

**FIVE-YEAR REVIEW
FOR THE
NEWPORT DUMP SITE
WILDER, KENTUCKY**

JULY 1993



**U. S. ENVIRONMENTAL PROTECTION AGENCY
REGION IV**

NEWPORT DUMP
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DECLARATION FOR THE NEWPORT DUMP FIVE-YEAR REVIEW

SITE NAME AND LOCATION

Newport Dump
Banklick Road
Wilder, Kentucky

STATEMENT OF BASIS AND PURPOSE

This document presents the current conditions at the Site and makes recommendations regarding Operation and Maintenance activities and future reviews. Section 121(c) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, requires that if a remedial action is taken that results in any hazardous substances, pollutants, or contaminants remaining at a site, the Environmental Protection Agency (EPA) shall review such remedial action no less often than each five years after initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented.

ASSESSMENT OF THE SITE

The Site continues to be protective of human health and the environment. This document has been reviewed by EPA Region IV, Headquarters, and the Commonwealth of Kentucky. Upon approval of this document, by the Region IV Waste Division Director, EPA will initiate deletion of this Site from the NPL. EPA will ensure that this Site remains protective by conducting Five-Year Reviews in the future. The next review should be completed by 1997.

Approved by: _____

Joseph R. Franzmathes, Director

Waste Management Division, EPA Region IV

Date: _____

7/30/93

1.0 INTRODUCTION

Section 121(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act in 1986 provides that:

If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each 5 years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgement of the President that action is appropriate at such site in accordance with Section 9604 or 9606 of this title, the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.

Section 300.430(f)(4)(ii) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) states that:

If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after initiation of the selected remedial action.

Five-year reviews are classified as "Statutory Reviews" or "Policy Reviews." Five-year reviews that EPA implements consistent with CERCLA §121(c) and the NCP are referred to as "Statutory Reviews." Such reviews will be conducted at least every five years or until

contaminant levels allow for unlimited use and unrestricted exposure. "Policy Reviews" are five-year reviews that the Agency believes should be conducted as a matter of policy, although they are not expressly required by CERCLA §121(c). While most Policy reviews are of remedies selected prior to the enactment of the Superfund Amendments and Reauthorization Act of 1986 (SARA), some are of post-SARA remedies (e.g., response actions where, upon completion of the remedial action no hazardous substances will remain, but five or more years are required to reach that point). The Five-Year Review at Newport Dump is a Statutory Review.

The purpose of the Five-Year Review is two-fold: (1) to confirm that the remedy as spelled out in the Record of Decision (ROD) remains effective at protecting human health and the environment (e.g., the remedy is operating and functioning as designed, institutional controls are in place and are protective), and (2) to evaluate whether cleanup levels remain protective of human health and the environment.

EPA has established a three-tier approach to conducting five-year reviews, the most basic of which provides a minimum protectiveness evaluation (Level I Review). The second and third levels (Level II and Level III) of review are intended to provide the flexibility to respond to varying site-specific considerations, employing further analysis. EPA has determined that a modified Level I Review, including limited sampling, is appropriate for evaluation of the Newport Dump Site.

1.1 BACKGROUND

1.1.1 SITE DESCRIPTION

The Newport Dump Site is a former municipal landfill, located in the City of Wilder, Campbell County, Kentucky. Wilder is located about three miles south of the City of Newport, a suburb of Cincinnati, Ohio. The main road leading to the Site is State Route 9. Access to the Site is by way of Banklick Road, which terminates at the entrance to the landfill.

The Site comprises 39 acres, and is bounded on the west by the Licking River, a tributary of the Ohio River; on the north by a small industrial park; on the east by steep outcrops and State Route 9; and on the south by an unnamed stream. A drainage culvert traverses the Site running north to south, separating the Site into eastern and western sections, with the majority of the landfill material in the western section.

The Site is located on the Licking River, approximately 250 feet upstream (on the opposite side of the river) of the main raw water intake for the Kenton County, Taylor Mill water treatment plant. The plant draws up to 18 million gallons per day from the river and serves about 75,000 consumers in Kenton and Boone Counties.

The Site is underlain by unconsolidated alluvial deposits. The alluvium consists primarily of clay, silt, sand, and gravel in a downward coarsening sequence. The thickness of the unconsolidated material ranges from 36 feet at the eastern end of the landfill to about 110 feet at the Licking River. Below the alluvial deposits is a shale and limestone bedrock reported to be up to 250 feet thick.

The topography of the Site consists of two distinct areas. The lower river terrace occupies the areas adjacent to the river and is frequently flooded. The second level is separated from the

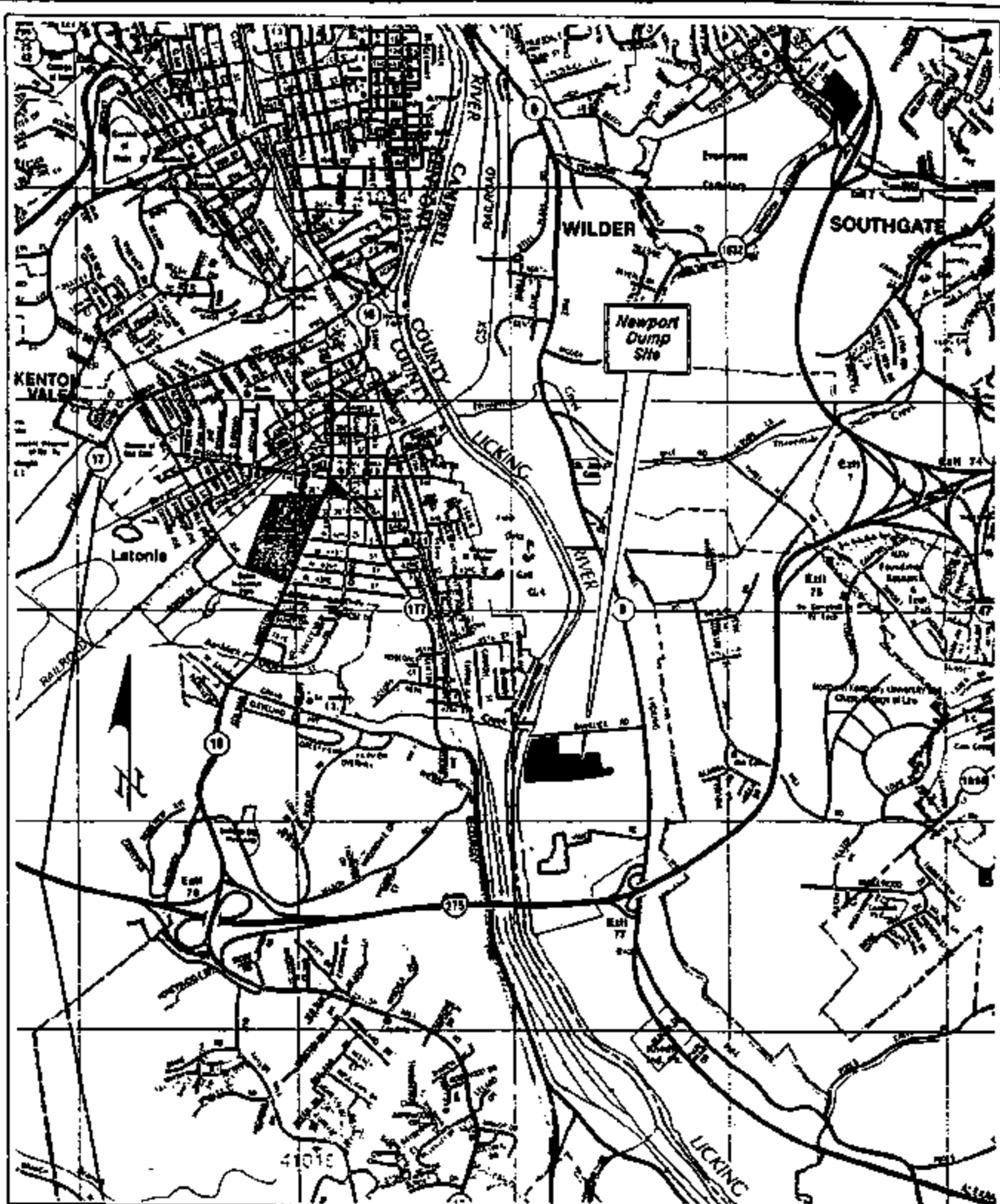
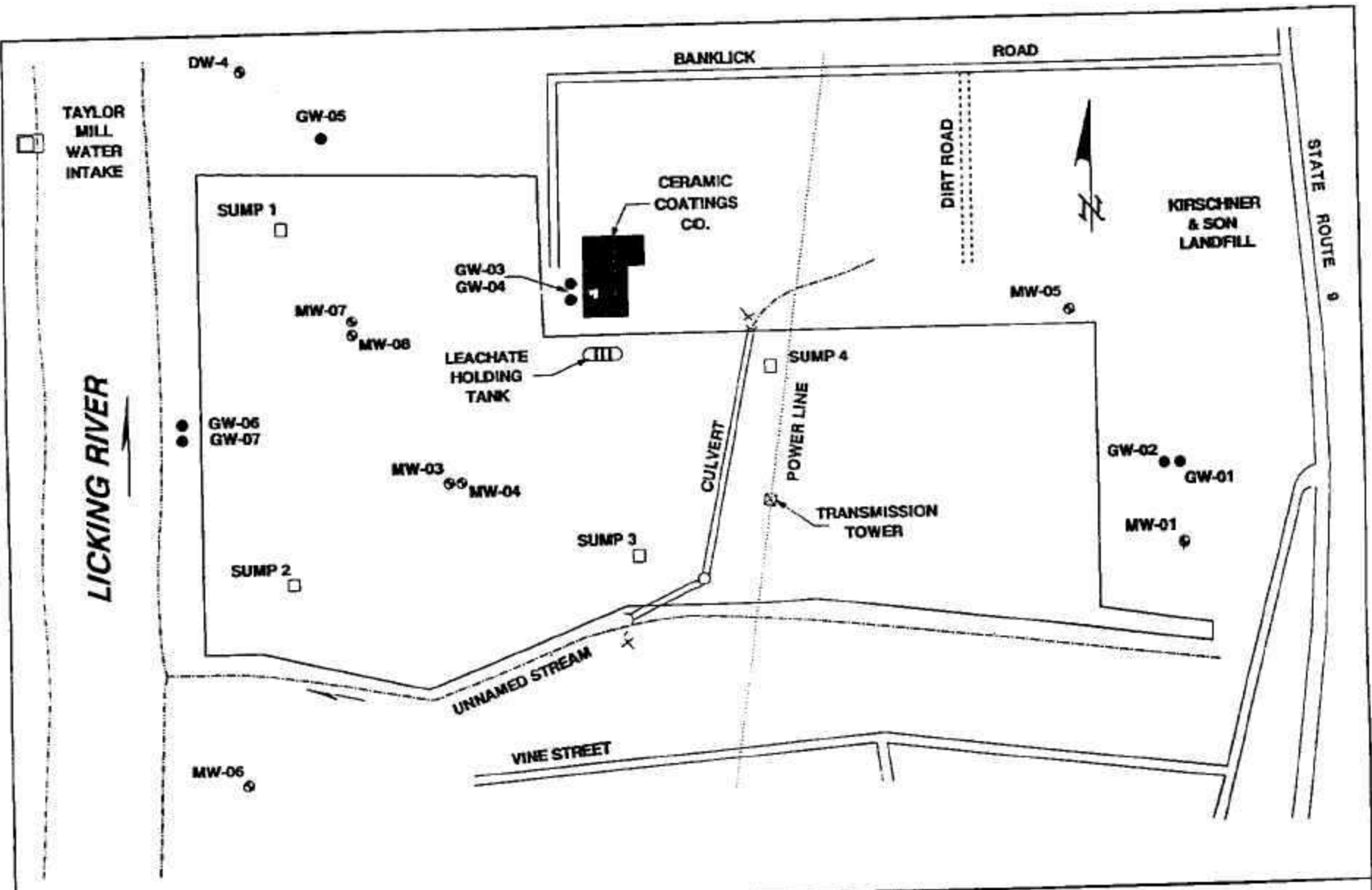


FIGURE 1.1
LOCATION MAP
NEWPORT DUMP SITE
WILDER, KENTUCKY



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 ALPHARETTA, GA 30201
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LEGEND:

- GROUNDWATER MONITORING WELL
 - GAS MONITORING WELL
 - LEACHATE SUMP
- NOTE: DRAWING NOT TO SCALE

FIGURE 1.2
SITE MAP
NEWPORT DUMP SITE
 WILDER, KENTUCKY



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lower terrace by an area of steep slopes and includes the landfilled portion of the Site.

1.1.2 SITE HISTORY

The Site was originally purchased by the City of Newport in the late 1940's and was used by the City for the disposal of residential and commercial waste from its opening until its closure in 1979. Trenching and area filling of the waste were the most common methods used to dispose of waste at the Site. In 1968, the Commonwealth of Kentucky instituted permitting requirements for landfills; and after correcting violations, the City finally received a permit in late 1969 to operate the Site as a municipal sanitary landfill.

During the life of the landfill, the City of Newport was cited on numerous occasions by the Kentucky Department of Natural Resources and Environmental Protection (KDNREP) and other state agencies for permit violations. The most frequent violations included: open burning at the landfill, absence of daily cover, on-Site ponding of water, uncovered refuse, inadequate security, presence of leachate, lack of proper seeding, and erosion problems due to lack of vegetation. In addition to being cited for operational violations, the City had also been cited for handling hazardous waste without a permit.

Due to inadequate management of the landfill, an Agreed Order between the City of Newport and the KDNREP Cabinet to prepare a final closure plan for the Site was issued on September 26, 1978. The final closure plan, however, was never fully implemented. Ownership of the landfill was transferred on December 28, 1979 to the Northern Kentucky Port Authority (NKPA) with the understanding that the NKPA would remediate the Site. Due to the transfer of ownership, the NKPA was to prepare a final closure plan. An Agreed Order between the KDNREP Cabinet and NKPA was issued on July 9, 1980, formally requiring the NKPA to properly close the former Newport solid waste disposal facility. The closure required NKPA

to install a leachate collection system, regrade portions of the Site, construct a clay cap over the waste, and seed the area with grass. Due to inadequate funding, the NKPA could not fully implement the July 9, 1980 Agreed Order. A new Agreed Order, that superseded the previous one, was entered into by the Cabinet and the NKPA on October 30, 1984. A permanent vegetative cover was established on the landfill as a result of the new agreement.

The Newport Dump Site was considered for the National Priorities List (NPL) in December 1982, and was added to the list in September 1983. The Site is currently ranked 600 on the NPL in group 12 which consists of sites that have a Hazardous Ranking Score between 38.20 and 37.63.

EPA conducted a Remedial Investigation/Feasibility Study (RI/FS) to determine the nature and extent of contamination and evaluate the potential threats to human health and the environment. The RI/FS was completed in 1986. The potential human exposure pathways identified in the RI were withdrawal of surface water from the Taylor Mill drinking water intake and accidental exposure via direct contact with contaminated sediment or soil. The FS evaluated six alternatives to remove those potential risks to human health and the environment.

In June 1987, the EPA with the Kentucky Department of Natural Resources and Environmental Protection Cabinet's (KDNREPC) concurrence, implemented Alternative #3 proposed in the FS. The remedy selected in the Record of Decision (ROD) included (1) regrading the landfill surface and placing a one-foot thick layer of compacted clay, a one-foot layer of topsoil, and revegetating the surface; (2) repairing or replacing the existing leachate collection system and replacing the drainage culvert that traversed the Site; and (3) monitoring underground gas migration, surface water, and groundwater.

Operation and Maintenance (O&M) activities, as required in the ROD, included multimedia monitoring of groundwater, surface water, underground gas migration, and leachate. Quarterly sampling was conducted in October 1988, December 1988, April 1989, September 1989, and June 1990 in accordance with the O&M Plan. As part of the Five-Year Review, additional groundwater, surface water, sediment and gas samples were collected.

1.2 SITE REMEDIATION OBJECTIVES

Based on the RI results, the following recommendations for Site remediation were made in the RI/FS:

- Surface water monitoring along the banks of the Licking River to confirm baseline conditions;
- Groundwater monitoring within the landfill and at the base of the alluvial aquifer to better determine the leachate concentrations being released by the landfill and the effects of the leachate on overall groundwater quality;
- Gas monitoring wells along the Licking River banks and to the north of the Site to determine if toxic gases are being released by the landfill waste and if offsite migration of toxic gases or methane is occurring;
- The steep bank to the northeast of the Site could pose a problem as a result of bank erosion and release waste or through leachate discharges as seeps. This area should be graded to an acceptable slope to prevent further erosion and the existing leachate collection system should be extended along the bank;
- The existing leachate collection system should be repaired/replaced to prevent future potential for direct contact with leachate (shallow groundwater) or surface soil contaminants as a result of leachate seeps;

- All monitoring should be performed for a minimum of three years with reevaluation at the end of the period. Samples should be collected quarterly and the annual average concentrations in surface water and groundwater compared to the acceptable levels of contaminants and if the levels are exceeded on an average annual basis, decision makers should reevaluate the level of remediation selected for the Site.
- Remedial workers need to be protected from potential adverse effects from inhalation of contaminated particles during excavation activities; and
- Land use restrictions should be employed to prohibit the installation of onsite potable water supply wells.

1.3 ARARs REVIEW

The Record of Decision identified the following applicable or relevant and appropriate requirements (ARARs) for groundwater and surface water:

- Safe Drinking Water Act Maximum Contaminant Levels (MCLs);
- Kentucky Administrative Regulations, Surface Water Standards;
- Kentucky Administrative Regulations, Warmwater Aquatic Habitat Criteria;
- Clean Water Act, Water Quality Criteria For Human Health, Fish and Drinking Water;
- Clean Water Act, Water Quality Criteria For Human Health Adjusted For Drinking Water Only;
- Clean Water Act, Freshwater Aquatic Life Criteria;
- Resource Conservation and Recovery Act (RCRA) for groundwater cleanup levels;
- Floodplain Management Executive Order 11988, May 24, 1977;
- Occupational Safety and Health Administration (OSHA) for onsite worker safety;
- Groundwater Protection Strategy; and

- Department of Transportation for collection and transportation of leachate.

Groundwater Alternate Concentration Limits (ACLs) were established in the ROD for seven contaminants of concern that were identified in the RI/FS: arsenic, barium, chromium, nickel, benzo(a)pyrene, toluene, and polychlorinated biphenyls. The ACLs were calculated by multiplying the highest contamination level observed for each contaminant in the RI/FS data by a factor of ten. This technique was considered conservative since the projected diluted concentration is 1 to 40,000 for the Licking River. The groundwater ACLs are listed in Table 1.1.

The ROD also defined acceptable levels of contaminants in soils and sediments for the seven contaminants of concern based on background levels and carcinogenic risk. These levels are presented in Table 1.2.

One of the purposes of the Five-Year Review is to review federal and state requirements promulgated or modified after ROD signature to determine if they are applicable or relevant and appropriate and whether they are necessary to ensure protection of human health and the environment. The newly promulgated or modified requirements considered at Newport include the Safe Drinking Water Act MCLs (July 1992), the Clean Water Act Water Quality Criteria (December 1992), and Kentucky Surface Water Standards (January 1992). These modified standards are presented in Table 1.3. EPA has determined that the groundwater and sediment ACLs set in the ROD continue to be protective of human health and the environment and will be used to evaluate groundwater and sediment data.

In addition, the National Oceanographic and Atmospheric Administration (NOAA) has recently developed screening levels for soils and sediments (January 1992) that EPA uses to determine whether additional investigations are warranted, such as site-specific toxicity tests, literature

TABLE 1.1 Table of Alternate Concentration Limits ¹ Newport Dump Site, Wilder, KY				
Indicator Chemicals	Groundwater Concentration ²	Alternate Concentration Limit ³	Health Base Criteria ⁴	Diluted Concentration in Licking River ⁵
Arsenic	64	640	50 (MCL)	0.016
Barium	7,400	74,000	1,000 (MCL)	1.850
Chromium	1,500	15,000	50 (MCL)	0.375
Nickel	2,400	24,000	13 (WQC)	0.600
Benzo(e)pyrene	--	--	--	--
Toluene	17	170	14 (WQC)	0.0043
PCBs	--	--	--	--

All values in the table are in $\mu\text{g/l}$.

1. Alternate Concentration Limits (ACLs) derived in the Record of Decision, March 1987.
2. Actual concentrations observed in the groundwater discharge to the Licking River.
3. These concentrations are ten times those in the preceding column, as described below.
4. The ARARs are listed in Table 1.1, these values were current in 1987, at the time of the ROD.
5. Diluted concentration based on 40,000 to 1 dilution of ACL values.

Shaded value is an error, the WQC for toluene was actually **14,300 $\mu\text{g/l}$** .

The dilution rate for groundwater discharge to the Licking River is 40,000 to 1. It was considered conservative to set the ACLs at ten times the highest observed concentration from the RI sampling data in the Record of Decision.

Table 1.2 Acceptable Levels of Contaminants In Surface Soil and Sediment Newport Dump Site, Wilder, KY		
Indicator Chemical	Acceptable levels (mg/kg)	Basis
Arsenic	14	Background
Barium	200	Background
Chromium (total)	24	Background
Nickel	61	Background
Benzo(a)pyrene	1	Ingestion*
Toluene	0.014	Background
PCBs	2.7	Ingestion*

Background = Maximum observed concentration in off-site background soil or sediment samples.

*Ingestion of soil based on 10^{-6} cancer risk.

Table 1.3 Applicable Standards and Criteria Newport Dump Site, Wider, KY							
Indicator Chemical	Applicable or Relevant and Appropriate Requirements				Other Criteria, Advisories, and Guidance		
	SAFE DRINKING WATER ACT Maximum Contaminant Levels ^a		KENTUCKY ADMINISTRATIVE REGULATIONS Surface Water Standards ^b		CLEAN WATER ACT Water Quality Criteria For Human Health		CLEAN WATER ACT Water Quality Criteria
	1987	1992	1987	1992	1987 ^c	1987 ^d	1992
Arsenic	50 µg/l	50 µg/l	50 µg/l ^e	50 µg/l ^e	0 (2.2 ng/l) ^f	0 (2.3 ng/l) ^f	.018 µg/l ⁱ
Barium	1,000 µg/l	2,000 µg/l	1,000 µg/l ^g	1,000 µg/l ^g	--	--	2000 µg/l ⁱ
Chromium +6	--	--	--	11 µg/l ^e	50 µg/l	50 µg/l	11 µg/l ^h
Chromium +3	--	--	--	[**] ^e 33 mg/l ^g	170 mg/l	179 mg/l	117.32 mg/l ^h
Chromium (Total)	50 µg/l	100 µg/l	50 µg/l ^g 100 µg/l ^e	50 µg/l ^g -- ^e	--	--	--
Nickel	--	100 µg/l	-- ^e -- ^g	[**] ^e 610 µg/l ^g	13.4 µg/l	15.4 µg/l	87.71 µg/l ^h
Benzo(a)pyrene	--	0.2 µg/l	--	2.8 ng/l ^g	0 (2.8 ng/l)	0 (3.1 ng/l)	.0044 µg/l ⁱ
Toluene	--	1000 µg/l	--	14.3 mg/l ^g	14.3 mg/l	15 mg/l	6800 µg/l ⁱ
Polychlorinated Biphenyls	--	0.5 µg/l	1.4 ng/l ^e -- ^g	1.4 ng/l ^e 0.079 ng/l ^g	0 (0.079 ng/l) ^f	0 (12.6 ng/l) ^f	.000044 µg/l ⁱ

a National Primary Drinking Water Regulations promulgated in accordance with the provisions of the Safe Drinking Water Act, PL 93-523.

b Kentucky Administrative Regulations, Title 401, Chapter 5, established under provisions of Kentucky Revised Statutes 224.020 and 224.060.

c Water Quality Criteria for Human Health - Fish and Drinking Water established under provisions of the Clean Water Act of 1977, PL 95-217, published in 45 Federal Register 79318 79379, November 28, 1980.

d Water Quality Criteria for Human Health Adjusted For Drinking Water Only. EPA, April 1985. Guidance on Feasibility Studies under CERCLA.

e Warmwater aquatic habitat criteria.

f The criteria for all carcinogen is zero; the concentration given in parentheses corresponds to a carcinogenic risk of 10⁻⁶.

g Domestic water supply source criteria.

h Water Quality Criteria for aquatic life.

i Water Quality Criteria for human health.

-- Not established.

• Contaminated level for all Polynuclear Aromatic Hydrocarbons.

[**] Value is a function of the hardness of the water, where the hardness is mg/l of calcium carbonate (CaCO₃).

Table 1.3 (Continued) Applicable Standards and Criteria
Newport Dump Site, Wilder, KY

Other Criteria, Advisories, and Guidance						
Indicator Chemical	CLEAN WATER ACT Freshwater Aquatic Life Criteria ^a 1987		CLEAN WATER ACT Freshwater Aquatic Life Criteria 1992		KENTUCKY ADMINISTRATIVE REGULATIONS Warmwater Aquatic Habitat Criteria	
	24 Hour Average (ug/l)	Maximum (ug/l)	Maximum Conc. (ug/l)	Continuous Conc. (ug/l)	Maximum (ug/l) 1987 ^b	Chronic (ug/l) 1992
Arsenic +3	-	440	360	190	50	50
Barium	-	-	-	-	-	-
Chromium +6	.29	21	16*	11*	100	11
Nickel (c)	56	1,100	789*	87.71*	-	0
Benzo(a)Pyrene	-	-	-	-	-	-
Toluene	-	17,500	-	-	-	-
PCBs	.014	-	-	.014	.0014	.0014

- Not established.

a Water quality criteria established under provisions of the Clean Water Act of 1977 (PL 95-217), published in Federal Register 79318-79379, November 28, 1980.

b Kentucky Administrative Regulations, Title 401, Chapter 5, established under provision of Kentucky Revised Statutes 224.020 and 224.060.

c Hardness equivalent to 50 mg/l of CaCO₃.

* Hardness dependent.

reviews, etc. These levels are to be used for screening purposes only and are not to be construed as standards or criteria. Sediment data collected as part of the Five-Year Review and Newport was compared to the NOAA Effects Range-Low (ER-L) and Effects Range-Median (ER-M) values to determine whether potential adverse effects have occurred.

