MDE

MARYLAND DEPARTMENT OF THE ENVIRONMENT

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Parris N. Glendening
Governor

Jane T. Nishida
Secretary

March 1, 1999

SDMS DocID 2198339

Mr. William Wentworth
Maryland Project Officer
U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, Pennsylvania 19103

Re: Hoffman Landfill Site Survey

Dear Mr. Wentworth:

Enclosed is the Site Survey for Hoffman Landfill (MD-004). The Maryland Department of the Environment (MDE) has further requirements related to the investigation of hazardous waste at this site. Additionally, MDE recommends that this site does not warrant further investigation by EPA and that it be archived by EPA.

Future investigations will recommend the installation of ground water monitoring wells, since none can be found at the site. If necessary, landfill methane will also be monitored. Additional surface soil sampling is necessary to ensure that the site poses no risk to trespassers.

If you have any questions, please feel free to call me or Peggy Smith, Project Manager, at (410) 631-3493.

Sincerely,

Arthur O'Connell

Arthur O'Connell, Chief
Site and Brownfields Assessment/State
State Superfund Division

AOC:cp
Enclosure

cc: Mr. Richard Collins
Ms. Shari Wilson
Ms. Peggy Smith

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Site Survey
of
Hoffman Landfill
Allegany County, Maryland
(MD-004)

February 1999

Prepared by: Maryland Department of the Environment
Waste Management Administration
Environmental Restoration and Redevelopment Program
Site and Brownfields Assessment/State Superfund Division
2500 Broening Highway
Baltimore, MD 21224

Prepared for: U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103

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Hoffman Landfill
(MD-004)

AUTHORIZATION

The Maryland Department of the Environment, Waste Management Administration (MDE) performed a site survey of the Hoffman Landfill as part of the Site Survey Initiative. This site survey was completed under the 1999 Cooperative Agreement between MDE and the U.S. Environmental Protection Agency (EPA).

SCOPE OF WORK

The Site Survey Initiative was proposed to reassess the status of those sites that were previously designated No Further Remedial Action Planned (NFRAP) by the EPA. This initiative is intended to determine if site conditions have remained stable, provide a current description of the site, and identify and address any new pathways for contamination. The initiative is also intended to enable the State to determine whether the State should recommend further investigation by EPA under the Cooperative Agreement, oversight by the State and no further investigation by EPA, or no further action be taken by EPA or the State and that the State designate the site as "a formerly investigated site."

SITE DESCRIPTION

The Hoffman Landfill is located on the southeast edge of the city of Frostburg, in Allegany County, Maryland (Figure 1). It is adjacent to, and partly underlies, the Frostburg Industrial Park. The site is accessible through the industrial park, which is located on Route 36 (Figures 2 and 3). The Landfill covers an area of approximately 22 acres. Two other landfills, Vale Summit and Cabin Run, are located in the same area. Vale Summit is approximately 1.25 miles southwest of Hoffman Landfill, and Cabin Run is approximately 2.25 miles southwest of Hoffman Landfill.[1]

The area surrounding the site is rural and commercial with residential areas nearby in Frostburg and Eckhart Mines. The bulk of the site is empty grassland which is located between the buildings of the industrial park. The exact limits of the Landfill are not apparent on the surface, and are not entirely agreed upon in file reports. A pond is located 50 feet southeast of the site. Figure 3 shows the approximate outline of the Landfill and surrounding buildings.[1] The site topography slopes generally to the east toward Braddock Run, about ¾ mile away (see Figure 4).

Seven buildings are located within 200 feet of the site. They are the Frostburg Heights apartment building and an associated nursing home, Rish Equipment, Hampton Inn Hotel, a small bank and two small buildings as part of a Comfort Inn Hotel. Two of the buildings, the Comfort Inn and the apartment building, may partially overlie the fill area, but engineering studies associated with the apartment building concluded that the actual fill area was 30 to 50 feet to the east. The road to the industrial park also partly covers the site. Beall High School is

located 0.7 miles northwest of the site, and the topographic map of the area shows at least three other schools in central Frostburg, 1.5 miles northwest.[1]

The Landfill is approximately 1900 feet long, 50 feet wide at the bottom and 110 feet wide at the top. The depth of the landfill ranges from 30-50 feet. The total volume of the pit is over a quarter of a million yds^3.[1]

There are no potable wells on the site although there were monitoring wells at one time. These may have been paved over; consequently they are not easily found, if they still exist.[1]

OPERATIONAL HISTORY

Hoffman Landfill is an abandoned coal strip mine (dates of operation unknown) which was used as a sanitary landfill starting in approximately 1967. The site was originally owned by the Pittsburgh Consolidation Coal Company. In 1963, Maryland Coal and Realty bought the land.[1] Several different property owners own land which comprise the area of the Landfill.[2]

The Landfill operated from 1967 to late 1971. A three foot layer of compacted spoil material was placed at the base of the Landfill to slow infiltration of leachate into the groundwater. In addition, thirteen monitoring wells were installed to evaluate ground water levels and quality, and a boron tracer substance was deposited with the waste in the Landfill to help trace the origin of any contamination back to the site. The Landfill was operated by Allegany County and the Maryland State Department of Health monitored the site for degradation of surface water and ground water.[1]

The following companies disposed of waste at the Hoffman Landfill: Allegany County, Hercules Corporation, Celanese Corporation, Kelly Springfield Tire and PPG Industries, all centered in Cumberland. The waste disposed of included municipal waste, other refuse, and sewage sludge. On average, 235 tons/day was deposited into the fill. From 1967 to 1971 it is estimated that approximately 225,000 tons of refuse was deposited at the Hoffman Landfill.[1]

PREVIOUS STUDIES

Monitoring of the facility in part was carried out by the Maryland Department of Health prior to the opening of the Landfill and continuing through 1971. Samples were collected from Braddock Run and the on-site pond, and the results did not indicate an impact caused by leachate from the Landfill.[1]

The results from the on-site pond did indicate that the iron content, chlorides, and total solids in the pond had increased during the landfill's operation. In addition, the observation wells installed on the site indicated no impact to the ground water as a result of the landfilling.[1]

On June 23, 1992, MDE's Pre-Remedial Division collected ground water, surface water, sediment, soil, and leachate samples at the site, as part of a Level III Site Inspection Prioritization. Figures 6, 7, and 8 show sampling locations. Sampling results are presented in Tables 1A through 8. The results indicated that the on-site monitoring well contained 2 μg/L

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vinyl chloride. The inorganics of concern were barium and beryllium which were detected in a residential well east of the site.[1]

No organic contaminants were detected in the surface water samples. All of the surface water samples indicated the presence of elevated metals. Lead was found in one surface water sample at elevated concentrations; this location was thought to be the probable point of entry for discharge of ground water to surface water. Since lead was found in the ground water at elevated levels, the conclusion was that this was an observed release. Sediments were found to have low levels of polyaromatic hydrocarbons as well as low levels of DDE and toluene.[1]

In 1993, MDE conducted a Phase I Expanded Site Inspection. Sampling locations are presented in Figures 9, 10, and 11. Sampling results are presented in Tables 9 and 10. None of the on-site monitoring wells could be located for this sampling event. Analysis of water from two nearby residential wells (on Washington Hollow Road and Dicks Lane) indicated that elevated metals were present in the ground water, as well as chloroform well below the Maximum Contaminant Level. The water in this area is known for high metals content due to local mining activities.[1]

The surface water and sediments indicated that low levels of pesticides and polyaromatic hydrocarbons were present. Boron was specially chosen as one of the analytes during this study as well. Consistent with the previous sampling, elevated metals were found to be present in the surface water and sediments. This is likely due to local mining activity; additionally, the Hoffman Drainage Tunnel, which drains 17 square miles of the area's mines, empties into the nearby stretch of Braddock Run. The boron analyses indicated that there was an insignificant difference between on-site and background samples.[1]

During the early 1980s, a methane venting system was installed at the site. A flare existed behind Rish Equipment, but it was decommissioned between 1983 and 1986. Methane was monitored in the basement of the apartment building; when the levels got to a certain concentration, the venting unit would be activated. The system was eventually decommissioned because the levels of methane were consistently low. There are no known documents detailing this methane venting system or air monitoring data.[4,5]

GROUND WATER PATHWAY

The vertical extent of the Landfill is believed to be within the Manongahela formation.[1,3] Figure 5 shows the geologic map of the area. There are at least two downgradient residential wells to the east. The two residences on Washington Hollow Road and Dicks Lane are potential but unlikely targets of a release of contaminants from Hoffman Landfill. Their water quality is consistent with that around the area in that it is stained orange with iron, and is not generally palatable for drinking. Upon evaluation of the thicknesses of geologic formations in the site vicinity and residential well depths (325' and 375'), these wells are most likely completed in a different aquifer, the Conemaugh formation.[3] Ground water at this depth is influenced by bedding plane and fracture orientation; hydraulic connectivity between the Landfill and the residential wells has not been established.

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SURFACE WATER PATHWAY

Previous studies show that the surface water and sediments have been impacted by acid mine drainage and do not indicate a release from the Landfill.

SOIL PATHWAY

The soil pathway is a potential concern, since exposure to adjacent residents is a possibility. The site is not fenced. Waste is visible at some locations at the site.

AIR PATHWAY

The population around the site was not evaluated.

RECOMMENDATIONS

Based on the information available, MDE has further requirements related to the investigation of hazardous waste at this site. MDE recommends that new monitoring wells be installed and monitored under State Superfund, since no wells can be found on-site. If necessary, landfill methane should also be monitored. Additional surface soil sampling may be necessary to ensure that the site poses no risk to trespassers. MDE further recommends that this site does not warrant further investigation by the EPA and that the site be "archived" by EPA.

REFERENCES

1 Phase I Expanded Site Inspection for the Hoffman Landfill Site, September 1994, prepared by MDE, prepared for EPA.

2 State Department of Assessments and Taxation (1998) [WWW document], URL http://www.dat.state.md.us/sdatweb/index.html.

3 Allegany and Washington Counties Water Resources, Department of Geology, Mines and Water Resources, Bulletin 24, 1961.

4 Telephone conversation with Mitch Welsh, MDE, Solid Waste Management Division, December 21, 1998.

5 Telephone conversation with Steve Young, Allegany County Department of Public Works, October 15, 1998.

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Appendix A

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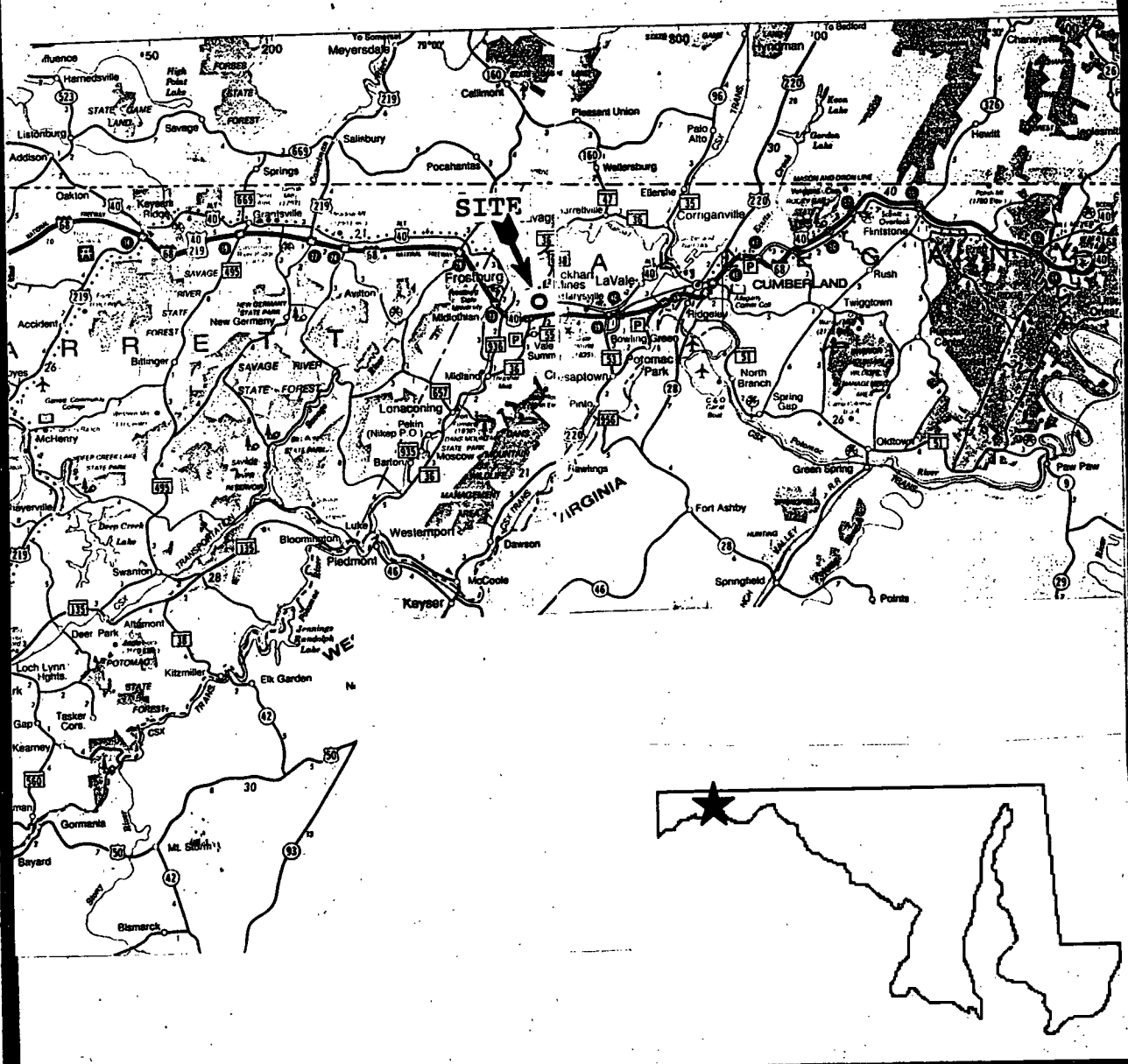
Regional Highway Map

