Date: March 4, 2024
Waterworks Name: Luray, Town of
Waterworks Owner: Town of Luray

For each source serving the subject waterworks this report includes, maps showing the source water assessment area (divided into Zones 1 and 2 with Zone 1 having greater influence on the source), an inventory of potential sources of contamination, and a rudimentary determination of the source's relative susceptibility to contamination. Information in this report is provided to aid in efforts toward Source Water Protection.

The Source Water Assessment of the subject waterworks has yielded the following results:

Source Name	Relative Susceptibility to Contamination	Explanation
Hudson Spring	High	Ground water or ground water under the direct influence of surface water source constructed in an area that tends to promote migration of contaminants with potential sources of contamination in the Zone 2 assessment area.
Hite Spring	High	Ground water or ground water under the direct influence of surface water source constructed in an area that tends to promote migration of contaminants with potential sources of contamination in the Zone 1 and Zone 2 assessment areas.
Well No. 6	High	Ground water or ground water under the direct influence of surface water source constructed in an area that tends to promote migration of contaminants with potential sources of contamination in the Zone 1 and Zone 2 assessment areas.

The susceptibility determination(s) for this waterworks' source(s) were determined using the information detailed on the following table:

Source Name	Source Water Type	Source Sensitivity Determination	Number of Potential Sources of Contamination in Zone 1	Number of Potential Sources of Contamination in Zone 2
Hudson Spring	Groundwater	Sensitive	0	35
Hite Spring	Groundwater Under the Direct Influence of Surface Water	Sensitive	1	10
Well No. 6	Groundwater Under the Direct Influence of Surface Water	Sensitive	2	32

The number of Potential Sources of Contamination (PSC) in Zones 1 and 2 are determined from information contained in the VDH-ODW GIS system. This information was predominantly obtained from the relevant regulating agencies and may not have been recently field verified. If your field inspections do not agree with the supplied Potential Sources of Contamination maps, please contact

http://www.vdh.virginia.gov/drinking-water/source-water-programs/, or contact our Source Water Programs Team at SourceWater@vdh.virginia.gov.

The criteria utilized for delineation of the Source Water Assessment Area is explained in Attachment A, Source Water Assessment Area Delineation. The criteria utilized for placement into a particular susceptibility class is explained on Attachment B, Source Water Susceptibility Determination. The susceptibility class is not intended to be a definitive determination. A list of definitions of key terms used in this report is included on Attachment C.

The following attachments are part of this report:

- Attachment A Source Water Assessment Area Delineation
  - o Zone 1 Potential Sources of Contamination Map (one for each source)
  - o Zone 2 Potential Sources of Contamination Map (one for each source)
  - o Potential Sources of Contamination Summary (one for each source)
  - Potential Sources of Contamination Inventory (one for each source)
  - o Zone 2 Land Use Map (one for each source)
  - Typical Contaminants Compendium
  - Data Bibliography
- Attachment B Source Water Susceptibility Determination
- Attachment C Definitions

# Attachment A Source Water Assessment Area Delineation

VDH uses three categories of drinking water sources to delineate an assessment area: Groundwater, Groundwater Under the Influence of Surface Water (GUDI), and Surface Water. All assessment areas are segregated into Zone 1 and Zone 2 assessment areas.

The Zone 1 assessment area is a priority zone for managing potential sources of contamination where contamination is believed to pose the greatest risk. The Zone 2 assessment area is a secondary zone for managing potential sources of contamination where the time of travel for contaminants to reach the source is expected to be greater than in Zone 1.

Source Water Assessment Areas are determined as follows:

### **Ground Water Assessment Area**

- Zone 1 = 1000-foot fixed radius surrounding source
- Zone 2 = 1-mile fixed radius surrounding source and outside of Zone 1

### **Surface Water Assessment Area**

- Zone 1 = Watershed area within a 5-mile fixed radius of the raw water intake
- Zone 2 = Total watershed area outside of Zone 1

### **Ground water Under the Direct Influence of Surface Water**

With no identified flowing surface source

- Zone 1 = 1000-foot fixed radius surrounding source
- Zone 2 = 1-mile fixed radius surrounding the source and outside of Zone 1

With identified flowing surface source

- Zone 1 = 1000-foot fixed radius surrounding source
- Zone 2 = Total watershed area upgradient of the source and outside of Zone 1

Please see maps in this attachment for information specific to you source(s).

# Attachment B Source Water Susceptibility Determination

The following figure details the process for determining a sources susceptibility to contamination.

		PSC Present in As	ssessment Area	
Source Water Type	<b>Sensitive</b>	For Ground Water sources	For Surface Water	Susceptibility
Source water Type	Source1	does a PSC exist in the Zone	sources does a PSC exist	Susceptibility
		1 assessment area or does a	in the Zone 1 assessment	
		PSC exist in Zone 2?	area?	
	NO →	NO →		Very Low
Groundwater →	NO 7	YES →		Low
Groundwater	YES →	NO →		Moderate
	IES 7	YES →		High
Cumfo oo Woton -	YES →		NO →	Moderate
Surface Water →	IES 7		YES →	High

<sup>&</sup>lt;sup>1</sup> All surface water sources are considered sensitive sources

<sup>&</sup>lt;sup>2</sup> Only a Class II B (or better) well that is constructed in accordance with the Virginia *Waterworks Regulations* and has a completed Uniform Water Well Completion Report (GW-2) that shows evidence in the driller's log that the well withdraws water from a confined aquifer is deemed to be non-sensitive.

# Attachment C **Definitions**

A water bearing geological unit that will yield water to wells or springs. Aquifer: Aquitard: An underground confining bed of earthen material that retards, but does not

prevent, the flow of water between adjacent aguifers.

Confined or Non-An aquifer bounded above and below by impermeable beds or by beds of distinctly lower permeability than that of the aguifer itself; an aguifer sensitive Aquifer:

containing confined groundwater.

Delineation: The process of defining or mapping a boundary that approximates the areas

> that contribute water to a particular water source used as a public water supply. For surface waters, the land area usually consists of the watershed for a reservoir or stream. For ground water sources, the boundary typically approximates the surface area that contributes water to the aguifer.

Ground Water: All water obtained from sources not classified as surface water (or surface

water sources), or groundwater under the direct influence of surface water.

Ground Water Under the Direct Influence of Surface Water (GUDI):

Any water beneath the surface of the ground with (i) significant occurrence of insects or other macroorganisms, algae, or large-diameter pathogens such as Giardia lamblia, or Cryptosporidium. It also means (ii) significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH that closely correlate to climatological or surface water

conditions.

**Identified Flowing** A surface water stream that enters the ground water by flowing into a sinkhole, Surface Source:

Leaking through the bottom of a stream bed, or by other means and which has been verified through tracer or other studies to reemerge from the ground as a spring of through a well; or which flows beneath broken rubble (which is strewn down the side of a mountain) with openings to the atmosphere and

which is collected at a 'springbox'.

Potential Sources of

Contamination:

Facilities, sites, and activities that have the potential to affect the underlying ground water aquifers or nearby surface waters supplying a waterworks.

Raw Water Intake: The suction intake that draws water from a surface water source for use as a

public water supply.

The relative ease, with which a contaminant applied near the land surface, or to Sensitivity:

the subsurface, can migrate to the delineated source water area.

Source Water An assessment to provide information on the potential contaminant threats to the water source(s) of a waterworks and the susceptibility of those sources to Assessment:

contamination.

Surface Water: All water open to the atmosphere and subject to surface runoff.

Susceptibility to The determined classification (or rating) of the susceptibility of a source to Contamination: contamination based on its sensitivity and the presence of land use activities of concern, potential sources of contamination, or potential conduits to ground

water (for ground water sources only) within the assessment area. This classification is not intended to be definitive.

