REGION V

EXISTING CONDITIONS MEMORANDUM FOR
FULTZ LANDFILL, BYESVILLE, OHIO

Document Number 116-WP1-10-AKXQ-1

October 1984
MEMORANDUM

To: John Hawthorne, Region V Manager

From: James W. Stenborg, REM II Site Manager

Date: November 1, 1984

Project: EPA No. 68-01-6939/REM II

Document No.: 116-WPI-10-AKXQ-1

Subject: Existing Conditions Memorandum
Fultz Landfill, Byesville, Ohio
WA No. 17-5LC6.0

Action: Submit to USEPA

Transmitted herewith for submittal to U.S. EPA, Region V, is the Existing Conditions Memorandum for the Fultz Landfill site near Byesville, Ohio, in accordance with Subtask 2.1 of the Work Plan Memorandum for Fultz Landfill Remedial Investigation/Feasibility Study dated 2 October 1984.

JWS:gt
EXISTING CONDITIONS MEMORANDUM
FOR
FULTZ LANDFILL

1.0 INTRODUCTION

This memorandum summarizes the existing conditions at Fultz Landfill near Byesville, Ohio. The information presented herein is based on a review of the US EPA Region V site records, a site inspection conducted on 17 October 1984, and additional data provided by the Ohio Department of Natural Resources.

The purposes of this memorandum are to:

- Develop a chronological history of site operations and response actions,
- Develop a hazardous waste assessment based on the materials known to have been deposited or stored at the site,
- Identify potential problems associated with the existing data including gaps in the data,
- Describe significant observations made during the site inspection conducted on 17 October 1984,
- Develop a physical characterization of the site with respect to geology and hydrogeology
- Develop a site model consistent with the above information to be used as a guide in preparation of the RI/FS (remedial investigation/feasibility study).

2.0 SITE LOCATION AND DESCRIPTION

Fultz Landfill, located in east-central Ohio approximately 75 miles due east of Columbus, is situated in Jackson Township in the northeast corner of Section 1 (Township 1 North, Range 3 West), in Guernsey County, Ohio (Fig. I). Fultz Landfill is
approximately 1 mile north of the town of Byesville, Ohio, and 1 mile southeast of the Interstate 77 - Interstate 70 interchange (Fig. 2).

The site was owned by Foster Fultz from October of 1954 to June of 1982. Ruth Fultz has owned the land since June of 1983 and is the current owner. The landfill occupies approximately 30 acres of the 100 acre property owned by Mrs. Fultz.

The Fultz Landfill is a sanitary landfill operating under permit from the Guernsey County General Health District for the disposal of solid municipal, industrial and private refuse. It is located in an area that has been strip mined for coal. The refuse was being placed on an old strip mine bench and covered with native overburden or stripping spoils. Extensive, abandoned underground coal mines underlie areas adjacent to the site. Abandoned deep coal mines and active and abandoned strip mines are common in the vicinity of the site. (See Ref. 1.).

The landfill occupies a strip mine bench on the south side of an east-west trending drainage swale. The landfill extends approximately 2000 ft along the axis of the drainage swale and is approximately 500 to 700 ft wide. The landfill slopes downward toward the center of a valley located east of the site (Fig. 4). Four ponds exist along the northern boundary of the landfill in previously strip-mined areas. These ponds receive intermittent water flowing from the drainage area surface runoff from the landfill and stripped areas and leachate from the landfill. No surface water flows out of the lowest of those ponds and it is suspected that outflow from the ponds occurs via seepage into abandoned underground mines.

In some places, wastes forming the active portion of the landfill have been placed in the ponds along the northern margins of the landfill. Cover for the refuse is obtained by excavating existing stripping spoils and overburden soils located to the south and east of the landfill, respectively. The cover materials consist of residual soil, weathered shale, and rock fragments. Some areas of refuse have been left uncovered and litter and blown debris are scattered over parts of the site. The refuse and cover is spread and compacted with bulldozers.

