

APPENDIX A.

**POTENTIAL CONTAMINATION SOURCE INVENTORY
REPORT**

**POTENTIAL CONTAMINATION
SOURCE INVENTORY
KNOX COUNTY WATER DISTRICT
NO. 1 WELL FIELD**

Prepared for:

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TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION.....	1
METHODOLOGY	1
LAND USE	1
POTENTIAL SOURCES IDENTIFIED	2
Transportation Routes.....	2
Facilities.....	2
Non-Point Sources	2
Sewered and Unsewered Areas.....	3
Abandoned Wells.....	3
Oil and Gas Wells.....	3
PRIORITIZATION OF POTENTIAL SOURCES	3
PCSI UPDATING	4

FIGURES

Figure 1. Potential Contamination Sources

TABLES

Table 1. Potential Contamination Sources within the WHPA

INTRODUCTION

The purpose of this report is to present the results of the Potential Contamination Source Inventory (PCSI) performed for the Knox County Water and Wastewater Department in Mt. Vernon, Ohio. This PCSI is for the well field in Howard, Ohio that is the source of supply for the Village of Howard and Apple Valley. Eagon & Associates, Inc. performed the inventory in accordance with Ohio EPA's "Guidance for Conducting Potential Pollution Source Inventories in Wellhead Protection Areas" dated January 1997. Included in this report are maps showing land use and potential contamination sources in relation to the delineated Wellhead Protection Area (WHPA). A table summarizing the information obtained from the PCSI also is provided. The delineated WHPA for the Knox County Water District No. 1 Well Field is shown on Figure 1 in relation to the surrounding area.

METHODOLOGY

The PCSI was performed by first conducting a windshield survey throughout the Wellhead Protection Area and adjacent properties. Interviews were performed with personnel familiar with the area and the history of the area. Computer searches were made of various databases to determine potential contaminant sources. The following databases were searched to identify potential contaminant sources: National Priorities List (NPL); Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS); Toxic Release Inventory (TRI); the Bureau of Underground Storage Tanks Regulations (BUSTR); and the Ohio Department of Natural Resources (ODNR) oil and gas well records.

LAND USE

Land use within the WHPA for the Knox County Well Field is shown on the aerial photo on Figure 1. Land use within the WHPA is predominantly agricultural with a few residences and some wooded land. Agriculture is row crop farming. There are no feed lots within the WHPA.

POTENTIAL SOURCES IDENTIFIED

The potential contamination sources identified are shown on Figure 1 with identifying numbers that refer to Table 1 on which the pertinent information about each source is summarized. Potential sources within and immediately adjacent to the 10-year capture zone that were identified during the inventory are included.

Transportation Routes

All transportation routes through the WHPA for the Knox County Well Field are two lane secondary roads. Traffic is light on these roads and speed limits are low. Traffic consists mainly of cars, SUVs, and light trucks, with some heavier vehicles associated with agriculture and sand and gravel extraction in the area. Railroad tracks once traversed the WHPA from the southwest to the northeast, but the railroad is abandoned and the railroad grade is now a paved bicycle trail.

Facilities

There are no facilities within the WHPA for the Knox County Well Field and there are no underground storage tanks (USTs) registered with BUSTR within the WHPA. Smalls Sand and Gravel operates a sand and gravel quarry southwest of the WHPA at map location 1 and plans to expand their operation in the near future. The limit of the proposed expansion will be just to the southwest of the 10-year TOT. Smalls also operates Ohio Asphalt Paving at map location 1, but only the quarry expansion will be near the WHPA.

Non-Point Sources

Within the WHPA potential non-point contamination sources include land application of fertilizers, herbicides, and pesticides to agricultural and residential areas and application of road salt for deicing to area roads.

Sewered and Unsewered Areas

There are no sanitary sewers within the WHPA. Area residences at map locations 2-8 rely on private on-lot septic systems. Portable toilets are used for sanitary facilities at the athletic fields south of the Knox County Well Field.

Abandoned Wells

There is a potential for the presence of abandoned wells within the WHPA. Residences within the WHPA utilize private wells. There were very few well logs located within the WHPA in the ODNR well log database and the area within the WHPA is sparsely populated. Since most of the WHPA is situated within the flood plain of the Kokosing River and the aquifer is present at relatively shallow depths, there is the possibility that dug wells or hand driven wells are present.

Oil and Gas Wells

Active oil and gas wells are present within the WHPA at map locations 9, 10, 11, and 15. The gas well at map location 12 was sealed in 1976. The wells drilled at map locations 13 and 14 were dry holes. The well at map location 14 was sealed in 1985. No sealing date is recorded for the well at map location 13. There are no other oil and gas wells mapped within the WHPA. There are other oil and gas wells in the vicinity of the WHPA and some of these have been properly abandoned as part of the ODNR Orphan Well program.