Watershed: A topographical area that is within a line drawn connecting the highest points

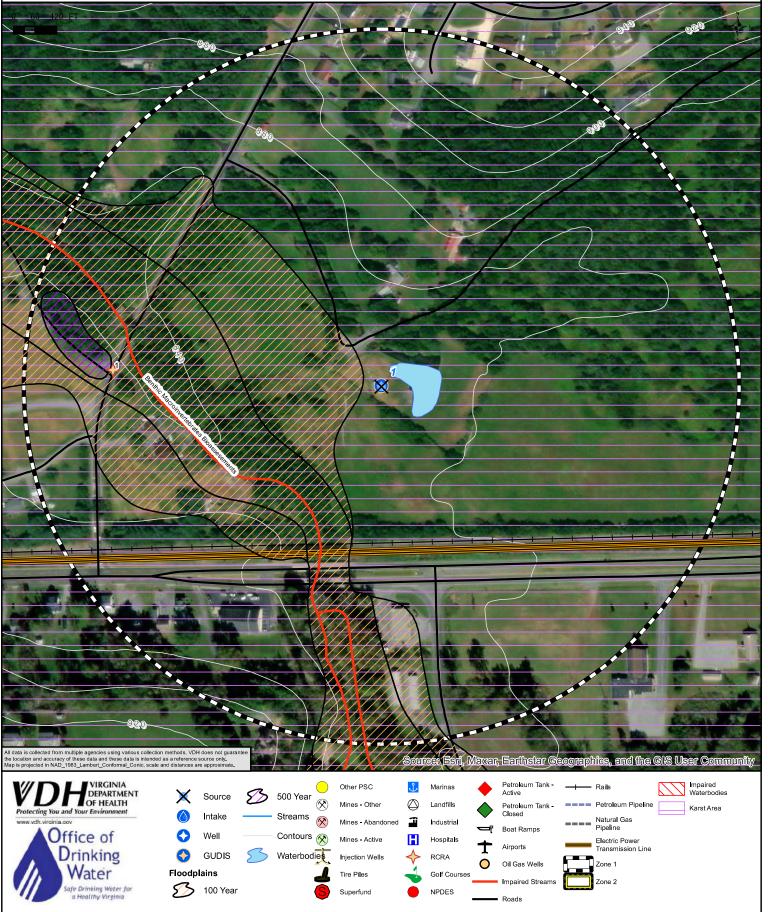
uphill of a drinking water intake or otherwise known area of recharge from

which overland flow drains to a water supply intake.

