.30. Underground Sewer Lines Grid G19/14 Sample Summary

Sample Location	Sample Number	Matrix	Date Sampled	Sample Interval (ft BGS)	Parameters Analyzed
MND33-0117	MND33-0117-0001	Soil	1/29/92	9.0-13.0	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; explosives; chloride; nitrites/nitrates; tritium.
	MND33-0117-1001	Soil	1/29/92	9.0-13.0	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; explosives; chloride; nitrites/nitrates; tritium.
MND33-0134	MND33-0134-0001	Soil	2/12/92	7.0-11.0	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; explosives; chloride; nitrites/nitrates; tritium.
	MND33-0134-0002	Soil	2/12/92	11.0-15.0	TCL VOCs, SVOCs, P/PCBs; TAL Inorganics; explosives; chloride; nitrites/nitrates; tritium.
	MND33-0134-5001	Water	2/12/92	---	TCL VOCs.

BGS – Below Ground Surface

ft – Feet

P/PCBs – Pesticides/Polychlorinated Biphenyls

SVOCs – Semivolatile Organic Compounds

TAL – Target Analyte List

TCL – Target Compound List

VOCs – Volatile Organic Compounds

2.32.1.2. Potential Area Contaminants

Sanitary and industrial wastewater is transported to the sanitary wastewater treatment plant through the underground sewer lines. Sources of wastewater conveyed through the underground sewer lines include restrooms, showers, laundry facilities, laboratory sinks, and rinses from a small metal-refinishing operation. Some of the laboratory sinks have reportedly received small amounts of solvents, photographic solutions, acids, and bases. Based on this site history, it is not possible to determine if the system has received RCRA-regulated materials or to determine which listings are applicable.

2.32.2. Field Investigation Procedures

The objective of sampling at the Grid G24 Underground Sewer Lines was to identify potential hazardous contaminants that may be present because of leaks in the sewer lines. WESTON representatives conducted sampling activities at the Grid G24 area on 19 December 1991 and 30 January 1992. Sampling was attempted near manhole no. 0002 (as indicated in the Work Plan) using hollow stem auger drilling techniques. No samples were collected at the location near manhole no. 0002 because of auger and split spoon refusal (Lawlor 1992). The sample locations are indicated on Figure 2.32.

Samples were not obtained in the area of manhole no. 0002 because of the shallow bedrock geology. Two boreholes were drilled; the first was closest to the sewer line, approximately 3 ft away, and the second was 5 ft from the line. Drill rig auger refusal was encountered at approximately 8.0 ft BGS at the first borehole and at 6.5 ft BGS at the second borehole. A soil sample could not be collected at the required depth interval of 9.5 to 11.5 ft BGS. In addition, auger rig drilling could not be conducted at the remaining three sample locations because of the steep slope.

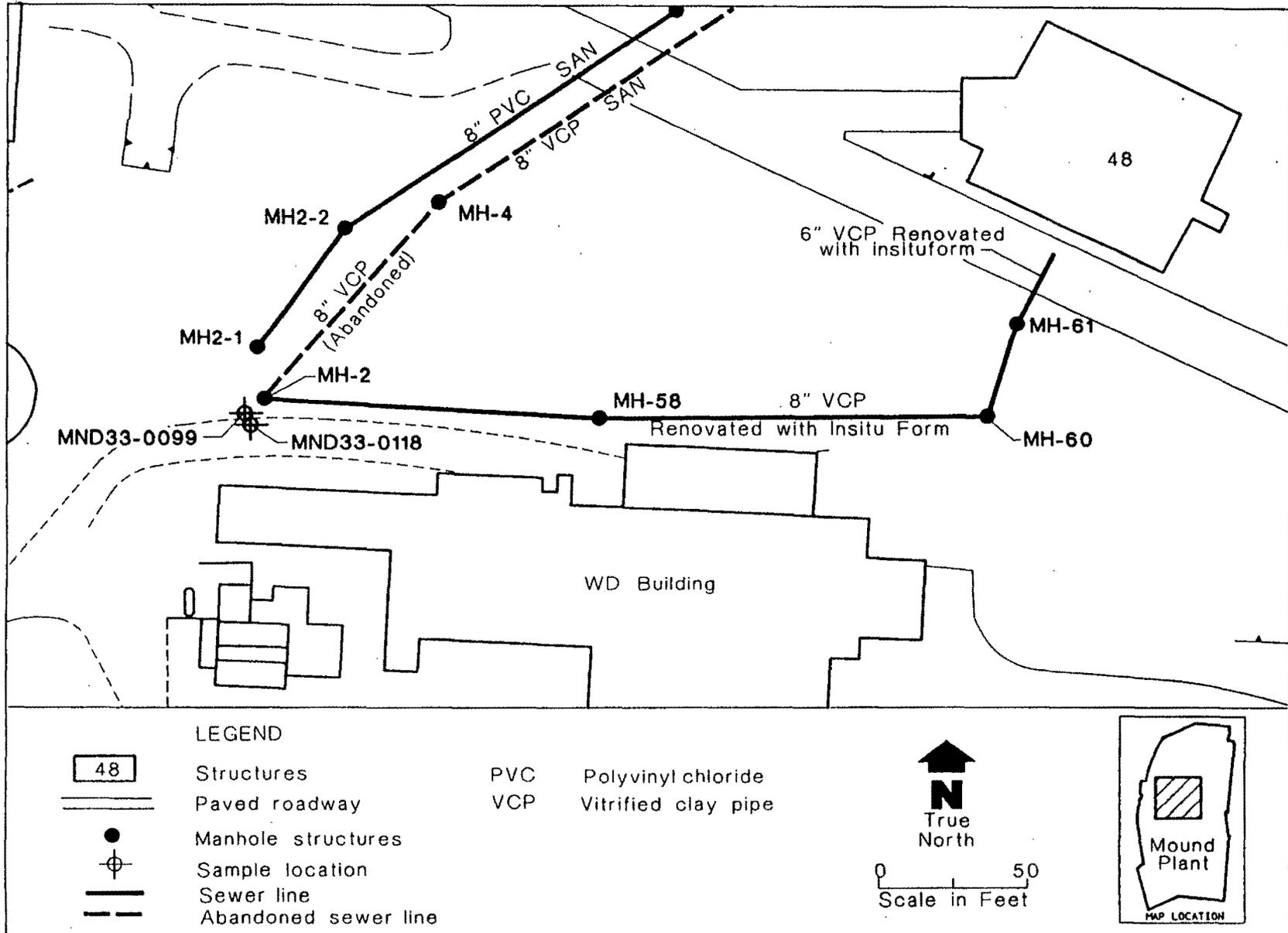


Figure 2.32. Underground sewer lines Grid G24 soil sample locations.

3.32 UNDERGROUND SEWER LINES GRID G24

Sewer lines in the Grid G24 area are located in a sharply sloped area north of the WD building on the Mound Plant Main Hill. The lines are constructed of vitrified clay pipe and PVC. Soil sampling was to be conducted in this area to assess whether breaks in the sewer lines have impacted soils in the vicinity of the sewer lines, but soil samples could not be collected at this site because of auger and split spoon refusal, the steepness of the topography, and the location of underground utility lines. A more detailed description of the Underground Sewer Lines Grid G24 site history and attempted field investigation procedures is presented in subsection 2.32. Further investigation of soil quality at the Grid G24 area may be accomplished using alternative investigative techniques. The Grid G24 sewer lines contain or have contained materials similar to or identical to other OU 3 LFI sewer lines, and the nature of reported structural deficiencies in the Grid G24 sewer line would be similar to other OU 3 LFI sewer lines. Investigative results indicate that soil quality has not been impacted at the OU 3 LFI sewer line grids as a result of previous activities. Based upon these conditions, it is reasonable to assume that soils have not been impacted by site activities at the Grid G24 sewer lines and that further investigative activities would not be necessary.

3.25. UNDERGROUND SEWER LINES GRID G5

Sources of water conveyed through the underground sewer lines included restrooms, showers, laundry facilities, laboratory sinks, and rinses from a small metal finishing operation. Some of the laboratory sinks reportedly received small amounts of solvents, photographic solutions, acids, and bases. The Grid 5 sewer line is located next to Building 57 and the sewage treatment plant. The line is constructed of 8-inch vitrified clay pipe with a section of ductile iron pipe.

Soil sampling was conducted in this area to assess whether breaks in the sewer lines have impacted soils at this site. A more detailed description of the Underground Sewer Lines Grid G5 site history and field investigation procedures is presented in subsection 2.25.

One soil sample collected from location MND33-0080 and one soil sample collected from location MND33-0081 were analyzed for TCL VOCs, SVOCs, P/PCBs; TAL inorganics; explosives; chloride; and nitrate/nitrite. The validated analytical results for all analytes detected above laboratory reporting limits are presented in Table III.28.

3.25.1. Volatile Organic Compounds

VOCs were not detected above laboratory reporting limits in any of the samples analyzed.

3.25.2. Semivolatile Organic Compounds

The only SVOC detected above laboratory reporting limits, bis (2-ethylhexyl) phthalate, was detected in sample MND33-0081 slightly above the laboratory reporting limit and significantly below the PRG. Bis (2-ethylhexyl) phthalate is a common analytical laboratory contaminant and is not considered to be a significant soil contaminant in the Underground Sewer Lines Grid G5 area.

3.25.3. Pesticides and Polychlorinated Biphenyls

P/PCBs were not detected above laboratory reporting limits in any of the samples analyzed.

3.25.4. TAL Inorganics

Inorganic compounds were not detected in soil samples from the Underground Sewer Lines Grid G5 area at concentrations above PRGs or proposed action levels.

3.25.5. Explosives, Chloride, Nitrates, and Nitrites

Explosives were not detected above laboratory reporting limits in soil samples from the Underground Sewer Lines Grid G5 area. Chloride was detected in both samples, but is not considered to be an analyte of concern. Nitrate and nitrite were present in both samples at levels above the laboratory reporting limits, but below the PRGs and are not considered to be of concern at these concentrations.

3.25.6. Summary

The results of the laboratory analyses for samples collected at the Underground Sewer Lines Grid G5 area indicate sewer line operations in this area have not adversely impacted soil quality in the vicinity of the site. As a result of these findings, no further action involving site characterization or soil remediation at the Underground Sewer Lines Grid G5 area is recommended.