Figure 1



SHA 1989

N

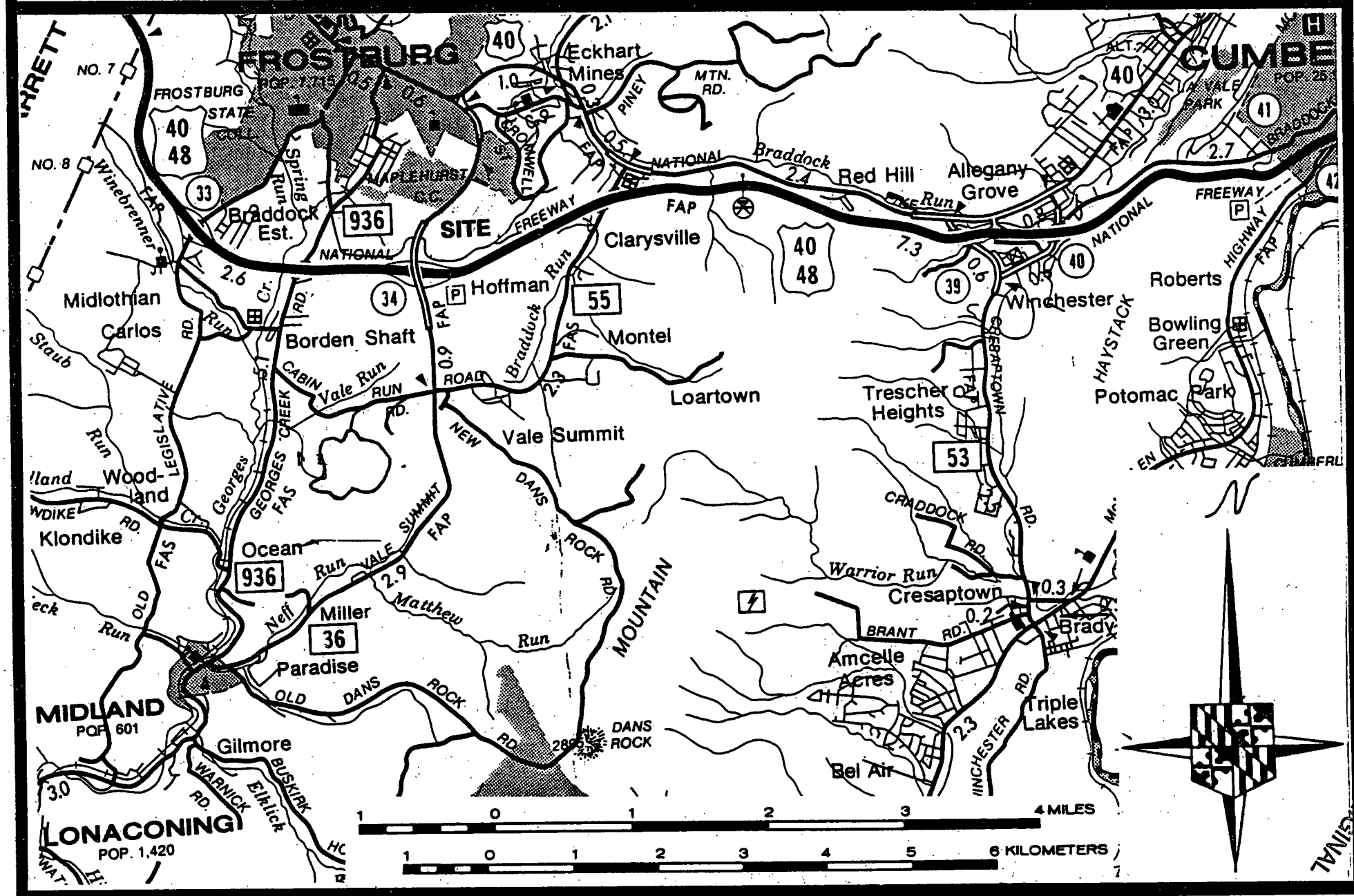
SCALE

0 6 12 MILES

0 10 20 KILOMETERS

LOCAL STREET MAP

FIGURE 2



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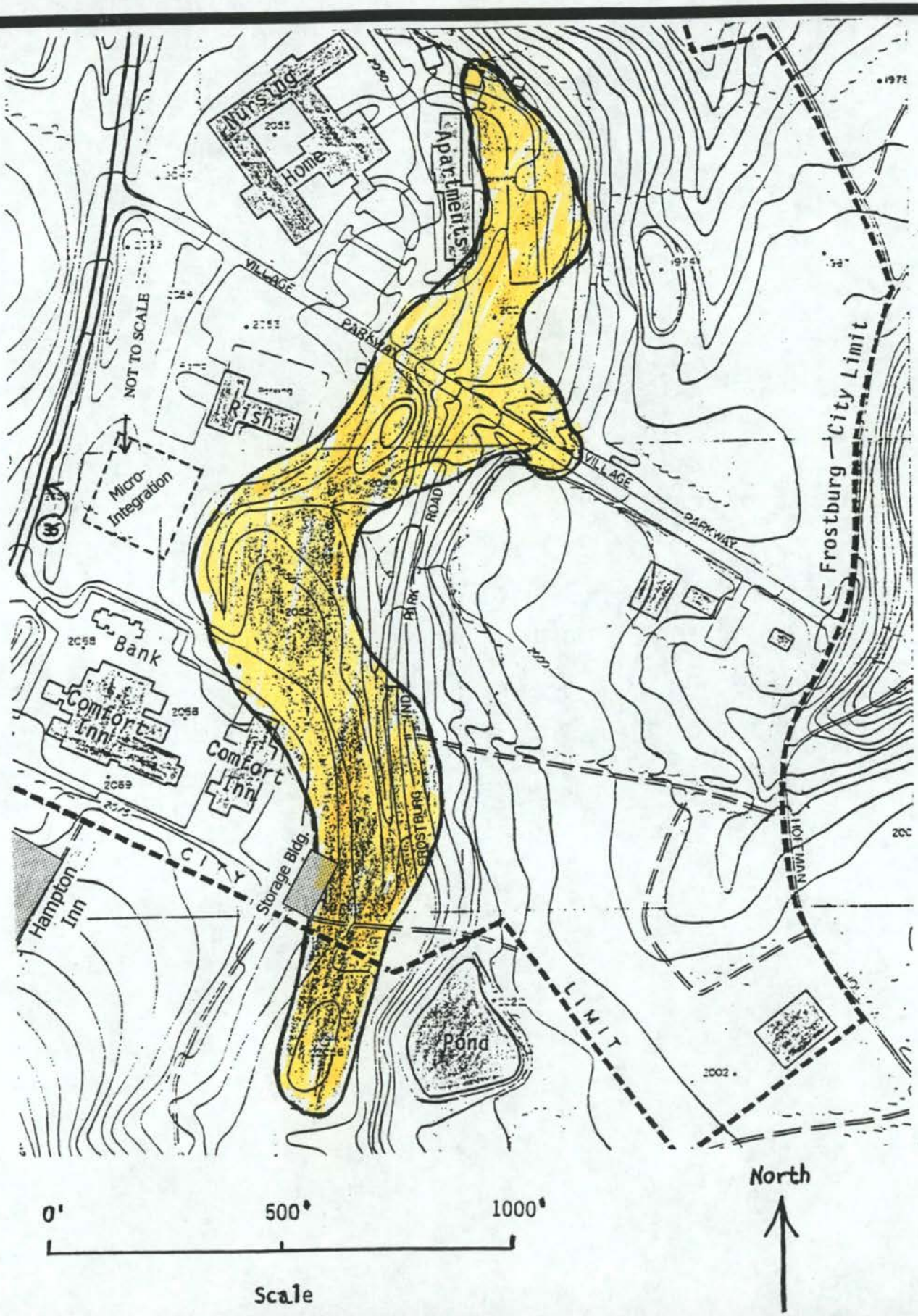
SITE SKETCH

FIGURE 3



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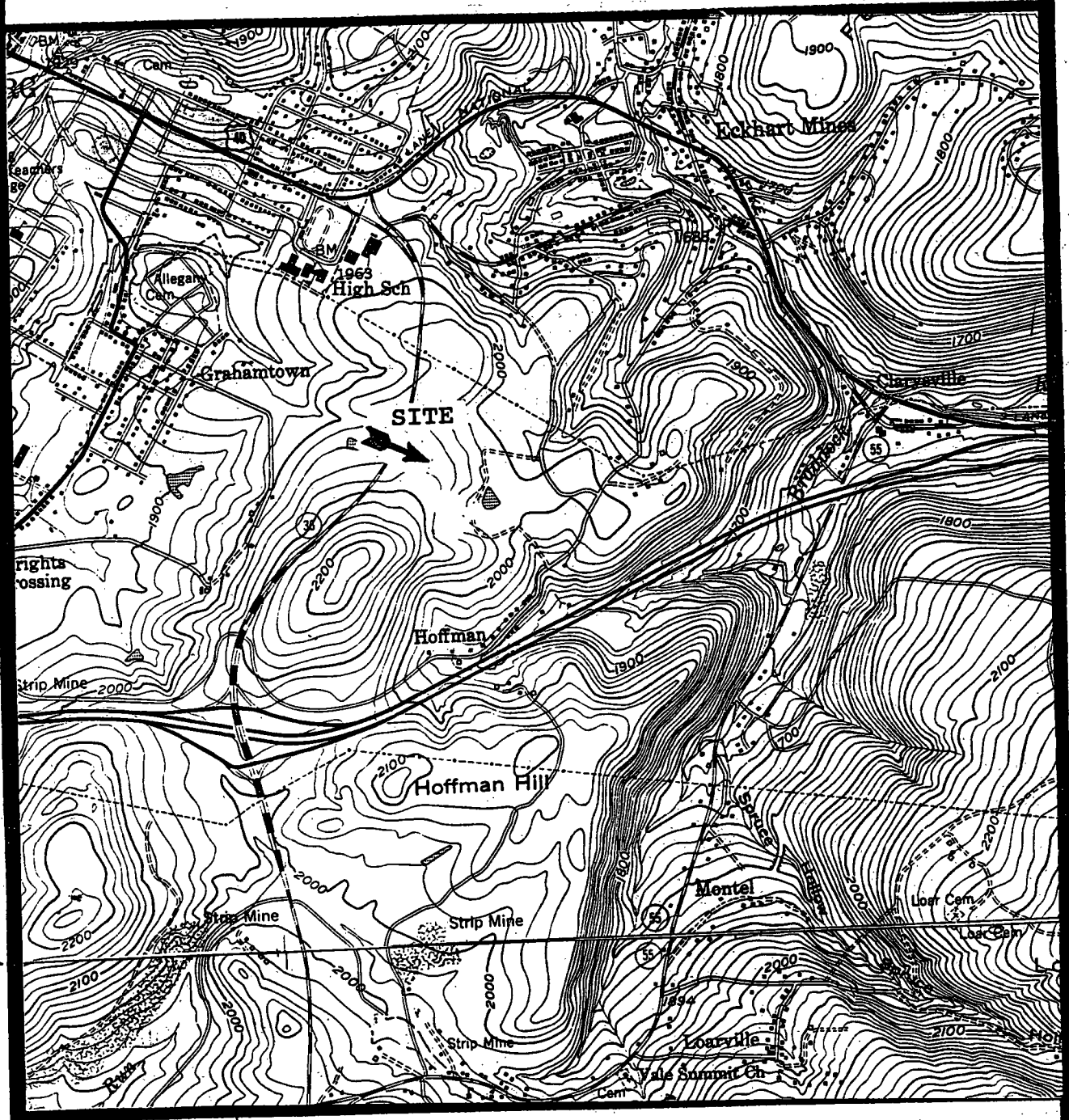
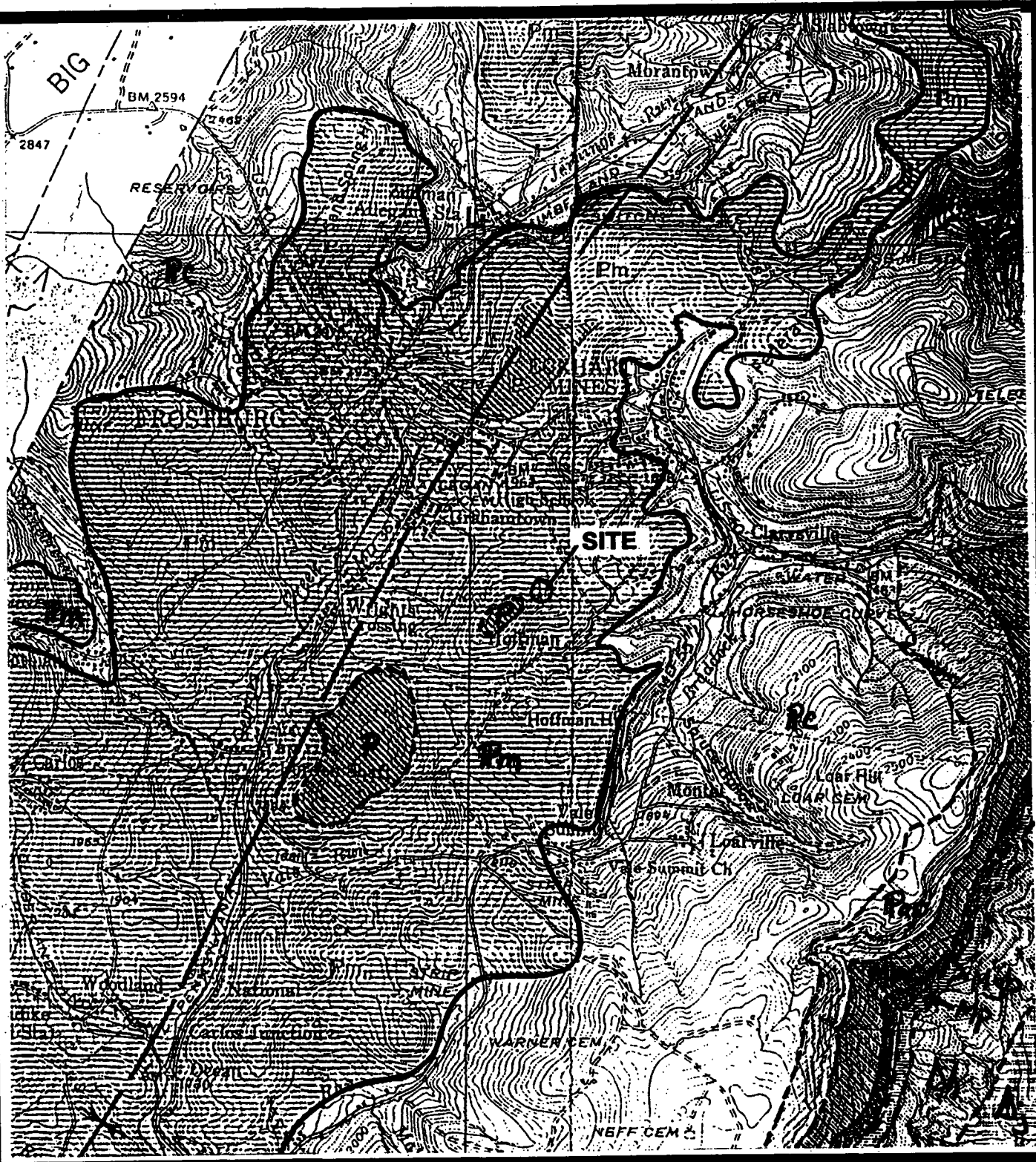
Local Topography

Figure 4



GEOLOGIC MAP

FIGURE 5



P - Permian Undifferentiated
Pm - Monongahela Formation
Pc - Conemaugh Formation
Pap - Alleghany and Pottsville Formations Undifferentiated
Mmc - Mauch Chunk Shale
Mgb - Greenbriar Formation
Mp - Pocono Formation
Dh - Hampshire Formation
Dj - Jennings Formation

N

State of Maryland Department of Geology, Mines, and Water Resources. Geologic Map of Alleghany County. 1956.

