

**STREET ADDRESS:**1800 WaterMark Drive  
Columbus, OH 43215-1099

TELE: (614) 644-3020 FAX: (614) 644-2329

**MAILING ADDRESS:**P.O. Box 1049  
Columbus, OH 43216-1049

November 10, 1998

RECEIVED

NOV 14 1998

OHIO EPA/CDO

Ms. Jeanne Griffin  
United States Environmental Protection Agency  
Region 5  
77 West Jackson Blvd (SE-4J)  
Chicago, Illinois 60604

Re: Whittier Peninsula Brownfield Investigation Report  
USEPA No.: OHB000001706

Dear Ms. Griffin:

Enclosed is the Brownfield Investigation Report for the Whittier Peninsula Brownfield site in Columbus, Franklin County, Ohio. This Brownsfield Investigation Report is being submitted under the 1997 USEPA Cooperative Agreement. The report compares sample results to the Ohio Voluntary Action Program (OVAP) Generic Direct Contact Soil Standards for Carcinogenic and Non-Carcinogenic Chemicals of Concern - Residential Land Use Category. If you have any questions or comments regarding this document, please contact me at (614) 728-1722.

Sincerely,



Trisha Taylor  
Division of Emergency and Remedial Response  
Site Investigation Field Unit

cc: Laura Fay, DERR- CO  
Jeff Wander, DERR-SIFU  
Sam Yebaile, DERR-CDO  
File

## BROWNFIELD INVESTIGATION

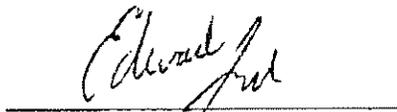
for

Whittier Peninsula  
Columbus, Ohio

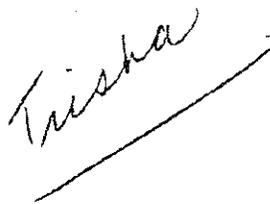
U.S. EPA ID: OHB000001706

November 6, 1998

## Signature Page

Prepared &  
Reviewed by:Date: 11-6-98Sam Yebaile  
Site Coordinator, District Office  
Division of Emergency & Remedial Response  
Ohio Environmental Protection AgencyPrepared &  
Reviewed by:Date: 11/6/98Ed Link  
Site Investigator, Site Investigation Field Unit-Central Office  
Division of Emergency & Remedial Response  
Ohio Environmental Protection AgencyPrepared &  
Reviewed by:Date: 11-6-98Trisha Taylor  
Site Investigator, Site Investigation Field Unit-Central Office  
Division of Emergency & Remedial Response  
Ohio Environmental Protection Agency

Approved by:

Date: 11/20/98Jeanne Griffin  
Early Action Project Manager  
Division of Superfund  
U.S. Environmental Protection Agency

BROWNFIELD INVESTIGATION

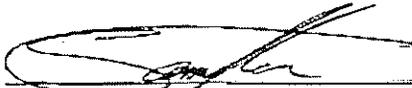
for

**Whittier Peninsula**  
Columbus, Ohio

U.S. EPA ID: OHB000001706  
November 6, 1998

*Signature Page*

Prepared &  
Reviewed by:



Date: 11-6-98

Sam Yebaile  
Site Coordinator, District Office  
Division of Emergency & Remedial Response  
Ohio Environmental Protection Agency

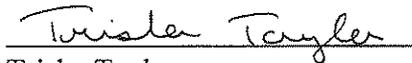
Prepared &  
Reviewed by:



Date: 11/6/98

Ed Link  
Site Investigator, Site Investigation Field Unit-Central Office  
Division of Emergency & Remedial Response  
Ohio Environmental Protection Agency

Prepared &  
Reviewed by:



Date: 11-6-98

Trisha Taylor  
Site Investigator, Site Investigation Field Unit-Central Office  
Division of Emergency & Remedial Response  
Ohio Environmental Protection Agency

Approved by:

\_\_\_\_\_

Date: \_\_\_\_\_

Jeanne Griffin  
Early Action Project Manager  
Division of Superfund  
U.S. Environmental Protection Agency

**BROWNFIELD INVESTIGATION**

**for**

**Whittier Peninsula**

**Columbus, Franklin County  
U.S. EPA ID: OHB000001706**

**Prepared by:**

**OHIO ENVIRONMENTAL PROTECTION AGENCY  
Division of Emergency & Remedial Response**

**November 6, 1998**

## TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
1.0 EXECUTIVE SUMMARY	1
2.0 INTRODUCTION	1
3.0 SITE BACKGROUND	2
3.1 Site Description	2
3.2 Site History	2
3.3 Previous Site Work	7
3.4 Site Geology & Hydrology	9
3.4.1 Topography	9
3.4.2 Soils	9
3.4.3 Glacial Geology	10
3.4.4 Site Specific Geology	10
3.4.5 Bedrock Geology	11
4.0 SAMPLING LOCATIONS & DISCUSSION OF RESULTS	11
4.1 Groundwater	14
4.2 Surface Water and Sediment	14
4.3 Soil	14
5.0 CONCLUSIONS	16
6.0 RECOMMENDATIONS	16
7.0 REFERENCES	18

## APPENDICES

Complete Analytical Results	Appendix A
Site Photographic Log	Appendix B
Significant Sample Results Tables	Appendix C
Well Logs	Appendix D

---

## LIST OF FIGURES

<u>Figure</u>		<u>Page</u>
1	Site Location Map ( <i>Topographic Map with site identified</i> )	3
2	Site Features Map	4
3	Police Impound Lot Sampling Locations Map	12
4	Maier Place Sampling Location Map	13

---

## LIST OF TABLES

<u>Table</u>		<u>Page</u>
1	Significant Soil Sampling Results	C-1
2	Significant Groundwater Sampling Results	C-5

## 1.0 EXECUTIVE SUMMARY

Ohio Environmental Protection Agency (OEPA), Division of Emergency and Remedial Response (DERR) personnel conducted a brownfield investigation at the Whittier Peninsula project area, Franklin County, Ohio on August 5-6, 1998. The two areas investigated at the Whittier Peninsula project area were Maier Place and the City of Columbus Parks and Recreation, Police Impound Lot.

Several contaminants were found to be present in the soil samples obtained from various locations. When compared to Ohio Voluntary Action Program (OVAP) Residential Land Use Category, the results are not considered elevated with the exception of lead at GP2. Several contaminants were found to be present in the groundwater samples obtained from various locations. When compared to the Maximum Contaminant Levels (MCLs) (National Primary Drinking Water Standard) which also are the OVAP Generic Unrestricted Potable Use Standards, these results are considered elevated.

The soil sample obtained from GP2 had lead present at 1290 mg/kg. The OVAP standard is 400 mg/kg. As indicated earlier, this is considered elevated. GP2 was obtained from the western edge of the upper police impound lot and at a depth of 10 - 13 feet bgs. It is unclear as to the extent of the lead contamination at this location. In order to fully evaluate the extent of the contamination, further soil sampling should be done in this area. Remedial activities at this location may include spot removal of soil until sample results are below 400 mg/kg.

Geoprobe groundwater sampling results indicated the presence of several metals above MCLs which also are the OVAP Generic Unrestricted Potable Use Standards. Although results were elevated compared to the standard, it is not likely that this will be of concern. Groundwater is not used as the primary source of drinking water in the area. Drinking water is obtained from surface water intakes. Therefore, it does not appear that ground water will need further evaluation/remediation.

## 2.0 INTRODUCTION

The EPA-DERR formed a cooperative agreement with the United States Environmental Protection Agency (U.S. EPA) Region V to conduct a brownfield investigation of the Whittier Peninsula project area (Latitude 39° 57' 03.7" North and Longitude 83° 00' 34" West). The brownfield investigation was performed under the U.S. EPA site investigation protocol. The purpose of this brownfield investigation was to determine if past activities at the Whittier Peninsula sites released contaminants into the environment, specifically to soils and groundwater.

### 3.0 SITE BACKGROUND

#### 3.1 Site Description

The Whittier Peninsula brownfield project area is located in the city of Columbus in Franklin County, Ohio. The area is located along the Scioto River floodplain southwest of downtown Columbus (see Figure 1). The area is identified as a peninsula, because it is a half-circle-shaped piece of floodplain located on a bend (meander) in the Scioto River (it is not a true geographic peninsula). The area is bordered by the Interstate-70 and Interstate-71 interchange to the southeast, the Scioto River on the northwest, west and southwest, CSX railroad tracks to the east; and Whittier Street to the south. Land use in the area is mostly industrial, however, a small park (Lower Scioto Park) is located on the east side of the Scioto River, which is used for recreational purposes. (Essroc, 1993.)

The location of the Whittier Peninsula adjoining downtown Columbus and the Scioto River makes it a prime area for redevelopment. An association called Downtown Columbus Incorporated was formed to guide the redevelopment of this area.

#### 3.2 Site History

The Columbus Health Department conducted a Phase I Environmental Assessment (Phase I) on the Whittier Peninsula for the Downtown Columbus, Inc. association on March 20, 1992. The Phase I was conducted to determine potential health hazards prior to acquisition of properties. See Figure 2 for locations of the properties evaluated in the Phase I.

The following regulatory agency records were reviewed as part of the Phase I: Ohio EPA Master Sites List (MSL), Ohio EPA Spills List, Ohio EPA RCRA Notifiers List, Ohio State Fire Marshal Bureau of Underground Storage Tank Regulations (BUSTR) List of Leaking Underground Storage Tanks (LUST), and Registered Underground Storage Tanks (UST) (Downtown Columbus, 1995).

The Phase I also included a review of Columbus Polk City Directories from 1923-1991 and were used to determine past land use. Sanborn Fire Insurance Maps were also reviewed from 1887-1901, 1921-22 and 1921-51 and were used to identify approximate locations of above ground or USTs. Available documents from the Franklin County Recorder's Office were reviewed to identify property ownership. This search was completed from 1920 to the present. (Downtown Columbus, 1995)

The following properties, which were evaluated in the Columbus Health Department Phase I, will also be investigated in this brownfield project:

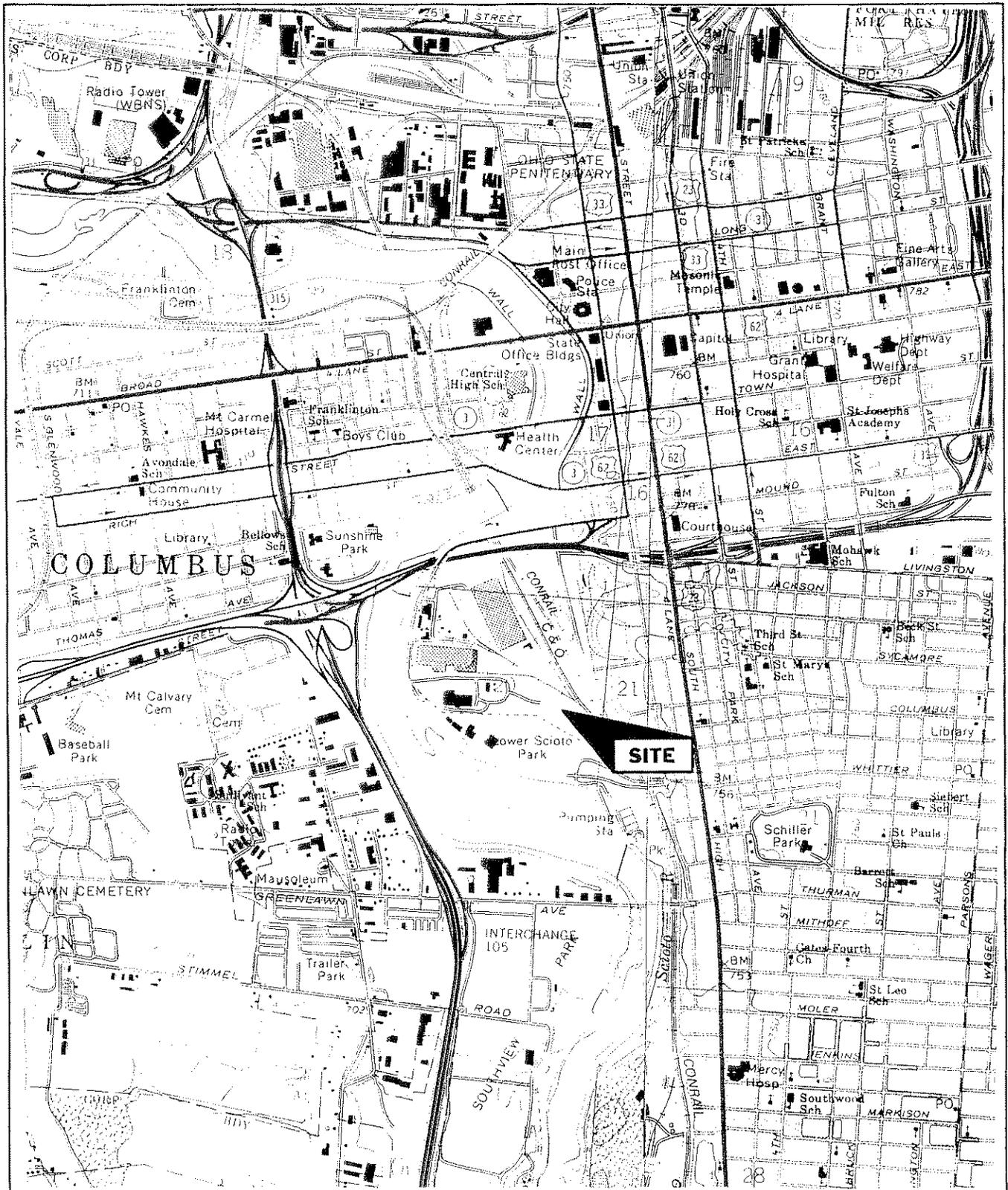


Figure 1 Topographic Map of Site Location  
 (one inch equals 2000 feet)

Source: Modified from USGS, Southwest Columbus, Ohio, Quadrangle, 1965, Photorevised 1995 and Southeast Columbus, Ohio Quadrangle, 1964, Photorevised 1985.

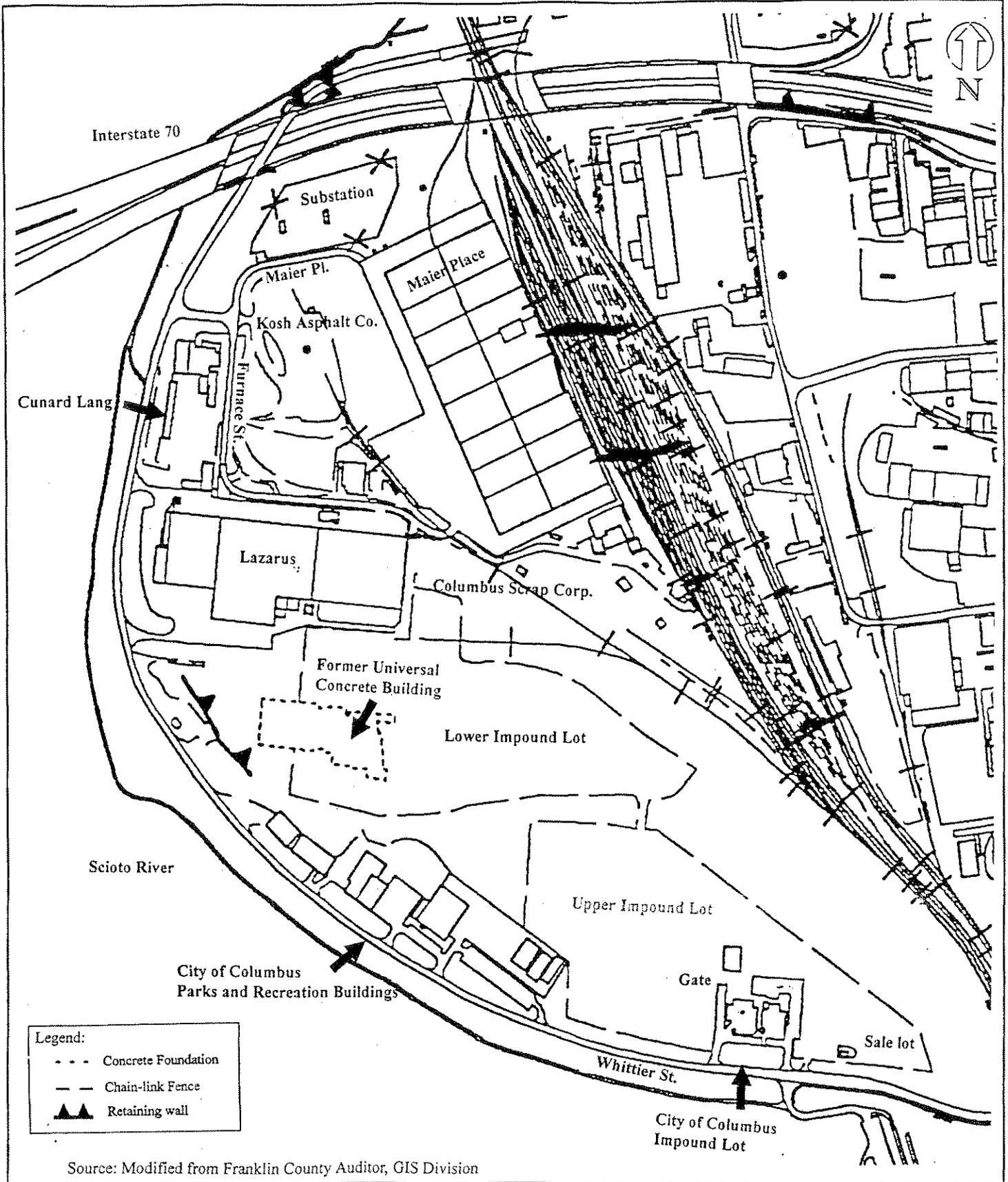


FIGURE 2 SITE FEATURES MAP (Not to scale)

**Maier Place** (Downtown Columbus, 1995.)**Address: 347-391 Maier Place****Parcel Numbers: 63303, 137505**

The first parcel, 63303, is about 11 acres in size and records indicate that it was railroad property from 1920 to 1959. The real estate data index lists this property as 347-367 Maier Place. The current land use is classified as manufacturing and medium assembly. The building located on site was built in 1956. The second parcel, 137505, which is about 7 acres, is listed in the real estate data index as 371-391 Maier Place. The current land use is classified as manufacturing and medium assembly. This parcel was also railroad property until 1959.

In 1959, Harper Industries began a fender manufacturing operation in the north end of the current on-site building. Harper Industries was a hazardous waste generator that carried out electroplating operations. Harper Industries is no longer in operation. This site is currently undergoing a RCRA Closure Action. The property has been remediated to meet Ohio EPA standards for removal of hazardous waste. This closure work is focused on a former storage pad area on the north side of building. Six USTs have been removed from the site. The ground water beneath the former USTs is reportedly contaminated (Ohio EPA, DHWM, 1998). This site was formerly railroad property, and had a roundhouse and maintenance shop on site. Industrial warehouses are located there at present.

The Phase I stated that there is a possibility of heavy metals contamination in on-site soils due to prior use of the property as a railroad yard and roundhouse. Semi-volatile organic compounds and creosote may be also be present in the soil. The Phase I suggested that the area would present minimal health risk if no excavation is to occur during future development.

**Universal Concrete Products** (Downtown Columbus, 1995.)**Address: 500 W. Whittier****Parcel Numbers 57449, 22008, 58167**

The first parcel, 57449, is about 6 acres in size and the real estate data index identifies this parcel as 500 W. Whittier Street. It was railroad property until 1935. Parcel Number 22008 is 0.86 acres in size and was railroad property until 1963. The last parcel, 58167, which is 11 acres, was railroad property until 1957. All three parcels are currently owned by Universal Concrete Products, Inc.

Universal Concrete Products is no longer in operation. USTs are on site. The Phase I recommended the removal or upgrading of all USTs on site.

**City of Columbus Parks & Recreation, Police Impound Lot** (Downtown Columbus, 1995.)**Address: 400-440 W. Whittier St.**

Records indicated that there was a pond in the general vicinity of this site until the 1950's. This area has been filled to the height of the levy. This land was used previously by the refuse department and there was an incinerator on site. USTs are present, and a release was reported to the State Fire Marshal. The impound lot has surface contamination from petroleum products.

The Phase I recommended the removal or upgrading of all USTs on site. A Phase II site assessment was recommended due to the unknown types of fill used to fill the pond previously located at this site and to determine the extent of petroleum surface contamination. The Phase I recommended that if no excavation is to occur and the site remains city property then a Phase II will not be needed.

The following section describes those adjacent properties that are located in the Whittier Peninsula project area but which are not currently being investigated in this scope of work.

**Koch Asphalt Company (Downtown Columbus, 1995.)**

**Address: 500 Furnace**

**Parcel Numbers: 57546, 66146, 66148**

Koch Asphalt is registered as a hazardous waste generator by the Ohio EPA. This company is no longer in operation. All above ground storage tanks are in the process of being removed from the site. The State Fire Marshal has reports of USTs on site. No final closure plans have been filed with the Ohio EPA.