TABLE III.28
 UNDERGROUND SEWER LINES GRID G5
 Location: MND33-0080
 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	6.	10300.		7.8E+05	I
ANTIMONY, TOTAL	0001	S	mG/Kg	3.	8.5	J	1.1E+02	I
ARSENIC, TOTAL	0001	S	mG/Kg	.2	3.7	J	2.1E+03	I
BARIUM, TOTAL	0001	S	mG/Kg	.2	42.9		1.9E+04	I
BERYLLIUM	0001	S	mG/Kg	.2	.82		1.5E-01	I
CADMIUM, TOTAL	0001	S	mG/Kg	.2	1.5	J	1.4E+02	I
CALCIUM, TOTAL	0001	S	mG/Kg	2.	72900.		NA	I
CHLORIDE	0001	S	mG/Kg	10.	29.5	J	NA	I
CHROMIUM, TOTAL	0001	S	mG/Kg	1.	27.	J	1.4E+03	I
COBALT, TOTAL	0001	S	mG/Kg	1.	12.7	J	3.9E+01	I
COPPER, TOTAL	0001	S	mG/Kg	1.	20.5	J	1.0E+04	I
IRON, TOTAL	0001	S	mG/Kg	1.	20300.		NA	I
LEAD, TOTAL	0001	S	mG/Kg	.2	8.8	J	5.3E+01	I
MAGNESIUM, TOTAL	0001	S	mG/Kg	5.	10900.		NA	I
MANGANESE, TOTAL	0001	S	mG/Kg	.2	608.		2.7E+04	I
NICKEL, TOTAL	0001	S	mG/Kg	2.	23.7		5.4E+03	I
NITRATE	0001	S	mG/Kg	2.	20.7		4.3E+05	I
NITRITE AS NITROGEN	0001	S	mG/Kg	2.	3.89		2.7E+04	I
POTASSIUM, TOTAL	0001	S	mG/Kg	10.	1320.		NA	I
SILVER, TOTAL	0001	S	mG/Kg	1.	12.4	J	1.4E+03	I
SODIUM, TOTAL	0001	S	mG/Kg	10.	259.		NA	I
THALLIUM, TOTAL	0001	S	mG/Kg	.2	.56		NA	I
VANADIUM, TOTAL	0001	S	mG/Kg	1.	25.6		1.9E+03	I
ZINC, TOTAL	0001	S	mG/Kg	.5	43.	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.28
 UNDERGROUND SEWER LINES GRID G5
 Location: MND33-0081
 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	6.	10100.		7.8E+05	I
ANTIMONY, TOTAL	0001	S	mG/Kg	3.	13.8	J	1.1E+02	I
ARSENIC, TOTAL	0001	S	mG/Kg	.2	.84	J	2.1E+03	I
BARIUM, TOTAL	0001	S	mG/Kg	.2	19.7		1.9E+04	I
BERYLLIUM	0001	S	mG/Kg	.2	.76		1.5E-01	I
BIS(2-ETHYLHEXYL)PHTHALATE	0001	S	mG/Kg	0.81	1.5	J	4.6E+01	I
CADMIUM, TOTAL	0001	S	mG/Kg	.2	2.4	J	1.4E+02	I
CALCIUM, TOTAL	0001	S	mG/Kg	2.	71100.		NA	I
CHLORIDE	0001	S	mG/Kg	10.	122.7	J	NA	I
CHROMIUM, TOTAL	0001	S	mG/Kg	1.	28.9	J	1.4E+03	I
COBALT, TOTAL	0001	S	mG/Kg	1.	14.7	J	3.9E+01	I
COPPER, TOTAL	0001	S	mG/Kg	1.	22.4	J	1.0E+04	I
IRON, TOTAL	0001	S	mG/Kg	1.	21800.		NA	I
LEAD, TOTAL	0001	S	mG/Kg	.2	2.9	J	5.3E+01	I
MAGNESIUM, TOTAL	0001	S	mG/Kg	5.	18100.		NA	I
MANGANESE, TOTAL	0001	S	mG/Kg	.2	529.		2.7E+04	I
NICKEL, TOTAL	0001	S	mG/Kg	2.	28.9		5.4E+03	I
NITRATE	0001	S	mG/Kg	2.	2.54		4.3E+05	I
NITRITE AS NITROGEN	0001	S	mG/Kg	2.	2.39		2.7E+04	I
POTASSIUM, TOTAL	0001	S	mG/Kg	10.	1750.		NA	I
SILVER, TOTAL	0001	S	mG/Kg	1.	12.6	J	1.4E+03	I
SODIUM, TOTAL	0001	S	mG/Kg	10.	443.		NA	I
VANADIUM, TOTAL	0001	S	mG/Kg	1.	24.3		1.9E+03	I
ZINC, TOTAL	0001	S	mG/Kg	.5	46.6	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

3.26. UNDERGROUND SEWER LINES GRIDS G6 AND G7

Sources of wastewater conveyed through the underground sewer lines included restrooms, showers, laundry facilities, laboratory sinks, and rinses from a small metal finishing operation. Some of the laboratory sinks reportedly received small amounts of solvents, photographic solutions, acids, and bases.

The sewer lines in Grids G6 and G7 are located near Building 36 and the SM building. The sewers in this area are constructed of concrete, vitrified clay pipe, or polyvinyl chloride. Soil and sediment sampling was conducted in this area to assess whether breaks in the sewer lines have impacted soils and sediments in the vicinity of the sewer lines. A more detailed description of the Underground Sewer Lines Grids G6 and G7 site history and field investigation procedures is presented in subsection 2.26.

Four soil samples and two sediment samples were collected from the Grids G6 and G7 area. Two soil samples, from locations MND33-0065 and 0067, were only analyzed for TCL VOCs. The remaining soil and sediment samples were analyzed for TCL VOCs, SVOCs, P/PCBs; TAL inorganics; explosives; chloride; nitrites/nitrates; and tritium. Sample MND33-0068 was also analyzed for lithium. The validated analytical results for all analytes detected above laboratory reporting limits in each sample are presented in Table III.29.

3.26.1. Volatile Organic Compounds

Tetrachloroethene (PCE) was detected at sediment sample MND33-0130-0001 and duplicate sample -1001 at concentrations above the laboratory reporting limit but below the PRG. No other VOCs were detected in soil or sediment samples from Grids G6 and G7 at concentrations above the laboratory reporting limits. Because VOCs were not detected above laboratory reporting limits, the analytical results for sample locations MND33-0065 and -0067, which were analyzed for VOCs only, are not included in Table III.29.

3.26.2. Semivolatile Organic Compounds

Bis (2-ethylhexyl) phthalate was detected above laboratory reporting limits, but below the PRG in samples MND33-0064 and -0068. Ten PAH compounds were detected in the sediment sample from location MND33-0130. The PAH compounds benzo(a) anthracene, benzo(a) pyrene, benzo(b) fluoranthene, benzo(k) fluoranthene, indeno (1,2,3-CD) pyrene, and pyrene were detected at concentrations above the laboratory reporting limits and PRGs. The PAH compounds benzo(g,h,i) perylene, chrysene, fluoranthene, and phenanthrene were detected at concentrations above laboratory reporting limits but below PRGs. No other SVOCs were detected in soil and sediment samples from Grids G6 and G7. The occurrence of SVOCs at concentrations above laboratory reporting limits in the Grid G6 and G7 sediment sample does not reflect

an impact to sediment quality. The occurrence of PAH compounds in the sediment may be due to surface runoff from nearby asphalt surfaces. The occurrence of bis(2-ethylhexyl) phthalate in two soil samples at concentrations below the PRG does not reflect an impact to site soil quality.

3.26.3. Pesticides and Polychlorinated Biphenyls

P/PCBs were not detected in concentrations above laboratory reporting limits in any of the samples analyzed.

3.26.4. TAL Inorganics

Inorganic compounds were not detected in soil or sediment samples from the Underground Sewer Lines Grids G6 and G7 area at concentrations above PRGs or proposed action levels.

3.26.5. Explosives, Chloride, Nitrates, Nitrites, Tritium, and Lithium

Explosives were not detected at concentrations above laboratory reporting limits in any soil or sediment samples collected in the Underground Sewer Lines Grids G6 and G7 area. Chloride was detected in soil and sediment samples. A PRG for chloride has not been established. However, the detected concentrations do not reflect an impact to site soil and sediment quality. Nitrate and nitrite were detected in soil and sediment samples at concentrations above laboratory reporting limits but below respective PRGs. Tritium and lithium were not detected in soil or sediment samples at concentrations above laboratory reporting limits.

3.26.6. Summary

The analytical results for samples collected from the Underground Sewer Lines Grids G6 and G7 area indicate that sewer line operations in this area have not adversely impacted soil quality. As a result of these findings, no further action involving site characterization or soil remediation at the Underground Sewer Lines Grids G6 and G7 area is recommended.

TABLE III.29
 UNDERGROUND SEWER LINES GRIDS G6 AND G7
 Location: MND33-0064
 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	6.	2910.		7.8E+05	I
ANTIMONY, TOTAL	0001	S	mg/Kg	3.	32.3	J	1.1E+02	I
ARSENIC, TOTAL	0001	S	mg/Kg	.2	7.1	J	2.1E+03	I
BARIUM, TOTAL	0001	S	mg/Kg	.2	56.		1.9E+04	I
BERYLLIUM	0001	S	mg/Kg	.2	.66	J	1.5E-01	I
BIS(2-ETHYLHEXYL)PHTHALATE	0001	S	mg/Kg	0.36	0.89	J	4.6E+01	I
CADMIUM, TOTAL	0001	S	mg/Kg	.2	7.3		1.4E+02	I
CALCIUM, TOTAL	0001	S	mg/Kg	2.	154000.		NA	I
CHLORIDE	0001	S	mg/Kg	10.	15.4	J	NA	I
CHROMIUM, TOTAL	0001	S	mg/Kg	1.	23.9	J	1.4E+03	I
COBALT, TOTAL	0001	S	mg/Kg	1.	7.9	J	3.9E+01	I
COPPER, TOTAL	0001	S	mg/Kg	1.	13.7	J	1.0E+04	I
IRON, TOTAL	0001	S	mg/Kg	1.	8470.		NA	I
LEAD, TOTAL	0001	S	mg/Kg	.2	5.6	J	5.3E+01	I
MAGNESIUM, TOTAL	0001	S	mg/Kg	5.	51000.	J	NA	I
MANGANESE, TOTAL	0001	S	mg/Kg	.2	224.	J	2.7E+04	I
NICKEL, TOTAL	0001	S	mg/Kg	2.	18.1	J	5.4E+03	I
NITRATE	0001	S	mg/Kg	2.	129.		4.3E+05	I
NITRITE AS NITROGEN	0001	S	mg/Kg	2.	5.02		2.7E+04	I
POTASSIUM, TOTAL	0001	S	mg/Kg	10.	506.		NA	I
SILVER, TOTAL	0001	S	mg/Kg	1.	16.7	J	1.4E+03	I
SODIUM, TOTAL	0001	S	mg/Kg	10.	163.		NA	I
VANADIUM, TOTAL	0001	S	mg/Kg	1.	20.5	J	1.9E+03	I
ZINC, TOTAL	0001	S	mg/Kg	.5	23.	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.29
 UNDERGROUND SEWER LINES GRIDS G6 AND G7
 Location: MND33-0068
 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	6.	4040.		7.8E+05	1
ANTIMONY, TOTAL	0001	S	mg/Kg	3.	28.2	J	1.1E+02	1
ARSENIC, TOTAL	0001	S	mg/Kg	.2	2.9	J	2.1E+03	1
BARIUM, TOTAL	0001	S	mg/Kg	.2	30.4		1.9E+04	1
BERYLLIUM	0001	S	mg/Kg	.2	.7		1.5E-01	1
BIS(2-ETHYLHEXYL)PHTHALATE	0001	S	mg/Kg	0.37	0.41	J	4.6E+01	1
CADMIUM, TOTAL	0001	S	mg/Kg	.2	4.6		1.4E+02	1
CALCIUM, TOTAL	0001	S	mg/Kg	2.	128000.		NA	1
CHLORIDE	0001	S	mg/Kg	10.	10.65	J	NA	1
CHROMIUM, TOTAL	0001	S	mg/Kg	1.	25.1		1.4E+03	1
COBALT, TOTAL	0001	S	mg/Kg	1.	9.		3.9E+01	1
COPPER, TOTAL	0001	S	mg/Kg	1.	17.4		1.0E+04	1
IRON, TOTAL	0001	S	mg/Kg	1.	12200.		NA	1
LEAD, TOTAL	0001	S	mg/Kg	.2	4.5	J	5.3E+01	1
MAGNESIUM, TOTAL	0001	S	mg/Kg	5.	39100.	J	NA	1
MANGANESE, TOTAL	0001	S	mg/Kg	.2	262.	J	2.7E+04	1
NICKEL, TOTAL	0001	S	mg/Kg	2.	22.7		5.4E+03	1
NITRATE	0001	S	mg/Kg	2.	95.66	J	4.3E+05	1
NITRITE AS NITROGEN	0001	S	mg/Kg	2.	3.07	J	2.7E+04	1
POTASSIUM, TOTAL	0001	S	mg/Kg	10.	644.		NA	1
SILVER, TOTAL	0001	S	mg/Kg	1.	15.5	J	1.4E+03	1
SODIUM, TOTAL	0001	S	mg/Kg	10.	173.		NA	1
VANADIUM, TOTAL	0001	S	mg/Kg	1.	20.9		1.9E+03	1
ZINC, TOTAL	0001	S	mg/Kg	.5	30.5	J	5.4E+04	1