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Location of Residential Well Samples
(Site Inspection Prioritization, 1992)

Figure 6

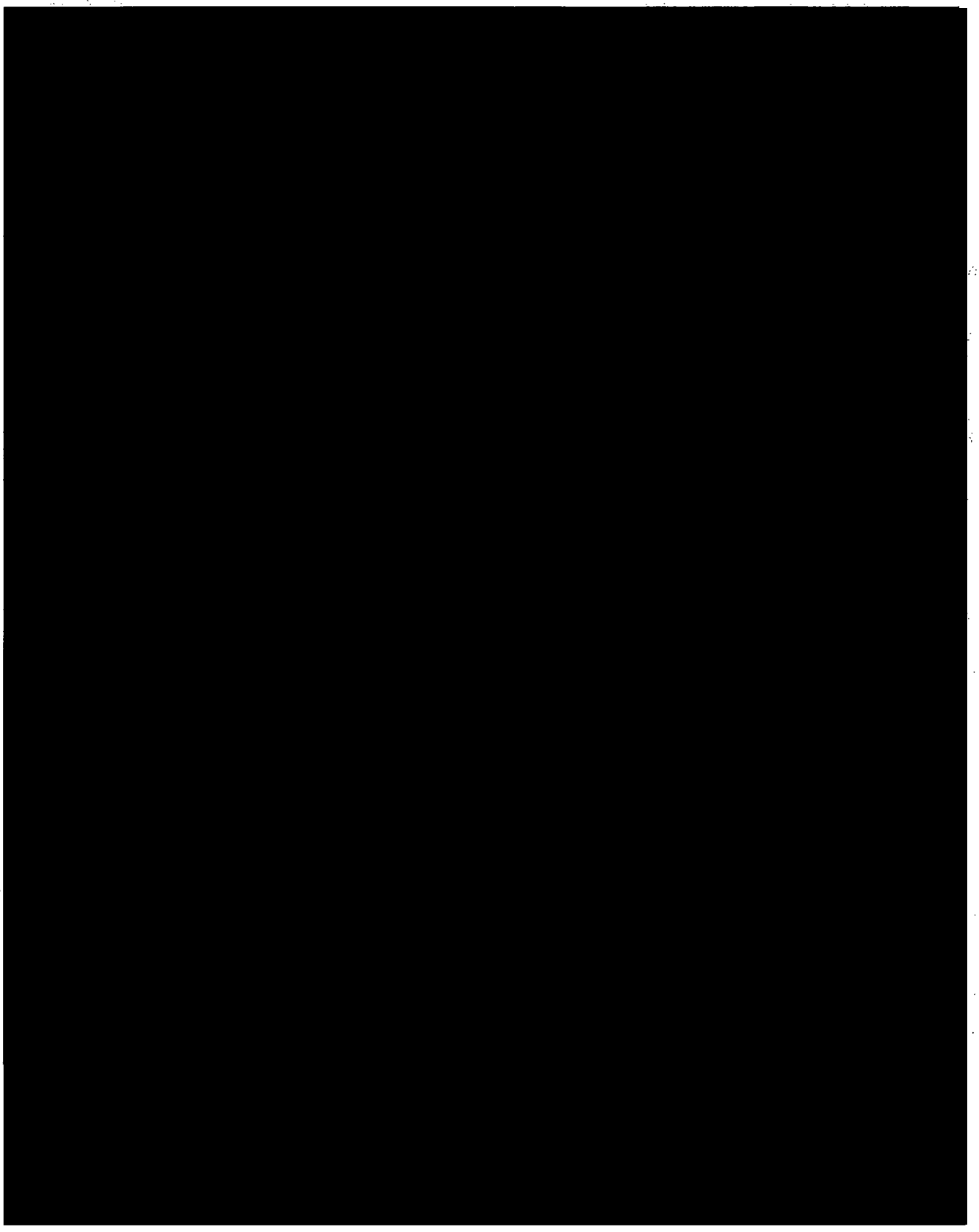

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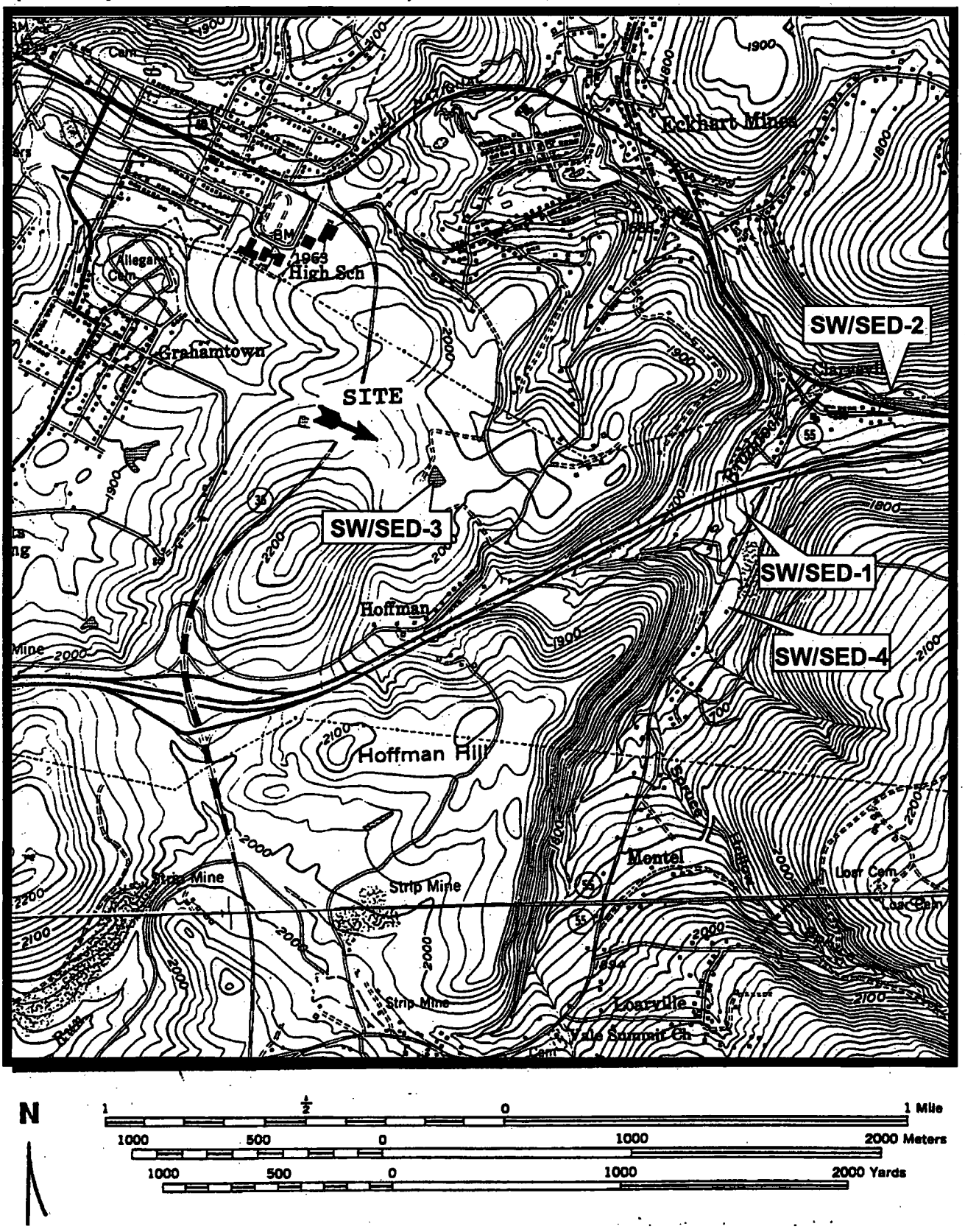
Figure 7

Location of Surface Water/Sediment Samples

(Site Inspection Prioritization, 1992)



Location of Soil Samples

Figure 8

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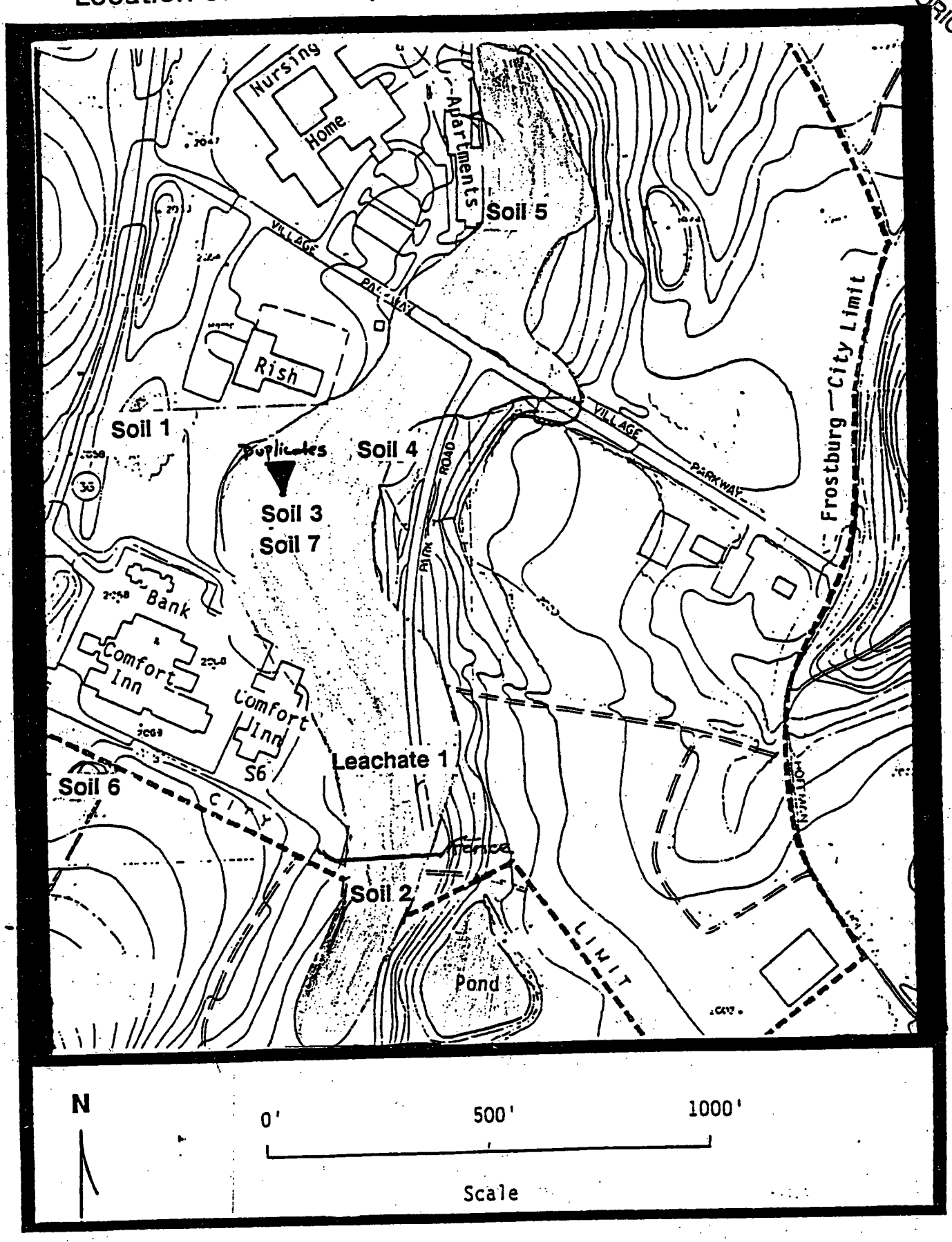

Site Inspection Prioritization, 1992

Soil/Source Sampling Locations

Expanded Site Inspection, 1994

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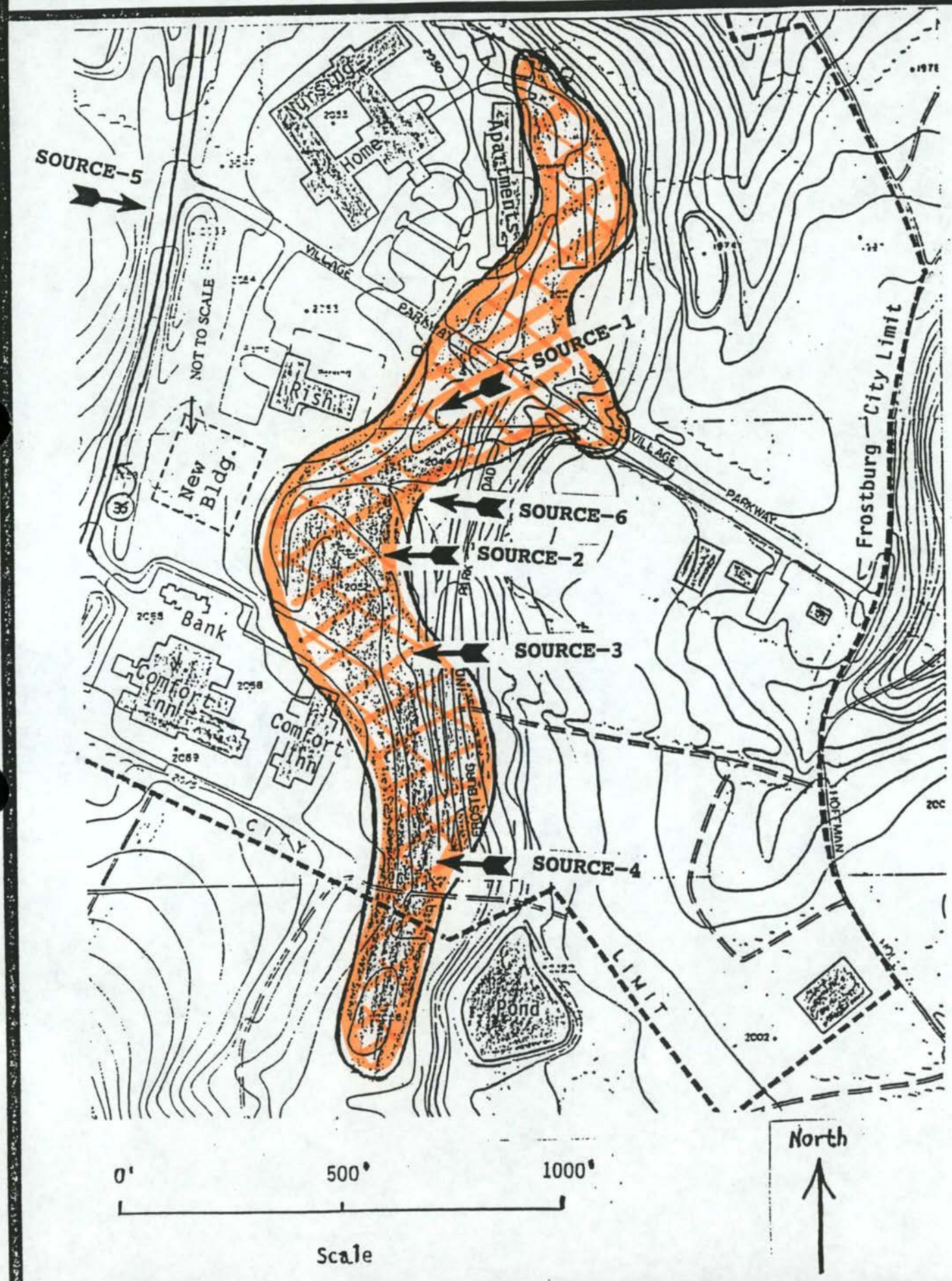
FIGURE 9