Recommendations made in the Phase I stated that there is a possibility of hazardous waste contamination on site due to Koch Asphalts previous status as a hazardous waste generator. A Phase II site assessment would be recommended if final cleanup of this site cannot be documented by the Ohio EPA.

**Cunard Lang Concrete Block (Downtown Columbus, 1995.)**

**Address: 459-507 Furnace**

**Parcel Numbers: 67208**

The property is 0.389 acres in size and was owned by Carnigie Steel and Arrow Sand and Gravel in 1927. Marble Cliff Quarries obtained the property in 1939. Cunard Lang has reported a release from a underground storage tank to the State Fire Marshal. The Phase I recommended that the removal or upgrading of the USTs on site. Any contaminated soil resulting from the underground tank release would have to be remediated. A present release is being addressed by the State Fire Marshal.

According to Sanborn maps, the area currently identified as Lang Stone was formerly the A. B. Robinson's Eureka Foundry and Machine Shop.

**Lazarus (Downtown Columbus, 1995.)****Address: (562 W. Whittier)****Parcel Number: 36350**

The real estate date index lists this parcel as 562 W. Whittier St. comprising 9.516 acres. The current owner is the F. R. Lazarus and Company. The National Steel Company occupied the parcel from 1920 to 1927. Arrow Sand and Gravel owned it from 1927 to 1939. Marble Cliff Quarries owned it from 1939 to 1945.

This site was operated until 1927 as a steel mill with a slag pit and a retention pond. Since 1927, the site was used for either gravel operations or warehousing. There are USTs on site, and a release from a tank has been reported.

The Phase I recommended that the potential for the presence of heavy metals contamination in the soil is present due to previous use as a steel mill. Removal or upgrading of existing USTs would be required. The underground storage tank release is being addressed by the State Fire Marshal. A Phase II site assessment would be recommended if excavation is to occur.

According to Sanborn maps, the area currently identified as the Lazarus warehouse used to be a steel mill. A pond and slag pit are identified in the exhibits.

**Columbus Scrap Corp (Downtown Columbus, 1995.)****Address: 514-580 Furnace****Parcel Numbers: 57548, 66151**

Columbus Scrap Corp. is operating on railroad property. There have been scrap operations on site since 1965. A polychlorinated biphenyl release has been reported by the Ohio EPA for this location. US EPA was involved in some remediation measures at this site. Further remediation measures are currently under negotiation.

The Phase I recommended the removal or upgrading of the USTs on site. The polychlorinated biphenyls are currently being addressed by the Ohio EPA, thus no testing is necessary. A Phase II site assessment is recommended for petroleum products, total petroleum hydrocarbons, benzene, ethyl benzene, toluene, and xylene.

**3.3 Previous Site Work****Universal Concrete Products Facility Corrective Action Plan**

The Universal Concrete Products building has been demolished, and demolition debris has been removed from the site. The concrete building slab remains. Figure 2 presents site features prior to

building demolition, including the approximate locations of former USTs in relation to the site building. (Essroc, 1993.)

In April 1990, Geoenvironmental Consultants, Inc. conducted a UST closure assessment at the Universal Concrete Products facility at 500 West Whittier Street. During the closure assessment, four steel USTs were removed from four separate locations at the facility (see Figure 2). Three USTs were used for the storage of diesel fuel, and one UST was used for the storage of gasoline. After removal of each UST, soil samples were field screened using a photo-ionization detector (PID), and selected soil samples were submitted for laboratory analysis to be used to confirm clean closure. Results of the analyses indicated that certain soils at three diesel fuel UST excavations exceeded the BUSTR action levels for total petroleum hydrocarbons (TPH) in soils. Soil samples collected from the gasoline UST excavation did not contain benzene, ethyl benzene, toluene, or xylenes (BETX) or TPH concentrations above the BUSTR action levels. (Essroc, 1993.)

In August 1992, Warzyn conducted a subsurface investigation at the Universal Concrete Products facility. During this investigation, 18 soil borings were drilled around the four UST excavations. Soil borings were drilled approximately 5 feet from the edge of each excavation. If soil samples collected indicated the presence of petroleum compounds based on field screening methods, an additional boring was drilled 5 feet from the previous soil boring and additional soil samples collected and screened. In addition to the soil boring program, seven groundwater monitoring wells were installed at the facility. (Essroc, 1993.)

Based on the results of the soil boring and ground water sampling investigation, soil within 15 feet of two diesel fuel UST excavations contained TPH concentrations above the BUSTR action levels. Ground water samples collected from MW2, MW4, MW5, MW6, and MW7 did not contain detectable concentrations of BETX. Monitoring Well MW1 contained 1.8 ug/L toluene. Monitoring Well MW3 contained 11 ug/L benzene, 17.1 ug/L BETX, and 1.3 mg/1 TPH. (Essroc, 1993.)

In February 1993, a second round of ground water samples were collected from each of the monitoring wells installed at the Universal Concrete Products site. Each sample was analyzed for BETX and polynuclear aromatic hydrocarbons (PAHs) as required by BUSTR. Only MW3 had detectable levels of BETX compounds, 10 ug/L benzene. This is above the BUSTR action level of 5 ug/L. Monitoring Wells MW3, MW6, and MW7 contained detectable concentrations of PAHs above the method detection limit, 5 ug/L. MW3 contained 70 ug/L acenaphthylene. MW6 contained 7 ug/L pyrene, and 8 ug/L benzo(b)fluoranthene. MW7 contained 7 ug/L fluoranthene, 7 ug/L pyrene, and 8 ug/L benzo(b)fluoranthene. Based on water level elevations measured prior to collecting ground water samples in February 1993, the direction of groundwater flow is to the west, toward the Scioto River. (Essroc, 1993.)

A number of other industries are located in the Whittier Peninsula area (east of the railroad tracks, and west of the River) and may impact the water quality of the local surface and ground waters.

The Ohio EPA has not performed sediment and fish tissue sampling in this segment of the Scioto River.

### 3.4 Site Geology & Hydrology

#### 3.4.1 Topography

The principal stream is the Scioto River, which flows from north to south. The Scioto River joins the Olentangy River about a mile upstream of the area, to form the mainstem of the Scioto River. The Scioto River flows in a southerly direction to the Ohio River. About 0.1 mile upstream of the site, the Scioto River flows over a dam, making the mean elevation of the river surrounding the peninsula at 705 feet above Mean Sea Level (MSL). A flood control levee parallels the entire peninsula with an elevation of more than 720 feet MSL. Whittier Street is built on this levee. The elevation of the lower police impound lot is less than 710 feet MSL. Because of the levee and of the majority of the peninsula being in a depression (bowl), storm water culvert systems drain the area. Based on a USGS gaging station about 2.5 miles downstream of the peninsula, the average daily mean flow of the Scioto River is 1498 cubic feet per second. (USGS, 1995.)

The weather station at Port Columbus International Airport in eastern Franklin County reports a thirty-year (1961-1990) average mean annual temperature of 51.4 degrees Fahrenheit. The mean annual precipitation recorded at Port Columbus is 38.09 inches based on the same thirty-year (1961-1990) period. Franklin County is cold in winter and uncomfortably warm in summer. Winter precipitation is in the form of frequent snow. In summer, the average temperature is 72 degrees, and the average daily maximum temperature is 84 degrees. The prevailing wind is from the south-southwest. (USDA/SCS, 1980.)

#### 3.4.2 Soils

According to the Franklin County Soil Survey, the soils that cover the surface of the glacial deposits are the "**Uw-urban land-Genesee complex, occasionally flooded**". This map unit consists of areas of urban land and a deep, nearly level, well drained Genesee soil on flood plains. The urban land part of the unit is covered by streets, parking lots, buildings, and other structures. The original soil is so altered or obscured that identification of specific soils is not feasible. (USDA/SCS, 1980.)

Typically, the Genesee soil has a surface layer of brown, friable silt loam about 9 inches thick. The subsoil is brown and dark yellowish brown, friable silt loam and clay loam about 22 inches thick. The substratum to a depth of about 70 inches is yellowish brown, friable loam and brown, mottled, very friable gravelly sandy loam. Runoff is slow. The subsoil is slightly acid to moderately alkaline. (USDA/SCS, 1980.)

### 3.4.3 Glacial Geology

The physiography on Franklin County situates it within the glaciated till plain (Central Till Plains Section of the Interior Low Plains Province), which is predominantly characterized by flat to gently rolling topography. The area that is now Franklin County was glaciated during at least two different glacial periods. Evidence of Illinoisan glaciation has been found in the form of fine, well-sorted sands in buried valleys beneath the more recent Wisconsin age glacial till. The hydrogeologic setting varied considerably across Franklin County. The buried valleys were created by pre-glacial or inter-glacial rivers that downcut into the bedrock. The differing glacial deposits filling these valleys can be best illustrated by describing the two common forms mapped within Franklin County. (USDA/SCS, 1980 and ODNR/Water, 1995.)

The common buried valley deposits in this portion of the Scioto River Valley are occupied by a modern river and floodplain, and contain numerous outwash terraces and small kames. The upper portions of these valleys contain 50 to 100 feet of outwash. Depth to water is less than 30 feet. Yields over 1,000 gallons per minute (gpm) are possible from large-diameter wells. Soils are typically loams. The streams are in direct hydraulic connection with the aquifer and recharge is high. (ODNR/Water, 1995.)

The closest water supply well to the project area (from a glacial aquifer) is located approximately 3,000 feet to the south. The well is separated from the site by the Scioto River. (Essroc, 1993.)

The aforementioned generalized, regional expectations are supported by the following site-specific geology information.

### 3.4.4 Site Specific Geology

In the CTL Engineering, Inc. report dated December 18, 1984, four test borings were performed for their client, who was interested in the site at 400 West Whittier Street. The report on their individual test boring logs indicate, that topsoil or asphaltic concrete (over course base), overlay non-engineered fill. They found that this fill ranges in thickness from 0 to 21 feet deep in one test boring, and 0 to 38.5 feet. in another. This fill consists of clay, silt, sand, brick, cinders and wood. They encountered water a 5 feet to 23.5 feet deep in three different holes. (CTL Engineering, 1984.) Static ground water levels obtained monitoring wells at the facility ranged from 7 feet to 10 feet below grade. (Essroc, 1993.)

The Division of Water of the Department of Natural Resources includes a well listing (#1487) for Universal Concrete Products that was drilled in 1953. The well elevation was 734 feet above mean sea level. It was drilled 112 feet deep and the depth to bedrock was 58 feet. Water was discovered at a depth of 80 feet and yielded 60 gpm. (Downtown Columbus, 1995.)

The nearest known, off-site well log (#237) with bedrock information is located approximately 0.25 mile north of the peninsula. The profile for well log #237 from 1942 is: 0'--18' deep, glacial drift; 18'--40', gravel with sand; 40'--60', brown clay with gravel; 60'--87', gravel with sand; 87'--112', Olentangy shale; and, 112'--240', limestone. Another well log (#268) from 1942 -- also located 0.25 mile north of the peninsula -- reports that the overburden is at least 120' atop bedrock. A well log (#217.2) from 1969 -- located approximately 0.5 mile south of the peninsula -- reports the following: 0'--12' deep, fill'; 12'--40', sand & gravel; 40'--54', fine gravel; 54'--56', limestone; and, static water level at 29. (ODNR/Water; Well Logs.)

### 3.4.5 Bedrock Geology

The bedrock underlying the glacial deposits, and exposed in places by erosion or construction, is sedimentary. It has a north-south strike and a dip of 20 to 30 feet per mile to the east. Ages range from lower Devonian in the west to lower Mississippian in the east. Lithologies consist of dolomitic limestone, shale, and sandstone. (USDA/SCS, 1980.)

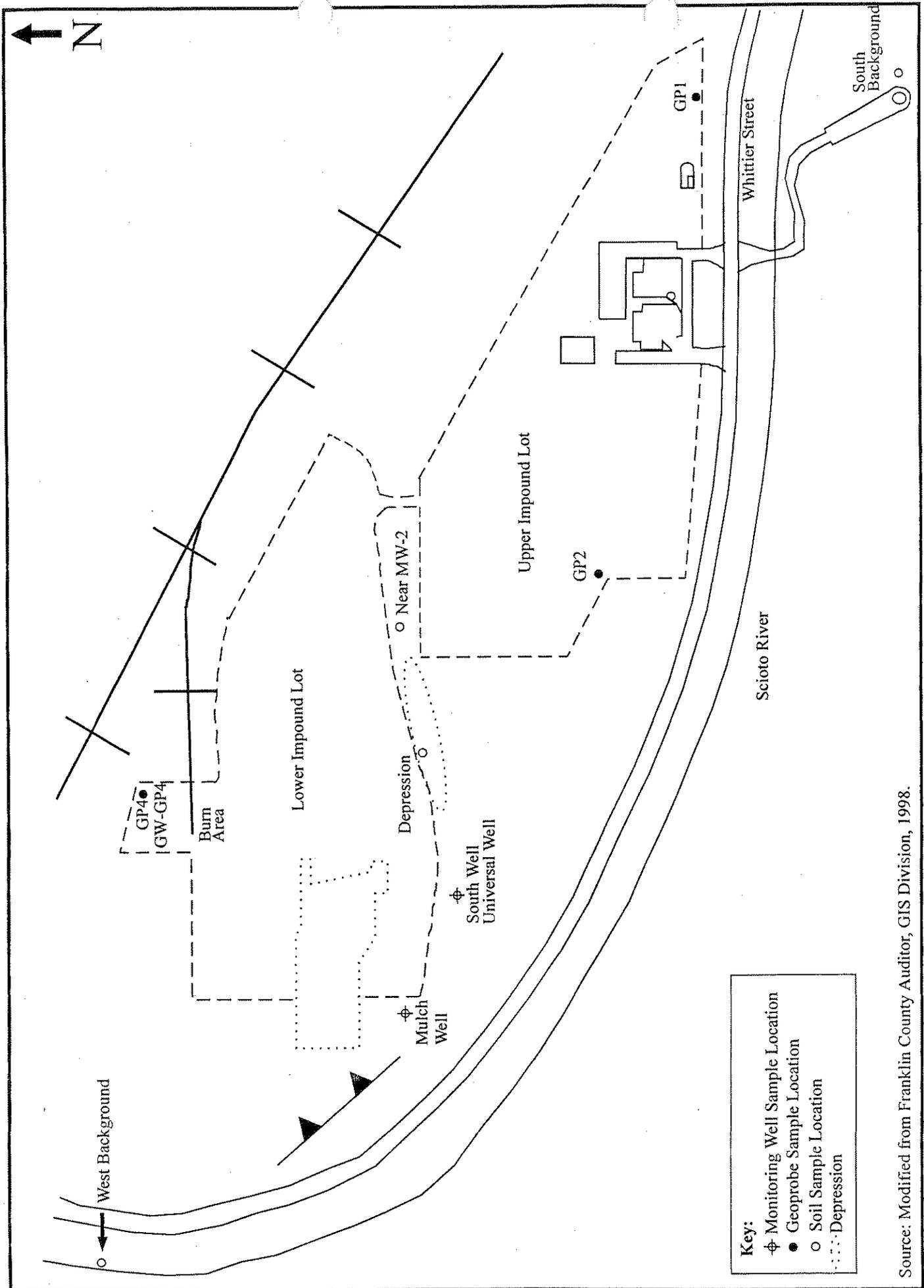
The oldest member of the Devonian system in the county is the Rasin River Formation, dolomitic limestone exposed in places in the valleys of Big and Little Darby Creeks on the west side of the county. The formations within the Devonian System to the east are younger and situated above the antecedent Rasin River. They include the Columbus and Delaware Limestones and the Ohio and Olentangy Shales. The limestone is along the Scioto River Valley and the shale is along the northern Olentangy River Valley. (USDA/SCS, 1980.)

## 4.0 SAMPLING LOCATIONS & DISCUSSION OF RESULTS

Fourteen (14) sample locations were investigated at and around the Whittier Peninsula project area (see Figures 3 and 4). Sample locations were selected based on information collected during the Ohio EPA site visits conducted on July 3, 13 and 22, 1998. Samples were analyzed by U.S. EPA Contract Laboratory Program laboratories. Analyses included the following parameters: volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides, PCBs, and target analyte list (TAL) metals.

Complete analytical results for this investigation are contained in Appendix A. Significant findings based on these data are summarized in Tables 1 and 2 and can be found in Appendix C. Data were reviewed by U.S. EPA Region V personnel for compliance with the Contract Laboratory Program, and validated by Region V Central Regional Laboratory staff.

A photographic log of sampling locations can be found in Appendix B. Standard Quality Assurance and Quality Control (QA/QC) procedures for site investigation (SI) field activities were followed during the investigation. These procedures, including sample collection, packaging and shipping,

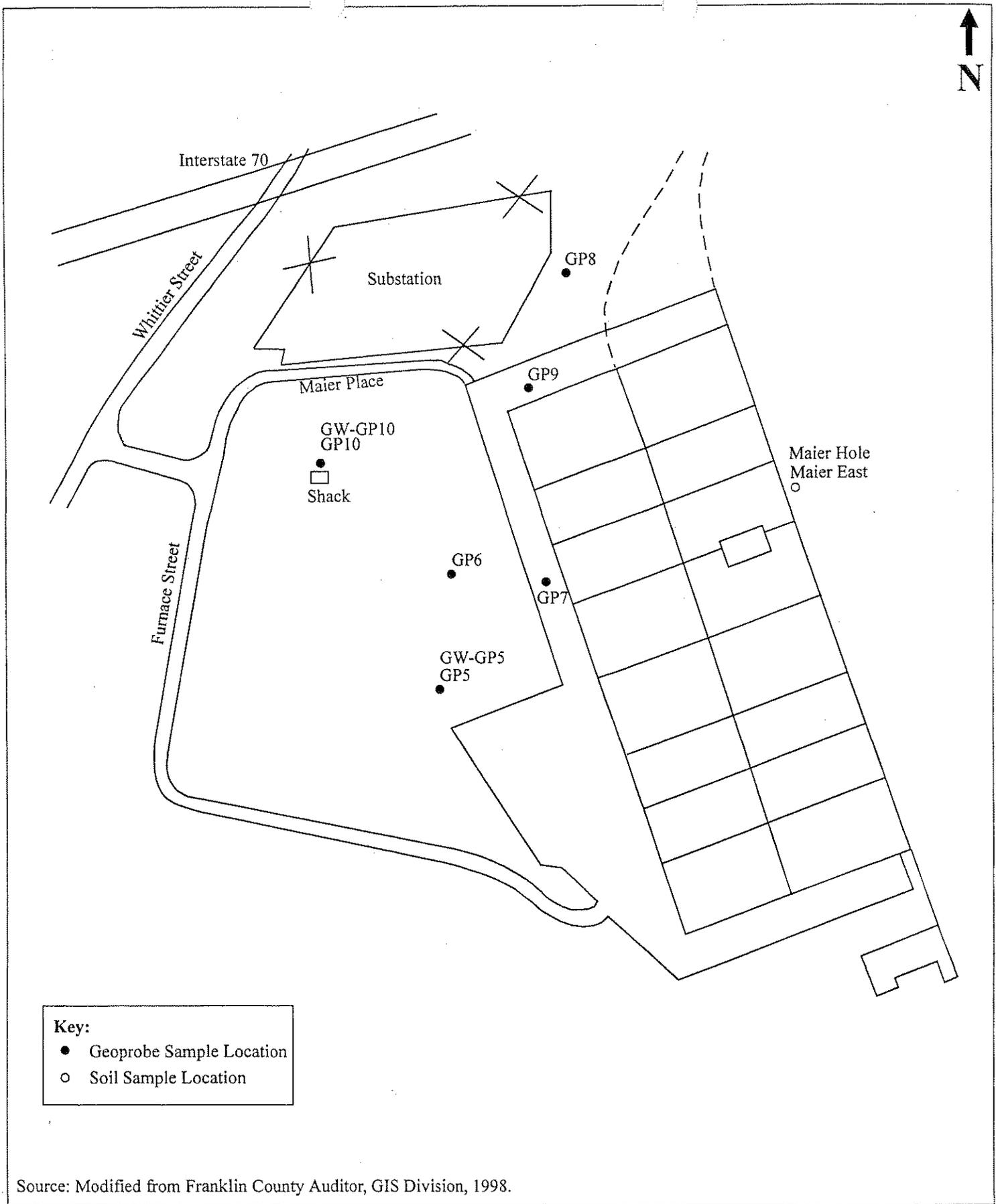


**Key:**

- ⊕ Monitoring Well Sample Location
- Geoprobe Sample Location
- Soil Sample Location
- - - Depression

Source: Modified from Franklin County Auditor, GIS Division, 1998.

