DECISION DOCUMENT

HERSHBERGER LANDFILL
MSL# 180-0386
UNION COUNTY
April 22, 1997

DECLARATION

This decision document presents the Ohio Environmental Protection Agency's (Ohio EPA's) selected remedial action for the Hershberger Landfill, located north of Plain City, Union County, Ohio. The major components of the selected remedial action are as follows:

- Leachate collection, storage and treatment/disposal at a Publicly Owned Treatment Works;
- Cap augmentation, repair and revegetation;
- Landfill gas management;
- The implementation of an approved ground water monitoring plan; and
- Institutional and engineering controls including complete site fencing, signage, and deed restrictions.

The selected remedial action is protective of human health and the environment, attains applicable state requirements, and is cost effective. This remedy utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable for this site. Because this remedial action will result in hazardous substances remaining on-site, the Ohio EPA will monitor the status of the remedial action to ensure that the remedy continues to provide adequate protection of human health and the environment. The remedial action will be required to meet the performance standards contained in this document.

DECISION SUMMARY

The Hershberger Landfill is located at 10519 Crottinger Road, Plain City in Jerome Township, southeast Union County. The area of the landfill is approximately 15 acres (See Figure 1). The landfill operated from 1970-1975 and accepted municipal and industrial wastes. Beginning in 1974, uncontrolled leachate outbreaks were noted. The operator, Jonas Hershberger, attempted to control the leachate but failed. Beginning in 1985, the Ohio EPA and five companies that
allegedly disposed industrial waste at the landfill began negotiations to develop a solution to the leachate outbreaks. In August 1991, four of the companies signed an Administrative Order on Consent with the Ohio EPA to perform a Remedial Investigation/Feasibility Study (RI/FS). The companies that signed the Consent Order were American National Can Company, Monsanto Corporation, OM Scott and Sons Company, and PPG Industries, Inc. The RI took place during 1992-1993. The Ohio EPA approved the RI Report in August 1995 and approved the FS in August 1996.

The purpose of the RI was to characterize the nature and extent of contamination, assess the baseline risks to human health and the environment, and determine the need for further action. The RI data indicates that the extent of contamination is limited to the leachate, surface water, sediment, and surface soil. The source of the contamination is the leachate emanating from the landfill at the northern, eastern, and southern boundaries. The leachate flows northeast, east, and west from the landfill. The analytical data indicates the leachate contains several volatile organic compounds, semi-volatile organic compounds and inorganics (See Table 1); however, the landfill's contribution to the inorganic constituents is uncertain. The surface flow is controlled by drainage tiles at the northern and southern boundaries. The maximum extent of contamination is approximately 2500 feet in an intermittent stream to the northeast and 1200 feet in an intermittent stream to the east (See Figure 2).

According to the RI, direct contact with the leachate exceeds Ohio EPA's human health risk criteria for non-carcinogenic risks. The organic contaminants that contributed most to the risk are 2-butanone, 4-methyl 2-pentanone, ethylbenzene, nitrobenzene, and 4-methylphenol. Acceptable non-cancer risk is defined as a hazard index score of less than 1, which is based on toxic properties of the contaminants. The hazard index score due to incidental ingestion of leachate and dermal contact at Hershberger was calculated at 19 and 2 respectively. Generally, acceptable exposure concentrations for carcinogens represent an excess cancer risk range of between 1 in 10,000 and 1 in 1,000,000, depending on specific site conditions. The carcinogenic risk did not exceed 1 in 10,000 (See Table 2). Based on this assessment, preventing direct contact with the leachate is necessary to reduce the risk to acceptable levels.

The purpose of the FS was to choose the appropriate remedy for the landfill. In order to facilitate the FS process the Ohio EPA consulted the United States Environmental Protection Agency (US EPA), Office of Solid Waste and Emergency Response (OSWER) Directive Presumptive Remedy for CERCLA Municipal Landfill Sites (OSWER Directive 9355.0-47FS), dated September 1993. The US EPA identified containment as the presumptive remedy for CERCLA municipal landfill sites. The Ohio EPA agreed with US EPAs findings and selected containment as the preferred remedy at the Hershberger Landfill. Therefore, the FS focused on alternatives that are specific to containment (i.e., landfill cap designs, leachate collection systems, leachate disposal alternatives, and engineering controls). The Ohio EPA used the following eight evaluation criteria to choose the remedy:

1. Overall protection of human health and the environment;
2. Compliance with applicable or relevant and appropriate laws, rules, standards and
criteria;
3. Long term effectiveness and permanence;
4. Reduction of toxicity, mobility, and/or volume through treatment;
5. Short-term effectiveness;
6. Implementability;
7. Cost; and,
8. Community acceptance.

A summary of the comparative analysis of the containment alternatives evaluated in the FS is provided in Table 3. Complete descriptions of the comparative analysis are in the Final Feasibility Study for the Hershberger Landfill, Plain City, Ohio, dated June 5, 1996.

To evaluate community acceptance, the Ohio EPA public noticed the Preferred Plan, Hershberger Landfill, Union County on October 1, 1996. A public hearing was held on November 20, 1996 and written comments were accepted until December 4, 1996. A summary of the community response is provided in the Responsiveness Summary section in this document. Based on the community response, the Ohio EPA determined that the Preferred Plan is generally acceptable to the community.

The chosen remedy for the Hershberger Landfill is summarized below.

Landfill Cap Repair and Revegetation. This includes filling in areas of differential settlement, stabilizing minor erosion, and establishing vegetation. One of the main purposes of cap repair is to prevent desiccation cracking, which is thought to be the principal cause of water infiltration. This alternative was chosen because it is effective at reducing water infiltration; it is the most cost-effective alternative; it exceeds the requirements for the cap at the time the landfill closed; the necessity of a leachate collection system lessens the importance of the more elaborate cap designs; and this cap design is considered more implementable than the other alternatives.

Complete Perimeter Curtain Drain. A perforated pipe will be installed in a narrow trench inside the waste around the entire perimeter of the landfill. The leachate will drain by gravity to an underground storage tank, where it will be temporarily stored. This alternative was chosen because it is considered to provide the greatest degree of long-term effectiveness and it is considered the most reliable and permanent alternative.

Direct Discharge to a Publicly Owned Treatment Works (POTW). The leachate will be pumped out of the underground storage tank and transported to a POTW where it will be treated. The POTW will need to have an Ohio EPA approved industrial pretreatment program. This alternative will also require a Permit to Install (PTI) from the Ohio EPA, and the permission of the superintendent of the POTW. This alternative was chosen because it is the most implementable, reliable, technically effective, and cost-effective alternative.

Passive Landfill Gas Venting Modified for Possible Conversion to an Active Extraction System. The gas will be vented through vertical vents in a perimeter drain or a permeable cutoff trench,
which will prevent horizontal migration. This alternative was chosen because it is the most cost-effective alternative. The long-term effectiveness of the passive system is approximately the same as the active system. Also, the passive system will be designed so that it can be easily converted to an active system, if necessary.