The landfill operations are directed from a trailer located on the northwest part of the site. A gate exists across the entrance on the west end of the site; however, no other fencing exists around the site.
3.0 SITE HISTORY

The following paragraphs describing a chronological site history have been developed using data and information provided by:

- US EPA, Region V files,
- OEPA files,
- State of Ohio Department of Health files,
- Guernsey County General Health District files, and
- RAMP Document (prepared by CH2M Hill)

The Fultz Landfill, intermittently known as Cambridge City Landfill and Buckeye Disposal Landfill, was originally an open dump during the late 1950's. It was licensed as a sanitary landfill beginning in 1969. The owner submitted an Operational Procedure Plan also in 1969. The owner also submitted an operational report to the Ohio Environmental Protection Agency (OEPA) in 1979. No engineering plans or Permits to Install (PTI) have been submitted to the OEPA for review and no formal approvals have been granted to the landfill.

The Fultz Landfill has a documented history of substandard landfilling operations starting in 1970 when the OEPA cited it for inadequate cover material application and other violations. Barrel liquid waste was reported at the site in 1977 and various hazardous wastes were received from numerous sources over an unknown period of years. The Department of Health records indicate that the landfill was accepting approximately 4 drums per week of lacquer thinner from an industrial plant as early as December 1968. Accepting unauthorized industrial liquids and potentially hazardous wastes in drums or barrels was cited as a violation by the OEPA in at least 4 site visits during 1978 and at least 3 site visits during 1979. In each instance, the drums or barrels contained liquids, paint sludges, lacquers, flammables or dried paints. Problem areas identified on Guernsey County Solid Waste Disposal questionnaires in 1974 and 1979 were listed as leachate, cover, compaction and accepting potentially hazardous wastes. On April 14 1983, a bulldozer at the landfill rolled over a drum containing calsibar (a dry grey, pyroforic powder composed of a mixture of calcium, silicon and barium). The calsibar ignited and burned. The calsibar drum had accidentally been placed in the wrong
trash bin at the plant and corrective steps were taken to prevent this from happening again. It is not known if calsibar is buried on site.

In general, limited information is available concerning the character or volume of hazardous wastes present on site. It is reported that chlorinated and nonchlorinated solvents and plating wastes represent the majority of the hazardous wastes disposed of onsite. The liquid and semi-solid wastes were brought to the site in drums and some of the solvents were poured onto the ground and burned. The emptied drums were sent to a recycler. In April, 1978, the OEPA reported seeing an estimated 1000 drums onsite during a site inspection. The final disposition of these drums is not known, but it is speculated that some of the drums are buried onsite.

A substantial leachate problem was observed and documented by the OEPA in April, 1979. OEPA officials, conducting an inspection of the facility during March of 1982, observed leachate discharging from the site and entering Wills Creek, just west of the site. Numerous contaminants such as phenols, ethylene glycol and methylene chloride were found in samples of the leachate. Traces of methylene chloride were also discovered in a Byesville municipal well located approximately 5000 ft south of the site. EPA officials are wary because of the sites proximity to the water supply of Byesville, population 2600. Much of the area between the site and Byesville's municipal water wells has been mined for coal. Some of Byesville's water supply is obtained from an abandoned mine. The potential exists for hazardous waste leachate to enter mine shafts beneath the site and contaminate the local water supply. Further testing for possible contaminants in the Byesville water supply are being conducted by the Guernsey County General Health District.

Abandoned deep coal mines and active and abandoned strip mines are common in the vicinity of the site. A letter to Mr. Fultz summarizing the site visit conducted by the Department of Health in October, 1968 expressed concern about a possible physical connection between the landfill operations, and the nearby mine tunnels that may be interconnected with the Byesville No. 2 water supply source. As recently as August, 1981, Mr. Fultz requested to extend the landfill to new strip pits that were being proposed by a coal mining company. In January, 1982, the OEPA wrote to Mr. Fultz stating that they "... do not feel that this site is environmentally sound or suitable for further development as a landfill."
Mr. Fultz subsequently made a request for a solid waste disposal site investigation. In November, 1983, Mr. Fultz contracted to have five (5) monitoring wells installed onsite. An OEPA internal memorandum of March, 1984 states that the site investigation was suspended because the consultant who had installed the wells was not paid. The memo further recommended proceeding with the Superfund investigation. The site is currently active as an operating sanitary landfill.