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.29
 UNDERGROUND SEWER LINES GRIDS G6 AND G7
 Location: MWD33-0130
 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	SE	mG/Kg	6.	5260.		7.8E+05	I
ALUMINUM, TOTAL	1001	SE	mG/Kg	6.	4540.		7.8E+05	I
ANTIMONY, TOTAL	0001	SE	mG/Kg	3.	26.1	J	1.1E+02	I
ANTIMONY, TOTAL	1001	SE	mG/Kg	3.	18.6	J	1.1E+02	I
BARIUM, TOTAL	0001	SE	mG/Kg	.2	47.0	J	1.9E+04	I
BARIUM, TOTAL	1001	SE	mG/Kg	.2	58.8	J	1.9E+04	I
BENZO(A)ANTHRACENE	0001	SE	mG/Kg	0.84	1.9	J	6.0E-01	I
BENZO(A)ANTHRACENE	1001	SE	mG/Kg	0.82	0.93	J	6.0E-01	I
BENZO(A)PYRENE	0001	SE	mG/Kg	0.84	1.7	J	8.8E-02	I
BENZO(A)PYRENE	1001	SE	mG/Kg	0.82	0.91	J	8.8E-02	I
BENZO(B)FLUORANTHENE	0001	SE	mG/Kg	0.84	1.4	J	6.4E-01	I
BENZO(B)FLUORANTHENE	1001	SE	mG/Kg	0.82	1.1	J	6.4E-01	I
BENZO(G,H,I)PERYLENE	0001	SE	mG/Kg	0.84	1.3	J	4.0E+00	I
BENZO(K)FLUORANTHENE	0001	SE	mG/Kg	0.84	1.5	J	1.3E+00	I
BERYLLIUM	0001	SE	mG/Kg	.2	1.4		1.5E-01	I
BERYLLIUM	1001	SE	mG/Kg	.2	1.3		1.5E-01	I
CADMIUM, TOTAL	0001	SE	mG/Kg	.2	7.9	J	1.4E+02	I
CADMIUM, TOTAL	1001	SE	mG/Kg	.2	6.4	J	1.4E+02	I
CALCIUM, TOTAL	0001	SE	mG/Kg	2.	128000.		NA	I
CALCIUM, TOTAL	1001	SE	mG/Kg	2.	122000.		NA	I
CHLORIDE	0001	SE	mG/Kg	.5	121.28		NA	I
CHLORIDE	1001	SE	mG/Kg	.5	104.41		NA	I
CHROMIUM, TOTAL	0001	SE	mG/Kg	1.	23.3		1.4E+03	I
CHROMIUM, TOTAL	1001	SE	mG/Kg	1.	22.8		1.4E+03	I
CHRYSENE	0001	SE	mG/Kg	0.84	2.2	J	2.0E+01	I
CHRYSENE	1001	SE	mG/Kg	0.82	1.2	J	2.0E+01	I
COBALT, TOTAL	0001	SE	mG/Kg	1.	6.2		3.9E+01	I
COBALT, TOTAL	1001	SE	mG/Kg	1.	4.5		3.9E+01	I
COPPER, TOTAL	0001	SE	mG/Kg	1.	63.2	J	1.0E+04	I
COPPER, TOTAL	1001	SE	mG/Kg	1.	35.8	J	1.0E+04	I
FLUORANTHENE	0001	SE	mG/Kg	0.84	5.2	J	1.1E+04	I
FLUORANTHENE	1001	SE	mG/Kg	0.82	2.9	J	1.1E+04	I
INDENO(1,2,3-CD)PYRENE	0001	SE	mG/Kg	0.84	1.3	J	3.8E-01	I
IRON, TOTAL	0001	SE	mG/Kg	1.	11000.	J	NA	I
IRON, TOTAL	1001	SE	mG/Kg	1.	5120.	J	NA	I
LEAD, TOTAL	0001	SE	mG/Kg	.2	39.1		5.3E+01	I

PRG - Preliminary Remediation Goals (Risk Based)
 J - The associated value is an estimated quantity
 I - Initial Analysis
 SE - Sediment
 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.29
 UNDERGROUND SEWER LINES GRIDS G6 AND G7
 Location: MND33-0130
 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
LEAD, TOTAL	1001	SE	mg/Kg	.2	28.6		5.3E+01	I
MAGNESIUM, TOTAL	0001	SE	mg/Kg	5.	42500.		NA	I
MAGNESIUM, TOTAL	1001	SE	mg/Kg	5.	34500.		NA	I
MANGANESE, TOTAL	0001	SE	mg/Kg	.2	562.		2.7E+04	I
MANGANESE, TOTAL	1001	SE	mg/Kg	.2	504.		2.7E+04	I
NICKEL, TOTAL	0001	SE	mg/Kg	2.	16.4		5.4E+03	I
NICKEL, TOTAL	1001	SE	mg/Kg	2.	13.		5.4E+03	I
NITRATE	1001	SE	mg/Kg	.1	2.69		4.3E+05	I
PHENANTHRENE	0001	SE	mg/Kg	0.84	3.	J	7.8E+03	I
PHENANTHRENE	1001	SE	mg/Kg	0.82	1.5	J	7.8E+03	I
POTASSIUM, TOTAL	0001	SE	mg/Kg	10.	402.		NA	I
POTASSIUM, TOTAL	1001	SE	mg/Kg	10.	402.		NA	I
PYRENE	0001	SE	mg/Kg	0.84	3.2	J	1.1E+00	I
PYRENE	1001	SE	mg/Kg	0.82	1.7	J	1.1E+00	I
SILVER, TOTAL	0001	SE	mg/Kg	1.	12.5		1.4E+03	I
SILVER, TOTAL	1001	SE	mg/Kg	1.	11.7		1.4E+03	I
SODIUM, TOTAL	0001	SE	mg/Kg	10.	554.		NA	I
SODIUM, TOTAL	1001	SE	mg/Kg	10.	538.		NA	I
TETRACHLOROETHENE	0001	SE	mg/Kg	0.006	0.047		1.3E+01	I
TETRACHLOROETHENE	1001	SE	mg/Kg	0.006	0.11		1.3E+01	I
VANADIUM, TOTAL	0001	SE	mg/Kg	1.	18.1		1.9E+03	I
VANADIUM, TOTAL	1001	SE	mg/Kg	1.	15.3		1.9E+03	I
ZINC, TOTAL	0001	SE	mg/Kg	.5	288.	J	5.4E+04	I
ZINC, TOTAL	1001	SE	mg/Kg	.5	159.	J	5.4E+04	I

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

3.27. UNDERGROUND SEWER LINES GRID G12

Sources of wastewater conveyed through the underground sewer lines included restrooms, showers, laundry facilities, laboratory sinks, and rinses from a small metal finishing operation. Some of the laboratory sinks reportedly received small amounts of solvents, photographic solutions, acids, and bases.

The OU 3 Work Plan details an underground sewer line in the Grid G12 area. Soil sampling was conducted in this area to assess whether breaks in the sewer lines have impacted soils in the vicinity of the sewer lines. A more detailed description of the Underground Sewer Lines Grid G12 site history and field investigation procedures may be found in subsection 2.27.

Two soil samples were collected from a single location near monitor well 0112 and were analyzed for TCL VOCs, SVOCs, P/PCBs; TAL inorganics; explosives; chloride; nitrates/nitrites; and tritium. The validated analytical results for all analytes detected above laboratory reporting limits in these samples is presented in Table III.30.

3.27.1. Volatile Organic Compounds

VOCs were not present in concentrations above laboratory reporting limits in any of the samples analyzed from the Grid G12 area.

3.27.2. Semivolatile Organic Compounds

SVOCs were not detected in concentrations above laboratory reporting limits in any of the samples analyzed from the Grid G12 area.

3.27.3. Pesticides and Polychlorinated Biphenyls

P/PCBs were not detected in concentrations above laboratory reporting limits in any of the samples analyzed from the Grid G12 area.

3.27.4. TAL Inorganics

Inorganic compounds were not detected in soil samples from the Grid G12 area at concentrations above PRGs or proposed action levels.

3.27.5. Explosives, Chloride, Nitrates, Nitrites, and Tritium

Explosives were not detected in either sample. Chloride was detected at estimated concentrations less than 10.0 mG/Kg in both samples. Nitrates, nitrites, and tritium were not detected in either sample from the Grid G12 area.

3.27.6. Summary

The analytical results for samples collected from the Underground Sewer Lines Grid G12 area indicate that sewer line operations in the vicinity have not impacted soil quality. As a result of these findings, no further action involving site characterization of soil remediation at the Underground Sewer Lines Grid G12 area is recommended.