FIGURE 3 POLICE IMPOUND LOT SAMPLING LOCATION MAP (Not to Scale)



Source: Modified from Franklin County Auditor, GIS Division, 1998.

FIGURE 4 MAIER PLACE SAMPLING LOCATION MAP (Not to scale)

and equipment decontamination, are documented in the Quality Assurance Project Plan (QAPP) for Region V Superfund Site Inspection Activities for Ohio EPA and Ohio EPA Field Standard Operating Procedures.

#### **4.1 Groundwater**

A total of six (6) ground water samples were collected; three of which were collected using the Geoprobe. These three Geoprobe samples included: one at the north central portion (burn area) of the lower police impound lot (GW-GP4); one at Maier Place at the northwest corner of the property between the Maier Place Road and a storage shed (GW-GP10); and one at Maier Place in the southwest corner of an unpaved area of the parking lot (GW-GP5). A ground water sample was attempted at GP1, but hit refusal at 20 feet below ground surface (bgs). GW-GP4 was collected from 28 to 32 feet bgs, GW-GP5 was collected from 20 to 22 feet bgs and GW-GP10 was collected from 20 to 24 feet bgs. The two Universal Concrete Products monitoring wells in the southern and southeastern portions of the lower police impound lot were also sampled. The static water level in these wells were measured at 7.48 feet bgs and 10.1 feet bgs. The replicated sample was collected from one of the monitoring wells.

A background ground water sample was not collected, therefore samples results were compared to Maximum Contaminants Levels (MCLs). The monitoring well sample results did not show any contaminants above MCLs. Geoprobe groundwater sample results showed levels of arsenic, barium, beryllium, cadmium, chromium, and nickel all above MCLs. At GW-GP10 the following levels were detected; arsenic (474 µg/L), barium (4660 µg/L), beryllium (10.8 µg/L), cadmium (8.9 µg/L), chromium (238 µg/L), lead (390 µg/L), (404 µg/L), vanadium (474 µg/L), and zinc (1570 µg/L).

Groundwater is not used in the area as a primary source of drinking water. The city of Columbus uses surface water from the Scioto River, Big Walnut Creek, and the Hoover and Alum Creek Reservoirs for its water supply, along with ground water from the south well field area in southeast Franklin County. The surface water source serves a population of 649,585 people and the south wellfield source serves a population of 150,000 people (OSU, 1998).

#### **4.2 Sediment and Surface Water**

No sediment or surface waters samples were collected for this phase of the peninsula investigation. If there are any heavily-contaminated sites on the peninsula, then off-site sediment or surface samples will be taken from the adjoining Scioto River and/or storm sewer system for the subsequent geographic initiative investigation.

#### **4.3 Soil**

A total of 15 soil samples were collected for this phase of the investigation. Five (5) were taken

on the city of Columbus police impound lots and eight (8) on the Maier Place property. Nine (9) soil samples were collected using a Geoprobe and six (6) using hand augurs, spoons and/or shovels for surface soil samples. Geoprobe samples were collected at four-foot intervals and total depth was determined at each location. Core samples were screened using a Microtip photo-ionizing detector. The only significant reading recorded was at GP5, which registered 40 ppm at the 4 to 6 foot interval.

Five (5) soil sample locations were investigated at the police impound lots to determine if soil contamination exists from current and past usage. Two (2) Geoprobe samples (GP1 and GP2) were taken in the upper impound lot. GP1 was collected from the sale lot in the southeast corner along the south fence line and GP2 was collected in the southwest corner along the western fence line. Sample GP4 was collected from the north central portion (burn area) of the lower impound lot. An additional Geoprobe sample was attempted in the far eastern corner of the lower impound lot, but hit refusal at four feet. Two surficial soil samples were collected from the lower impound lot. One surficial soil sample (depression) was collected from a depression located west of the access road and the other (Near MW2) was collected near a partially-buried drum and electrical equipment north of the slope from the upper and lower lots.

Seven (7) additional soil sample locations were investigated at Maier Place to determine if contamination exists from previous electroplating operations that were conducted at the site. One surficial soil sample (Maier Hole) was collected on the east side of the building. A replicate sample was also collected from this location. Six (6) soil samples were collected using the Geoprobe. GP5 was collected in the southwest corner of the parking lot adjacent to an open field area. GP6 was collected from an unpaved area in west central portion of the property. GP7 was collected next to the building between the second and third fire walls. GP8 was collected about 180 feet northwest of the building adjacent to the substation. GP9 was collected close to the building on the northwest side. The Geoprobe hit refusal at around eight feet at a few locations on the north side of the building in the vicinity of the closed hazardous waste storage pad. GP10 was collected at the northwest corner of property between Maier Place Road and a storage shed.

One background sample was collected in the westernmost portion of the peninsula in the riparian corridor along the bike path west of Whittier Street. This background sample was used as background for the surficial soil samples. The second background sample was collected in a wooded area, in the south easternmost portion of the peninsula and south of the city of Columbus sewage pump station. This background sample, which was taken at a deeper depth than the previous background sample, was used as background for the Geoprobe soil samples. Historical aerial photographs shows that both of these proposed sampling locations have been wooded and apparently undisturbed since 1946.

Surficial and subsurface soil sample results showed levels of PAHs, SVOCs, metals and some pesticides and PCBs above background concentrations. A number of PAHs were detected at

elevated (above background) levels at sample locations: GP1, GP2, GP10, Maier East (Maier Hole - Duplicate), and Depression. A number of pesticides and PCBs were also detected at GP1, Maier Hole and Depression. Elevated levels of metals were found at sample locations GP1, GP2, GP10, and Depression. At GP2, the following contaminant levels were detected; barium (2100 mg/kg), copper (415 mg/kg), lead (1290 mg/kg), nickel ( 102 mg/kg), mercury (0.52 mg/kg), and zinc (2050 mg/kg).

## 5.0 CONCLUSIONS

Soil sample results showed the presence of some contaminants, including SVOCs, metals and some pesticides/herbicides. These sample results were compared to the Ohio Voluntary Action Program (OVAP) Generic Direct Contact Soil Standards for Carcinogenic and Non-Carcinogenic Chemicals of Concern - Residential Land Use Category. The samples were compared to this category due to the fact that the future use of this area may be residential. When compared to these standards, the contaminants found are not considered elevated, with the exception of lead. GP2 showed the presence of lead at 1290 mg/kg. The Generic Direct-Contact Standard for Residential Land Use for lead is 400 mg/kg.

Groundwater sample results showed the presence of some metals in the Geoprobe groundwater samples (GW-GP4, GW-GP5, GW-GP10). These sample results were compared to MCLs, which are equivalent the OVAP Generic Unrestricted Potable Use Standards. Arsenic, barium, beryllium, cadmium, chromium, and nickel, for these samples, were all above MCLs.

No other pathways (surface water or air) were evaluated during this project. No air discharges were noted during the investigation. The site is adjacent to the Scioto River; however, due to the height of the levy, the likelihood of any discharges to surface water is low.

## 6.0 RECOMMENDATIONS

Ohio EPA DERR personnel conducted a brownfield investigation at the Whittier Peninsula site located in Columbus, Franklin County, Ohio on August 5-6, 1998. Several contaminants were found to be present in the soil samples obtained from various locations. When compared to OVAP Residential Land Use Category, the results are not considered elevated with the exception of lead at GP2. Several contaminants were found to be present in the groundwater samples obtained from various locations. When compared to the OVAP Generic Unrestricted Potable Use Standards, these results are considered elevated.

The soil sample obtained from GP2 had lead present at 1290 mg/kg. The OVAP standard is 400 mg/kg. As indicated earlier, this is considered elevated. GP2 was obtained from the western edge of the upper police impound lot and at a depth of 10 - 13 feet bgs. It is unclear as to the extent of the lead contamination at this location. In order to fully evaluate the extent of the

contamination, further soil sampling should be done in this area. Remedial activities at this location may include spot removal of soil until sample results are below 400 mg/kg.

Geoprobe groundwater sampling results indicated the presence of several metals above MCLs which are equivalent to OVAP Generic Unrestricted Potable Use Standards. Although results were elevated compared to the standard, it is not likely that this will be of concern. Groundwater is not used as the primary source of drinking water in the area. As stated earlier, drinking water is obtained from surface water intakes. Therefore, it does not appear that ground water will need further evaluation/remediation.

## 7.0 REFERENCES

**CTL Engineering:** 1984 Soil boring and testing report; CLT Project #84-5204 for their client Coke Harpham, Inc.; Columbus, Ohio.

**Downtown Columbus, Inc.:** Environmental Site Assessment dated August 1995; Various meetings between OhioEPA personnel and Steve Tabit of Downtown Columbus; Columbus, Ohio.

**Essroc Materials, Inc.:** UST Corrective Action Plan conducted by their consultant Warzyn, Inc.; Columbus, Ohio.

**Ohio Department of Natural Resources, Division of Water:** Map of Ground-Water Resources of Franklin County by James J. Schmidt, Bulletin 30, Columbus, Ohio, 97pp., 1958; Columbus, Ohio.

**Ohio Department of Natural Resources, Division of Water:** Pollution Potential of Franklin County, Ohio; Columbus, Ohio.

**Ohio Department of Natural Resources, Division of Water:** Locator maps for residential well logs; and various well logs for area around Whittier Peninsula area Logs for Clinton Township, Franklin County, Ohio; Columbus, Ohio; 1994.

**Ohio Department of Transportation:** Aerial photographs dated 1946, 1953, 1958, 1964, 1969, 1975, 1989 and 1992; provided by Bureau of Aerial Engineering in Columbus, Ohio.

**Ohio Environmental Protection Agency (EPA), Division of Emergency & Remedial Response (DERR):** Columbus Four Corners - Part I Work Plan; April 28, 1997 Columbus, Ohio.

**EPA, DERR:** "Ohio Voluntary Action Program (OVAP) Generic Standards Rule 3745-300-08, Columbus, Ohio, 1996.

**Ohio State University Extension, Food, Agricultural and Biological Engineering:** "Water Resources of Franklin County," Fact Sheet AEX-480.25. 1998.

**U.S. Department of Agriculture, Soil Conservation Service:** "Soil Survey for Franklin County, Ohio"; joint publication by the U.S. Soil Conservation Service, the Division of Soil & Water Conservation of the Ohio Department of Natural Resources and the Ohio Agricultural Research and Development Center; Columbus, Ohio, 1980.

**U.S. Environmental Protection Agency:** Investigation-Derived Waste Management Guidance Manual (USEPA/540/G-91/009, May 1991).

**U.S. Geological Survey (USGS):** Ohio Topographic Map: "Southwest Columbus, Ohio Quadrangle", 1965, Photo revised 1995 and "Southwest Columbus, Ohio Quadrangle", 1964, Photo revised 1984.

**USGS:** Water Resources Data, Ohio, Water Year 1995, Vol. 1 Ohio River Basin, Report OH-95-1; U.S. Department of the Interior.

**APPENDIX A**  
**COMPLETE ANALYTICAL RESULTS**

Due to its size, the CLP Data Package was not included in the scanned image of this report. If interested in the CLP Data Package, please contact the Division of Emergency and Remedial Response, Central District Office.

**APPENDIX B**  
**SITE PHOTOGRAPHIC LOG**

**APPENDIX C**  
**SIGNIFICANT SAMPLE RESULTS TABLES**



Photo No: 1  
Orientation: West  
Description: Impounded cars parked on upper impound lot.

Date: July 13, 1998



Photo No: 2  
Orientation: North  
Description: Lower Impound Lot. Former Location of Universal Concrete Building.

Date: July 13, 1998

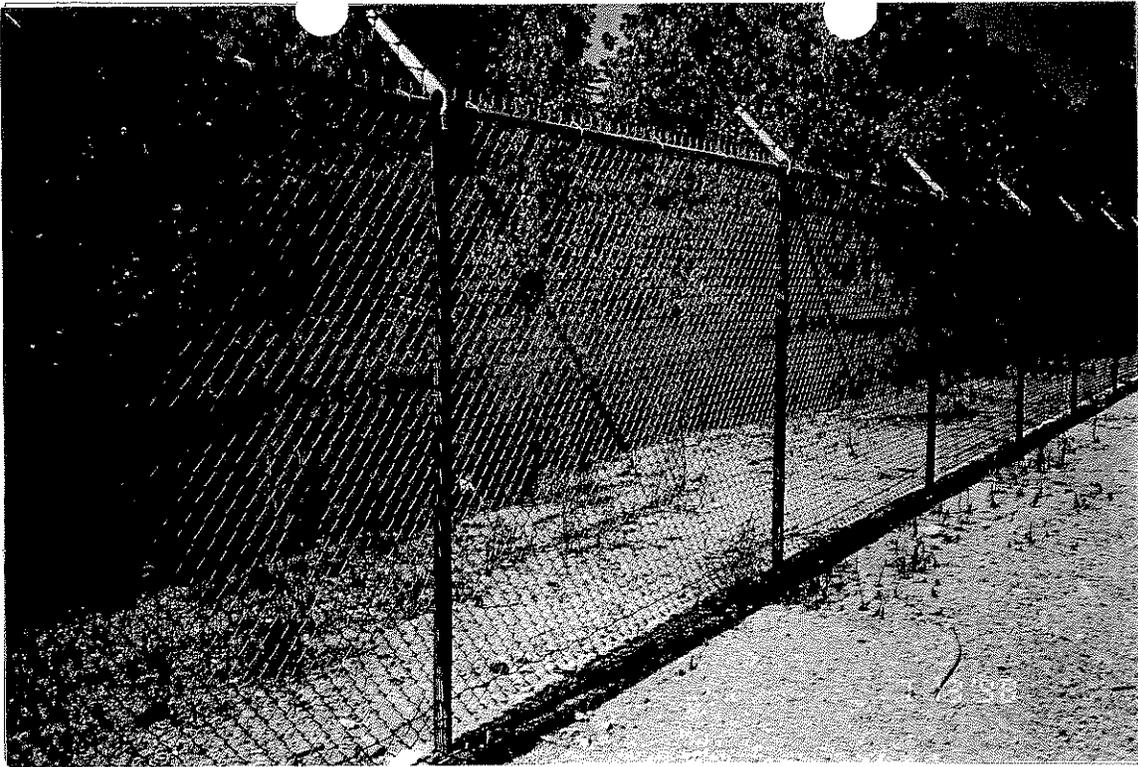


Photo No: 3  
Orientation: South  
Description: Universal Concrete MW2.

Date: July 13, 1998



Photo No: 4  
Orientation: West  
Description: Maier Place gravel parking lot.

Date: July 13, 1998

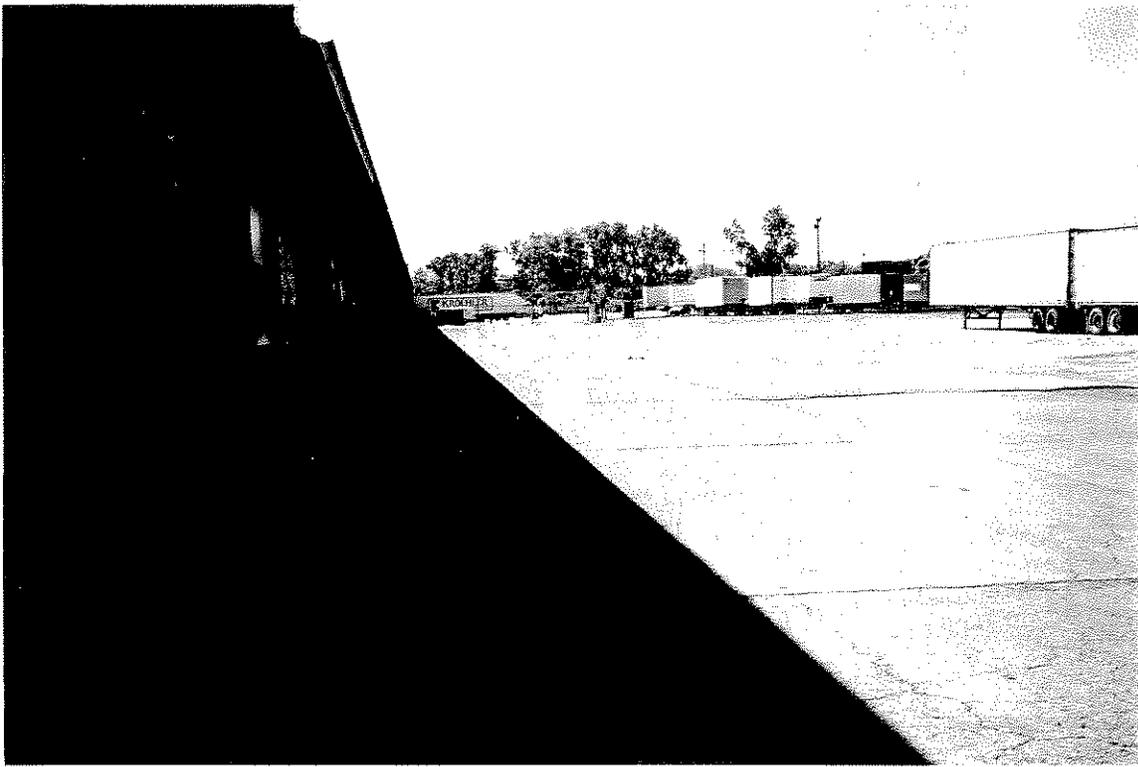


Photo No: 5

Date: July 13, 1998

Orientation: South

Description: Maier Place; view of west side of building.

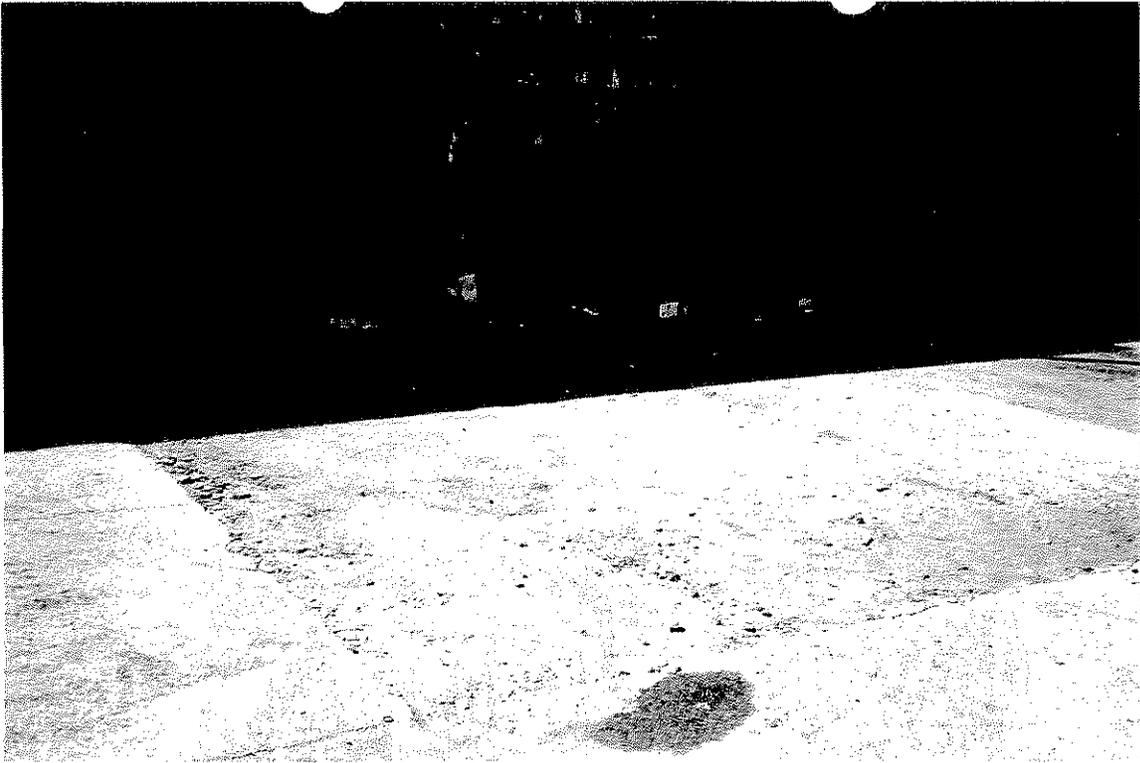


Photo No: 6

Date: July 13, 1998

Orientation: East

Description: Maier Place; north side of building.



**Photo No: 7**

**Date: July 13, 1998**

**Orientation: South**

**Description: Close up of loading and unloading area on north side of building.**



**Photo No: 8**

**Date: July 13, 1998**

**Orientation: Southeast**

**Description: Back (east side) of building adjacent to railroad tracks.**



Photo No: 9

Date: July 13, 1998

Orientation: North

Description: Location of former hazardous waste storage pad.



Photo No: 10

Sample No: ECGT/MEBKH 4

Date: August 5, 1998

Orientation: South

Description: Close up of soil sample "depression".