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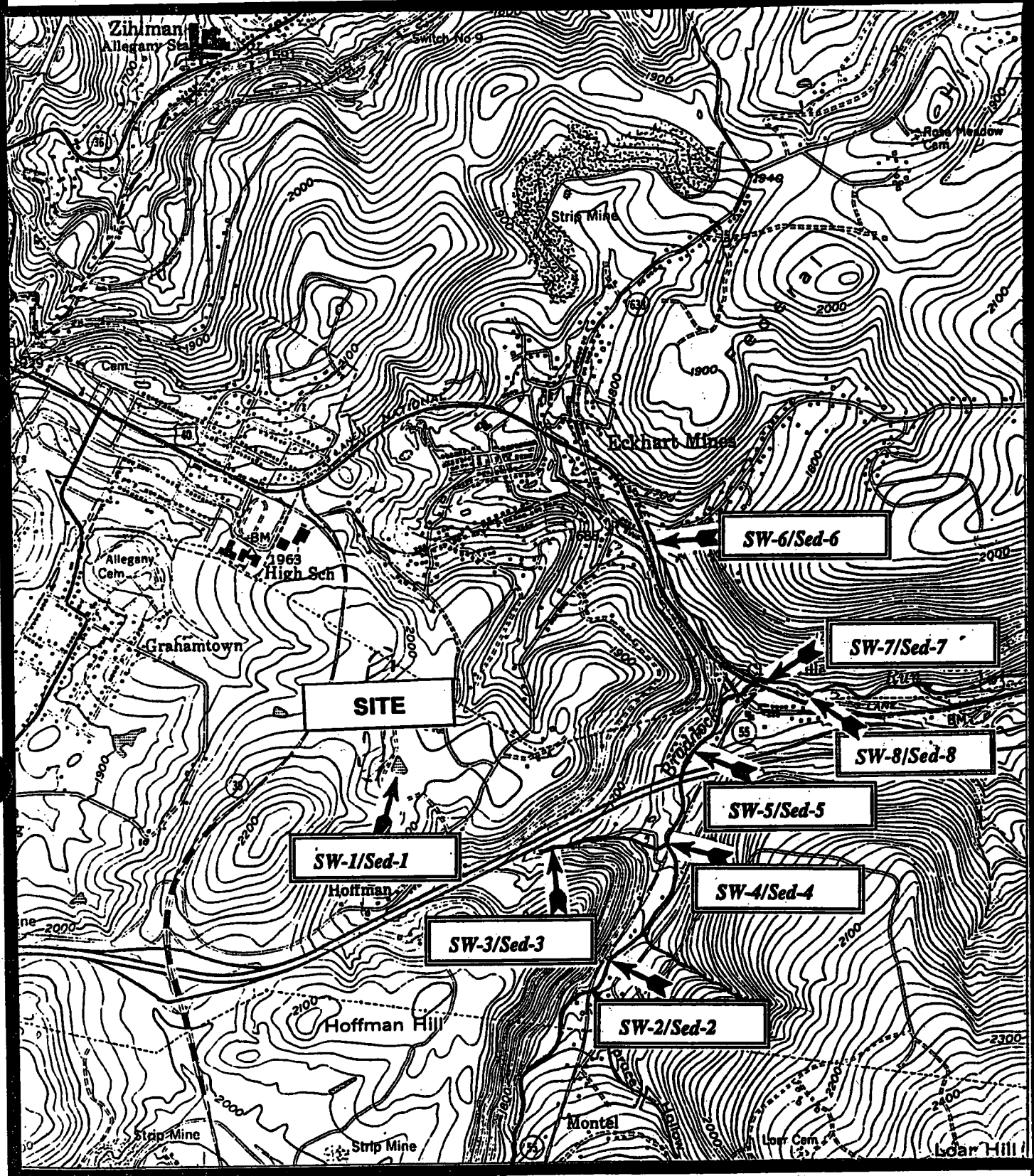
Surface Water Sampling Locations

Expanded Site Inspection, 1994

FIGURE 10



SCALE 1:24 000

1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 KILOMETER

NORTH

Ground Water Sampling Locations

Expanded Site Inspection, 1994

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Appendix B

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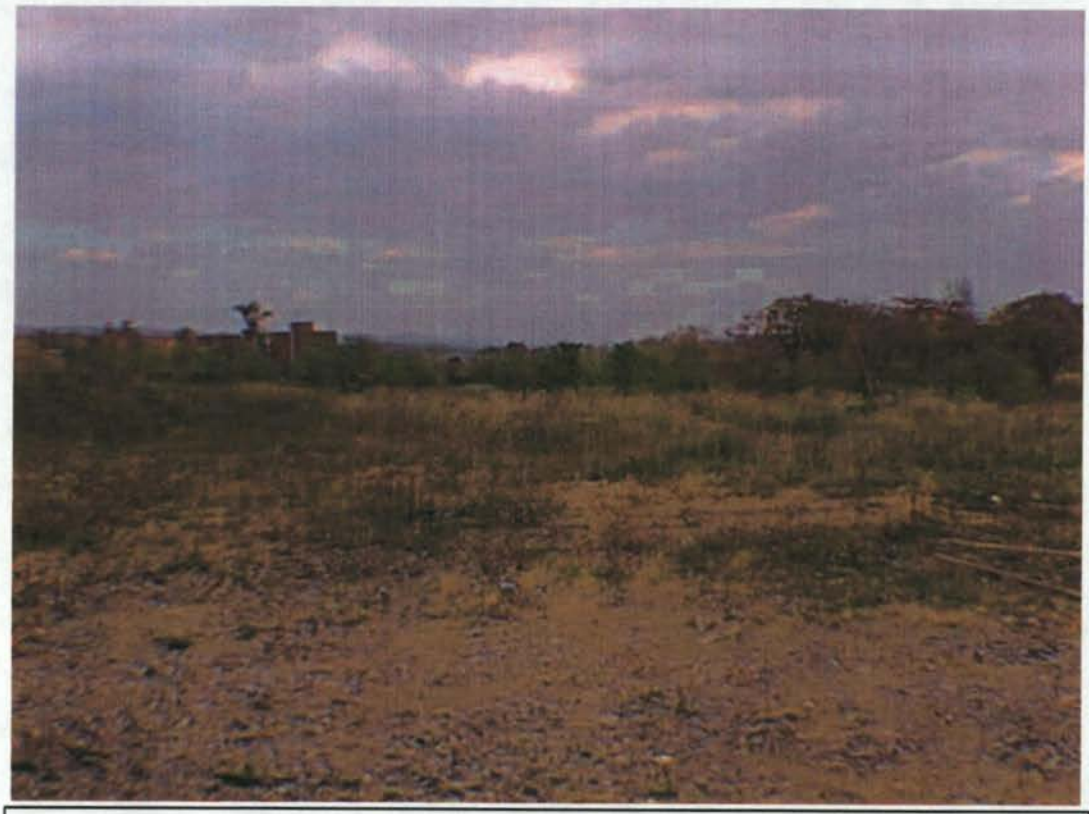
#1 of panorama 1-5. Comfort Inn Banquet Facility behind the Comfort Inn hotel. Photographer may be standing at approximate western boundary of fill area.

#2 of panorama 1-5. Empty propane tank in approximate center of photo. Ground in right half of photo may overlie Hoffman fill area.



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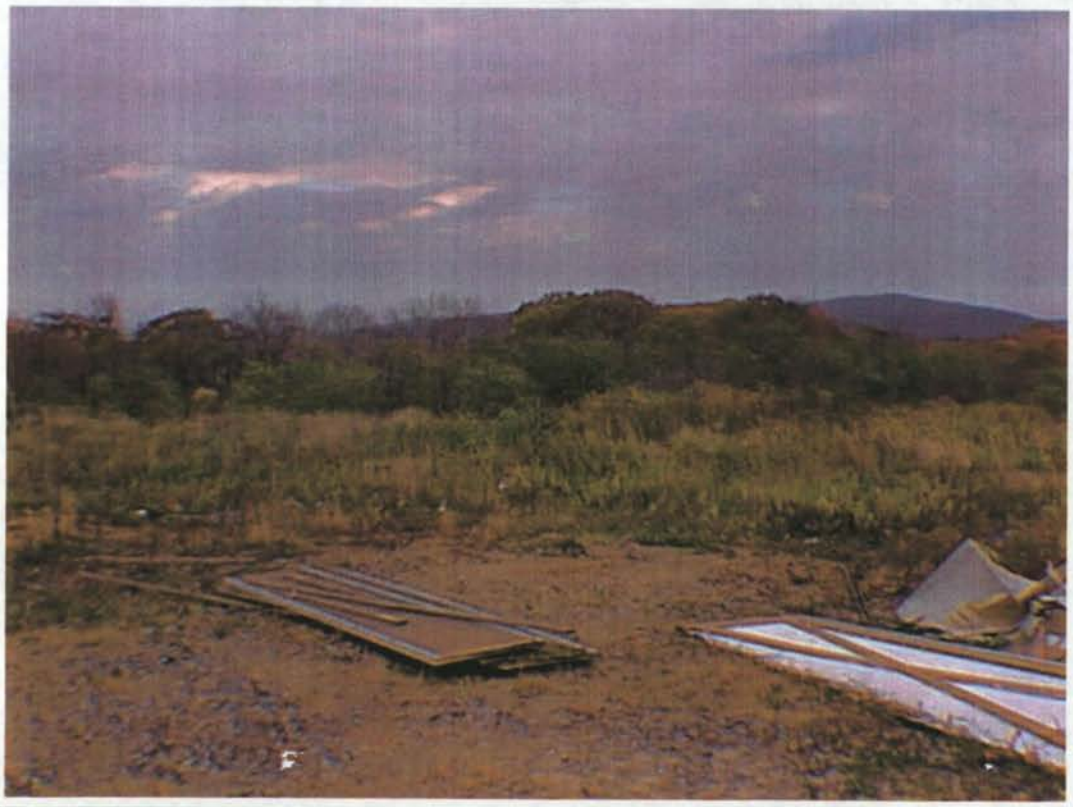
#3 of panorama 1-5.



#4 of panorama 1-5. Note nuisance dumping in foreground.

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#5 of panorama 1-5. Note nuisance dumping.

#6 - Looking up fill area slope at the Comfort Inn Banquet Facility from the roadside (Frostburg Industrial Park Road). Left part of photo overlaps right side of photo 7.

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#7 - Looking up fill area slope at the Hampton Inn and a storage building (left side of photo).

#8 - Looking up the fill area slope. Left side of this photo matches right side of photo 6.

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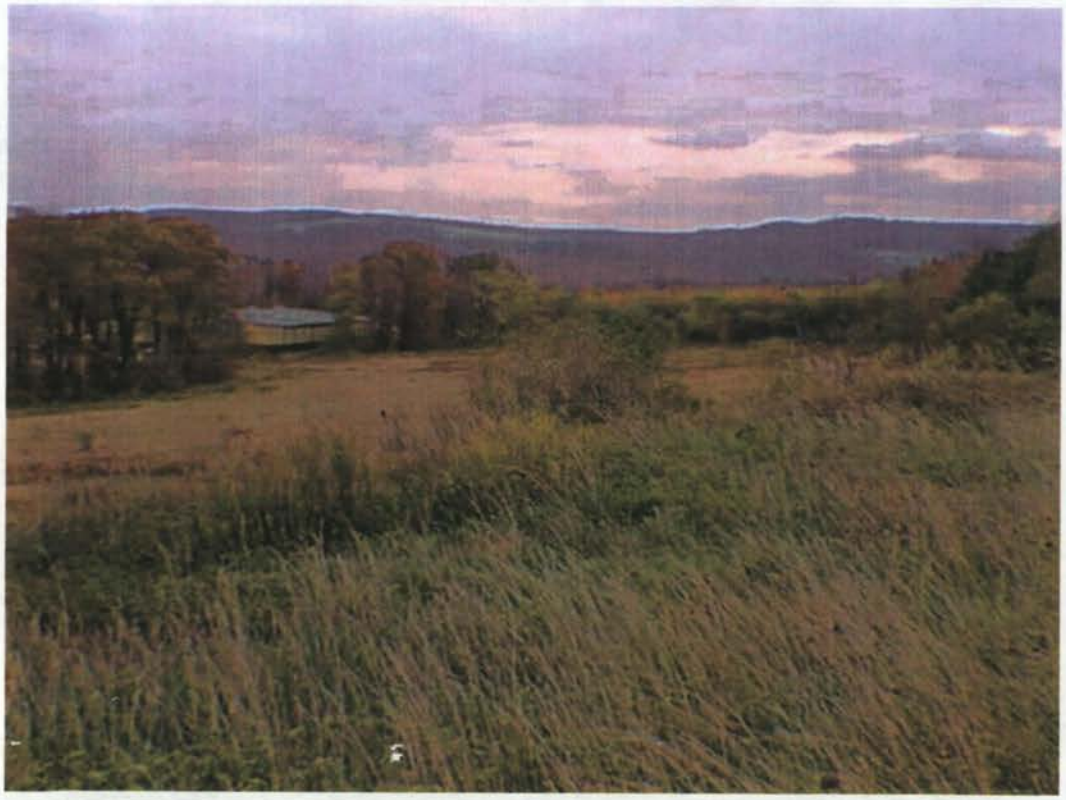
#9 - Taken from behind Comfort Inn, looking northeast.



#10 - Taken from behind Comfort Inn, looking northeast. Left side of photo matches right side of photo 9.

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#11 - Looking up fill slope area from Frostburg Industrial Park Road.

#12 - Area behind Hampton Inn. Photo taken from behind Comfort Inn, toward the southwest. Left side of photo overlaps right side of photo 13. It is not believed to be part of the Hoffman Landfill.

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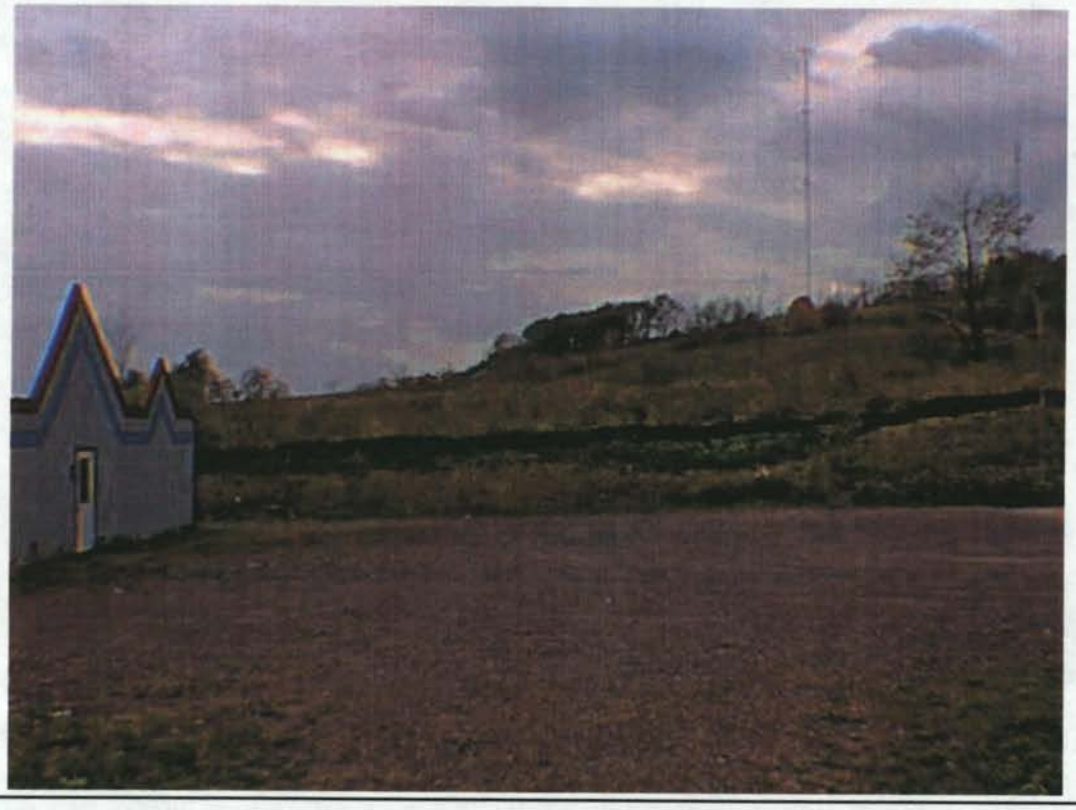

#13 - Area behind Hampton Inn. Photo taken from behind Comfort Inn, in front of storage building (left side of photo).