4.0 HAZARDOUS WASTE ASSESSMENT

Developing a listing of the hazardous wastes disposed of at Fultz Landfill is necessary for in the design and implementation of a RI/FS. Detailed records of the actual types and quantities of wastes and their onsite location are either non-existent or not yet discovered. Review of the Guernsey County General Health District's records of Fultz Landfill's Solid Waste Disposal Questionnaires of 1974 and 1979 indicates the following distribution of the types of wastes received regularly.

- 3% construction/demolition,
- 25% household,
- 32% industrial, and
- 40% commercial.

In addition, these records indicate a total waste volume of approximately 35 tons per operating day or 11,000 tons/year.

Further breakdown as to the type and quantities of any hazardous wastes disposed of on-site is dependent on the records of generators and the landfill owners. Region V of the USEPA sponsored a Responsible Party Search for Fultz Landfill in Guernsey County, Ohio, in April, 1983. The Responsible Party Search identifies twelve (12) possible responsible generators in connection with hazardous waste disposal at the site. Of the twelve possible generators listed, documents confirming shipment of hazardous wastes to Fultz Landfill have been provided by two (2) of the companies.

One of the generators reports the following hazardous wastes were sent to Fultz Landfill during the period 1969 to 1980:

- rollwash sludge; flammable liquids; EPA Waste Number F-006,
triblend (trichlorethylene); flammable liquids; EPA Waste Number F-001,
waste paint; flammable liquids; EPA Waste Number D-001,
waste paint; flammable solids; EPA Waste Number D-001, and
rags; flammable solids; EPA Waste Number U-226.

The other generator reports the following hazardous wastes were sent to Fultz Landfill during the period 1971 to 1981:

- plating sludges; toxic; EPA waste number F-006.

Estimates of waste volumes from those two generators indicate that approximately 1000 drums of hazardous waste were shipped to Fultz Landfill during the years specified (1969 to 1981).

Known contaminants of concern associated with the hazardous above wastes are:

- Chlorinated and non-chlorinated solvents,
- Waste paint liquids and sludges,
- Trichloroethylene, xylene, toluene, acetone, phenols, methylene chloride, cyanide, cadmium, chromium, calisbar, lead, mercury and other heavy metals.

Analytical testing was performed on samples from the local drainage and of the landfill's leachate in 1980 and 1982. The leachate sample had measurable levels of arsenic, cadmium, chromium, cyanide, lead, and mercury. The levels of these elements in public water supplies are controlled by the National Interim Primary Drinking Water Regulations (EPA, 1976) and are listed as priority toxic pollutants by the EPA.

High concentrations of chloride, iron, and sulfate were also detected in the leachate sample. These chemicals are addressed in the Secondary Drinking Water Regulations. Contaminants covered by these regulations are those which may adversely affect the aesthetic quality of drinking water such as taste, odor, color, and appearance, and may deter public acceptance of drinking water.

There are reports of phenol and methylene chloride being detected in leachate from the landfill. Reports are also available of xylene, toluene, and acetone (lacquer
thinner) in addition to paint sludges and plating wastes. Xylene, toluene, acetone, and methylene chloride are all considered toxic (US EPA, 40 CFR 261, Subpart D).

The information regarding chemical types and possible volumes of waste disposed of onsite have been used to develop the Preliminary Site Personnel Protection and Safety Plan.