PRIORITIZATION OF POTENTIAL SOURCES

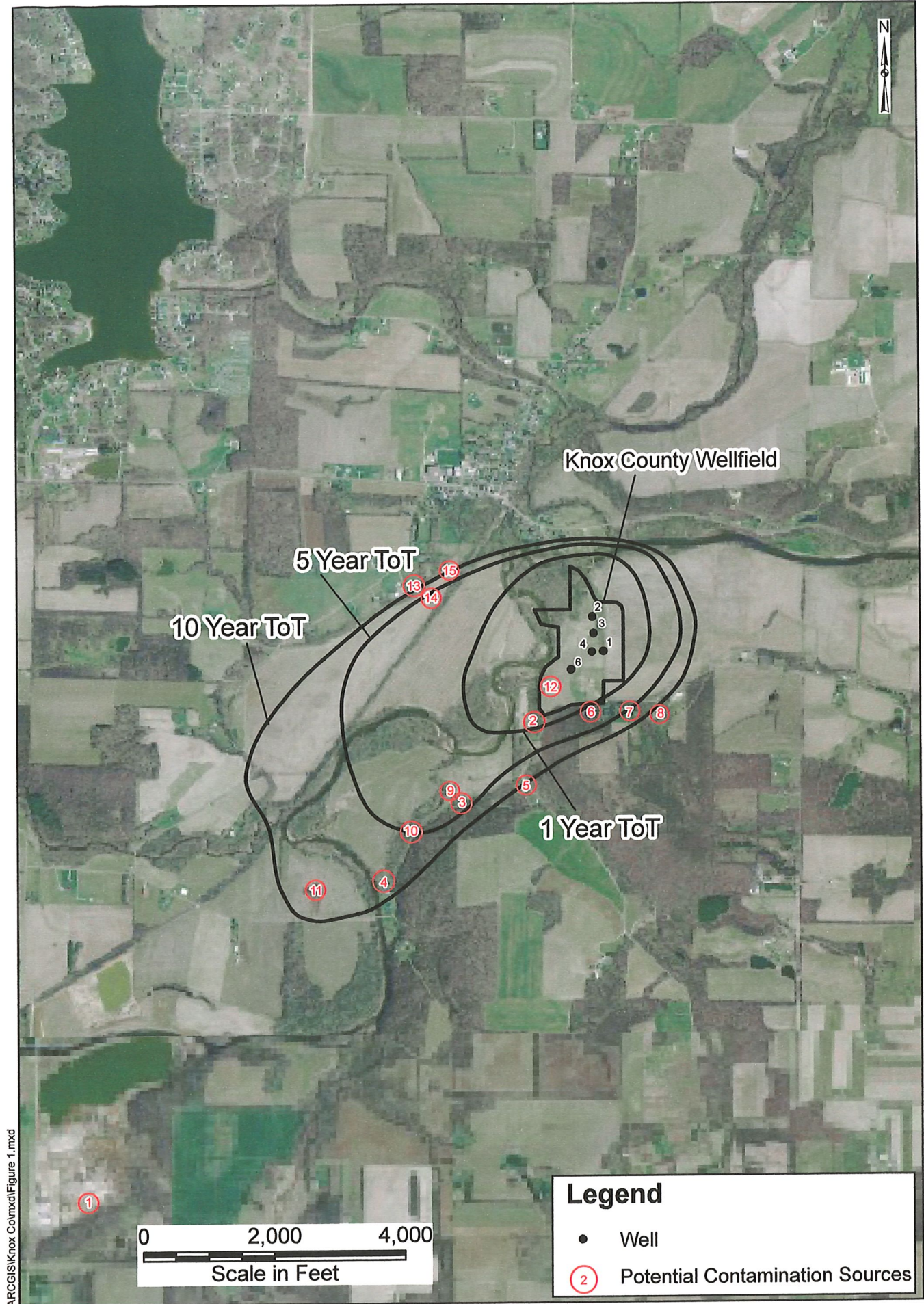
The relative risk of ground-water contamination as a result of potential sources identified during the PCSI was evaluated based on source characteristics and the hydrogeologic sensitivity of the physical setting at each source location. The rankings are shown on Table 1 and are intended to establish a priority for determination of management practices that may be employed.

All of the potential contamination sources identified have been given a low risk ranking. The greatest threat to ground-water quality at the Knox County well field would be from a spill of fuel or agricultural chemicals along Pipesville Road. The limits of the sand and gravel quarry expansion are near the 10 year TOT. The greatest threat to water quality from the quarry would be from improper handling or storage of fuel in the floodplain during quarry operation.

PCSI UPDATING

The Potential Contamination Source Inventory should be updated every five years. In the interim, the information on Table 1 should be maintained and updated and new information should be added as it becomes available. If new sources are identified they should be added to the maps and available information should be filed with the PCSI report. Mechanisms should be established so that new information gathered and received routinely for purposes other than WHP is captured and used to update the PCSI database.