#14 - Area behind Hampton Inn. Not delineated as part of Landfill in previous site sketches. Vegetation indicates it could be fill. Left side of photo overlaps right side of photo 15.

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#15 - Area behind Hampton Inn, photo taken towards south-southwest.

#16 - Area behind Hampton Inn. Note suspicious black tarry material in right foreground and spotty vegetation.

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#17 - Taken from behind Comfort Inn, looking northeast.

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Appendix C

Table 1A: Inorganic Results from Groundwater Samples. Concentrations are recorded as µg/L.

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Compound	GW-4 (background)	GW-1	GW-2/GW-5	GW-3
Aluminum	[112]	–	*/*	*
Arsenic	–	–	–/–	[7.0]
Barium	[28.7]	*	[137]/[133]	206
Beryllium	–	–	[0.39B]/[0.29B]	[2.7]
Calcium	139000	*	*/*	*
Chromium	[2.2]	–	–	*
Cobalt	–	–	–/–	[13.2]
Copper	50	–	*/*	271
Iron	1530	*	*/*	172000
Lead	7.5	–	*/*	35.3
Magnesium	22100	*	*/*	*
Manganese	31.6	*	*/*	577
Nickel	–	–	–	[13.4]
Potassium	[1440]	*	*/*	*
Sodium	[1640]	*	*/*	13100
Zinc	25.4	*	*/*	561

Legend

*	Detected, but not greater than three times background
–	not detected
[ ]	As value approaches the IDL the quantitation may not be accurate
B	Not detected substantially above the level reported in the field or lab blank

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Table 1B: Organic results from groundwater samples. Concentrations are recorded as µg/L.

Compound	GW-4 (background)	GW-1	GW-2/GW-5	GW-3
chloroform			4 J/4 J	
lindane	.0039 J			

Legend

blank space	not detected
J	estimated value

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Table 1C: Results from the onsite monitoring well sample. The unfiltered sample is listed as 'GW-6,' the filtered sample as Dissolved Metals GW-6. In addition, a duplicate sample of the filtered sample was collected and the results are recorded under 'DUP.' All concentrations are recorded as µg/L.

Compounds	GW-4 (background)	GW-6	Dissolved Metals GW-6/DUP
Aluminum	[112]	*	–/*
Arsenic	–	[1.4]	–/–
Barium	[28.7]	238	222/222
Beryllium	–	–	–/–
Cadmium	–	–	–/–
Calcium	139000	*	*/*
Chromium	[2.2]	–	–/–
Cobalt	–	[1.9]	–/[3.2]
Copper	50	*	–/–
Iron	1530	9300	8170J/8150J
Lead	7.5	*	–/–
Magnesium	22100	*	*/*
Manganese	31.6	490	484J/476J
Mercury	–	–	–/–
Nickel	–	–	–/–
Potassium	[1440]	*	*/*
Selenium	–	–	–/–
Sodium	[1640]	*	*/*
Vanadium	–	–	–/–
Zinc	25.4	*	*/*
Cyanide		Q	Q/Q

Legend

*	Detected, Not greater than three times background
[ ]	As value approaches the IDL the quantitation may not be accurate
Q	No analytical result
J	Reported value may not be accurate or precise
–	not detected

Table 1D: Organic contamination detected in the on-site monitoring well samples. Concenrations are recorded as µg/l.

Compound	GW-6
vinyl chloride	2
lindane	.0099 J

Legend

J	Estimated Value

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Table 2: Inorganic Analysis of Surface Water Samples. Concentrations are recorded as µg/L.

Compounds	Leachate-1	SW-4 (Background)	SW-1	SW-2	SW-3
Aluminum	3530	378	*	*	–
Arsenic	[2.7]	–	–	[1.1]	–
Barium	*	[49.1]	*	*	*
Beryllium	–	–	–	0.24 B	–
Calcium	*	21800	*	117000	*
Chromium	[5.3]	–	–	–	–
Cobalt	*	[2.7]	*	[37.8]	–
Copper	[15.2]	–	[3.9]	–	–
Iron	12000	195	740	5800	3140
Lead	10.7	[0.40]	1.5	–	–
Magnesium	*	5950	*	44600	[4650]
Manganese	327	77.9	*	3020	429
Nickel	*	[11.9]	*	78.7	–
Potassium	*	[1090]	*	*	[4300]
Sodium	*	5040	*	*	*
Zinc	*	25.5 B	*	*	B

Legend

*	Detected, but not greater than three times background
[ ]	Analyte present. As values approach the IDL the quantitation may not be accurate
–	Not Detected
B	Not detected substantially above the level reported in lab or field blanks
J	Reported Value May Not be Accurate or Precise

In addition, Endosulfan Sulfate at 0.0082 J µg/l and Methoxychlor at 0.019 B µg/l were detected in the leachate sample.

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Table 3: Organic Analysis of Sediment Data. Concentrations are recorded as µg/kg.

Compound	Sed-4 (Background)	Sed-1	Sed-2	Sed-3
Toluene		1		
Fluoranthene			120J	
Phenanthrene			130J	56 J
Pyrene			85J	
Benzo[a]Anthracene			110J	
Chrysene			120J	
Benzo[b]Fluoranthene			250 J	
Benzo[k]Fluoranthene			250 J	
Benzo[a]Pyrene			120J	
Indeno-(1,2,3-cd)Pyrene			64J	
4-Methylphenol				62J
4-methylnapthalene			92 J	
4,4-DDE	0.38			

Legend

J	Estimated Value
blank space	Not detected

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Table 4: Inorganic Results for Sediment Samples. Values are recorded as mg/kg.

Compound	Sed-4 (Background)	Sed-1	Sed-2	Sed-3
Aluminum	4260	*	*	*
Arsenic	3.6	*	*	*
Barium	86.5	*	*	*
Beryllium	1.7	*	*	*
Cadmium	[0.55]	–	–	–
Calcium	1290	10000	10400	*
Chromium	12.2	*	332	*
Cobalt	54.1	*	180	*
Copper	16.1	*	*	*
Iron	27900	*	*	*
Lead	15.7	*	*	*
Magnesium	[785]	*	*	*
Manganese	1480	*	13500	*
Mercury	–	–	–	–
Nickel	89.1	*	*	*
Potassium	[577]	*	*	*
Selenium	[0.34] L	*	1.8	*
Sodium	[44.4]	*	*	*
Vanadium	[11.7]	*	*	*
Zinc	188 J	*	*	*

Legend

*	Detected, Concentration does not exceed three times background
[ ]	Analyte present. As values approach the IDL the quantitation may not be accurate
–	Not Detected
J	Analyte present. Reported value may not be accurate or precise
L	Analyte present. Reported value may be biased low. Actual value is expected to be higher

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Table 5: Organic Results from Soil Samples. Values are recorded as µg/kg

Compound	Soil-1 (Backgd)	Soil-2	Soil-3/Soil-7	Soil-4	Soil-5	Soil-6
Fluoranthene			39J/61J			
Phenanthrene			--/--	47J		
Pyrene			--/55J			
Benzo[b]Fluoranthene			--/61J			
Benzo[k]Fluoranthene			--/61J			
Endosulfan I			0.40J/0.34J			
alpha-BHC			--/--	0.100J		
gamma-Chlordane			--/--	0.41J		
4,4'-DDE			--/--		0.97J	
Endrin Ketone			--/--			0.12J

Legend

J	Estimated Value
--	Not detected
blank space	Not detected

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Table 6: Inorganic Results from Soil Samples. Concentrations are recorded as mg/kg

Compounds	S-1 (Backgd)	S-2	S-3/S-7	S-4	S-5	S-6
Aluminum	8270	*	*/*	*	*	*
Arsenic	7.9	*	*/*	*	*	*
Barium	142	*	*/*	*	*	*
Beryllium	[1.1]	*	*/*	*	*	*
Cadmium	[0.42]	–	–/–	–	–	–
Calcium	2640	*	*/*	*	*	*
Chromium	12.0	*	*/*	*	*	*
Cobalt	19.3	*	*/*	*	*	*
Copper	28.7	*	*/*	*	*	*
Iron	33900	*	*/*	*	*	*
Lead	35.0	*	*/*	*	*	*
Magnesium	[1030]	*	*/*	*	*	*
Manganese	1170	*	*/*	*	*	*
Mercury	–	–	0.19/0.16	–	–	–
Nickel	22.2	*	*/*	*	*	*
Potassium	1240	*	*/*	*	*	*
Selenium	[0.35] L	–	*/*	–	*	*
Sodium	[119]	*	*/*	*	*	*
Vanadium	18.3	*	*/*	*	*	*
Zinc	78.0 J	*	*/*	*	*	*
Cyanide	–	–	[0.45]/0.71B	[0.23]	–	–

Legend

*	Detected, Not greater than three times background
[ ]	Analyte present. As values approach the IDL the quantitation may not be accurate
–	Not Detected
L	Analyte present. Reported value may be biased low. Actual value is expected to be higher
J	Analyte present. Reported value may not be accurate or precise

Note: S-3 and S-7 are Duplicate Samples

ORIGINAL

Table 7: Pesticide data for sediment samples. Values are recorded as µg/kg.

Contaminant	SED-1	SED-2	SED-3	SED-4 (background)
Lindane		0.079 J		
heptachlor	0.17 J	0.35 J	0.48 J	0.25 J
dieldrin		0.072 J		
4,4'-DDE	0.20 J	0.64 J	0.39 J	0.38 J
endrin		0.47 J		
4,4'-DDD		0.15 J		0.51 J
4,4'-DDT				0.15 J
endrin ketone	0.18 J	0.31 J		
alpha-chlordane		0.36 J		
gamma-chlordane		0.46 J		0.16 J

Legend

J	Estimated Value
--	Not detected
blank space	Not detected

ORIGINAL

Table 8: Pesticide data for soil samples. Values are recorded as µg/kg.

Contaminant	S-1 (background)	S-2	S-3/S-7	S-4	S-5	S-6
alpha-BHC		0.25 J		0.100 J		
lindane	0.25 J	0.16 J	0.13 J/nd	0.41 J	0.37 J	0.12 J
heptachlor	0.13 J	0.065 J	/0.094	0.050 J		
aldrin		0.65 J	0.58 J/0.37 J			
Heptachlor epoxide		0.18 J	0.30 J/0.26 J	0.10 J		
Endosulfan I		0.13 J	0.40 J/0.34 J	0.30 J		
dieldrin	0.20 J		/0.33 J			
4,4-DDE					0.97 J	
endrin		0.075 J	0.59 J/0.56 J	0.27 J	0.51 J	
endosulfan sulfate		0.096 J				
4,4'-DDT	0.16 J		/1.3 J		1.2 J	
methoxychlor				9.4 J		
endrin ketone	0.66 J		0.15 J/	0.47	0.17 J	0.12 J
alpha-chlordane			0.55 J/0.48 J	0.39 J		
gamma-chlordane	0.072 J	0.41 J	0.67 J/0.51 J	0.41 J	0.45 J	
endosulfan II			0.31 J/	0.22 J		

Legend

J	Estimated Value
--	Not detected
blank space	Not detected

DATA SUMMARY FORM: VOLATILES

Site Name: HOFFMAN LF

WATER SAMPLES
(ug/L)

TABLE 9

Case #: 21162 Sampling Date(s): 11-2-93 - 11-3-93

To calculate sample quantitation limits:
(CRDL * Dilution Factor)

	Sample No.	CJW15		CJW16		CJW18		CJW19		CJW20		CJW21		CJW22		CJW23		CJW24	
	Dilution Factor	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
	Location	RW-1		RW-2		RW-4		SW-1		SW-2		SW-3		SW-4		SW-5		SW-6	
												SAMPLE IS A FIELD DUP. OF CJW27							
CRQL	COMPOUND																		
10	Chloromethane																		
10	Bromomethane																		
10	*Vinyl Chloride																		
10	Chloroethane																		
10	*Methylene Chloride	3	B	2	B	2	B	2	B	1	B	1	B	1	B	2	B	2	B
10	Acetone	7	B					5	B									5	B
10	Carbon Disulfide																		
10	*1,1-Dichloroethene																		
10	1,1-Dichloroethane																		
10	*Total 1,2-Dichloroethene																		
10	Chloroform	35																	
10	*1,2-Dichloroethane																		
10	*2-Butanone																		
10	*1,1,1-Trichloroethane																		
10	*Carbon Tetrachloride																		
10	Bromodichloromethane																		

CRQL = Contract Required Quantitation Limit

*Action Level Exists

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ORIGINAL

TABLE 9

DATA SUMMARY FORM: V O L A T I L E S 2

Site Name: HOFFMAN LF

WATER SAMPLES
(ug/L)

Case #: 21162 Sampling Date(s): 11-2-93 - 11-3-93

ORIGINAL

To calculate sample quantitation li
(CRDL * Dilution fa

	Sample No.	CJW15	CJW16	CJW18	CJW19	CJW20	CJW21	CJW22	CJW23	CJW24
	Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Location	RW-1	RW-2	RW-4	SW-1	SW-2	SW-3	SW-4	SW-5	SW-6
							SAMPLE IS A FIELD DUP. OF CJW27			
CRQL	COMPOUND									
10	*1,2-Dichloropropane									
10	Cis-1,3-Dichloropropene									
10	Trichloroethene									
10	Dibromochloromethane									
10	1,1,2-Trichloroethane									
10	*Benzene									
10	Trans-1,3-Dichloropropene									
10	Bromoform									
10	4-Methyl-2-pentanone									
10	2-Hexanone									
10	*Tetrachloroethene									
10	1,1,2,2-Tetrachloroethane									
10	*Toluene									
10	*Chlorobenzene									
10	*Ethylbenzene									
10	*Styrene									
10	*Total Xylenes									

CRQL = Contract Required Quantitation Limit

*Action Level Exists

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Site Name: HOFFMAN LF

WATER SAMPLES
(ug/L)

Case #: 21162 Sampling Date(s): 11-2-93 - 11-3-93

To calculate sample quantitation limits:
(CRDL * Dilution Factor)

	Sample No.	CJW25	CJW26	CJW27	CJW28	CJW29				
	Dilution Factor	1.0	1.0	1.0	1.0	1.0				
	Location	SW-7	SW-8	SW-9	BLK-1	TB-1				
				SAMPLE IS A FIELD DUP. OF CJW21	SAMPLE IS A FIELD BLANK.	SAMPLE IS A TRIP BLANK.				
CRQL	COMPOUND									
10	Chloromethane									
10	Bromomethane									
10	*Vinyl Chloride									
10	Chloroethane									
10	*Methylene Chloride	1 B	2 B	2 B	2 B					
10	Acetone				7 B	11 B				
10	Carbon Disulfide									
10	*1,1-Dichloroethene									
10	1,1-Dichloroethane									
10	*Total 1,2-Dichloroethene									
10	Chloroform				1 J					
10	*1,2-Dichloroethane				2 J					
10	*2-Butanone									
10	*1,1,1-Trichloroethane									
10	*Carbon Tetrachloride									
10	Bromodichloromethane									

CRQL = Contract Required Quantitation Limit

*Action Level Exists

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TABLE 9 (CONT.)