PWSID: 2139330 Source ID: SP001 Facility: HITE SPRING Swap Zone 1

TINWSF\_IS: 2661881.0 Jurisdiction: PAGE COUNTY District: DISTRICT 07

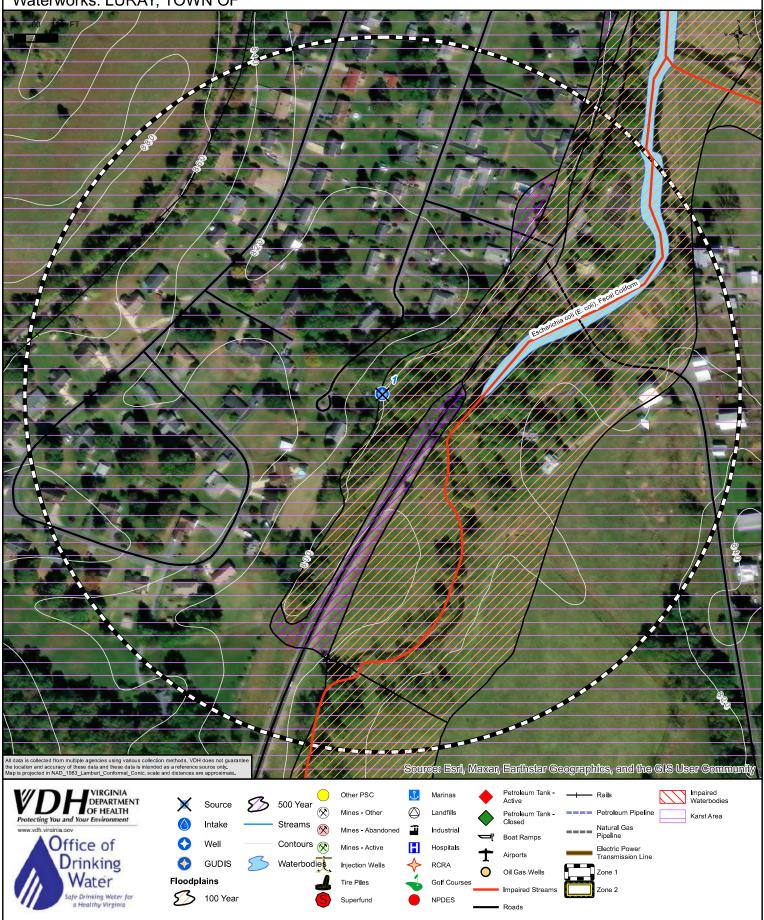
Waterworks: LURAY, TOWN OF



PWSID: 2139330 Source ID: SP002 Facility: HUDSON SPRING Swap Zone 1

TINWSF\_IS: 2661882.0 Jurisdiction: PAGE COUNTY District: DISTRICT 07

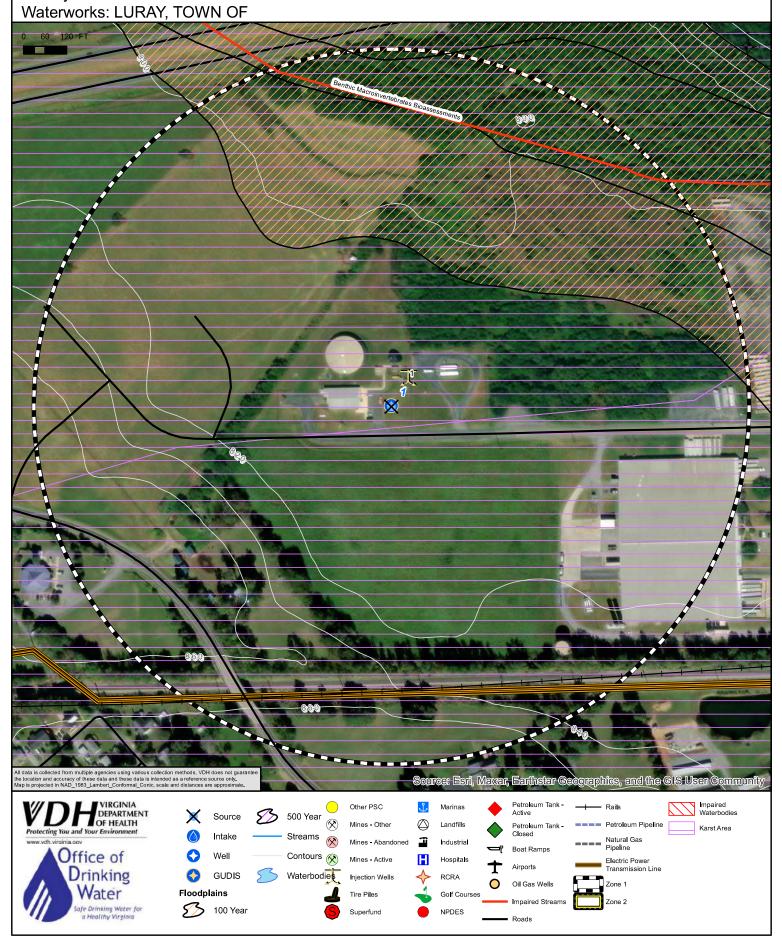
Waterworks: LURAY, TOWN OF



PWSID: 2139330 Source ID: WL006 Facility: WELL NO. 6 Swap Zone 1

TINWSF IS: 2661825.0 Jurisdiction: PAGE COUNTY

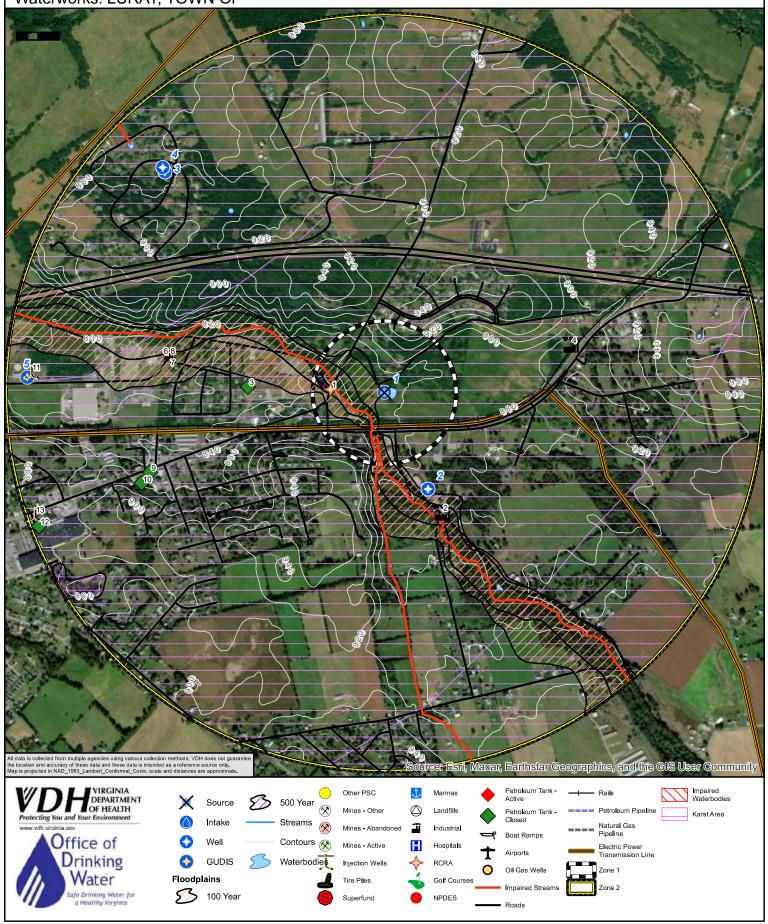
District: DISTRICT 07



PWSID: 2139330 Source ID: SP001 Facility: HITE SPRING SWAP Zone 2 Date: 2/8/2024

TINWSF\_IS: 2661881.0 Jurisdiction: PAGE COUNTY District: DISTRICT 07

Waterworks: LURAY, TOWN OF

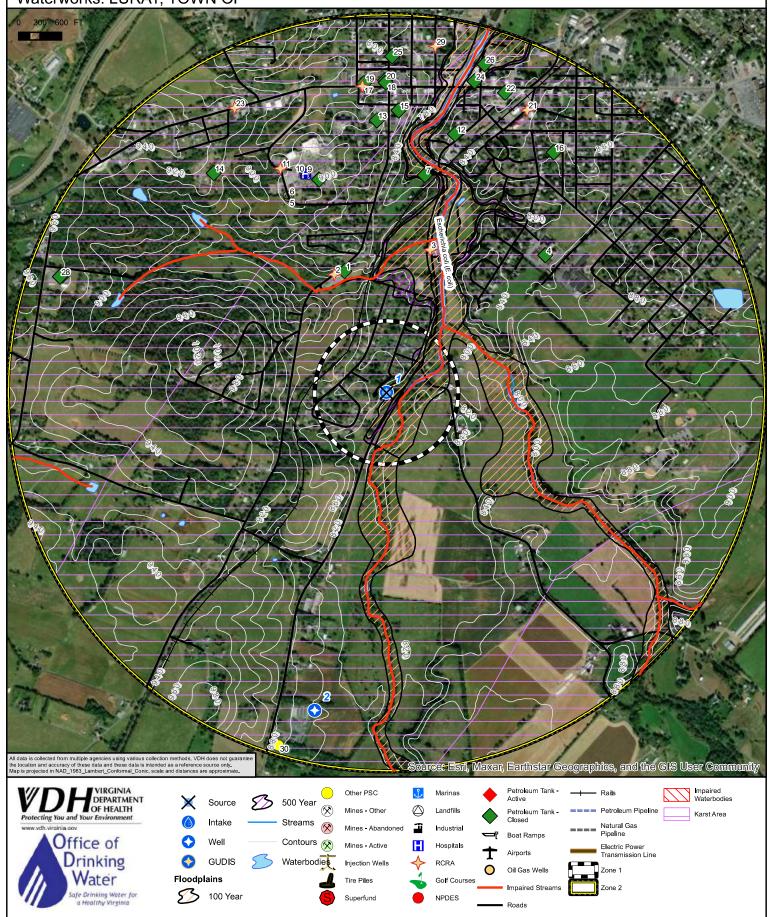


PWSID: 2139330 Source ID: SP002

Facility: HUDSON SPRING Waterworks: LURAY, TOWN OF SWAP Zone 2 Date: 2/8/2024

TINWSF IS: 2661882.0 Jurisdiction: PAGE COUNTY

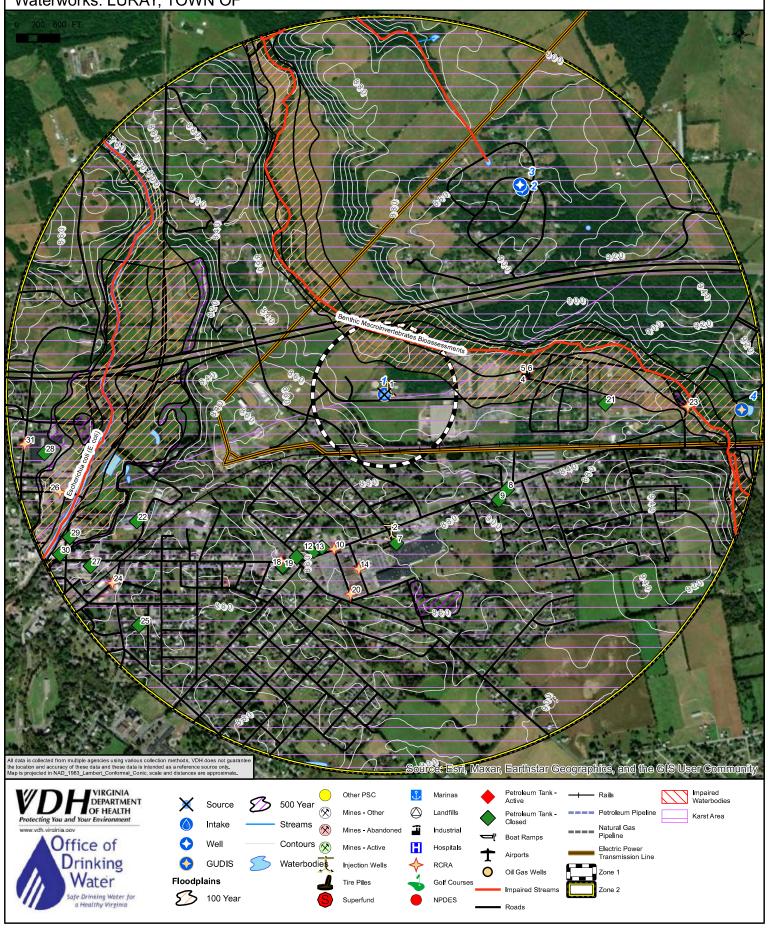
District: DISTRICT 07



PWSID: 2139330 Source ID: WL006 Facility: WELL NO. 6 SWAP Zone 2 Date: 2/8/2024

TINWSF\_IS: 2661825.0 Jurisdiction: PAGE COUNTY District: DISTRICT 07

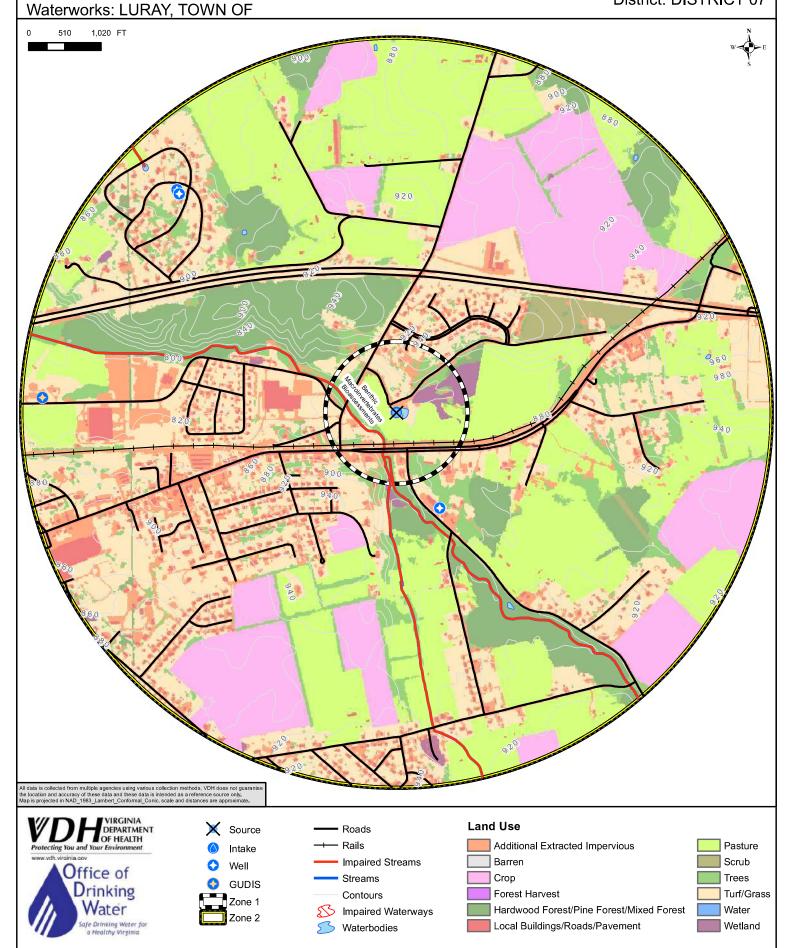
Waterworks: LURAY, TOWN OF



PWSID: 2139330 Source ID: SP001 Facility: HITE SPRING SWAP Zone 2 Land Use

TINWSF\_IS: 2661881.0 Jurisdiction: PAGE COUNTY

District: DISTRICT 07



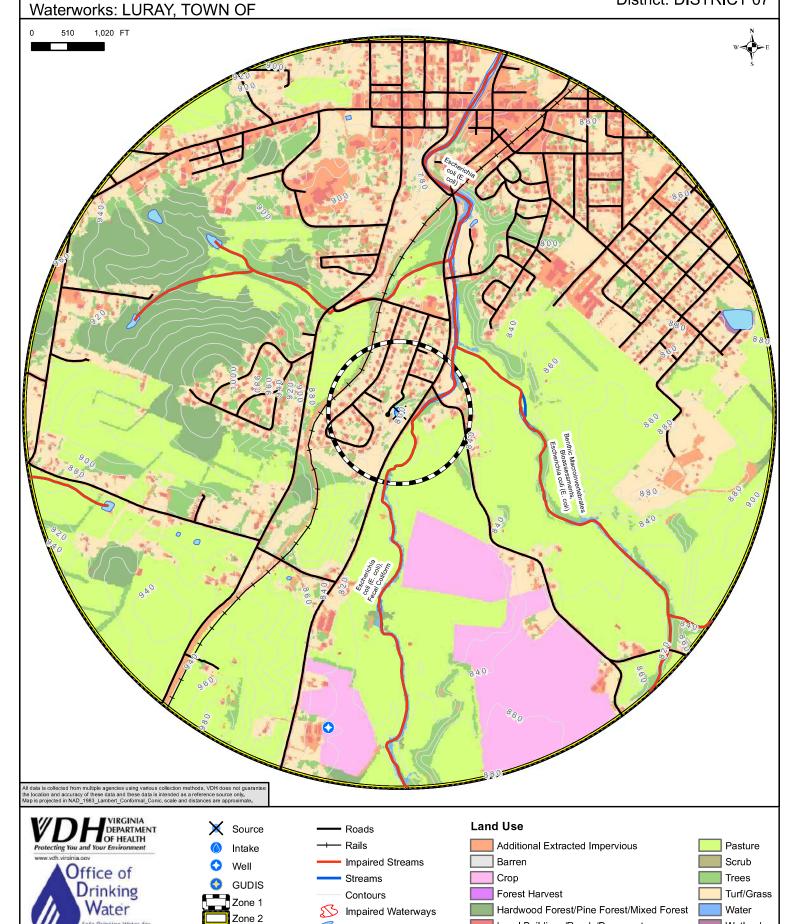
PWSID: 2139330 Source ID: SP002

Facility: HUDSON SPRING

SWAP Zone 2 Land Use

TINWSF\_IS: 2661882.0 Jurisdiction: PAGE COUNTY

District: DISTRICT 07



Waterbodies

Local Buildings/Roads/Pavement

Wetland

PWSID: 2139330 Source ID: WL006 Facility: WELL NO. 6 SWAP Zone 2 Land Use

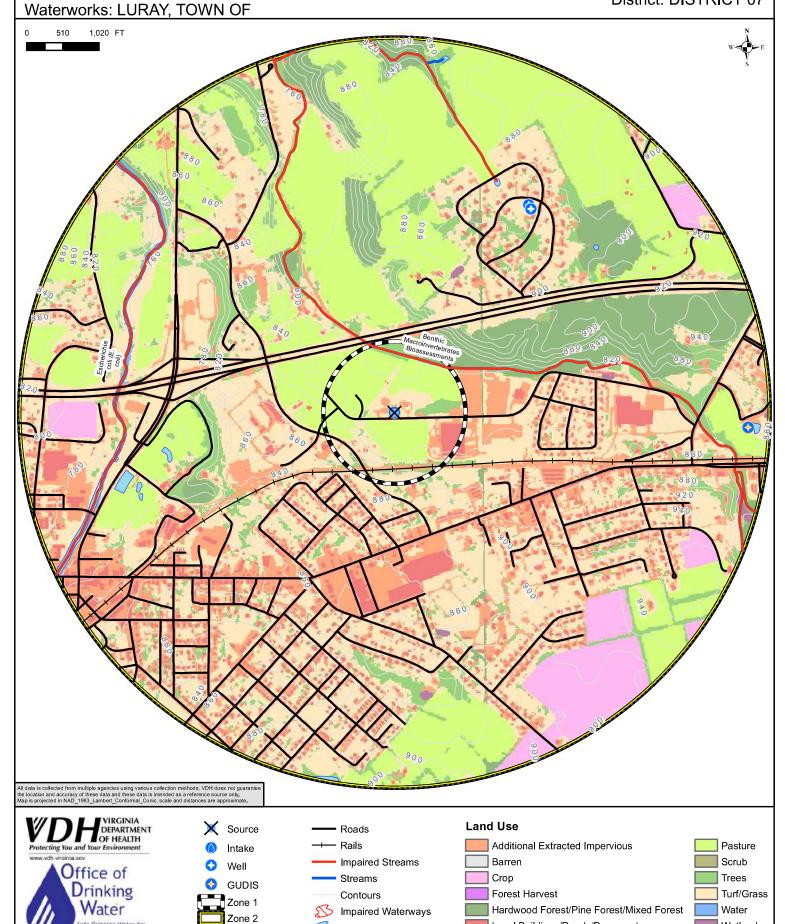