TABLE III.30
 UNDERGROUND SEWER LINES GRID G12
 Location: MND33-0139
 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	6.	3200.		7.8E+05	I
ALUMINUM, TOTAL	1001	S	mG/Kg	6.	2650.		7.8E+05	I
ANTIMONY, TOTAL	0001	S	mG/Kg	3.	33.7	J	1.1E+02	I
ANTIMONY, TOTAL	1001	S	mG/Kg	3.	35.7	J	1.1E+02	I
ARSENIC, TOTAL	0001	S	mG/Kg	.2	3.8	J	2.1E+03	I
ARSENIC, TOTAL	1001	S	mG/Kg	.2	2.9	J	2.1E+03	I
BARIUM, TOTAL	0001	S	mG/Kg	.2	17.4		1.9E+04	I
BARIUM, TOTAL	1001	S	mG/Kg	.2	15.9		1.9E+04	I
BERYLLIUM	0001	S	mG/Kg	.2	.68		1.5E-01	I
BERYLLIUM	1001	S	mG/Kg	.2	.68		1.5E-01	I
CADMIUM, TOTAL	0001	S	mG/Kg	.2	7.		1.4E+02	I
CADMIUM, TOTAL	1001	S	mG/Kg	.2	7.8		1.4E+02	I
CALCIUM, TOTAL	0001	S	mG/Kg	2.	143000.		NA	I
CALCIUM, TOTAL	1001	S	mG/Kg	2.	141000.		NA	I
CHLORIDE	0001	S	mG/Kg	.5	5.6	J	NA	I
CHLORIDE	1001	S	mG/Kg	.5	8.3	J	NA	I
CHROMIUM, TOTAL	0001	S	mG/Kg	1.	27.5		1.4E+03	I
CHROMIUM, TOTAL	1001	S	mG/Kg	1.	26.7		1.4E+03	I
COBALT, TOTAL	0001	S	mG/Kg	1.	8.2		3.9E+01	I
COBALT, TOTAL	1001	S	mG/Kg	1.	7.7		3.9E+01	I
COPPER, TOTAL	0001	S	mG/Kg	1.	18.2		1.0E+04	I
COPPER, TOTAL	1001	S	mG/Kg	1.	17.8		1.0E+04	I
IRON, TOTAL	0001	S	mG/Kg	1.	9120.		NA	I
IRON, TOTAL	1001	S	mG/Kg	1.	9190.		NA	I
LEAD, TOTAL	0001	S	mG/Kg	.2	5.		5.3E+01	I
LEAD, TOTAL	1001	S	mG/Kg	.2	4.8		5.3E+01	I
MAGNESIUM, TOTAL	0001	S	mG/Kg	5.	44600.		NA	I
MAGNESIUM, TOTAL	1001	S	mG/Kg	5.	50000.		NA	I
MANGANESE, TOTAL	0001	S	mG/Kg	.2	252.		2.7E+04	I
MANGANESE, TOTAL	1001	S	mG/Kg	.2	267.		2.7E+04	I
NICKEL, TOTAL	0001	S	mG/Kg	2.	26.9		5.4E+03	I
NICKEL, TOTAL	1001	S	mG/Kg	2.	25.4		5.4E+03	I
POTASSIUM, TOTAL	0001	S	mG/Kg	10.	648.		NA	I
POTASSIUM, TOTAL	1001	S	mG/Kg	10.	538.		NA	I
SILVER, TOTAL	0001	S	mG/Kg	1.	18.5	J	1.4E+03	I
SILVER, TOTAL	1001	S	mG/Kg	1.	18.7	J	1.4E+03	I
SODIUM, TOTAL	0001	S	mG/Kg	10.	180.		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.30
 UNDERGROUND SEWER LINES GRID G12
 Location: MND33-0139
 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
SODIUM, TOTAL	1001	S	mG/Kg	10.	174.		NA	I
VANADIUM, TOTAL	0001	S	mG/Kg	1.	23.1		1.9E+03	I
VANADIUM, TOTAL	1001	S	mG/Kg	1.	23.1		1.9E+03	I
ZINC, TOTAL	0001	S	mG/Kg	.5	30.2		5.4E+04	I
ZINC, TOTAL	1001	S	mG/Kg	.5	34.9		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

3.28. UNDERGROUND SEWER LINES GRID G14 WEST

Sources of wastewater conveyed through the underground sewer lines included restrooms, showers, laundry facilities, laboratory sinks, and rinses from a small metal finishing operation. Some of the laboratory sinks reportedly received small amounts of solvents, photographic solutions, acids, and bases.

The Grid G14 West sewer lines are located south of Building 42, and are constructed of vitrified clay pipe and PVC. Soil sampling was conducted in this area to assess whether breaks in the sewer lines have impacted soils in the vicinity of the sewer lines. A more detailed description of the Underground Sewer Lines Grid G14 West site history and field investigation procedures is presented in subsection 2.28.

Soil samples were collected from one interval at a single location in the Grid G14 West area and were analyzed for TCL VOCs, SVOCs, P/PCBs; TAL inorganics; explosives; chloride; nitrates/nitrites; and tritium. The validated analytical results for all analytes detected above laboratory reporting limits are presented in Table III.31.

3.28.1. Volatile Organic Compounds

VOCs were not present in concentrations above laboratory reporting limits.

3.28.2. Semivolatile Organic Compounds

SVOCs were not detected in concentrations above laboratory reporting limits.

3.28.3. Pesticides and Polychlorinated Biphenyls

P/PCBs were not detected in concentrations above laboratory reporting limits.

3.28.4. TAL Inorganics

Inorganic compounds were not detected in soils from the Underground Sewer Lines Grid G14 West area at concentrations above the PRGs or proposed action levels.

3.28.5. Explosives, Chloride, Nitrates, Nitrites, and Tritium

Explosives, chloride, nitrates, nitrites, and tritium were not detected above laboratory reporting limits in this sample.

3.28.6. Summary

The analytical results for the sample collected at Underground Sewer Lines Grid G14 West indicate that sewer line operations in this area have not adversely impacted soil quality. As a result of these findings, no further action involving site characterization or soil remediation at the Underground Sewer Lines Grid G14 West Area is recommended.

TABLE III.31
 UNDERGROUND SEWER LINES GRID G14 WEST
 Location: MND33-0012
 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	.06	12700.	J	7.8E+05	I
ANTIMONY, TOTAL	0001	S	mg/Kg	.03	11.9	J	1.1E+02	I
ARSENIC, TOTAL	0001	S	mg/Kg	.002	1.5	J	2.1E+03	I
BARIUM, TOTAL	0001	S	mg/Kg	.002	22.1		1.9E+04	I
BERYLLIUM	0001	S	mg/Kg	.002	.83		1.5E-01	I
CADMIUM, TOTAL	0001	S	mg/Kg	.002	2.0	J	1.4E+02	I
CALCIUM, TOTAL	0001	S	mg/Kg	.02	57200.		NA	I
CHROMIUM, TOTAL	0001	S	mg/Kg	.01	34.5		1.4E+03	I
COBALT, TOTAL	0001	S	mg/Kg	.01	16.9		3.9E+01	I
COPPER, TOTAL	0001	S	mg/Kg	.01	22.3		1.0E+04	I
IRON, TOTAL	0001	S	mg/Kg	.01	29200.		NA	I
LEAD, TOTAL	0001	S	mg/Kg	.002	3.4	J	5.3E+01	I
MAGNESIUM, TOTAL	0001	S	mg/Kg	.05	13800.	J	NA	I
MANGANESE, TOTAL	0001	S	mg/Kg	.002	591.	J	2.7E+04	I
NICKEL, TOTAL	0001	S	mg/Kg	.02	35.		5.4E+03	I
POTASSIUM, TOTAL	0001	S	mg/Kg	.1	2460.		NA	I
SILVER, TOTAL	0001	S	mg/Kg	.01	11.2	J	1.4E+03	I
SODIUM, TOTAL	0001	S	mg/Kg	.1	263.		NA	I
VANADIUM, TOTAL	0001	S	mg/Kg	.01	25.2		1.9E+03	I
ZINC, TOTAL	0001	S	mg/Kg	.005	68.		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

3.29. UNDERGROUND SEWER LINES GRID G14 EAST

Sources of wastewater conveyed through the underground sewer lines included restrooms, showers, laundry facilities, laboratory sinks, and rinses from a small metal finishing operation. Some of the laboratory sinks reportedly received small amounts of solvents, photographic solutions, acids, and bases.

Sewer lines in the Grid G14 East area are located south of Building 27. Lines in this area are constructed of either vitrified clay pipe or PVC. Soil sampling was conducted in this area to assess whether breaks in the sewer lines have impacted soils in the vicinity of the sewer lines. A more detailed description of the Underground Sewer Lines Grid G14 East site history and field investigation procedures is presented in subsection 2.29.

Soil samples were collected from one interval at a single location in the Grid G14 East area and were analyzed for TCL VOCs, SVOCs, P/PCBs; TAL inorganics; explosives; chloride; nitrates/nitrites; and tritium. The validated analytical results for all analytes detected above laboratory reporting limits are presented in Table III.32.

3.29.1. Volatile Organic Compounds

Dichloromethane and 4-methyl-2-pentanone were detected at concentrations of 0.015 mG/Kg and 0.044 mG/Kg, respectively. The concentrations of these constituents are significantly less than the respective PRGs for these compounds. Because of the low concentrations of these compounds, they are not considered to reflect a significant impact to site soil quality.

3.29.2. Semivolatile Organic Compounds

SVOCs were not detected in concentrations above laboratory reporting limits.

3.29.3. Pesticides and Polychlorinated Biphenyls

P/PCBs were not detected in concentrations above laboratory reporting limits.

3.29.4. TAL Inorganics

Inorganic compounds were not detected in soil samples from the Underground Sewer Lines Grid G14 East area at concentrations above PRGs or proposed action levels.

3.29.5. Explosives, Chloride, Nitrates, Nitrites, and Tritium

Explosives, chloride, nitrates, nitrites, and tritium were not detected above laboratory reporting limits in this sample.

3.29.6. Summary

The analytical results for the sample collected at Underground Sewer Lines Grid G14 East indicate that breaks in sewer line operations in this area have not adversely impacted soil quality. As a result of these findings, no further action involving site characterization or soil remediation at the Underground Sewer Lines Grid G14 East area is recommended.

TABLE III.32
 UNDERGROUND SEWER LINES GRID G14 EAST
 Location: MND33-0013
 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
4-METHYL-2-PENTANONE	0001	S	mG/Kg	0.011	0.015		1.4E+04	I
ALUMINUM, TOTAL	0001	S	mG/Kg	.06	11600.	J	7.8E+05	I
ANTIMONY, TOTAL	0001	S	mG/Kg	.03	15.9	J	1.1E+02	I
ARSENIC, TOTAL	0001	S	mG/Kg	.002	1.5	J	2.1E+03	I
BARIIUM, TOTAL	0001	S	mG/Kg	.002	18.7		1.9E+04	I
BERYLLIUM	0001	S	mG/Kg	.002	.83		1.5E-01	I
CADMIUM, TOTAL	0001	S	mG/Kg	.002	2.5	J	1.4E+02	I
CALCIUM, TOTAL	0001	S	mG/Kg	.02	74200.		NA	I
CHROMIUM, TOTAL	0001	S	mG/Kg	.01	30.2		1.4E+03	I
COBALT, TOTAL	0001	S	mG/Kg	.01	16.8		3.9E+01	I
COPPER, TOTAL	0001	S	mG/Kg	.01	18.8		1.0E+04	I
DICHLOROMETHANE-METHYLENE CHLORIDE	0001	S	mG/Kg	0.005	0.044		8.5E+01	I
IRON, TOTAL	0001	S	mG/Kg	.01	27700.		NA	I
LEAD, TOTAL	0001	S	mG/Kg	.002	4.5	J	5.3E+01	I
MAGNESIUM, TOTAL	0001	S	mG/Kg	.05	17000.	J	NA	I
MANGANESE, TOTAL	0001	S	mG/Kg	.002	534.	J	2.7E+04	I
NICKEL, TOTAL	0001	S	mG/Kg	.02	32.8		5.4E+03	I
POTASSIUM, TOTAL	0001	S	mG/Kg	.1	2230.		NA	I
SILVER, TOTAL	0001	S	mG/Kg	.01	12.7	J	1.4E+03	I
SODIUM, TOTAL	0001	S	mG/Kg	.1	200.		NA	I
VANADIUM, TOTAL	0001	S	mG/Kg	.01	25.6		1.9E+03	I
ZINC, TOTAL	0001	S	mG/Kg	.005	64.		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

3.30. UNDERGROUND SEWER LINES GRID G15

Sources of wastewater conveyed through the underground sewer lines included restrooms, showers, laundry facilities, laboratory sinks, and rinses from a small metal finishing operation. Some of the laboratory sinks reportedly received small amounts of solvents, photographic solutions, acids, and bases.

The sewer line in the Grid G15 area is located east of Building 98 and is constructed of vitrified clay pipe. Soil sampling was conducted in this area to assess whether breaks in the sewer lines have impacted soils in the vicinity of the sewer lines. A more detailed description of the Underground Sewer Lines Grid G15 site history and field investigation is presented in subsection 2.30.