ORIGINAL

DATA SUMMARY FORM: V O L A T I L E S 2

ORIGINAL

Site Name: HOFFMAN LF

WATER SAMPLES
(ug/L)

Case #: 21162 Sampling Date(s): 11-2-93 - 11-3-93

To calculate sample quantitation l
(CRDL * Dilution F

	Sample No.	CJW25	CJW26	CJW27	CJW28	CJW29				
	Dilution Factor	1.0	1.0	1.0	1.0	1.0				
	Location	SW-7	SW-8	SW-9	BLK-1	TB-1				
				SAMPLE IS A FIELD DUP. OF CJW21	SAMPLE IS A FIELD BLANK.	SAMPLE IS A TRIP BLANK.				
CRQL	COMPOUND									
10	*1,2-Dichloropropane									
10	Cis-1,3-Dichloropropene									
10	Trichloroethene									
10	Dibromochloromethane									
10	1,1,2-Trichloroethane									
10	*Benzene									
10	Trans-1,3-Dichloropropene									
10	Bromoform									
10	4-Methyl-2-pentanone									
10	2-Hexanone									
10	*Tetrachloroethene									
10	1,1,2,2-Tetrachloroethane				2 J					
10	*Toluene				1 J					
10	*Chlorobenzene				1 J					
10	*Ethylbenzene									
10	*Styrene									
10	*Total Xylenes				2 J					

CRQL = Contract Required Quantitation Limit

*Action Level Exists

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Site Name: HOFFMAN LF

SOIL SAMPLES
(ug/Kg)

Case #: 21162 Sampling Date(s): 11-2-93 - 11-3-93

To calculate sample quantitation limits:
(CRQL * Dilution factor / ((100 - %moisture)/100)

	Sample No.	CJW01		CJW02RE		CJW03		CJW04		CJW05		CJW06		CJW07		CJW08		CJW09RE	
	Dilution Factor	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
	% Moisture	15		17		20		12		2		37		26		24		23	
	Location	SOURCE-1		SOURCE-2		SOURCE-3		SOURCE-4		SOURCE-5		SED-1		SED-2		SED-3		SED-4	
																		SAMPLE IS A FIELD DUP. OF CJW14	
CRQL	COMPOUND																		
10	Chloromethane		UJ		UJ		UJ		UJ		UJ								
10	Bromomethane																		
10	Vinyl Chloride																		
10	Chloroethane																		
10	Methylene Chloride	7	B	14	B	7	B	11	B	5	B	10	B	10	B	3	B	5	B
10	Acetone		UJ		UJ	63	B		UJ		UJ	120	B		UJ		UJ		UJ
10	Carbon Disulfide					5	J												
10	1,1-Dichloroethene																		
10	1,1-Dichloroethane																		
10	Total 1,2-Dichloroethene																		
10	Chloroform																		
10	1,2-Dichloroethane																		
10	2-Butanone					16	J												
10	1,1,1-Trichloroethane				UJ														
10	Carbon Tetrachloride				UJ														
10	Bromodichloromethane				UJ														

CRQL = Contract Required Quantitation Limit

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TABLE 9 (CONT.)

ORIGINAL

DATA SUMMARY FORM: V O L A T I L E S 2

ORIGINAL

Site Name: HOFFMAN LF

SOIL SAMPLES
(ug/Kg)

Case #: 21162 Sampling Date(s): 11-2-93 - 11-3-93

To calculate sample quantitation l
(CRQL * Dilution factor / ((100 - %moisture

	Sample No.	CJW01	CJW02RE	CJW03	CJW04	CJW05	CJW06	CJW07	CJW08	CJW09RE
	Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	% Moisture	15	17	20	12	2	37	26	24	23
	Location	SOURCE-1	SOURCE-2	SOURCE-3	SOURCE-4	SOURCE-5	SED-1	SED-2	SED-3	SED-4
										SAMPLE I
										FIELD DU
CRQL	COMPOUND									CJW14
10	1,2-Dichloropropane		UJ							
10	Cis-1,3-Dichloropropene		UJ							
10	Trichloroethene		UJ							
10	Dibromochloromethane		UJ							
10	1,1,2-Trichloroethane		UJ							
10	Benzene		UJ							
10	Trans-1,3-Dichloropropene		UJ							
10	Bromoform		UJ							
10	4-Methyl-2-pentanone	UJ	UJ		UJ					
10	2-Hexanone	UJ	UJ		UJ					
10	Tetrachloroethene	UJ	UJ		UJ					
10	1,1,2,2-Tetrachloroethane	UJ	UJ		UJ					
10	Toluene	UJ	2+ B	4 B	4 B					
10	Chlorobenzene	UJ	UJ		UJ					
10	Ethylbenzene	UJ	UJ	26	UJ					
10	Styrene	UJ	UJ		UJ					
10	Total Xylenes	UJ	UJ	50	7 B					

CRQL = Contract Required Quantitation Limit
+ = Result taken from initial analysis

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DATA SUMMARY FORM: VOLATILES

Site Name: HOFFMAN LF

SOIL SAMPLES
(ug/Kg)

Case #: 21162 Sampling Date(s): 11-2-93 - 11-3-93

To calculate sample quantitation limits:
(CRQL * Dilution factor / ((100 - %moisture)/100

	Sample No.	CJW10	CJW11	CJW12	CJW13	CJW14	CKW92			
	Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0			
	% Moisture	42	19	26	45	26	15			
	Location	SED-5	SED-6	SED-7	SED-8	SED-9	SOURCE-6			
						SAMPLE IS A FIELD DUP. OF CJW09				
CRQL	COMPOUND									
10	Chloromethane		UJ			UJ	UJ			
10	Bromomethane									
10	Vinyl Chloride									
10	Chloroethane									
10	Methylene Chloride	5 B	4 B	4 B	6 B	3 B	4 B			
10	Acetone	32 B	UJ	UJ	UJ	29 B	5 B			
10	Carbon Disulfide									
10	1,1-Dichloroethene									
10	1,1-Dichloroethane									
10	Total 1,2-Dichloroethene									
10	Chloroform									
10	1,2-Dichloroethane									
10	2-Butanone									
10	1,1,1-Trichloroethane									
10	Carbon Tetrachloride									
10	Bromodichloromethane									

CRQL = Contract Required Quantitation Limit

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ORIGINAL

TABLE 9 (CONT.)

DATA SUMMARY FORM: V O L A T I L E S 2

ORIGINAL

Site Name: HOFFMAN LF

SOIL SAMPLES
(ug/Kg)

Case #: 21162 Sampling Date(s): 11-2-93 - 11-3-93

To calculate sample quantitation li
(CRQL * Dilution factor / ((100 - %moisture)

	Sample No.	CJW10	CJW11	CJW12	CJW13	CJW14	CKW92			
	Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0			
	% Moisture	42	19	26	45	26	15			
	Location	SED-5	SED-6	SED-7	SED-8	SED-9	SOURCE-6			
						SAMPLE IS A FIELD DUP. OF CJW09				
CRQL	COMPOUND									
10	1,2-Dichloropropane									
10	Cis-1,3-Dichloropropene									
10	Trichloroethene									
10	Dibromochloromethane									
10	1,1,2-Trichloroethane									
10	Benzene									
10	Trans-1,3-Dichloropropene									
10	Bromoform									
10	4-Methyl-2-pentanone									
10	2-Hexanone									
10	Tetrachloroethene									
10	1,1,2,2-Tetrachloroethane									
10	Toluene									
10	Chlorobenzene									
10	Ethylbenzene									
10	Styrene									
10	Total Xylenes									

CRQL = Contract Required Quantitation Limit

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Site Name: HOFFMAN LF

WATER SAMPLES
(ug/L)

Case #: 21162 Sampling Date(s): 11-2-93 - 11-3-93

To calculate sample quantitation limits
(CRDL * Dilution Factor

	Sample No.	CJW15	CJW16	CJW18	CJW19	CJW20	CJW21	CJW22	CJW23	CJW24
	Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Location	RW-1	RW-2	RW-4	SW-1	SW-2	SW-3	SW-4	SW-5	SW-6
							SAMPLE IS A FIELD DUP. OF CJW27			
CRQL	COMPOUND									
10	Phenol									
10	bis(2-Chloroethyl)ether									
10	2-Chlorophenol									
10	*1,3-Dichlorobenzene									
10	*1,4-Dichlorobenzene									
10	1,2-Dichlorobenzene									
10	2-Methylphenol									
10	2,2'-oxybis(1-chloropropane)									
10	4-Methylphenol									
10	N-Nitroso-di-n-propylamine									
10	Hexachloroethane									
10	Nitrobenzene									
10	Isophorone									
10	2-Nitrophenol									
10	2,4-Dimethylphenol									
10	bis(2-Chloroethoxy)methane									
10	2,4-Dichlorophenol									
10	1,2,4-Trichlorobenzene									
10	Naphthalene									
10	4-Chloroaniline									

CRQL = Contract Required Quantitation Limit

*Action Level Exists

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TABLE 9 (CONT.)

ORIGINAL

DATA SUMMARY FORM: B N A 2

ORIGINAL

Site Name: HOFFMAN LF

WATER SAMPLES
(ug/L)

Case #: 21162 Sampling Date(s): 11-2-93 - 11-3-93

To calculate sample quantitation
(CRDL * Dilution

	Sample No.	CJW15	CJW16	CJW18	CJW19	CJW20	CJW21	CJW22	CJW23	CJW24
	Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Location	RW-1	RW-2	RW-4	SW-1	SW-2	SW-3	SW-4	SW-5	SW-6
							SAMPLE IS A FIELD DUP. OF CJW27			
CRQL	COMPOUND									
10	Hexachlorobutadiene									
10	4-Chloro-3-methylphenol									
10	2-Methylnaphthalene									
10	Hexachlorocyclopentadiene									
10	2,4,6-Trichlorophenol									
25	2,4,5-Trichlorophenol									
10	2-Chloronapthalene									
25	2-Nitroaniline									
10	Dimethylphthalate									
10	Acenaphthylene									
10	2,6-Dinitrotoluene									
25	3-Nitroaniline									
10	Acenaphthene									
25	2,4-Dinitrophenol		R		R		R		R		R		R		R		R		R	
25	4-Nitrophenol									
10	Dibenzofuran									
10	2,4-Dinitrotoluene									
10	Diethylphthalate							0.7	B	0.5	B					
10	4-Chlorophenyl-phenylether									
10	Fluorene									
25	4-Nitroaniline									
25	4,6-Dinitro-2-methylphenol		UJ		UJ		UJ		R		R		UJ		UJ		UJ	

CRQL = Contract Required Quantitation Limit

*Action Level Exists

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Site Name: HOFFMAN LF

WATER SAMPLES
(ug/L)

Case #: 21162 Sampling Date(s): 11-2-93 - 11-3-93

To calculate sample quantitation limit:
(CRQL * Dilution Factc

	Sample No.	CJW15	CJW16	CJW18	CJW19	CJW20	CJW21	CJW22	CJW23	CJW24
	Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Location	RW-1	RW-2	RW-4	SW-1	SW-2	SW-3	SW-4	SW-5	SW-6
							SAMPLE IS A FIELD DUP. OF CJW27			
CRQL	COMPOUND									
10	N-Nitrosodiphenylamine									
10	4-Bromophenyl-phenylether									
10	*Hexachlorobenzene									
25	*Pentachlorophenol									
10	Phenanthrene									
10	Anthracene									
10	Carbazole									
10	Di-n-butylphthalate							0.5 B		
10	Fluoranthene									
10	Pyrene									
10	Butylbenzylphthalate									
10	3,3'-Dichlorobenzidine									
10	Benzo(a)anthracene									
10	Chrysene									
10	bis(2-Ethylhexyl)phthalate	1 B	0.5 B	1 B	2 B	1 B	1 B	2 B	1 B	12 B
10	Di-n-octylphthalate									
10	Benzo(b)fluoranthene									
10	Benzo(k)fluoranthene									
10	Benzo(a)pyrene									
10	Indeno(1,2,3-cd)pyrene									
10	Dibenz(a,h)anthracene									
10	Benzo(g,h,i)perylene									

CRQL = Contract Required Quantitation Limit

*Action Level Exists

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ORIGINAL

TABLE 9 (CONT.)

ORIGINAL

Site Name: HOFFMAN LF

WATER SAMPLES
(ug/L)

Case #: 21162 Sampling Date(s): 11-2-93 - 11-3-93

To calculate sample quantitation
(CRQL * Dilution

	Sample No.	CJW25	CJW26	CJW27	CJW28					
	Dilution Factor	1.0	1.0	1.0	1.0					
	Location	SW-7	SW-8	SW-9	BLK-1					
				SAMPLE IS A FIELD DUP. OF CJW21	SAMPLE IS A FIELD BLANK.					
CRQL	COMPOUND									
10	Phenol									
10	bis(2-Chloroethyl)ether									
10	2-Chlorophenol									
10	*1,3-Dichlorobenzene									
10	*1,4-Dichlorobenzene									
10	1,2-Dichlorobenzene									
10	2-Methylphenol									
10	2,2'-oxybis(1-chloropropane)									
10	4-Methylphenol									
10	N-Nitroso-di-n-propylamine									
10	Hexachloroethane									
10	Nitrobenzene									
10	Isophorone									
10	2-Nitrophenol									
10	2,4-Dimethylphenol									
10	bis(2-Chloroethoxy)methane									
10	2,4-Dichlorophenol									
10	1,2,4-Trichlorobenzene									
10	Naphthalene									
10	4-Chloroaniline									

CRQL = Contract Required Quantitation Limit

*Action Level Exists

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Site Name: HOFFMAN LF

Case #: 21162 Sampling Date(s): 11-2-93 - 11-3-93

WATER SAMPLES
(ug/L)

To calculate sample quantitation limits
(CRDL * Dilution Factor

	Sample No.	CJW25	CJW26	CJW27	CJW28					
	Dilution Factor	1.0	1.0	1.0	1.0					
	Location	SW-7	SW-8	SW-9	BLK-1					
				SAMPLE IS A FIELD DUP. OF CJW21	SAMPLE IS A FIELD BLANK.					
CRQL	COMPOUND									
10	Hexachlorobutadiene									
10	4-Chloro-3-methylphenol									
10	2-Methylnaphthalene									
10	Hexachlorocyclopentadiene									
10	2,4,6-Trichlorophenol									
25	2,4,5-Trichlorophenol									
10	2-Chloronapthalene									
25	2-Nitroaniline									
10	Dimethylphthalate									
10	Acenaphthylene									
10	2,6-Dinitrotoluene									
25	3-Nitroaniline									
10	Acenaphthene									
25	2,4-Dinitrophenol		R		R		R		R	
25	4-Nitrophenol									
10	Dibenzofuran									
10	2,4-Dinitrotoluene									
10	Diethylphthelate									
10	4-Chlorophenyl-phenylether					1	J			
10	Fluorene									
25	4-Nitroaniline									
25	4,6-Dinitro-2-methylphenol		UJ		UJ		UJ		UJ	