TINWSF\_IS: 2661825.0

Jurisdiction: PAGE COUNTY

District: DISTRICT 07

Wetland

Local Buildings/Roads/Pavement



Waterbodies

IER	ry	Source ID: SP001 Facility: HITE SPRING	Date:	Mailing Address/Location		333 Dry Run Rd, Luray VA 22835	10 Wallace Ave Luray VA 22835	776 Atkins Dr, Luray VA 22835		31 STONEY BROOK LANE LURAY VA 22835-9066	31 STONEYBROOK LANE LURAY VA 22835-9066		1338 E Main St Luray VA 22835	1128 E Main St Luray VA 22835	45 EAST MAIN STREET LURAY VA 00000	101 Blue Bell Avenue Luray VA 22835	904 E MAIN ST LURAY VA 22835-
GINIA DEPARTMENT OF HEALTH - OFFICE OF DRINKING WATER	Potential Sources of Contamination Inventory	PWSID: 2139330 Source	Reviewed by:	Property Owner/Business Name		Tom's Auto Repair	Wallace Computer Services	Christopher Ponn		O'SULLIVAN CORP.	EMCO ENTERPRISES INC		P And J Tire	Luray Tire Center	TOWN OF LURAY MUNICIPAL UTILITIES	Wrangler/blue Bell	VALLEY AUTO SALES
NIA DEPARTMENT OF H	ential Sources of	F		Facility Type	RCRA	Industrial Site	Closed Storage Tank Release	Industrial Site		Industrial Site	Industrial Site	RCRA	Closed Storage Tank Release	Closed Storage Tank Release	Underground Injection Well	Closed Storage Tank Release	Underground Injection Well
VIRGII	Pote	Waterworks: LURAY, TOWN OF	Date:	Contaminant Type	Site Specific	Inorganics, SOCs, VOCs	Inorganics, SOCs, VOCs	Inorganics, SOCs, VOCs		Site Specific	Site Specific	Site Specific	Inorganics, SOCs, VOCs	Inorganics, SOCs, VOCs	Inorganics, Microbial, RADs, SOCs, VOCs	Inorganics, SOCs, VOCs	Inorganics, Microbial, RADs, SOCs, VOCs
		County/City: PAGE COUNTY Wa	d by:	Distance to Source (miles)	0.14	0.35	0.36	0.51	0.58	0.58	0.58	0.58	0.65	0.68	0.94	0.98	0.98
		County/C	Evaluated by:	Map ID	_	2	m	4	2	9	7	<b>∞</b>	6	10	<del></del>	12	13