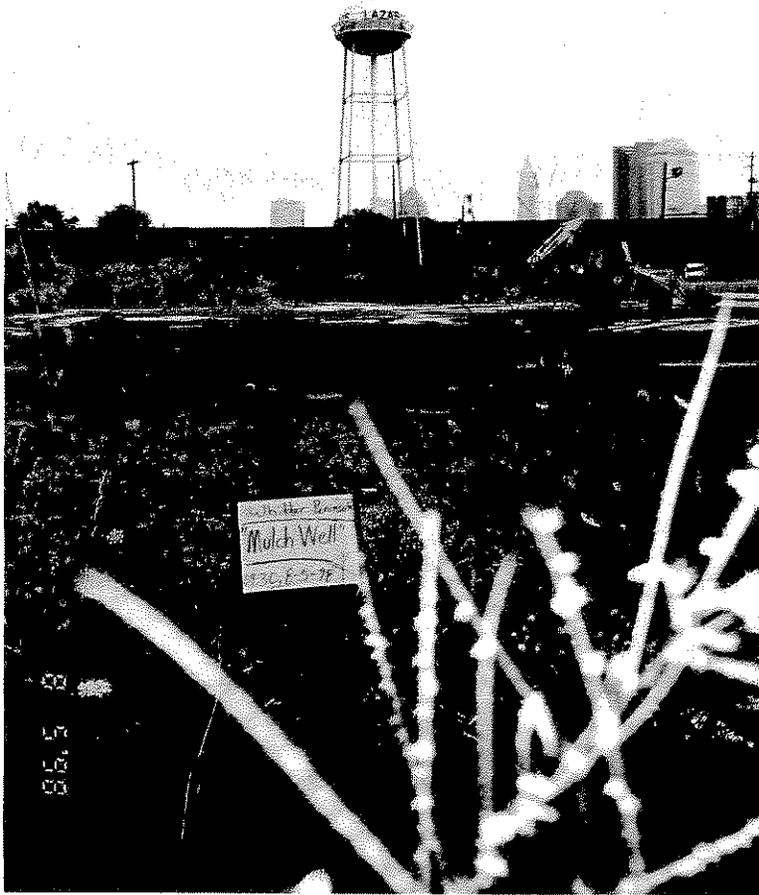


Photo No: 11  
Sample No. ECGS/MEBKG 1  
Date: August 5, 1998  
Orientation: North  
Description: Universal Concrete MW1. Close up of monitoring well sample "Mulch Well".

Photo No: 12  
Sample No: ECGT/MEBKH 1  
Date: August 5, 1998  
Orientation: South  
Description: Closeup of soil sample Near MW-2 collected near drum and electrical equipment.





**Photo No: 13**  
**Sample No.** ECGS/MEBKG 2  
and ECGS/MEBKG 3 (dup)  
**Date:** August 5, 1998  
**Orientation:** North  
**Description:** Universal Concrete  
MW2. Close up of monitoring  
well samples "South Well" and  
"Universal Well".

**Photo No: 14**  
**Sample No:** ECGW/MEBKJ 1  
**Date:** August 5, 1998  
**Orientation:** East  
**Description:** Close up of  
Geoprobe soil sample GP1  
collected in eastern corner of  
upper impound lot.





Photo No: 15

Sample No: ECGW/MEBKJ 1

Date: August 5, 1998

Orientation: East

Description: Perspective of Geoprobe soil sample GP1 collected in the eastern corner of the upper impound lot.

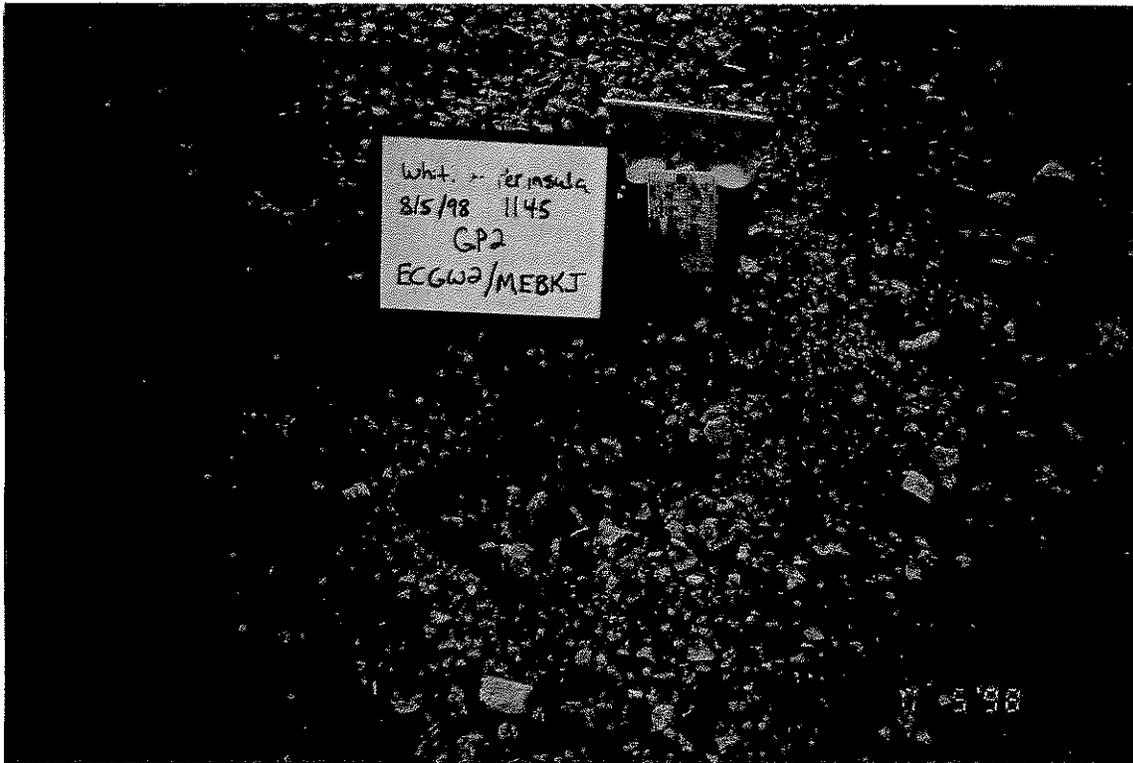


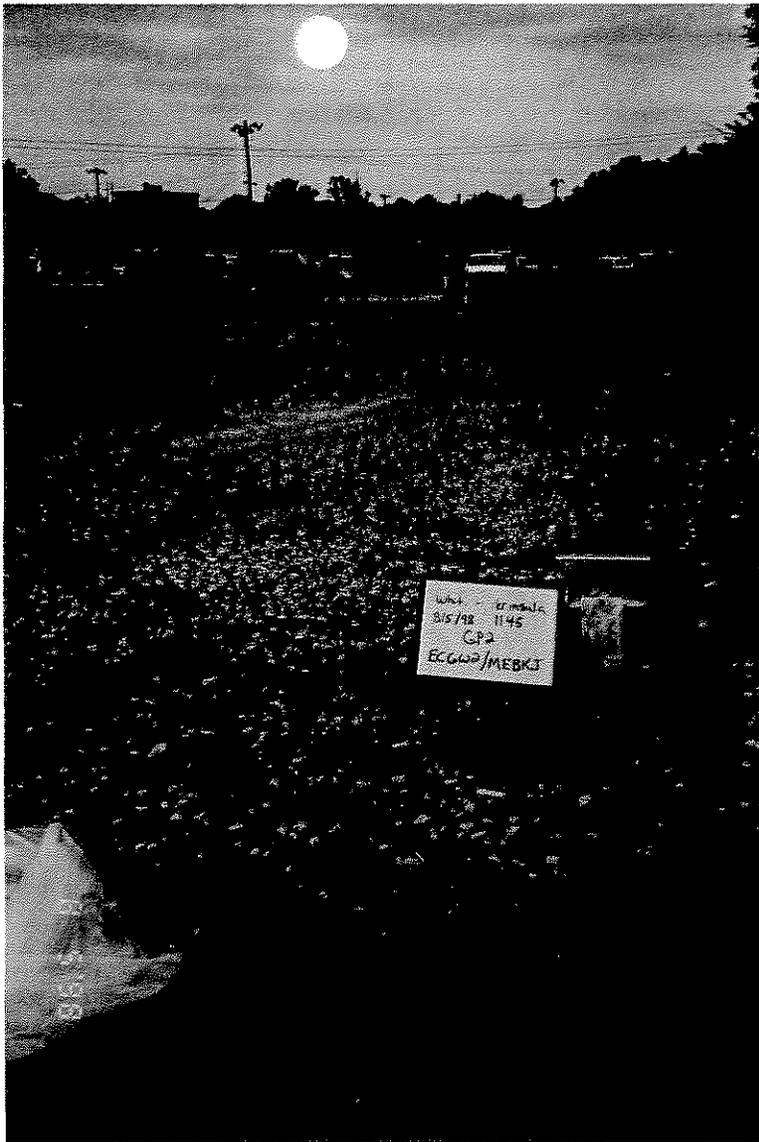
Photo No: 16

Sample No: ECGW/MEBKJDH 2

Date: August 5, 1998

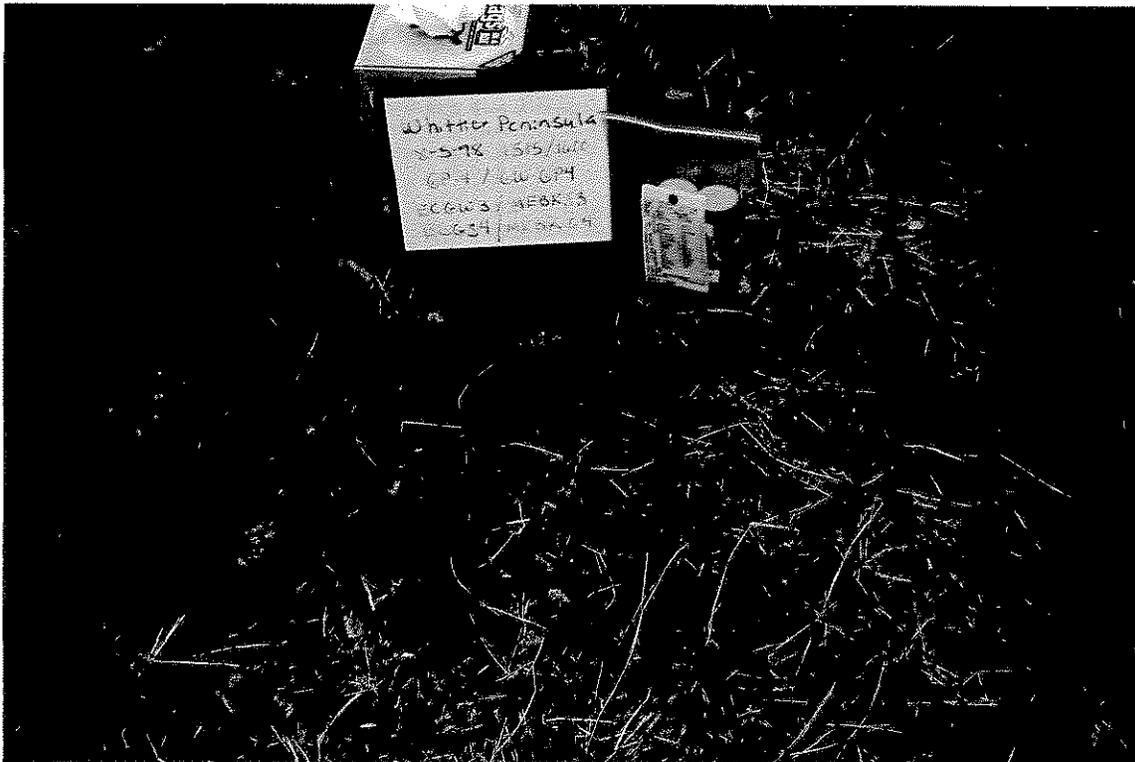
Orientation: East

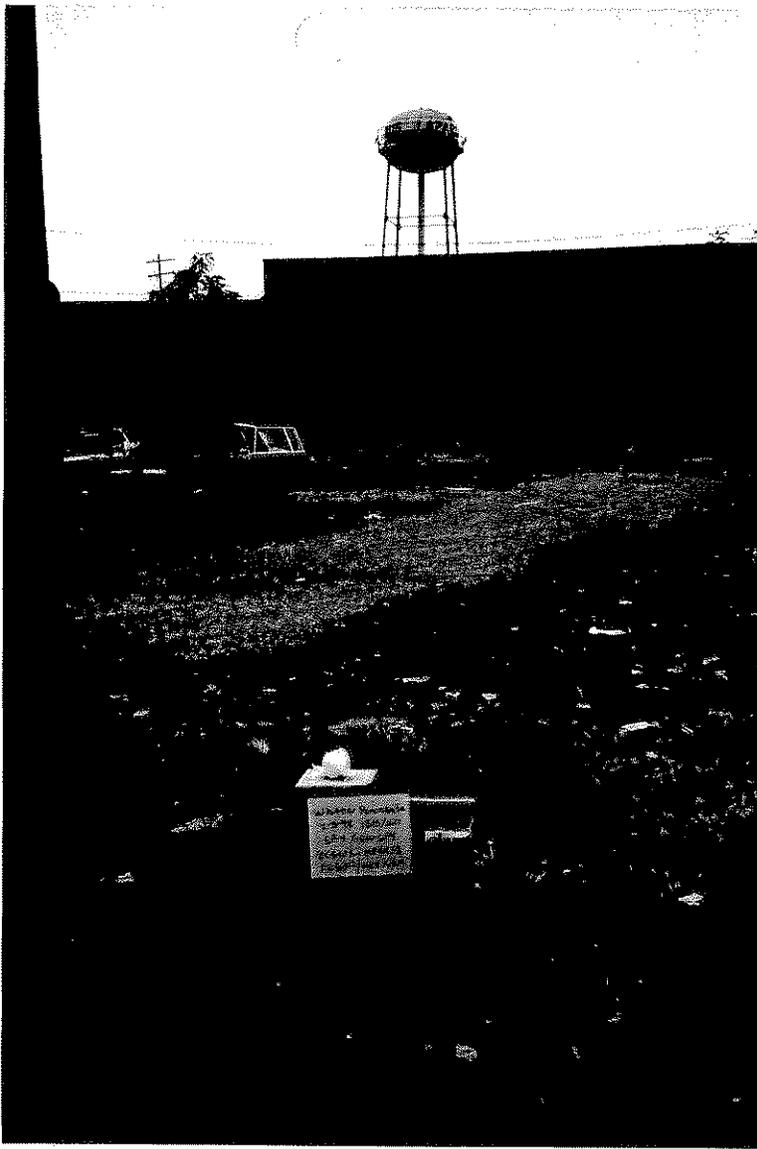
Description: Close up of Geoprobe soil sample GP2 collected in western corner of upper impound lot.



**Photo No: 17**  
**Sample No. ECGW/MEBKJ 2**  
**Date: August 5, 1998**  
**Orientation: South**  
**Description: Perspective of Geoprobe soil sample GP2 collected in western corner of upper impound lot.**

**Photo No: 18**  
**Sample No: ECGW/MEBKJ 3 & ECGS/MEBKJ 4**  
**Date: August 5, 1998**  
**Orientation: North**  
**Description: Close up of Geoprobe soil and groundwater samples GP4 and GW-GP4 collected from burn area of lower impound lot.**





**Photo No: 19**  
**Sample No. ECGW/MEBKJ 3**  
**& ECGS/MEBKG 4**  
**Date: August 5, 1998**  
**Orientation: West**  
**Description: Perspective of**  
**Geoprobe soil and groundwater**  
**sample GP4 and GW-GP4**  
**collected from burn area of**  
**lower upper impound lot.**

**Photo No: 20**  
**Sample No: ECGT/MEBKH 6**  
**& ECGS/MEBKG 5**  
**Date: August 5, 1998**  
**Orientation: Northeast**  
**Description: Close up of**  
**Geoprobe soil and groundwater**  
**samples GP5 and GW-GP5**  
**collected from stained area of**  
**parking lot at Maier Place.**





Photo No: 21                      Sample No:    ECGT/MEBKH 6                      Date: August 5, 1998  
 Orientation:    Northeast                      ECGS/MEBK 5  
 Description:    Perspective of Geoprobe soil and groundwater samples GP5 and GW-GP5 collected from stained area in parking lot of Maier Place.

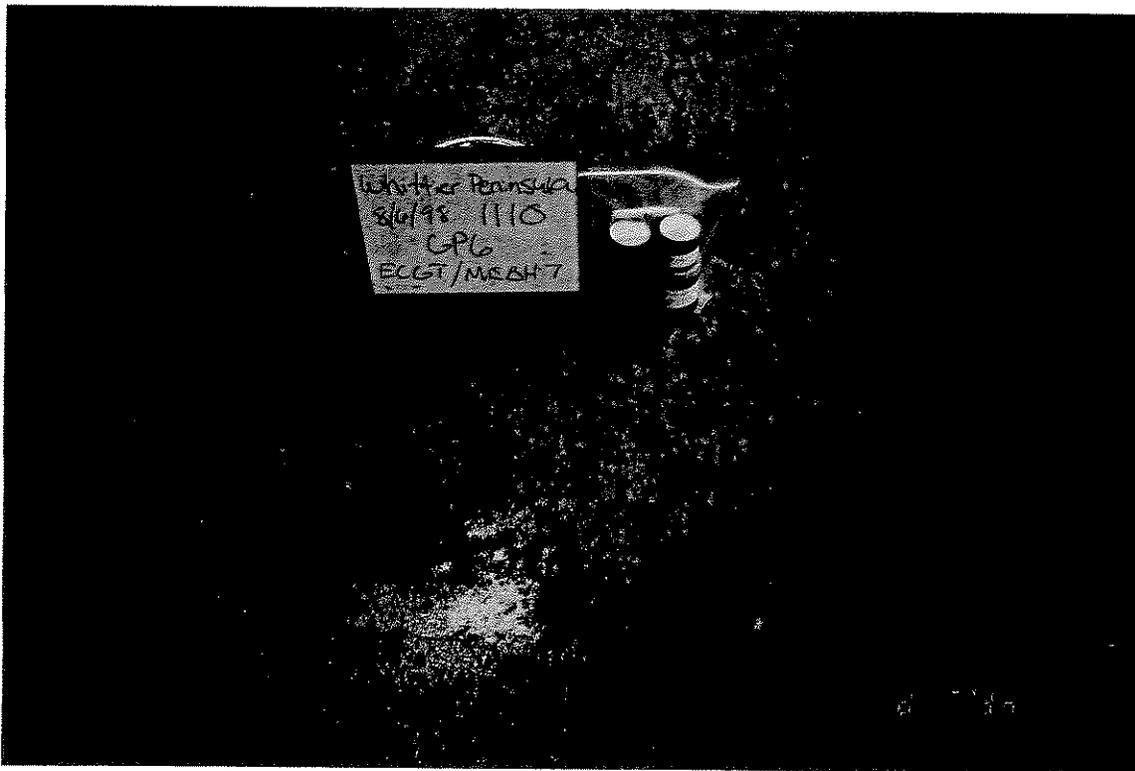


Photo No: 22                      Sample No:    ECGT/MEBKH 7                      Date: August 4, 1998  
 Orientation:    East  
 Description:    Close up of Geoprobe soil sample GP6 collected from unpaved area of parking lot at Maier Place.

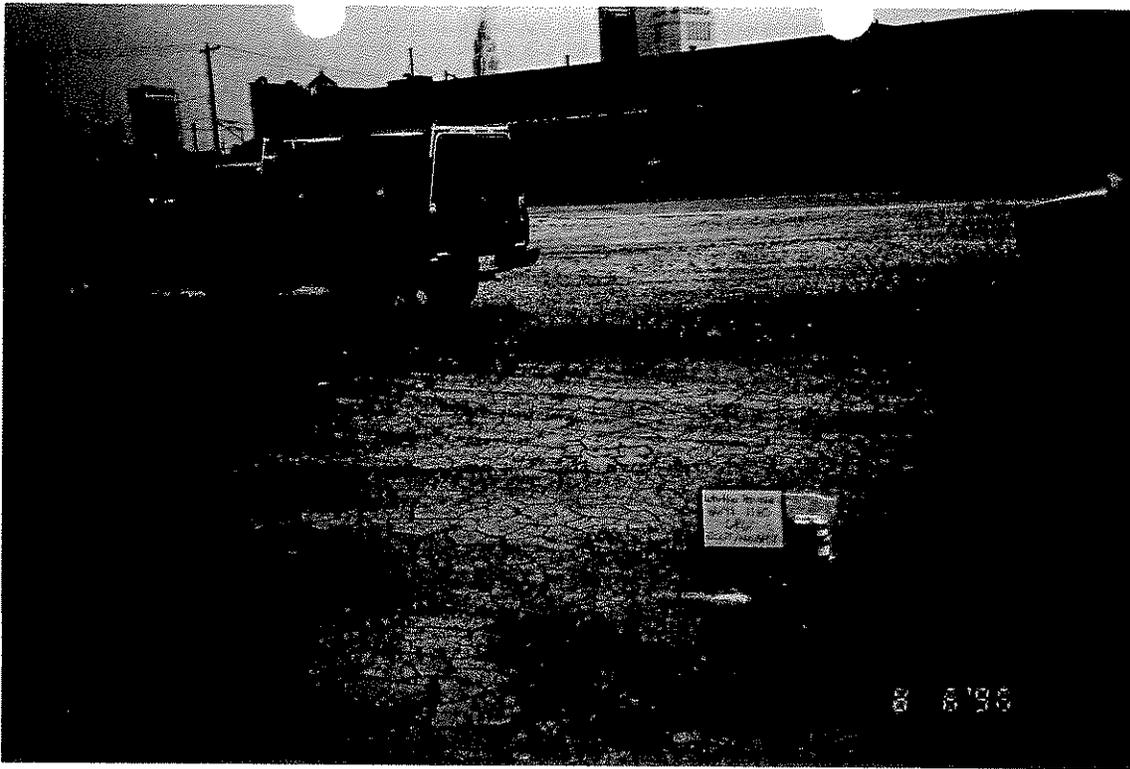


Photo No: 23                      Sample No:    ECGT/MEBKH 7                      Date: August 5, 1998  
Orientation:                      East  
Description:                      Perspective of Geoprobe soil sample GP6 collected from unpaved area of parking lot at Maier Place.