CRQL = Contract Required Quantitation Limit

*Action Level Exists

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revised 07/9

ORIGIN

TABLE 9 (CONT)

ORIGINAL

Site Name: HOFFMAN LF

WATER SAMPLES
(ug/L)

Case #: 21162 Sampling Date(s): 11-2-93 - 11-3-93

To calculate sample quantitation
(CRDL * Dilution

	Sample No.	CJW25	CJW26	CJW27	CJW28					
	Dilution Factor	1.0	1.0	1.0	1.0					
	Location	SW-7	SW-8	SW-9	BLK-1					
				SAMPLE IS A FIELD DUP. OF CJW21	SAMPLE IS A FIELD BLANK.					
CRQL	COMPOUND									
10	N-Nitrosodiphenylamine									
10	4-Bromophenyl-phenylether									
10	*Hexachlorobenzene									
25	*Pentachlorophenol									
10	Phenanthrene									
10	Anthracene									
10	Carbazole									
10	Di-n-butylphthalate				0.8 B					
10	Fluoranthene									
10	Pyrene									
10	Butylbenzylphthalate				1 J					
10	3,3'-Dichlorobenzidine									
10	Benzo(a)anthracene									
10	Chrysene									
10	bis(2-Ethylhexyl)phthalate	0.5 B		0.8 B						
10	Di-n-octylphthalate									
10	Benzo(b)fluoranthene									
10	Benzo(k)fluoranthene									
10	Benzo(a)pyrene									
10	Indeno(1,2,3-cd)pyrene									
10	Dibenz(a,h)anthracene									
10	Benzo(g,h,i)perylene									

CRQL = Contract Required Quantitation Limit

*Action Level Exists

SEE NARRATIVE FOR CODE DE

revi

Site Name: HOFFMAN LF

Case #: 21162 Sampling Date(s): 11-2-93 - 11-3-93

SOIL SAMPLES
(ug/Kg)

To calculate sample quantitation limit
(CRQL * Dilution factor / ((100 - %moisture)/10

	Sample No.	CJW01	CJW02	CJW03	CJW04	CJW05	CJW06	CJW07	CJW08RE	CJW09
	Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	% Moisture	15	17	20	12	2	37	26	24	23
	Location	SOURCE-1	SOURCE-2	SOURCE-3	SOURCE-3	SOURCE-5	SED-1	SED-2	SED-3	SED-4
										SAMPLE IS A FIELD DUP. CJW14
CRQL	COMPOUND									
330	Phenol									
330	bis(2-Chloroethyl)ether									
330	2-Chlorophenol									
330	1,3-Dichlorobenzene									
330	1,4-Dichlorobenzene									
330	1,2-Dichlorobenzene									
330	2-Methylphenol									
330	2,2'-oxybis(1-chloropropane)									
330	4-Methylphenol									
330	N-Nitroso-di-n-propylamine									
330	Hexachloroethane									
330	Nitrobenzene									
330	Isophorone									
330	2-Nitrophenol									
330	2,4-Dimethylphenol									
330	bis(2-Chloroethoxy)methane									
330	2,4-Dichlorophenol									
330	1,2,4-Trichlorobenzene									
330	Naphthalene				27 J				27 J	
330	4-Chloroaniline									

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITI

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ORIGINAL

TABLE 9 (CONT)

DATA SUMMARY FORM: B N A 2

ORIGINAL

Site Name: HOFFMAN LF

SOIL SAMPLES
(ug/Kg)

Case #: 21162 Sampling Date(s): 11-2-93 - 11-3-93

To calculate sample quantitation limi
(CRQL * Dilution factor / ((100 - %moisture)/1

	Sample No.	CJW01		CJW02		CJW03		CJW04		CJW05		CJW06		CJW07		CJW08RE		CJW09
	Dilution Factor	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0
	% Moisture	15		17		20		12		2		37		26		24		23
	Location	SOURCE-1		SOURCE-2		SOURCE-3		SOURCE-3		SOURCE-5		SED-1		SED-2		SED-3		SED-4
																		SAMPLE IS A FIELD DUP. CJW14
CRQL	COMPOUND																	
330	Hexachlorobutadiene																	
330	4-Chloro-3-methylphenol																	
330	2-Methylnaphthalene							74	J							74	J	48
330	Hexachlorocyclopentadiene																	
330	2,4,6-Trichlorophenol																	
800	2,4,5-Trichlorophenol																	
330	2-Chloronapthalene																	
800	2-Nitroaniline																	
330	Dimethylphthalate																	
330	Acenaphthylene																	
330	2,6-Dinitrotoluene																	
800	3-Nitroaniline																	
330	Acenaphthene																	
800	2,4-Dinitrophenol		R		R		R		R		R		R		R		UJ	
800	4-Nitrophenol																	
330	Dibenzofuran																	
330	2,4-Dinitrotoluene																	
330	Diethylphthalate																	
330	4-Chlorophenyl-phenylether																	
330	Fluorene							96	J									
800	4-Nitroaniline																	
800	4,6-Dinitro-2-methylphenol		R		R		R		UJ		UJ		UJ		UJ		UJ	

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINIT
revised

Site Name: HOFFMAN LF

SOIL SAMPLES
(ug/Kg)

Case #: 21162 Sampling Date(s): 11-2-93 - 11-3-93

To calculate sample quantitation limits
(CRQL * Dilution factor / ((100 - %moisture)/100

	Sample No.	CJW01		CJW02		CJW03		CJW04		CJW05		CJW06		CJW07		CJW08RE		CJW09	
	Dilution Factor	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
	% Moisture	15		17		20		12		2		37		26		24		23	
	Location	SOURCE-1		SOURCE-2		SOURCE-3		SOURCE-3		SOURCE-5		SED-1		SED-2		SED-3		SED-4 SAMPLE IS A FIELD DUP. OF CJW14	
CRQL	COMPOUND																		
330	N-Nitrosodiphenylamine							32	J										
330	4-Bromophenyl-phenylether																		
330	Hexachlorobenzene																		
800	Pentachlorophenol																		
330	Phenanthrene	45	J	53	J			430						40	J	140	J	120	J
330	Anthracene																		
330	Carbazole							45	J										
330	Di-n-butylphthalate	73	B	30	B	36	B	68	B	150	B	87	B	37	B	61	B	120	B
330	Fluoranthene							240	J					30	J	93	J	120	J
330	Pyrene							200	J					31	J	230	J	190	J
330	Butylbenzylphthalate															41	J		
330	3,3'-Dichlorobenzidine																		
330	Benzo(a)anthracene							47	J					17	J	58	J	72	J
330	Chrysene							93	J					34	J	90	J	100	J
330	bis(2-Ethylhexyl)phthalate			370	B	530	B	290	B	77	B	30	B	24	B	260	B	72	B
330	Di-n-octylphthalate											33	J			35	J		U
330	Benzo(b)fluoranthene							41	J			30	J	29	J	100	J	120	J
330	Benzo(k)fluoranthene																UJ	44	J
330	Benzo(a)pyrene							38	J							100	J	80	J
330	Indeno(1,2,3-cd)pyrene																UJ		U
330	Dibenz(a,h)anthracene																UJ		U
330	Benzo(g,h,i)perylene																UJ		U

CRQL = Contract Required Quantitation Limit

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revised 07/

ORIGINAL

TABLE 9 (CONT.)

DATA SUMMARY FORM: B N A 1

ORIGINAL

Site Name: HOFFMAN LF

SOIL SAMPLES
(ug/Kg)

Case #: 21162 Sampling Date(s): 11-2-93 - 11-3-93

To calculate sample quantitation li
(CRQL * Dilution factor / ((100 - %moisture)

	Sample No.	CJW10	CJW11	CJW12	CJW13	CJW14	CKW92RE			
	Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0			
	% Moisture	42	19	26	45	26	15			
	Location	SED-5	SED-6	SED-7	SED-8	SED-9	SOURCE-6			
						SAMPLE IS A FIELD DUP. OF CJW09				
CRQL	COMPOUND									
330	Phenol						UJ			
330	bis(2-Chloroethyl)ether						UJ			
330	2-Chlorophenol						UJ			
330	1,3-Dichlorobenzene						UJ			
330	1,4-Dichlorobenzene						UJ			
330	1,2-Dichlorobenzene						UJ			
330	2-Methylphenol						UJ			
330	2,2'-oxybis(1-chloropropane)						UJ			
330	4-Methylphenol						UJ			
330	N-Nitroso-di-n-propylamine						UJ			
330	Hexachloroethane						UJ			
330	Nitrobenzene						UJ			
330	Isophorone						UJ			
330	2-Nitrophenol						UJ			
330	2,4-Dimethylphenol						UJ			
330	bis(2-Chloroethoxy)methane						UJ			
330	2,4-Dichlorophenol						UJ			
330	1,2,4-Trichlorobenzene						UJ			
330	Naphthalene						UJ			
330	4-Chloroaniline						UJ			

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFIN

revised

te Name: HOFFMAN LF

SOIL SAMPLES
(ug/Kg)

se #: 21162 Sampling Date(s): 11-2-93 - 11-3-93

To calculate sample quantitation limits:
(CRQL * Dilution factor / ((100 - %moisture)/100)

	Sample No.	CJW10	CJW11	CJW12	CJW13	CJW14	CKW92RE			
	Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0			
	% Moisture	42	19	26	45	26	15			
	Location	SED-5	SED-6	SED-7	SED-8	SED-9 SAMPLE IS A FIELD DUP. OF CJW09	SOURCE-6			
RQL	COMPOUND									
330	Hexachlorobutadiene						UJ			
330	4-Chloro-3-methylphenol						UJ			
330	2-Methylnaphthalene	43 J	21 J	29 J		51 J	UJ			
330	Hexachlorocyclopentadiene						UJ			
330	2,4,6-Trichlorophenol						UJ			
800	2,4,5-Trichlorophenol						UJ			
330	2-Chloronapthalene						UJ			
800	2-Nitroaniline						UJ			
330	Dimethylphthalate					24 J	UJ			
330	Acenaphthylene						UJ			
330	2,6-Dinitrotoluene						UJ			
800	3-Nitroaniline						UJ			
330	Acenaphthene						UJ			
800	2,4-Dinitrophenol	R	R	R	R	R	R			
800	4-Nitrophenol						UJ			
330	Dibenzofuran						UJ			
330	2,4-Dinitrotoluene						UJ			
330	Diethylphthalate						UJ			
330	4-Chlorophenyl-phenylether						UJ			
330	Fluorene						UJ			
800	4-Nitroaniline						UJ			
800	4,6-Dinitro-2-methylphenol	UJ	UJ	UJ	UJ	UJ	UJ			

RQL = Contract Required Quantitation Limit

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ORIGINAL

TABLE 9 (CONT.)

ORIGINAL

Site Name: HOFFMAN LF

SOIL SAMPLES
(ug/Kg)

Case #: 21162 Sampling Date(s): 11-2-93 - 11-3-93

To calculate sample quantitation l
(CRQL * Dilution factor / ((100 - %moisture

	Sample No.	CJW10	CJW11	CJW12	CJW13	CJW14	CKW92RE			
	Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0			
	% Moisture	42	19	26	45	26	15			
	Location	SED-5	SED-6	SED-7	SED-8	SED-9	SOURCE-6			
						SAMPLE IS A FIELD DUP. OF CJW09				
CRQL	COMPOUND									
330	N-Nitrosodiphenylamine						UJ			
330	4-Bromophenyl-phenylether						UJ			
330	Hexachlorobenzene						UJ			
800	Pentachlorophenol						UJ			
330	Phenanthrene	60 J	51 J	45 J	63 J	140 J	UJ			
330	Anthracene						UJ			
330	Carbazole						UJ			
330	Di-n-butylphthalate	340 B	200 B	110 B	320 B	190 B	120 B			
330	Fluoranthene	58 J	58 J	57 J	78 J	130 J	UJ			
330	Pyrene	63 J	59 J	60 J	89 J	240 J	UJ			
330	Butylbenzylphthalate				68 B	27 B	UJ			
330	3,3'-Dichlorobenzidine						UJ			
330	Benzo(a)anthracene	30 J	26 J	24 J	40 J	78 J	UJ			
330	Chrysene	45 J	39 J	39 J	58 J	96 J	UJ			
330	bis(2-Ethylhexyl)phthalate	60 B	85 B	56 B	75 B	98 B	390 B			
330	Di-n-octylphthalate					46 J	UJ			
330	Benzo(b)fluoranthene	90 J	47 J	46 J	71 J	130 J	UJ			
330	Benzo(k)fluoranthene					UJ	UJ			
330	Benzo(a)pyrene	64 J	26 J		43 J	84 J	UJ			
330	Indeno(1,2,3-cd)pyrene	64 J				UJ	UJ			
330	Dibenz(a,h)anthracene					UJ	UJ			
330	Benzo(g,h,i)perylene					UJ	UJ			

CRQL = Contract Required Quantitation Limit

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revise

DATA SUMMARY FOR P E C S D B S

Site Name: HOFFMAN LF

WATER SAMPLES
(ug/L)

Case #: 21162 Sampling Date(s): 11-2-93 - 11-3-93

To calculate sample quantitation limi
(CRQL * Dilution Facto

	Sample No.	CJW15	CJW16	CJW18	CJW19	CJW20	CJW21	CJW22	CJW23	CJW24
	Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Location	RW-1	RW-2	RW-4	SW-1	SW-2	SW-3	SW-4	SW-5	SW-6
							SAMPLE IS A FIELD DUP. OF CJW27			
CRQL	COMPOUND									
0.05	alpha-BHC			UJ						
0.05	beta-BHC			UJ						
0.05	delta-BHC			UJ						
0.05	*gamma-BHC (Lindane)			UJ						
0.05	*Heptachlor			UJ						
0.05	Aldrin			UJ						
0.05	Heptachlor Epoxide			UJ						
0.05	Endosulfan I			UJ						
0.10	Dieldrin			UJ						
0.10	4,4'-DDE			UJ						
0.10	*Endrin			UJ						
0.10	Endosulfan II			UJ						
0.10	4,4'-DDD			UJ						
0.10	Endosulfan Sulfate			UJ						
0.10	4,4'-DDT			UJ						0.11
0.50	*Methoxychlor			UJ						
0.10	Endrin Ketone			UJ						
0.10	Endrin Aldehyde			UJ						
0.05	*alpha-Chlordane			UJ						
0.05	*gamma-Chlordane			UJ						
5.0	*Toxaphene			UJ						
1.0	*Aroclor-1016			UJ						
2.0	*Aroclor-1221			UJ						
1.0	*Aroclor-1232			UJ						
1.0	*Aroclor-1242			UJ						
1.0	*Aroclor-1248			UJ						
1.0	*Aroclor-1254			UJ						
1.0	*Aroclor-1260			UJ						

CRQL = Contract Required Quantitation Limit

*Action Level Exists

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ORIGINAL

TABLE 9 (CONT.)

