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KENTUCKY DIVISION OF WATER
WELLHEAD PROTECTION PLAN
5-YEAR UPDATE FORM

Update Requirements:

This form should be used for the 5-year update submittal requirements of the Kentucky Wellhead Protection Program (WHPP) in compliance with 401 KAR 4:220 and SDWA Section 1428. Once the form is complete, please sign and send to:

Kentucky Division of Water
Watershed Management Branch
Attention: Dale Booth
300 Sower Boulevard, 3rd Floor
Frankfort, Kentucky 40601 or dale.booth@ky.gov

For assistance, contact Dale Booth at (502) 782-6895 or dale.booth@ky.gov

System Information:

PWS Name: **Wheelwright Utility Commission**

PWS ID Number: **KY0360463**

AI Number: **1359**

Contact Person/Title: **Ryan Hall**

Mailing Address: **P.O. BOX 353 Wheelwright, Ky 41669**

Telephone: **6064524266**

Email: **wwwaterplant@hotmail.com**

System Type*: **Community**

*Community; Non-Transient/Non-Community; Transient/Non-Community

Source*: **Underground Mine Adit in Eastern Coal Field** *Well(s) or Spring(s) and total number of each

AKGWA #(s): **00039374 (This AKGWA needs to be corrected)**

County: **Floyd**

ADD: **Big Sandy ADD**

WWD Permit #: **1079 (1990)** Permitted Amount (mgd): **0.350**

Population Served: **839**

Overall Susceptibility Rating*: **Medium** *High, Medium or Low

WHPP Changes Summary: **Wheelwright Utility Commission withdraws its source water from an abandoned underground mine adit in the Eastern Coal Field referred to as the Elkhorn #3 coal seam. Water withdrawals are permitted 0.350 million gallons per day (MGD), with current average monthly water withdrawals of 0.200 MGD (2014-2024) under Permit #1079. The WHPA delineation includes approximately 5,030 acres of mostly deciduous forest and 3 types of potential contaminants which are dominated by onsite septic systems. The overall susceptibility rating is medium. Wheelwright Utility Commission's management strategies include development of alternative sources of water and education and outreach via Consumer Confidence Reports and the development of Groundwater Protection Plans for all activities that have the potential to pollute groundwater.**

Update Form Instructions:

Please complete each section that applies to any system or WHPP updates and submit the supporting documentation. Please indicate if a section is not applicable to this update. **Sections 4 and 6 through 11 are required for every 5-year update.**

Please sign certification on the last page upon completion.

Section Updates:

Section 1: Treatment Plant

If the treatment plant location has changed then provide a new location map below. This can be a county roadmap or a GIS-produced map. Please use the area below to provide relevant details, or to indicate that no change has occurred.

The Wheelwright Utility Commission proposes to construct a new 432,000 CPD multi-media gravity filter water treatment plant that will replace an aging conventional sand filtration treatment plant that was built in the 1930s. In the past, the existing plant has had several Agreed Orders for non-compliance with Drinking Water Standards. The new plant will bring the utility back into compliance with all federal and state drinking water regulations.

Section 2: Water Withdrawal and Water Quality

If there have been changes in water withdrawal rates or water quality since the last submittal, provide a discussion of the relevant details in the space below (include new Water Withdrawal Permit Number if applicable). Include supporting documentation as an attachment.

Wheelwright Utility Commission is authorized to withdrawal up to 0.350 MGD of water from an underground mine adit authorized under Permit #1079 which was last revised in 1990. Since the last update (2014-2024), average monthly water withdrawals have varied from

0.137 to 0.267 MGD with maximum monthly withdrawals varying from 0.159 to 0.294 MGD. The 1999 Phase I WHPP reported average water withdrawals at 0.100 MGD. So, withdrawals have increased over the last 10 years. Population in Floyd County is projected to decline from 2020-2050.

Wheelwright Utility Commission uses an abandoned underground mine works as its source of water. The Wheelwright WHPA is underlain by the Breathitt Formation which is characterized by several thick coal seams. The Elkhorn #3 coal seam has been effectively removed and the mine was abandoned prior to the 1960s. The resulting mine cavity provides the aquifer which presently services as the water supply for the community of Wheelwright. A 1984 study of the groundwater production potential of the Elkhorn #3 mine in Wheelwright, estimated the storage volume to be between 61 and 233 million gallons of water between the elevations of 1190 and 1195 feet.