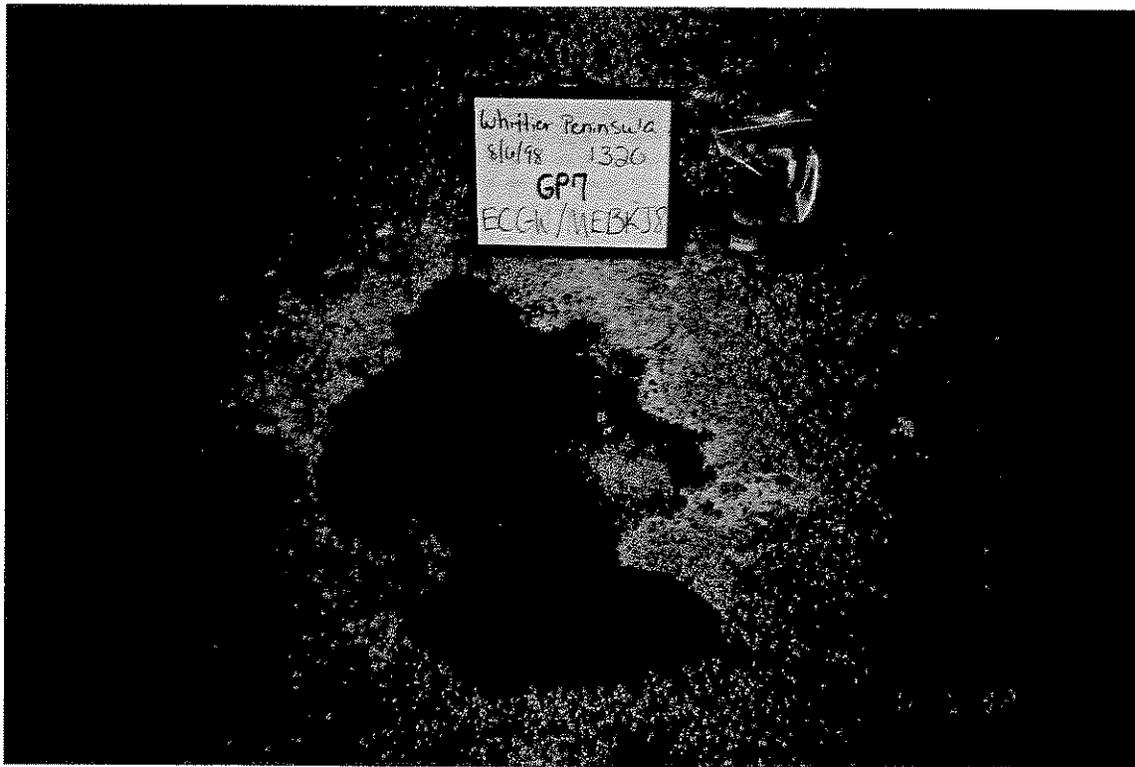


Photo No: 24                      Sample No:    ECGW/MEBKJ 8                      Date: August 4, 1998  
Orientation:                      Northwest  
Description:                      Close up of Geoprobe GP7 collected on the west side of the Maier building.

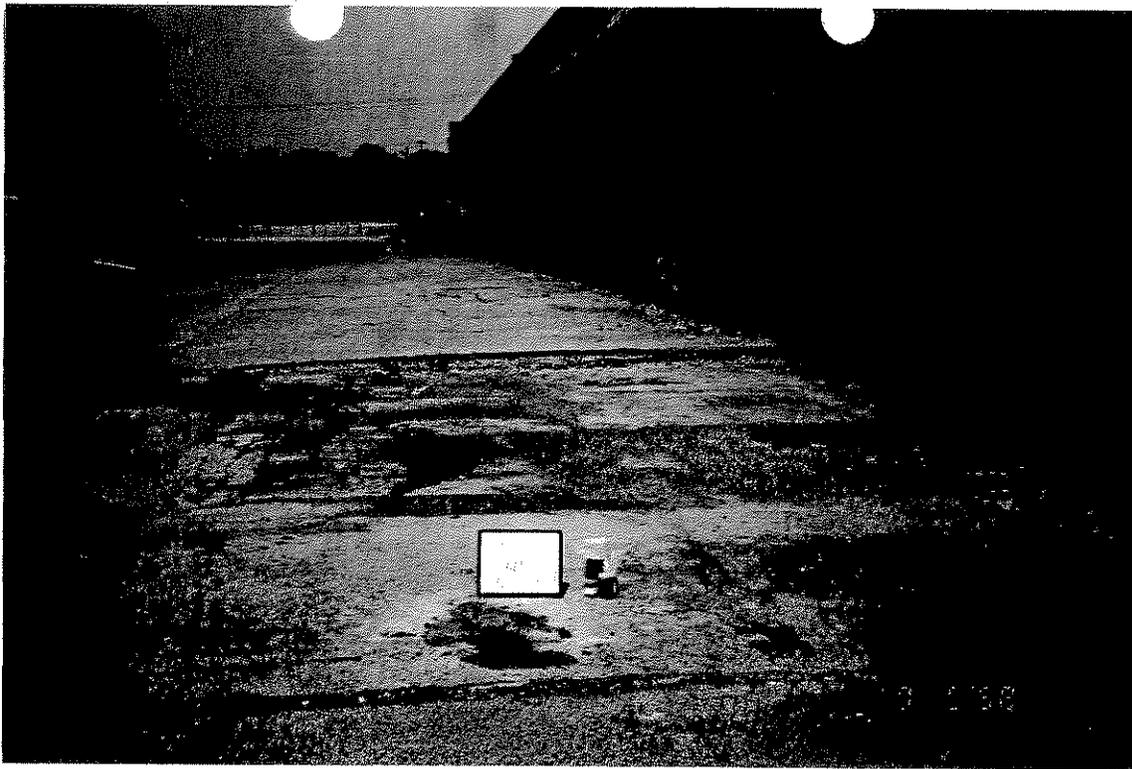


Photo No: 25                      Sample No:    ECGW/MEBKJ 8                      Date: August 5, 1998  
Orientation:    Northwest  
Description:    Perspective of Geoprobe soil sample GP7 collected on the west side of the Maier building.



Photo No: 26                      Sample No:    ECGW/MEBKJ 6                      Date: August 5, 1998  
Orientation:    Southeast  
Description:    Close up of Geoprobe soil sample GP8 collected on north side of the Maier building between the substation and railroad tracks leading to the building.



Photo No: 27                      Sample No:    ECGW/MEBKJ 6                      Date: August 5, 1998  
Orientation:                      Southeast  
Description:                      Perspective of Geoprobe soil sample GP8 collected on the north side of the Maier building between the substation and railroad tracks leading to the building.



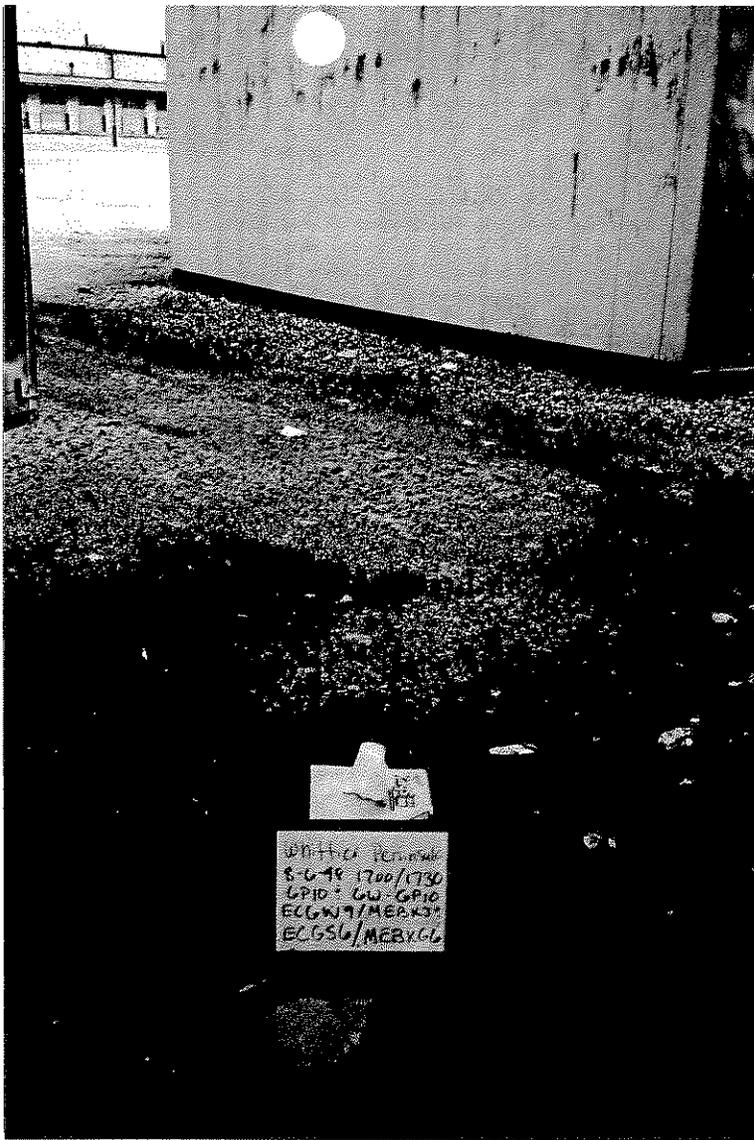
Photo No: 28                      Sample No:    ECGW/MEBKJ 7                      Date: August 5, 1998  
Orientation:                      West  
Description:                      Close up of Geoprobe soil sample GP9 collected close to the Maier building on the north side.



**Photo No:** 29  
**Sample No.** ECGW/MEBKJ 7  
**Date:** August 5, 1998  
**Orientation:** West  
**Description:** Perspective of Geoprobe soil sample GP9 collected close to Maier building on the north side.

**Photo No:** 30  
**Sample No:** ECGW/MEBKJ 9 & ECGS/MEBKG 6  
**Date:** August 5, 1998  
**Orientation:** Northwest  
**Description:** Closeup of Geoprobe soil and groundwater samples GP10 and GW-GP10 collected from stained area on west side of site between Maier Place Road. and a storage shed.

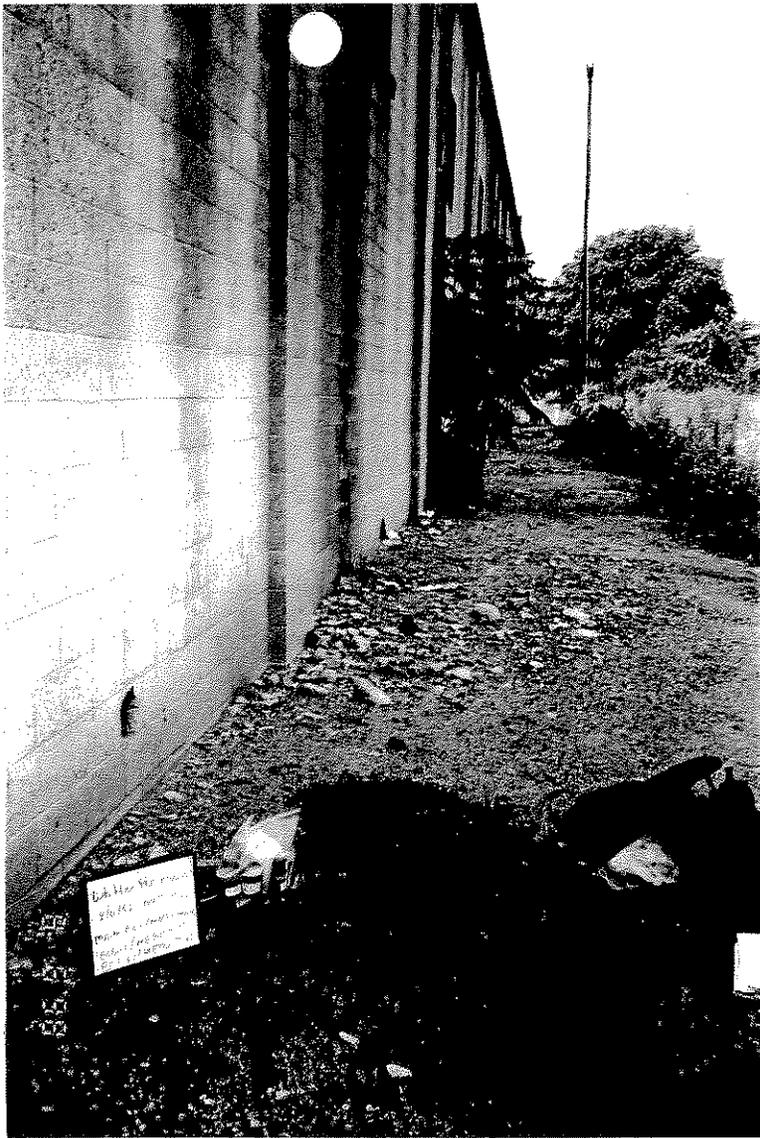




**Photo No:** 31  
**Sample No.** ECGW/MEBKJ 9 & ECGS/MEBK6  
**Date:** August 5, 1998  
**Orientation:** Northwest  
**Description:** Perspective of Geoprobe soil and groundwater samples GP10 and GW-GP10 collected from stained area on west side of site between Maier Place Road, and a storage shed.

**Photo No:** 32  
**Sample No:** ECGW/MEBKJ 5 & ECGW/MEBKJ 4 (Dup)  
**Date:** August 5, 1998  
**Orientation:** West  
**Description:** Closeup of surficial soil sample Maier East/Maier Hole collected on the east side of the Maier building.





**Photo No:** 33  
**Sample No.** ECGW/MEBKJ 5 &  
ECGW/MEBKJ 4 (Dup)  
**Date:** August 5, 1998  
**Orientation:** North  
**Description:** Perspective of  
surficial soil samples Maier East  
and Maier Hole collected on the  
east side of the Maier building.

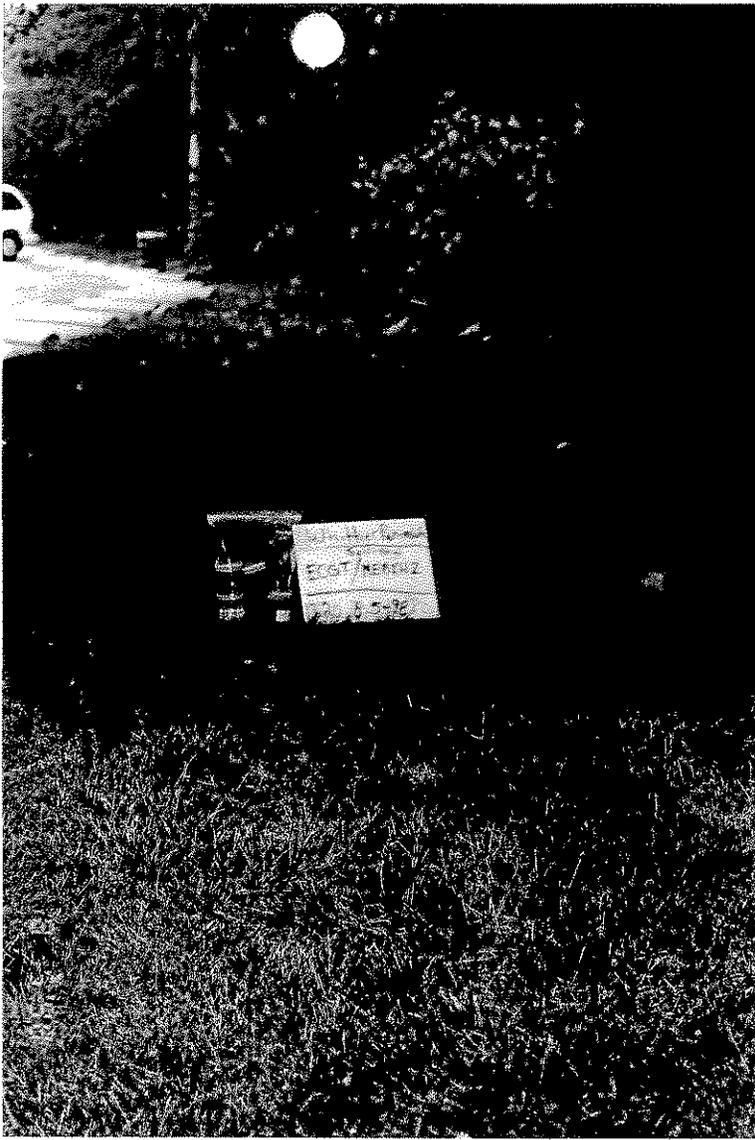


Photo No: 34  
Sample No. ECGT/MEBKH 2  
Date: August 5, 1998  
Orientation:  
Description: Background soil sample "South Background" collected next to Lower Scioto Park and Boat Launch.



Photo No: 35  
Sample No. ECGT/MEBKH 3  
Date: August 5, 1998  
Orientation: West  
Description: Background soil  
sample "West Background"  
collected from Lower Scioto  
Park Bike Trail.