Five soil samples were collected from three locations in the Grid G15 area. One sample from location MND33-0106 was only analyzed for TCL VOCs. The remaining four samples were analyzed for TCL VOCs, SVOCs, P/PCBs; TAL inorganics; explosives; chloride; nitrates/nitrites; and tritium. The validated analytical results for all analytes detected above laboratory reporting limits are presented in Table III.33.

3.30.1. Volatile Organic Compounds

VOCs were not present in concentrations above laboratory reporting limits in any of the samples analyzed from Grid G15.

3.30.2 Semivolatile Organic Compounds

SVOCs were not detected in concentrations above laboratory reporting limits in any of the samples analyzed from Grid G15.

3.30.3. Pesticides and Polychlorinated Biphenyls

P/PCBs were not detected in concentrations above laboratory reporting limits in any of the samples analyzed.

3.30.4. TAL Inorganics

Inorganic compounds were not detected in soil samples from the Underground Sewer Lines Grid G15 area at concentrations above PRGs or proposed action levels.

3.30.5. Explosives, Chloride, Nitrates, Nitrites, and Tritium

Explosives were not detected in any soil samples collected from the Grid G15 area. Nitrate was detected above the laboratory reporting limit in samples MND33-0106-0001 and MND33-0116-0001 but was below the PRG. Low concentrations of chloride were present in each of the four samples analyzed for this parameter. There is not a PRG for chloride, but the low concentrations of chloride observed in some samples from the Grid G15 area are not considered to represent an impact to site soil quality. Tritium was not found in any of the soil samples analyzed at concentrations above laboratory reporting limits.

3.30.6. Summary

The analytical results for samples collected from the Underground Sewer Lines Grid G15 area indicate that sewer line operations in this area have not adversely impacted soil quality. As a result of these findings, no further action involving site characterization or soil remediation at the Underground Sewer Lines Grid G15 area is recommended.

TABLE III.33
 UNDERGROUND SEWER LINES GRID G15
 Location: MND33-0106
 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	6.	4640.		7.8E+05	I
ALUMINUM, TOTAL	1001	S	mG/Kg	6.	4420.		7.8E+05	I
ANTIMONY, TOTAL	0001	S	mG/Kg	3.	33.	J	1.1E+02	I
ANTIMONY, TOTAL	1001	S	mG/Kg	3.	32.4	J	1.1E+02	I
ARSENIC, TOTAL	1001	S	mG/Kg	.2	3.7	J	2.1E+03	I
BARIUM, TOTAL	0001	S	mG/Kg	.2	22.6		1.9E+04	I
BARIUM, TOTAL	1001	S	mG/Kg	.2	24.3		1.9E+04	I
BERYLLIUM	0001	S	mG/Kg	.2	.67	J	1.5E-01	I
BERYLLIUM	1001	S	mG/Kg	.2	.65	J	1.5E-01	I
CADMIUM, TOTAL	0001	S	mG/Kg	.2	6.1	J	1.4E+02	I
CADMIUM, TOTAL	1001	S	mG/Kg	.2	5.9	J	1.4E+02	I
CALCIUM, TOTAL	0001	S	mG/Kg	2.	108000.		NA	I
CALCIUM, TOTAL	1001	S	mG/Kg	2.	106000.		NA	I
CHLORIDE	0001	S	mG/Kg	.5	15.6		NA	I
CHLORIDE	1001	S	mG/Kg	.5	15.1		NA	I
CHROMIUM, TOTAL	0001	S	mG/Kg	1.	26.1	J	1.4E+03	I
CHROMIUM, TOTAL	1001	S	mG/Kg	1.	25.4	J	1.4E+03	I
COBALT, TOTAL	0001	S	mG/Kg	1.	8.6	J	3.9E+01	I
COBALT, TOTAL	1001	S	mG/Kg	1.	9.5	J	3.9E+01	I
COPPER, TOTAL	0001	S	mG/Kg	1.	15.5	J	1.0E+04	I
COPPER, TOTAL	1001	S	mG/Kg	1.	16.5	J	1.0E+04	I
CYANIDE	0001	S	mG/Kg	.2	.31	J	5.4E+03	I
CYANIDE	1001	S	mG/Kg	.2	.29	J	5.4E+03	I
IRON, TOTAL	0001	S	mG/Kg	1.	10400.		NA	I
IRON, TOTAL	1001	S	mG/Kg	1.	10600.		NA	I
LEAD, TOTAL	0001	S	mG/Kg	.2	6.	J	5.3E+01	I
LEAD, TOTAL	1001	S	mG/Kg	.2	5.2	J	5.3E+01	I
MAGNESIUM, TOTAL	0001	S	mG/Kg	5.	47000.		NA	I
MAGNESIUM, TOTAL	1001	S	mG/Kg	5.	45000.		NA	I
MANGANESE, TOTAL	0001	S	mG/Kg	.2	195.		2.7E+04	I
MANGANESE, TOTAL	1001	S	mG/Kg	.2	227.		2.7E+04	I
NICKEL, TOTAL	0001	S	mG/Kg	2.	23.8	J	5.4E+03	I
NICKEL, TOTAL	1001	S	mG/Kg	2.	24.6	J	5.4E+03	I
NITRATE	0001	S	mG/Kg	.1	1.07		4.3E+05	I
POTASSIUM, TOTAL	0001	S	mG/Kg	10.	765.		NA	I
POTASSIUM, TOTAL	1001	S	mG/Kg	10.	755.		NA	I
SILVER, TOTAL	0001	S	mG/Kg	1.	16.6	J	1.4E+03	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.33
 UNDERGROUND SEWER LINES GRID G15
 Location: MND33-0106
 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
SILVER, TOTAL	1001	S	mg/Kg	1.	16.2	J	1.4E+03	I
SODIUM, TOTAL	0001	S	mg/Kg	10.	187.	J	NA	I
SODIUM, TOTAL	1001	S	mg/Kg	10.	198.		NA	I
VANADIUM, TOTAL	0001	S	mg/Kg	1.	25.2	J	1.9E+03	I
VANADIUM, TOTAL	1001	S	mg/Kg	1.	24.4	J	1.9E+03	I
ZINC, TOTAL	0001	S	mg/Kg	.5	37.9		5.4E+04	I
ZINC, TOTAL	1001	S	mg/Kg	.5	34.	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.33
 UNDERGROUND SEWER LINES GRID G15
 Location: MND33-0107
 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	6.	6540.		7.8E+05	I
ANTIMONY, TOTAL	0001	S	mg/Kg	3.	19.1	J	1.1E+02	I
ARSENIC, TOTAL	0001	S	mg/Kg	.2	1.	J	2.1E+03	I
BARIUM, TOTAL	0001	S	mg/Kg	.2	31.9		1.9E+04	I
BERYLLIUM	0001	S	mg/Kg	.2	.7		1.5E-01	I
CADMIUM, TOTAL	0001	S	mg/Kg	.2	2.6	J	1.4E+02	I
CALCIUM, TOTAL	0001	S	mg/Kg	2.	78900.		NA	I
CHLORIDE	0001	S	mg/Kg	.5	7.9		NA	I
CHROMIUM, TOTAL	0001	S	mg/Kg	1.	26.2		1.4E+03	I
COBALT, TOTAL	0001	S	mg/Kg	1.	11.2		3.9E+01	I
COPPER, TOTAL	0001	S	mg/Kg	1.	17.3		1.0E+04	I
IRON, TOTAL	0001	S	mg/Kg	1.	16100.	J	NA	I
LEAD, TOTAL	0001	S	mg/Kg	.2	6.	J	5.3E+01	I
MAGNESIUM, TOTAL	0001	S	mg/Kg	5.	19500.		NA	I
MANGANESE, TOTAL	0001	S	mg/Kg	.2	377.		2.7E+04	I
NICKEL, TOTAL	0001	S	mg/Kg	2.	25.1		5.4E+03	I
POTASSIUM, TOTAL	0001	S	mg/Kg	10.	691.		NA	I
SILVER, TOTAL	0001	S	mg/Kg	1.	13.9		1.4E+03	I
SODIUM, TOTAL	0001	S	mg/Kg	10.	123.		NA	I
VANADIUM, TOTAL	0001	S	mg/Kg	1.	24.2		1.9E+03	I
ZINC, TOTAL	0001	S	mg/Kg	.5	40.4		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.33
 UNDERGROUND SEWER LINES GRID G15
 Location: MND33-0116
 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	6.	9820.		7.8E+05	I
ANTIMONY, TOTAL	0001	S	mg/Kg	3.	12.8	J	1.1E+02	I
ARSENIC, TOTAL	0001	S	mg/Kg	.2	3.2	J	2.1E+03	I
BARIUM, TOTAL	0001	S	mg/Kg	.2	15.7	J	1.9E+04	I
BERYLLIUM	0001	S	mg/Kg	.2	.86		1.5E-01	I
CADMIUM, TOTAL	0001	S	mg/Kg	.2	3.	J	1.4E+02	I
CALCIUM, TOTAL	0001	S	mg/Kg	2.	130000.		NA	I
CHLORIDE	0001	S	mg/Kg	.5	12.53		NA	I
CHROMIUM, TOTAL	0001	S	mg/Kg	1.	32.1		1.4E+03	I
COBALT, TOTAL	0001	S	mg/Kg	1.	14.		3.9E+01	I
COPPER, TOTAL	0001	S	mg/Kg	1.	23.6		1.0E+04	I
IRON, TOTAL	0001	S	mg/Kg	1.	22100.		NA	I
LEAD, TOTAL	0001	S	mg/Kg	.2	4.		5.3E+01	I
MAGNESIUM, TOTAL	0001	S	mg/Kg	5.	10900.		NA	I
MANGANESE, TOTAL	0001	S	mg/Kg	.2	864.		2.7E+04	I
NICKEL, TOTAL	0001	S	mg/Kg	2.	26.4		5.4E+03	I
NITRATE	0001	S	mg/Kg	.1	3.86	J	4.3E+05	I
POTASSIUM, TOTAL	0001	S	mg/Kg	10.	1720.		NA	I
SILVER, TOTAL	0001	S	mg/Kg	1.	17.1		1.4E+03	I
SODIUM, TOTAL	0001	S	mg/Kg	10.	184.		NA	I
VANADIUM, TOTAL	0001	S	mg/Kg	1.	25.9		1.9E+03	I
ZINC, TOTAL	0001	S	mg/Kg	.5	43.3		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

3.31. UNDERGROUND SEWER LINES GRID G19/14

Sources of wastewater conveyed through the underground sewer lines included restrooms, showers, laundry facilities, laboratory sinks, and rinses from a small metal finishing operation. Some of the laboratory sinks reportedly received small amounts of solvents, photographic solutions, acids, and bases.

The sewer lines in the Grid G19/14 area are located between the sewage disposal building (Building 57) and the bunkers to the northeast. The lines are constructed of vitrified clay pipe. Soil sampling was conducted in this area to assess whether breaks in the sewer lines have impacted soils in the vicinity of the sewer lines. A more detailed description of the Underground Sewer Lines Grid G19/14 site history and field investigation procedures is presented in subsection 2.31.

Four soil samples were collected from two locations and were analyzed for TCL VOCs, SVOCs, P/PCBs; TAL inorganics; explosives; chloride; nitrite/nitrate; and tritium. The validated analytical results for all analytes detected above the laboratory reporting limits are presented in Table III.34.

3.31.1. Volatile Organic Compounds

One soil sample, MND33-0117-0001, contained detectable concentrations of 2-butanone and 4-methyl-2-pentanone at concentrations of 0.021 mG/Kg and 0.013 mG/Kg, respectively. The concentrations of these compounds are substantially less than the respective PRGs. Because of the low concentrations, these compounds are not considered to reflect a significant impact to site soil quality.