**Institutional/Engineering Controls.** Institutional and engineering controls are used to restrict access, which will reduce the risk of exposure and help to protect the integrity of the remedy. This includes complete site fencing, deed restrictions, and signage.

**Ground Water Monitoring.** An approved ground water monitoring plan will be implemented as part of the operation and maintenance of the landfill.

**Explosive Gas Monitoring.** An explosive gas monitoring plan in accordance with current solid waste regulations will be implemented as an applicable requirement.

**Performance Standards**

Performance standards are the applicable standards and criteria for the remedial design, remedial action, and operation and maintenance at the Hershberger Landfill. The Ohio EPA identified and referenced applicable standards contained in state law that specifically address the remedial action or other circumstances for each component of the chosen remedy.

**Landfill Cap Standards:**

1. The landfill cap shall be constructed so that it is substantial compliance with Ohio Administrative Code (OAC) Rule 3745-27-10, as effective July 29, 1976. Substantial compliance shall be defined as meeting the specific criteria outlined herein.

2. The cap material used to fill in areas of differential settling shall meet the following specifications:
   a. 100% of the material particles must pass a 10-inch screen, with no more than two particles from a 50 cubic foot sample retained on a 6-inch screen.
   b. 95% of the material particles must pass a 3-inch screen.
   c. 70% of the material particles must pass the #10 screen.
   d. The material that passes the #10 sieve (sand, silt, and clay fractions) must be classified using the United States Department of Agriculture textural classification chart and be a soil type listed in OAC 3745-27-09(F)(4) [effective 1976], or a soil classified as "clay" under the USDA textural classification chart.
3. Cover material used to augment the existing cap shall meet the following construction specifications:

a. Materials shall be compacted to at least 90% of the maximum Standard Proctor Density (American Society of Testing and Materials (ASTM) method D-698). To achieve the required compaction rate, the material will be compacted using loose lifts, no greater than 8 inches thick prior to compaction.

b. Field permeability of the cap material shall not exceed $1 \times 10^{-5}$ cm/sec or laboratory permeability of a cap sample shall not exceed $1 \times 10^{-6}$ cm/sec.

c. A top soil layer of at least 6 inches thick shall be placed over areas of the cap exhibiting surface slopes of less than 5%. A vegetative layer to form a complete and dense vegetative cover shall be established and maintained. Spot application of topsoil shall be applied to the landfill outslopes (areas with surface slopes greater than 5%) at places exhibiting erosion or lacking vegetation. A dense vegetative cover shall be established and maintained at these areas.

d. The cover shall be constructed to minimize ponding and erosion.

4. The following tests shall be performed during the placement of clay soils:

a. During construction of the cap augmentation, compaction shall be monitored to ensure the proper specifications are met using either of the following methods: nuclear densimeter (ASTM D-2922); sand cone (ASTM D-1556); or, rubber balloon (ASTM D-2167) at a rate of no less than one test for every acre-lift of clay soils.

b. Upon completion of the placing of clay soils and before placement of topsoil, the field permeability of the cap material shall be determined using Boutwell two-stage permeameter, or other acceptable means, at a rate of no less than one test for every two acres of cap augmentation. Alternatively, laboratory permeability with a Shelby Tube sample may be used.

5. The cover shall be inspected and maintained in accordance with OAC 3745-27-14 (A)(2)[effective 1994].

Leachate Management:

1. The objective of leachate management is to prevent the flow of leachate emanating from the landfill surface to the extent necessary to protect human health and the environment. To meet this objective, a system shall be designed and constructed to collect and dispose of the leachate. The leachate collection and disposal system shall be constructed,
operated and maintained in accordance with OAC 3745-27-08(C)(5)[effective 1994] and OAC 3745-27-14(A)(1)[effective 1994] and shall:

- Rely on gravity drainage;
- Be established near the landfill perimeter;
- Have an aggregate backfill with permeability of no less than $1 \times 10^{-3}$ cm/sec;
- Have materials of construction compatible with chemical compounds present in the leachate;
- Have conveyance piping of a minimum diameter of 6 inches;
- Have a minimum trench depth of 6 feet; and
- Have clean-out ports and solids knock-out sumps

2. The Hershberger Landfill PRP Group shall be responsible for quarterly inspections of the leachate collection system in accordance with 3745-27-14(A)(3) [effective 1994].

Landfill Gas Management:

1. The explosive gas monitoring plan shall be prepared and implemented in accordance with OAC 3745-27-12 [effective 1994].

Ground Water Monitoring:

1. A ground water monitoring sampling and analysis plan shall be prepared and implemented in accordance with OAC 3745-27-10 (C)(2) and [effective 1994].

2. The monitoring parameters shall be those constituents listed in OAC 3745-27-10, Appendix I [effective 1994].

3. The monitoring wells that shall be monitored are MW-1I, MW-2I, MW-3I, MW-4I, and MW-5I.

4. The frequency of ground water monitoring shall be once every three years.

Institutional and Engineering Controls:

1. Controls to maintain the integrity of the landfill cap, leachate management system, drainage system and any other component of the landfill design shall be implemented in accordance with OAC 3745-27-14 [effective 1994].

RESPONSIVENESS SUMMARY

The purpose of the responsiveness summary is to address public comments received on the Preferred Plan, RI/FS Report, and other information in the Administrative Record. No
comments were received on the RI/FS Report or the Administrative Record, therefore, this section contains a summary of the verbal and written comments on the Preferred Plan and the Ohio EPA's responses.

The Ohio EPA issued the Preferred Plan for public review and comment on October 1, 1996. On November 20, 1996 a public information session and hearing was held at the Jerome Township Hall in Union County. Five members of the community testified at the hearing. The deadline for written comments was December 4, 1996. The comments on the Preferred Plan are contained in Attachment A, Ohio Environmental Protection Agency, Public Hearing and Written Comments, Hershberger Landfill Preferred Plan. The comments in Attachment A are summarized and addressed below.

**Comment.** Several residents expressed concern about potential ground water contamination. One resident noted that there is a downward vertical gradient between the shallow and/or intermediate wells and the deep wells in at least three of the well pairs at the site. The concern is that the downward gradient could drive the contamination into the aquifers where local residents obtain their potable water. Other residents are concerned about the sampling frequency, monitoring well placement, and depth of wells.

**Ohio EPA Response.** The Ohio EPA is also concerned about protecting the ground water and will require continued ground water monitoring as required by current solid waste regulations. Based on our evaluation of the potential for contaminant migration, we concluded that contaminant migration from the Hershberger Landfill to the underlying potable water aquifer(s) is highly unlikely. We considered all possible transport mechanisms including advective transport, waste-induced changes in permeability, direct conduits, free migration, and molecular diffusion. A direct conduit; for example, an abandoned water well beneath the landfill, is the only conceivable way contaminants could migrate to the aquifer(s). The principal reasons for this conclusion are provided below.