5.0 EXISTING DATA AND DATA GAPS

Existing project data consists of reports, phone records, letters, internal agency memorandum, site visit documentation, well records, citations, property deeds, license applications, industrial waste surveys and responses from possible generators. This information has been reviewed and incorporated into this Existing Conditions Memorandum. Specific data limitation, or data "gaps", have been identified during this review. The limitations that follow are those considered particularly relevant to Fultz Landfill.

- An accurate site topographic map is not available at the present time,
- Available site data do not adequately describe the types of hazardous wastes and their location of disposal at Fultz Landfill nor the extent of contamination in the soils, surface water or ground water systems,
- Site-specific data are not available on ground water flow direction and rate. Further, no determination has been made if a direct hydraulic connection exists between the abandoned coal mines underlying the site and the mine which provides water for the City of Byesville,
- Location and pumping details of the Byesville #2 underground mine water source are unknown,
- Water quality data from area domestic wells are inadequate to determine if they are contaminated,
Locations, details of installation, and elevation of domestic wells within the site area are unknown,

Details of the number, type and extent of underground mines in the area are unknown,

Site-specific geology and soils information is inadequate to determine the character and extent of the soil deposits onsite and to determine if there are barriers to vertical ground water flow and contaminant transport,

The fate of the water flowing into the ponds on the north side of the site has not been determined, and

The site-specific hydrology is not sufficiently defined to determine frequency, quantity, and character of surface runoff.

6.0 SITE INSPECTION

On 17 October 1984, Mr. James Stenborg of Woodward-Clyde Consultants and Mr. Peter Miller of EPA visited the Fultz Landfill. The purpose of the site visit was to make an initial site inspection. Messrs. Stenborg and Miller were accompanied by Mr. Brian Blair and Mr. Mike Starkey of OEPA on a part-time basis. Two representatives from the Guernsey County Health Department were also present at the beginning of the site visit and left when the others began walking the site.

The Fultz Landfill is an active site. Municipal refuse was observed to be dumped during the site visit. Two large bulldozers (Caterpillar D-7 or D-8 size) were spreading the refuse. A scraper was parked on-site and reported to be inoperable according to Mr. Jeffrey Fultz, the landfill manager. The landfill is being developed on the slope of a hill (south of a drainage swail). The top of hill or ridge generally runs in an east-west direction. There are several ponds in the drainage swail (see Fig. 2) that receive surface runoff and leachate from the landfill to the south. The landfill is currently being developed in a southerly direction into the hillside. Recently excavated trenches were observed in limestone shale, and sandstone bedrock layers, north of and adjacent to the active portion of the landfill.
Seven monitoring wells were observed during the site. Existing data indicated 5 wells were present on-site. Messrs. Stenborg and Miller made water level measurements in the seven wells. These data will not be reported at this time since well numbers and well top elevations are not available.

7.0 PHYSICAL CHARACTERIZATION OF SITE

The Fultz Landfill site is located in southcentral Guernsey County, Ohio. The area lies on the northwest margin of the Appalachian Basin. Regional dip which is the inclination of bedding, is approximately 30 ft per mile toward the southeast. The area is underlain by a thick section of sedimentary rocks. The sedimentary rocks exposed at the surface in the vicinity of the Fultz Landfill site are Pennsylvanian Age, on the order of 300 million years old.

In the immediate vicinity of the site, the ridges are composed of rocks of the Conemaugh Group. This group is characterized as interbedded sandstone, mudstone, sandy shale, clay, limestone and thin coal seams. The two coal seams within the Conemaugh Group, Anderson Coal and Mahoning Coal, are not of economic importance.

Beneath the Conemaugh Group is the Allegheny Group comprised of sandstone, shale, limestone and coal. Several economically important coal seams are included in the Allegheny, Upper Freeport (No. 7), Middle Kittanning (No. 6) and Lower Kittanning (No. 5) coal. The Upper Freeport coal is at approximately elevation 780 ft at the Fultz site, slightly below the natural valley floor. Strip mining has exposed and removed coal at the site. Underground mining has developed this coal seam north, east and south of the site.