Page 1 of 1 2139330 HITE SPRING

		Pote	ential Sources of	Potential Sources of Contamination Inventory	Dry
County	County/City: PAGE COUNTY	Waterworks: LURAY, TOWN OF	JC	PWSID: 2139330 Source	Source ID: SP002 Facility: HUDSON SPRING
Evaluated by:	ed by:	Date:		Reviewed by:	Date:
Map ID	Distance to Source (miles)	Contaminant Type	Facility Type	Property Owner/Business Name	Mailing Address/Location
<b>—</b>	0.34	Inorganics, SOCs, VOCs	Closed Storage Tank Release	Holtzman Oil Luray Bulk Plant	191 South Court St Luray VA 22835
2	0.34	Site Specific	RCRA		
m	0.39	Site Specific	RCRA		
4	0.55	Inorganics, SOCs, VOCs	Closed Storage Tank Release	Luray High School	14 Luray Ave Luray VA 22835
ī.	0.58	Inorganics, Microbial, SOCs, VOCs	RMW Steam Sterlizer [SW]	Shenandoah Regional Microbiological Laboratory (PBR334) -	77 Court Lane Luray VA 22835
9	0.58	Inorganics, Microbial, SOCs, VOCs	RMW Steam Sterlizer [SW]	Shenandoah Regional Microbiological Laboratory (PBR128) -	77 Court Lane Luray VA 22835
7	0.58	Inorganics, SOCs, VOCs	Closed Storage Tank Release	Hershberger Bulk Plant	S Hawksbill St Luray VA 22835
ω	0.59	Inorganics, SOCs, VOCs	Closed Storage Tank Release	Page Memorial Hospital	200 Memorial Dr Luray VA 22835
6	0.62	Inorganics, Microbial, RADs, SOCs, VOCs	Hospital	Page Memorial Hospital	200 Memorial Drive Luray VA 22835
10	0.62	Inorganics, Microbial, SOCs, VOCs	RMW Storage Facility [SW]	Valley Health - Page Memorial Hospital (PBR333) -	200 Memorial Dr Luray VA 22835
11	0.65	Site Specific	RCRA		
12	0.71	Inorganics, SOCs, VOCs	Closed Storage Tank Release	Page Cooperative Farm Bureau	127 Big Oak Rd Luray VA 22835
13	0.72	Inorganics, SOCs, VOCs	Closed Storage Tank Release	Judicial Complex	101 S Court St Luray VA 22835
4	0.74	Inorganics, SOCs, VOCs	Closed Storage Tank	Montvue Nursing Home	30 Montvue Drive Luray VA 22835
2139330	HUDSON SPRING				Page 1 of 2

Mailing Address/Location		101 S Court St Luray VA 22835	12 Blue Ridge Ave Luray VA 22835		300 W Main St Luray VA 22835	18 Vogt Place Luray VA 22835	302 B West Main St Luray VA 22835		E Main St Luray VA 22835		2 West Main St Luray VA 22835	110 N Court St Luray VA 22835	26 N Broad St Luray VA 22835	LEAKSVILLE ROAD - RT 616 LURAY VA 22835	LEAKSVILLE ROAD - RT 616 LURAY VA 22835		1691 US Hwy Bus 340, Luray VA 22835
Property Owner/Business Name		Page County-Building Official Office	Randy Arrington Residence		Former Campbells Plumbing and Electric Company	Centel Luray	Judd Property		Mcconnell/Texaco		Knizewski Property	Wadsworth Residence	Luray Motor Company	Page County Schoolbus Garage	Page County Schoolbus Garage		Nelson Gochenour
Facility Type	Release	Closed Storage Tank Release	Closed Storage Tank Release	RCRA	Closed Storage Tank Release	Closed Storage Tank Release	Closed Storage Tank Release	RCRA	Closed Storage Tank Release	RCRA	Closed Storage Tank Release	Closed Storage Tank Release	Closed Storage Tank Release	Closed Storage Tank Release	Closed Storage Tank Release	RCRA	Other PSC
Contaminant Type		Inorganics, SOCs, VOCs	Inorganics, SOCs, VOCs	Site Specific	Inorganics, SOCs, VOCs	Inorganics, SOCs, VOCs	Inorganics, SOCs, VOCs	Site Specific	Inorganics, SOCs, VOCs	Site Specific	Inorganics, SOCs, VOCs	Inorganics, SOCs, VOCs	Inorganics, SOCs, VOCs	Inorganics, SOCs, VOCs	Inorganics, SOCs, VOCs	Site Specific	Inorganics, SOCs, VOCs
Distance to Source (miles)		0.75	0.77	0.81	0.82	0.82	0.82	0.83	0.85	0.85	0.85	0.89	0.90	0.91	0.91	0.92	0.97
Map ID D		15 0.	16 0.	17 0.	18 0.	19 0.	20 0.	21 0.	22 0.	23 0.	24 0.	25 0.	26 0.	27 0.	28 0.	29 0.	30 0.