- In order for the contaminants to impact the ground water aquifer(s), they must first migrate through a uniform 55-90 foot thick low permeability silty-clay till that underlies the landfill. Assuming the worst case scenario in which a particle of ground water migrates freely through the till, the Ohio EPA calculates it would take over 1500 years for that particle of ground water to move downward 55 feet. In reality, it would take much longer due to retardation factors and longer still, if ever, for a particle of organic contamination to migrate 55 feet in its toxic form. It would take longer for the organic contaminants to migrate unchanged through the till because they are subject to natural attenuation processes, principally biodegradation.

- Direct measurement of ground water confirms that the contaminants have not migrated to the ground water. For example, no contaminants associated with the landfill were detected at MW-2S, which is screened in a vertical fracture six feet below the base of the landfill. If any appreciable vertical migration of contaminants has occurred, then it is very likely that the contaminants would have been detected in this well.
The apparent downward vertical hydraulic gradient was noted in the RI Report (Section 6.2, Page 6-14). The downward gradient was measured at well clusters MW-1 and MW-5 between the intermediate and deep wells. The difference in the static water levels are between .005-0.07 feet. In order for the downward vertical hydraulic gradient to "drive" contaminants from the intermediate to the deep aquifer, contaminated ground water must first reach the intermediate aquifer. As described above, this is unlikely even in a worst-case scenario.

The vertical hydraulic conductivity of the till meets or exceeds current federal and state standards for recompacted clay liners constructed at the base of landfills. The vertical conductivity of the unoxidized till was measured at $1 \times 10^{-8}$ cm/sec to $2.5 \times 10^{-8}$ cm/sec. The state and federal standard for recompacted clay liners is $1 \times 10^{-7}$ cm/sec.

Comment. Some residents were concerned about the permanence of the containment action and suggested technologies that might reduce the toxicity of the waste through treatment technologies.

Ohio EPA Response. The Ohio EPA chose containment as the preferred alternative based on US EPA's guidance *Presumptive Remedy at CERCLA Municipal Landfill Sites*. US EPA found that containment is nearly always the preferred alternative at landfills. The reason for this is that other potential remedial technologies either cannot be implemented or would be ineffective because of the technical difficulties in treating the large volumes of mixed solid and industrial/hazardous waste in landfills.

Comment. Some residents expressed concern about the ability or motivation of the of the potentially responsible parties (PRPs) to follow through with the work and subsequent operation and maintenance in the long-term. The residents stated that it is important to have a financial assurance instrument in place.

Ohio EPA Response. The PRPs will enter into a legally binding agreement called an Administrative Order on Consent (Consent Order) with the Ohio EPA for the remedial design/remedial action and operation and maintenance of the chosen remedy. By agreeing to the terms and conditions in the Consent Order, the PRPs will be obligated to perform the work specified in the Consent Order. A financial assurance instrument may be included in the Consent Order, but this has not been determined yet.

Comment. Some residents expressed concern about the ability of the proposed cap to prevent leachate production. They stated that native Ohio clays are prone to desiccation cracking; therefore, if the cap is allowed to dry out, the same leachate problem will return. They believe the cap should prevent water infiltration.

Ohio EPA Response. Desiccation cracks are thought to be the principle factor in water infiltration and subsequent leachate production at Hershberger. One of the main objectives for the proposed cap augmentation is to prevent desiccation cracks from occurring. This will be
accomplished by establishing a thick vegetative layer that shades the cap material and provides a more consistent moisture regime. It is anticipated that this will reduce annual water infiltration by 82%. In addition, the chosen remedy stresses leachate collection/disposal, which is the only way to ensure that the leachate is contained. Therefore, the volume of water infiltration through the cap is not critical in reducing the risk.

**Comment.** One resident expressed a concern about the pace of the progress at the site.

**Ohio EPA Response.** The Ohio EPA and the PRP group have taken and are taking steps to streamline the process and facilitate the remedy as much as possible. The RI/FS process helps to ensure that the correct decisions are being made and that residents participate in those decisions, which takes time.

**Comment.** Some residents are concerned about the neighboring Unico Landfill and want to know what the Ohio EPA is doing about it.

**Ohio EPA Response.** The Ohio EPA continues to assess the situation at the Unico Landfill. An updated assessment of the site was completed during 1996. Any questions should be addressed to Emanuel Ayeni or Deborah Strayton at the Central District Office of the Ohio EPA (614-728-3778).

**Comment.** One resident stated a concern over the health of the Darby Creek Drainage Basin.

**Ohio EPA Response.** The Ohio EPA is also concerned about the health of the Darby Creek Drainage Basin. The Ohio EPA completed a comprehensive study, *Biological and Habitat Study of Sugar Run, Hershberger Landfill, Union and Madison Counties, Ohio*, dated June 14, 1996. This study concluded that the Hershberger Landfill has not impacted Sugar Run, which confirms the conclusions of the RI Report.
Approved by:  

Jan Carlson, Chief, DERR  

Signature:  

Mike Czeczele, Assistant Chief, DERR  

Signature:  

Raymond Beaumier, Manager, DERR  

Signature:  

Deborah Strayton, Supervisor, DERR  

Signature:  

Date:  

6/19/77  

6/19/77  

6/19/77
Figures

Hershberger Landfill Decision Document
Tables

Hershberger Landfill Decision Document
TABLE 1

Constituents Detected in Leachate, Surface Water and Sediment During the Remedial Investigation at Hershberger Landfill

<table>
<thead>
<tr>
<th>Volatile Organics</th>
<th>Semi-Volatile Organics</th>
<th>Inorganics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene</td>
<td>Diethyl phthalate</td>
<td>Antimony</td>
</tr>
<tr>
<td>Chlorobenzene</td>
<td>Di-n-butyl phthalate</td>
<td>Aluminum</td>
</tr>
<tr>
<td>Toluene</td>
<td>Butylbenzyl phthalate</td>
<td>Arsenic</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>Bis(2-ethylhexyl)phthalate</td>
<td>Barium</td>
</tr>
<tr>
<td>m/p Xylenes</td>
<td>Di-n-octyl phthalate</td>
<td>Beryllium</td>
</tr>
<tr>
<td>o-Xylenes</td>
<td>Isophorone</td>
<td>Cadmium</td>
</tr>
<tr>
<td>Acetone</td>
<td>Nitrobenzene</td>
<td>Cobalt</td>
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<td>2-Butanone</td>
<td>Napthalene</td>
<td>Chromium</td>
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<td>4-Methyl-2-pentanone</td>
<td>Fluoranthene</td>
<td>Copper</td>
</tr>
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<td>2-Hexanone</td>
<td>Benzoic acid</td>
<td>Iron</td>
</tr>
<tr>
<td>1,1 Dichloroethane</td>
<td>Phenol</td>
<td>Lead</td>
</tr>
<tr>
<td>cis 1,2 Dichloroethene</td>
<td>4-Methylphenol</td>
<td>Magnesium</td>
</tr>
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<td>Trichloroethene</td>
<td>2,4-Dimethylphenol</td>
<td>Manganese</td>
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<td></td>
<td>3-Nitroaniline</td>
<td>Mercury</td>
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<td>Nickel</td>
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<td>Selenium</td>
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<td>Dibenzon(a,h)anthracene</td>
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<td>Benzo(g,h,i)perylene</td>
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<td></td>
<td>4-Chloro-3-methylphenol</td>
<td>Vanadium</td>
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<tr>
<td></td>
<td></td>
<td>Zinc</td>
</tr>
<tr>
<td></td>
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<td>Cyanide</td>
</tr>
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### Table 2