Due to a groundwater designation change, the existing water treatment plant has had several Agreed Orders for non-compliance with Drinking Water Standards. So, a temporary coagulant feed system to meet the direct filtration requirements of the existing plant has been constructed, prior to the design and construction of a new 432,000-gpd membrane filtration treatment plant. Construction of the pre-treatment system is part of a Corrective Action Plan (Case Number DOW-180151; January 22, 2021) to resolve deficiencies at the water plant resulting from a reclassification of the raw water source as GUDI (Groundwater Under the Direct Influence).

Section 3: Change or Modification to Groundwater Source

If the system has changed or modified the wells or springs being used, provide the following: 1) a description of changes/modifications; 2) copies of the relevant form(s) (Kentucky Water Well Record, Well Maintenance & Plugging Record, Well Inspection Form or Spring Inventory Record); and 3) any other information relating to well construction (i.e., installation logs, driller's logs, lithological or geophysical logs), below.

There have been no changes to the abandoned underground mine adit; however, the source does need to have a corrected AKGWA inspection form to account for the spring located at the mine adit instead of a well in the wrong location.

Section 4 (REQUIRED): Planning Team

Effective water supply protection requires community involvement and public awareness. Identify the planning team consisting of a leader and at least two team members, with their respective titles, below.

Leader:

Ryan Hall, Chief Operator

Team Members:

Larry Bryant – Chairman Utility Commission

Don “Booty” Hall - Mayor

Vernon Smallwood – Utility Commission

Section 5: WHPA Delineation

If the system is revising a Wellhead Protection Area (WHPA) delineation, or if a new groundwater source has been added since the last submittal, provide a site-specific description of the local geology and aquifer. Include references for published literature. Provide a summary of any aquifer tests (i.e. pumping tests, slug tests, tracer tests), including data gathering and evaluation methods. Show calculations and supporting data for each WHPA delineated or revised. Include the detailed hydrogeologic report as an attachment.

No changes to the WHPA.

Section 6 (REQUIRED): WHPA Map

Provide a WHPA map that shows each groundwater source labeled with the appropriate AKGWA #, all protection zones identified and the Contaminant Source Inventory (CSI) point locations. If no changes have occurred since the last submittal, then a copy of the most recent WHPA/CSI map can be resubmitted. To view the most recent delineations for your system, please visit the [Source Water Protection Viewer](#). Please contact program staff for assistance.

Please see WHPA map. Because the source of water for the community of Wheelwright is from an underground mine, the entire storage and recharge area delineated WHPA for Wheelwright is 5,029.92 acres. The delineated area includes the recharge area of the underground stress relief fracture zone which recharges the underground void space and the underground mine boundaries. The WHPA is dominated by deciduous forest with lesser amounts of mixed forest and low and high intensity developed land use intermixed with. Due to the source being groundwater under the direct influence of surface water or GUDI the entire WHPA is designated as a Zone 1 with high susceptibility to contamination rating.

Section 7 (REQUIRED): Contaminant Source Inventory

Provide an updated CSI in table format. This can be created using the spreadsheet template provided, and copied into the space below. If no changes occurred since the last update, the table can be pulled from previous WHPP documents. Each contaminant source listed should have a Contaminant Source ID # that corresponds to the WHPA map in Section 6. The CSI table must show the susceptibility determination ranking for each contaminant source. Include a brief narrative discussion of the overall system susceptibility. For more information on potential sources of contamination, please visit the DOW’s [Web Tools for SWP Planning website](#). Please contact program staff for assistance.

See attached CSI. Wheelwright Utility Commission currently withdraws from a WHPA that has a delineated protection area of approximately 5,030 acres of mostly deciduous forest with three (3) potential types of contaminants that include septic systems, the water treatment, plant, and silviculture. The overall susceptibility rating is medium.