Available information from the Ohio Department of Natural Resources (Mine Maps of O'Niell Area 10) indicate the two lower coal seams in the Allegheny Group, the Middle and Lower Kittanning coals, have not been mined beneath nor in the vicinity of the Fultz Landfill site. These coal seams lie at depths of approximately 100 and 130 ft below the Upper Freeport coal.

The Upper Freeport coal is approximately 5 ft thick in the area of the Fultz Landfill. Mining records indicate that at the Ideal Mine (the underground mine located immediately north, east and south of Fultz) approximately 65 percent of the coal was recovered, the remainder left as pillar support.
Although the Upper Freeport coal bed was originally laid down as a relatively uniform horizon, geologically recent uplift and erosion have removed some portions of the bed. In the tributary valley to Wills Creek immediately south of the Fultz site, downcutting and erosion by the stream has removed the coal. The incised valley has been subsequently backfilled with alluvium. However, the earlier erosion separated the coal north of this valley from coal south of the valley for a distance of nearly 3/4 mile upstream from the mouth of the valley. This partial separation may impact the feasibility of ground water migration in the coal mine openings south of the Fultz site.

Ground Water

The rocks of the Conemaugh and Allegheny Groups are considered to be very poor water-producing formations. The ground Water Resources Maps of Ohio, produced by Ohio Department of Natural Resources, identifies the Guernsey County area as yielding less than 5 gallons per minute to individual wells. However, the abandoned mines in the area are generally flooded and are used as water supply reservoirs.

A preliminary assessment of ground water movement in the mines around the Fultz site can be developed from the potentiometric surface in the mines (the piezometric surface at the top of the mine water). Available data (Ref. 1) indicate a potentiometric surface elevation of nearly 790 to over 800 ft in the eastern mines in the Upper Freeport coal. In the vicinity of the Fultz site, the potentiometric surface elevation is approximately 787 ft. At Byesville, the elevation of Wills Creek is 780 ft. These data suggest ground water is flowing in the mines from east to west, toward Wills Creek.

The anticipated ground water movement toward Wills Creek likely influences potential migration of water from the Fultz Landfill. The presence of an incised valley and resulting absence of coal south of the Fultz site, combined with the general east to west ground water migration in the coal mine water system, indicates the potential for direct mine water migration between the Fultz site and the Byesville well may be limited.

Ground water is also likely moving through the valley-filling alluvium. This alluvial aquifer is unconfined and would flow by gravity. The downgradient direction is anticipated to be toward Wills Creek, the principal and controlling drainage in the area.
8.0 SITE MODEL

A generalized representation of the geology and ground water system in the coal mines near the Fultz Landfill site is presented in Figures 2, 3 and 4. Principal components of the model are 1) the relatively low permeability rocks of the Conemaugh Group which form the ridges and hills around the site; 2) the open network of mine workings along the Upper Freeport coal; and 3) the ground water gradient from the highlands east of the site to Wills Creek west of the site.

The Upper Freeport coal mines are the principal source of water from the bedrock in this area. Ground water is also probably available from the alluvium which fills the deeper valleys. On the cross section from North to South, Figure 3, the valley-filling alluvium south of the Fultz site is eroded through the coal. The coal mine network is not entirely interrupted by the valley erosion. Upstream in the valley south of Fultz, the valley bottom is above the coal, and a continuous mine network exists toward the south. The hydraulic gradient for mine water in this area is directed from east to west, as shown on Figure 4. From a high of 805 ft in the Klondike Mine to the east to a low of 780 ft at Wells Creek, this westward-directed gradient indicates water will move toward Wills Creek from the Fultz site.

These conclusions regarding the direction of ground water flow from the Fultz site in coal mine aquifers are based on water level measurements at only a few locations in the mines. Seasonal fluctuation in the water levels could result in changes to some ground water gradients and changes in direction of flow.