**Hershberger Landfill Risk Summary**

<table>
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<tr>
<th>Medium/Exposure Route</th>
<th>Non-carcinogenic Hazard Index Score</th>
<th>Carcinogenic Risk</th>
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<tr>
<td><strong>Leachate</strong></td>
<td></td>
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<tr>
<td>Dermal</td>
<td>2</td>
<td>8E-06</td>
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<td>Oral</td>
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<td>Oral</td>
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<td><strong>Sediment</strong></td>
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<td>Cost</td>
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<td>Description</td>
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<td>--------</td>
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</tr>
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<td>$386400</td>
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**TABLE 3: COMPARISON OF ALL REMEDIAL ALTERNATIVES (Page 1 of 2)**
<table>
<thead>
<tr>
<th>N/A</th>
<th>N/A</th>
<th>Moderately Effective</th>
<th>None</th>
<th>Reduce Human Contact With</th>
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<tbody>
<tr>
<td>$69,700</td>
<td>Reliable</td>
<td>Moderately Effective</td>
<td>None</td>
<td>Reduce Human Contact With</td>
<td>Leverage</td>
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<td>$343,400</td>
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<td>$325,000</td>
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<td>Reduce Explosion Risk</td>
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<tr>
<td>$1,177,000</td>
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<td>Based on results of ALR</td>
<td>Reduce Explosion Risk</td>
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<td>$696,100</td>
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<td>Effective</td>
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<tr>
<td>N/A</td>
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**Expected Reliability:**

**Effectiveness:**

**Environmental Impact:**

**Potential for Alternative Remedial Action:**

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*[Note: The table is partially cut off and information is not complete]*

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Attachment 1

Public Hearing and Written Comments on the Preferred Plan

Hershberger Landfill
December 2, 1996

Fred Myers
Site Coordinator
Ohio EPA
Central District Office
3232 Alum Creek Drive
Columbus, OH 43207

Re: Hershberger Landfill
    Preferred Plan Public Comments

Dear Mr. Myers:


Sincerely,

[Signature]

J. L. Kilby,

JLK/pmh
cc: T. Dimond
    J. Karaganis
    N. Rountree
    D. Morris
    S. Doran
    D. Weber

RECEIVED
DEC 03 1996
OHIO EPA/COO
December 4, 1996

Ohio Environmental Protection Agency
Central District Office
3232 Alum Creek Drive
Columbus, OH 43207
ATTN: Fred Myers, Site Coordinator

RE: Hershberger Landfill

Dear Sir:

Enclosed are several well logs of private water wells drilled near the Hershberger Landfill. The well logs appear to indicate that many wells in the area are much shallower than the reported 190 feet to water bearing formations.

While this may not indicate a more serious problem in regards to well contamination, the logs seem to contradict statements made at the public hearing on November 20, 1996.

If you have any questions, please contact this office.

Sincerely,

[Signature]
Paul Pryor, R.S.
Supervising Sanitarian

PP/jj
<table>
<thead>
<tr>
<th>Name</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berry Joseph E</td>
<td>873-5513</td>
</tr>
<tr>
<td>Ch Van Steve</td>
<td>873-5715</td>
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<tr>
<td>Watson David M</td>
<td>873-3398</td>
</tr>
<tr>
<td>Morris Robert</td>
<td>873-4358</td>
</tr>
<tr>
<td>Long Jack</td>
<td>873-8618</td>
</tr>
<tr>
<td>Grywalski Roger</td>
<td>673-8178</td>
</tr>
<tr>
<td>Rose Sally S</td>
<td>673-4146</td>
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<tr>
<td>Seiler Karen</td>
<td>873-1353</td>
</tr>
<tr>
<td>Seiler Mark</td>
<td>873-1353</td>
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<td>Babbs Dennis P</td>
<td>873-1814</td>
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<tr>
<td>Wright Gregory L</td>
<td>873-1109</td>
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<td>Trachsel Victoria L</td>
<td>873-4151</td>
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<td>Miller David W</td>
<td>873-4982</td>
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<tr>
<td>Cooperider William</td>
<td>873-4155</td>
</tr>
<tr>
<td>Woodell Linda</td>
<td>873-4795</td>
</tr>
<tr>
<td>Sparks Thomas</td>
<td>873-4155</td>
</tr>
<tr>
<td>Garner Michael S</td>
<td>873-4155</td>
</tr>
<tr>
<td>Miller Albert S</td>
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<tr>
<td>Hay S M</td>
<td>873-3954</td>
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<tr>
<td>Taylor Dan L</td>
<td>873-8297</td>
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<td>Armentrout Kenneth</td>
<td>873-5710</td>
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<td>Huff Mike</td>
<td>873-5769</td>
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<td>Huff Shelly</td>
<td>873-3251</td>
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<td>Miller Ellen</td>
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<tr>
<td>Grooms Roger N</td>
<td>873-4749</td>
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<td>Gingerich David</td>
<td>673-3923</td>
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<td>Gingerich Abraham R</td>
<td>873-5340</td>
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<td>Gingerich Marvin</td>
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<td>Millington William</td>
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<td>Gingerich Chris W</td>
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<td>Stottlemeyer George</td>
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<td>Stottlemeyer Richard</td>
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<td>Friend Dewitt Jr</td>
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<tr>
<td>Farris Jim T</td>
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<td>Heiskal Donald</td>
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<tr>
<td>Prochaska David</td>
<td>873-3274</td>
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<tr>
<td>Prochaska Susan</td>
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<tr>
<td>Sorg Karolina</td>
<td>873-3274</td>
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<tr>
<td>Hegendorfer Debbie</td>
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<td>Gross David L Rev</td>
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<td>Preston L T</td>
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<td>True Faith Bapt CH</td>
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<td>Mathers Claude</td>
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<tr>
<td>Rausch Mark R</td>
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<tr>
<td>Lambert Albert</td>
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<tr>
<td>Racine Marc R</td>
<td>873-3274</td>
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<tr>
<td>Oiler Dale</td>
<td>873-3274</td>
</tr>
<tr>
<td>1 Bus</td>
<td>11956</td>
</tr>
</tbody>
</table>