3.31.2. Semivolatile Organic Compounds

SVOCs were not detected in concentrations above laboratory reporting limits in any of the samples analyzed.

3.31.3. Pesticides and Polychlorinated Biphenyls

P/PCBs were not detected in concentrations above laboratory reporting limits in any of the samples analyzed.

3.31.4. TAL Inorganics

Inorganic compounds were not detected in soil samples from the Underground Sewer Lines Grid G19/14 area at concentrations above PRGs or proposed action levels.

3.31.5. Explosives, Chloride, Nitrates, Nitrites, Lithium, and Tritium

Explosives were not detected in any sample analyzed at concentrations above laboratory reporting limits. Chloride was detected at concentrations slightly above the laboratory reporting limit. Nitrate was detected in both samples from location MND33-0117 at levels below the PRG. Lithium was present at a concentration above the laboratory reporting limit in samples from location MND33-0134 but was below the PRG. Tritium was not detected in any soil sample at concentrations above laboratory reporting limits.

3.31.6. Summary

The analytical results for the samples collected from the Underground Sewer Lines Grid G19/14 area indicate that sewer line operations have not adversely impacted soil quality in the site vicinity. As a result of these findings, no further action involving site characterization or soil remediation at the Underground Sewer Lines Grid G19/14 area is recommended.

TABLE III.34
 UNDERGROUND SEWER LINES GRID G19/14
 Location: MND33-0117
 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
2-BUTANONE	0001	S	mG/Kg	0.012	0.021		1.4E+04	I
4-METHYL-2-PENTANONE	0001	S	mG/Kg	0.012	0.013		1.4E+04	I
ALUMINUM, TOTAL	0001	S	mG/Kg	6.	8730.		7.8E+05	I
ALUMINUM, TOTAL	1001	S	mG/Kg	6.	7360.		7.8E+05	I
ANTIMONY, TOTAL	0001	S	mG/Kg	3.	14.7	J	1.1E+02	I
ANTIMONY, TOTAL	1001	S	mG/Kg	3.	21.	J	1.1E+02	I
ARSENIC, TOTAL	0001	S	mG/Kg	.2	6.	J	2.1E+03	I
ARSENIC, TOTAL	1001	S	mG/Kg	.2	6.2	J	2.1E+03	I
BARIUM, TOTAL	0001	S	mG/Kg	.2	64.	J	1.9E+04	I
BARIUM, TOTAL	1001	S	mG/Kg	.2	55.4	J	1.9E+04	I
BERYLLIUM	0001	S	mG/Kg	.2	.77		1.5E-01	I
BERYLLIUM	1001	S	mG/Kg	.2	.77		1.5E-01	I
CADMIUM, TOTAL	0001	S	mG/Kg	.2	3.7	J	1.4E+02	I
CADMIUM, TOTAL	1001	S	mG/Kg	.2	5.6	J	1.4E+02	I
CALCIUM, TOTAL	0001	S	mG/Kg	2.	40000.		NA	I
CALCIUM, TOTAL	1001	S	mG/Kg	2.	69300.		NA	I
CHLORIDE	0001	S	mG/Kg	.5	109.7		NA	I
CHLORIDE	1001	S	mG/Kg	.5	106.09		NA	I
CHROMIUM, TOTAL	0001	S	mG/Kg	1.	22.7		1.4E+03	I
CHROMIUM, TOTAL	1001	S	mG/Kg	1.	24.7		1.4E+03	I
COBALT, TOTAL	0001	S	mG/Kg	1.	12.1		3.9E+01	I
COBALT, TOTAL	1001	S	mG/Kg	1.	9.7		3.9E+01	I
COPPER, TOTAL	0001	S	mG/Kg	1.	20.8		1.0E+04	I
COPPER, TOTAL	1001	S	mG/Kg	1.	19.1		1.0E+04	I
IRON, TOTAL	0001	S	mG/Kg	1.	18200.		NA	I
IRON, TOTAL	1001	S	mG/Kg	1.	14000.		NA	I
LEAD, TOTAL	0001	S	mG/Kg	.2	11.4		5.3E+01	I
LEAD, TOTAL	1001	S	mG/Kg	.2	12.3		5.3E+01	I
MAGNESIUM, TOTAL	0001	S	mG/Kg	5.	19100.		NA	I
MAGNESIUM, TOTAL	1001	S	mG/Kg	5.	35400.		NA	I
MANGANESE, TOTAL	0001	S	mG/Kg	.2	441.		2.7E+04	I
MANGANESE, TOTAL	1001	S	mG/Kg	.2	358.		2.7E+04	I
NICKEL, TOTAL	0001	S	mG/Kg	2.	26.9		5.4E+03	I
NICKEL, TOTAL	1001	S	mG/Kg	2.	25.2		5.4E+03	I
NITRATE	0001	S	mG/Kg	.1	4.20	J	4.3E+05	I
NITRATE	1001	S	mG/Kg	.1	3.35	J	4.3E+05	I
POTASSIUM, TOTAL	0001	S	mG/Kg	10.	892.		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.34
 UNDERGROUND SEWER LINES GRID G19/14
 Location: MND33-0117
 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	1001	S	mg/Kg	10.	837.		NA	I
SILVER, TOTAL	0001	S	mg/Kg	1.	9.6		1.4E+03	I
SILVER, TOTAL	1001	S	mg/Kg	1.	13.3		1.4E+03	I
SODIUM, TOTAL	0001	S	mg/Kg	10.	345.		NA	I
SODIUM, TOTAL	1001	S	mg/Kg	10.	333.		NA	I
THALLIUM, TOTAL	0001	S	mg/Kg	.2	.55	J	NA	I
THALLIUM, TOTAL	1001	S	mg/Kg	.2	.6	J	NA	I
VANADIUM, TOTAL	0001	S	mg/Kg	1.	27.9		1.9E+03	I
VANADIUM, TOTAL	1001	S	mg/Kg	1.	27.5		1.9E+03	I
ZINC, TOTAL	0001	S	mg/Kg	.5	50.		5.4E+04	I
ZINC, TOTAL	1001	S	mg/Kg	.5	40.5		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.34
 UNDERGROUND SEWER LINES GRID G19/14
 Location: MND33-0134
 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	6.	8780.		7.8E+05	I
ALUMINUM, TOTAL	0002	S	mg/Kg	12.	13200.		7.8E+05	I
ANTIMONY, TOTAL	0001	S	mg/Kg	6.	11.7	J	1.1E+02	I
ANTIMONY, TOTAL	0002	S	mg/Kg	6.	8.0	J	1.1E+02	I
ARSENIC, TOTAL	0001	S	mg/Kg	.4	11.8		2.1E+03	I
ARSENIC, TOTAL	0002	S	mg/Kg	.4	10.7		2.1E+03	I
BARIUM, TOTAL	0001	S	mg/Kg	.4	65.8		1.9E+04	I
BARIUM, TOTAL	0002	S	mg/Kg	.4	106.		1.9E+04	I
BERYLLIUM	0001	S	mg/Kg	.4	.75		1.5E-01	I
BERYLLIUM	0002	S	mg/Kg	.4	.84		1.5E-01	I
CADMIUM, TOTAL	0001	S	mg/Kg	.4	3.6		1.4E+02	I
CADMIUM, TOTAL	0002	S	mg/Kg	.4	3.6		1.4E+02	I
CALCIUM, TOTAL	0001	S	mg/Kg	4.	20400.		NA	I
CALCIUM, TOTAL	0002	S	mg/Kg	4.	4990.		NA	I
CHLORIDE	0001	S	mg/Kg	.5	71.66		NA	I
CHLORIDE	0002	S	mg/Kg	.5	27.27		NA	I
CHROMIUM, TOTAL	0001	S	mg/Kg	2.	20.3		1.4E+03	I
CHROMIUM, TOTAL	0002	S	mg/Kg	2.	21.2		1.4E+03	I
COBALT, TOTAL	0001	S	mg/Kg	2.	11.5		3.9E+01	I
COBALT, TOTAL	0002	S	mg/Kg	2.	15.7		3.9E+01	I
COPPER, TOTAL	0001	S	mg/Kg	2.	20.6		1.0E+04	I
COPPER, TOTAL	0002	S	mg/Kg	2.	18.6		1.0E+04	I
IRON, TOTAL	0001	S	mg/Kg	2.	16500.		NA	I
IRON, TOTAL	0002	S	mg/Kg	2.	24300.		NA	I
LEAD, TOTAL	0001	S	mg/Kg	.4	22.7		5.3E+01	I
LEAD, TOTAL	0002	S	mg/Kg	.4	14.1		5.3E+01	I
LITHIUM, TOTAL	0001	S	mg/Kg	.2	10.7		5.4E+03	I
LITHIUM, TOTAL	0002	S	mg/Kg	.2	12.7		5.4E+03	I
MAGNESIUM, TOTAL	0001	S	mg/Kg	10.	10400.		NA	I
MAGNESIUM, TOTAL	0002	S	mg/Kg	10.	4830.		NA	I
MANGANESE, TOTAL	0001	S	mg/Kg	.4	520.		2.7E+04	I
MANGANESE, TOTAL	0002	S	mg/Kg	.4	333.		2.7E+04	I
NICKEL, TOTAL	0001	S	mg/Kg	4.	31.1		5.4E+03	I
NICKEL, TOTAL	0002	S	mg/Kg	4.	41.1		5.4E+03	I
POTASSIUM, TOTAL	0001	S	mg/Kg	20.	1290.		NA	I
POTASSIUM, TOTAL	0002	S	mg/Kg	20.	978.		NA	I
SILVER, TOTAL	0001	S	mg/Kg	2.	6.4	J	1.4E+03	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.34
 UNDERGROUND SEWER LINES GRID G19/14
 Location: MND33-0134
 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
SODIUM, TOTAL	0001	S	mg/Kg	20.	128.		NA	I
SODIUM, TOTAL	0002	S	mg/Kg	20.	354.		NA	I
VANADIUM, TOTAL	0001	S	mg/Kg	2.	26.4		1.9E+03	I
VANADIUM, TOTAL	0002	S	mg/Kg	2.	34.7		1.9E+03	I
ZINC, TOTAL	0001	S	mg/Kg	1.	68.		5.4E+04	I
ZINC, TOTAL	0002	S	mg/Kg	1.	69.9		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

3.32 UNDERGROUND SEWER LINES GRID G24

Sewer lines in the Grid G24 area are located in a sharply sloped area north of the WD building on the Mound Plant Main Hill. The lines are constructed of vitrified clay pipe and PVC. Soil sampling was to be conducted in this area to assess whether breaks in the sewer lines have impacted soils in the vicinity of the sewer lines, but soil samples could not be collected at this site because of auger and split spoon refusal, the steepness of the topography, and the location of underground utility lines. A more detailed description of the Underground Sewer Lines Grid G24 site history and attempted field investigation procedures is presented in subsection 2.32. Further investigation of soil quality at the Grid G24 area may be accomplished using alternative investigative techniques. The Grid G24 sewer lines contain or have contained materials similar to or identical to other OU 3 LFI sewer lines, and the nature of reported structural deficiencies in the Grid G24 sewer line would be similar to other OU 3 LFI sewer lines. Investigative results indicate that soil quality has not been impacted at the OU 3 LFI sewer line grids as a result of previous activities. Based upon these conditions, it is reasonable to assume that soils have not been impacted by site activities at the Grid G24 sewer lines and that further investigative activities would not be necessary.