TABLE 1  
Whittier Peninsula Significant Soil Sample Results

ORGANIC SAMPLE NO.	ECGT1	ECGT2	ECGT3	ECGT4	ECGT6	ECGT7	ECGW1	ECGW2
INORGANIC SAMPLE NO.	MEBKH1	MEBKH2	MEBKH3	MEBKH4	MEBKH6	MEBKH7	MEBKJ1	MEBKJ2
DATE SAMPLE COLLECTED	8/5/98	8/5/98	8/5/98	8/5/98	8/5/98	8/5/98	8/5/98	8/5/98
SAMPLE DEPTH	0-8"	6-8"	4-6"	6-8"	4-8'	4-8'	4-8'	10-13'
DESCRIPTION	Near MW2	S.BKGD	W.BKGD	Depression	GP5	GP6	GP1	GP2
SEMI-VOLATILE ORGANIC COMPOUNDS								
naphthalene	360U	380U	390U	400U	69J	400U	780	55J
2-methylnaphthalene	360U	380U	390U	400U	110J	400U	660	45J
acenaphthene	360U	380U	390U	63J	390U	400U	1200	400U
dibenzofuran	360U	380U	390U	400U	390U	400U	1100	48J
fluorene	360U	380U	390U	75J	390U	400U	1700	51J
phenanthrene	50J	140J	45J	950	91J	400U	13000E	810
anthracene	360U	380U	390U	180J	390U	400U	3100	120J
carbazole	360U	380U	390U	98J	390U	400U	1700	99J
fluoranthene	74J	270J	84J	1300	97J	400U	13000E	1000
pyrene	53J	180J	63J	1700	73J	400U	9400E	780
benzo(a)anthracene	360U	100J	390U	810	50J	400U	5800E	380J
chrysene	38J	110J	42J	690	62J	400U	4600E	460
benzo(b)fluoranthene	49XJ	110J	49J	720	78J	400U	5200E	500
benzo(k)fluoranthene	46XJ	100J	390U	520	45J	400U	2200	370J
benzo(a)pyrene	360U	95J	390U	500	47J	400U	3500E	330J
indeno(1,2,3-cd)pyrene	360U	70J	390U	400J	45J	400U	2900	320J
dibenzo(a,h)anthracene	360U	380U	390U	55J	390U	400U	1200	130J
benzo(g,h,i)perylene	360U	58J	390U	460	44J	400U	2500	290J
PESTICIDES/PCBs								
beta-BHC	2.0J	2.0U	2.0U	2.4PJ	2.0U	2.1U	2.1U	2.0U
heptachlor epoxide	1.9U	2.0U	2.0U	2.0U	1.4JP	2.1U	2.1U	2.0U
dieldrin	3.7U	3.8U	3.9U	5.2	2.0U	4.0U	4.2U	4.0U
4,4-DDE	3.7U	3.8U	1.1JB	4.1PJ	2.0U	4.0U	4.2U	4.9PBj
endosulfan II	3.7U	3.8U	3.9U	4.0U	3.9U	4.0U	4.2U	4.0U
4,4-DDT	3.7U	3.8U	3.9U	23PJ	3.9U	4.0U	1.7JP	4.0U
methoxychlor	3.7U	3.8U	20U	20U	20U	21U	56PJ	20U
endrin ketone	3.7U	3.8U	3.9U	4.0U	1.0JP	4.0U	26PJ	1.0JP
endrin aldehyde	3.7U	3.8U	3.9U	4.0U	3.9U	4.0U	6.4PBj	4.0U
alpha-chlordane	0.96JP	2.0U	2.0U	3.5PJ	2.0U	2.1U	2.1U	2.0U
gamma-chlordane	3.7B	2.0U	2.0U	2.5PBj	2.0U	2.1U	34EB	2.0U
aroclor-1254	37U	38U	34JP	40U	39U	40U	42U	40U

TABLE 1  
Whittier Peninsula Significant Soil Sample Results

ORGANIC SAMPLE NO.	ECGT1	ECGT2	ECGT3	ECGT4	ECGT6	ECGT7	ECGW1	ECGW2
INORGANIC SAMPLE NO.	MEBKH1	MEBKH2	MEBKH3	MEBKH4	MEBKH6	MEBKH7	MEBKJ1	MEBKJ2
DATE SAMPLE COLLECTED	8/5/98	8/5/98	8/5/98	8/5/98	8/5/98	8/5/98	8/5/98	8/5/98
SAMPLE DEPTH	0-8"	6-8"	4-6"	6-8"	4-8"	4-8"	4-8"	10-13'
DESCRIPTION	Near MW2	S.BKGD	W.BKGD	Depression	GP5	GP6	GP1	GP2
aroclor-1260	37U	38U	39U	270	39U	40U	42U	40U
<b>TAL METALS/CYANIDE</b>								
	<b>CRDL</b>							
barium	804	172	401	137	109	135	224	2100
calcium	12700	7430	8740	83300	4760	4150	61100	82300
copper	37.6	26.8	40.7	93.4	42.2	28.7	130	415
lead	44.5	31.1	48.6	184	50	28.7	315	1290
magnesium	5190	3670	4970	21300	2710	2720	25500	9540
mercury	0.05U	0.08B	0.10B	0.25	0.06U	0.06U	0.44	0.52
nickel	35.8	24.8	37.8	77.6	29.5	29.4	23.7	102
sodium	133B	40.9B	66.8B	244B	75.7B	52.0B	176B	1170
zinc	103	110	140	372	119	102	327	2050

## Whittier Peninsula Significant Soil Sample Results

ORGANIC SAMPLE NO.	ECGW3	ECGW4	ECGW5	ECGW6	ECGW7	ECGW8	ECGW9
INORGANIC SAMPLE NO.	MEBKJ3	MEBKJ4	MEBKJ5	MEBKJ6	MEBKJ7	MEBKJ8	MEBKJ9
DATE SAMPLE COLLECTED	8/5/98	8/5/98	8/5/98	8/52/98	8/5/98	8/5/98	8/5/98
SAMPLE DEPTH	7-10.5'	6-12"	6-12"	4-8'	2-8'	8-12'	8-16'
DESCRIPTION	GP4	Maier Hole	Maier East	GP8	GP9	GP7	GP10
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>							
	<b>CRQL</b>						
naphthalene	330 ug/kg	12000U	12000U	380U	400U	390U	460U
2-methylnaphthalene	330 ug/kg	12000U	12000U	380U	400U	390U	460U
acenaphthene	330 ug/kg	12000U	1200J	380U	400U	390U	460U
dibenzofuran	330 ug/kg	12000U	12000U	380U	400U	390U	460U
fluorene	330 ug/kg	12000U	12000U	380U	400U	390U	460U
phenanthrene	330 ug/kg	12000	18000	51J	400U	390U	240J
anthracene	330 ug/kg	1600J	3000J	380U	400U	390U	69J
carbazole	330 ug/kg	1800J	2600J	380U	400U	390U	460U
fluoranthene	330 ug/kg	16000	25000	86J	400U	390U	450J
pyrene	330 ug/kg	13000	18000	70J	400U	390U	410J
benzo(a)anthracene	330 ug/kg	5800J	7600J	380U	400U	390U	290J
chrysene	330 ug/kg	7100J	9500J	50J	400U	390U	270J
benzo(b)fluoranthene	330 ug/kg	6200J	7200J	44J	400U	390U	380J
benzo(k)fluoranthene	330 ug/kg	5600J	7000J	46J	400U	390U	190J
benzo(a)pyrene	330 ug/kg	5800J	6300J	44J	400U	390U	300J
indeno(1,2,3-cd)pyrene	330 ug/kg	4300J	5400J	380U	400U	390U	200J
dibenzo(a,h)anthracene	330 ug/kg	1800J	2300J	380U	400U	390U	93J
benzo(g,h,i)perylene	330 ug/kg	3800J	4100J	380U	400U	390U	210J
<b>PESTICIDES/PCBs</b>							
	<b>CRQL</b>						
beta-BHC	1.7 ug/kg	10U	3.5PJ	2.0U	2.1U	2.0U	2.4U
heptachlor epoxide	1.7 ug/kg	7.8JP	3.3	5.2	2.1U	2.0U	0.63JP
dieldrin	3.3 ug/kg	19U	3.8U	3.8U	4.0U	3.9U	4.6U
4,4-DDE	3.3 ug/kg	19U	3.8U	3.8U	4.0U	3.9U	4.6U
endosulfan II	3.3 ug/kg	4.3JP	1.7JP	3.8U	4.0U	3.9U	4.6U
4,4-DDT	3.3 ug/kg	15JP	4.3	3.8U	4.0U	3.9U	4.6U
methoxychlor	17.0 ug/kg	390PJ	20U	20U	21U	20U	24U
endrin ketone	3.3 ug/kg	110PJ	17PJ	3.8U	4.0U	3.9U	2.3JP

TABLE 1  
Whittier Peninsula Significant Soil Sample Results

ORGANIC SAMPLE NO.	ECGW3	ECGW4	ECGW5	ECGW6	ECGW7	ECGW8	ECGW9
INORGANIC SAMPLE NO.	MEBKJ3	MEBKJ4	MEBKJ5	MEBKJ6	MEBKJ7	MEBKJ8	MEBKJ9
DATE SAMPLE COLLECTED	8/5/98	8/5/98	8/5/98	8/52/98	8/5/98	8/5/98	8/5/98
SAMPLE DEPTH	7-10.5'	6-12"	6-12"	4-8'	2-8'	8-12'	8-16'
DESCRIPTION	GP4	Maier Hole	Maier East	GP8	GP9	GP7	GP10
endrin aldehyde	3.9U	14JPB	6.7PBJ	3.8U	4.0U	3.9U	4.6U
alpha-chlordane	2.0U	10U	2.0U	2.0U	2.1U	2.0U	2.4U
gamma-chlordane	2.0U	10U	2.0U	2.0U	2.1U	2.0U	2.4U
aroclor-1254	39U	190U	38U	38U	40U	39U	46U
aroclor-1260	39U	190U	38U	38U	40U	39U	46U
<b>TAL METALS/CYANIDE</b>							
barium	157	100	110	64.2	99.6	81.5	86
calcium	6240	22600	29800	92900	12800	2220	20800
copper	79.9	55.1	61.6	58.1	30.4	25.5	75.8
lead	67.1	76.9	109	54.8	21.4	16	119
magnesium	3810	7260	11900	31100	4570	2790	6950
mercury	0.06U	0.38	0.4	0.06U	0.06B	0.06U	0.26
nickel	38.7	26.2	27.8	22	19.4	28.1	32.8
sodium	50.1B	74.9B	122B	121B	71.1B	52.9B	123B
zinc	142	149	229	139	78.7	84.6	192
<b>TCL COMPOUND QUALIFIERS</b>							
U	Indicates that the compound was analyzed for, but not detected.						
J	Indicates an estimated value. The result is less than the SQL, but greater than zero.						
P	Indicates a pesticide/Aroclortarget analyte when there is greater than 25% difference for the detected concentrations between the two GC columns. The low of the two results is report.						
B	Indicates the analyte is detected in the associated blank as well as in the sample.						
E	Indicates compounds whose concentration exceed the calibration range of the instrument.						
<b>TAL ANALYTE QUALIFIERS</b>							
U	Indicates the material was analyzed for, but not detected above the level of the sample detection limit.						
B	Value is real, but is above instrument detection limit and below contract-required detection limit.						

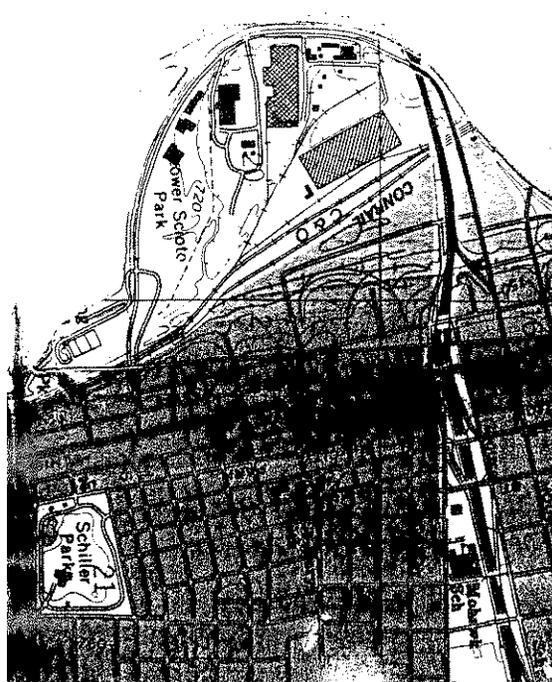
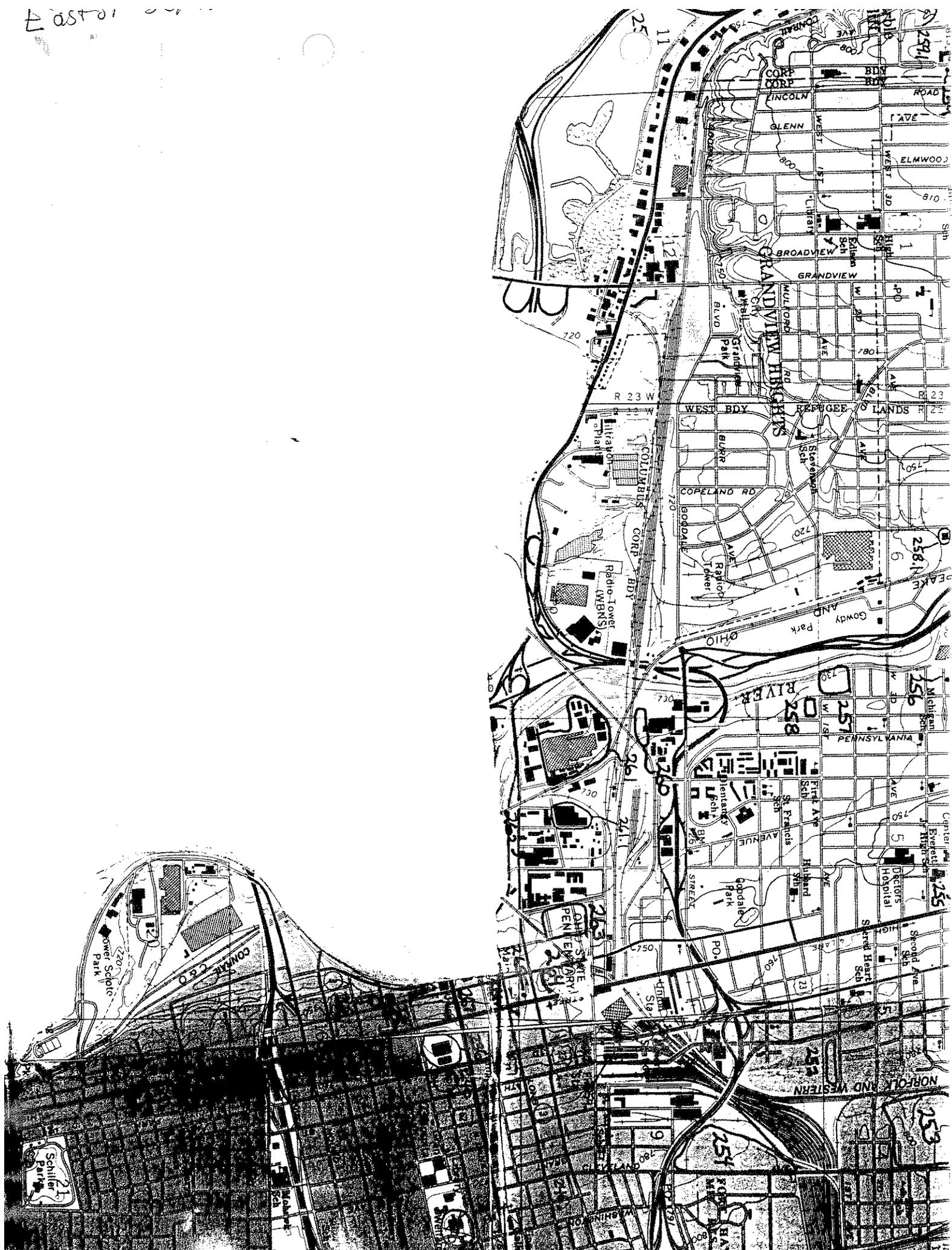
TABLE 2  
Whittier Peninsula Significant Groundwater Sample Results

ORGANIC SAMPLE NO.	ECGS1	ECGS2	ECGS3	ECGS4	ECGS5	ECGS6
INORGANIC SAMPLE NO.	MEBK1	MEBK2	MEBK3	MEBK4	MEBK5	MEBK6
DATE SAMPLE COLLECTED	8/5/98	8/5/98	8/5/98	8/5/98	8/5/98	8/5/98
QA DESCRIPTION		D of ECGS2				
DESCRIPTION	Mulch Well	South Well	Universal Well	GW-GP4	GW-GP5	GW-GP10
<b>TAL METALS/CYANIDE</b>	<b>CRDL</b>					
aluminum	200 ug/l	436	3570	134000	104000	184000
antimony	60 ug/l	57.7U	57.7U	57.7U	57.7U	57.7U
arsenic	10 ug/l	14.3	7.0B	144	247	474
barium	200 ug/l	133B	178B	1760	1320	4660
beryllium	5 ug/l	0.22U	0.54B	6.8	5.0B	10.8
cadmium	5 ug/l	4.2U	4.2U	6.6	4.2U	8.9
calcium	5000 ug/l	56300	154000	808000	716000	974000
chromium	10 ug/l	5.1U	10.4B	214	206	238
cobalt	50 ug/l	13.6U	13.6U	79.8	121	185
copper	25 ug/l	8.4B	16.8B	346	241	438
iron	100 ug/l	755	6570	207000	253000	445000
lead	3 ug/l	3.3	10.2	205	125	390
magnesium	5000 ug/l	1660B	47100	216000	194000	283000
manganese	15 ug/l	153	1110	4600	9980	17300
mercury	0.2 ug/l	0.10U	0.10U	0.15B	0.67	0.27
nickel	40 ug/l	33.4U	33.4U	308	321	404
potassium	5000 ug/l	31800	21100	53200	39100	60700
selenium	5 ug/l	3.1B	2.2B	7.5	4.7B	22.5
silver	10 ug/l	3.4U	3.4U	6.1B	8.6B	16.5
sodium	5000 ug/l	1570000	33100	58900	126000	103000
thallium	10 ug/l	2.9U	2.9U	2.9U	2.9U	2.9U
vanadium	50 ug/l	5.1B	12.9B	361	262	472
zinc	20 ug/l	5.3U	119	1070	1610	1570
cyanide	10 ug/l	1.0B	1.0B	1.0B	1.0B	1.0B

TAL ANALYTE QUALIFIERS	DEFINITION
B	Value is real, but is above instrument detection limit and below contract-required detection limit.
U	Compound was analyzed for but not detected.

**APPENDIX D  
WELL LOGS**

E Astor



# WELL LOG AND DRILLING REPORT

ORIGINAL

NO CARBON PAPER  
NECESSARY—  
SELF-TRANSCRIBING

State of Ohio  
DEPARTMENT OF NATURAL RESOURCES  
Division of Water  
65 S. Front St., Rm. 815 Phone (614) 469-2646  
Columbus, Ohio 43215

No. 416916

County FRANKLIN Township COLUMBUS Section of Township \_\_\_\_\_

Owner RANCO CONTROLS DIV Address 1001 W. FIFTH AVE. COL'S, OH

Location of property On east side of Plant

### CONSTRUCTION DETAILS

Casing diameter 10" x 8" Length of casing 10'-105'  
Type of screen NONE Length of screen \_\_\_\_\_  
Type of pump SUBMERSIBLE  
Capacity of pump 250 G.P.M.  
Depth of pump setting 63'  
Date of completion 8-71

### BAILING OR PUMPING TEST (Specify one by circling)

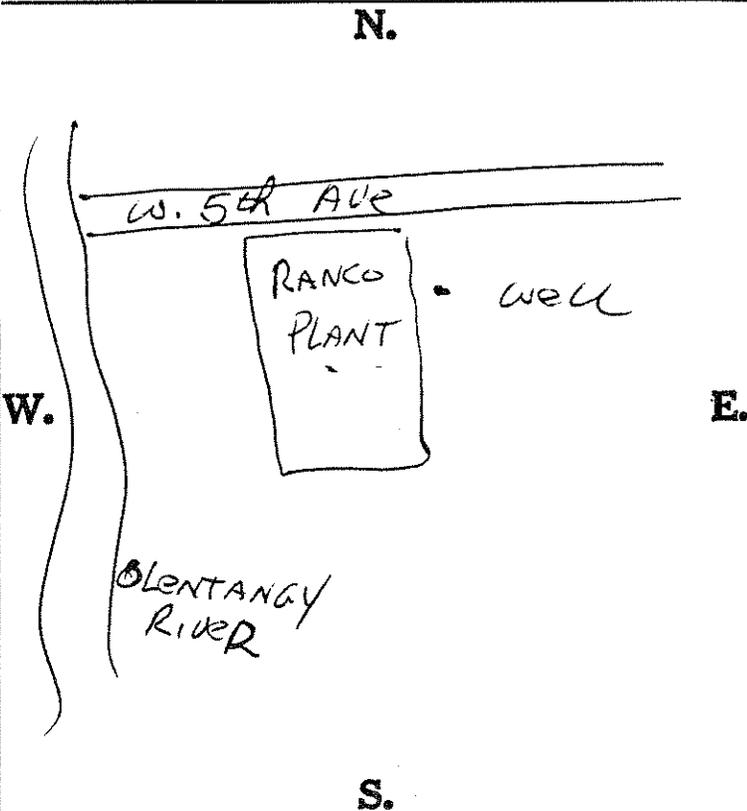
Test Rate 230 G.P.M. Duration of test 8 hrs.  
Drawdown 3'-4" ft. Date 8-71  
Static level-depth to water 45'-4" ft.  
Quality (clear, cloudy, taste, odor) CLEAR  
Pump installed by G.M. BAKER & SON, INC.

### WELL LOG\*

Formations Sandstone, shale, limestone, gravel and clay	From	To
<u>FILL</u>	<u>0 Feet</u>	<u>4 Ft.</u>
<u>SWAMP MUD &amp; DUMP</u>	<u>4</u>	<u>28</u>
<u>MATERIAL</u>		
<u>SAND &amp; GRAVEL</u>	<u>28</u>	<u>50</u>
<u>CLAY &amp; GRAVEL</u>	<u>50</u>	<u>85</u>
<u>SOFT GREY CLAY</u>	<u>85</u>	<u>93</u>
<u>CLAY &amp; GRAVEL</u>	<u>93</u>	<u>105</u>
<u>BROKEN LIMESTONE w/</u>	<u>105</u>	<u>117</u>
<u>MUD SEAM</u>		
<u>SOLID BROWN LIMESTONE</u>	<u>117</u>	<u>140</u>
<u>NOTE: WELL EQUIPPED WITH</u>		
<u>8" LINER, SLOTTED</u>	<u>111'-121'</u>	
<u>↓ 136'-140'</u>		

### SKETCH SHOWING LOCATION

Locate in reference to numbered  
State Highways, St. Intersections, County roads, etc.