CUMBERLAND 43140 LONDON
WEALTH CODE 59
WELL LOG AND DRILLING REPORT

Ohio Department of Natural Resources, Division of Water
1939 Fountain Square Drive, Columbus, Ohio 43224 Phone: (614) 265-6739

Permit Number

JURIS TOWNSHIP SECTIONS/LOT NO.
UNION JEROME (CIRCLE ONE)

OWNER/COMPANY George Suttles/Henry Stone Property Address 17000 Cowan Rd
(just one)

LOCATION OF PROPERTY Approximate N of Taylor Rd on the East side of Cowan Rd

CONSTRUCTION DETAILS

<table>
<thead>
<tr>
<th>BSING</th>
<th>Borehole Diameter</th>
<th>in.</th>
<th>Length</th>
<th>ft.</th>
<th>Wall Thickness</th>
<th>in.</th>
<th>Type</th>
<th>Drill</th>
<th>Method of Installation</th>
<th>Precast</th>
<th>Volume used</th>
<th>ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter</td>
<td>Length</td>
<td>in.</td>
<td>Length</td>
<td>ft.</td>
<td>Wall Thickness</td>
<td>in.</td>
<td>Type</td>
<td>Drill</td>
<td>Method of Installation</td>
<td>Precast</td>
<td>Volume used</td>
<td>ft.</td>
</tr>
<tr>
<td>10 in.</td>
<td>100 ft.</td>
<td>8 in.</td>
<td>100 ft.</td>
<td>8 in.</td>
<td>Steel</td>
<td>2 in.</td>
<td>4 ft.</td>
<td>Rotary</td>
<td>Auger</td>
<td>200 ft.</td>
<td>10 ft.</td>
<td></td>
</tr>
</tbody>
</table>

GROUT

<table>
<thead>
<tr>
<th>Material</th>
<th>Type</th>
<th>Volume used</th>
<th>ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precast</td>
<td>200 ft.</td>
<td>10 ft.</td>
<td></td>
</tr>
</tbody>
</table>

GRAVEL PACK (Filter Pack)

<table>
<thead>
<tr>
<th>Material</th>
<th>Type</th>
<th>Volume used</th>
<th>ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filtered</td>
<td>200 ft.</td>
<td>10 ft.</td>
<td></td>
</tr>
</tbody>
</table>

CREEN

<table>
<thead>
<tr>
<th>Type (wire wrapped, louvered, etc.)</th>
<th>Precast</th>
<th>Volume used</th>
<th>ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wrapped Wire</td>
<td>200 ft.</td>
<td>10 ft.</td>
<td></td>
</tr>
</tbody>
</table>

CATHERING

<table>
<thead>
<tr>
<th>Cable</th>
<th>Diameter</th>
<th>in.</th>
<th>Length</th>
<th>ft.</th>
<th>Slot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rotary</td>
<td>3 8 in.</td>
<td>100 ft.</td>
<td>200 ft.</td>
<td>10 ft.</td>
<td></td>
</tr>
</tbody>
</table>

WELL TEST

- Test rate: 20 gpm
- Duration of test: 2 days
- Drawdown: 17 ft
- Measured from: Top of casing
- Static level (depth to water): 10 ft
- Date: 4/19/92
- Quality (clear, cloudy, taste, odor): Clear

*Attach a copy of the pumping test record, per section 1521.05, ORC

PUMP

- Type of pump: 20 gpm
- Capacity: 20 gpm
- Pump set at: 5.6 ft
- Pump installed by: Union Co. Health Dept.

SKETCH SHOWING WELL LOCATION

Show distances well lies from numbered state highways, street intersections, county roads, etc.

RECEIVED

MAY 28, 1992

UNION CO. HEALTH DEPT.

DNR 762936

If additional space is needed to complete well log, use next consecutively numbered form.

Drilling Firm: Brown/Wright Well Drilling
Address: 1733 St Rt. 168
City, State, Zip: Wheeling, Ohio 43001
ODR Registration Number

Completion of this form is required by section 1521.05, Ohio Revised Code. File within 30 days after completion of drilling.

ORIGINAL COPY TO: ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224

Blue - Customer's copy Pink - Driller's copy Green - Local Health Dept. copy
<table>
<thead>
<tr>
<th>DEPTHS AT WHICH WATER IS ENCOUNTERED</th>
<th>WELLLOG</th>
<th>CONSTRUCTION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>From: 85.50 ft.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To: 18.75 ft.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diameter: 4.00 in.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material: Steel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length: 66.75 ft.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wall Thickness: 0.125 in.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Method of Installation: Adaptor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volume used: 0.00 cu. ft.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pumping: 13.60 gpm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of test: 1.00 hrs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date of completion: 1977-01-28</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** Attach a copy of the pumping test record per section 121.20 ORC.

**SKETCH SHOWING WELL LOCATION**

- Pump set at: 85.50 ft.
- Drawdown: 18.75 ft.
- Static Level: 13.60 gpm
- Groundwater level: 1.00 hrs.
- Test date: 1977-01-28
- Capacity: 0.00 cu. ft.

**WELL TEST**

- Type of pump: Steel
- Diameter: 4.00 in.
- Material: Steel
- Length: 66.75 ft.
- Wall Thickness: 0.125 in.
- Method of installation: Adaptor
- Volume used: 0.00 cu. ft.
- Pumping: 13.60 gpm
- Duration of test: 1.00 hrs.
- Date of completion: 1977-01-28

**FEATURES OF WELL**

- Water level: 13.60 gpm
- Groundwater level: 1.00 hrs.
- Pumping rate: 13.60 gpm
- Duration: 1.00 hrs.
- Date: 1977-01-28

**RECEIVED**

- Checkmark: Yes

**LOCATION**

- Township: 36
- Range: 14
- Section: 26
- Lot: 1

**PROPERTY ADDRESS**

- Address: 1640 N. 45th St.
- City: Columbus
- State: OH
- Zip: 43224

**CONTACT INFORMATION**

- Phone Number: (614) 262-6816

**WELL DRILLING REPORT**

- Ohio Dept., Div. of Water Resources
- Permit Number: 750219

**DEPARTMENT OF NATURAL RESOURCES**

- Division of Water Resources
- Permit Number: 750219
- Phone Number: (614) 262-6816
**WELL LOG AND DRILLING REPORT**

**Department of Natural Resources, Division of Water**
1939 Fountain Square Drive, Columbus, Ohio 43224 Phone (614) 255-6739