415

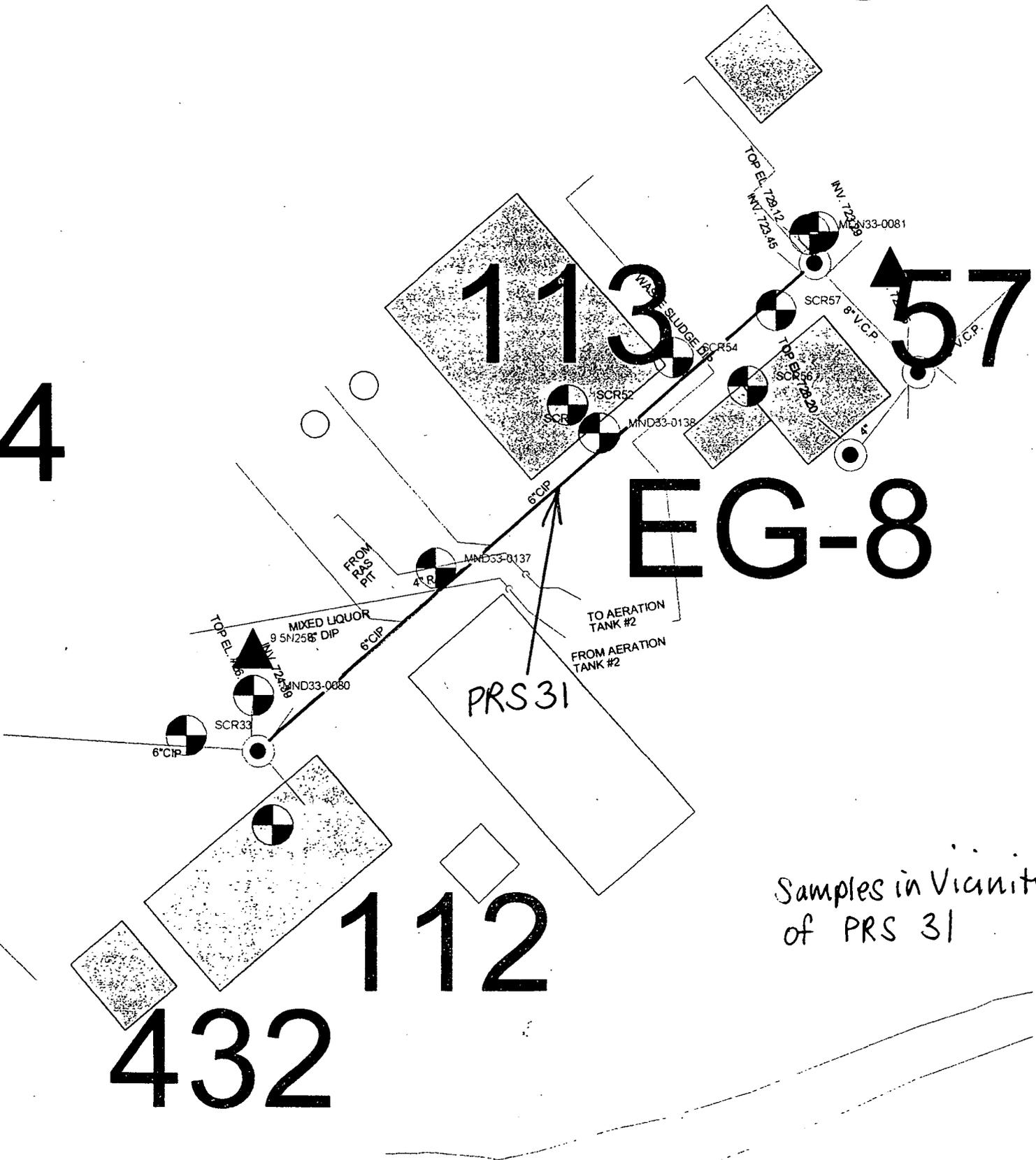
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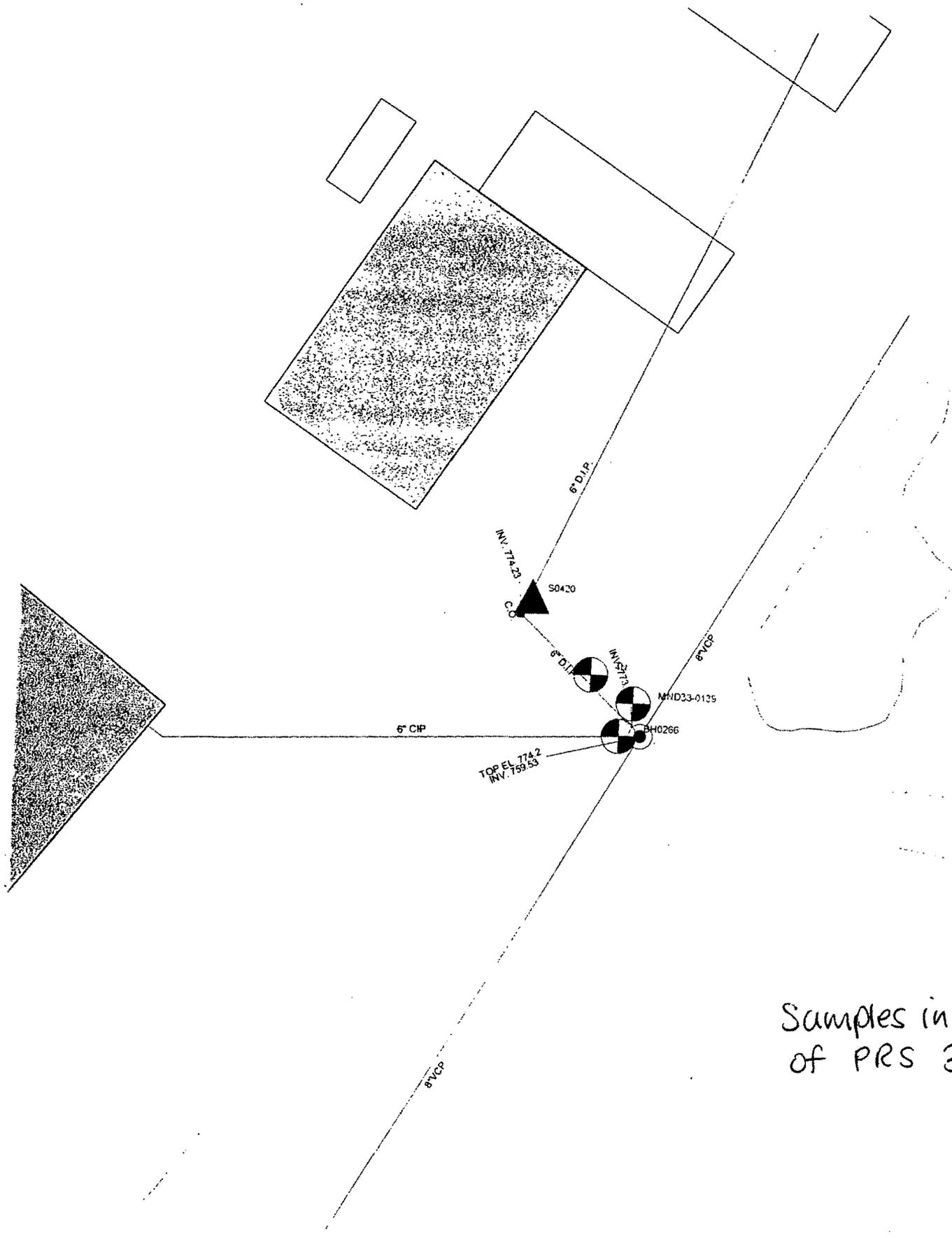
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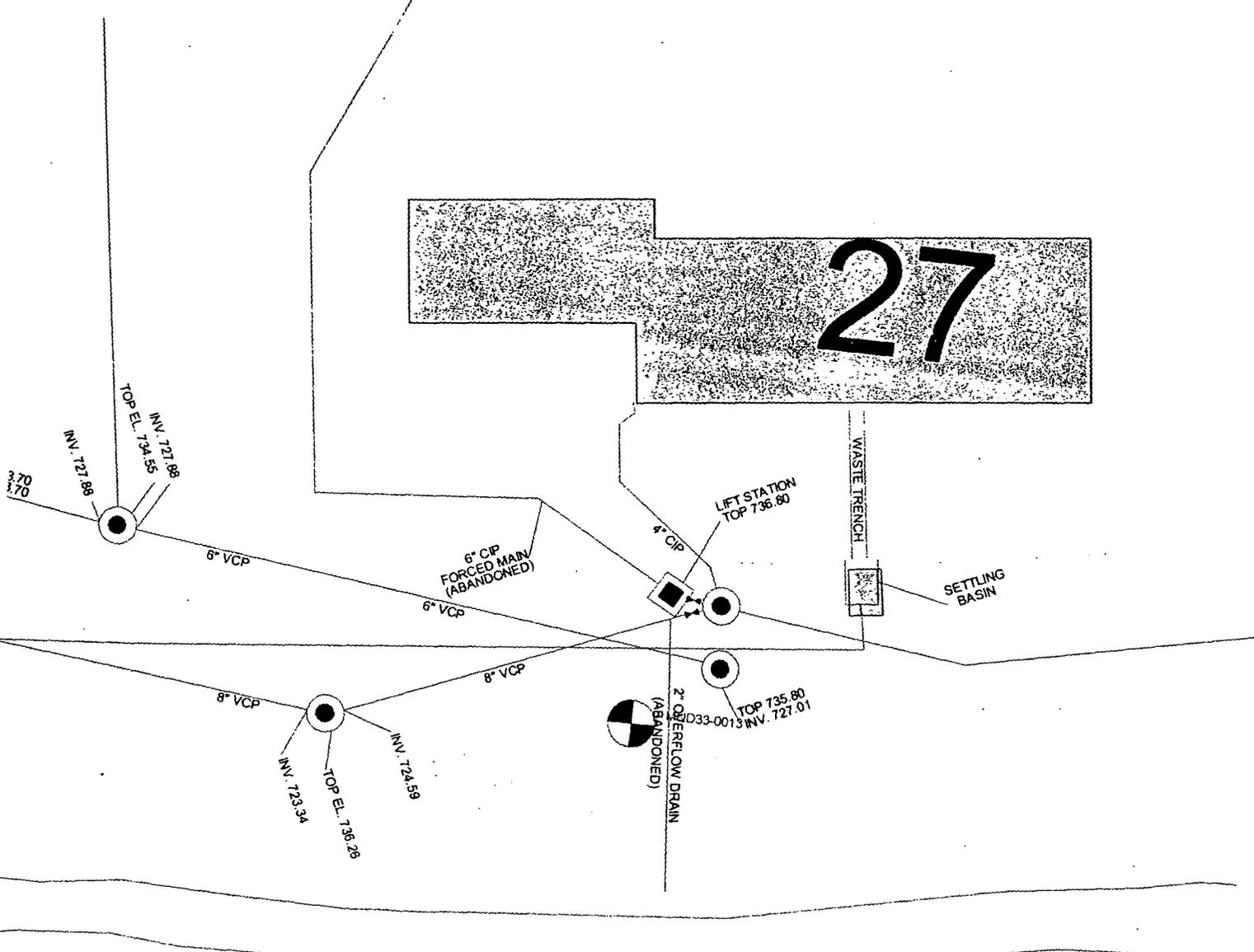
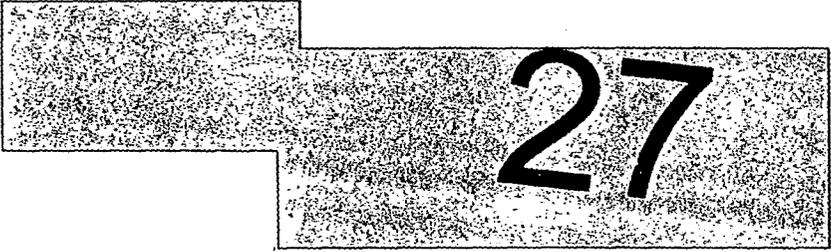
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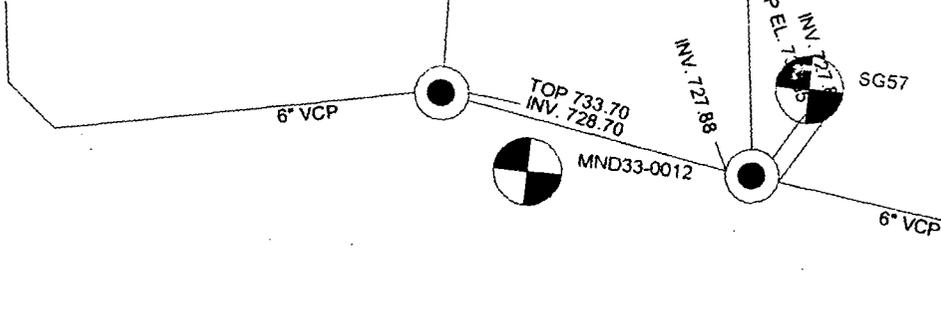
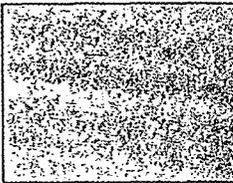
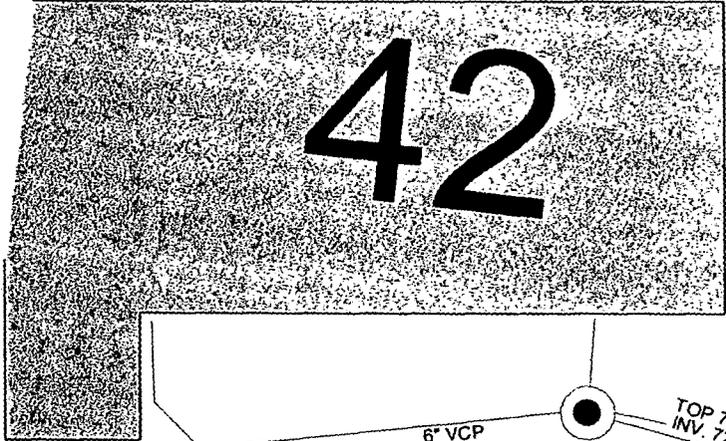
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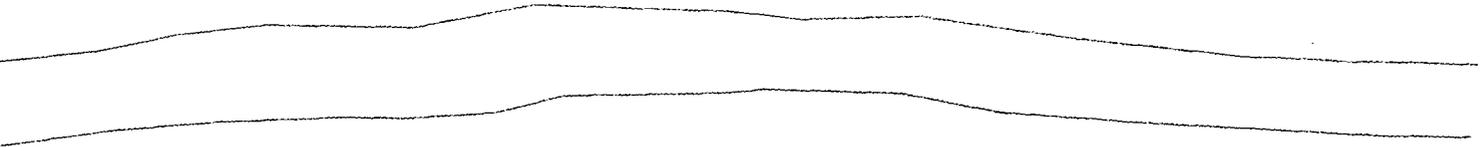
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of PRS 32