Section 8 (REQUIRED): Management Strategies

Provide a discussion of the previous and newly proposed management strategies to prevent source water contamination. This discussion must include the previous management strategies that were implemented as well as the goals that were met. Next, include any NEWLY proposed management strategies, associated goals, implementation plans and the party responsible for implementation. For information about wellhead protection strategies please visit the [DOW's Source Water Protection Strategies website](#).

Previous Management Strategy Update:

Wheelwright Utility Commission has pursued public education and outreach to manage the WHPA including using the Consumer Confidence Report (CCR) and the development of Groundwater Protection Plans (GPPs) for all activities that have the potential to pollute groundwater.

Newly Proposed Management Strategies:

Wheelwright Utility Commission will continue to pursue public education and outreach to manage the WHPA including using the CCR and the development of GPPs.

Section 9 (REQUIRED): Contingency and WHP Planning

Provide a description of Contingency and WHP Planning. Complete the Emergency Response Phone List, Procedures for Public Notification, identification of Potential Future Problems and the procedures to establish Alternative Water Supplies. This section must also address how often the WHPP will be reviewed and updated.

Emergency Response Phone List

Fill in all Blanks and Phone Numbers with appropriate information.

Local Emergency Response	Phone Number
Plant Operator Ryan Hall	(606) 452-4267
Wheelwright Fire Department Daniel Gullett Chief	(606) 452-4100

Wheelwright City Police Keith Justice Chief	(606) 452-4818
Floyd County Emergency	(606) 886-0498
Local Emergency Dispatch Floyd County Sherriff Office	(606) 886-6171

State and Federal Assistance	Phone Number
Kentucky DOW (Frankfort)	(502) 564-3410
Kentucky DOW Associated Field Office (FO) Hazard	(606) 435-6022
Kentucky Environmental Response Team 24 hour response line	(502) 564-2380 (800) 928-2380
Kentucky State Fire Marshall	(502) 573-0382

Any Other Pertinent Contacts	Any Other Pertinent Numbers
Kentucky Rural Water Association	(270) 843-2291
Click here to enter text.	PHONE NUMBER
Click here to enter text.	PHONE NUMBER

Procedures for Public Notification:

In the event of a water system emergency that would threaten the health or life of the public, use the following procedure. Prepare and broadcast an advisory, including directions for the public. Describe the public notification process and provide contacts for those media outlets. If the system uses methods other than traditional media please list them.

Wheelwright Utility Commission Facebook Page

Newspaper, Television, and Radio Stations	Phone Numbers
Floyd County Chronical	(606) 886-8506
Wymt Mountain News	(606) 436-5757

Potential Future Problems:

Describe the *most likely* scenarios that could threaten the water supply.

Drought conditions can impact the recharge of the reservoirs in the mine which could

possibly impact water quality and quantity, especially during low flow seasons. Additionally, dams were constructed within the abandoned mine which serve as important factors in the volume of the reservoir. These dams and associated water lines should be periodically inspected and have regular maintenance, however entering the abandoned mine adit is unsafe and places the operator and system at risk. Although some work has been done to stabilize the entrance and provide ventilation, the mine has not been inspected or had infrastructure to ensure safety and prevention of subsidence associated with mine collapse that could impact the entire system due to lack of source availability. Additionally, water loss is estimated to be more than 30% so having resources to address the distribution system should also be a priority. Now that the Southeast State Correctional Complex is located in Wheelwright and dependent on this source of water it is extremely important to prioritize the reliability and development of alternative sources of water due to the number of inmates etc. The most likely scenario of contamination is by nitrates from onsite septic systems not being managed or maintained over time or a spill or accident associated with the roads throughout the WHPA.

Alternative Water Supply (Short and Long Term):

describe the short term and long-term water supply alternatives that address each of the potential future problems identified above. List all current interconnections with other water systems. Discuss the capacity of each potential alternative water supply to sustain normal operations.

Long-term contingency plans may include developing alternative water sources and interconnections that can provide the production demands of the systems. Wheelwright has a permanent interconnect with Southern Water & Sewer District. However, the rates are high so purchasing water would be cost prohibitive over longer periods of time. Short-term contingency plans may include boil water advisories and encouraging conservation practices.