**Permit Number** 771842

**TOWNSHIP** Swedes

**SECTION/LOT No.** 138-13

**PROPERTY ADDRESS** 10595 CROTHILL RD

**LOCATION OF PROPERTY** 1/4 mile south of Adams Rd

**ADDRESS OF WELL LOCATION A**

---

**CONSTRUCTION DETAILS**

- **Casing**
  - Diameter: [inches/feet]
  - Borehole Diameter: [inches/feet]
  - Wall Thickness: [inches/feet]
- **Grout**
  - Material:
  - Volume used:
- **Method of installation**:
  - Natural material
  - Other:
- **Depth**:
  - Placed from: [feet]
  - To: [feet]
- **Gravel Pack (Filter Pack)**
  - Material:
  - Volume used:
  - Method of installation:
  - Depth:
    - Placed from: [feet]
    - To: [feet]
- **Plugless Device**
  - Adapter
  - Preassembled unit
- **Use of Well**
  - Rotary
  - Cable
  - Augered
  - Driven
  - Dug
  - Other:
  - Date of Completion: 2-17-93

**SCREEN**

- **Type (wire wrapped, louvered, etc.)**
  - Material:
  - Length:
  - Diameter:
  - Set between:

**WELL LOG**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Screen Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-15</td>
<td>Clay</td>
</tr>
<tr>
<td>15-80</td>
<td>Gravel</td>
</tr>
<tr>
<td>80-127</td>
<td>Water Sand</td>
</tr>
<tr>
<td>127-130</td>
<td>Lime Stone (broken)</td>
</tr>
</tbody>
</table>

**WELL TEST**

- **Bailing**
  - Test rate: 2.0 gpm
  - Duration of test: 2 hours
- **Pumping**
  - Drawdown: [feet]
  - Measured from:
    - Top of casing
    - Ground level
    - Other:
  - Static Level (depth to water): 35 ft
  - Date: [mm/dd/yyyy]
  - Quality (clear, cloudy, taste, odor):
  - [Attach a copy of the pumping test record, per section 1521.05, OAC]

**PUMP**

- Type of pump:
- Capacity: [gpm]
- Pump set at: [feet]
- Pump installed by:

**SKETCH SHOWING WELL LOCATION**

Show distances well lies from numbered state highways, street intersections, county roads, etc.

---

**RECEIVED**

AUG 16 1993

UNION CO. HEALTH DEPT.

WELL IS 130' DEEP

---

*Additional space is needed to complete well log use next consecutively numbered form.*

I hereby certify the information given is accurate and correct to the best of my knowledge.

Signed: [Signature]

Date: 8-9-93

ODH Registration Number: 111

Completion of this form is required by section 1521.05, CH 0 Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY TO - ODH, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224
WE Ell LOG AND DRILLING REPORT
Ohio Department of Natural Resources
Division of Water, 1939 Fountain Square Drive
Columbus, Ohio 43224 Phone (614) 265-6739

Permit Number: 140195
TOWNSHIP: Jerome
SECTION LOT: (Circle One)

PROPERTY ADDRESS: 10200 De Soto Drive, Plain City, OH
Zip Code: 43064

construction details:

Drill Pipe: Steel Length: 90 ft. Wall Thickness: 1/4 in.

GROUT:
Material: Cuttings Volume used: 30 gallons
Method of Installation: Wet Method
Depth: placed from Bottom to Surface: 90 ft.

GRAVEL PACK (Filter Pack):
Material: Volume used:
Method of Installation:
Depth: placed from Bottom to Surface:

WELL LOG:

WELL TEST:

Top Soil: 0' 1"
Gray Clay: 1' 20"
Gray Clay - Sand: 20' 49"
Gray Clay - Sand: 49' 50"
Gray Clay: 50' 10"
Sand: 70' 80"
Sand & Gravel: 80' 85"
Gray Clay: 85' 87"
Water: 87' 90"

Test Rate: 0 gpm Duration of test: 1 1/2 hrs
Drawdown: 46 ft.
Measured from: Top of casing / Ground level / Other
Static Level (depth to water): 46 ft. Date: Aug 7/95
Quality (clear, cloudy, taste, odor):

* (Attach a copy of the pumping test record, per section 1521.05, ORC)

PUMP:
Type of pump: Scroll Pump Capacity: 40 gpm
Pump set at: 60 ft.
Pump installed by:

WELL LOCATION:
Location of well in State Plane coordinates, if available:
Zone: x y
Elevation of well: ft./m. Datum plane: NAD27 NAD83
Source of coordinates: GPS Survey Other

Sketch a map showing distance well lies from numbered state highways, street intersections, county roads, buildings or other notable landmarks.

additional space is needed to complete well log, use next consecutively numbered form.

Ining Firm: Arthur E. Plummer 
Signed: Robert E. Plummer
Date: Aug 7/95

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling

ORIGINAL COPY TO - ODRN, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS, OHIO 43224

State, Zip: Columbiana, Ohio 43061 ODNR Registration Number: 141

 Arthur E. Plummer

1995
WELL LOG AND DRILLING REPORT
Ohio Department of Natural Resources, Division of Water
1939 Fountain Square Drive, Columbus, Ohio 43224 Phone (614) 265-6739
Permit Number 895-94

Union Township
Jerome Section/Lot No. (Circle One) 9-94

PROPERTY ADDRESS: 10925 Crooked Rd
ADDRESS OF WELL LOCATION:

CONSTRUCTION DETAILS

Borehole Diameter: 5 in.
Length: 78 ft.
Wall Thickness: 2.5 in.

GROUT
Material: Bentonite
Volume used:
Method of installation: Natural Material
Depth: placed from___ ft. to ___ ft.

GRAVEL PACK (Filter Pack)
Material: 
Volume used:
Method of installation:
Depth: placed from___ ft. to ___ ft.

Pitless Device: No Adapter
Use of Well: 
Non-Operative

WELL LOG

DATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED.
Water color, texture, hardness, and formation:

From 
To

Clay
40

Clay Sand
40-75

Gravel Mix
75-134

Limestone

WELL TEST

Bailing
Pumping
Test rate:
Duration of test:

0 gpm
15 hrs

Drawdown:

Measured from:

Drop of casing

5 ft. Date: 6-29

Static Level (depth to water):

Quality (clear, cloudy, taste, odor):

CLEAR

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

PUMP

Type of pump
Sub
Capacity: 10 gpm
Pump set at:

SKETCH SHOWING WELL LOCATION

Show distances well lies from numbered state highways, street intersections, county roads, etc.

RECEIVED

OCT-5 1994

JELL IS 134 DEEP

I hereby certify the information given is accurate and correct to the best of my knowledge.