FIGURES



ARCGIS\Knox Col.mxd\Figure 1.mxd

TABLES

TABLE 1.
POTENTIAL CONTAMINATION SOURCES
KNOX COUNTY WATER DISTRICT NO.1 WELL FIELD

Map #	Facility Name & Address	Site Description	Types of Contamination at Site	Environmental Permits	Operating Status	Time of Travel	Closest Distance	Risk Ranking
1	Smalls Sand & Gravel, Inc. and Ohio Asphalt Paving 10229 Killduff Road	Sand & Gravel Extraction and Asphalt Production Facility	Fuels & lubricants for equipment used in sand & gravel extraction and processing and asphalt production. Ohio Asphalt Paving is registered RCRA Hazardous Waste Handler (Large Generator).	Air Permits 3908300006 RCRA ID OHD882062895	Active	>10 yrs.	4900 ft.	Low
2	Walter Todd & Lori Amstutz 11637 Pipesville Road	Private Residence	On-lot Septic System	None	Active	<1 yr.	950 ft.	Low
3	Lawrence R. Sapp 23400 Sapp Road	Private Residence	On-lot Septic System	None	Active	1-5 yrs.	2700 ft.	Low
4	Lawrence R. Sapp 23131 Sapp Road	Private Residence	On-lot Septic System	None	Active	5-10 yrs.	4300 ft.	Low
5	James & Rose Pitsenberger 11527 Pipesville Road	Private Residence	On-lot Septic System	None	Active	5-10 yrs.	2000 ft.	Low
6	Clifford Fields 11734 Pipesville Road	Private Residence	On-lot Septic System	None	Active	1-5 yrs.	750 ft.	Low
7	Regis & Treen Fowler 23776 Millwood Road	Private Residence	On-lot Septic System	None	Active	1-5 yr.	1000 ft.	Low
8	Andrew G. Weber 23890 Millwood Road	Private Residence	On-lot Septic System	None	Active	5-10 yrs.	1400 ft.	Low

ARTICLE VII

C-1 CONSERVATION DISTRICT

7.0 PURPOSE: The purpose of the conservation district is to protect the public health and safety, to protect the corridor along the Kokosing River which was granted "Scenic River" status, and to reduce the financial burdens imposed on the community which result from improper use of lands having excessively high water tables or are subject to frequent and periodic floods and overflow.

7.1 Uses permitted in the C-1 Conservation District

1. Any customary agricultural use, forestry.
2. Recreational facilities, such as fishing, lakes, golf courses, golf driving ranges and parks.
3. Water conservation works; including water supply works, flood control and watershed protection, fish and game hatcheries and preserves, hydroelectric power installation, etc.
4. Accessory use and buildings.
5. Essential services
6. Single family residential dwellings in locations not prone to flooding and in accordance with Article VIII.

7.2 Conditional Uses in the C-1 Conservation District

1. Rifle ranges, gun clubs, archery courts, and other similar uses provided they are not located closer than 700 feet distance from any R-District.
2. Reclamation of lands subject to flooding, provided that no filling, draining, construction of levees or other improvements intended to reduce the danger of flooding or erosion shall be authorized by the Board unless the Board finds that such reclamation work is in concert with the objectives of the Land Use Plan; and, that any such work is done in accordance with plans approved by the County soil and Water Conservation District.

7.3 Required Conditions

Building or structures authorized in the Conservation District shall not obstruct natural drainage courses and floodways. Equipment, materials and wastes stored in areas subject to flooding shall have a specific gravity substantially heavier than water, or shall be otherwise secured against floating away and shall not become a source of water pollution or contamination.

1. Engineer's Report: Whenever the Board is required to pass on matters of protection of life and property from flood hazards, it shall request a report and recommendations thereon from the chief engineer of any conservation district. Such report shall be considered final and conclusive and the Board shall be bound thereby.
2. Changes to Non-Conservation District: Changes of district classification from C-1 to any other classification provided by this Resolution, may be initiated in accordance with the requirements of this Resolution; provided that no such change shall be authorized by the Township Trustees unless the chief engineer of the conservation district certifies to the Township Trustees that any flood condition existing at the time the C-1 District was originally established does no longer exist or has been remedied to the satisfaction of said engineer, and that the area in question is now reasonably well protected from floods for the intended purpose and occupancy. Prior to recommending a change of zoning to the Township Trustees, the Township Zoning commission shall require completion of all necessary flood works in accordance with the requirements and specifications of the C-1 District.

7.4 Required Lot Area and Lot Width in the C-1 District:

None, except as may be specified by the Board; provided that no structure shall be located closer than 35 feet to any existing or proposed public right-of-way, and not closer than 15 feet to any side or rear lot line.

7.5 Height Regulation in the C-1 District:

No structure shall exceed 35 feet in height.

7.6 Uses Prohibited in the C-1 Conservation District:

1. Commercial mining, disposal of garbage and refuse, including sanitary fills, and sewage disposal by the Township or its agents.