Currently there are no federal regulations that deal with levels of toxic gases or methane generated from hazardous waste landfills. To determine whether gases being produced by the landfill are of potential concern, data was compared with their respective OSHA derived Lower Explosive Limits (LEL).

1.4 COMMUNITY INVOLVEMENT HIGHLIGHTS

EPA conducted a public information session to discuss the Newport Dump Five-Year Review on March 5, 1991. Members of the community were invited to attend to learn more about the Site and the Superfund program. At this meeting, EPA and the City of Newport representatives answered questions about the Site. The public announcement and response to comments received during the Five-Year Review are included in Appendix H.

2.0 SITE CONDITIONS

2.1 SURFACE/COVER CONDITIONS

A Site visit was conducted from December 15-17, 1991 with follow-up visits in January 1992 and March 1992. During all visits the Site was not secured. A cable, that apparently blocked vehicular access to the Site at one time, had been cut to allow free access to the Site. The road leading into the Site consists of compacted dirt/gravel and contains some large areas of ponded water and areas of little or no vegetation.

The area to the north of the holding tank, at the end of the gravel access road, was muddy and rutted with tire tracks. During the March trip it was observed that a tractor trailer from Ceramic Coatings Co., a facility next to the Site, was using this area as a turn-around. The turn-around area appears to have had a gravel bed at one point; however, the trucks have extended the turnaround area beyond the gravel and onto the grass cover.

Numerous all-terrain-vehicle (ATV) tracks were noted randomly traversing the Site. These tracks are most noticeable along the steeper slopes of the Site along the western edge and the southern edge of the landfill. Frequent use of these trails has resulted in some erosion on the slopes of the landfill. Erosion was noted in the area up-gradient of sump #3. Hay bales, staked out on the slopes during O&M activities, seem to be limiting erosion, but not completely preventing it.

During the December visit, it was observed that the area on the river terrace along the western edge of the Site had been cleared and contained open trenches for the installation of a sanitary sewer line. Some miscellaneous debris was exposed by the excavation activities. No personnel or construction equipment were onsite at that time. At the time of the March visit, the line had been installed, and the trenches were backfilled.

During the December and March Site visits it was attempted to operate the leachate collection system. During the December visit, only pumps number three and number four were run until the sumps were pumped dry. The system operated poorly during the March visit, with only one of the four sumps (sump 4) working correctly. Leaks were noticed in the lines coming from sumps 1 and 2, and another leak is suspected in the line from sump 3 to the holding tank. It is suspected that there may be a leak in the holding tank also since water was pumped into the tank during the March visit, but when departing the Site, the water level in the tank was the same as upon arrival.

2.2 GROUNDWATER AND GAS MONITORING WELLS

All gas and groundwater monitoring wells were in good condition except for groundwater wells MW-03, MW-04 and MW-06. The well casing in MW-03 was bent enough to prevent the use of a two-inch bailer for purging and sampling, but a one-inch bailer will pass the bend and reach the bottom of the well. The well casing in MW-04 is blocked above the water level and prevents the passing of a water level indicator or a one-inch bailer. MW-06, an offsite and upgradient monitoring well, was destroyed by the construction activities for the installation of the sewer line. Gas monitoring well GW-05 was full of water, and could not be sampled during the March visit.

A more detailed description of the Site conditions and Site activities can be found in the Site Trip Reports in Appendix F and Appendix G.

2.3 LEACHATE COLLECTION SYSTEM

The leachate collection system is currently operable at less than half of its capacity due to leaks in the transfer lines. EPA had shut off the power to the system in 1990 because the leachate collection system appeared to be collecting groundwater and operating the system was not

providing a higher degree of protection. Maintenance of the system has not been performed since 1990.

3.0 MULTIMEDIA SAMPLING RESULTS

Samples of groundwater, surface water, leachate, sediment and landfill gas have been collected in the past as part of O&M for the Newport Dump Site. As part of the Five-Year Review review, the following sampling events occurred: surface water sampling was performed in December 1991; a leachate holding tank sample in January 1992; groundwater, sediment, and additional surface water samples were collected in March 1992. A sample could not be collected from MW-06 at this time because it had been destroyed during the construction of the sewer line described previously. Gas well sampling was performed during the quarterly sampling and the Five-Year Review sampling. All available data has been tabulated and can be found in Appendix A (groundwater and leachate), and Appendix B (surface water), Appendix C (sediment), and Appendix D (gas wells). O&M and Five-Year Review review sampling locations are shown on Figure 2.1.

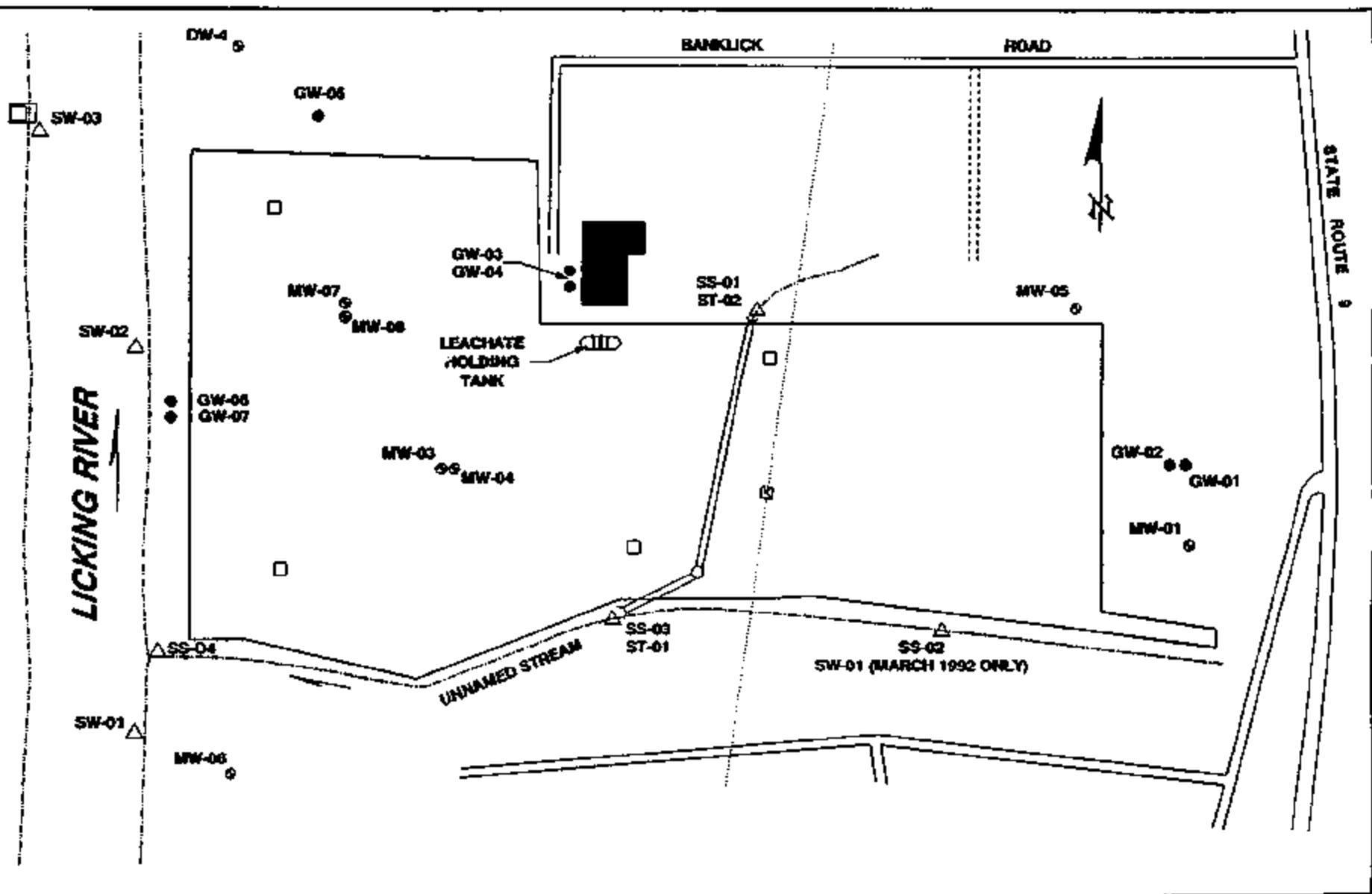
3.1 GROUNDWATER

The groundwater data was compared to the Safe Drinking Water Act Maximum Contaminant Level (MCL), July 1992; the Alternate Concentration Limits (ACL) in the Newport Record of Decision; and background levels.

No contaminants occurred above their ACL. The following contaminants, for which no cleanup levels were established in the ROD, were detected above MCLs:

Lead
Benzene

Cadmium
Bis(2-Ehtylhexyl)Phthalate



LEGEND:

- GROUNDWATER MONITORING WELL
 - GAS MONITORING WELL
 - △ SURFACE WATER AND/OR SEDIMENT SAMPLE
- NOTE: DRAWING NOT TO SCALE

FIGURE 2.1
SAMPLING LOCATIONS
NEWPORT DUMP SITE
 WILDER, KENTUCKY



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A statistical comparison was done to determine whether there is a significant difference between background data and onsite samples for the above-mentioned contaminants using the "Cochran's Approximation to the Behren-Fisher Students' T-Test," 40 CFR Part 264, Appendix IV. Monitoring Wells (MWs) 01, 06 and DW4 were considered the background wells. The statistical comparison indicated cadmium and lead were below background. Benzene occurred in MW 7 and no other well. It should be noted that benzene was above the MCL by one-to-two parts per billion. At this concentration, benzene does not pose a threat due to the 40,000 to 1 dilution factor in the Licking River. Bis(2-Ethylhexyl)Phthalate was not detected in the first two quarters of sampling and was dropped from further quarterly sampling. Bis(2Ethylhexyl)Phthalate was detected in the Five-Year Review sampling, but is likely an artifact from the latex gloves used in sampling.

3.2 LEACHATE

Leachate samples were collected from the leachate collection system during the O&M sampling. Due to the condition of the system at the time of the Five-Year Review review sampling, a representative sample could not be obtained. During the January 1992 Site visit a sample was collected from the holding tank for full scan analysis. The results of this sample along with the quarterly sampling results are included in Table A.8. The holding tank sample is included for comparison, and may not accurately represent the levels of contamination in the leachate. The leachate data is compared to groundwater MCLs, ACLs and background because the leachate is indistinguishable from shallow groundwater since the waste at Newport Dump occurs below the groundwater table. Groundwater standards are also appropriate for comparison because the leachate would discharge into the groundwater if the leachate collection system were not operating.

The following contaminants, for which no cleanup levels were established in the ROD, were detected above MCLs:

Antimony

Beryllium

Cadmium

Antimony was a one-time exceedance with an estimated value. Beryllium was a one-time exceedance and was four parts per billion above the MCL. Cadmium occurred one time in the leachate samples and was not detected in any of the other six sampling events. Although lead occurred above its action level, it did not occur above background. The Cochran's Approximation to the Behren-Fisher Students' T-Test" from was used for the statistical comparison.

3.3 SURFACE WATER

The ACLs established in the ROD were not established for surface water. Therefore, MCLs, July 1992, Water Quality Criteria (WQC), December 1992 and Kentucky Surface Water Standards, January 1992 were used to evaluate surface water data. The following samples were taken from three locations in the Licking River during the quarterly sampling and the Five-Year Review sampling event: (1) upstream of the Newport Dump Site; (2) midstream and adjacent to the Site; and (3) downstream at the Taylor Mill drinking water intake. All surface water data is summarized and appears in Appendix B. Data for the intake was also obtained from the Ohio River Valley Water Sanitation Commission (ORVWSC), and is presented in Table B.3A.

Contaminants detected above MCLS, WQC, and Kentucky Surface Water Standards in the Licking River (upstream - background) samples include:

Aluminum
Cadmium
Iron
Manganese

Contaminants detected in the Licking River (midstream - next to Newport) above MCLs, WQC, Kentucky Surface Water Standards and background include:

Aluminum
Cadmium
Iron
Manganese

- Aluminum, cadmium and iron cannot be attributed to the Site because they do not statistically occur above background in any MW onsite.
- Based upon the dilution factor of 40,000 to 1 in the Licking River, the Newport Dump would have to have contamination in the thousands parts per million range to adversely affect the Licking River; e.g., if there was an 100 ppb increase of manganese between the upstream and downstream sample, based upon the 40,000 to 1 dilution factor, manganese would have to be 4000 ppm in a MW onsite for the Site to be the cause of the increase. No concentrations at Newport are even close to this concentration.

The onsite surface water samples included the influent end of the culvert, the effluent end of the culvert, and an upstream sample in the unnamed stream. For purposes of comparison the influent end of the culvert and the upstream sample were considered background. Although these locations are onsite, they are considered background because they receive only surface

runoff from the Site. No leachate outbreaks have been observed since the cover was emplaced in 1987 and the intermittent stream is not expected to receive groundwater discharge.

The influent end of the culvert, the upstream location, and the effluent end of the culvert exceeded WQC. The contaminants that exceeded WQC are:

Aluminum

Iron

Manganese

The effluent end sample did not exceed the highest background concentration for any of the above-mentioned contaminants. These contaminants cannot be directly attributed to Newport because the sample taken at the effluent end of the culvert is the cumulative result of the influent end of the culvert and the upstream location. A statistical comparison was not made because of the cumulative effects.

3.4 SEDIMENT

Sediment samples were not collected during the quarterly sampling, but were collected during the RI/FS stage and during the Five-Year Review review sampling. Acceptable levels of contaminants in soil and sediment were established in the ROD for the seven contaminants of concern, as discussed in Section 1.3. The sediment data was compared to ACLS and NOAA ER-Ls and ER-Ms. All sediment sampling data is summarized in Tables C.2 through C.5 in Appendix C.

The culvert intake and the upstream sample were considered background for comparison purposes. No contaminants exceeded the ACLs in either background locations. Contaminants that exceeded the NOAA ER-L are:

Lead

Chromium

Silver

Zinc

Although lead, silver, and zinc concentrations occurred above the ER-L, they occurred below the ER-M levels indicating a potential for adverse environmental effects. The upstream location contained a very high level of chromium in the sediment sample SS-02. This was the only high chromium detection of the contaminant at the Site. The surface water sample for chromium was a nondetect.

At the effluent end of the culvert, arsenic was detected at the ACL, 14 mg/kg. Nickel also occurred at its ACL, 61 mg/kg. Lead occurred above the NOAA ER-L, but below the NOAA ER-M. These contaminants were detected in the culvert intake and the upstream samples. Any contaminants detected in the culvert effluent are probably present due to the cumulative effects of the culvert intake and the upstream location.

No contaminants were detected above ACLs or NOAA screening values at the confluence with the Licking River sample.

The streams adjacent to Newport which were the subject of the surface water and sediment

observed since the 1987 response action was implemented; so it is not expected that the Newport Dump is contributing contamination to the adjacent streams. It is not atypical in an industrial area such as this to observe elevated metal concentrations in surface water or sediment.

3.5 SUBSURFACE GAS

Sampling of the gas wells was performed during most of the quarterly sampling and during the Five-Year Review review sampling. All samples were analyzed for volatile organic compounds (VOCs) and methane. GW-05 was not sampled during the Five-Year Review event because the well was full of water, which made sampling impossible. The tables in Appendix D list all of the hazardous gases detected, and their respective lower explosive limits (LEL). The data for the first quarter gas sampling, which was not done according to the TO-14 method, was unavailable, and was not included in these tables. EPA Method TO-14, as specified in the O&M Plan, was one of the gas well sampling methods that could be used at the Newport Dump. Methane was detected above its LEL in gas wells GW-03, GW-04, and GW-07. Many other hazardous gases were detected in these wells, but no single gas, other than methane, exceeded its LEL.

The soil-gas survey that was performed in March 1992 indicated the presence of subsurface gases in most of the probe locations. Appendix G contains a summary of the method, the instrument readings, and the locations of the soil probes.

4.0 RECOMMENDATIONS

4.1 SURFACE/COVER

The cover should be mowed twice a year, in the spring and fall to prevent the establishment of undesirable species. Seeding should be done in areas where stressed vegetation exists, to maintain the structural integrity of the cover. The erosional scars created by the ATV trails and trucks turning around, need to be repaired to prevent the formation of large erosion areas that may alter the effectiveness of the clay cover. The Site should be visually inspected biannually to ensure the grass cover is properly maintained, the perimeter ditch system and culvert is adequate, monitoring wells and the security fence around the tank area are intact, and the access road is properly maintained. These activities should be performed in accordance with the Newport Dump Operations and Maintenance Plan, July 1988 (O&M Plan) and any subsequent modifications. As long as the landfill cover is properly maintained in accordance with the O&M Plan, Site access does not need to be restricted. Not restricting Site access will most likely increase cover maintenance costs.

4.2 GROUNDWATER, SURFACE WATER, SEDIMENT MONITORING

None of the contaminants detected in groundwater, surface water, or sediment need to be added to the list of contaminants of concern since they do not present significant health risks.

Groundwater monitoring well MW-07 deserves special mention. During the March 1992 sampling, the water from this well had a kerosene-like odor and effervesced with the hydrochloric acid preservative in the VOA sample bottles. The extractable analysis could not be run for this sample in March due to a high concentration of an unknown compound. The results of inorganic sampling did not show any significant increases of any particular contaminant over the background concentrations; however, benzene was detected above its MCL

and was not detected in any other well. It appears that the presence of these compounds is limited to this well, and is not necessarily related to the Site as a whole. It is recommended that this well be monitored closely and the extractable analysis run carefully to verify and quantify the levels of these compounds, and to be sure they are not increasing or decreasing over time.

Groundwater monitoring well MW-08 should be resampled to confirm whether Bis(2-Ethylhexyl)Phthalate is a Site contaminant or sampling artifact. A rinsate blank of the sampling gloves should be taken and analyzed to determine whether the gloves are the contributing factor. If it is determined that the contaminant is Site-related, then MW-08 should be monitored on an annual basis for Bis(2-Ethylhexyl)Phthalate.

Since there appears to be no contribution of contaminants from the landfill to the groundwater, surface water or sediment, no action for these media is necessary at this time. However, it is recommended that inorganic sampling of these media be continued at the Newport Dump Site in accordance with the O&M Plan on an annual basis. The next Five-Year Review should include one full-scan analysis to ensure that the levels of contamination are not changing over time.

4.3 SUBSURFACE GAS MONITORING

The presence of subsurface gases at the Newport Dump Site has been verified by the various gas well sampling and the soil-gas probe survey conducted in the past. It is recommended that a soil-gas probe analysis be conducted along the northwest perimeter of the Site, adjacent to the Ceramic Coating Co.'s (CCC) facility to determine if gas is migrating into the CCC facility and presenting any potential public health hazard. If methane is detected at concentrations of concern, then proper venting controls and monitoring should be taken to ensure public safety. Methane field screening techniques should be performed at gas monitoring well heads on a

quarterly basis to ensure gas is not migrating offsite. Ambient air monitoring should also be conducted in areas where methane is detected at wellheads above its LEL. VOC canister or sorbent tube sampling of gas wells and ambient air should be performed on an as needed basis.

4.4 GROUNDWATER AND GAS MONITORING WELLS

At this time, monitoring wells MW-03, MW-04, and MW-06 do not need to be repaired. MW-03 should continued to be sampled as long as a one-inch bailer will pass through the bend in the well. MW-04 has not been monitored since the first quarterly sampling event. No records were found that indicated why monitoring at this well was discontinued; however, it was likely due to landfill settling and subsequently crushing the monitoring well making sampling impossible. Data from this well is not needed at this time because contamination was not previously detected in this well and contaminants would not be different from those already identified in other onsite monitoring wells. MW-06 does not need to be repaired at this time because it is considered a background monitoring well and MW-01 can be used to determine background conditions.

Gas monitoring well GW-05 does not need to be repaired because its purpose was to determine if gas is migrating offsite. The fact that it is full of water indicates that the well is under artesian conditions and gas is not migrating offsite.

4.5 LEACHATE COLLECTION SYSTEM OPERATION

Currently, the leachate collection system is operable at less than half of its capacity. The system has a long history of requiring repairs, and it is believed that the system collects groundwater since the water surface elevation in sump 3 is approximately the same elevation as the bottom of the well casing in MW-05. This well exhibits artesian conditions and has 36 feet of head. It is also possible that the holding tank has a leak in it. In May 1990, EPA discontinued the

leachate collection system since it appeared that the system collected groundwater and operating the system would not provide a higher degree of protection to the environment.

The leachate collection system was not operated for approximately two years prior to the preparation of this report; no problems were encountered and no significant increases in contamination in the surface water in the Licking River were evident. The frequency of breaks in the collection lines in the past was most likely caused by shifting of the landfill material. This shifting is inherent in unstable landfill material, and will most likely occur in the future.

At this time, it is not recommended that the leachate collection system be restarted. Since the levels of contaminants in the leachate samples were consistent with the surrounding groundwater, there is no need to remove the water that collects in the leachate collection lines. The system would require a lot of repair work to enable it to run at its full capacity. Repair work would also create an exposure pathway to workers because searching for broken collection lines would require excavation into the waste material. If contaminant levels increase in the Licking River due to Site contribution, then consideration should be given to redesigning the leachate collection system to intercept leachate before it reaches the Site boundaries and the Licking River.

4.6 INSTITUTIONAL CONTROLS

One of the Record of Decisions's objectives was to ensure that future renovation activities would be delayed for three years after the response action was implemented. Although the local authorities and KNREPC did not promulgate land use restrictions, no activities have taken place at the Newport Dump that have compromised the remedy. After the three years EPA was to enter into an agreement with the local and state governments to limit the type of any future land renovation at the Newport Dump. Because EPA has not entered into such agreement, it is recommended that EPA obtain some type of agreement, order or covenant with the local and

state governments to establish limits and standards to the type of land renovation the Site can tolerate and remain stable.

4.7 STATEMENT OF PROTECTIVENESS

At this time it can be said that the remedial actions that were performed at the Newport Dump Site remain protective of human health and the environment.

4.8 NEXT REVIEW

It is suggested that another review of the Newport Dump Site be performed by June 1997. The presence of the buried waste at the Site requires continued monitoring and evaluation to ensure that the remedy remains effective and original cleanup levels remain protective of human health and the environment.

LIST OF DOCUMENTS REVIEWED

Cap Restoration and Drainage Improvements, prepared by EPA, January 1990.

Construction Activities Report, prepared by NUS Corporation, July 1988.

Final Operations and Maintenance Plan, prepared by Ebasco Services, Inc., February 1988

Final Remedial Investigation and Feasibility Study of Alternatives, prepared by NUS

Corporation, March, 1987.

OSC Report, Volume 1, prepared by EPA, Office of Emergency Response, January, 1990.

O&M Analytical Data, collected by Ebasco Services, Inc.

Recommendations for the Newport Dump Site, Memo from the EPA Emergency Response Team to EPA Region IV, May 1990.

Record of Decision, prepared by U.S. EPA Region IV, March 1987.