In addition to the ground water resource represented by the flooded coal mines, valley-filling alluvium may represent a potential ground water resource. Although strip mining of coal may have removed the alluvium at the Fultz Site, a connection may exist between the alluvium adjacent to Fultz and the alluvium in the Wills Creek valley. Available data are insufficient to assess the impact of ground water migration from Fultz through this alluvium.
9.0 REFERENCES


I.. REPORT INVESTIGATION
OF STATE OF OHIO,
DEPT. OF NATURAL RESOURCES,
DIV. OF GEOLOGIC SURVEY

SECTION A-A

REF.: REPORT OF INVESTIGATION
No. 118 1980 STATE OF OHIO,
DEPT. OF NATURAL RESOURCES,
DIV. OF GEOLOGIC SURVEY

116-WPI-INTRT 24 Oct 1984
SECTION B-B

REFERENCES:
INVESTIGATION NO. 118 1980
STATE OF OHIO DEPT. OF
NATURAL RESOURCES,
DIV. OF GEOLOGIC SURVEY

GENERALIZED HYDROGEOLOGIC CROSS SECTION IN THE VICINITY OF THE FULTZ LANDFILL

116-WPI-INTRT 24 Oct 1984
TABLE 2-1
LIST OF USEPA REGION V FILE DATA
(Effective 19 September 1984)

Data Sources: USEPA Region V file data including:

- Final Remedial Action Master Plan, Fultz Landfill 01-5VC6, April 27, 1984
- Summarized Plan of Study to be Conducted by Buckeye Disposal (Fultz) Company. Ohio EPA, Southeast District Office, Logan Ohio, June 2, 1983.
- Product Data Sheets for Paint Abstes Mr. Elwin G. Smith Division, July 11, 1983
- Call Report From Mr. Mark Besel/Brian Blair Subject: RI/FS at Fultz Landfill To: Mr. G. Vanderloan, June 1, 1983
- Letter to Sevatos Sen. Sam Spec from Mr. Robert H. Maynard Subject: Ground Water Monitoring Program at the Fultz Landfill RI/FS at Fultz Landfill - Byesville area. February 6, 1984

Site Visit - Fultz Landfill Byesville, Ohio
Document No. 01-5VC6.0/058 CH2M-Hill, May 11, 1983

Responsible Party Information - Fultz Landfill

Letter to Mr. David W. Smith, B. F. Goodrich Company, Marietta, Ohio from Mr. Brian J. Blair, Ohio, EPA. Subject: formal request for information pursuant to Section 104-E- of CERCLA. July 14, 1983.

Letter to Mr. B. F. Ballard Phillips Petroleum Company, Bartlesville, OK, from Mr. Brian J. Blair, Ohio, EPA. Subject: formal request for information pursuant to Section 104-E-1 of CERCLA. June 7, 1983.

Letters to Mr. J. EPS, Ekco Housewares, Massilow, Ohio from Brian J. Blair, Ohio, EPA. Subject: formal request for confirmation pursuant to Section 104-E-1 of CERCLA. June 7, 1983.

Letters to Mr. V. Marchelletta, Hamilton Beach Scovill Division, Clinton, North Carolina. Subject: formal request for information pursuant to Section 104-E-1 of CERCLA. June 7, 1984.

Letter to Mr. Elwin G. Smith Division/Cyclops Corporation; Cambridge, Ohio. From Mr. Brian J. Blair, Ohio, EPA. Subject: formal request for information pursuant to Section 104-E-1 of CERCLA, June 7, 1983.

Shipping documents for Materials from EKCO, Housewares Company, October 27, 1983.

Shipping documents for Materials from Scovill, December 27, 1983.
Shipping documents for materials from B. F. Goodrich Co. August 9, 1983.


Hazardous Waste Site Safety Plan. Fultz Landfill. W65026.00 Doc. No. 01-5VC6.01007

Letter to Mr. Elwin G. Smith Division/Cyclops Corporation, Cambridge, Ohio. From: Mr. Brian J. Blair, Ohio, EPA. Subject: Formal request for information pursuant to Section 104-E-1 of CERCLA, June 7, 1983.