DATA SUMMARY FORM: PESTICIDES AND PCBS

Site Name: HOFFMAN LF

WATER SAMPLES
(ug/L)

ORIGINAL

To calculate sample quantitation li
(CRQL * Dilution Fa

Case #: 21162 Sampling Date(s): 11-2-93 - 11-3-93

	Sample No.	CJW25	CJW26	CJW27	CJW28					
	Dilution Factor	1.0	1.0	1.0	1.0					
	Location	SW-7	SW-8	SW-9	BLK-1					
				SAMPLE IS A FIELD DUP. OF CJW21	SAMPLE IS A FIELD BLANK.					
CRQL	COMPOUND									
0.05	alpha-BHC									
0.05	beta-BHC									
0.05	delta-BHC									
0.05	*gamma-BHC (Lindane)									
0.05	*Heptachlor									
0.05	Aldrin									
0.05	Heptachlor Epoxide									
0.05	Endosulfan I									
0.10	Dieldrin									
0.10	4,4'-DDE									
0.10	*Endrin									
0.10	Endosulfan II									
0.10	4,4'-DDD									
0.10	Endosulfan Sulfate									
0.10	4,4'-DDT									
0.50	*Methoxychlor									
0.10	Endrin Ketone									
0.10	Endrin Aldehyde									
0.05	*alpha-Chlordane									
0.05	*gamma-Chlordane									
5.0	*Toxaphene									
1.0	*Aroclor-1016									
2.0	*Aroclor-1221									
1.0	*Aroclor-1232									
1.0	*Aroclor-1242									
1.0	*Aroclor-1248									
1.0	*Aroclor-1254									
1.0	*Aroclor-1260									

CRQL = Contract Required Quantitation Limit

*Action Level Exists

SEE NARRATIVE FOR CODE DEFIN
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ite Name: HOFFMAN LF

SOIL SAMPLES
(ug/Kg)

ase #: 21162 Sampling Date(s): 11-2-93 - 11-3-93

To calculate sample quantitation limits:
(CRQL * Dilution factor / ((100 - %moisture)/100)

	Sample No.	CJW01	CJW02	CJW03	CJW04	CJW05	CJW06	CJW07	CJW08	CJW09
	Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	% Moisture	15	17	20	12	2	37	26	24	23
	Location	SOURCE-1	SOURCE-2	SOURCE-3	SOURCE-4	SOURCE-5	SED-1	SED-2	SED-3	SED-4 SAMPLE IS A FIELD DUP. OF CJW14
CRQL	COMPOUND									
1.7	alpha-BHC									
1.7	beta-BHC									
1.7	delta-BHC									
1.7	gamma-BHC (Lindane)									
1.7	Heptachlor									
1.7	Aldrin	4.3 J	2.2 J	3.4 J	3.0 J				3.5 J	3.5 J
1.7	Heptachlor Epoxide			2.2 J						
1.7	Endosulfan I									
3.3	Dieldrin			14 J						
3.3	4,4'-DDE									
3.3	Endrin									
3.3	Endosulfan II									
3.3	4,4'-DDD									
3.3	Endosulfan Sulfate									
3.3	4,4'-DDT									
17	Methoxychlor									
3.3	Endrin Ketone									
3.3	Endrin Aldehyde									
1.7	alpha-Chlordane									
1.7	gamma-Chlordane									
170	Toxaphene									
33	Aroclor-1016									
67	Aroclor-1221									
33	Aroclor-1232									
33	Aroclor-1242				63 J					
33	Aroclor-1248									
33	Aroclor-1254									
33	Aroclor-1260									

CRQL = Contract Required Quantitation Limit

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ORIGINAL

TABLE 9 (CONT.)

DATA SUMMARY FORM: P E S T I C I D E S A N D P C B S

ORIGINAL

Site Name: HOFFMAN LF

SOIL SAMPLES
(ug/Kg)

To calculate sample quantitation lim
(CRQL * Dilution factor / ((100 - %moisture)/

Case #: 21162 Sampling Date(s): 11-2-93 - 11-3-93

	Sample No.	CJW10	CJW11	CJW12	CJW13	CJW14	CKW92			
	Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0			
	% Moisture	42	19	26	45	26	15			
	Location	SED-5	SED-6	SED-7	SED-8	SED-9	SOURCE-6			
						SAMPLE IS A FIELD DUP. OF CJW09				
CRQL	COMPOUND									
1.7	alpha-BHC			UL	UJ					
1.7	beta-BHC			UL	UJ					
1.7	delta-BHC			UL	UJ					
1.7	gamma-BHC (Lindane)			UL	UJ					
1.7	Heptachlor			UL	UJ					
1.7	Aldrin			UL	UJ	5.2 J				
1.7	Heptachlor Epoxide			UL	UJ					
1.7	Endosulfan I			UL	UJ					
3.3	Dieldrin			UL	UJ					
3.3	4,4'-DDE			UL	UJ					
3.3	Endrin			UL	UJ					
3.3	Endosulfan II			UL	UJ					
3.3	4,4'-DDD			UL	UJ					
3.3	Endosulfan Sulfate			UL	UJ					
3.3	4,4'-DDT			UL	UJ					
17	Methoxychlor			UL	UJ					
3.3	Endrin Ketone			UL	UJ					
3.3	Endrin Aldehyde			UL	UJ					
1.7	alpha-Chlordane			UL	UJ					
1.7	gamma-Chlordane			UL	UJ					
170	Toxaphene			UL	UJ					
33	Aroclor-1016			UL	UJ					
67	Aroclor-1221			UL	UJ					
33	Aroclor-1232			UL	UJ					
33	Aroclor-1242			UL	UJ					
33	Aroclor-1248			UL	UJ					
33	Aroclor-1254			UL	UJ					
33	Aroclor-1260			UL	UJ					

CRQL = Contract Required Quantitation Limit

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Table 3

WATER SAMPLES

(ug/L)

TABLE 10

te Name: Hoffman Landfill

se #: 21162 Sampling Date(s): 11/2/93 - 11/3/93

G: MCJX19

+ Due to dilution, sample quantitation limit is affected.
See dilution table for specifics.

	Sample No.	MCJX15		MCJX16		MCJX18		MCJX19		MCJX20		MCJX21		MCJX22		MCJX23		MCJX24		MCJX25	
	Dilution Factor	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
	Location	RW-1		RW-2		RW-4		SW-1		SW-2		SW-3		SW-4		SW-5		SW-6		SW-7	
RDL	ANALYTE											Duplicate of MCJX27									
200	Aluminum									(76.1)		(159)		202		(184)		(94.8)			
60	Antimony		UL		UL		UL		UL		UL		UL		UL		UL		UL		UL
10	*Arsenic								UL		UL		UL		UL		UL		UL		UL
200	Barium	(3.8)		(98.7)		255		(16.8)		(48.2)		(42.1)		(52.8)		(18.7)		(57.0)		(57.3)	
5	Beryllium																				
5	*Cadmium																				
5000	Calcium	9870		74200		45800		10900		16400		143000		42700		149000		53700		59100	
10	*Chromium	(9.7)	B	(7.1)	B	(7.3)	B	(7.6)	B			(8.4)	B	(9.0)	B			(7.5)	B	(7.4)	B
50	Cobalt															52.9					
25	Copper	(7.7)	K	35.2	K																
100	Iron	1780		1040		924		252		(88.8)		385		255		11000		285		844	
3	*Lead	(2.2)	B	(2.0)	B		R		R		R	(1.0)	B		R		R		R		R
5000	Magnesium	(946)		16300		12500		5060		(3700)		40500		11600		57100		15300		16900	
15	Manganese	54.4		90.1		92.4		72.6		48.2		35.1		90.8		5010		(14.8)		298	
0.2	Mercury																				
40	*Nickel															101					
5000	Potassium			(1130)		(1640)		(2620)		(1180)		(2230)		(1090)		(1440)		(2280)		(2200)	
5	Selenium				UL							(3.1)					UL				
10	Silver											(4.3)	K								
5000	Sodium	48100		(784)		(561)		(3320)		11100		90900		23300		12600		33900		33700	
10	Thallium		UL		UL				UL		UL		UL		UL		UL		UL		UL
50	Vanadium																				
20	Zinc	(16.4)		21.8		1030		27.5		23.7		25.1		(18.8)		22.6					
10	*Cyanide	11.4																			

RDL = Contract Required Detection Limit

*Action Level Exists

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ORIGINA

ORIGINAL

DATA SUMMARY FORM: I N O R G A N I C S

Table 3

WATER SAMPLES

(ug/L)

Site Name: Hoffman Landfill

Case #: 21162 Sampling Date(s): 11/2/93 - 11/3/93

SDG: MCJX19

+ Due to dilution, sample quantitation limit is affected
See dilution table for specifics

	Sample No.	MCJX26		MCJX27		MCJX28											
	Dilution Factor	1.0		1.0		1.0											
	Location	SW-8		SW-9		BLK-1											
CRDL	ANALYTE			Duplicate of MCJX21		Field Blank											
200	Aluminum	[198]		286													
60	Antimony		UL		UL		UL										
10	*Arsenic				UL												
200	Barium	[20.9]		[43.5]													
5	Beryllium																
5	*Cadmium																
5000	Calcium	141000		146000		[139]											
10	*Chromium	[8.8]	B			[9.6]	K										
50	Cobalt	53.0															
25	Copper																
100	Iron	10400		847		[15.8]											
3	*Lead		R	[2.8]	B		R										
5000	Magnesium	55700		40300													
15	Manganese	4770		64.8													
0.2	Mercury																
40	*Nickel	88.2															
5000	Potassium	[1500]		[2630]													
5	Selenium		UL														
10	Silver	[5.2]	B														
5000	Sodium	13700		91400													
10	Thallium		UL		UL		UL										
50	Vanadium																
20	Zinc	24.8		24.5													
10	*Cyanide																

CRDL = Contract Required Detection Limit

*Action Level Exists

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Table 3
SOIL SAMPLES
(mg/Kg)

Name: Hoffman Landfill

#: 21162 Sampling Date(s): 11/2/93 - 11/3/93

MCHX92

+ Due to dilution, sample quantitation limit is affected. See dilution table for specifics.

	Sample No.	MCHX92	MCJX01	MCJX02	MCJX03	MCJX04	MCJX05	MCJX06	MCJX07	MCJX08	MCJX09
	Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	% Solids	90.6	86.6	85.1	85.4	87.6	91.7	52.5	42.8	81.0	64.9
	Location	SOURCE-6	SOURCE-1	SOURCE-2	SOURCE-3	SOURCE-4	SOURCE-5	SED-1	SED-2	SED-3	SED-4
											Duplicate of MCJX14
DL	ANALYTE										
40	Aluminum	5240	3660	4790	5470	3800	5140	8140	10100	3430	4450
12	Antimony	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
2	Arsenic	3.7	4.7	4.1	5.5	5.1	2.0 L	3.7 L	14.3	4.5	4.1 L
40	Barium	120	76.7	95.4	80.2	83.2	(26.0)	99.1	266	83.8	120
1	Beryllium	1.4	0.99	1.0	1.1	0.98	(0.38)	(1.4)	2.7	(0.81)	1.4
1	Cadmium	3.7	2.5	2.5	2.4	3.4			5.6	1.4 K	2.1 K
00	Calcium	(667)	956	1680	(793)	805	(16.5) B	(966)	78200	50100	24800
2	Chromium	16.1	8.1 B	10.5 B	13.0	9.5 B	2.0 B	14.5 B	25.3	11.5 B	11.1 B
10	Cobalt	27.9	21.4	18.9	16.2 K	21.3	(1.8) K	25.0 K	49.5	20.7	37.2
5	Copper	26.9	21.1	22.0	23.1	24.9	(2.7)	24.5	28.9	21.5	20.8
20	Iron	59000	43100	42700	43000	47300	10000	36200	85300	26600	32900
.6	*Lead	26.8	24.8	22.3	19.4	23.1	15.1	33.1	62.4	37.2	28.1
00	Magnesium	(619)	(579)	(700)	(679)	833	(194)	(1060)	12300	3280	1420
3	Manganese	1220	595	656	431	639	22.1	274	1810	847	958
.1	Mercury										
8	Nickel	30.5	27.2	22.5	22.4	25.6		37.9	83.1	35.7	69.6
00	Potassium	998	(728)	(826)	1070	1040	(515)	(1120)	(950)	(774)	(367)
1	Selenium	UL	(0.41) L	UL	UL	UL	UL	(0.63) L	UL	UL	UL
2	Silver	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
00	Sodium	(49.3)	(35.6)	(38.6)	(45.0)	(57.6)		(51.6)	(134)	(135)	(114)
2	Thallium	(0.43) B	UL		UL	UL	UL		UL	(0.43) L	UL
10	Vanadium	29.2	20.5	23.4	24.0	21.3	(6.4) B	27.4	37.8	22.5	19.7
4	Zinc	125	134	96.4	131	119	18.8	141	295	176	210
2.5	Cyanide										

DL = Contract Required Detection Limit

*Action Level Exists

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TABLE 10 (CONT.)

ORIGINAL

DATA SUMMARY FORM: I N O R G A N I C S

Table 3

SOIL SAMPLES

(mg/Kg)

Site Name: Hoffman Landfill

Case #: 21162 Sampling Date(s): 11/2/93 - 11/3/93

SDG: MCHX92

+ Due to dilution, sample quantitation limit is affecte
See dilution table for specific

ORIGINAL

	Sample No.	MCJX10	MCJX11	MCJX12	MCJX13	MCJX14					
	Dilution Factor	1.0	1.0	1.0	1.0	1.0					
	% Solids	71.5	72.1	87.3	53.7	75.6					
	Location	SED-5	SED-6	SED-7	SED-8	SED-9					
						Duplicate of MCJX09					
CRDL	ANALYTE										
40	Aluminum	6640	3800	5170	6570	4110					
12	Antimony	UL	UL	UL	UL	UL					
2	Arsenic	12.5	7.1	7.5	15.0	6.3					
40	Barium	55.0	87.3	70.7	144	79.8					
1	Beryllium	2.5	1.3	1.9	3.5	1.5					
1	Cadmium	6.0	4.3	5.8	6.5	1.9 K					
1000	Calcium	3370	7890	5260	5850	4940					
2	Chromium	19.1	17.3	47.6	14.8 B	10.2 B					
10	Cobalt	90.7	20.4 K	52.1	335	29.5					
5	Copper	19.9	21.3	27.0	22.2	21.4					
20	Iron	93700	72200	88900	98600	36000					
0.6	*Lead	22.5	32.0	25.8	26.1	27.8					
1000	Magnesium	1510	1590	2210	1420	1270					
3	Manganese	6090	870	3720	27900	724					
0.1	Mercury										
8	Nickel	111	37.5	106	710	59.3					
1000	Potassium	[538]	[688]	[442]	[686]	[359]					
1	Selenium	UL	[0.42] L	UL	[0.63] L	UL					
2	Silver	UL	UL	UL	UL	UL					
1000	Sodium	[49.4]	[47.3]	[51.7]	[64.6]	[103]					
2	Thallium	UL			UL	UL					
10	Vanadium	23.0	31.0	31.9	21.0	17.2					
4	Zinc	184	191	213	497	209					
2.5	Cyanide										

CRDL = Contract Required Detection Limit

*Action Level Exists

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