Page 2 of 2 2139330 HUDSON SPRING

Potential Sources of Contamination Inventory   Country/Clyr, PAGE COUNTY   Waterworks: LURAY, TOWN CF   Power   Powe			VIRGI	NIA DEPARTMENT OF	VIRGINIA DEPARTMENT OF HEALTH - OFFICE OF DRINKING WATER	ATER
City: PAGE COUNTY         Waterworks: LIRAY, TOWN OF         PWSID: 2139330         Source III           ad by:         Date:         Reviewed by:         Reviewed by:           Distance to Source (miles)         Contaminant Type         Facility Type         Property Owner/Business Name           0.02         Inorganics, Microbial, Rabics, SWOCS, WOCS         Underground Inpection Well Inpection SOCS, WOCS         Closed Storage Tank Release         Mrangler/blue Bell Inpection SOCS, WOCS         Closed Storage Tank Release         Mrangler/blue Bell Inpection SOCS, WOCS         Release           0.43         Sittle Specific         RCRAA         Invay Tire Center         Release           0.44         Inorganics, SOCS, WOCS         Closed Storage Tank Release         Amateur Rest Motors           0.45         Inorganics, SOCS, WOCS         Closed Storage Tank Release         Amateur Release           0.45         Inorganics, SOCS, WOCS         Closed Storage Tank Release         Amateur Release           0.45         Inorganics, SOCS, WOCS         Closed Storage Tank Release         Amateur Release           0.45         Inorganics, SOCS, WOCS			Pote	ential Sources o	f Contamination Invento	ory
politation         Date:         Reviewed by:           Distance to Source (miles)         Contaminant Type         Facility Type         Property Owner/Business Name           0.02         Inorganics, Microbial, RADS, SOCs, VOCs         Underground Injection Well UTILITIES         TOWN OF LURAY MUNICIPAL           0.38         Inorganics, Microbial, RADS, SOCs, VOCs         Injection Well UTILITIES         VALLEY AUTO SALES           0.38         Site Specific         Industrial Site         O'SULLIVAN CORP.           0.38         Site Specific         Industrial Site         M'ALLEY AUTO SALES           0.39         Site Specific         Industrial Site         O'SULLIVAN CORP.           0.39         Inorganics, SOCs, VOCs         Closed Storage Tank         Wrangler/blue Bell           0.41         Inorganics, SOCs, VOCs         Closed Storage Tank         Luray Tire Center           0.42         Site Specific         Release         Release           0.43         Inorganics, SOCs, VOCs         Closed Storage Tank         Mapoc Express 4029           0.45         Inorganics, SOCs, VOCs         Closed Storage Tank         East Coast #29           0.46         Inorganics, SOCs, VOCs         Closed Storage Tank         Release           0.46         Inorganics, SOCs, VOCs         Closed Storage Tank	È	City: PAGE COUNTY		ЭF		
Distance to Source (miles)         Contaminant Type         Facility Type         Property Owner/Business Name           0.02         RADS, SOCs, VOCS         Underground Injection Well         TOWN OF LURAY MUNICIPAL           0.36         Inorganics, Microbial, RADS, SOCs, VOCS         Injection Well         VALLEY AUTO SALES           0.38         Site Specific         Industrial Site         EMCS CS, VOCS           0.38         Site Specific         Industrial Site         EMCO ENITER PRISES INC           0.39         Inorganics, SOCS, VOCS         Closed Storage Tank         Wrangler/blue Bell           0.41         Inorganics, SOCS, VOCS         Closed Storage Tank         P And J Tire           0.43         Site Specific         Release         Release           0.44         Inorganics, SOCS, VOCS         Closed Storage Tank         Mapoc Express 4029           0.45         Inorganics, SOCS, VOCS         Closed Storage Tank         Release           0.45         Inorganics, SOCS, VOCS         Closed Storage Tank         Release           0.45         Site Specific         Release           0.45         Site Specific         Release           0.46         Site Specific         Release           0.48         Inorganics, SOCS, VOCS         Closed Storage Tank	ıat	ed by:	Date:		Reviewed by:	Date:
Inorganics, Microbial, Underground TOWN OF LURAY MUNICIPAL RADS, SOCS, VOCs Injection Well UTILITIES Inorganics, Microbial, Underground VALLEY AUTO SALES RADS, SOCS, VOCs Injection Well Site Specific Industrial Site EMCO ENTERPRISES INC Inorganics, SOCs, VOCs Closed Storage Tank Wrangler/blue Bell Release Inorganics, SOCs, VOCs Closed Storage Tank Wrangler/blue Bell Release Inorganics, SOCs, VOCs Closed Storage Tank Mapco Express 4029 Release Inorganics, SOCs, VOCs Closed Storage Tank Mapco Express 4029 Inorganics, SOCs, VOCs Closed Storage Tank Mapco Express 4029 Release Inorganics, SOCs, VOCs Closed Storage Tank Mapco Express 4029 Release Inorganics, SOCs, VOCs Closed Storage Tank Release Site Specific RCRA Inorganics, SOCs, VOCs Closed Storage Tank Fast Coast #29 Release Site Specific RCRA Inorganics, SOCs, VOCs RCRA	□			Facility Type	Property Owner/Business Name	Mailing Address/Location
Inorganics, Microbial, Underground VALLEY AUTO SALES RADS, SOCS, VOCS Site Specific Industrial Site PAD Site Specific Industrial Site PAD Site Specific Industrial Site FMCO ENTERPRISES INC Release Inorganics, SOCS, VOCS Closed Storage Tank Wrangler/blue Bell Release Inorganics, SOCS, VOCS Closed Storage Tank Pand J Tire Release Site Specific RCRA Inorganics, SOCS, VOCS Closed Storage Tank Release Site Specific RCRA RCRA Inorganics, SOCS, VOCS Closed Storage Tank Romer R & K Motors Release Site Specific RCRA Inorganics, SOCS, VOCS Release Site Specific RCRA		0.02	Inorganics, Microbial, RADs, SOCs, VOCs	Underground Injection Well	TOWN OF LURAY MUNICIPAL UTILITIES	45 EAST MAIN STREET LURAY VA 00000
Site Specific Industrial Site O'SULLIVAN CORP.  Site Specific Industrial Site O'SULLIVAN CORP.  Site Specific Industrial Site EMCO ENTERPRISES INC  Inorganics, SOCs, VOCs Closed Storage Tank Wrangler/blue Bell Release Inorganics, SOCs, VOCs Closed Storage Tank Release Site Specific RCRA Inorganics, SOCs, VOCs Closed Storage Tank Release Inorganics, SOCs, VOCs Closed Storage Tank Mapco Express 4029 Release Inorganics, SOCs, VOCs Closed Storage Tank Release Site Specific RCRA Inorganics, SOCs, VOCs Closed Storage Tank Rast Coast #29 Release Site Specific RCRA Inorganics, SOCs, VOCs Closed Storage Tank Rast Coast #29 Release Site Specific RCRA Inorganics, SOCs, VOCs Closed Storage Tank Rast Coast #29 Release Site Specific RCRA Inorganics, SOCs, VOCs RCRA Inorganics, SOCs, VOCs RCRA Inorganics, SOCs, VOCS RCRA Inorganics, SOCs, VOCS RCRA		0.36	Inorganics, Microbial, RADs, SOCs, VOCs	Underground Injection Well	VALLEY AUTO SALES	904 E MAIN ST LURAY VA 22835-
Site Specific Industrial Site   O'SULLIVAN CORP.  Site Specific Industrial Site   EMCO ENTERPRISES INC  Inorganics, SOCs, VOCs   Closed Storage Tank   Wrangler/blue Bell   Release   Inorganics, SOCs, VOCs   Closed Storage Tank   P And J Tire   Release   Inorganics, SOCs, VOCs   Closed Storage Tank   East End Texaco   Release   Inorganics, SOCs, VOCs   Closed Storage Tank   Mapco Express 4029   Release   Inorganics, SOCs, VOCs   Closed Storage Tank   Mapco Express 4029   Release   Inorganics, SOCs, VOCs   Closed Storage Tank   East Coast #29   Site Specific   RCRA   Inorganics, SOCs, VOCs   Closed Storage Tank   Former R & K Motors   Release   Site Specific   RCRA   Inorganics, SOCs, VOCs   Closed Storage Tank   Former R & K Motors   Release   Site Specific   RCRA   Inorganics, SOCs, VOCs   RCRA   Release   Site Specific   RCRA   Release   RCRA   R		0.38	Site Specific	RCRA		
Inorganics, SOCs, VOCs  Release Inorganics, SOCs, VOCs Release Inorganics, SOCs, VOCs Release Inorganics, SOCs, VOCs Release Inorganics, SOCs, VOCs Release Inorganics, SOCs, VOCs Release Inorganics, SOCs, VOCs Release Inorganics, SOCs, VOCs Release Inorganics, SOCs, VOCs Release Inorganics, SOCs, VOCs Release Inorganics, SOCs, VOCs Release Inorganics, SOCs, VOCs Release Inorganics, SOCs, VOCs Release Inorganics, SOCs, VOCs Release Site Specific RCRA Inorganics, SOCs, VOCs RCRA Inorganics, SO		0.38	Site Specific	Industrial Site	O'SULLIVAN CORP.	31 STONEY BROOK LANE LURAY VA 22835-9066
Inorganics, SOCs, VOCs Closed Storage Tank Wrangler/blue Bell Release Inorganics, SOCs, VOCs Closed Storage Tank P And J Tire Release Inorganics, SOCs, VOCs Closed Storage Tank Luray Tire Center Release Inorganics, SOCs, VOCs Closed Storage Tank Mapco Express 4029 Release Inorganics, SOCs, VOCs Closed Storage Tank Mapco Express 4029 Release Inorganics, SOCs, VOCs Closed Storage Tank Release Site Specific RCRA Inorganics, SOCs, VOCs Closed Storage Tank Release Site Specific RCRA Inorganics, SOCs, VOCs Release Site Specific RCRA Storage Tank Router R & K Motors Release		0.38	Site Specific	Industrial Site	EMCO ENTERPRISES INC	31 STONEYBROOK LANE LURAY VA 22835-9066
Inorganics, SOCs, VOCs Release Inorganics, SOCs, VOCs Release Inorganics, SOCs, VOCs Site Specific Inorganics, SOCs, VOCs Site Specific RCRA Inorganics, SOCs, VOCs Release Inorganics, SOCs, VOCs Release Inorganics, SOCs, VOCs Release Inorganics, SOCs, VOCs Release Inorganics, SOCs, VOCs RCRA Inorganics, SOCs RCRA Inorganic		0.38				
Inorganics, SOCs, VOCs Closed Storage Tank Release Site Specific RCRA Inorganics, SOCs, VOCs Closed Storage Tank Rase Inorganics, SOCs, VOCs Release Inorganics, SOCs, VOCs Closed Storage Tank Mapco Express 4029 Release Inorganics, SOCs, VOCs Closed Storage Tank Release Site Specific RCRA Inorganics, SOCs, VOCs Closed Storage Tank Release Site Specific RCRA Inorganics, SOCs, VOCs Release Site Specific RCRA Inorganics, SOCs, VOCs Release Site Specific RCRA Inorganics, SOCs, VOCs Release Site Specific RCRA		0.39	Inorganics, SOCs, VOCs	Closed Storage Tank Release	Wrangler/blue Bell	101 Blue Bell Avenue Luray VA 22835
Inorganics, SOCs, VOCs  Site Specific  RCRA Inorganics, SOCs, VOCs  Inorganics, SOCs, VOCs  Site Specific  RCRA Inorganics, SOCs, VOCs  Release Inorganics, SOCs, VOCs  Site Specific  RCRA Inorganics, SOCs, VOCs  Release		0.41	Inorganics, SOCs, VOCs	Closed Storage Tank Release	P And J Tire	1338 E Main St Luray VA 22835
Site Specific RCRA Inorganics, SOCs, VOCs Closed Storage Tank East End Texaco Release Inorganics, SOCs, VOCs Closed Storage Tank Mapco Express 4029 Release Inorganics, SOCs, VOCs Closed Storage Tank East Coast #29 Release Site Specific RCRA Inorganics, SOCs, VOCs Closed Storage Tank Former R & K Motors Release Site Specific RCRA RCRA		0.41	Inorganics, SOCs, VOCs	Closed Storage Tank Release	Luray Tire Center	1128 E Main St Luray VA 22835
Inorganics, SOCs, VOCs Release Inorganics, SOCs, VOCs Release Inorganics, SOCs, VOCs Release Inorganics, SOCs, VOCs Release Site Specific RCRA Inorganics, SOCs, VOCs Release Site Specific RCRA Site Specific RCRA Release Release Release Release RCRA RCRA RCRA RCRA Site Specific RCRA RCRA		0.43	Site Specific	RCRA		
Inorganics, SOCs, VOCs Release Inorganics, SOCs, VOCs Release Site Specific RCRA Inorganics, SOCs, VOCs Site Specific RCRA Release Site Specific RCRA Release Release RCRA Release RCRA Release		0.44	Inorganics, SOCs, VOCs	Closed Storage Tank Release	East End Texaco	717 E Main St Luray VA 22835
Inorganics, SOCs, VOCs Closed Storage Tank East Coast #29 Release Site Specific RCRA Inorganics, SOCs, VOCs Closed Storage Tank Former R & K Motors Release Site Specific RCRA		0.45	Inorganics, SOCs, VOCs	Closed Storage Tank Release	Mapco Express 4029	725 E Main St Luray VA 22835
Site Specific RCRA Inorganics, SOCs, VOCs Closed Storage Tank Former R & K Motors Release Site Specific RCRA		0.45	Inorganics, SOCs, VOCs	Closed Storage Tank Release	East Coast #29	725 E Main St Luray VA 22835
Inorganics, SOCs, VOCs Closed Storage Tank Former R & K Motors Release Site Specific RCRA		0.46	Site Specific	RCRA		
Site Specific		0.49	Inorganics, SOCs, VOCs	Closed Storage Tank Release	Former R & K Motors	633 E Main St Luray VA 22835
		0.52	Site Specific	RCRA		