APPENDIX A

GROUNDWATER AND LEACHATE SAMPLING DATA TABLES

**TABLE A.1 CONTAMINANTS DETECTED IN MW-01
NEWPORT DUMP SITE, WILDER, KY**

	ARAR	1st May 88	2nd Aug. 88	3rd Nov. 88	4th Mar. 89	5th Dec. 89	6th Mar. 90	5YR Mar. 92
INORGANICS								
ALUMINUM	n/a	--	16,000	40,000	47,000	56,000	2,100	13,000
ARSENIC	{640}	--	3JN	--	--	--	--	--
BARIUM	{74,000}	610	290	250	230	330	50	81
CADMIUM	5	--	--	7JN	5	--	--	--
CALCIUM	n/a	--	490,000	520,000	390,000	680,000	140,000	160,000
CHROMIUM	{15,000}	--	18	50JN	70	75	10	15
COBALT	n/a	--	--	36	36	56	--	9J
COPPER	1300	27	--	--	66	--	11	--
IRON	n/a	6,200	22,000	67,000	77,000	110,000	4,100	19,000
LEAD	15*	130	--	79J	65J	110	--	12J
MAGNESIUM	n/a	52,000	58,000J	52,000	64,000	76,000	43,000	44,000
MANGANESE	n/a	1,000	970	1,200J	1,500	2,400	100	340
NICKEL	{24,000}	--	24	43	82	130	10	--
POTASSIUM	n/a	--	--	8,500	11,000	7,500	2,500	5,800
SELENIUM	50	--	--	--	--	29JN	--	3
SODIUM	n/a	83,000	91,000	93,000	92,000	90,000	91,000	84,000
VANADIUM	n/a	--	--	86	73	81	--	--
ORGANICS								
EXTRACTABLES								
UNIDENTIFIED COMPOUND	n/a	--	--	NA	NA	NA	NA	80J

ARAR = Applicable or Relevant and Appropriate Regulations are the Drinking Water Standards Maximum Contaminant Level, December 1992;
{ } = Alternate Concentration Limits

All values are in $\mu\text{g/l}$

N = Presumptive evidence of presence of material

J = Estimated value

Shaded values indicate that the ARAR was exceeded

n/a = ARAR not available

-- = Not detected

* = MCL Action Level

NA = Not Analyzed

**TABLE A.2 CONTAMINANTS DETECTED IN MW-03
NEWPORT DUMP SITE, WILDER, KY**

	ARAR	1st May 88	2nd Aug. 88	3rd Nov. 88	4th Mar. 89	5th Dec. 89	6th Mar. 90	5YR Mar. 92
INORGANICS								
ALUMINUM	n/a	23	400	--	80	--	--	630
ARSENIC	{640}	6	--	62	55J	33	41	73J
BARIUM	{74,000}	97	230	220	230	110	130	250
CADMIUM	5	--	--	--	--	6	--	--
CALCIUM	n/a	55,000	98,000	96,000	97,000	78,000	86,000	110,000
CHROMIUM	{15,000}	--	--	--	--	12	14	21
COPPER	1300	--	--	--	--	--	12	--
IRON	n/a	2,000	5,000	4,500	4,500	1,200	3,000	4,900
LEAD	15*	180	--	20J	--	24	20	17J
MAGNESIUM	n/a	32,000	61,000J	47,000	53,000	38,000	43,000	63,000
MANGANESE	n/a	74	140	96J	110	85	100	170
NICKEL	{24,000}	--	--	--	--	--	15	--
POTASSIUM	n/a	15,000	--	--	3,600	5,900	7,100	3,500
SODIUM	n/a	38,000	47,000	45,000	46,000	41,000	41,000	46,000
ORGANICS								
EXTRACTABLES								
BUTYLIDENEBISPHENOL	n/a	--	200JN	NA	NA	NA	NA	--
CAPROLACTAM	n/a	--	400JN	NA	NA	NA	NA	--
UNIDENTIFIED COMPOUND	n/a	--	--	NA	--	--	--	30J

ARAR = Applicable or Relevant and Appropriate Regulations are the Drinking Water Standards Maximum Contaminant Level, December 1992;
{ } = Alternate Concentration Limits

All values are in $\mu\text{g/l}$

N = Presumptive evidence of presence of material

J = Estimated value

Shaded values indicate that the ARAR was exceeded

n/a = ARAR not available

-- = Not detected

* = MCL Action Level

NA = Not Analyzed

TABLE A.3 CONTAMINANTS DETECTED IN MW-05 NEWPORT DUMP SITE, WILDER, KY								
	ARAR	1st May 88	2nd Aug. 88	3rd Nov. 88	4th Mar. 89	5th Dec. 89	6th Mar. 90	5YR Mar. 92
INORGANICS								
ALUMINUM	n/a	520	700	--	250	--	--	360
ARSENIC	{640}	62	81	68	71J	140	110	51J
BARIUM	{74,000}	670	770	750	790	880	870	660
CADMIUM	5	--	--	--	--	6	--	--
CALCIUM	n/a	87,000	92,000	97,000	99,000	98,000	99,000	99,000
COBALT	n/a	--	--	--	--	--	--	16
IRON	n/a	6,000	3,100	4,700	4,500	12,000	7,800	7,400
LEAD	15*	3	--	--	--	--	--	4J
MAGNESIUM	n/a	37,000	42,000J	36,000	42,000	40,000	41,000	40,000
MANGANESE	n/a	520	560	510J	550	600	580	660
NICKEL	{24,000}	--	--	--	--	--	9	49
POTASSIUM	n/a	--	680	--	1,500	1,500	1,500	1,900
SODIUM	n/a	61,000	67,000	67,000	68,000	64,000	67,000	62,000
ORGANICS								
CARBON DISULFIDE	n/a	--	--	NA	2J	--	--	--

ARAR = Applicable or Relevant and Appropriate Regulations are the Drinking Water Standards Maximum Contaminant Level, December 1992;
 { } = Alternate Concentration Limits

All values are in $\mu\text{g/l}$

-- = Not detected

* = MCL Action Level

Shaded values indicate that the ARAR was exceeded

n/a = ARAR not available

J = Estimated value

NA = Not Analyzed

**TABLE A.4 CONTAMINANTS DETECTED IN MW-06
NEWPORT DUMP SITE, WILDER, KY**

	ARAR	1st May 88	2nd Aug. 88	3rd Nov. 88	4th Mar. 89	5th Dec. 89	6th Mar. 90	5YR Mar. 92
INORGANICS								
ALUMINUM	n/a	240	1,100	--	1,100	--	--	NA
ARSENIC	{640}	--	5JN	--	--	--	--	NA
BARIUM	{74,000}	310	280	290	310	270	210	NA
CALCIUM	n/a	230,000	210,000	230,000	240,000	230,000	2000,000	NA
CHROMIUM	{15,000}	--	--	--	9	--	11	NA
COPPER	1300	--	--	--	--	--	11	NA
IRON	n/a	23,000	12,000	12,000	15,000	14,000	3,200	NA
LEAD	15*	43	--	7J	--	--	--	NA
MAGNESIUM	n/a	58,000	55,000J	46,000	51,000	46,000	41,000	NA
MANGANESE	n/a	680	590	550J	690	590	410	NA
NICKEL	{24,000}	--	--	--	--	--	18	NA
POTASSIUM	n/a	--	--	--	2,800	1,500	4,800	NA
SODIUM	n/a	45,000	47,000	50,000	50,000	46,000	43,000	NA
ORGANICS								
EXTRACTABLES								
BENZYL ALCOHOL	n/a	4J	--	NA	NA	NA	NA	NA
BUTYL BENZYL PHTHALATE	100	4J	--	NA	NA	NA	NA	NA
CAPROLACTAM	n/a	--	300JN	NA	NA	NA	NA	NA
DI-N-OCTYL PHTHALATE	n/a	3J	--	NA	NA	NA	NA	NA

ARAR = Applicable or Relevant and Appropriate Regulations are the Drinking Water Standards Maximum Contaminant Level, December 1992;
{ } = Alternate Concentration Limits

All values are in $\mu\text{g/l}$

N = Presumptive evidence of presence of material

J = Estimated value

Shaded values indicate that the ARAR was exceeded

n/a = ARAR not available

-- = Not detected

* = MCL Action Level

NA = Not Analyzed

**TABLE A.5 CONTAMINANTS DETECTED IN MW-07
NEWPORT DUMP SITE, WILDER, KY**

	ARAR	1st May 88	2nd Aug. 88	3rd Nov. 88	4th Mar. 89	5th Dec. 89	6th Mar. 90	5YR Mar. 92
INORGANICS								
ALUMINUM	n/a	2,500	17,000	5,600	2,300	3,700	580	--
ARSENIC	{640}	--	21JN	17	--	13JN	15	22J
BARIUM	{74,000}	410	660	610	400	410	460	420
CADMIUM	5	--	--	--	5	--	9	--
CALCIUM	n/a	59,000	92,000	98,000	58,000	68,000	80,000	63,000
CHROMIUM	{15,000}	--	68	41J	49	51	40	27
COBALT	n/a	71	78	77	66	75	83	65
COPPER	1300	--	--	--	28	--	23	--
CYANIDE	200	--	20	--	20	--	30	--
IRON	n/a	10,000	24,000	12,000	8,500	15,000	6,800	7,600
LEAD	15*	51	--	36J	--	91	24J	24J
MAGNESIUM	n/a	150,000	180,000	160,000	170,000	180,000	150,000	16,000
MANGANESE	n/a	930	2,200	1,500J	570	690	1,300	350
NICKEL	{24,000}	--	120	97	99	76	100	73
POTASSIUM	n/a	180,000	140,000	170,000	200,000	210,000	170,000	170,000
SELENIUM	50	--	--	--	--	18JN	--	--
SILVER	n/a	--	--	--	--	--	15	--
SODIUM	n/a	130,000	990,000	140,000	1.4x10 ⁶	1.4x10 ⁶	1.6x10 ⁶	1.4x10 ⁶
VANADIUM	n/a	--	--	26	12	--	--	--

ARAR = Applicable or Relevant and Appropriate Regulations are the Drinking Water Standards Maximum Contaminant Level, December 1992;
{ } = Alternate Concentration Limits

All values are in $\mu\text{g/l}$

N = Presumptive evidence of presence of material

J = Estimated value

Shaded values indicate that the ARAR was exceeded

n/a = ARAR not available

-- = Not detected

* = MCL Action Level

NA = Not Analyzed

**TABLE A.5 (cont.) CONTAMINANTS DETECTED IN MW-07
NEWPORT DUMP SITE, WILDER, KY**

	ARAR	1st May 88	2nd Aug. 88	3rd Nov. 88	4th Mar. 89	5th Dec. 89	6th Mar. 90	5YR Mar. 92
INORGANICS								
BICYCLOHEPTANONE	n/a	--	60JN	NA	NA	NA	NA	NA
BIS(ETHYLPENYL)ETHANE	n/a	--	30JN	NA	NA	NA	NA	NA
BUTYL BENZYL PHTHALATE	100	20	--	NA	NA	NA	NA	NA
BUTYL METHYL BENZENE SULFONAMIDE	n/a	--	50JN	NA	NA	NA	NA	NA
DIMETHYLBENZOIC ACID	n/a	--	90JN	NA	NA	NA	NA	NA
NAPHTHALENE	n/a	2J	--	NA	NA	NA	NA	NA
UNIDENTIFIED COMPOUNDS	n/a	--	400J	NA	NA	NA	NA	NA
ACETONE	n/a	86	--	NA	--	--	--	--
BENZENE	5	6	--	NA	7J	6	6	--
CHLOROBENZENE	n/a	9	--	NA	--	--	8	5J
DICHLOROBENZENE	75**	--	--	NA	20JN	20JN	--	--
DIETHYLBENZENE	n/a	--	--	NA	5JN	--	--	--
DIHYDROINDENE	n/a	--	--	NA	6JN	--	--	--
DIMETHYLETHYLBENZENE	n/a	--	--	NA	6JN	--	--	--
ETHYLBENZENE	700	9	--	NA	11J	4J	6	6J
ETHYLMETHYLBENZENE	n/a	--	--	NA	20JN	--	--	6JN
TOLUENE	{170}	--	--	NA	3J	--	--	--
TRIMETHYLBICYCLOHEPTANONE	n/a	--	--	NA	--	70JN	--	--
TRIMETHYLBENZENE	n/a	--	--	NA	90JN	--	--	10JN
UNIDENTIFIED COMPOUNDS	n/a	--	--	NA	--	--	100J	--
XYLENE (TOTAL)	10,000	10	--	NA	20	11	14	7J

ARAR = Applicable or Relevant and Appropriate Regulations are the Drinking Water Standards Maximum Contaminant Level, December 1992;
{ } = Alternate Concentration Limits

All values are in $\mu\text{g}/\text{l}$

N = Presumptive evidence of presence of material

J = Estimated value

Shaded values indicate that the ARAR was exceeded

** = The MCL is 75 $\mu\text{g}/\text{l}$ for p- Dichlorobenzene;

600 $\mu\text{g}/\text{l}$ for o- and m-Dichlorobenzene

n/a = ARAR not available

-- = Not detected

* = MCL Action Level

NA = Not Analyzed

**TABLE A.6 CONTAMINANTS DETECTED IN MW-08
NEWPORT DUMP SITE, WILDER, KY**

	ARAR	1st May 88	2nd Aug. 88	3rd Nov. 88	4th Mar. 89	5th Dec. 89	6th Mar. 90	5YR Mar. 92
INORGANICS								
ALUMINUM	n/a	6,500	6,000	14,000	740	17,000	670	--
ARSENIC	{640}	--	5JN	--	--	21	--	--
BARIUM	{74,000}	110	160	170	110	190	81	100
CADMIUM	5	--	--	--	--	7	--	--
CALCIUM	n/a	110,000	130,000	130,000	110,000	160,000	110,000	110,000
CHROMIUM	{15,000}	--	--	27J	--	35	15	--
COBALT	n/a	--	--	14	--	24	--	--
COPPER	1300	--	--	--	--	--	10	--
IRON	n/a	15,000	13,000	30,000	7,000	46,000	3,900	4,200
LEAD	15*	46J	--	31J	--	56	4	18J
MAGNESIUM	n/a	32,000	34,000J	30,000	31,000	34,000	30,000	28,000
MANGANESE	n/a	2,300	3,100	2,500	2,700	3,100	2,200	2,100
MERCURY	2	--	--	0.3JN	--	--	--	--
NICKEL	{24,000}	--	23	42	--	46	13	--
POTASSIUM	n/a	4,600	--	--	3,400	3,300	2,000	3,700
SODIUM	n/a	60,000	58,000	62,000	66,000	56,000	58,000	58,000
ZINC	n/a	--	--	--	--	--	--	28
ORGANICS								
BIS(2-ETHYLHEXYL)PHTHALATE	6	--	--	NA	NA	NA	NA	720
CAPROLACTAM	n/a	--	200JN	NA	NA	NA	NA	--
UNIDENTIFIED COMPOUND	n/a	--	--	NA	NA	NA	NA	60J
TOLUENE	{170}	--	--	NA	1J	--	--	--

ARAR = Applicable or Relevant and Appropriate Regulations are the Drinking Water Standards Maximum Contaminant Level, December 1992;
{ } = Alternate Concentration Limits

All values are in $\mu\text{g/l}$

N = Presumptive evidence of presence of material

J = Estimated value

Shaded values indicate that the ARAR was exceeded

n/a = ARAR not available

-- = Not detected

* = MCL Action Level

NA = Not Analyzed

**TABLE A.7 CONTAMINANTS DETECTED IN DW-4
NEWPORT DUMP SITE, WILDER, KY**

	ARAR	RI/FS Dec. 85	RI/FS Feb. 86	5YR March 92
INORGANICS				
ALUMINUM	n/a	950	290	3,200
ARSENIC	{640}	7.4	7	60J
BARIUM	{74,000}	260	300	290
BICARBONATE	n/a	430,000	NA	NA
CALCIUM	n/a	160,000	120,000	150,000
CHLORIDE	n/a	610,000	NA	NA
COPPER	1300	17	11	--
CYANIDE	200	11	--	--
IRON	n/a	3,090	2,400	12,000
LEAD	15*	3	--	7J
MAGNESIUM	n/a	36,300	36,000	37,000
MANGANESE	n/a	105	79	190
NICKEL	{24,000}	60	--	--
POTASSIUM	n/a	14,800	16,000	7,500
SODIUM	n/a	391,000	480,000J	240,000
SULFATE	4000,000-5000,000	15,000	NA	NA
TIN	n/a	36	--	NA
VANADIUM	n/a	10	--	--
ZINC	n/a	50J	41JN	--
ORGANICS				
BIS(2-ETHYLHEXYL)PHTHALATE	6	9.2J	--	--
UNIDENTIFIED COMPOUND	n/a	--	--	10J
2-PROPANOL	n/a	9J	--	--

ARAR = Applicable or Relevant and Appropriate Regulations are the Drinking Water Standards Maximum Contaminant Level, December 1992;
{ } = Alternate Concentration Limits

All values are in µg/l

N = Presumptive evidence of presence of material

J = Estimated value

Shaded values indicate that the ARAR was exceeded

n/a = ARAR not available

-- = Not detected

* = MCL Action Level

NA = Not Analyzed

TABLE A.8 CONTAMINANTS DETECTED IN LEACHATE
NEWPORT DUMP SITE, WILDER, KY

	ARAR	1st May 88	2nd Aug. 88	3rd Nov. 88	4th Mar. 89	5th Dec. 89	6th Mar. 90	5YR Mar. 92 [∞]
INORGANICS								
ALUMINUM	n/a	50	720	--	--	3,200	64,000	21,000
ANTIMONY	6	--	--	--	--	--	660JN	--
ARSENIC	{640}	--	9	--	--	22	150	--
BARIUM	{74,000}	17	180	190	78	250	2,200	220
BERYLLIUM	4	--	--	--	--	--	8	--
CADMIUM	5	--	--	--	--	--	30	--
CALCIUM	n/a	160,000	140,000	160,000	160,000	170,000	1,600,000	190,000
CHROMIUM	{15,000}	--	--	--	--	12	150	23
COBALT	n/a	--	--	18	--	17	180	14
COPPER	1300	--	--	--	--	--	210	32
CYANIDE	200	--	--	--	--	--	60	--
IRON	n/a	14,000	10,000	3,000	1,100	56,000	930,000	46,000
LEAD	15*	--	--	--	--	15	93J	--
MAGNESIUM	n/a	85,000	87,000J	170,000	230,000	170,000	230,000	53,000
MANGANESE	n/a	1,600	1,500	1,500J	1,300	1,800	20,000	1,100
NICKEL	{24,000}	--	--	21	--	--	290	31
POTASSIUM	n/a	22,000	15,000	57,000	42,000	55,000	57,000	15,000
SILVER	n/a	--	--	--	--	--	39	--
SODIUM	n/a	170,000	170,000	490,000	38,000	370,000	370,000	30,000
STRONTIUM	n/a	NA	NA	NA	NA	NA	NA	1,200
TITANIUM	n/a	NA	NA	NA	NA	NA	NA	200
VANADIUM	n/a	--	--	--	--	--	240	42
ZINC		--	--	--	--	430J	6,300	120

ARAR = Applicable or Relevant and Appropriate Regulations are the Drinking Water Standards Maximum Contaminant Level, December 1992;
{ } = Alternate Concentration Limits

All values are in $\mu\text{g/l}$

N = Presumptive evidence of presence of material

J = Estimated value

Shaded values indicate that the ARAR was exceeded

∞ = Sample taken from holding tank, may not be representative of the conditions of the underground leachate.

n/a = ARAR not available

-- = Not detected

* = MCL Action Level

NA = Not Analyzed

**TABLE A.8 (cont.) CONTAMINANTS DETECTED IN LEACHATE
NEWPORT DUMP SITE, WILDER, KY**

	ARAR	1st May 88	2nd Aug. 88	3rd Nov. 88	4th Mar. 89	5th Dec. 89	6th Mar. 90	5YR Mar. 92 [∞]
ORGANICS								
BENZOTRIAZOLE	n/a	--	80JN	NA	NA	NA	NA	--
BIS(METHYLETHENYL)BENZENE	n/a	--	--	NA	NA	NA	NA	1JN
CAPROLACTAM	n/a	--	--	NA	NA	NA	NA	40JN
ISOCYANATOMETHYLBENZENE	n/a	--	40JN	NA	NA	NA	NA	--
PROPENAL	n/a	--	20JN	NA	NA	NA	NA	--
BENZENE	5	1J	--	NA	--	--	--	--
CHLOROBENZENE	100	4J	--	NA	--	--	--	--
1,4-DICHLOROBENZENE	75	--	--	NA	--	--	--	1.7J
ETHYLBENZENE	700	2J	--	NA	--	--	--	--
STRENE	100	24	--	NA	--	--	--	--
TRINETHYLBICYCLOHEPTANONE	n/a	--	--	NA	--	5JN	--	--
UNIDENTIFIED COMPOUND	n/a	--	--	NA	--	30J	--	--

ARAR = Applicable or Relevant and Appropriate Regulations are the Drinking Water Standards Maximum Contaminant Level, December 1992;

{ } = Alternate Concentration Limits

All values are in $\mu\text{g/l}$

N = Presumptive evidence of presence of material

J = Estimated value

∞ = Sample taken from holding tank, may not be representative
of the conditions of the underground leachate.

n/a = ARAR not available

-- = Not detected

NA = Not Analyzed

APPENDIX B

SURFACE WATER SAMPLING DATA TABLES

**TABLE B.1 CONTAMINANTS DETECTED IN SW-01 LICKING RIVER (UPSTREAM)
NEWPORT DUMP SITE, WILDER, KY**

	ARAR	1st May 88	2nd Aug. 88	3rd Nov. 88	4th Mar. 89	5th Dec. 89	6th Mar. 90	5YR Mar. 92
INORGANICS								
ALUMINUM	[87]	210	440	--	1,200	--	690	2,800
BARIUM	(1000)	16	--	41	31	24	--	38
CADMIUM	[.66]*	--	--	--	6	7	--	--
CALCIUM	n/a	41,000	34,000	35,000	32,000	41,000	23,000	50,000
COBALT	n/a	--	--	--	--	--	--	7
IRON	[(1,000)]	590	810	620	1,800	--	1,400	3,200
LEAD	[1.32]*	2	--	--	--	--	--	5
MAGNESIUM	n/a	9,200	7,200J	8,400	5,800	7,300	5,900	6,900
MANGANESE	(50)	110	91	33J	89	43	84	140
NICKEL	[87.1]*	--	--	--	--	10	--	--
POTASSIUM	n/a	--	2,900	--	1,700	2,500	1,800	3,500
SODIUM	n/a	6,400	10,000	12,000	4,500	5,000	4,200	3,600
VANADIUM	n/a	--	30	--	--	--	--	--

ARAR = Applicable or Relevant and Appropriate Regulations are the Drinking Water Standards Maximum Contaminant Level, July 1992;
 [] = Clean Water Act Ambient Water Quality Criteria for Human Health Fish and Drinking Water, December 1992
 () = Kentucky Administrative Regulations Surface Water Standards, January 1992;

All values are in µg/l

-- = Not deleted

J = Estimated value

Shaded values indicate that the ARAR was exceeded

n/a = ARAR not available

NA = Not Analyzed

* = Hardness Dependent

**TABLE B.2 CONTAMINANTS DETECTED IN SW-02 LICKING RIVER (MIDSTREAM)
NEWPORT DUMP SITE, WILDER, KY**

	ARAR	1st May 88	2nd Aug. 88	3rd Nov. 88	4th Mar. 89	5th Dec. 89	6th Mar. 90	5YR Mar. 92
INORGANICS								
ALUMINUM	[87]	360	830	--	1,200	--	680	2,800
BARIUM	(1000)	16	--	36	32	27	--	41
CADMIUM	.[66]*	--	--	--	--	7	--	--
CALCIUM	n/a	39,000	34,000	35,000	31,000	42,000	24,000	53,000
CHROMIUM	[11]	--	--	--	--	--	10	--
IRON	[(1,000)]	720	1,100	690	2,100	760	1,300	3,700
LEAD	[(1.32)]*	2	--	--	--	--	--	--
MAGNESIUM	n/a	9,000	7,200J	8,400	5,800	7,500	6,100	7,500
MANGANESE	(50)	130	110	36J	110	110	89	180
POTASSIUM	n/a	--	3,200	--	1,400	2,500	1,900	3,600
SODIUM	n/a	6,300	9,800	12,000	4,500	5,200	4,300	3,900

ARAR = Applicable or Relevant and Appropriate Regulations are the Drinking Water Standards Maximum Contaminant Level, July 1992;

[] = Clean Water Act Ambient Water Quality Criteria for Human Health Fish and Drinking Water, December 1992;

() = Kentucky Administrative Regulations Surface Water Standards, January 1992;

All values are in $\mu\text{g/l}$

-- = Not deleted

J = Estimated value

Shaded values indicate that the ARAR was exceeded

n/a = ARAR not available

NA = Not Analyzed

* = Hardness Dependent

**TABLE B.3 CONTAMINANTS DETECTED IN SW-03 LICKING RIVER
(DOWNSTREAM AT THE TAYLOR MILL WATER INTAKE)
NEWPORT DUMP SITE, WILDER, KY**

	ARAR	1st May 88	2nd Aug. 88	3rd Nov. 88	4th Mar. 89	5th Dec. 89	6th Mar. 90	5YR Mar. 92
INORGANICS								
ALUMINUM	[.87]	200	360	--	1,400	--	450	1,900
BARIUM	(1000)	16	--	37	32	25	--	37
CALCIUM	n/a	38,000	--	34,000	31,000	41,000	24,000	50,000
IRON	[(1,000)]	490	370	650	2,300	470	1,100	3,200
LEAD	[1.32]*	2	--	--	--	--	--	--
MAGNESIUM	n/a	8,900	6,800J	8,200	5,800	7,300	6,300	7,000
MANGANESE	(50)	75	63	36J	100	47	88	170
POTASSIUM	n/a	--	2,900	--	1,800	1,900	1,700	3,200
SODIUM	n/a	6,100	11,000	12,000	4,400	5,000	4,200	3,700
ORGANICS								
CARBON DISULFIDE	n/a	--	--	NA	0.9J	--	--	--
TOLUENE	1,000	--	--	NA	0.9J	--	--	--

ARAR = Applicable or Relevant and Appropriate Regulations are the Drinking Water Standards Maximum Contaminant Level, July 1992;
 [] = Clean Water Act Ambient Water Quality Criteria for Human Health - Fish and Drinking Water, December 1992;
 () = Kentucky Administrative Regulations Surface Water Standards, January 1992;

All values are in $\mu\text{g/l}$

-- = Not deleted

J = Estimated value

Shaded values indicate that the ARAR was exceeded

n/a = ARAR not available

NA = Not Analyzed

* = Hardness Dependent

**TABLE B.4 CONTAMINANTS DETECTED IN SURFACE WATER AT INFLUENT END OF CULVERT
ST-02 (RO-3W in RI/FS)
NEWPORT DUMP SITE, WILDER, KY**

	ARAR	RI/FS Nov. 85	5YR March 92
INORGANICS			
ALUMINUM	[.87]	--	1,100
BARIUM	[.00016]	--	170
CALCIUM	n/a	--	78,000
COPPER	[6.54]*	--	8
IRON	[1,000]	--	2,600
LEAD	[1.32]*	61	9
MAGNESIUM	n/a	--	26,000
MANGANESE	(50)	--	360
POTASSIUM	n/a	6,500	5,800
SODIUM	n/a	--	34,000
ORGANICS			
DIMETHYLETHYLPHENOL	n/a	--	5JN

ARAR = Applicable or Relevant and Appropriate Regulations are the Drinking Water Standards Maximum Contaminant Level, July 1992;
 [] = Clean Water Act Ambient Water Quality Criteria for Human Health - Fish and Drinking Water, December 1992;
 () = Kentucky Administrative Regulations Surface Water Standards, January 1992;

All values are in $\mu\text{g/l}$

N = Presumptive evidence of presence of material

J = Estimated value

Shaded values indicate that in the 5 YR, ARAR was exceeded

n/a = ARAR not available

-- = Not detected

NA = Not analyzed

* = Hardness Dependent

TABLE B.5 CONTAMINANTS DETECTED IN SURFACE WATER AT EFFLUENT END OF CULVERT ST-01 (US-4W A&B in RI/FS) NEWPORT DUMP SITE, WILDER, KY				
	ARAR	RI/FS Nov. 85	RI/FS Dec. 85	5YR March 92
INORGANICS				
ALUMINUM	[87]	2,400J	290J	440
BARIUM	(1000)	--	180	130
CALCIUM	n/a	90,000J	110,000	99,000
IRON	[(1000)]	5,700J	6,100	2,400
LEAD	[1.32]*	40J	12	--
MAGNESIUM	n/a	42,000J	64,000	35,000
MANGANESE	[30]	R	1,100	440
POTASSIUM	n/a	7,000J	18,000	6,000
SODIUM	n/a	75,000J	120,000J	51,000
SULFATE	n/a	NA	100,000	NA
ZINC	[58.91]*	80J	22	--
ORGANICS				
BENZOTRIAZOLE	n/a	--	R	10JN
UNIDENTIFIED COMPOUNDS	n/a	500J	R	20J

ARAR = Applicable or Relevant and Appropriate Regulations are the Drinking Water Standards Maximum Contaminant Level, July 1992;
 [] = Clean Water Act Ambient Water Quality Criteria for Human Health - Fish and Drinking Water, December 1992;
 () = Kentucky Administrative Regulations Surface Water Standards, January 1992;

All values are in µg/l

N = Presumptive evidence of presence of material

J = Estimated value

Shaded values indicate that in the 5 YR, ARAR was exceeded

R = Data unusable

n/a = ARAR not available

-- = Not detected

NA = Not analyzed

* = Hardness Dependent

**TABLE B.6 CONTAMINANTS DETECTED IN SURFACE WATER IN UNNAMED STREAM
(UPSTREAM OF CULVERT, ADJACENT TO SITE)
SW-01 (MARCH 1992)[US-3W IN RI/FS]
NEWPORT DUMP SITE, WILDER, KY**

	ARAR	RI/FS Nov. 85	5YR Mar. 92
INORGANICS			
ALUMINUM	[87]	1,300	360
BARIUM	(1000)	56	67
CALCIUM	n/a	107,000	15,000
IRON	[(1000)]	2,300	1,200
MAGNESIUM	n/a	27,000	50,000
MANGANESE	[50]	280	1,700
POTASSIUM	n/a	3,700	3,400
SODIUM	n/a	56,000	45,000

ARAR = Applicable or Relevant and Appropriate Regulations are the Drinking Water Standards Maximum Contaminant Level, July 1992;
 [] = Clean Water Act Ambient Water Quality Criteria for Human Health - Fish and Drinking Water, December 1992;
 () = Kentucky Administrative Regulations Surface Water Standards, January 1992;

All values are in µg/l

-- = Not detected

* = Hardness Dependent

n/a = ARAR not available

Shaded values indicate that in the 5 YR, the ARAR was exceeded

APPENDIX C
SEDIMENT SAMPLING DATA TABLES

**TABLE C.1 CONTAMINANTS DETECTED IN SEDIMENT AT INFLUENT END OF CULVERT
SS-01 (RO-3S in RI/FS)
NEWPORT DUMP SITE, WILDER, KY**

	ACL OR SCREENING VALUES	RI/FS Nov. 85	5YR March 92
INORGANICS			
ALUMINUM	n/a	12,000	2,900
ARSENIC	---14---	18	9.7
BARIUM	---200---	730	40
CADMIUM	[5 - 9]	10	1.8
CALCIUM	n/a	24,000	64,000
CHROMIUM	---24---	21	6
COBALT	n/a	240	9.7
COPPER	[70 - 390]	34	--
IRON	n/a	30,000	15,000
LEAD	[35 - 110]	R	99
MAGNESIUM	n/a	7,600	10,000
MANGANESE	n/a	770	780
NICKEL	---61---	470	14
POTASSIUM	n/a	2,200	540
SODIUM	n/a	7,200	--
ZINC	[120 - 270]	520	71J
ORGANICS			
UNIDENTIFIED COMPOUNDS	n/a	--	5000JJ

---#--- = Acceptable levels for the contaminants of concern that were defined in the ROD.
| | = NOAA Effects Range - Low (ER-L) and Effects Range - Median (ER-M).
Shaded values exceeded the ACL or the NOAA ER-L.