Schedule for Update and Review:

The Wellhead Protection Plan will be reviewed regularly and updated every five years as required by regulation.

Section 10 (REQUIRED): Copies of Public Notices and Education Materials

Provide copies of wellhead protection public notices and education materials distributed.

A copy of this source water protection plan will be posted on the Kentucky Rural Water Associations and a link to plan will be printed on customer bills for public notice. A copy will be provided in the attachments for documentation

Section 11 (REQUIRED): Public Meeting Documentation***

Provide the record of WHPP public meeting attendance, minutes and comments.

A copy of this source water protection plan will be posted on the Kentucky Rural Water Associations and a link to plan will be printed on customer bills for public notice. A copy will be provided in the attachments for documentation.

***Non-Community Water Systems are not required to have public meetings for 5-year updates, but must post a public notice in a conspicuous place. A public notice template is provided as a separate document. However, public input and associated documentation are encouraged. Please contact program staff if you have any questions.

Certification Signature (TO BE COMPLETED BY PLANNING REPRESENTATIVE):

"I certify that this document and all attachments were prepared under my direction or supervision. The information submitted is, to the best of my knowledge and belief, true, accurate, and complete."

Signature: Ryan Hall Date: 09/23/2024

Printed Name/Title: Ryan Hall Chief Operator

Assistance:

For any assistance, please contact Wellhead Protection Staff:

Dale Booth
(502) 782-6895
Dale.Booth@ky.gov

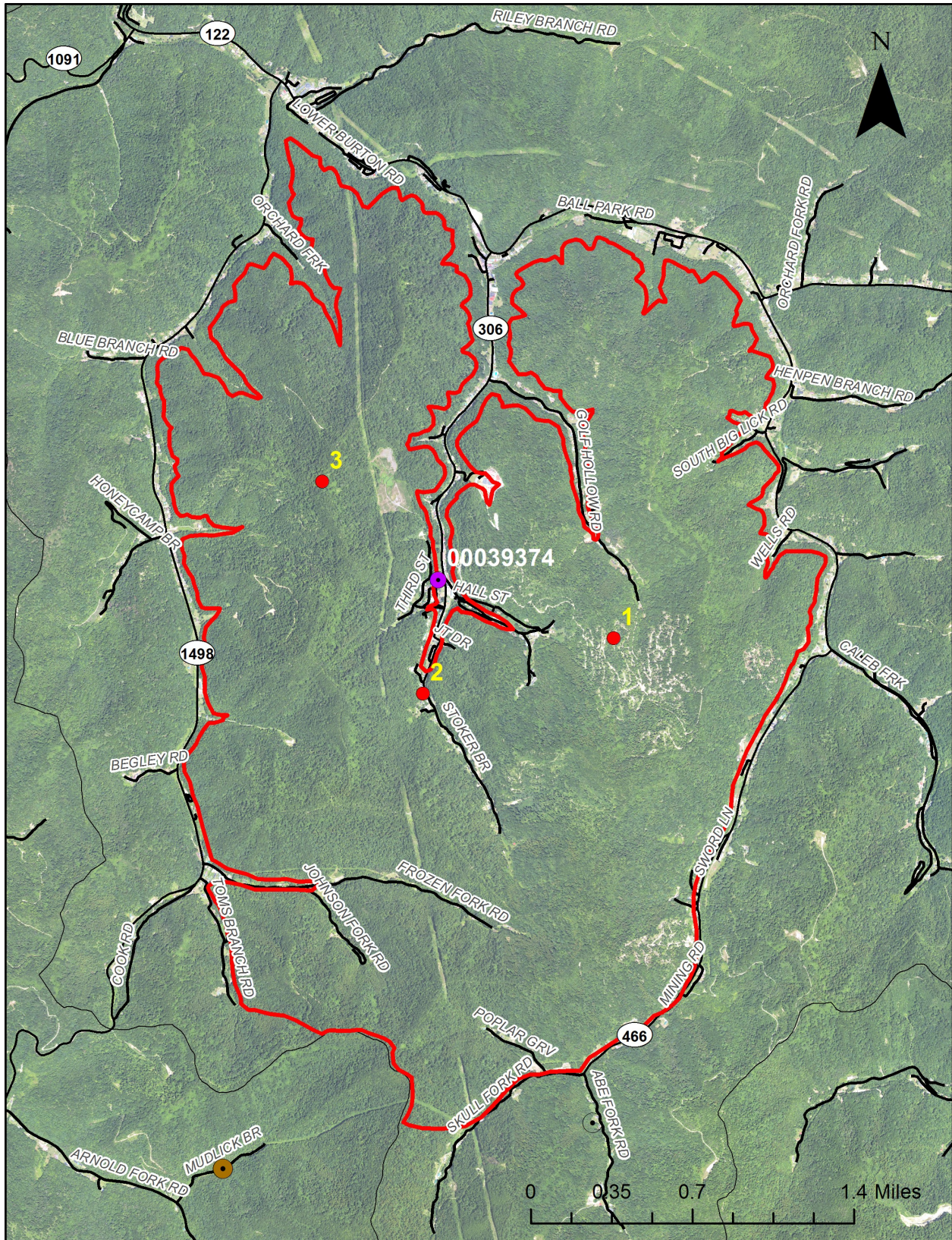
Allan Shingleton
(502) 782-6907
Allan.Shingleton@ky.gov