Samples in Vicinity
of PRS 33



Samples in Vicinity
of PRS 34



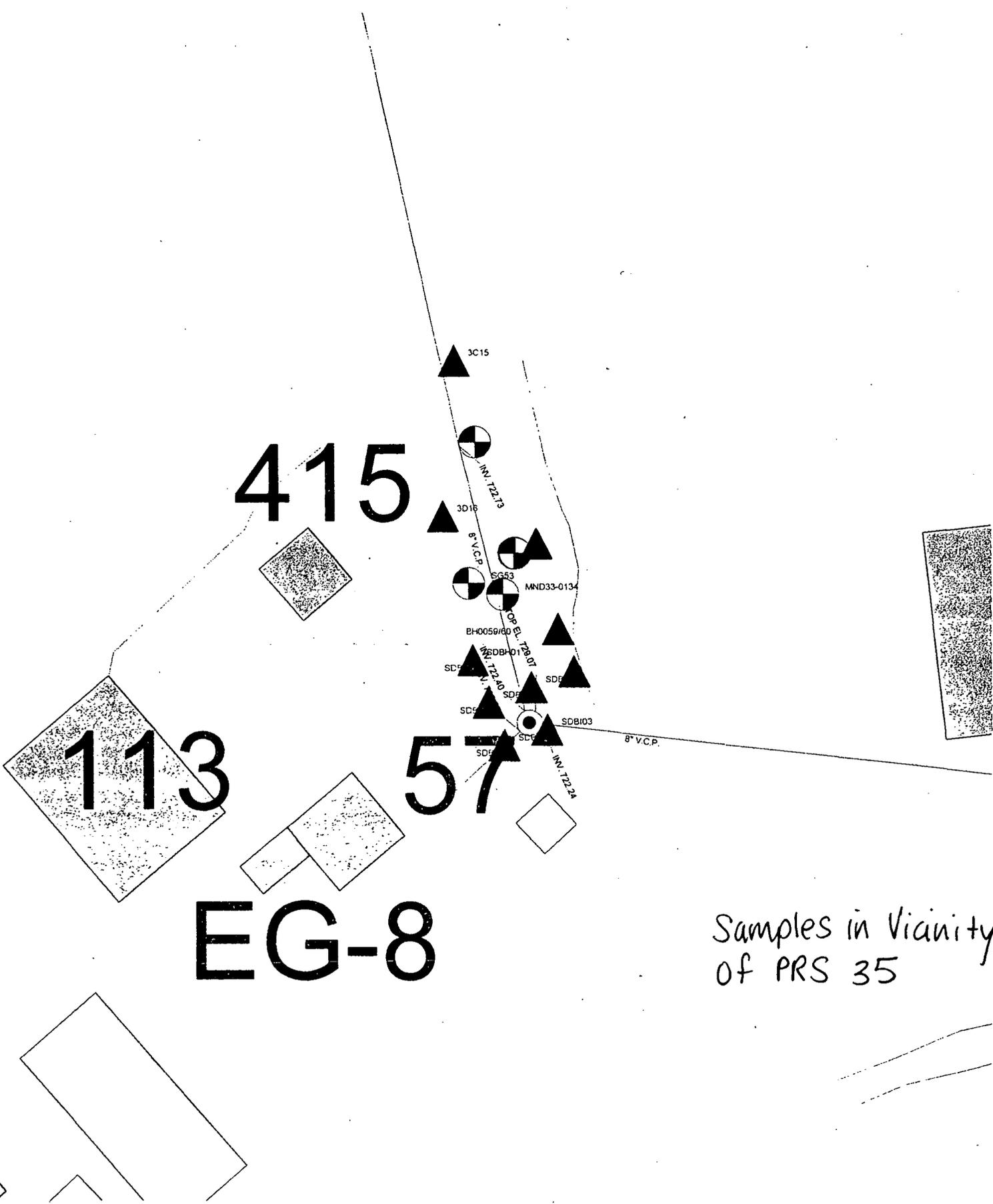
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EG-8

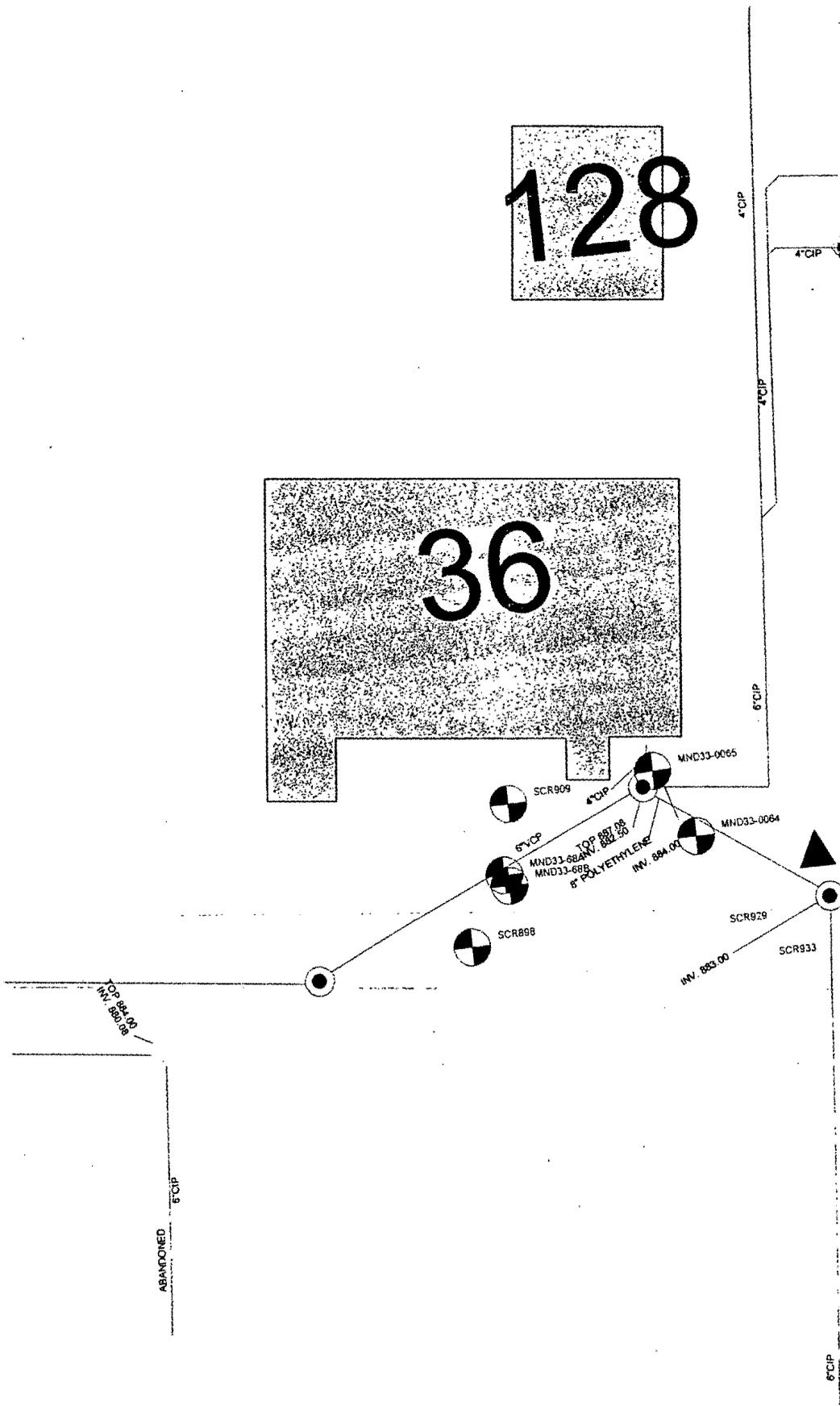
Samples in Vicinity
of PRS 35



128

50

36



Samples in Vicinity of PRS 270