All values are in mg/kg
-- = Not Detected
NA = Not Analyzed

J = Estimated Value
R = Data Unusable
n/a = Not Applicable

**TABLE C.2 CONTAMINANTS DETECTED IN SEDIMENT AT EFFLUENT END OF CULVERT
SS-03 (US-4S A&B in RI/FS)
NEWPORT DUMP SITE, WILDER, KY**

	ACL OR SCREENING VALUES	RI/FS Nov. 85	RI/FS Dec. 85	5YR March 92
INORGANICS				
ALUMINUM	n/a	5,400J	2,400J	5,000
ARSENIC	---14---	6J	--	14
BARIUM	---200---	--	--	73
CADMIUM	[5 - 9]	--	--	3.6
CALCIUM	n/a	46,000J	57,000	67,000
CHROMIUM	---24---	R	--	12
COBALT	n/a	R	--	27
COPPER	[70 - 390]	14J	--	--
IRON	n/a	20,000J	12,000	27,000
LEAD	[35 - 110]	79J	44	67
MAGNESIUM	n/a	10,000J	13,000	14,000
MANGANESE	n/a	R	450	910
NICKEL	---61---	32J	--	61
POTASSIUM	n/a	1,000J	--	860
SODIUM	n/a	240J	--	870
VANADIUM	n/a	10J	19	28
ZINC	[120 - 270]	210J	58	91J
ORGANICS				
UNIDENTIFIED COMPOUNDS	n/a	17J	R	3J

---#--- = Acceptable levels for the contaminants of concern that were defined in the ROD.

| | = NOAA Effects Range - Low (ER-L) - Effects Range - Median (ER-M).

Shaded values exceeded the ACL or the NOAA ER-L.

All values are in mg/kg

n/a = not applicable

-- = Not detected

J = Estimated value

R = Data unusable

**TABLE C.3 CONTAMINANTS DETECTED IN SEDIMENT IN UNNAMED STREAM
(UPSTREAM OF CULVERT, ADJACENT TO SITE)
SS-02 (US-3S in RI/FS)
NEWPORT DUMP SITE, WILDER, KY**

	ACL OR SCREENING VALUES	RI/FS Nov. 85	5YR March 92
INORGANICS			
ALUMINUM	n/a	11,000	15,000
ARSENIC	---14---	--	8.9
BARIUM	---200---	81	100
BERYLLIUM	n/a	--	1.8
CALCIUM	n/a	19,000	47,000
CHROMIUM	---24----	11	1,600
COBALT	n/a	--	11
COPPER	[70 - 390]	--	27
IRON	n/a	28,000	39,000
LEAD	[35 - 110]	17	15
MAGNESIUM	n/a	7,700	14,000
MANGANESE	n/a	570	4,900
NICKEL	---61---	24	27
POTASSIUM	n/a	1,500	2,700
SILVER	[1 - 2.2]	--	1.4J
VANADIUM	--	--	400
ZINC	[120 - 270]	57	120J
ORGANICS			
OCTADECANOIC ACID	n/a	--	0.2JN
UNIDENTIFIED COMPOUNDS	n/a	3J	10J

---#--- = Acceptable levels for the contaminants of concern that were defined in the ROD.

| | = NOAA Effects Range - Low (ER-L) - Effects Range - Median (ER-M).

Shaded values exceeded the ACL or the NOAA ER-L.

All values are in mg/kg

n/a = not applicable

N = Presumptive evidence of presence of material

-- = Not detected

J = Estimated value

**TABLE C.4 CONTAMINANTS DETECTED IN SEDIMENT IN UNNAMED STREAM
(AT CONFLUENCE WITH THE LICKING RIVER)
SS-04 (US-6S in RI/FS)
NEWPORT DUMP SITE, WILDER, KY**

	ACL OR SCREENING VALUES	RI/FS Nov. 85	5YR March 92
INORGANICS			
ALUMINUM	n/a	8,400	14,000
ARSENIC	---14---	--	5.9
BARIUM	---200---	86	98
CALCIUM	n/a	11,000	11,000
CHROMIUM	---24---	--	22
COBALT	n/a	--	17
IRON	n/a	22,000	32,000
LEAD	[35 - 110]	140	24
MAGNESIUM	n/a	3,100	3,700
MANGANESE	n/a	710	1,500
NICKEL	---61---	--	27
POTASSIUM	n/a	2,200	2,200
VANADIUM	n/a	--	30
ZINC	[120 - 270]	74	74J
ORGANICS			
UNIDENTIFIED COMPOUNDS	n/a	3J	10J

---#--- = Acceptable levels for the contaminants of concern that were defined in the ROD.

| | = NOAA Effects Range - Low (ER-L) - Effects Range - Median (ER-M).

Shaded values exceeded the ACL or the NOAA ER-L.

All values are in mg/l

n/a = not applicable

N = Presumptive evidence of presence of material

-- = Not detected

J = Estimated value

APPENDIX D
GAS SAMPLING DATA TABLES

**TABLE D.1 CONTAMINANTS DETECTED IN GW-01
NEWPORT DUMP SITE, WILDER, KY**

	LEL	2nd Aug. 88	3rd Nov. 88	4th Mar. 89	5th Dec. 89	6th Mar. 90	5YR March 92
PERCENT METHANE	5	--	4.05J	--	--	0.0061	-- / --
ACETONE	2.5	20JN	--	--	NA	NA	NA/NA
BENZYL CHLORIDE	1.1	--	--	--	NA	--	-- / 2
BROMOCHLOROMETHANE	n/a	--	--	47	NA	--	-- / --
1,2-DIBROMOETHANE	n/a	--	--	--	NA	--	-- / 2
1,2-DICHLOROBENZENE	2.2	--	--	--	NA	--	-- / 2
1,3-DICHLOROBENZENE	x	--	--	--	NA	--	-- / 2
1,4-DICHLOROBENZENE	?	--	--	--	NA	--	-- / 2
DICHLORODIFLUOROMETHANE	n/a	36	--	--	NA	--	-- / --
1,2-DICHLOROETHANE	6.2	--	--	18J	NA	--	-- / --
DICHLOROTETRAFLUOROETHANE	n/a	--	--	--	NA	4.1J	-- / --
FREON 11	n/a	--	30J	--	NA	--	0.51J / 0.49
FREON 12	n/a	--	--	--	NA	--	5.1 / 6
FREON 113	?	--	--	--	NA	--	-- / 2
FREON 114	n/a	3	--	--	NA	--	1.1J / 1.6
HEXACHLOROBUTADIENE	x	--	--	--	NA	--	-- / 2
HEXANAL	x	6JN	--	--	NA	--	-- / --
METHYLENE CHLORIDE	14	6	--	770JN	4J	--	-- / --
PHENOL	1.8	--	--	--	NA	--	-- / 4JN
1,2,4-TRICHLOROBENZENE	x	--	--	--	NA	--	-- / 2
1,1,2-TRICHLOROETHANE	n/a	--	--	13J	NA	--	-- / --
1,2,4-TRIMETHYLBENZENE	x	--	--	--	NA	--	-- / 2
1,3,5-TRIMETHYLBENZENE	x	--	--	--	NA	--	-- / 2
UNIDENTIFIED COMPOUNDS	x	6J	--	--	NA	--	2J / 4J
XYLENES (TOTAL)	**	--	37J	--	--	--	-- / --

Notes:

Two samples were collected for each well in the five year event, the two values are shown for each contaminant.

All values are in ppbv except for methane and LELs, which are in percent.

LEL = Lower explosive limit

-- = undetected

? = unknown [NIOSH, 1990]

** = o-xylene 1.1/ m-xylene 1.0/ p-xylene 1.1

N = Presumptive evidence of presence of material

NA = Not Analyzed

n/a = not applicable [NIOSH, 1990]

x = not found

J = Estimated value

**TABLE D.2 CONTAMINANTS DETECTED IN GW-02
NEWPORT DUMP SITE, WILDER, KY**

	LEL	2nd Aug. 88	3rd Nov. 88	4th Mar. 89	5th Dec. 89	6th Mar. 90	5YR March 92
PERCENT METHANE	5	--	1.49J	--	1.8x10 ⁻⁶	0.059	-- / 0.1
ACETONE	2.5	30JN	--	--	NA	NA	NA / NA
BUTENAL	x	6JN	--	--	NA	--	-- / --
2-BUTANONE	1.4	10JN	--	--	NA	--	-- / --
o-DICHLOROBENZENE	2.2	--	46JN	--	NA	--	-- / --
DICHLOROFLUOROMETHANE	n/a	140J	--	--	NA	--	-- / --
FLUOROPROPENE	x	7JN	--	--	NA	--	-- / --
FREON 11	n/a	--	--	--	NA	--	0.43J / 0.48
FREON 12	n/a	--	--	--	NA	--	8.1 / 7.8
FREON 113	?	--	--	--	NA	--	-- / 0.81J
FREON 114	na	7	--	--	NA	--	-- / --
HEPTANAL	x	8JN	--	--	NA	--	-- / --
HEXANAL	x	9JN	--	--	NA	--	-- / --
HEXANE	1.1	--	--	--	NA	--	3JN / --
METHYLENE CHLORIDE	14	5	--	820JN	NA	--	-- / --
METHYL PENTENE	x	7JN	--	--	NA	--	-- / --
METHYLPROPYLHYDROXYLAMINE	x	10JN	--	--	NA	--	-- / --
PHENOL	1.8	--	--	--	NA	--	-- / 3JN
1,1,1-TRICHLOROETHANE	7.5	2J	--	--	NA	--	0.5J / 0.41J
UNIDENTIFIED COMPOUNDS	x	40J	--	--	NA	--	2J / --
XYLENES (TOTAL)	**	--	33J	--	--	--	-- / --

Notes:

Two samples were collected for each well in the five year event, the two values are shown for each contaminant. All values are in ppbv except for methane and LELs, which are in percent.

LEL = Lower explosive limit

-- = undetected

? = unknown [NIOSH, 1990]

** = o-xylene 1.1; m-xylene 1.0; p-xylene 1.1

N = Presumptive evidence of presence of material

NA = Not Analyzed

n/a = not applicable [NIOSH, 1990]

x = not found

J = Estimated value

**TABLE D.3 CONTAMINANTS DETECTED IN GW-03
NEWPORT DUMP SITE, WILDER, KY**

	LEL	2nd Aug. 88	3rd Nov. 88	4th Mar. 89	5th Dec. 89	6th Mar. 90	5YR March 92
PERCENT METHANE	5	19	0.99J	9.7	0.027	43	55 / 56
BENZENE	1.3	170	250J	420	130	--	280 / 320
BENZYL CHLORIDE	1.1	--	620J	--	NA	--	-- / --
BUTYL OCTANOL	x	--	--	3JN	NA	--	-- / --
cis-1,2-DICHLOROETHENE	5.6	160	--	--	NA	--	-- / --
cis-1,3-DICHLOROPROPENE	x	--	120	--	NA	--	-- / --
CHLOROBENZENE	1.3	--	140J	3,000J	2,600J	3,300	5,800 / 6,500J
DECANE	x	5,000JN	--	4JN	NA	3,000JN	-- / --
1,2-DICHLOROBENZENE (o-)	2.2	640J	240JN	1600J	NA	370	-- / --
1,3-DICHLOROBENZENE (m-)	x	--	220J	--	NA	--	-- / --
1,4-DICHLOROBENZENE (p-)	?	160J	72JN	570	NA	--	-- / --
1,2-DICHLOROETHENE	5.6	--	--	240	NA	30J	62J / 69
DICHLORODIFLUOROMETHANE	n/a	--	--	9,800J	NA	--	-- / --
DIMETHYLCYCLOHEXANE	x	--	10JN	--	NA	--	-- / --
DIMETHYLCYCLOPROPANE	x	3,000JN	--	--	NA	--	-- / --
DIMETHYLHEPTANE	x	--	20JN	1JN	NA	--	-- / --
DIMETHYLHEXANE	x	6,000JN	--	--	NA	--	-- / --
DIMETHYLNONANE	x	--	--	2JN	NA	2,000JN	-- / --
DIMETHYLOCTANE	x	1,000JN	500JN	--	NA	1,000JN	-- / --
DIMETHYLOCTATRIENE	x	7,000JN	--	--	NA	--	-- / --
3-ETHYL-2-METHYLHEPTANE	x	--	--	--	NA	--	-- / 10,000JN
ETHYLBENZENE	1.0	2,600	3,600J	6,200J	2,700J	3,400	5,700 / 6,500J
ETHYLCYCLOHEXANE	x	--	--	2JN	NA	--	-- / --
ETHYLDECANOL	x	--	--	--	--	2,000JN	-- / --
ETHYLDIMETHYLCYCLOHEXANE	x	--	300JN	--	NA	--	-- / --

Notes:

Two samples were collected for each well in the five year event, the two values are shown for each contaminant.

All values are in ppbv except for methane and LELs, which are in percent.

LEL = Lower explosive limit

-- = undetected

? = unknown [NIOSH, 1990]

J = Estimated value

Shaded values exceeded the LEL

NA = Not Analyzed

n/a = not applicable [NIOSH, 1990]

x = not found

N = Presumptive evidence of presence of material

**TABLE D.3 (cont.) CONTAMINANTS DETECTED IN GW-03
NEWPORT DUMP SITE, WILDER, KY**

	LEL	2nd Aug. 88	3rd Nov. 88	4th Mar. 89	5th Dec. 89	6th Mar. 90	5YR March 92
ETHYLMETHYLCYCLOHEXANE	x	--	100JN	--	NA	--	-- / --
ETHYLMETHYLCYCLOPENTANE	x	--	2JN	--	NA	--	-- / --
ETHYLMETHYLHEPTANE	x	1,000JN	2,000JN	--	NA	--	-- / --
ETHYLMETHYLHEXANE	x	1,000JN	--	--	NA	--	-- / --
FREON 11	n/a	--	--	--	NA	--	16J
FREON 12	n/a	--	--	--	NA	--	3,800 / 4,400
FREON 114	n/a	--	--	--	NA	--	230 / 260
HEPTANE	1.05	500JN	--	--	NA	--	-- / --
ISOPROPYLBENZENE	0.9	95J	--	310	NA	--	-- / --
p-ISOPROPYLTOLUENE	x	430J	--	1800	NA	--	-- / --
LIMONENE	x	--	1,000JN	--	NA	--	-- / --
METHYLCYCLOHEPTANE	x	--	100JN	--	NA	--	-- / --
METHYLDECANE	x	--	300J	--	NA	--	-- / --
METHYLHEPTANE	x	--	2JN	--	NA	--	-- / --
METHYLMETHYLETHYL CYCLOHEXANE	x	--	1,000JN	--	NA	--	-- / --
METHYLMETHYLETHYLBENZENE	x	--	3,000JN	--	NA	--	-- / --
METHYLNONANE	x	--	1,000JN	--	NA	200JN	-- / --
2-METHYLNONANE	x	--	--	--	NA	--	17,000JN/ 20,000JN
3-METHYLNONANE	x	--	--	--	NA	--	9,000JN / 10,000JN
METHYLOCTANE	x	--	1,000JN	--	NA	--	3,000JN / --
METHYLPROPYLPENTANOL	x	1,000JN	--	--	NA	--	-- / --
NAPHTHALENE	0.9	--	--	110	NA	--	-- / --
NONANE	x	--	--	5JN	NA	--	10,000JN/ 10,000JN
OCTAHYDROMETHYLPENTALENE	x	--	1,000JN	--	NA	--	-- / --

Notes:

Two samples were collected for each well in the five year event, the two values are shown for each contaminant.

All values are in ppbv except for methane and LELs, which are in percent.

LEL = Lower explosive limit

-- = undetected

x = not found

N = Presumptive evidence of presence of material

NA = Not Analyzed

n/a = not applicable [NIOSH, 1990]

J = Estimated value

**TABLE D.3 (cont.) CONTAMINANTS DETECTED IN GW-03
NEWPORT DUMP SITE, WILDER, KY**

	LEL	2nd Aug. 88	3rd Nov. 88	4th Mar. 89	5th Dec. 89	6th Mar. 90	5YR March 92
PINENE	x	--	4,000JN	3JN	NA	--	-- / --
n-PROPYLBENZENE	x	130J	--	--	NA	--	-- / --
PROPYLCYCLOHEXANE	x	--	1,000JN	--	NA	--	9,000JN / 10,000JN
TETRAMETHYLHEXENE	x	1,000JN	--	--	NA	--	-- / --
TOLUENE	1.2	2,000	4,000J	13,000J	1,200	2,000	500 / 550
1,1,2-TRICHLOROETHANE	n/a	--	1,300	--	NA	--	-- / --
TRICHLOROETHYLENE	8	--	46J	--	NA	--	22J / --
1,3,5-TRIMETHYLBENZENE	x	280J	--	2,100	NA	--	-- / --
1,2,4-TRIMETHYLBENZENE	x	600J	3,200J	--	NA	1,000	1,800 / 2,000
TRIMETHYLCYCLOHEXANE	x	--	1,000JN	--	NA	--	-- / --
TRIMETHYLDECANE	x	--	2,000JN	--	NA	--	-- / --
TRIMETHYLHEPTANE	x	2,000JN	--	1JN	NA	--	-- / --
TRIMETHYLHEPTATRIENE	x	--	1,000JN	--	NA	--	-- / --
TRIMETHYLHEXANE	x	2,000JN	--	--	NA	--	-- / --
UNDECANE	x	--	--	--	NA	--	6,000JN / 7,000JN
UNIDENTIFIED COMPOUNDS	x	--	20,000J	2J	NA	40,000J	40,000J / 20,000J
VINYL CHLORIDE	3.6	200	--	1,000	NA	--	-- / --
XYLENES (TOTAL)	**	2,100	5,900J	9,600J	2,700	4,800	4,800 / 5,400

Notes:

Two samples were collected for each well in the five year event, the two values are shown for each contaminant.

All values are in ppbv except for methane and LELs, which are in percent.

LEL = Lower explosive limit

-- = undetected

x = not found

J = Estimated value

NA = Not Analyzed

n/a = not applicable [NIOSH, 1990]

** = o-xylene 1.1; m-xylene 1.0; p-xylene 1.1

N = Presumptive evidence of presence of material

**TABLE D.4 CONTAMINANTS DETECTED IN GW-04
NEWPORT DUMP SITE, WILDER, KY**

	LEL	2nd Aug. 88	3rd Nov. 88	4th Mar. 89	5th Dec. 89	6th Mar. 90	5YR March 92
PERCENT METHANE	5	20	15.4J	28	8x10 ⁵	0.063	0.11 / 0.10
BENZENE	1.3	170	160J	--	15	--	1.3J / 1.4J
CHLOROETHANE	3.8	--	--	--	NA	--	-- / 5.4
CHLOROMETHANE	8.1	--	--	--	NA	--	1.7J / --
DECANE	x	--	--	--	NA	--	30JN / 30JN
1,2-DICHLOROBENZENE	2.2	--	--	--	NA	--	2 / --
DICHLOROETHENE	x	3,000JN	--	--	NA	--	-- / --
1,2-DICHLOROETHENE	5.6	260	--	520	330J	370	81 / 82
cis-1,2-DICHLOROETHENE	x	1,100	--	--	NA	--	-- / --
DIMETHYLCYCLOHEXANE	x	600JN	200JN	--	NA	--	-- / --
DIMETHYLDECANE	x	200JN	--	--	NA	--	-- / --
3,6-DIMETHYLOCTANE	x	--	--	--	NA	--	-- / 7JN
DIMETHYLOCTATRIENE	x	--	50JN	--	NA	--	-- / --
DIMETHYLOCTENE	x	--	50JN	--	NA	--	-- / --
ETHYLBENZENE	1.0	16J	--	--	NA	--	5.7 / 5
ETHYLCYCLOHEXANE	x	--	100JN	--	NA	--	-- / --
ETHYLDIMETHYLCYCLOHEXANE	x	--	--	0.7JN	NA	--	-- / --
ETHYLMETHYLCYCLOHEXANE	x	600JN	100JN	0.2JN	NA	--	-- / --
FREON 11	n/a	--	--	--	NA	--	0.46J / 0.45J
FREON 12	n/a	--	--	--	NA	--	2.9 / 2.8
FREON 114	n/a	19J	--	--	NA	--	0.31J / --
METHYLENE CHLORIDE	14	29JN	--	--	8J	--	-- / --
METHYLMETHYLPROPYL CYCLOPENTANONE	x	300JN	--	--	NA	--	-- / --
2-METHYLNONANE	x	--	--	--	NA	--	20JN / 10JN
3-METHYLNONANE	x	--	--	--	NA	--	8JN / --
METHYLUDECENE	x	300JN	--	--	NA	--	-- / --

Notes:

Two samples were collected for each well in the five year event, the two values are shown for each contaminant.

All values are in ppbv except for methane and LELs, which are in percent.

LEL = Lower explosive limit

-- = undetected

x = not found

N = Presumptive evidence of presence of material

NA = Not Analyzed

n/a = not applicable [NIOSH, 1990]

J = Estimated value

Shaded values exceeded the LEL

**TABLE D.4 (cont.) CONTAMINANTS DETECTED IN GW-04
NEWPORT DUMP SITE, WILDER, KY**

	LEL	2nd Aug. 88	3rd Nov. 88	4th Mar. 89	5th Dec. 89	6th Mar. 90	5YR March 92
NONANE	x	--	--	--	NA	--	20JN / 10JN
OCTAHYDROMETHYLPENTALENE	x	--	100JN	--	NA	--	-- / --
PROPYLCYCLOHEXANE	x	--	50JN	--	NA	--	-- / --
TETRACHLORETHYLENE	x	90	120J	71	38	24J	13 / 14
TOLUENE	1.2	630JN	41J	--	---	--	-- / --
TRICHLOROETHYLENE	8	520	56J	--	11	--	-- / 4.1
TRIDECANE	x	--	--	--	NA	--	9JN / --
1,2,4-TRIMETHYLBENZENE	x	--	--	--	NA	--	2.9 / 2.5
TRIMETHYLCYCLOHEXANE	x	400JN	200JN	2JN	NA	--	-- / --
1,2,4-TRIMETHYLCYCLOHEXANE	x	--	--	--	NA	--	5JN / 4JN
TRIMETHYLOCTANE	x	300JN	50JN	0.7JN	NA	--	-- / --
UNIDENTIFIED COMPOUNDS	x	300J	200J	3J	NA	--	30J / 9J
VINYL CHLORIDE	3.6	410	--	140	27J	--	9.3 / 9.4
XYLENES (TOTAL)	**	140J	20J	--	--	--	6.6 / 6

Notes:

Two samples were collected for each well in the five year event, the two values are shown for each contaminant.

All values are in ppbv except for methane and LELs, which are in percent.