Please sign and return completed form to:

Kentucky Division of Water
Watershed Management Branch
Attention: Chip Zimmer
300 Sower Boulevard, 3rd Floor
Frankfort, Kentucky 40601
or Dale.Booth@ky.gov

Section 6: WHPA Map

Contaminant Source Inventory

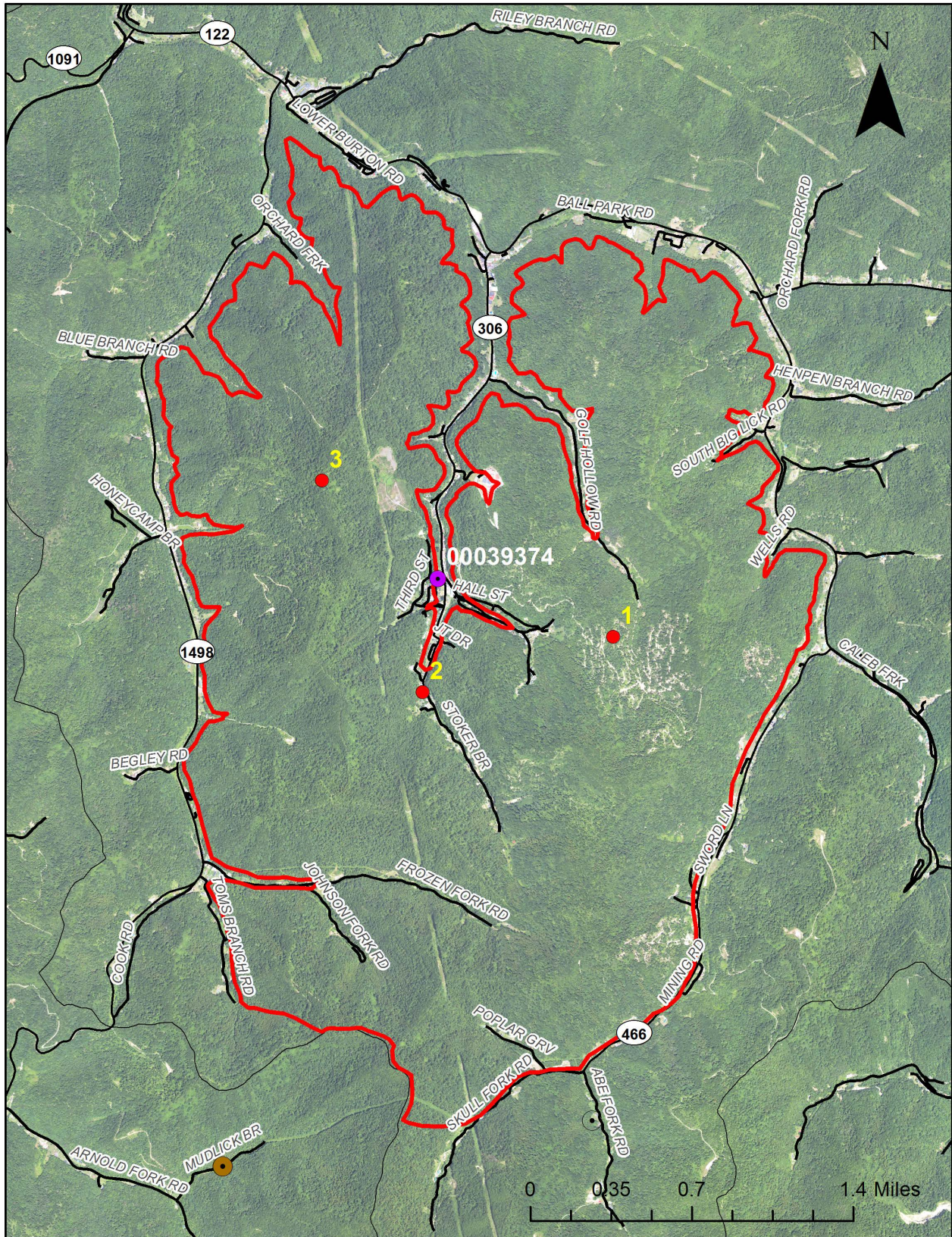


Legend

- Water Wells (PWS)
- Potential Contaminants
- Zone 1: 180 Day time of travel for potential contaminant
- Zone 2: 10 year time of travel
- Zone 3: Hydrologic Boundary

Section 7: Contaminant Source Inventory

Contaminant Source Inventory



Legend

- Water Wells (PWS)
- Potential Contaminants
- ▭ Zone 1: 180 Day time of travel for potential contaminant
- ▭ Zone 2: 10 year time of travel
- ▭ Zone 3: Hydrologic Boundary

Contaminant Source Inventory and Susceptibility Analysis for *Wheelwright Utilities Commission/KY0360463*

Instructions (section may be deleted on submission):

Use the following table to list and rank potential contaminants identified during the contaminant source inventory.

Include Lat/Lon or addresses when possible. Enter the WHPA in which the contaminant occurs.

Multiple, similar sources that are clustered can be listed once with the Quantity identified.

The Proximity Ranking is based on the WHPA in which the contaminant is located (WHPA 1=3; WHPA 2=2; WHPA 3=1).

Contaminant Value is on a 1-3 scale, based upon its potential threat; consult the Contaminant Source Types_Values guide.