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Mailing Address/Location	610 E Main St Luray VA 22835	610 E Main St Luray VA 22835	610 E Main St Luray VA 22835		10 Wallace Ave Luray VA 22835	Hill House Road Luray VA 22835			12 Blue Ridge Ave Luray VA 22835		E Main St Luray VA 22835	320 North Hawksbill Street Luray VA 22835	26 N Broad St Luray VA 22835	2 West Main St Luray VA 22835	
Property Owner/Business Name	7-Eleven #15904 - Luray	7-Eleven Store 15904	7-Eleven 15904		Wallace Computer Services	Virginia Oak Tannery			Randy Arrington Residence		Mcconnell/Texaco	Wrangler - Luray	Luray Motor Company	Knizewski Property	
Facility Type	Closed Storage Tank Release	Closed Storage Tank Release	Closed Storage Tank Release	RCRA	Closed Storage Tank Release	Closed Storage Tank Release	RCRA	RCRA	Closed Storage Tank Release	RCRA	Closed Storage Tank Release	Closed Storage Tank Release	Closed Storage Tank Release	Closed Storage Tank Release	RCRA
Contaminant Type	Inorganics, SOCs, VOCs	Inorganics, SOCs, VOCs	Inorganics, SOCs, VOCs	Site Specific	Inorganics, SOCs, VOCs	Inorganics, SOCs, VOCs	Site Specific	Site Specific	Inorganics, SOCs, VOCs	Site Specific	Inorganics, SOCs, VOCs	Inorganics, SOCs, VOCs	Inorganics, SOCs, VOCs	Inorganics, SOCs, VOCs	Site Specific
Distance to Source (miles)	0.53	0.53	0.53	0.53	0.58	0.73	0.80	0.87	0.89	0.89	06.0	0.91	0.91	0.95	96:0
Map ID	17 (	18	19 (	20 (	21 (	22 (	23 (	24 (	25 (	76 (	27 (	28 (	29 (	30 (	31 (

2139330 WELL NO. 6

## VIRGINIA DEPARTMENT OF HEALTH - OFFICE OF DRINKING WATER

# POTENTIAL SOURCES OF CONTAMINATION SUMMARY

County\City: <null> PWSID: <null> Source ID: <null>

Facility: <null> Waterworks: <null>

Facilty Type	Zone 1 Count	Zone 2 Count	Total
	0	0	0
Closed Storage Tank Release	0	4	4
Industrial Site	0	4	4
RCRA	1	1	2
Underground Injection Well	0	2	2
Sum	1	11	12

<null> <null> Page 1 of 1

## VIRGINIA DEPARTMENT OF HEALTH - OFFICE OF DRINKING WATER

# POTENTIAL SOURCES OF CONTAMINATION SUMMARY

County\City: PAGE COUNTY PWSID: 2139330 Source ID: SP002

Facility: HUDSON SPRING Waterworks: LURAY, TOWN OF

Facilty Type	Zone 1 Count	Zone 2 Count	Total
Closed Storage Tank Release	0	18	18
Hospital	0	1	1
Other PSC	0	1	1
RCRA	0	7	7
RMW Steam Sterlizer [SW]	0	2	2
RMW Storage Facility [SW]	0	1	1
Sum	0	30	30

2139330 HUDSON SPRING Page 1 of 1

## VIRGINIA DEPARTMENT OF HEALTH - OFFICE OF DRINKING WATER

# POTENTIAL SOURCES OF CONTAMINATION SUMMARY

County\City: <null> PWSID: <null> Source ID: <null>

Facility: <null> Waterworks: <null>

Facilty Type	Zone 1 Count	Zone 2 Count	Total
	0	0	0
Closed Storage Tank Release	0	17	17
Industrial Site	0	2	2
RCRA	0	9	9
Underground Injection Well	1	1	2
Sum	1	29	30

<null> <null> Page 1 of 1

# Source Water Assessment Program Updated: February 01, 2018

Available Via	https://gdg.sc.egov.usda.gov/	http://www.deq.virginia.gov/ConnectWithDEQ/VEGIS/VEGISDatase ts.aspx	Carlos Martnez Program Coordinator - Recycling & Waste Tire Management Virginia Department of Environmental Quality 629 E. Main Street, Richmond, VA 23219 Toll Free: 1-800-592-5482 804-350-9962 Direct carlos.martinez@deq.virginia.gov	https://www.dmme.virginia.gov/webmaps/DGO/	Discharge: http://www.epa.gov/enviro/geo_data.html  No Discharge: Betsy K. Bowles Animal Feeding Operations Program Coordinator Virginia Department of Environmental Quality 629 East Main Street Richmond, VA 23219 804-698-4059 Direct 804-698-4032 Fax	http://www.epa.gov/enviro/geo_data.html	http://www.epa.gov/enviro/geo_data.html	http://www.epa.gov/enviro/geo_data.html
Date Posted	Y Z	12/01/2022	02/05/2023		02/25/2023	02/28/2015	6/22/2015	6/22/2015
Layer	Ned10m36075e7.ti f	degswro (Petroleum Releases)	tirepiles	oil_gas_wells	discharge_nodischa rge	hazrcra	industrial_sites	superfund
Organization	USDA	DEQ	DEQ	DMME	EPA/DEQ	EPA	EPA	EPA
Class	DEM	PSC	PSC	PSC	PSC	PSC	PSC	PSC





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# Source Water Assessment Program

Updated: February 01, 2018

Date Available Via Posted	10/27/2015 Mark Nelson, Hydrologist US EPA Wheeling Office 1060 Chapline Street Wheeling, WV 26003 304.234.0286	4/16/2014 Stephen Gigliotti Chief of Coal Mine Health & Safety 202-693-9479 Direct 202-693-9558 Fax gigliotti.stephen@dol.gov	6/6/2011 http://www.dgif.virginia.gov/gis/data/	Special Projects Engineer Special Projects Engineer Virginia Department of Health, Office of Drinking Water James Madison Building 109 Governor St, Room 628 Richmond, VA 23219 804-864-7516 Direct roy.soto@vdh.virginia.gov	4/13/2012 <a href="http://www.vdh.virginia.gov/EnvironmentalHealth/ONSITE/MARIN">http://www.vdh.virginia.gov/EnvironmentalHealth/ONSITE/MARIN</a> <a href="http://www.vdh.virginia.gov/EnvironmentalHealth/ONSITE/MARIN">http://www.vdh.virginia.gov/EnvironmentalHealth/ONSITE/MARIN</a> <a href="http://www.vdh.virginia.gov/EnvironmentalHealth/ONSITE/MARIN">http://www.vdh.virginia.gov/EnvironmentalHealth/ONSITE/MARIN</a>	5/31/2012
Layer Da	uic 10/27	mines 4/16,	boat_ramps 6/6/	lua 20	marinas 4/13,	airports 5/31
Organization	EPA	MSHA	VDGIF bo	VDH	VDH	VEDP
Class	PSC	PSC	PSC	PSC	PSC	PSC