LEL = Lower explosive limit

-- = undetected

** = o-xylene 1.1; m-xylene 1.0; p-xylene 1.1

N = Presumptive evidence of presence of material

NA = Not Analyzed

x = not found

J = Estimated value

**TABLE D.5 CONTAMINANTS DETECTED IN GW-05
NEWPORT DUMP SITE, WILDER, KY**

	LEL	2nd Aug. 88	3rd Nov. 88	4th Mar. 89	5th Dec. 89	6th Mar. 90	5YR March 92
PERCENT METHANE	5	--	0.08J	0.0002	3.4x10 ⁻⁶	.013	NA
CARBON DISULFIDE	1.3	40JN	--	--	NA	--	NA
CHLOROETHANE	3.8	--	--	--	3J	--	NA
HEXANE	1.1	8JN	--	--	NA	--	NA
METHYLENE CHLORIDE	14	3	--	--	NA	--	NA
THIIRANE	x	100JN	--	--	NA	--	NA
1,2,3-TRICHLOROBENZENE	x	1J	--	--	NA	--	NA
1,2,4-TRICHLOROBENZENE	x	1J	--	--	NA	--	NA
1,1,1-TRICHLOROETHANE	7.5	1J	--	--	NA	--	NA
UNIDENTIFIED COMPOUNDS	x	100J	--	--	NA	--	NA
VINYL CHLORIDE	3.6	6	--	--	NA	--	NA

Notes:

Two samples were collected for each well in the five year event, the two values are shown for each contaminant.

All values are in ppbv except for methane and LELs, which are in percent.

LEL = Lower explosive limit

-- = undetected

J = Estimated value

NA = Not Analyzed

x = not found

N = Presumptive evidence of presence of material

**TABLE D.6 CONTAMINANTS DETECTED IN GW-06
NEWPORT DUMP SITE, WILDER, KY**

	LEL	2nd Aug. 88	3rd Nov. 88	4th Mar. 89	5th Dec. 89	6th Mar. 90	5YR March 92
PERCENT METHANE	5	1.8	4.24J	0.17	5.6x10 ⁻⁴	0.047	0.60 / 0.58
BENZENE	1.3	--	--	--	NA	--	-- / 1.5J
BUTYLCYCLOOCTANE	x	9JN	--	--	NA	--	-- / --
BUTYLPROPYL CYCLOPENTANE	x	--	--	2JN	NA	--	-- / --
CHLOROETHANE	3.8	2J	--	--	NA	--	-- / --
CYCLOHEXANE	1.3	--	8JN	2JN	NA	--	-- / --
DIMETHYLBUTANE	x	--	--	1JN	NA	--	-- / --
DIMETHYLCYCLOHEXANE	x	10JN	8JN	--	NA	--	-- / --
DIMETHYLCYCLOOCTANE	x	10JN	--	--	NA	--	-- / --
1,2-DIMETHYLCYCLOPENTANE	x	--	--	--	NA	--	-- / 7JN
DIMETHYLCYCLOPENTANE	x	--	5JN	--	NA	--	-- / --
DIMETHYLOCTANE	x	8JN	--	--	NA	--	-- / --
DIMETHYLOCTENE	x	--	8JN	--	NA	--	-- / --
ETHYLCYCLOHEXANE	x	--	5JN	--	NA	--	-- / --
ETHYLMETHYLCYCLOHEXANE	x	8JN	8JN	--	NA	--	-- / --
FREON 11	n/a	--	--	--	NA	--	0.45J / 0.42J
FREON 113	?	--	--	--	NA	--	0.84J / 0.62J
FREON 114	n/a	2J	--	--	NA	--	-- / --
1,3,5-HEPTATRIENE	x	--	--	--	NA	--	9JN
3-METHYL 1,3,5-HEXATRIENE	x	--	--	--	NA	--	-- / 30JN
2-METHYL 1,3 BUTADIENE	x	--	--	--	NA	--	20JN / 20JN
METHYLBUTANE	x	--	--	2JN	NA	--	-- / --
2-METHYLBUTANE	x	--	--	--	NA	--	30JN / 30JN
METHYLCYCLOHEXANE	1.2	30JN	10JN	2JN	NA	--	-- / --
METHYLCYCLOPENTANE	x	--	10JN	5JN	NA	--	8JN / 10JN
METHYLENE CHLORIDE	14	--	--	--	4J	--	-- / --

Notes:

Two samples were collected for each well in the five year event, the two values are shown for each contaminant.

All values are in ppbv except for methane and LELs, which are in percent.

LEL = Lower explosive limit

-- = undetected

? = unknown [NIOSH, 1990]

J = Estimated value

NA = Not Analyzed

n/a = not applicable [NIOSH, 1990]

x = not found

N = Presumptive evidence of presence of material

**TABLE D.6 (cont.) CONTAMINANTS DETECTED IN GW-06
NEWPORT DUMP SITE, WILDER, KY**

	LEL	2nd Aug. 88	3rd Nov. 88	4th Mar. 89	5th Dec. 89	6th Mar. 90	5YR March 92
NITROPENTANE	x	--	--	2JN	NA	--	-- / --
OCTAHYDROMETHYLPENTALENE	x	--	8JN	--	NA	--	-- / --
1,2,3-TRICHLOROBENZENE	x	1J	--	24	NA	--	-- / --
1,2,4-TRICHLOROBENZENE	x	1J	--	18	NA	--	-- / --
TRICHLOROETHANE	x	--	43	--	NA	--	-- / --
2,3,6-TRIMETHYL-4-OCTENE	x	--	--	--	NA	--	-- / 5JN
1,2,4-TRIMETHYLBENZENE	x	--	--	--	--	5.1J	-- / --
TRIMETHYLCYCLOHEXANE	x	9JN	10JN	--	NA	--	-- / --
1,2,3-TRIMETHYLCYCLOHEXANE	x	--	--	--	NA	--	5JN
TRIMETHYLHEXANE	x	4JN	--	--	NA	--	-- / --
UNIDENTIFIED COMPOUNDS	x	1,000J	80J	2J	NA	--	40J / 30J
VINYL CHLORIDE	3.6	10	--	45	NA	--	-- / --
XYLENE (TOTAL)	**	--	--	14N	--	6.5J	-- / --

Notes:

Two samples were collected for each well in the five year event, the two values are shown for each contaminant.

All values are in ppbv except for methane and LELs, which are in percent.

LEL = Lower explosive limit

NA = Not Analyzed

-- = undetected

x = not found

** = o-xylene 1.1; m-xylene 1.0; p-xylene 1.1

J = Estimated value

N = Presumptive evidence of presence of material

**TABLE D.7 CONTAMINANTS DETECTED IN GW-07
NEWPORT DUMP SITE, WILDER, KY**

	LEL	2nd Aug. 88	3rd Nov. 88	4th Mar. 89	5th Dec. 89	6th Mar. 90	5YR March 92
PERCENT METHANE	5	22	1.07	22	0.11	67	75 / 74
BENZENE	1.3	111J	--	--	260	190	330 / 380
BUTYLCYCLOOCTANE	x	400JN	--	--	NA	--	-- / --
CHLORODIFLUOROETHENE	x	--	--	--	NA	200JN	-- / --
DECAHYDRONAPHTHALENE	x	--	--	--	NA	100JN	-- / --
DIMETHYLCYCLOHEXANE	x	500JN	50JN	--	NA	1,000JN	-- / 2,000JN
DIMETHYLDECANE	x	--	--	--	NA	30JN	-- / --
DIMETHYLOCTANE	x	--	--	2JN	NA	--	-- / --
DIMETHYLUNDECANE	x	--	--	0.7JN	NA	--	-- / --
ETHYLCYCLOHEXANE	x	--	100JN	--	NA	--	3,000JN / --
ETHYLMETHYLCYCLOHEXANE	x	600JN	100JN	0.9JN	NA	--	-- / --
ETHYLMETHYLCYCLOPENTANE	x	--	--	2JN	NA	--	-- / --
ETHYLPROPYCYCLOHEXANE	x	--	--	1JN	NA	--	-- / --
FREON 12	n/a	--	--	--	NA	--	190 / 170
METHYL(METHYLETHYL) CYCLOHEXANONE	x	--	--	--	NA	90JN	-- / --
METHYL(METHYLPROPYL) CYCLOPENTANE	x	--	--	0.7JN	NA	--	-- / --
1-METHYL-2-PROPYLCYCLOHEXANE	x	--	--	--	NA	--	4,000JN / 4,000JN
METHYLCYCLOHEXANE	1.2	2,000JN	50JN	0.7JN	NA	--	-- / --
METHYLHEPTANE	x	400JN	--	--	NA	--	-- / --
3-METHYLNONANE	x	--	--	--	NA	--	4,000JN / 4,000JN
METHYLOCTANE	x	--	--	--	NA	200JN	-- / --
OCTAHYDROMETHYLPENTALENE	x	--	200JN	--	NA	--	-- / --
PROPYLCYCLOHEXANE	x	--	200JN	--	NA	--	-- / 5,000JN
TOLUENE	1.2	--	--	--	78	--	14J / 10J
1,2,4-TRIMETHYLBENZENE	x	--	--	--	NA	65	-- / --

Notes:

Two samples were collected for each well in the five year event, the two values are shown for each contaminant.

All values are in ppbv except for methane and LELs, which are in percent.

LEL = Lower explosive limit

-- = undetected

x = not found

N = Presumptive evidence of presence of material

NA = Not Analyzed

n/a = not applicable [NIOSH, 1990]

J = Estimated value

Shaded values exceeded the LEL

**TABLE D.7 (cont.) CONTAMINANTS DETECTED IN GW-07
NEWPORT DUMP SITE, WILDER, KY**

	LEL	2nd Aug. 88	3rd Nov. 88	4th Mar. 89	5th Dec. 89	6th Mar. 90	5YR March 92
TRIMETHYLCYCLOHEXANE	x	--	50JN	--	NA	--	-- / --
TRIMETHYLDECANE	x	--	100JN	--	NA	--	-- / --
TRIMETHYLHEXANE	x	--	--	--	NA	40JN	-- / --
TRIMETHYLOCTANE	x	400J	--	--	NA	60JN	-- / --
TRIMETHYLPENTENE	x	--	--	0.7JN	NA	--	-- / --
UNIDENTIFIED COMPOUNDS	x	5,000J	1,000J	--	NA	--	30,000J / 20,000J
XYLENES (TOTAL)	**	--	--	--	--	24	-- / --

Notes:

Two samples were collected for each well in the five year event, the two values are shown for each contaminant.

All values are in ppbv except for methane and LELs, which are in percent.

LEL = Lower explosive limit

NA = Not Analyzed

-- = undetected

x = not found

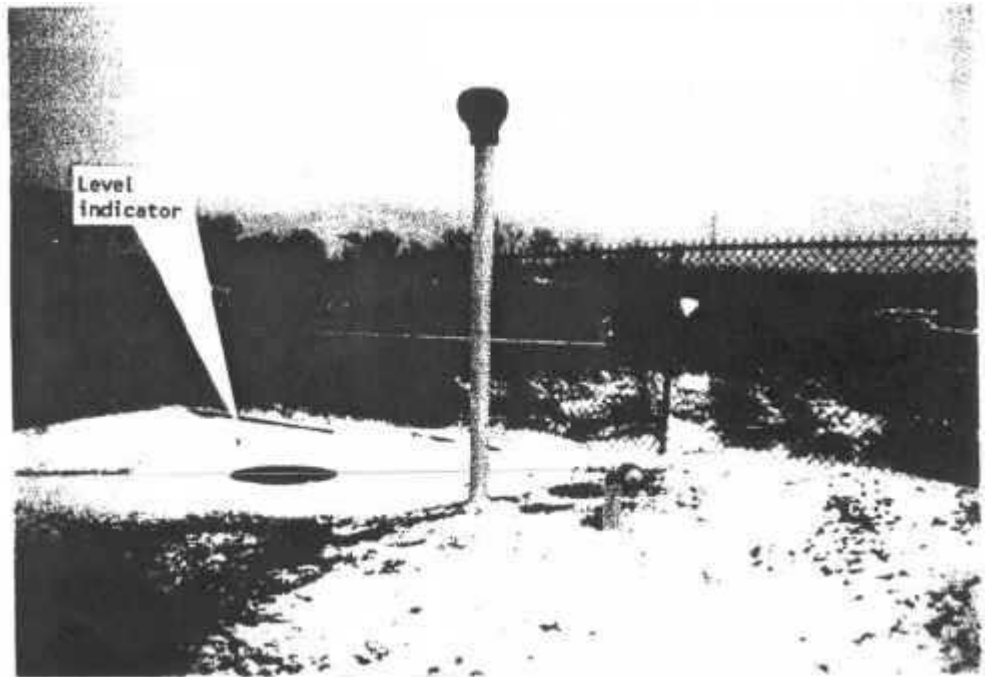
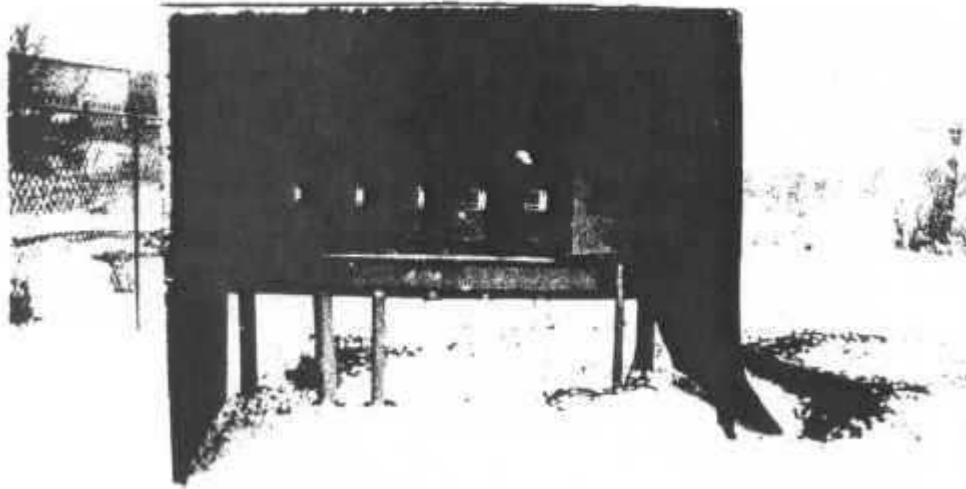
** = o-xylene 1.1; m-xylene 1.0; p-xylene 1.1

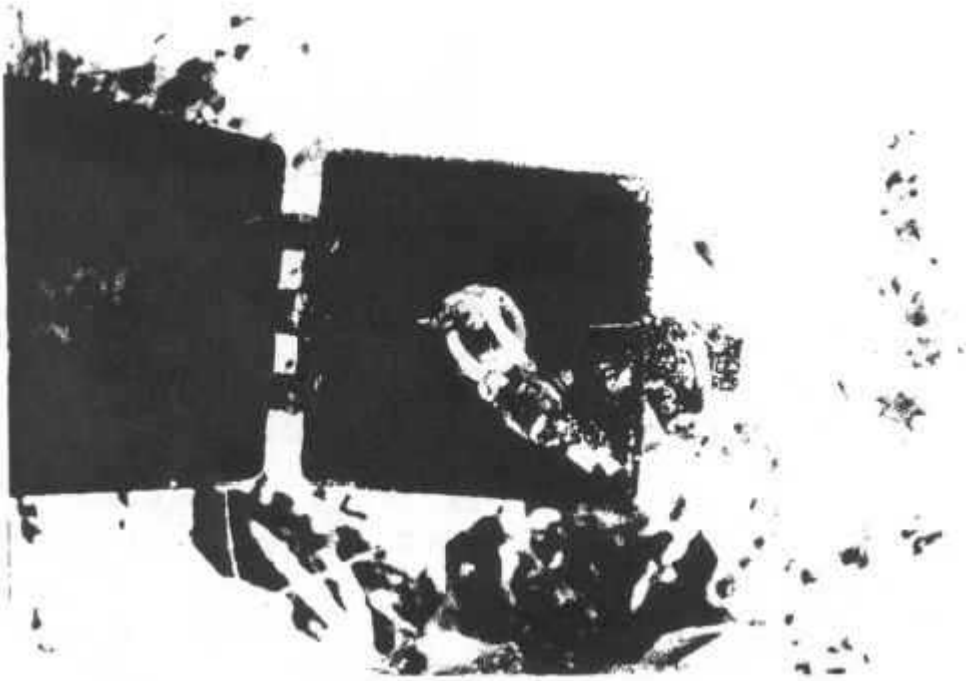
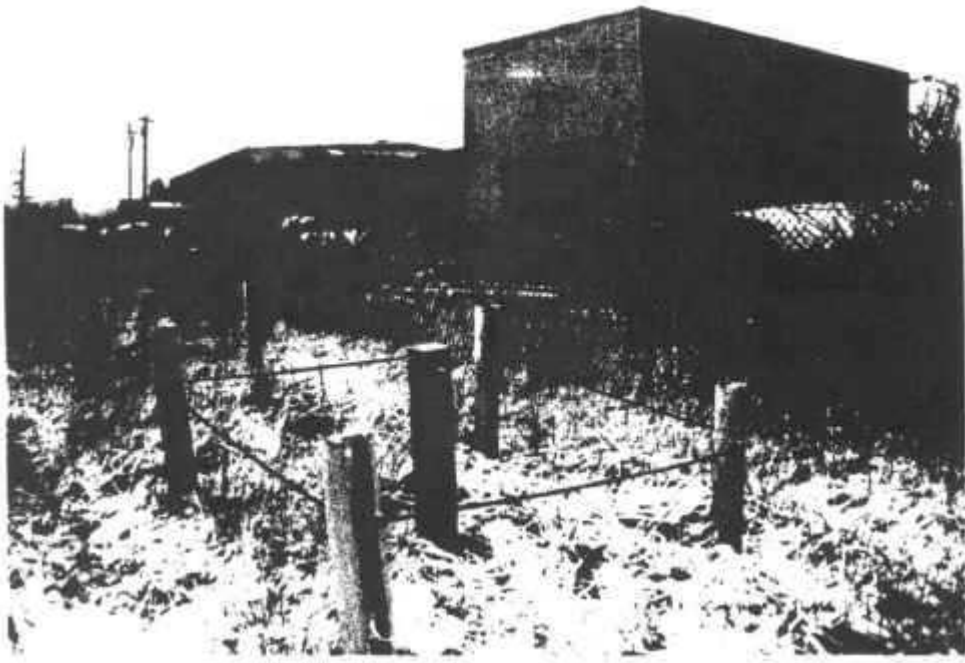
J = Estimated value

N = Presumptive evidence of presence of material

*Five-Year Review
Newport Dump
July 1993*

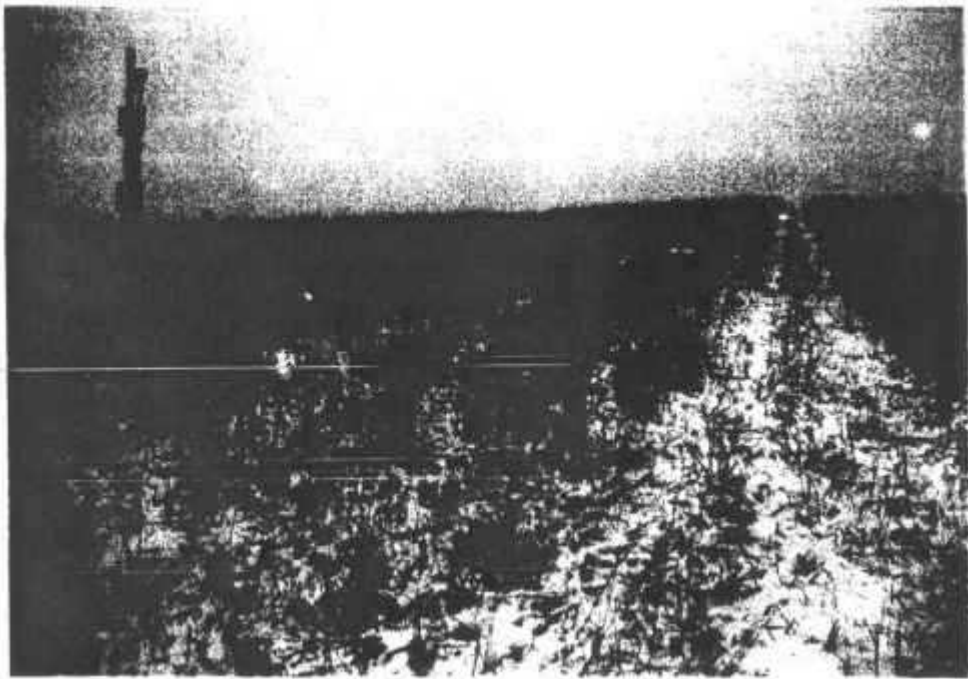
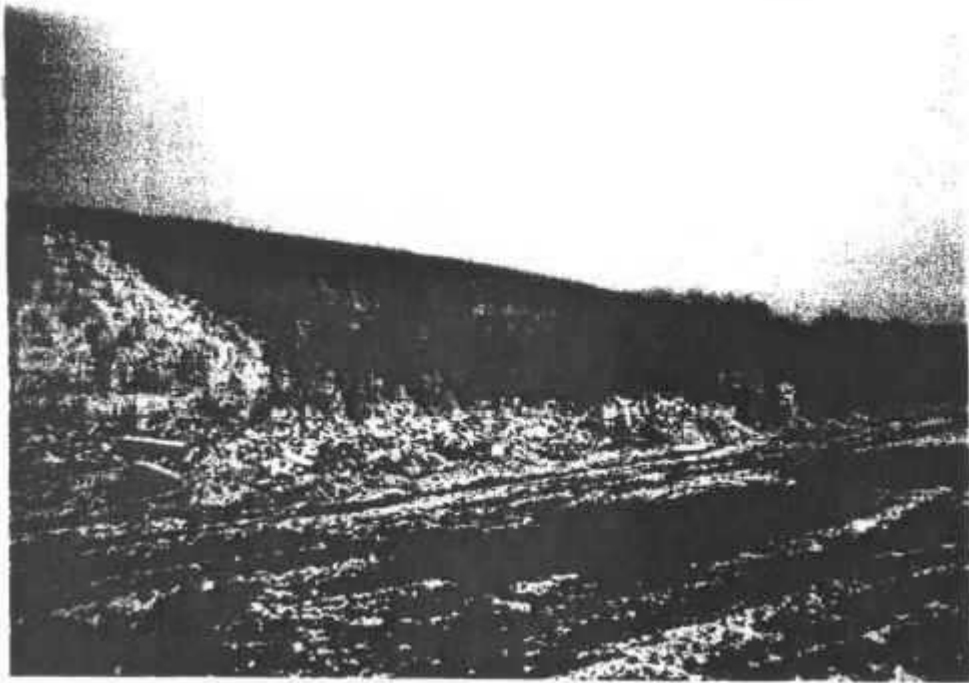
APPENDIX E
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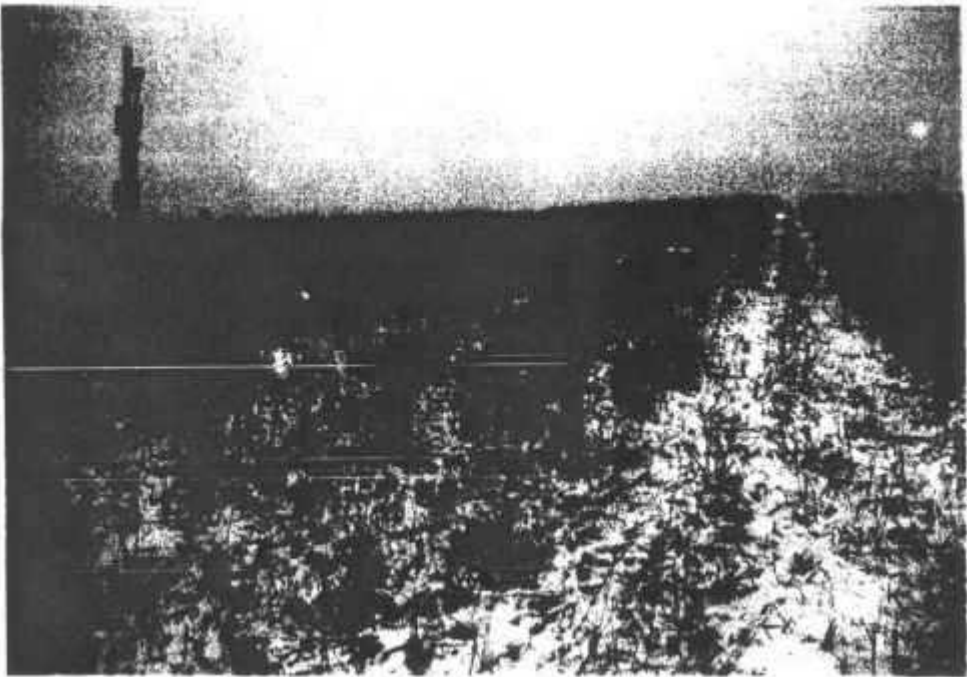
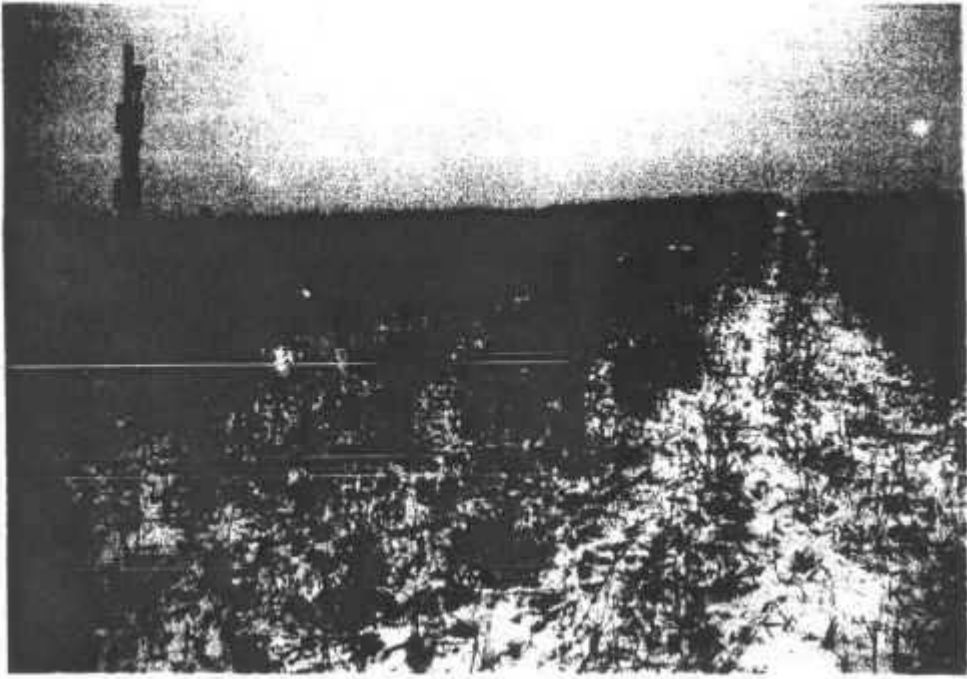