Hydrologic Sensitivity: The physical, chemical, geological, hydrological, and biological characteristics of the area over which, or through which, the contaminants move to the aquifer have various capabilities to detain or attenuate contaminant releases. Consult the Hydrologic Sensitivity tab.

The spreadsheet will use the values entered to calculate the Numeric Rating for each contaminant source.

- $\text{Numeric Rating} = (\text{Proximity Value} \times 2) + (\text{Contaminant Value} \times 3) + (\text{Hydrologic Sensitivity Value})$

This will determine the Susceptibility Ranking: Numeric Rating less than 10 = Low; 10-15 = Medium; greater than 15 = High.

Please contact SWP/WHPP staff if you have any questions.

Contact:

Dale Booth; Dale.booth@ky.gov; 502-782-6895

Ryan Parks; Ryan.parks@ky.gov; 502-7824039

CSI Map ID #	Site ID	Contaminant Source Type	CS CODE	Name	Address	Lat	Lon	Quantity	Zone	Proximity Value	Contaminant Value	Hydrologic Sensitivity	Numeric Rating	Susceptibility Ranking	Contaminant Notes
1		Residential Septic	R-4	Septic systems		37.32973	-82.708	39	1	3	3	3	18	HIGH	
2		Drinking Water Treatment Plants	M-3	Wheelwright Water Treatment Plant		37.32662	-82.723	1	1	3	1	3	12	MED	
3		Silviculture (Logging)	A-17	Forestry Practices		37.34014	-82.73	1	1	3	2	3	15	MED	

CSI Totals	Low	0
	Med	2
	High	1

Overall Susceptibility Ranking	Medium
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Section 10 & 11: Public Notice Documentation