Shipping documents for Materials from EKCO, Housewares Company, October 27, 1983.

Shipping documents for Materials from Scovill, December 27, 1983.


Hazardous Waste Site Safety Plan Fultz Landfill W65026.00 Doc. No. 01-5VC6.01007
Pumping test data State of Ohio, Dept. of Natural Resources, Div. of Water, Columbus, Ohio.


Call Report Mr. P. Gorman OEPA to Mr. F. Moore Elkern Metals Co. Marietta, Ohio, April 20, 1983.

Call Report Mr. G. Taylor OEPA April 18, 1983

Letter to Mr. Fultz from Mr. R. Van Fleet April 8, 1983.

Letter to Mr. Don Day, Chief, Div. of Land Pollution from Mr. Jerry Roberts, Mr. Brian Blair three Mr. Steve Hamlin DLPC, SEDO. Subject: Monitoring Wells for Fultz Landfills. March 10, 1983

Call Report Mr. P. Gorman, OEPA July 19, 1982

Letter to Mr. E. C. McPherson from Mr. R. Van Fleet Guernsey County General Health District, July 15, 1982.


Notes for file: November 10, 1982 Meeting with Dr. Thonas Savan, Guernsey County Health Commissioner and his Staff. November 18, 1982.

Letter to Mr. E. C. McPherson, from Mr. Jerry K. Roberts. November 18, 1982.

Letter to Mr. E. C. McPherson from Thomas D. Swan, M. D. December 13, 1982.
Letters to Mr. Roger Hannoks from Mr. Brian Blair: Subject: December 21, 1982 Meeting at Guernsey County Health Dept. to Discuss Problems and Actions at the Fultz Landfill. December 28, 1982.

Letters to Mr. A. Fetters from Mr. E. C. McPherson Discussion of Waste Type. January 18, 1983.


Request for a Solid Waste Disposal Site Investigation, Mr. Foster Fultz Oct. 27, 1981.

Environmental Sampling Submission Report, Ohio Department of Health September 30, 1984 letter from Mr. Michael Moschell, OEPA to Foster Fultz Landfill October 3, 1980.

Letter from Mr. Robert E. Schornstheimer, B. F. Goodrich Co. to Mr. David Schultz, Ohio EPA April 21, 1981.

Letter from Senator Sam Speck to Mr. Don Day P.E. OEPA October 2, 1981.

Letter from Mr. Don Day P.E. to Senator Sam Speck October 23, 1981.

Letter from Mr. Gary Taylor Guernsey County.

Letter to Mr. Jerry Roberts OEPA from Mr. Gary Taylor Guernsey County General Health District May 5, 1980.
Solid Waste Disposal Questionnaire. Prepared by Michael Maschell, Gvernsey County Health Department March 20, 19279.

Letter to Mr. Foster Fultz from Mr. Jerry Roberts, OEPA. March 13, 1979.

Letter to Mr. Thomas Parnell from Mr. Donald Fulkerson, OEPA, Nov. 29, 1984.

Letter to Mr. Fosters Fultz from Mr. Thomas Kabnan P.E. August 29, 1978.

Interoffice Communication. Mr. Thomas Kolman from Mr. John Noyes, OEPA. July 14, 1978.

Interoffice Communication Mr. Thomas Kolman from Mr. John Noyes, OEPA. May 17, 1978.

Letter to Mr. H. S. Rears, Cyclops Corp. from Mr. Jerry Roberts, Office of Land Pollution Control May 3, 1978.


Solid Waste Questionnaire Mr. Jerry Roberts, Gvernsey County Health Development. June 12, 1974.


Letter to Mr. Foster Fultz from Mr. Donald Day Ohio Department of Health. December 4, 1968.

Letters to Mr. Charles W. Siegfried from Mr. Richard Marlow OEPA Southeast District Office. October 11, 1968.