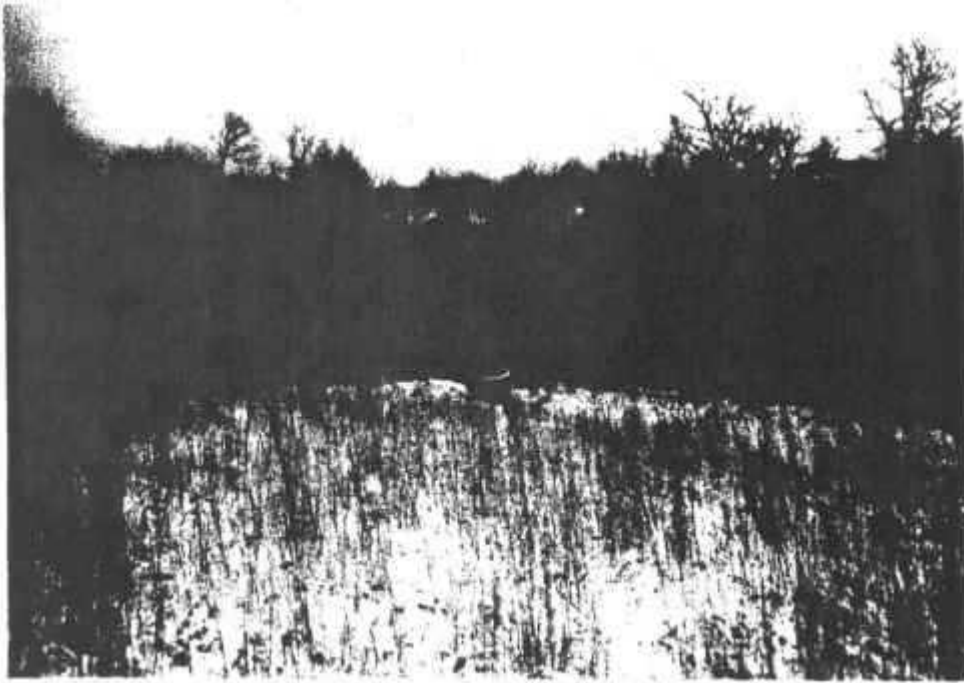


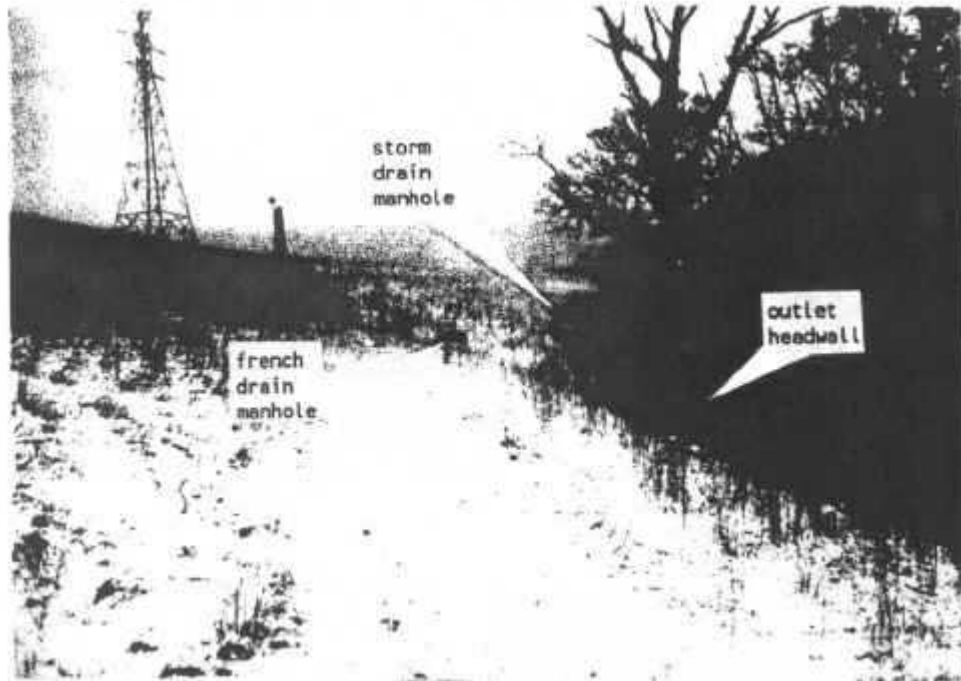


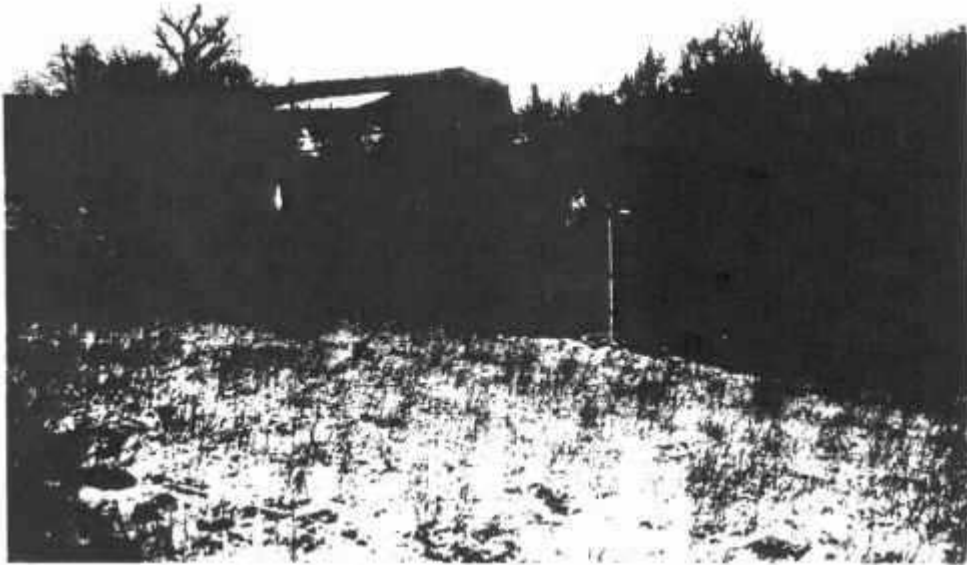
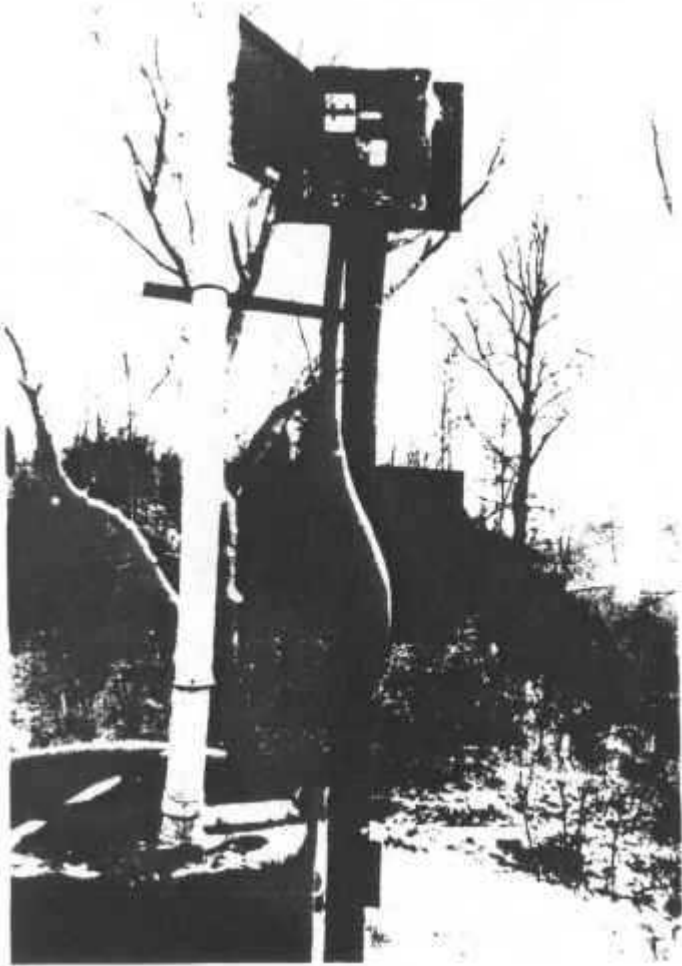




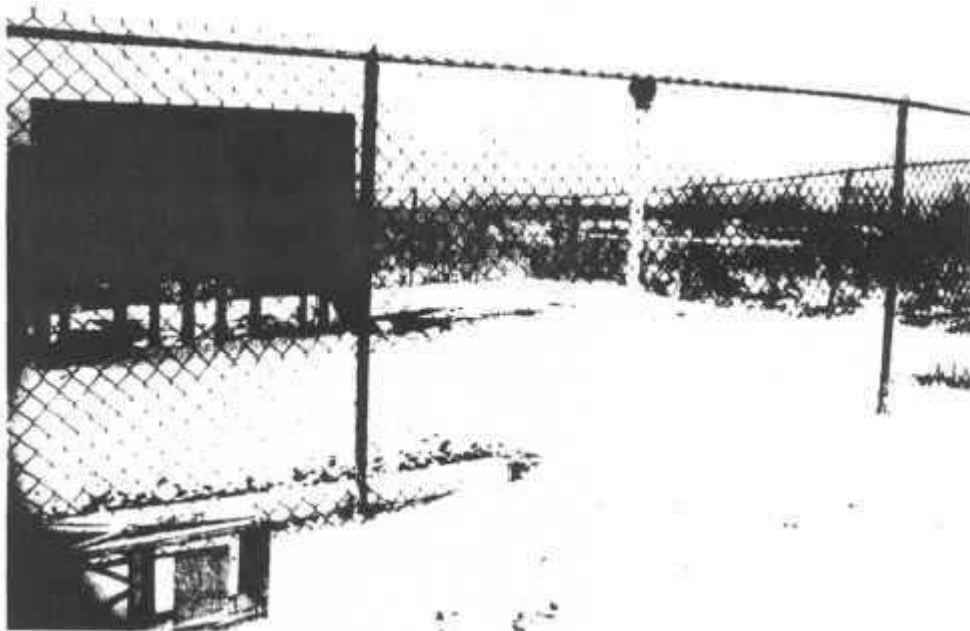
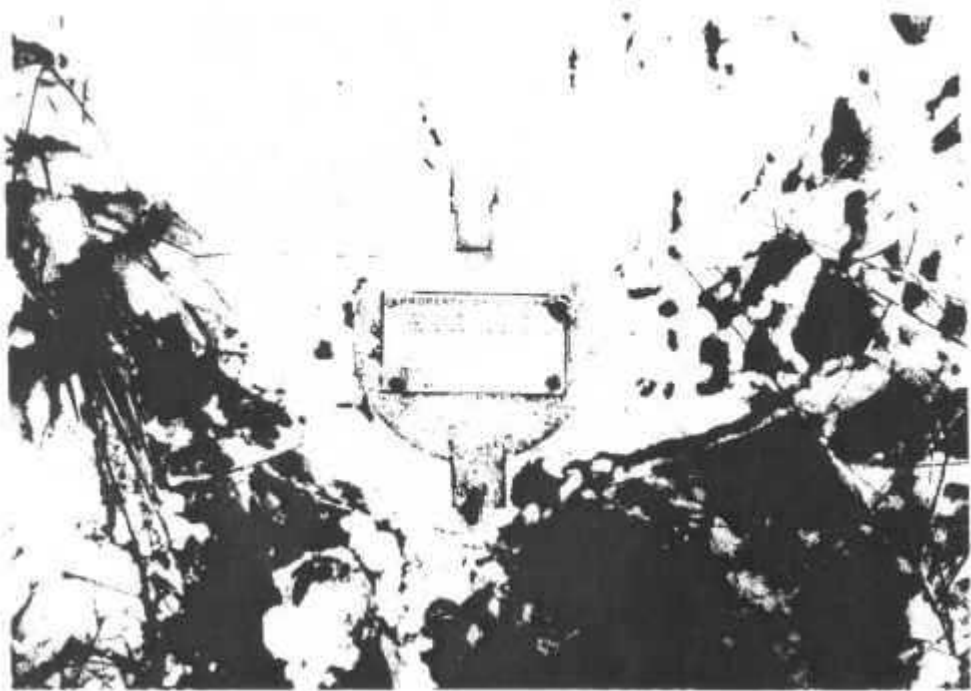


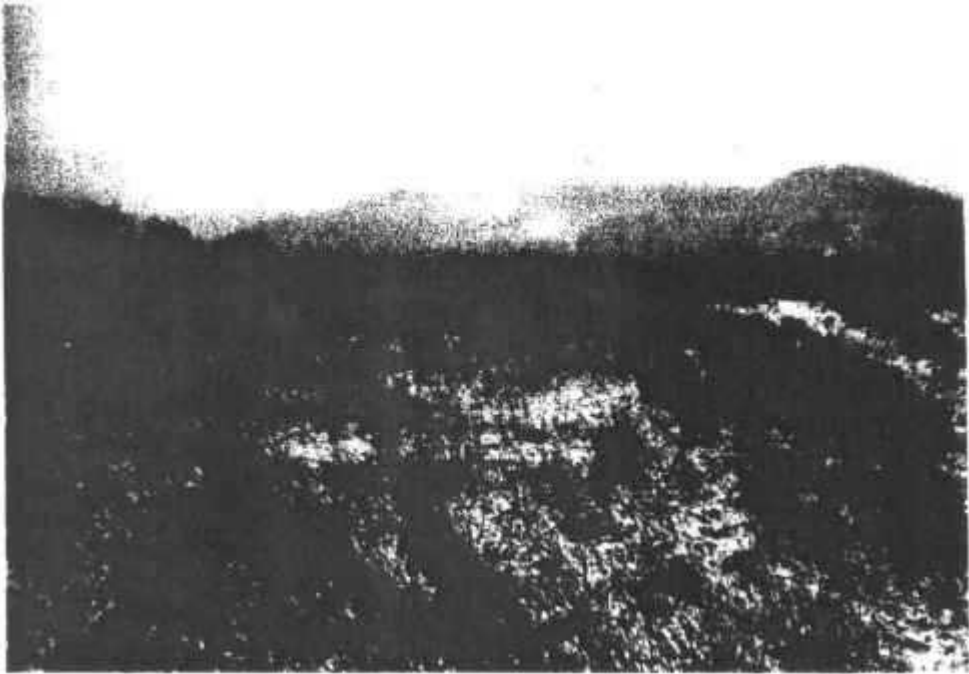












*Five-Year Review
Newport Dump
July 1993*

APPENDIX F

SITE TRIP REPORT - DECEMBER 1991

**SITE TRIP REPORT
FOR THE
NEWPORT DUMP SITE
WILDER, KENTUCKY**

*(Contract No. 68-W9-0029)
Work Assignment C04021A*

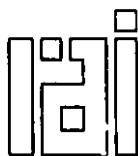
Submitted to:



**U. S. ENVIRONMENTAL PROTECTION AGENCY
REGION IV**

December 30, 1991

Submitted by:



RESOURCE APPLICATIONS, INC.

Engineers • Scientists • Planners

1000 Cambridge Square, Ste.D

Alpharetta, GA 30201

(404) 664-3618

Newport Dump Site Visit Report

The activities that took place during RAI's visit to the Newport Dump site in Wilder, Kentucky are listed in chronological order below:

Sunday, December 15, 1991 :

- RAI mobilized to the site from Brooks, Kentucky.
- A brief visual site inspection was performed, and an attempt was made to locate all of the groundwater monitoring wells.
- A broken chain was observed at the entrance to the site, which apparently used to be stretched across the entrance to prevent vehicular access.

Monday, December 16, 1991 : Weather: clear, cold, approx. 20° to 30°F
 Personnel: Robert Smith (RAI)
 Mark Goldstein (RAI)

-A more detailed visual inspection of the site was performed in the morning. The site seemed to be in good condition except for some open excavation on the west side of the site apparently for the installation of a sanitary sewer line. The excavation is composed of open trenches through the waste, with exposed waste lying around the open trenches. There was no excavation equipment or personnel at the site.

-The location of most of the groundwater and gas wells was confirmed. All wells appeared to be in good condition.

-Two representatives of the Kentucky Department of Waste Management arrived at the site to meet the EPA RPM. She was not available and they drove around the site and departed.

-The sumps and manholes for the leachate collection system were located.

-The effluent end of the storm drain that traverses the site was located. The pipe that lies above the headwall was designed to re-route the unnamed stream, but it sags in the middle and is sitting dry. It appears as if the stream is either getting into the larger culvert or is running under the pipe.

-RAI was unable to find the effluent end of the french drain. After opening the manhole on the drain system it appeared that the french drain is being discharged directly into the culvert.

-RAI met with Amann Electric and was briefed on the operation of the leachate collection system.

-Surface water samples were obtained from the Licking River upstream of the site, adjacent to the site, and across the river at a municipal drinking water intake (SW01, SW02, and SW03, respectively).

-Surface water samples were taken at the influent and effluent ends of the storm culvert (ST02 and ST01, respectively).

Tuesday, December 17, 1991 : Weather: clear, windy, approx. 45°F and dropping.
Personnel: Robert Smith
Mark Goldstein

-The storage tank for the leachate collection system was opened and checked with the CGI and HNu and no readings were recorded.

-Sumps 4 and 3 both had standing water which RAI pumped into the holding tank by manually overriding the designated pumps. Both sumps were purged dry. After the sumps were pumped the storage tank was checked again with the CGI and HNu because there was a very strong hydrogen sulfide smell in the air around the tank. The HNu gave no reading but the CGI read 232% of the lower explosive limit. After consulting with Charles Till of ESD and Beth Brown (EPA RPM) it was determined that work should not be continued at this time.

For each surface water and storm water sample taken, the temperature, conductivity, and pH of the water was noted. All manholes and sumps that were opened were checked with the CGI and the HNu.

FIVE-YEAR REVIEW TO BE CONDUCTED AT
NEWPORT DUMP SUPERFUND SITE
WILDER, KENTUCKY

A sampling investigation will begin at the Newport Dump Superfund Site in mid-December to determine if past actions conducted by the Environmental Protection Agency (EPA) remain protective of human health and the environment. EPA will conduct a five-year review at any superfund site where hazardous substances remain above levels which allow for unlimited use. These reviews will continue until contaminants are reduced to levels which will allow for unrestricted use of the property. This investigation will be conducted by EPA and will consist of surface water, ground water, gas, leachate, and sediment sampling; and a site inspection.

The 39-acre former municipal landfill is located in Wilder, Campbell County, Kentucky approximately three miles south of Newport. The site was originally purchased by the City of Newport in the late 1940's and was used by the City for disposal of residential and commercial wastes until its closure in 1979. Trenching and area filling of the waste were the most common methods used to dispose of waste at the site.

Ownership was transferred to the Northern Kentucky Port Authority (NKPA) in 1979. In 1980, under an Agreed Order between NKPA and the Kentucky Natural Resources and Environmental Protection Cabinet, NKPA installed a leachate collection system, regraded portions of the site, installed a clay cap over the waste, and seeded the area with grass. However, lack of funds prevented full remediation of the site. The site was added to EPA's National Priorities List in 1983 and the EPA completed a Remedial Investigation/Feasibility Study (RI/FS) in 1987. EPA determined that the site posed a potential threat to public health based on the proximity of the Kenton County drinking water supply intake on the Licking River. The water supply intake is located downstream from the Site, and in 1987 supplied drinking water to approximately 75,000 customers.

In 1987, to reduce any future potential risks posed by the site, EPA installed a new culvert drainage pipe and leachate collection system, installed eight gas monitoring wells to determine the production and migration methane gas, and regraded and reseeded the entire site.

If unacceptable levels of contamination are found as a result of this investigation, EPA will conduct additional testing on-site and, if necessary, modify the remedy to a state which is protective of human health and the environment.

Anyone interested in learning more about activities at the site or those who wish to provide information about the Site are encouraged to contact the following:

Beth Brown, Remedial Project Manager
or
Suzanne Durham, Community Relations Coordinator
U. S. Environmental Protection Agency
345 Courtland Street, N. E.
Atlanta, Georgia 30365
404/347-7791

Campbell County Reporter
12/18/91

December 19, 1991

Ms. Beth Brown
Remediation Project Manager
U.S. Environmental Protection Agency
345 Courtland Street, N. E.
Atlanta, Georgia 30365

Dear Ms. Brown

A notification appeared in the Campbell County Recorder on 12/18/91 concerning the Five Year Review to be conducted at the Newport Dump Superfund Site in Wilder, Kentucky. In response to that notification, I am interested in leaning more about the remedial action that was taken at the site and estimates of any continuing releases. Please respond to the following questions:

1. Where is the public repository containing the site documentation, including the RI/FS, ROD, and the final remediation action plan?
2. What are the contaminants of concern that were identified in the RI/FS? Were risk assessments performed? Were remediation goals achieved?
3. Who were the contractors that performed the RI/FS, and the remedial action? Who is the contractor that is performing the five year review. Will any public meetings be held to inform the public of the results of the five year review?
4. What are the actual and estimated releases of contaminants on-going from the site? What are the estimated amounts of contaminants that reach the public water supply?

Your consideration of the above questions and prompt reply will be greatly appreciated. I am a private citizen residing in Fort Thomas, Kentucky, within four miles of the site.



Philip Ruwe

43 Gaddis Drive
Fort Thomas, KY 41075



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

January 30, 1992

Mr. Phillip Ruwe
43 Gaddis Drive
Fort Thomas, KY 41705

Dear Mr. Ruwe:

The following information is in response to your 12/19/91 letter. The answers provided below were found in documents located in the information repository. These documents are available to you for reviewing and copying.

1. QUESTION: Where in the public repository containing the site documentation, including the RI/FS ROD, and the final remedial action plan?

RESPONSE: The public repository is located at:

City Clerk's Office
Campbell County Courthouse
Room 5
Fourth and York Street
Newport, KY 41701

2. QUESTION: What are the site contaminants of concern that were identified in the RI/FS? Were risk assessments performed? Were remediation goals achieved?

RESPONSE: The contaminants of concern identified in the RI/FS posing the greatest health concern were arsenic, barium, chromium, nickel, benzo(a)pyrene, toluene, and polychlorinated biphenyls. A public health and environmental risk assessment were performed. Acceptable levels of contaminants (ACLs), remediation goals, were established for the above-mentioned contaminants. During the past three years of monitoring, no exceedances of the ACLs has occurred.

3. QUESTION: Who were the contractors that performed the RI/FS, and the remedial action? Who is the contractor that is performing the five-year review? Will any public meetings be held to inform the public of the results of the five year review?

RESPONSE: The contractor that performed the RI/FS was NUS. The contractor that performed the remedial action was Haztech. RAI is performing the five-year review. EPA will consider holding a public meeting if further or additional action is warranted as a result of the five-year review. At a minimum, EPA will place a notice in the Recorder stating the review results.

4. QUESTION: What are the actual and estimated releases of contaminants on-going from the site? What are the estimated amounts of contaminants that reach the public water supply?

RESPONSE: Leachate from the site discharges to groundwater beneath the landfill and consequently to the Licking River. Because there is no way of capturing all the leachate discharging, it is not possible to estimate the volume of leachate leaving the site. For this reason, it is also not possible to estimate the amounts of contaminants that reach the public water supply. Although the potential for surface water contamination exists, a 40,000 to 1 dilution rate in the Licking River will render contaminant concentrations insignificant. The past three years of sampling from the surface waters of the Licking River, upstream of the public water supply intake, indicates no site-related contaminants have been detected.

I hope this response adequately answers your questions. Thank you for expressing your interest in the Newport Dump and if you have any other questions, please contact me at (404) 347-7791.

Sincerely,

Beth Brown
Remedial Project Manager

cc: Suzanne Durham, CRC

**REPORT OF FIELD OBSERVATION
NEWPORT DUMP SITE, CAMPBELL COUNTY, KENTUCKY**

Observation Report No. 21A Date of Observation 12/16/12
 Time Arrived Onsite: 1000 Time Departed Site: 1800
 Field Personnel: ROBERT SMITH, MARK GOLDSTEIN (RAIT)

SECTION A: WEATHER INFORMATION

Temperature: 30°F Wind Direction: W Wind Speed: 10
 Weather Narrative: OVERNIGHT LOW 15°; HIGH OF 30°, CLOUDY

SECTION B: TOPSOIL AND GRASS COVER

Observation	*Yes	No	Not Observed	Cover Number
1. Minor settlement of cover			X	
2. Major settlement of cover		X		
3. Evidence of erosion, swales, or cracks, etc...		X		
4. Grass cover inadequate		X		1
5. Ponded water on cover		X		
6. Grass height greater than 4"	X			2
7.				

SECTION C: PERIMETER DRAINAGE DITCH SYSTEM

Observation	*Yes	No	Not Observed	Cover Number
1. Inadequate slope of ditches causing sloughing, or erosion		X		
2. Vegetation growth in ditch	X			3
3. Ponded water, impairment of flow, or sedimentation		X		
4. Rip Rap slope protection inadequate		X		
5.				

SECTION D: DRAINAGE CULVERTS, HEADWALLS, AND MANWAY

Observation	*Yes	No	Not Observed	Cover Number
1. Integrity of culvert welds deficient			X	
2. Damage to culvert grilles		X		
3. Damage to headwalls structures		X		
4. Junction box damaged		X		
5. Manway cover and rungs damaged		X		
6. Insufficient rip rap at inlets and/or outlets		X		
7.				