Drilling Firm G. M. BAKER & SON, INC.  
Address 145 HOSACK STREET  
COLUMBUS, OHIO 43207

Date 12-16-72  
Signed W. H. [Signature]

\*If additional space is needed to complete well log, use next consecutive numbered form.

# OHIO WATER SUPPLY BOARD

Well Record No. 207

Co. Franklin Twp. 4 Sec. 25  
 Well Location Town & Well Sts. Size City Map City  
 Owner F. & R. Lazarus & Co. Address Columbus, O.  
 Driller \_\_\_\_\_ Date \_\_\_\_\_  
 Well Head Elev. or M. P. \_\_\_\_\_  
 Elev. of Ground at Well 763'  
 Pumping Test: 250 gpm  
 Static Level  Date \_\_\_\_\_  
 Normal Pumpage \_\_\_\_\_  
 Quality \_\_\_\_\_ Use \_\_\_\_\_  
 Adequacy of supply \_\_\_\_\_  
 Owner's Well No. or Other Designation \_\_\_\_\_  
 Source of Data C. E. Records  
 Collected by R. J. B. Date 9/42

9925128 STRATA	DEPTH	
	From	To
Basement	0	20
Yellow Clay & Gravel	20	37
Boulders	37	45
Yellow Clay & Fine Sand	45	50
Gravel & Sand	50	54
Blue Clay	54	62
Blue Clay & Gravel	62	74
Muddy Gravel	74	84
Water Gravel	84	92
Yellow Clay & Gravel	92	94
Yellow Sand & Gravel	94	97
Yellow Sand & Gravel	97	100
Coarse Sand & Gravel, streaked clay	100	114
Clean Gravel	114	118
Boulders	118	119
Blue Clay	119	120
$Z = 1,859,400 \pm 300$ $Y = 714,000 \pm 300 - S$		

\* Chief Aquifer



**TRI-STATE DRILLER**

P.O. Box 170  
Seven Mile, Ohio 45062  
(513) 726-5153

Franklin Co.  
Columbus  
9925097

WELL LOG AND DRILLING REPORT

Columbus South Parking Garage  
Franklin County  
Corner of High and Rich Streets  
Columbus, Ohio

Construction Details

20" diameter casing            63'3" total depth

Well Log

Formation	From	To
sand and gravel all sizes, cobbles	0	12
silt, clay, gravel	12	14
silt, clay, gravel, black substance	14	21
silt, sand and gravel	21	25
sand and gravel	25	30
sand and gravel with clay	30	36
sand and gravel	36	40
sandy clay	40	43
sand and gravel	43	47
stiff sand	47	50
sand and gravel	50	63

Water at approx 50'

At 14' soil consistency became thick like clay and had bad odor. When rinsed with water found no clay, but oily substance mixed with sand and gravel.

At 27' the casing had to be pulled back. When performing this at 21' with approx 3' of open hole below casing you could see a liquid rushing into the hole at the bottom of the pipe. At this point the fumes were extremely heavy and could be smelled from 25' away. It was at this point that Mr. Don Calhoun observed the well hole.

Drilled by James David Yeager

Hole completed 2-8-88



# OHIO WATER SUPPLY BOARD

Well Record No. 89

Co. Franklin Twp. 4 Sec. \_\_\_\_\_  
 Well Location State House Size \_\_\_\_\_  
 Map Columbus  
 (City Map)  
 Owner State of Ohio Address State House  
 Driller \_\_\_\_\_ Date 1956-60

Well Head Elev. or M. P. \_\_\_\_\_  
 Elev. of Ground at Well 750 approx.

Pumping Test:

Static Level  Date \_\_\_\_\_

Normal Pumpage \_\_\_\_\_

Quality \_\_\_\_\_

Adequacy of supply \_\_\_\_\_

Owner's Well No. or Other Designation State House Well

State Library, Report of Commissioner

Source of Data W. W. Mather, State Document of 1859

Collected by RIB Date 12-7-43

(Interpretation from Columbus Folio No. 197)

9925093 STRATA	DEPTH	
	From	To
Clay, sand & Gravel	0	123
Black shale (Ohio)	123	138
Gray ls. with bands of chert (Cols. & Del. ls.)	138	276
Very gritty rock (Monroe fm.) thin bedded, fine grained, compact banded, drab dolomite, with gypsum near base (Cedarville & Springfield) Massive gray mg. ls.	276	278
(Csgood shale) Light bluish to drab shale with ls. lenses	278	651
(Clinton fm.) ls. & sh. some of which is red	651	700
(Medina) Red & gray sh. (Richmond & Maysville)	700	768
Blue, greenish, brown & gray calc. sh. with thin layers of ls.	768	838
(cont. over)	838	968
	968	1618

\* Chief Aquifer

man

(Eden) Dark bluish, verging on black shale	1618	1993
(Trenton & older) Light gray to drab impure ls., low in mg.	1993	2468
(St. Peters) White & gray calc. ss with some greenish sh.	2468	<u>2784</u>

Thickness

Drift	123'	
Ohio Shale	15'	
Cols. & Del. ls.	138'	sulphur water
? Oriskany	2'	
Monroe	375'	
Cedarville & Springfield	49'	NaCl
Csgood shale	63'	
Clinton	120'	
Medina	80'	
Richmond & Maysville	650'	
Eden	375'	
Trenton & older	475'	
St. Peters	316'	



641

PLEASE USE PENCIL OR TYPEWRITER. DO NOT USE INK.

State of Ohio DEPARTMENT OF NATURAL RESOURCES Division of Water 1562 W. First Avenue Columbus, Ohio

No. 236110

County Franklin Township Franklin Section of Township Owner Big Bear Stores Address Columbus, Ohio Location of property 280 East Whittier St.

Table with 2 columns: CONSTRUCTION DETAILS and BAILING OR PUMPING TEST. Includes fields for casing diameter, length, screen type, pump capacity, and bailing rate.

Table with 2 columns: WELL LOG and SKETCH SHOWING LOCATION. The well log table lists formations like Sandstone, shale, limestone, gravel and clay with depth ranges. The sketch section includes directional markers N, S, E, W.

Drilling Firm G.M. Baker & Sons Address Columbus Ohio Date 3/18/60 Signed W.A. Boyer



PLEASE USE PENCIL  
OR TYPEWRITER.  
DO NOT USE INK.

State of Ohio  
DEPARTMENT OF NATURAL RESOURCES  
Division of Water  
1562 W. First Avenue  
Columbus, Ohio

280

No. 266012

County Franklin Township Mayion Section of Township \_\_\_\_\_  
 Owner Yardley Plastic Co. Address Jenkins Ave  
 Location of property On plant property

CONSTRUCTION DETAILS

Casing diameter 12" Length of casing 138  
 Type of screen Johnson Length of screen 20  
 Type of pump V.W. Turbine  
 Capacity of pump 700 G.P.M.  
 Depth of pump setting 130'  
 Date of completion 9/3/61

BAILING OR PUMPING TEST

Pumping rate 700 G.P.M. Duration of test 8 hrs.  
 Drawdown 26 ft. Date 10/9  
 Developed capacity \_\_\_\_\_  
 Static level—depth to water 100' ft.  
 Pump installed by DS

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Fill	0 Feet	7 Ft.
Clay & boulders	7	14
Clay & gravel	14	60
Clay & sand	60	95
Sand & gravel	95	158

SKETCH SHOWING LOCATION

Locate in reference to numbered  
State Highways, St. Intersections, County roads, etc.

N.

W. E.

S.

See reverse side for instructions

Drilling Firm G.M. Roberts Son  
 Address Colo. Ohio

Date 10/20/65  
 Signed Leif H. Boger

(V224.1) 200 217.3





**WELL LOG AND DRILLING REPORT**

ORIGINAL

275

PLEASE USE PENCIL OR TYPEWRITER DO NOT USE INK

STATE OF OHIO DEPARTMENT OF NATURAL RESOURCES

1562 W. First Avenue Columbus 12, Ohio

No 296238

County Franklin Township City of Columbus Section of Township  
 Owner Chase Poultry Co Address 32 West Jenkins Ave. Columbus Ohio  
 Location of property 32 West Jenkins Ave.

**CONSTRUCTION DETAILS**

Casing diameter 6" 10 Length of casing 54'  
 Type of screen Red Brass Length of screen 10' 8"  
 Type of pump  
 Capacity of pump  
 Depth of pump setting Set Pump above  
 Date of completion Screen -

**BAILING OR PUMPING TEST**

Pumping Rate 37 G.P.M. Duration of test 2 hrs.  
 Drawdown None ft. Date  
 Static level-depth to water 30 ft.  
 Quality (clear, cloudy, taste, odor)  
 Pump installed by

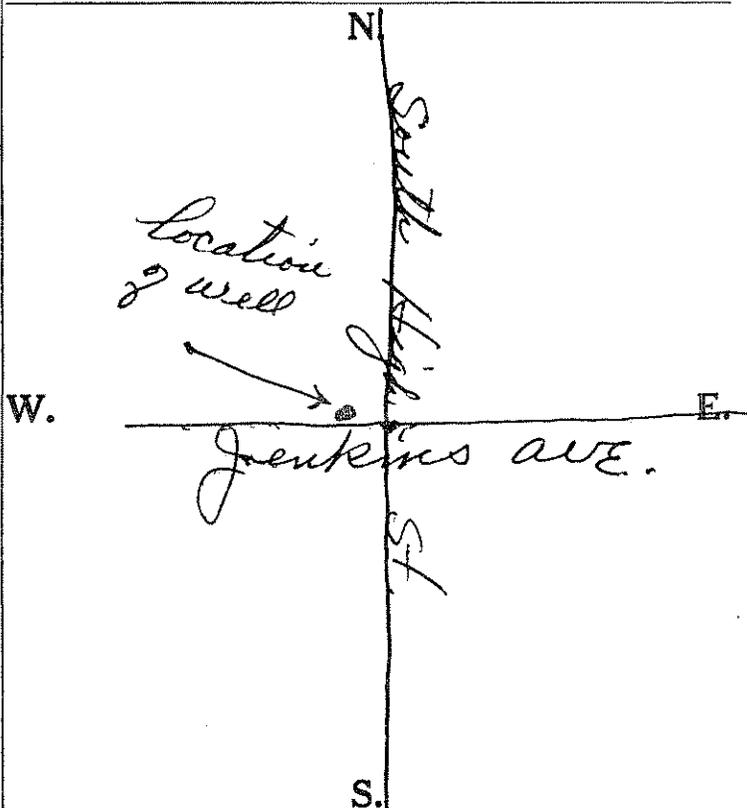
**WELL LOG**

Formations Sandstone, shale, limestone, gravel and clay	From	To
<u>Clay</u>	0 Feet	<u>52 Ft.</u>
<u>sand &amp; Gravel</u>	52	64

10 ft. of Red Brass screen set on Bottom at 64 ft.  
 30 Slot.  
 Cook Screen 52 ft. to top of screen from Ground level

**SKETCH SHOWING LOCATION**

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm Plummer Bros  
 Address 53 N Riverview St  
Dublin Ohio

Date July 2/64  
 Signed Harold L. Plummer



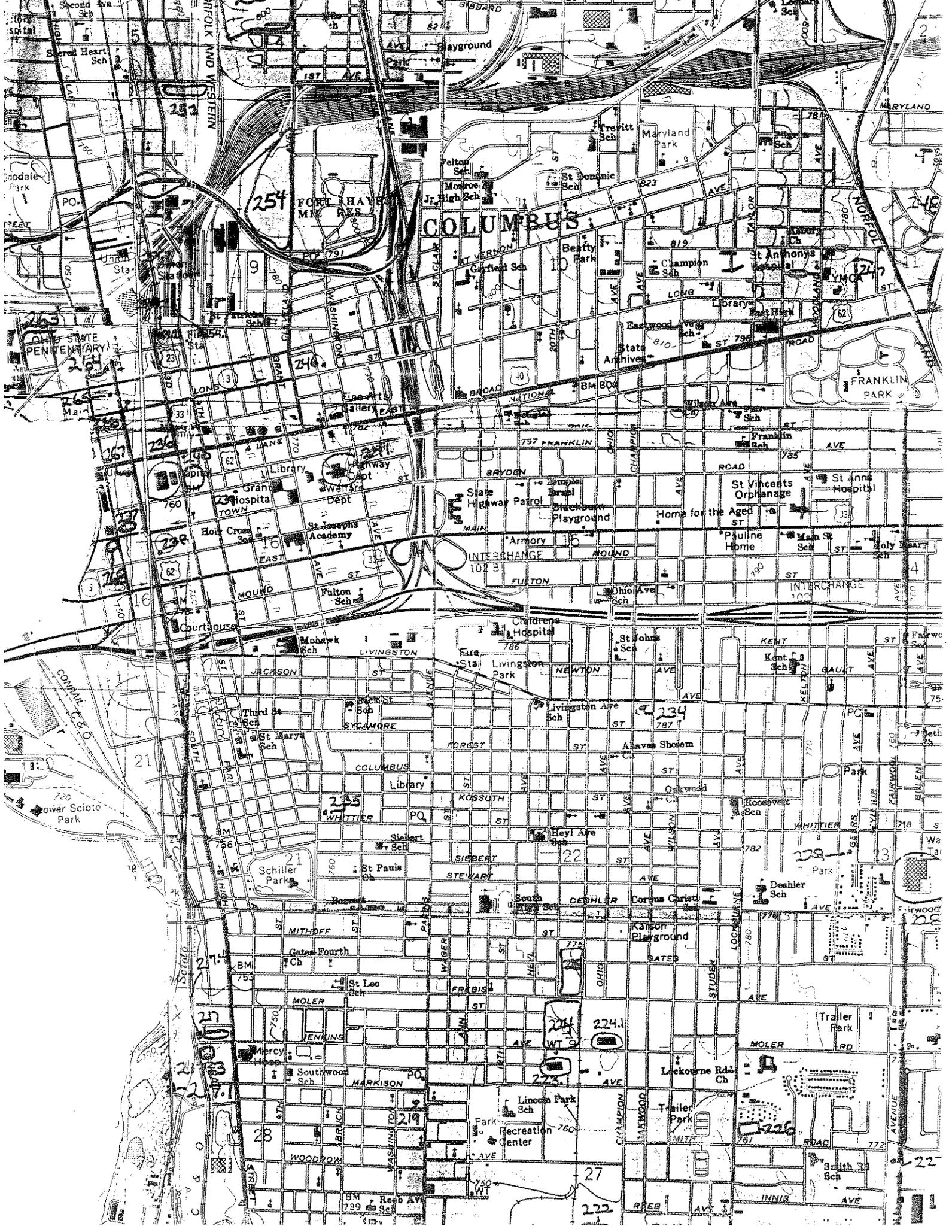
Map labels on the left side, including street names and numbers: 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, 260, 270, 280, 290, 300, 310, 320, 330, 340, 350, 360, 370, 380, 390, 400, 410, 420, 430, 440, 450, 460, 470, 480, 490, 500, 510, 520, 530, 540, 550, 560, 570, 580, 590, 600, 610, 620, 630, 640, 650, 660, 670, 680, 690, 700, 710, 720, 730, 740, 750, 760, 770, 780, 790, 800, 810, 820, 830, 840, 850, 860, 870, 880, 890, 900, 910, 920, 930, 940, 950, 960, 970, 980, 990, 1000.

Map labels on the right side, including street names and numbers: 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, 260, 270, 280, 290, 300, 310, 320, 330, 340, 350, 360, 370, 380, 390, 400, 410, 420, 430, 440, 450, 460, 470, 480, 490, 500, 510, 520, 530, 540, 550, 560, 570, 580, 590, 600, 610, 620, 630, 640, 650, 660, 670, 680, 690, 700, 710, 720, 730, 740, 750, 760, 770, 780, 790, 800, 810, 820, 830, 840, 850, 860, 870, 880, 890, 900, 910, 920, 930, 940, 950, 960, 970, 980, 990, 1000.

Map labels at the bottom, including street names and numbers: 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, 260, 270, 280, 290, 300, 310, 320, 330, 340, 350, 360, 370, 380, 390, 400, 410, 420, 430, 440, 450, 460, 470, 480, 490, 500, 510, 520, 530, 540, 550, 560, 570, 580, 590, 600, 610, 620, 630, 640, 650, 660, 670, 680, 690, 700, 710, 720, 730, 740, 750, 760, 770, 780, 790, 800, 810, 820, 830, 840, 850, 860, 870, 880, 890, 900, 910, 920, 930, 940, 950, 960, 970, 980, 990, 1000.