Signed

W. D. Daniel Pope

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.
## WELL LOG

<table>
<thead>
<tr>
<th>Date at which Water is Encountered</th>
<th>From</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shale</td>
<td>0</td>
<td>50</td>
</tr>
<tr>
<td>Shale</td>
<td>50</td>
<td>57</td>
</tr>
<tr>
<td>Fine sand</td>
<td>57</td>
<td>68</td>
</tr>
<tr>
<td>Clays</td>
<td>68</td>
<td>79</td>
</tr>
<tr>
<td>Keene limestone</td>
<td>79</td>
<td>87</td>
</tr>
<tr>
<td>Keene limestone</td>
<td>87</td>
<td>92</td>
</tr>
<tr>
<td>Keene limestone</td>
<td>89</td>
<td>112</td>
</tr>
<tr>
<td>Keene limestone</td>
<td>112</td>
<td>142</td>
</tr>
</tbody>
</table>

- Color, Texture, Hardness, and formation: shale, sand, limestone, gravel, clay, sand, etc.

### WELL TEST

<table>
<thead>
<tr>
<th>Test</th>
<th>Rate</th>
<th>Duration</th>
<th>Drawdown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pumping*</td>
<td>25 gpm</td>
<td>10 hrs</td>
<td>10 ft</td>
</tr>
</tbody>
</table>

- Measured from: top of casing, ground level, other
- Static Level (depth to water): 50 ft
- Quality (clear, cloudy, taste, odor)

*Attach a copy of the pumping test record, per section 1521.05, OAC*

### PUMP

- Type of pump: LOPEZ 1/2 HP
- Capacity: 2.5 GPM
- Pump set at: 100 ft
- Pump installed by: [Name]

### WELL LOCATION

- Location of well in State Plane coordinates, if available:
- Zone: [Zone]
- Elevation of well: [Elevation] ft
- Datum plane: [Datum]
- Source of coordinates: [GPR, Survey, Other]

Sketch a map showing distance well lies from numbered state highways, street intersections, county roads, buildings or other notable landmarks.

---

I hereby certify the information given is accurate and correct to the best of my knowledge.

Signed: [Name]

Date: 3/4/96
WELL LOG AND DRILLING REPORT

 Permit Number 1548-9

 Property Address 10821 CROTHINGER RD

 Property Address Mini SOUTH OF Adams Rd

 CONSTRUCTION DETAILS

 Borehole Diameter 7 1/4 in.
 Length 170 ft.
 Wall Thickness 2 65 in.

 Material BENONITE
 Volume used 10 cu.

 Method of Installation
 Depth: placed from 0 ft to 170 ft.

 GRAVEL PACK (Filter Pack)
 Material Fea. Cable
 Volume used

 Method of Installation
 Depth: placed from ft to ft.

 PUMP
 Type of pump SUB
 Capacity 10 gpm
 Pump set at 75 ft.
 Pump installed by SEISMIC ONLY

 WELL LOCATION
 Location of well in State Plane coordinates, if available:
 Zone x y
 Elevation of well ft. Datum plane: NAD27 NAD83
 Source of coordinates GPS Survey Other

 Sketch a map showing distance well lies from numbered state highways, street intersections, county roads, buildings or other notable landmarks.

 WELL TEST
 Test rate 5.2 gpm Duration of test 1 hrs
 Drawdown ft.

 Measured from: Top of casing ground level Other
 Static Level (depth to water) 58 ft. Date: 6-7-1
 Quality (clear, cloudy, taste, odor) CLEAR

 (Attach a copy of the pumping test record, per section 1521.05, ORC)

 OTHER

 Additional space is needed to complete well log, use next consecutively numbered form.

 I hereby certify the information given is accurate and correct to the best of my knowledge.

 seismic daily

 Ohio Department of Natural Resources
 Division of Water, 1939 Fountain Square Drive
 Columbus, Ohio 43224 Phone (614) 265-6739

 Original Copy to: ODNR, Division of Water, 1939 Fountain Sq. Drive, Cols., Ohio 43224
OHIO ENVIRONMENTAL PROTECTION AGENCY
PUBLIC HEARING

Re:
Hershberger Landfill
Preferred Plan

Wednesday Evening Session
November 20, 1996
Jerome Township Community Center
9777 Industrial Parkway
Plain City, Ohio

Heard pursuant to assignment at 7:30 p.m.

BEFORE:

Ric Queen, Public Involvement Coordinator
Fred Myers, Division of Emergency and Remedial Response
Brian Tucker, Division of Emergency and Remedial Response

ORIGINAL

Armstrong & Okey, Inc.
185 South Fifth Street
Columbus, Ohio 43215
(614)224-9481 - (800)223-9481
Fax - (614)224-5724
Wednesday Evening Session
November 20, 1996

-- --

MR. QUEEN: We'll now convene for the public hearing.

The purpose of tonight's hearing is to obtain comments on the preferred plan issued on October 1, 1996 by Ohio EPA, which outlines the Agency's preferred alternative to address contamination at the Hershberger Landfill.

The Hershberger Landfill is located in Union County off Crottinger Road, north of Plain City in Jerome Township.

Testimony and all written comments received as part of the official record will be considered by Ohio EPA as part of its analysis of the technical, social and economic considerations associated with the proposed plan.

All exhibits including maps, photographs, letters, and any physical evidence referred to in your testimony will, if you wish, become a part of the official record and cannot be returned.

A court reporter is here tonight to make a stenographic record of the proceedings.

Written comments must be received by Ohio

ARMSTRONG & OKEY, INC., Columbus, Ohio
EPA by the close of business on December 4, 1996, or can be filed with me tonight.

Comments may be sent to Ohio EPA, Central District Office, Attention Fred Myers, Site Coordinator, 3232 Alum Creek Drive, Columbus, Ohio, 43207.

The final decision will be communicated to all involved parties, persons who have submitted comments and all persons who present testimony at tonight's hearing.

Final actions of the Director may be appealed to the Environmental Board of Review. The Board is a separate board from Ohio EPA and reviews cases in accordance with Ohio's laws and rules.

Decisions of the Board may be appealed to the Court of Appeals in Franklin County. Or, if the appeal arises from the alleged violation of a law or regulation, to the Court of Appeals of the district in which the violation was alleged to have occurred. Any order of the Court of Appeals is also appealable to the Ohio Supreme Court.

If you wish to present testimony at tonight's hearing and have not already completed a blue card, please do so at this time. The cards are available at the registration table or from

ARMSTRONG & OKEY, INC., Columbus, Ohio
Kevin.

There was no pre-registration for
testifying at this hearing. Persons will be called
to testify in the order in which we received the
blue cards.

If you wish to speak later in the hearing,
please complete a blue card and bring it to me when
you have decided to testify. Once you have given
testimony it will not be possible for you to
testify a second time. However, you may submit
additional written testimony tonight or before the
end of the comment period.

There is no cross-examination of speakers
or representatives of Ohio EPA in public hearings
of this type. Ohio EPA public hearings afford
citizens an opportunity to provide input.

Therefore, I will not be able to answer
questions during tonight's hearing. If you have a
question, phrase your testimony in the form of a
question and the Agency will address your question
in writing.