**REPORT OF FIELD OBSERVATION
NEWPORT DUMP SITE, CAMPBELL COUNTY, KENTUCKY**

Observation Report No. 21A Date of Observation 12 / 16 / 91

SECTION E: MONITORING WELLS

Observation	*Yes	No	Not Observed	Comment Number
1. Wells unlocked		x		
2. Deteriorated components		x		
3. Excessive rust or corrosion on inner/outer well casings		x		
4. Protective casing missing or damaged		x		
5. Identification labels missing or not readable		x		
6. Concrete pads damaged or cracked	x			
7. Possible surface water infiltration into wells			x	4
8.				

SECTION F: LEACHATE COLLECTION SYSTEM

Observation	*Yes	No	Not Observed	Comment Number
1. Inadequate loading area due to erosion or rutting			x	
2. Damage to holding tank or plumbing connections		x		
3. Main control panel not operable		x		
4. Sumps and manholes not accessible		x		
5. Individual sump pump control panels not operable		x		
6. Sump pumps not operating properly		x		
7. Excessively high leachate level		x		
8. Electrical wiring or grounding defective		x		
9. Leachate collection lines damaged		x		
10. Surface water infiltration		x		
11. Damage to gas vent pipe		x		
12.				

SECTION G: SECURITY FENCE TANK AREA

Observation	*Yes	No	Not Observed	Comment Number
1. Holes in fence	x			5
2. Structural deficiencies		x		
3. Gate unlocked		x		
4. Broken or missing lock		x		
5.				



REPORT OF FIELD OBSERVATION
NEWPORT DUMP SITE, CAMPBELL COUNTY, KENTUCKY

Observation Report No. 21A Date of Observation 12 / 16 / 91

SECTION H: ACCESS ROAD

Observation	*Yes	No	Not Observed	Comment Number
1. Site not accessible due to road conditions		X		
2.				



APPENDIX G

SITE TRIP REPORT - MARCH 1992

**SITE TRIP REPORT
FOR THE NEWPORT DUMP SITE
WILDER, KENTUCKY**

*(Contract No. 68-W9-0029)
Work Assignment C04021A*

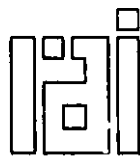
Submitted to:



**U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION IV**

March 26, 1992

Submitted by:



RESOURCE APPLICATIONS INC.

Engineers • Scientists • Planners

1000 Cambridge Square, Ste.D

Alpharetta, GA 30201

(404) 664-3618

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GAS WELL SAMPLING REPORT	SECTION A
SOIL GAS PROBE SURVEY	SECTION B
LEACHATE COLLECTION SYSTEM STATUS REPORT	SECTION C
SITE OBSERVATION CHECKLIST	SECTION D

The activities that took place during RAI's visit to the Newport Dump site in Wilder, Kentucky are listed in chronological order below:

Monday, March 2, 1992:

-RAI mobilized to the site from Atlanta, Georgia.

Personnel on site: C. Richard Maise
Robert P. Smith
Mark Goldstein
Randal J. MacKay

-Held health and safety meeting.

-Met with a Municipal Sanitation Department (MSD) truck driver to pump the leachate collection system holding tank. When the power to the pump was turned on, the pump did not come on because the water level in the tank was too low (approximately 2 feet, 2 inches). An MSD electrician arrived on-site to verify that the controls were functioning properly and the reason the pump would not work was due to the low water level in the tank.

-A visual site inspection was performed and pictures were taken. Some minor erosion areas were identified, but overall the cover seemed to be well vegetated and in good condition. However, the site needs mowing. (See the Site Inspection Report and Photos, Appendix A and B respectively.)

-Check sump 1: secure, had to cut lock to access. When the sump was opened RAI checked the air with instruments and got no readings on the Combustible Gas Indicator (CGI) and the Organic Vapor Analyzer (OVA). Water was dripping from the seal between the PVC outflow pipe and the wall of the concrete manhole. For more detail on the status of the leachate collection system see Section C.

-Sump 1: Water level (from top of manhole): 17 feet
Total depth of sump: 26 feet
Temperature of water: 12.3 °C (54.1 °F)
Conductivity: 2.93 m mho/cm
New lock: Master #3, Key #3540

-Found unmarked groundwater well on northwest corner of the site.

-Sump 2: Secure, cut lock to access.
CGI reading: zero
OVA reading: zero
Water level (from top of manhole): 18.5 feet
Total depth of sump: 25 feet
Temperature of water: 13.6 °C (56.5 °F)
Conductivity: 1.19 m mho/cm
New lock: Master #3, Key #3540

-Sump 3: Secure, used key to access.
CGI reading: zero
OVA reading: zero
Water level (from top of manhole): 17.5 feet
Total depth of sump: 33 feet
Temperature of water: 13.0 °C (55.4 °F)

Conductivity: 1.07 m mho/cm
Lock: Master Lock, Key #3484

-Sump 4: Secure, used key to access.
CGI reading: 5% LEL
OVA reading: 400 ppm
Water level (from top of manhole): 18.0 feet
Total depth of sump: 21.5 feet
Temperature of water: 12.1°C (53.8 °F)
Conductivity: 1.34 m mho/cm
Lock: Master Lock, Key #3484

-Sump 4 had a strong septic smell when opened. After airing out for ten minutes the smell diminished and the instrument readings dropped to zero on the CGI and 70 ppm, on the OVA.

-Attempted to purge sump 1. When the control box was opened three wires were noted to be unconnected. However, the pump seemed to be working. The water level in the sump remained unchanged after approximately 20 minutes of pumping and the level in the holding tank appeared to be unchanged also.

-Met Danny France and Tim Slagle from the ESD office in Athens, GA to do the gas sampling.

-Sampled gas wells GWS-01, GWD-02, GWD-06, GWS-07 using pre-cleaned evacuated canisters. See Section A for a detailed description of the gas sampling procedures.

-Attempted to purge sump 2. When the pump was turned on, water started leaking from the PVC pipe leading to the holding tank. The water level in the sump did not appear to change, however, the level in the holding tank did rise. When the pump was shut off, the water in the line to the holding tank spilled back into the sump. The water level in the holding tank measured approximately one foot higher than previously, and a strong septic smell was present around the tank. The instruments did not indicate any significant readings.

-A surface water sample was collected from the Licking River at the Kenton County water intake across from the site. (WI-1)

-Sump 4 was turned on and purged dry in four minutes.

-An attempt was made to purge sump 3, but when the pump was turned on, the water level in the sump did not change and no water could be heard going into the holding tank.

-An attempt was made to sample MW-06, off-site to the south, but when it was found, it had been destroyed by construction equipment during the construction of a sewer line. The 2-inch stainless steel casing and protective casing were bent over, the well was open, and the cap was missing. Some rusted drums were found in the area around the damaged well, and pictures were taken at a later time.

-MW-01 was purged with a two inch Teflon bailer. When the well was opened, a hornets nest was attached to the inside of the protective casing lid. The well cap was missing and a one liter bottle was in its place.

-MW-01: Secure, our key did not fit and the lock was cut.
Water level (from top of casing): 33 feet
Total Depth: 65.5 feet

Temperature: 15.5 °C (59.9 °F)
Conductivity: 0.63 m mho/cm
Purge volume: 17 gallons
New lock: Master #3, Key #0356

-Surface water sample ST-02 collected at the influent (north) end of storm culvert (BNA analysis only).

-Sediment sample SS-01 collected at the influent end of the storm culvert (full scan).

Tuesday, March 3, 1992:

-MW-01 sampled.

-MW-05 sampled. This well has artesian conditions and does not require purging. A heavy iron algal growth was noted all around the protective casing. The weep hole was clogged, but RAI unclogged to drain the water out of the outer casing. Three 2-inch bailers full were purged from the well.

-MW-05: Secure, our key did not fit and the lock was cut.
Water level (from top of casing): 0 feet
Total Depth: 20.0 feet
Temperature: 12.7 °C (54.9 °F)
Conductivity: 0.84 m mho/cm
Purge volume: less than one gallon
Now lock: Master #3, Key #0356

-Sediment samples SS-02 (midway between the effluent (south) end of the culvert and the southeast corner of the site on the unnamed stream), SS-03 (at the effluent end of the culvert), and SS-04 (at the confluence of the unnamed stream with the Licking River) were collected.

-Sampled gas wells GWD-04 and GWS-03.

-Surface water samples SW-01 (same location as SS-02, full scan), ST-01 (at the effluent end of the storm culvert, BNA analysis only), and SW-02 (at the confluence, BNA analysis only) were collected.

-MW-08: Secure, our key did not fit and the lock was cut.
CGI reading: 20% (dropped quickly to 10%)
OVA reading: 500 ppm (dropped quickly to 100 ppm)
Water level (from top of casing): 36 feet
Total Depth: 44.3 feet
Temperature: 17.8 °C (64.0 °F)
Conductivity: 0.81 m mho/cm
Purge volume: approximately 4 gallons
New lock: Master #3, Key #0356

-MW-07: Secure, our key did not fit and the lock was cut.
CGI reading: 20%
OVA reading: 500 ppm,
Water level (from top of casing): 30 feet
Total Depth: 47.0 feet
Temperature: 18.1 °C (64.6 °F)
Conductivity: 8.75 m mho/cm

New lock: Master #3, Key #0356

-While purging MW-07 the greenish brown water from the well produced a mild foam when it was poured into the bucket. The CGI indicated 100% LEL after purging and stabilized at 70% after letting the well sit open and air out for a few minutes.

-MW-08 sampled.

-MW-03: Secure, our key did not fit and the lock was cut.
CGI reading: zero
OVA reading: zero
Water level (from top of casing): 45 feet
Total Depth: 110.0 feet
Temperature: 17.6°C (63.7 °F)
Conductivity: 0.53 m mho/cm
Purge volume: 33 gallons
New lock: Master #3, Key #0356

-MW-03 was purged with a 1-inch bailer because the casing was bent enough to prevent a 2-inch bailer from going in.

-MW-04: Secure, our key did not fit and the lock was cut.
CGI reading: 100% LEL
OVA reading: maximum (greater than 1000 ppm)
Water level (from top of casing): ? feet
Total Depth: ? feet
Temperature: na
Conductivity: na
New lock: Master #3, Key #0356

-An obstruction was encountered at 23 feet below the top of the well casing in MW-04. The obstruction prevented the water level indicator (less than 1-inch diameter) from reaching the water, and making sampling impossible.

-An unsuccessful attempt was made to reseal the pump in sump 3 by pulling on the leader that holds the pump.

-RAI started to sample MW-07, but the pre-preserved VOA bottles reacted with the well water and effervesced. It was decided that the well would be sampled (with unpreserved VOA bottles) on Wednesday and shipped the same day.

Wednesday, March 4, 1992:

-MW-03 sampled.

-Laid out grid and installed ten soil gas probes. See Section B for more detailed information on the soil gas probes.

-Checked parameters on the gas wells, tube length is the length of the Teflon tube used for sampling. The vent tube in each well is about one foot long.

- GWD-02: OVA: zero CGI: zero
Water level (from top of casing): 28.0 feet
Total depth: 30.5 feet
Conductivity: 1.13 m mho/cm
Temperature: 13.1 °C (55.6 °F)
Tube length: 24.0 feet
[There was mud on the bottom of the tube.]
Master Lock, Key #2106
- GWS-01: OVA: zero CGI: zero
Water level (from top of casing): dry well
Total depth: 18.0 feet
Conductivity: na
Temperature: na
Tube length: 11 feet-10 inches
Master Lock, Key #2106
- GWS-07: OVA: >1000 ppm CGI: 100% LEL
Water level (from top of casing): 16.0 feet
Total depth: 18.0 feet
Conductivity: 4.23 m mho/cm
Temperature: 13.7 °C (56.7 °F)
Tube length: 14 feet-2 inches
Master Lock, Key #2106
- GWD-06: OVA: 40 ppm CGI: zero
Water level (from top of casing): 17.5 feet
Total depth: 27.5 feet
Conductivity: 2.63 m mho/cm
Temperature: 14.5 °C (58.1 °F)
Tube length: 15 feet-10 inches
[There was mud on the bottom of the tube.]
Master Lock, Key #2106
- GWS-03: OVA: 5.5 ppm CGI: 80% LEL
Water level (from top of casing): 16.5 feet
Total depth: 18.0 feet
Conductivity: 2.93 m mho/cm
Temperature: 15.1 °C (59.2 °F)
Tube length: 11 feet-4 inches
Master Lock, Key #2106
- GWD-04: OVA: zero CGI: zero
Water level (from top of casing): 22.0 feet
Total depth: 33.0 feet
Conductivity: 1.66 m mho/cm
Temperature: 15.9 °C (60.6 °F)
Tube length: 18 feet-6 inches
Master Lock, Key #2106
- GW-05: OVA: na CGI: na

Water level (from top of casing): 1.5 feet
Total depth: 15.0 feet
Conductivity: 2.45 m mho/cm
Temperature: 9.5 °C (49.1 °F)
Tube length: 11 feet-8 inches
[Well was full of water, and no instruments were used.]
Master Lock, Key #2106

Thursday, March 5, 1992:

-Met with Beth Brown, EPA RPM on site.

-Checked all soil gas probes with OVA and CGI, pulled probes after checking and sealed the holes with bentonite pellets.

-Purged and sampled unmarked well (DW-4) that was found on Monday, March 2, 1992.

-DW-4: Secure, key worked in lock.

CGI reading: zero

OVA reading: 8.5 ppm

Water level (from top of casing): 23 feet

Total Depth: 82 feet

Temperature: 12.7 °C (54.9 °F)

Conductivity: 1.51 m mho/cm

Water in the well was almost black at the bottom of the water column with a slight septic smell.

Purge volume: 30 gallons

Master Lock, Key #2106

-MW-07 sampled.

-The water level in the holding tank was measured before leaving the site and there was approximately 2 feet 3 inches of water.

-All wells and sumps were secured before RAI left the site. The pump switches at each sump were set to "off" and all main breakers at the control panel in the tank enclosure were set to "off". The flowmeter reads 3391 gallons. The existing Yale lock and chain was used on the tank enclosure. The site electrical meter is mounted on a panel at the entrance to the site. It is a digital readout meter #9731812 and reads "0.51 continuous cumulative kW." The panel was closed and locked with Master Lock #3, Key #3540.

Summary

All samples will be analyzed utilizing the EPA Contract Laboratory Program. The organic analysis will be done by CompuChem, Research Triangle Park, North Carolina, and all inorganics by Keystone Environmental Resources, Monroeville, Pennsylvania. The gas sampling will be analyzed by Air Toxics Limited, Rancho Cordova, California. The Project Code for this trip is 92-0239, the case number is 17870 and the SAS number for the gas sampling is 7043D.

Blanks and spikes were provided by ESD and assigned to the following fictitious stations:

Water Spike: MW-10 Soil Spike: SS-06

Water Blank: MW-11 Soil Blank: SS-05
ICS Spike: MW-09

These samples were sent to the appropriate labs using the CLP chain-of-custody paperwork.

SECTION A

**NEWPORT DUMP SITE
GAS WELL SAMPLING REPORT
MARCH 2-3, 1992**

The Newport Dump Site has seven gas monitor wells installed in and around the landfill. The wells have been sampled in the past as part of the quarterly sampling events carried out by EBASCO Services Inc. under their REM contract. The last time the wells were sampled was March 5-9, 1990, as part of the sixth and final quarterly sampling event.

As part of the Five-Year Review of the Newport Site, Resource Applications Inc. was tasked to sample these wells. Due to the specialized nature of the procedures and equipment required, Danny France and Tim Slagle from the Air Monitoring Section of the EPA-ESD Laboratory in Athens, Georgia were on site to supervise and assist.

Six wells were sampled, in order from suspected least contaminated to most contaminated, based on previous analyses. Well GW-05 was found to be filled with water to ground level and could not be sampled. The general procedure that was followed is based on EPA Method TO-14 for air sampling, modified for use at these gas wells. A copy of this modified procedure is attached. Pre-cleaned and evacuated six-liter stainless steel canisters were used to collect the samples. Air temperature, soil temperature and barometric pressure were also measured. Initial vacuum in the canisters was about 30 inches of mercury; final vacuum after filling was about 4 inches of mercury.

Canisters were supplied by Air Toxics Ltd, 11325 Sunrise Gold Circle, Suite E, Rancho Cordova Ca. 95742, and were returned to them for analysis under the EPA Contract Laboratory Program (CLP). Prior to sampling each well, the teflon sample tube installed in the well was purged with a small battery operated vacuum pump for about 30-60 seconds.

Two canisters were filled simultaneously at each well using pre-set flow controllers. It took about 25 minutes to fill the canisters.

Between wells, the flow controllers, fittings, gauges and tubing were purged for about 5-10 minutes with medical grade nitrogen (99.95% pure) Note: ESD recommends 99.999% pure nitrogen for purging.

After sampling, the well caps were removed and water level, total depth, water conductivity, water temperature, and length of the sample tube in the well were measured. After sampling, the well caps were replaced, vent line valves were left open, sample line valves were left closed, and the protective casings were closed and padlocked.

DATA TABLE

Well No.	Field Spl No. No.	Canister		" Hg Vacuum		Fill Spl No.	EPA-CLP
		Initial		Final	Time		
GWS-01	GW-1A 05411	28		4	27min	SD0407	
	GW-1B 5	30		4	27	SD0401	
GWD-02	GW-2A 11029	30		4	27	SD0408	
	GW-2B 05710	30		4	27	SD0402	
GWS-03	GW-3A 05412	28		3	22	SD0409	
	GW-3B 05365	30		4	22	SD0403	
GWD-04	GW-4A 05362	28		3	27	SD0410	
	GW-4B 04585	30		4	27	SD0404	
GWD-05	Not sampled. Full of water up to land surface.						
GWD-06	GW-6A 05698	28		4	25	SD0411	
	GW-6B 05363	30		4	25	SD0405	
GWS-07	GW-7A 10776	29		3	21	SD0412	
	GW-7B 05703	30		4	21	SD0406	

Notes:

Soil temperature measured in several places at depths of about one to one and one half feet with temperature probe.
Range: 42° to 44° Farenheit

Air Temperature ranged from about 70° to 80° Farenheit during sampling periods.

The Barometric Pressure was about 755 mm Hg during sampling periods.

SECTION B

NEWPORT DUMP SITE SOIL GAS PROBE SURVEY MARCH 4-5, 1992

SUMMARY

Ten soil gas probes were temporarily installed across the top and sides of the Newport Dump Site to determine whether or not gas is being generated in the closed dump, and accumulating beneath the clay cover. Results of this reconnaissance-type cursory survey indicate that both methane and other organic gases are present beneath the clay cover.

METHOD

Small holes, about one-half inch in diameter were punched down to four feet below the land surface at nine locations on the dump site and one background location about 150 feet north of the dump. Locations were chosen to coincide with lines of cross sections developed previously by NUS in the RI/FS dated March 1987 (figure 4-9). Standard four-foot hollow stainless steel soil gas probes were inserted to about one and one-half to two and one-half feet into the holes. After insertion, the probes and holes were pierced with a stainless steel wire to be sure they were open and not plugged with clay. After standing overnight, the probes were checked for gas with an Organic Vapor Analyzer and a Combustible Gas Indicator meters. After reading, the probes were pulled and the holes were sealed with bentonite pellets.

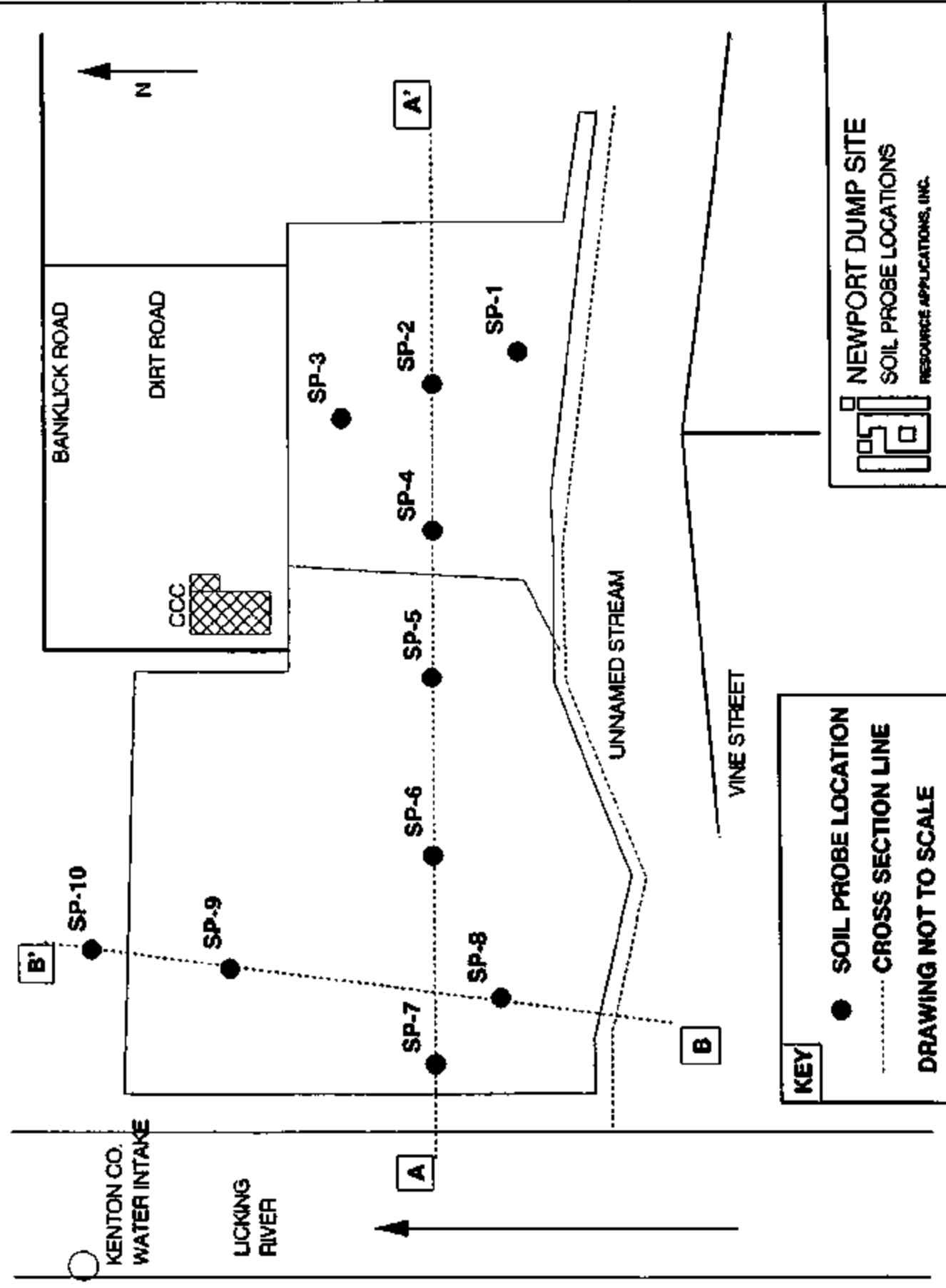
*Newport Dump
Draft Site Trip Report
March 26, 1992*

See attached map for locations.


Probe Number	OVA (ppm)	CGI (%LEL)	CGI (%O ₂)	Remarks
SP-01	30	10	20	Note A
SP-02	> 1000	> 100	3	Water @ 3ft
SP-03	50	0	20	Note B
SP-04	> 1000	70	20	
SP-05	4	0	19	Note B
SP-06	> 1000	> 100	19	
SP-07	14	0	20	Note A
SP-08	> 1000	28	19.5	
SP-09	> 1000	> 100	9	
SP-10	9	0	20	Background Point

Note A: SP-01 and SP-07 are down slope on the sides of the landfill and may be below any gas accumulation or not into the landfill material.

Note B: SP-03 and SP-05 may not have penetrated the clay cover.



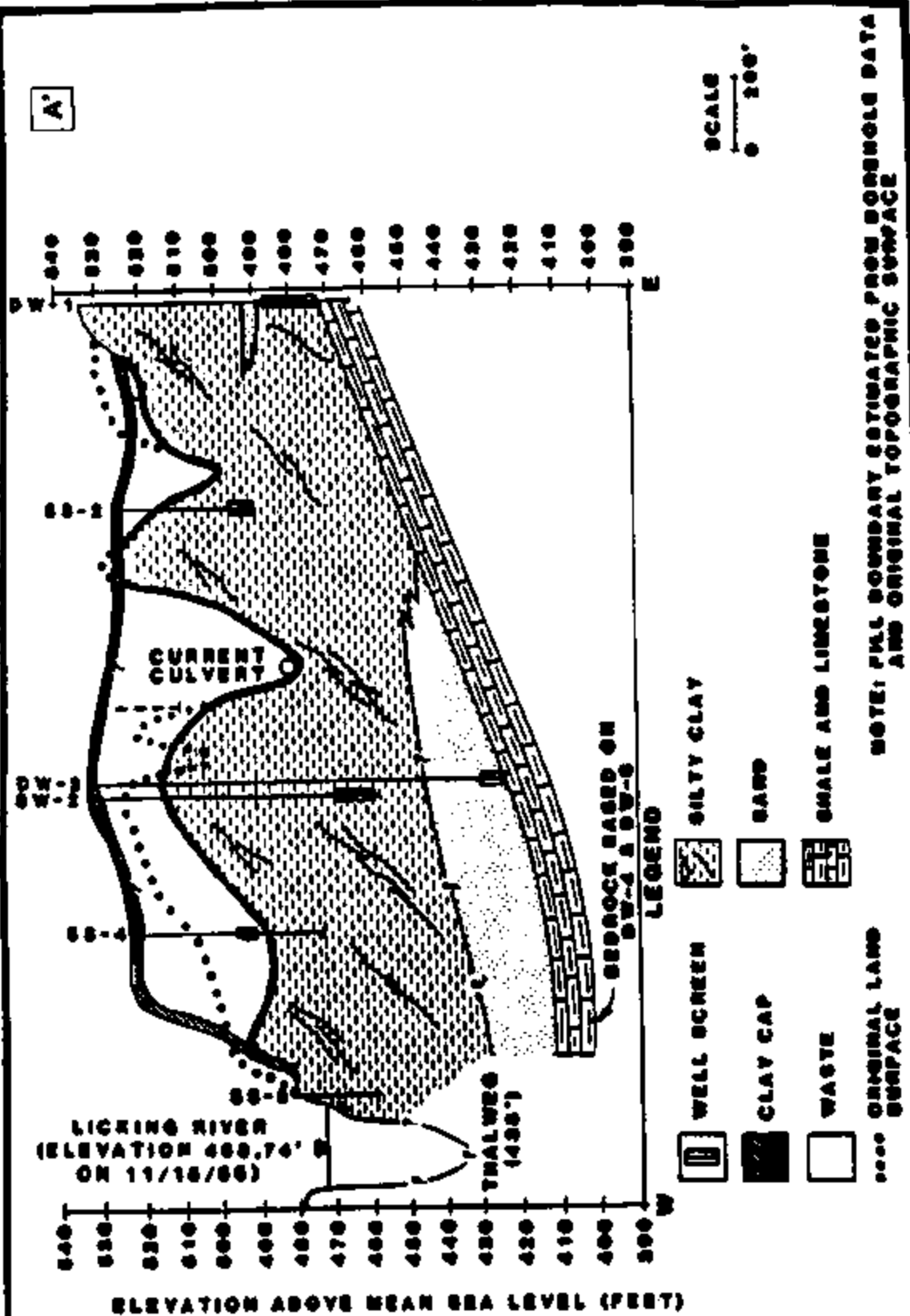
NEWPORT DUMP SITE
SOIL PROBE LOCATIONS
 RESOURCE APPLICATIONS, INC.