COLUMBUS

254 FORT HAYES MIL RES

STATE PENITENTIARY

STATE HIGHWAY PATROL

FRANKLIN PARK

Schiller Park

Childrens Hospital

St Anns Hospital

Lower Scioto Park

Library

Deahler Sch

Southwood Sch

Lincoln Park Sch

Trailer Park

WOODROW

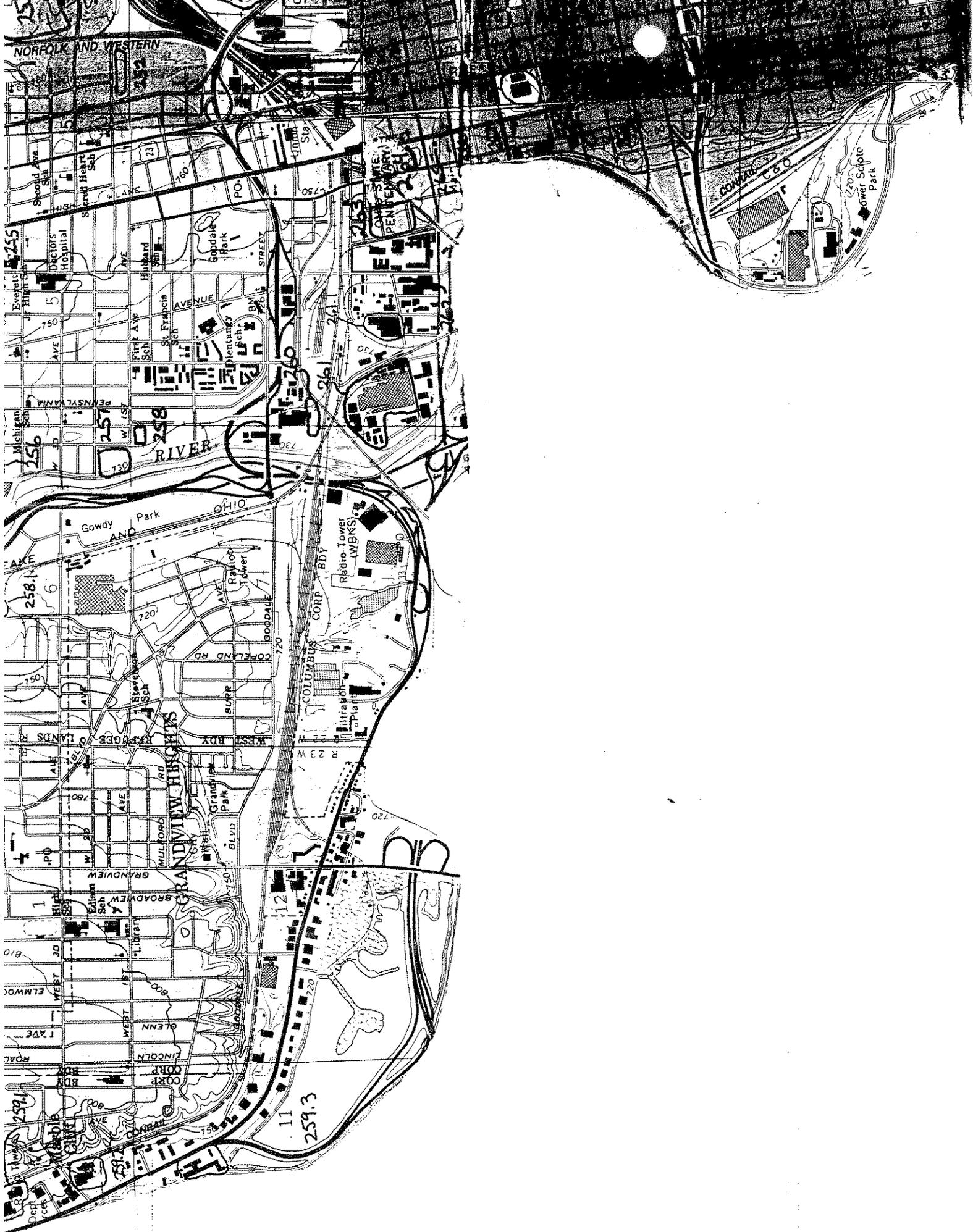
Recreation Center

Smith Sch

MARKISON

Reed AV

INNIS AVE



NORFOLK AND WESTERN

DECIOS HOSPITAL

PENNSYLVANIA

Gowdy Park

RANDVIEW HILLS

GRANDVIEW

259.1

RIVER

RESERVE O LANDS

GRANDVIEW

259.3

OHIO

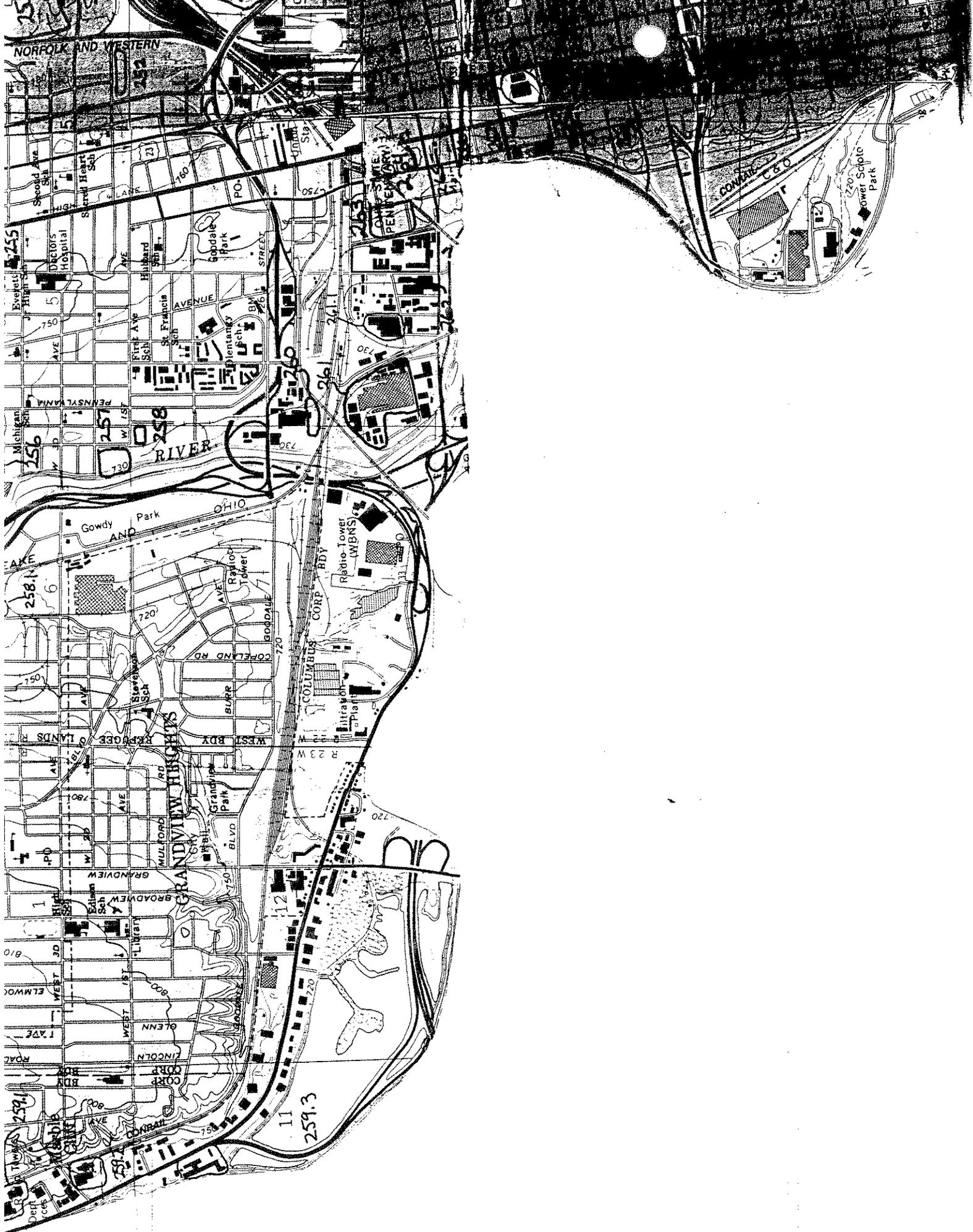
COLUMBUS CORP BLD

GRANDVIEW

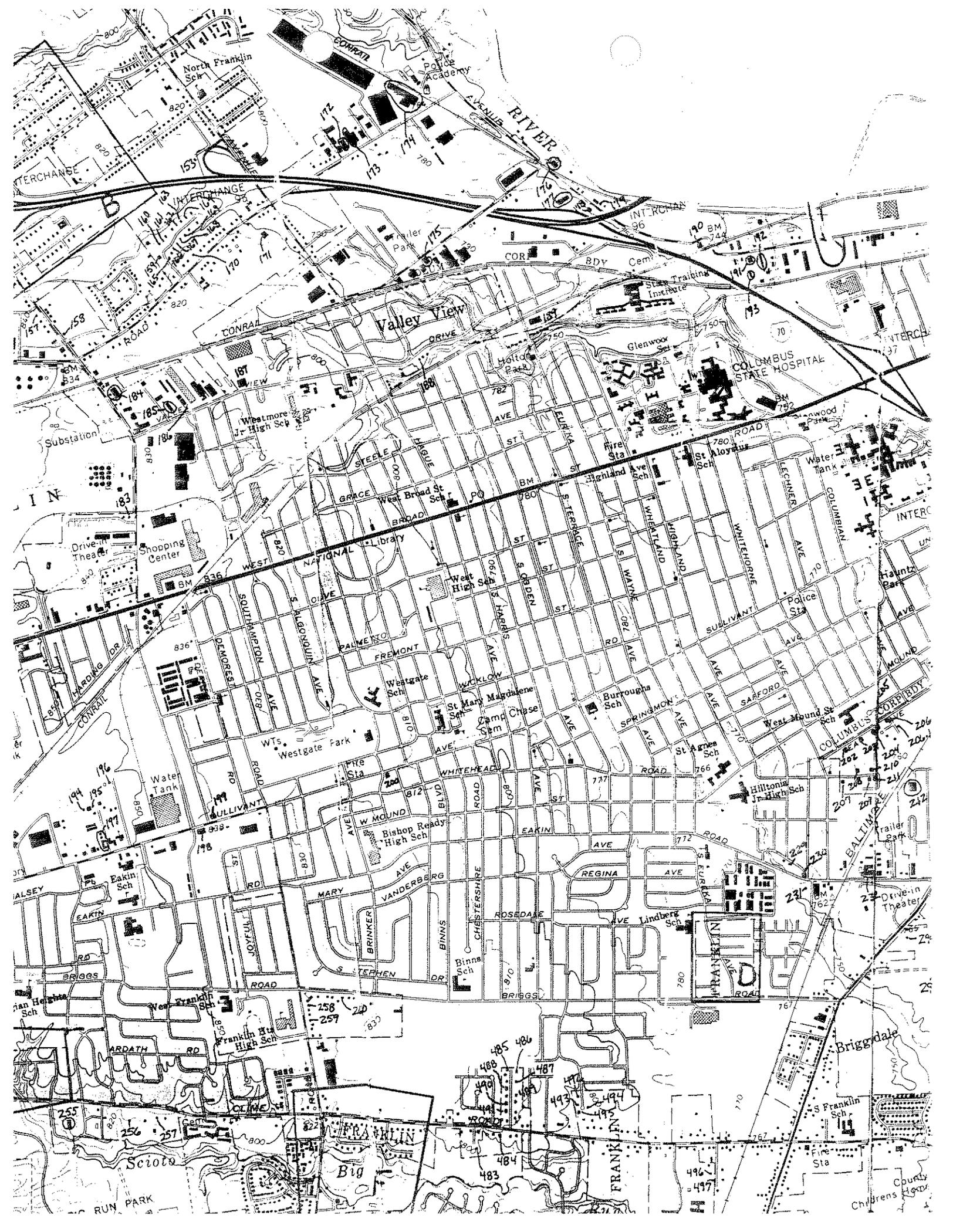
GRANDVIEW

CONWAY C & O

Lower Scioto Park







# WELL LOG AND DRILLING REPORT

ORIGINAL

179

PLEASE USE PENCIL  
OR TYPEWRITER  
DO NOT USE INK.

State of Ohio  
DEPARTMENT OF NATURAL RESOURCES  
Division of Water  
1562 W. First Avenue  
Columbus 12, Ohio

No 315913

County Franklin Township Franklin Section of Township \_\_\_\_\_  
 Owner J. Darnell Address Columbus Ohio  
 Location of property 1863 - McKinley Ave -

### CONSTRUCTION DETAILS

### BAILING OR PUMPING TEST

Casing diameter 6 Length of casing 26 ft  
 Type of screen 0 Length of screen 0  
 Type of pump \_\_\_\_\_  
 Capacity of pump 0  
 Depth of pump setting 0  
 Date of completion Nov - 64

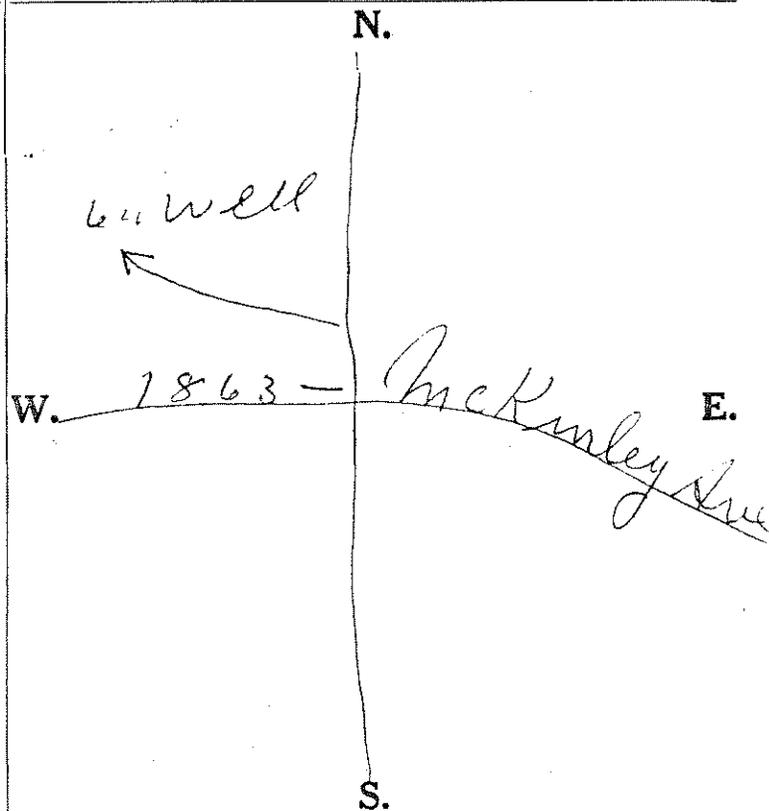
Pumping Rate \_\_\_\_\_ G.P.M. Duration of test 2 hrs.  
 Drawdown 0 ft. Date Oct 64  
 Static level-depth to water 26 ft.  
 Quality (clear, cloudy, taste, odor) clear  
 Pump installed by OWNER

### WELL LOG

### SKETCH SHOWING LOCATION

Formations Sandstone, shale, limestone, gravel and clay	From	To	
<u>Fill</u>	0 Feet	<u>4</u> Ft.	
<u>Clay Yellow</u>	<u>4</u>	<u>18</u>	
<u>Red clay</u>	<u>18</u>	<u>26</u>	
<u>Limestone</u>	<u>26</u>	<u>50</u>	

Locate in reference to numbered  
State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm R.H. Goodwin  
 Address 4005 E. Livingston

Date Nov - 1964  
 Signed R.H. Goodwin



# WELL LOG AND DRILLING REPORT

ORIGINAL

PLEASE USE PENCIL  
OR TYPEWRITER  
DO NOT USE INK.

State of Ohio  
DEPARTMENT OF NATURAL RESOURCES  
Division of Water  
1562 W. First Avenue  
Columbus 12, Ohio

No 286131

508

County Franklin Township Franklin Section of Township \_\_\_\_\_  
 Owner Rose Chemical Inc. Address Columbus Ohio  
 Location of property 545 Stimmel Road

CONSTRUCTION DETAILS	BAILING OR PUMPING TEST
Casing diameter <u>6.00</u> Length of casing <u>31</u>	Pumping Rate.....G.P.M. Duration of test.....hrs.
Type of screen <u>Per 7 Pipe</u> Length of screen <u>2-Ft.</u>	Drawdown.....ft. Date <u>Oct 8-63</u>
Type of pump.....	Static level-depth to water..... <u>12-</u> ft.
Capacity of pump.....	Quality (clear, cloudy, taste, odor).....
Depth of pump setting.....	Pump installed by.....
Date of completion <u>Oct. 8-63</u>	

WELL LOG	SKETCH SHOWING LOCATION												
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Formations Sandstone, shale, limestone, gravel and clay</th> <th style="width: 20%;">From</th> <th style="width: 50%;">To</th> </tr> </thead> <tbody> <tr> <td><u>Clay</u></td> <td style="text-align: center;">0 Feet</td> <td style="text-align: center;"><u>16</u> Ft.</td> </tr> <tr> <td><u>Dry Gravel</u></td> <td style="text-align: center;">16</td> <td style="text-align: center;">25</td> </tr> <tr> <td><u>clean</u></td> <td style="text-align: center;">25</td> <td style="text-align: center;">31</td> </tr> </tbody> </table>	Formations Sandstone, shale, limestone, gravel and clay	From	To	<u>Clay</u>	0 Feet	<u>16</u> Ft.	<u>Dry Gravel</u>	16	25	<u>clean</u>	25	31	<p>Locate in reference to numbered State Highways, St. Intersections, County roads, etc.</p>
Formations Sandstone, shale, limestone, gravel and clay	From	To											
<u>Clay</u>	0 Feet	<u>16</u> Ft.											
<u>Dry Gravel</u>	16	25											
<u>clean</u>	25	31											

See reverse side for instructions

Drilling Firm R.H. Goodwin Date Oct. 8-1963  
 Address 4005 E. Livingston Signed R.H. Goodwin

# WELL LOG AND DRILLING REPORT

ORIGINAL

PLEASE USE PENCIL  
OR TYPEWRITER  
DO NOT USE INK.

State of Ohio  
DEPARTMENT OF NATURAL RESOURCES  
Division of Water  
1562 W. First Avenue  
Columbus 12, Ohio

No 294343

513

County Franklin Township Franklin Section of Township \_\_\_\_\_

Owner Falter Packing Co. Address \_\_\_\_\_

Location of property General plant area - 384 Greenlawn Ave.

### CONSTRUCTION DETAILS

Casing diameter 10" Length of casing 38'  
 Type of screen Johnson Length of screen 10'  
 Type of pump D.W. Turbine  
 Capacity of pump 250 G.P.M.  
 Depth of pump setting 35'  
 Date of completion January 4, 1965

### BAILING OR PUMPING TEST

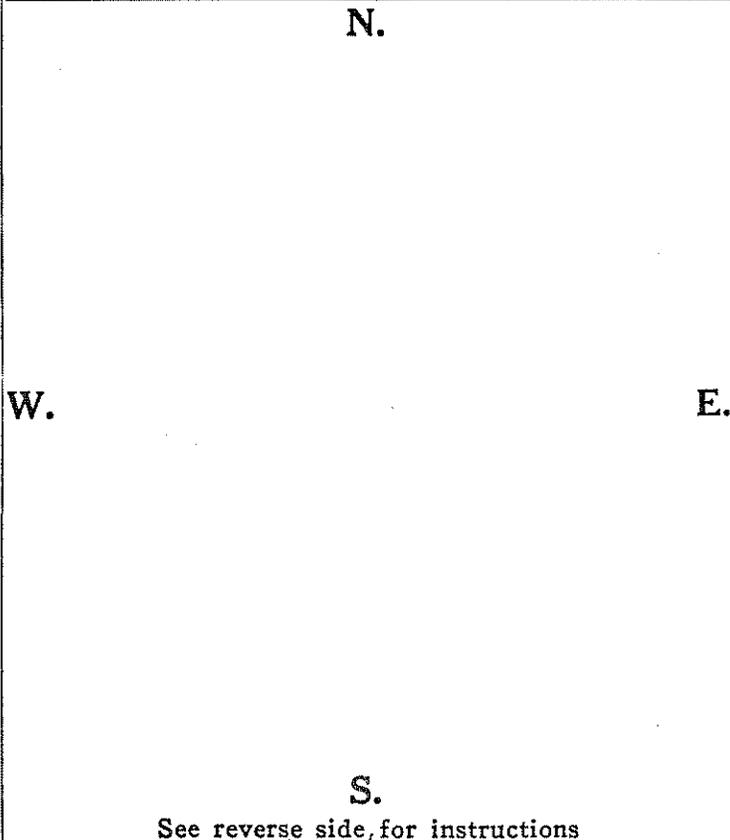
Pumping Rate 350 G.P.M. Duration of test 3 hrs.  
 Drawdown 10' ft. Date Jan 1965  
 Static level-depth to water 15 ft.  
 Quality (clear, cloudy, taste, odor) Clear.  
 Pump installed by \_\_\_\_\_

### WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To	
<u>fill</u>	0 Feet	1 Ft.	
<u>Gravel - dry</u>	1	30	
<u>Sand &amp; gravel</u>	30	47	
<u>Water bearing</u>			

### SKETCH SHOWING LOCATION

Locate in reference to numbered  
State Highways, St. Intersections, County roads, etc.



Drilling Firm G.M. Baker & Son  
 Address Columbus, Ohio

Date 5/18/65  
 Signed W.H. Bogen



**WELL LOG AND DRILLING REPORT**  
 State of Ohio  
 DEPARTMENT OF NATURAL RESOURCES  
 Division of Water  
 1500 Dublin Road  
 Columbus, Ohio

ORIGINAL

621

No. 189225

County Franklin Township Franklin Section of Township \_\_\_\_\_  
 Owner A. Thurn Address 8 Columbus Ohio  
 Location of property 969 Kirby Ave 969 Kirby

**CONSTRUCTION DETAILS**

Casing diameter 10 Length of casing 28  
 Type of screen Perf Length of screen Pipe  
 Type of pump \_\_\_\_\_  
 Capacity of pump \_\_\_\_\_  
 Depth of pump setting \_\_\_\_\_  
 Date of completion \_\_\_\_\_

**BAILING OR PUMPING TEST**

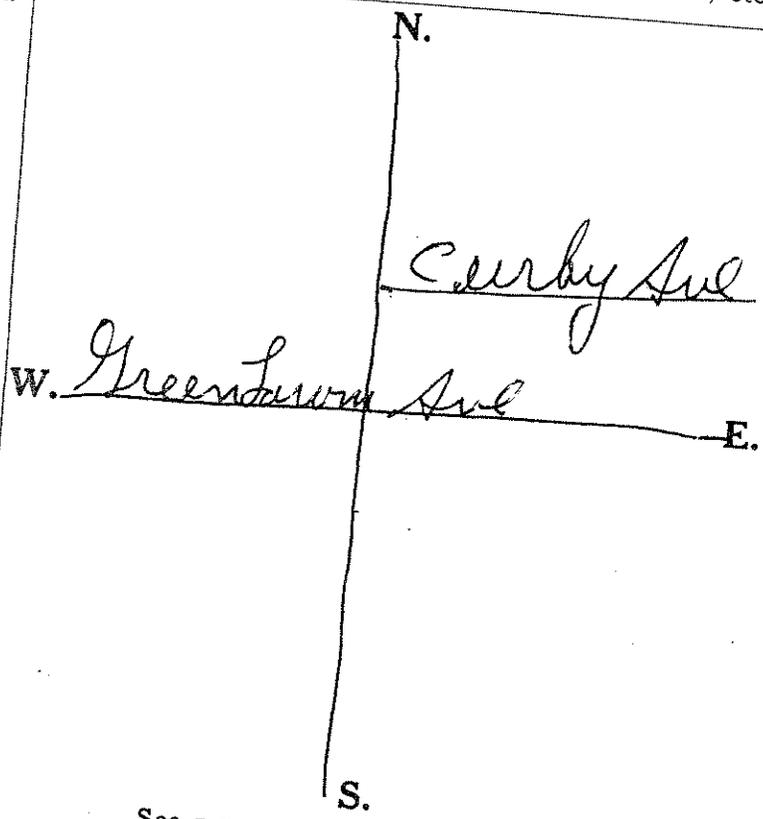
Pumping rate 25 G.P.M. Duration of test 2 hrs.  
 Drawdown 00 ft. Date May 8-58  
 Developed capacity \_\_\_\_\_  
 Static level—depth to water 14 ft.  
 Pump installed by Owner

**WELL LOG**

Formations Sandstone, shale, limestone, gravel and clay	From	To
<u>Muck</u>	<u>0</u> Feet	<u>3</u> Ft.
<u>Dry Gravel</u>	<u>3</u>	<u>21</u>
<u>Clean Gravel</u>	<u>21</u>	<u>28</u>

**SKETCH SHOWING LOCATION**

Locate in reference to numbered  
 State Highways, St. Intersections, County roads, etc.



Drilling Firm P.H. Goddard  
 Address 4005 E. Livingston

See reverse side for instructions

Date 4-8-58