Out of courtesy to elected officials here
tonight, I request that they make themselves known
to me at this time and I will call on them first to
testify, if they so request.
As I call your name, step up to the microphone, state your name and spell it for the record.

Edward Ambercrombie.

MR. AMBERCROMBIE: I filled out the card but I don't have any testimony to give.

MR. QUEEN: Okay, thank you very much. Ann Christy.

MS. CHRISTY: Greetings, my name is Ann Christy, and these are some of the issues that I wanted to address.

In the remedial investigation report looking at the groundwater information it appears there is a downward vertical gradient between the shallow and/or intermediate wells and the deep wells in at least three of the well pairs on the site.

I'm concerned that this would be driving the groundwater and any untrained contamination deeper into the well that people are currently using for drinking water.

I'm concerned with the liability issues and how long this remedial or containment option is going to take place.

Because it is a containment option and not
a treatment option I think it's important that the remedial work plan includes ongoing monitoring and ongoing maintenance forever. If it can't for legal reasons then I would recommend that we perhaps look again at treatment options rather than just containment options.

And I would recommend looking at -- the excavation is expensive but perhaps some of the flushing technologies that landfills like LaPar Landfill have successfully used in New Jersey.

Finally I'd like to address the question of the cap and the cap materials. If we are using native Ohio clays for that cap I think we need to be very careful because those clays are by their very nature prone to desiccation cracking.

We need to make sure that that is maintained because if it dries out in five years, ten years, we're going to have the same problem again.

So these are the issues I wanted to address, thank you.

MR. QUEEN: Thank you.

The next person wishing to testify is Richard Kaunis.

MR. KAUNIS: I have no testimony.
MR. QUEEN: Thank you.

Next person wishing to testify is Richard Murray.

MR. MURRAY: No, I don't need to testify.

MR. QUEEN: Thank you.

Next person wishing to testify is Dick Noland.

MR. NOLAND: My name is Dick Noland, N-o-l-a-n-d.

I guess I would like to comment on the monitoring well work and how it might be revised. I would like to see the monitoring wells put in such that they create a hydraulic gradient around the landfills so that we know we're sampling whatever we're getting from the landfill.

I think that would be the worst case and would be more representative of what might happen in future years.

I would -- I guess I agree with the previous testimony that the cover -- in my mind I would rather see a cover that prevents any leachate rather than one that could allow moisture into the landfill.

So those are the two points that I wish to comment on.
MR. QUEEN: Thank you.

Is there anyone else wishing to testify this evening?

MR. PRIDY: I'm sorry, I didn't fill out a blue card. My name is Eric Pidy and I live on Jerome Road which is five miles from this landfill, so I have no personal involvement or no personal interest in it at all, but since I am a township trustee I feel I have an obligation to represent the people here in this room and people that aren't here in this room also that might be adversely affected by this landfill.

I want to make it very clear, we don't consider the EPA to be the enemy here tonight but I do personally feel that you're taking a rather low-keyed approach to this problem that a lot of people are very sensitive about, especially if they live close by and they derive their drinking water from wells.

So I would only urge that this thing be processed and moved forward with all expediency and I would also suggest that the Unico Landfill probably is as bad if not worse in some cases and it should -- we should get that process started also to address that particular situation.
That's all I have to say, and thank you very much.

MR. QUEEN: Thank you.

Next person wishing to testify is Paul Pryor.

MR. PRYOR: My name is Paul Pryor, P-r-y-o-r. I'm with the Union County Health Department.

I've been with the Health Department the last two years and tried to follow this situation fairly closely.

Given the legal requirements or lack thereof to force companies to do some remediation at the sites, essentially these companies are volunteering to do this remediation, so the solution that was presented tonight may be the best that we can get.

However, I do have some concerns still about the groundwater and the more monitoring. It's been almost four years since any groundwater monitoring was done and I really believe that some additional groundwater monitoring should be done before a final decision is made on the plan just to see if there's anything new to show up.

And I also feel that possibly every three
years might be not enough monitoring to keep an eye on the water out there. I think the possibility of groundwater contamination is very slim but there certainly isn't any guarantee.

And I would also like to see some financial assurance included in the final solution if possible to assure that some future work and monitoring will be taken care of and not have the whole project go down the drain after five years.

Thank you.

MR. QUEEN: Thank you.

Next person wishing to testify is Bob Carl.

MR. CARL: Hi, I'm Bob Carl with the Darby Creek Association. We're here tonight to learn more about the preferred plan.

We've been following this for about three years. I first learned about it about five years ago. But the last three years, especially the last year and a half, two years, and I'll phrase this as a question, I'm also concerned, as Mr. Pryor was, about what assurance does the public have that the engineering firm contracted by the PRPs will be responsible enough to follow through with the work and once the ongoing work continues to monitoring what if the company happens to go bankrupt or
otherwise bails from their contract, is the public stuck with the bill? Who will continue with the work?

I know we've heard things about trusts being set up and assurance but they are still being negotiated apparently and nothing firm in hand.

Couple other points I'd like to make, again the 1992 core sampling, the groundwater bothers me that it's four years ago. I've been out to the site several times in the last year and a half and it's very disturbing what's out there. And I wasn't there in '92 but I've been there in '93, '94, '95, '96 and it's very disturbing.

Concerned about human health issues, there have been reports of cancer, even -- I can't think of her name, I can't think of the woman's name that actually owned the land -- Emma Gingerich died of cancer. In fact she complained of serious headaches for years before her death.

The health of Darby Creek with Sugar Run and the tributaries that are very close to -- I'm sorry, Sugar Run and it's a tributary to Darby Creek, home to 86 pieces of fish, 41 mollusks and a large variety of other wildlife, that we really have been working hard, the Darby partners, in the
last many years, 10 years, 25 years, working to
protect Darby Creek.

So these are issues I'd like to bring to
the attention of the EPA. Thank you.

MR. QUEEN: Thank you.

Is there anyone else wishing to testify
this evening?

I'd like to thank you for your interest and
testimony and remind you to please leave your
completed customer surveys at the table outside.

As a reminder, written comments will be
accepted through the close of business on
December 4, 1996.

Seeing no further requests to present
testimony at this time, this concludes tonight's
public hearing. Thank you for attending. The time
is 7:43.

(Hearing adjourned.)

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ARMSTRONG & OKEY, INC., Columbus, Ohio
CERTIFICATE

I do hereby certify that the foregoing is a true and correct transcript of the proceedings taken by me at the public hearing before the Ohio Environmental Protection Agency in the matter of Hershberger Landfill Preferred Plan on Wednesday, November 20, 1996, and carefully compared with my original stenographic notes.

[Signature]

Julieanna Hennebert,
Registered Professional Reporter.

ARMSTRONG & OKEY, INC., Columbus, Ohio