KEY

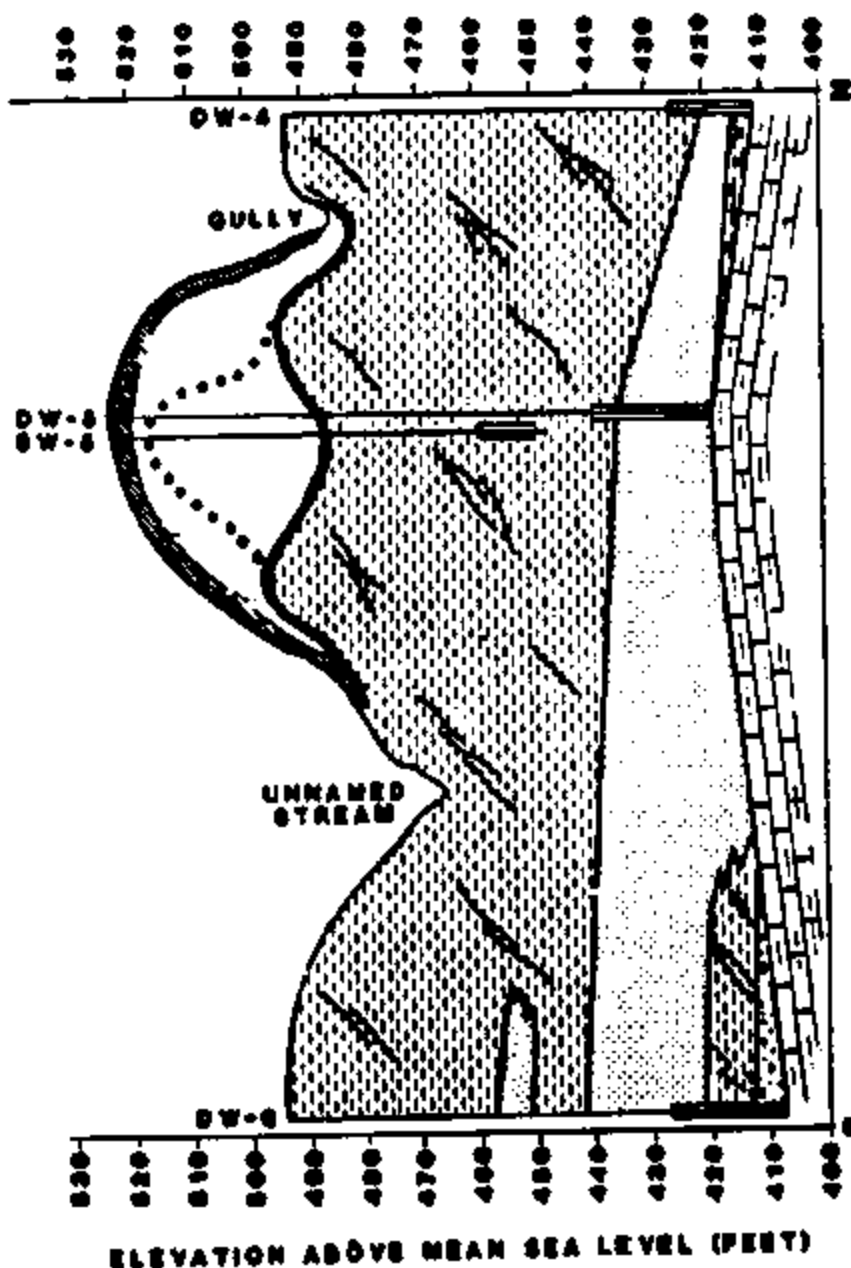
- SOIL PROBE LOCATION
- CROSS SECTION LINE

DRAWING NOT TO SCALE











**CROSS SECTION LICKING RIVER TO DW-1
NEWPORT DUMP SITE
CAMPBELL COUNTY, KENTUCKY**

B'



LEGEND

-  WASTE
-  CLAY CAP
-  WELL SCREEN
-  SAND AND GRAVEL
-  SAND
-  SILTY CLAY
-  CLAY AND GRAVEL
-  SHALE AND LIMESTONE
-  ORIGINAL LAND SURFACE

SCALE
0 200'

NOTE: P.M.L. BOUNDARY ESTIMATED FROM CORRELATE DATA AND ORIGINAL TOPOGRAPHIC SURFACE

**CROSS SECTION DW-6 TO DW-4
NEWPORT DUMP SITE
CAMPBELL COUNTY, KENTUCKY**

**SECTION C
LEACHATE COLLECTION SYSTEM STATUS REPORT**

RAI inspected and attempted to operate each of the four (4) sumps located at the Site during the recent field activities. The following is a summary of the operating status of each sump.

SUMP 1

Sump 1 is located on the north-west corner of the Site (See Fig. C.1). The manhole cover was secure and in place, RAI cut the lock due to heavy rust. The sump contained nine (9) feet of water (17 ft. from top of manhole to water level, 26 ft. total depth, 845.79 gal). No readings were obtained on the Organic Vapor Analyzer (OVA) or the Combustible Gas Indicator (CGI) upon opening the manhole.

RAI proceeded to operate the sump in the "Hand" mode for the purpose of purging the collection lines and the sump itself. The pump would not operate in the "Auto" mode due to low water levels. Upon opening the control panel located above the manhole, it was noted that three (3) wires were disconnected from one of the terminal blocks. The wires appeared to be grounding wires and did not effect the operation of the pump. The pump was operated for approximately 20 minutes with no change in water level in the sump or any change in the level in the holding tank. During the operation of the pump, it was noted that water was leaking back into the sump from around the effluent pipe at the junction of the pipe and wall of the sump.

The pump was left in the "OFF" position with the power at the Main Power Box off. The manhole was padlocked with a new Master Lock (Key # 3540).

SUMP 2

The manhole at Sump 2 was secure upon inspection. RAI cut the lock due to heavy rust and proceeded to open the sump. No vapors were detected using the OVA or the CGI. The sump contained 6.5 feet of water (18.5 ft from top of manhole, 25 feet total depth, 610.98 gals.). No damage was observed to the control panel. The sump would not operate in the "Auto" mode when the power was turned on, it was then switched to "Hand" and operated. With the pump running, water leaked profusely at the point where the PVC effluent pipe met the sump wall. A change in water level of 1 foot was noted in the holding tank, however, no change was noted in the water level in the sump. When the pump was turned off, water could be heard running back into the sump.

RAI shut down the pump, left the control panel in the "OFF" position, and turned the Main power off. The manhole was secured with a new Master Lock padlock (Key #3540).

SUMP 3

Sump 3 was operated during previous field work and the lock was replaced at that time. RAI accessed the manhole using the key. No vapors were detected using the OVA and CGI. The sump contained 15.5 feet of water (17.5 ft. from top of manhole, 33.0 ft total depth, 1456.95 gals.). No damage to the control panel was noted, and the pump operated as expected. During previous field work, the pump was operated to pump leachate into the holding tank for sampling and worked fine. However, when the pump had been operated at this time, the water only recirculated within the sump. The pump was operated for approximately fifteen (15) minutes. No water could be heard entering the holding tank and there was no change in water level in

either the holding tank or the sump. RAI attempted to adjust the pump using the suspension cable attached to the pump in an attempt to reseal the pump. This attempt was unsuccessful.

RAI shut down the pump, left the control panel in the "OFF" position, and turned the Main power off. The manhole was secured with the original Master Lock padlock (key #3484).

SUMP 4

Sump 4 had been operated during previous fieldwork and the lock was in useable condition. Reading on the OVA and CGI were 400 ppm and 5% LEL, respectively. The sump contained 3.5 feet of water (18.0 ft from top of manhole, 21.5 ft total depth, 329.0 gals.). No damage was noted to the control panel, and the pump operated as expected. The pump was operated in the "Hand" mode due to low water level for approximately 5 minutes (until the sump was dry).

RAI shut down the pump, left the control panel in the "OFF" position, and turned the Main power off. The manhole was secured with the original Master Lock padlock (Key #3484).

SUMMARY

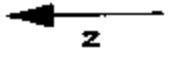
Based on decisions made by U.S. EPA Remedial Project Manager, Elizabeth Brown, the leachate collection systems was not sampled due to the various mechanical/construction problems mentioned in the previous sections.

All control boxes affixed to the manholes are not locked, but are somewhat inaccessible due to their mounting height above the manhole (approx. 8 feet). All power to the control boxes and the holding tank pumps is off and the Main Power Boxes are secured within the holding tank fence area.

It should be noted that upon initial arrival at the Site, (Monday, 3/2/92), the water level in the holding tank was approximately 2 ft., 2 in. After pumping Sump 2, the level was checked and was approximately 1 foot higher (3ft., 2in.). Also, Sump 4 was pumped dry, adding 329 gallons to the holding tank. When RAI left the Site (Thursday, 3/5/92), the water level was approximately 2 ft., 3 in.

KENTON CO.
WATER INTAKE

LICKING
RIVER



BANKLICK ROAD

DIRT ROAD

SUMP 1

CCC

HOLDING TANK/
CONTROL BOXES

SUMP 4

SUMP 3

SUMP 2

UNNAMED STREAM

MINE STREET

NEWPORT DUMP SITE



RESOURCE APPLICATIONS, INC.

**REPORT OF FIELD OBSERVATION
NEWPORT DUMP SITE, CAMPBELL COUNTY, KENTUCKY**

Observation Report No. _____ Date of Observation 3/2/92
 Time Arrived Onsite: 0730 Time Departed Site: 1810
 Field Personnel C. R. MAISE, R. SMITH, M. GOLDBSTEIN, R. MACKAY

SECTION A: WEATHER INFORMATION

Temperature: 52°F Wind Direction: CALM Wind Speed: —
 Weather Narrative: CLEAR

SECTION B: TOPSOIL AND GRASS COVER

Observation	*Yes	No	Not Observed	Comment Number
1. Minor settlement of cover		X		
2. Major settlement of cover		X		
3. Evidence of erosion, swales, or cracks, etc...	X			1
4. Grass cover inadequate		X		
5. Ponded water on cover	X			2
6. Grass height greater than 4"	X			3
7.				

SECTION C: PERIMETER DRAINAGE DITCH SYSTEM

Observation	*Yes	No	Not Observed	Comment Number
1. Inadequate slope of ditches causing sloughing, or erosion		X		
2. Vegetation growth in ditch	X			4
3. Ponded water, impairment of flow, or sedimentation		X		
4. Rip Rap slope protection inadequate		X		
5. RECENTLY INSTALLED SEWER LINE	X			5

SECTION D: DRAINAGE CULVERTS, HEADWALLS, AND MANWAY

Observation	*Yes	No	Not Observed	Comment Number
1. Integrity of culvert welds deficient			X	
2. Damage to culvert grilles		X		
3. Damage to headwall structures		X		
4. Junction box damaged			X	
5. Manway cover and rungs damaged			X	
6. Insufficient rip rap at inlets and/or outlets		X		
7.				



**REPORT OF FIELD OBSERVATION
NEWPORT DUMP SITE, CAMPBELL COUNTY, KENTUCKY**

Observation Report No. _____ Date of Observation 3 / 2 / 92

SECTION E: MONITORING WELLS

Observation	*Yes	No	Not Observed	Comment Number
1. Wells unlocked		X		
2. Deteriorated components	X			6
3. Excessive rust or corrosion on inner/outer well casings		X		
4. Protective casing missing or damaged		X		
5. Identification labels missing or not readable		X		
6. Concrete pads damaged or cracked		X		
7. Possible surface water infiltration into wells		X		
8.				

SECTION F: LEACHATE COLLECTION SYSTEM

Observation	*Yes	No	Not Observed	Comment Number
1. Inadequate loading area due to erosion or rutting		X		
2. Damage to holding tank or plumbing connections	X			7
3. Main control panel not operable		X		
4. Sumps and manholes not accessible		X		
5. Individual sump pump control panels not operable		X		
6. Sump pumps not operating properly		X		
7. Excessively high leachate level		X		
8. Electrical wiring or grounding defective		X		
9. Leachate collection lines damaged			X	
10. Surface water infiltration			X	
11. Damage to gas vent pipe		X		
12. SYSTEM OPERATING PROBLEMS	X			

SECTION G: SECURITY FENCE TANK AREA

Observation	*Yes	No	Not Observed	Comment Number
1. Holes in fence	X			8
2. Structural deficiencies		X		
3. Gate unlocked		X		
4. Broken or missing lock		X		
5. ELECTRICAL SYSTEM				9



**REPORT OF FIELD OBSERVATION
NEWPORT DUMP SITE, CAMPBELL COUNTY, KENTUCKY**

Observation Report No. _____ Date of Observation 3 / 2 / 92

SECTION H: ACCESS ROAD

Observation

1. Site not accessible due to road conditions
- 2.

*Yes	No	Not Observed	Comment Number
	X		



**REPORT OF FIELD OBSERVATION
NEWPORT DUMP SITE, CAMPBELL COUNTY, KENTUCKY**

Observation Report No. _____ Date of Observation 3 / 2 / 92

INSTRUCTIONS: If any item is checked "yes", provide details of the problem and maintenance recommendations below. Additionally, indicate the location of each problem on the attached map.

COMMENT NUMBER

COMMENT

1

SEVERAL SMALL AREAS PARTICULARLY AT THE TOP OF THE SLOPES SHOW PATCHY GRASS AND EROSION. THE WEST SLOPE HAS ONE NARROW GULLY ABOUT ONE FOOT WIDE AND ONE TO TWO FEET DEEP THAT EXTENDS MOST OF THE DISTANCE DOWN THE SLOPE. SEVERAL VEHICLE TRACKS CROSS THE TOP OF THE LANDFILL, AND A NUMBER OF ALL-TERRAIN VEHICLE (ATV) TRACKS RUN DOWN THE SLOPES. THESE TEND TO CONCENTRATE WATER RUN-OFF AND PROMOTE EROSION.

2

THERE ARE TWO AREAS OF PONDED WATER UP TO ONE FOOT DEEP ON TOP OF THE CORES NEAR THE ENTRANCE. THERE IS ALSO SOME PONDED WATER ON THE NEW SEWER RIGHT-OF-WAY ALONG THE WEST EDGE OF THE LANDFILL, AND TWO SMALL AREAS NEAR GAS WELL-5 JUST OFF-SITE TO THE NORTH. THERE APPEARS TO BE SOME SEepage OF

COMMENT NUMBER

CORRECTIVE ACTION PERFORMED

THE MAIN PURPOSE OF THIS SITE VISIT WAS SITE INSPECTION AND SAMPLING. NO CORRECTIVE ACTION WAS PERFORMED.

SIGNATURE OF OBSERVER: 

DATE: 3 / 26 / 92

REPORT OF FIELD OBSERVATION

Page 4 of 8



Resource Applications, Inc.
1000 Cambridge Square, Suite D
Alpharetta, GA 30201
(404) 684-3618

WATER FROM BELOW THE TOE OF THE SLOPE ON THE SOUTH AND WEST SIDES. THERE IS A SMALL ACCUMULATION OF WATER IN THE VEHICLE TRACK DOWN ALONG THE NORTH SLOPE OF THE LANDFILL. THIS ALSO APPEARED TO BE WATER RATHER THAN LEACHATE FROM THE LANDFILL.

3. THE ENTIRE SITE IS COVERED WITH TALL GRASS AND NEEDS TO BE MOWED.
4. THE RIP-RAP ON THE SITE IS IN GOOD CONDITION, BUT THERE IS SOME WOODY GROWTH AND GRASS OVER MOST OF IT.
5. THE RECENTLY INSTALLED (WINTER 1991-1992) SEWER LINE ALONG THE WEST EDGE OF THE LANDFILL REQUIRES REG GRADING AND SEEDING. THE LINE IS BURIED AND THE TRENCH IS CLOSED BUT THE SURFACE IS ROCKY AND RUTTED. THE VEHICLE TRACK ALONG THE NORTH END OF THE LANDFILL REQUIRES GRADING TO PREVENT EROSION INTO THE WASTE.
6. ALL GROUNDWATER AND GAS MONITOR WELLS WERE FOUND TO BE GENERALLY IN GOOD CONDITION. SEVERAL LOCKS WERE INOPERABLE AND HAD TO BE CUT OFF. THESE WERE REPLACED BY NEW MASTER LOCKS WITH KEY NUMBERS 0356 AND 3540. OTHER SPECIFIC WELL PROBLEMS ARE AS FOLLOWS:
MW-1 THE STAINLESS STEEL CAP IS MISSING FROM THE 2" STAINLESS STEEL WELL CASING. IT HAD BEEN REPLACED BY A CUT-OFF 1-LITER POLYETHYLENE BOTTLE PLACED OVER THE WELL AS A CAP INSIDE THE LOCKED OUTER PROTECTIVE CASING.
MW-3 THE 2" STAINLESS STEEL WELL CASING IS PINCHED AT GROUND LEVEL, SO THAT A 2" NOMINAL SIZE BALLER WILL NOT GO DOWN THE WELL. THIS WELL WAS PUGHED AND SAMPLED WITH A 1" NOMINAL BALLER.
MW-4 THE 2" STAINLESS STEEL WELL CASING IS OBSTRUCTED OR BROKEN AT ABOUT 23 FEET BELOW GROUND LEVEL (THIS POINT IS ALSO ABOVE THE WATER LEVEL). A WATER

WATER FROM BELOW THE TOE OF THE SLOPE ON THE SOUTH AND WEST SIDES. THERE IS A SMALL ACCUMULATION OF WATER IN THE VEHICLE TRACK DOWN ALONG THE NORTH SLOPE OF THE LANDFILL. THIS ALSO APPEARED TO BE WATER RATHER THAN LEACHATE FROM THE LANDFILL.

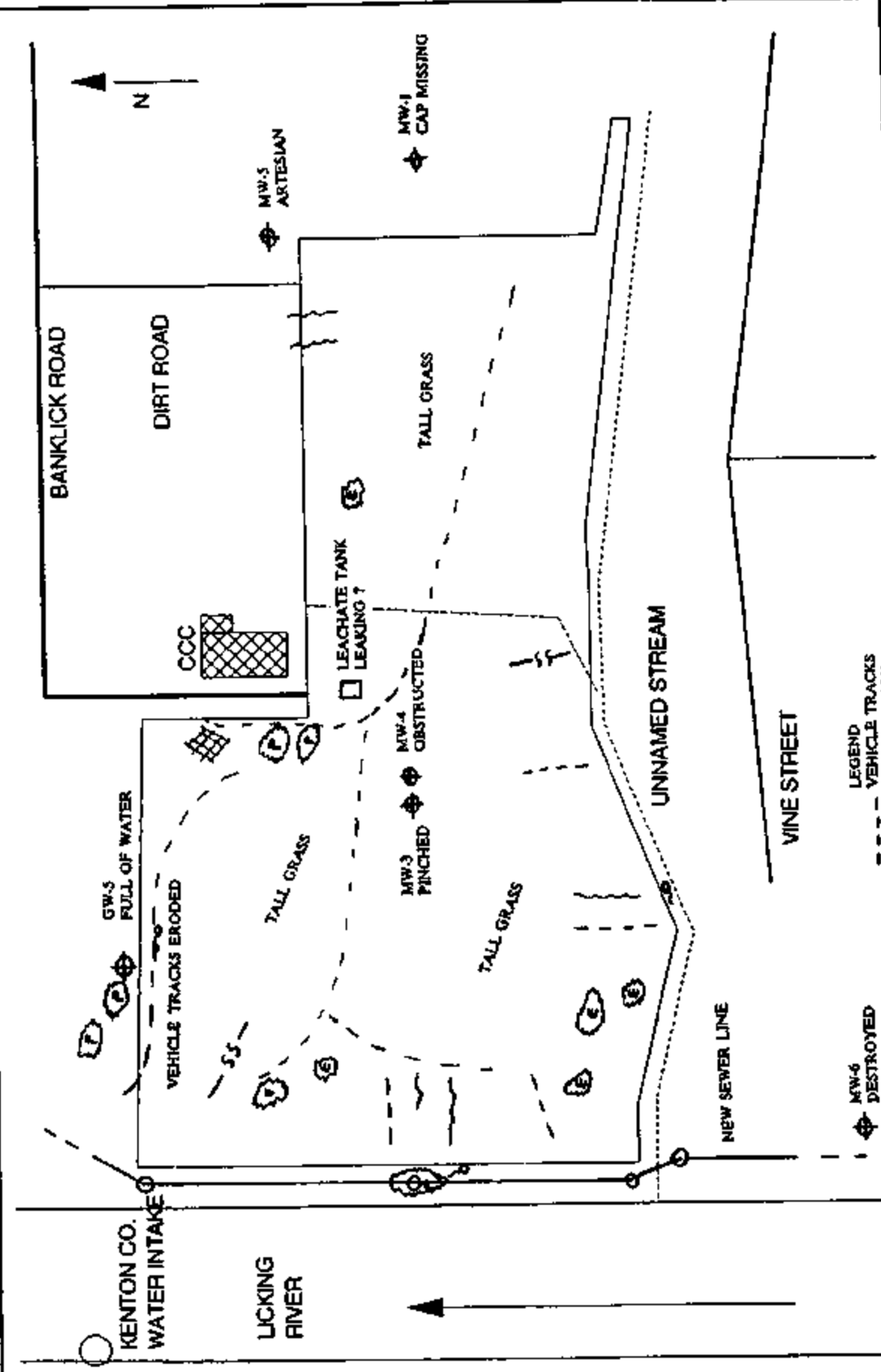
3. THE ENTIRE SITE IS COVERED WITH TALL GRASS AND NEEDS TO BE MOWED.
4. THE RIP-RAP ON THE SITE IS IN GOOD CONDITION, BUT THERE IS SOME WOODY GROWTH AND GRASS OVER MOST OF IT.
5. THE RECENTLY INSTALLED (WINTER 1991-1992) SEWER LINE ALONG THE WEST EDGE OF THE LANDFILL REQUIRES REG GRADING AND SEEDING. THE LINE IS BURIED AND THE TRENCH IS CLOSED BUT THE SURFACE IS ROUGH AND RUTTED. THE VEHICLE TRACK ALONG THE NORTH END OF THE LANDFILL REQUIRES GRADING TO PREVENT EROSION INTO THE WASTE.
6. ALL GROUNDWATER AND GAS MONITOR WELLS WERE FOUND TO BE GENERALLY IN GOOD CONDITION. SEVERAL LOCKS WERE INOPERABLE AND HAD TO BE CUT OFF. THESE WERE REPLACED BY NEW MASTER LOCKS WITH KEY NUMBERS 0356 AND 3540. OTHER SPECIFIC WELL PROBLEMS ARE AS FOLLOWS:
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SWITCHES ON THE PUMP PANEL WERE ALSO SET TO "OFF".

THE METER BEHIND ON THE PUMP PANEL IS 3391

8. THERE IS ABOUT A ONE-FOOT DIAMETER HOLE IN THE CHAIN-LINK FENCE AROUND THE UNDERGROUND STORAGE TANK. THIS IS USED TO PILE A HOLE THROUGH THE FENCE TO DISCHARGE THE TANK CONTENTS INTO A TANK TRAILER FOR DISPOSAL. OTHERWISE THE FENCE AND GATE ARE SECURE.

9. AT THE END OF THE SITE VISIT ON 3/5/92, THE MAIN ELECTRICAL BREAKER ON THE PANEL NEAR THE ENTRANCE TO THE SITE WAS SHUT OFF AND LOCKED WITH A MASTER PADLOCK, KEY # 3540. THE ELECTRICAL METER AT THAT TIME READ 00.51 CONTINUOUS CUMULATIVE KW. THE METER NUMBER IS 9731812. MODEL M-90



NEWPORT DUMP SITE
 SITE CONDITION 3/2/92
 RESOURCE APPLICATIONS, INC.

- LEGEND**
- VEHICLE TRACKS
 - SLOPE EROSION
 - POSSIBLE BROKEN LEACHATE LINE
 - PATCHY EROSION
 - PONDED WATER
 - TRUCK TURNING AREA
 - WATER SEEP

MW-6 DESTROYED

*Five-Year Review
Newport Dump
July 1993*

APPENDIX H
PUBLIC NOTICE

**THE UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY**
Announces a
PUBLIC INFORMATION SESSION
To Discuss
THE FIVE-YEAR REVIEW
at the
NEWPORT DUMP SUPERFUND SITE
in
WILDER, KENTUCKY

Date: Thursday, March 5, 1990

Time: 6:30 pm - 8:30 pm

Place: Campbell County Library

403 Monmouth Street, Newport, Kentucky

PURPOSE: The U.S. EPA is conducting a five year review to determine whether the clean-up action taken at the Newport Dump Superfund Site is still Protective of human health and the environment. Members of the community are invited to attend this information session to learn more about the site and the EPA Superfund program.

Anyone interested in learning more about activities at the site or those who wish to provide information about the site are encouraged to contact:

Beth Brown
Remedial Project Manager
U.S. Environmental Protection Agency
345 Courtland Street • Atlanta, Georgia 30341
(404) 347-7791