# Source Water Assessment Program Updated: February 01, 2018

Date Available Via Posted	1/23/2013 Graham Truelove Data Warehouse Supervisor Virginia Department of Health Office of Information Management and Health IT 109 Governor Street, 449 Richmond, Virginia 23219 Phone: 804-864-7226 Mobile: 703-344-3150 Email: Graham.Truelove@vdh.virginia.gov	8/7/2013	7/1/2008	2/1/2018 Mary Mahoney Environmetntal Health Specialist Consultant Virginia Department of Health, Office of Drinking Water James Madison Building 109 Governor St, Room 628 Richmond, VA 23219 804-864-7516 Direct roy.soto@vdh.virginia.gov	3/22/2015 <a href="http://www.dcr.virginia.gov/natural-neritage/document/conslands.zip">http://www.dcr.virginia.gov/natural-neritage/document/conslands.zip</a>	10/14/2009 http://www.dcr.virginia.gov/soil-and-water/hu	2021 http://www.deq.virginia.gov/ConnectWithDEQ/VEGIS/VEGISDatase	11/28/2011 http://www.arcgis.com/home/item.html?id=2d34b6e577d9435ca2
Layer	hospitals	landfills	Virginia_golf_cours es	Water Sources	conslands	Watersheds_nwbd	Impaired	Sinkholes
Organization	VDH	VEDP	ESRI	VDH	DCR	DCR	DEQ	DGMR
Class	PSC	PSC	PSC	Public Water Supplies	Reference	Reference	Reference	Reference





for

# Source Water Assessment Program

Updated: February 01, 2018

Class	Organization	Layer	Date Posted	Available Via
Reference	NBN	Land Use	3/1/2017	http://gismaps.vita.virginia.gov/arcgis/rest/services/VA Base layer s/VA Land Cover/MapServer
Reference	EIA	pipelines_petroleu mproduct	12/15/2014	http://www.eia.gov/maps/map data/PetroleumProduct Pipelines US EIA.zip
Reference	EIA	pipelines_naturalg as	03/11/2016	http://www.eia.gov/maps/map data/NaturalGas InterIntrastate Pipelines US EIA.zip
Reference	FEMA	floodplains	05/16/2016	http://msc.fema.gov/portal/advanceSearch
Reference	FWS	nwi_wetlands	05/12/2016	http://www.fws.gov/wetlands/Downloads/State/VA_wetlands.zip
Reference	NSGS	geophysical	2005	http://pubs.usgs.gov/of/2005/1325/#VA
Reference	NSGS	geophysical_karst	08/01/2014	http://pubs.usgs.gov/of/2014/1156/downloads/USKarstMap.zip
Reference	NSGS	streams_nhd and	4/14/2016	ftp://nhdftp.usgs.gov/DataSets/Staged/States/FileGDB/HighResolut
		waterbodies_nhd		/uoi





Land Use	Typical Contaminants <sup>1,2,3</sup>	Contaminant Types	
COMMERCIAL / INDUSTRIAL			
Auction lots	Livestock sewage wastes; nitrates; phosphates; coliform and noncoliform bacteria; giardia, viruses; total dissolved solids	Inorganics	
Automotive Body shops/repair shops	Waste oils; solvents; acids; paints; automotive wastes <sup>4</sup> ; miscellaneous cutting oils		
Car washes	Soaps; detergents, waxes; miscellaneous chemicals	Inorganics, SOCs, VOCs	
Gas stations	oils; solvents; gasoline, diesel, miscellaneous wastes, lead		
Boat Services/repair/refinishing	Diesel fuels; oil; septage from boat waste disposal area; wood preservative and treatment chemicals; paints; waxes; varnishes; automotive wastes <sup>4</sup>	Inorganics, SOCs, VOCs	
Cement / concrete plants	Diesel fuels; solvents; oils; miscellaneous wastes	Inorganics, SOCs, VOCs	
Dry cleaners	Solvents (perchloroethylene, petroleum solvents, Freon); spotting chemicals (trichloroethane, methyl chloroform, ammonia, peroxides, hydrochloric acid, rust removers, amyl acetate)	VOCs	
Electrical/electronic manufacturing	Cyanides; metal sludges; caustic (chromic acid); solvents; oils; alkalis; acids; paints and paint sludges; calcium fluoride sludges; methylene chloride; perchloroethylene; trichloroethane; acetone; methanol; toluene; PCBs	Inorganics, SOCs, VOCs	
Food processing / Animal Slaughtering	Nitrates; salts; phosphorus; miscellaneous food wastes; chlorine; ammonia; ethylene glycol	Inorganics, Microbial, VOCs, SOCs	
Funeral homes and Mortuaries	External corporeal wash water, internal body fluids, as well as residual arterial embalming chemicals (formaldehyde, phenol, and methanol	Inorganics, Microbial, SOCs, VOCs	
Furniture repair/manufacturing	Paints; solvents; degreasing and solvent recovery sludges; lacquers; sealants	Inorganics, SOCs, VOCs	
Hardware/lumber/parts stores	Hazardous chemical products in inventories; heating oil and fork lift fuel from storage tanks; wood-staining and treating products such as creosote; paints; thinners; lacquers; varnishes	Inorganics, SOCs, VOCs	
Home manufacturing	Solvents; paints; glues and other adhesives; waste insulation; lacquers; tars; sealants; epoxy wastes; miscellaneous chemical wastes	Inorganics, SOCs, VOCs	
Hospitals/Research laboratories	X-ray developers and fixers <sup>8</sup> ; infectious wastes; radiological biological wastes, disinfectants; asbestos; beryllium; solvents; infectious materials; drugs; disinfectants; (quaternary ammonia, hexachlorophene, peroxides, chlorhexidine, bleach); and miscellaneous chemical wastes.	Inorganics, Microbial, RADs, SOCs, VOCs	
Junk/scrap/salvage yards	Automotive wastes <sup>4</sup> ; PCB contaminated wastes; any wastes from businesses <sup>6</sup> and households <sup>7</sup> ; oils; lead	Inorganics, SOCs, VOCs	
Machine shops	Solvents; metals; miscellaneous organics; sludges; oily metal shavings; lubricant and cutting oils; degreasers (tetrachloroethylene); metal marking fluids; mold-release agents	Inorganics, SOCs, VOCs	
Medical/vet offices	X-ray developers and fixers <sup>8</sup> ; infectious wastes; radiological wastes; biological wastes; disinfectants; asbestos; beryllium; dental acids; variable miscellaneous chemicals	Inorganics, Microbial, RADs, SOCs, VOCs	
Metal plating/finishing/ fabricating	Sodium and hydrogen cyanide; metallic salts; hydrochloric acid; sulfuric acid; chromic acid; boric acid; paint wastes; heavy metals; plating wastes; oils; solvents	Inorganics, SOCs, VOCs	
Military installations	Wide variety of hazardous and nonhazardous wastes depending on the nature of the facility and operation <sup>9</sup> ; diesel fuels; jet fuels; solvents; paints; waste oils; heavy metals; radioactive wastes	Inorganics, RADs, SOCs, VOCs	

Office buildings/complexes	Building wastes <sup>6</sup> ; lawn and garden maintenance chemicals <sup>5</sup> ; gasoline; motor oil	Inorganics, SOCs, VOCs
Parking lots/malls	Hydrocarbons; heavy metals; building wastes <sup>6</sup>	Inorganics, SOCs, VOCs
Pharmaceutical	TSS, oil & grease, fecal coliform, volatile organic compounds, nonconventional pollutants.	Microbial, SOCs, VOCs
Photo processing, print shop	Ethanol, isopropanol, ethylene glycol, xylene, toluene, cyclohexanone, petroleum products, volatile organic compounds, lead, chromium, silver, cadmium, and barium,	Inorganics, SOCs, VOCs
Textiles	Scouring alkali waste, oils, surfactants, lubricants, dye, bleaching (hydrogen peroxide, sodium hypochlorite, sodium chlorite, sulfur dioxide), caustic soda, salts	Inorganics, SOCs
Wood preserving/treating	Wood preservatives; creosote, pentachlorophenol, arsenic, dioxin.	Dioxin, Inorganics, SOCs
Wood/pulp/paper processing and mills	Metals; acids; minerals; sulfides; other hazardous and nonhazardous chemicals <sup>9</sup> ; organic sludges; sodium hydroxide; chlorine; hypochlorite; chlorine dioxide; hydrogen peroxide; treated wood residue (copper quinolate, mercury, sodium azide); tanner gas; paint sludges; solvents; creosote; coating and gluing wastes, dioxin.	Dioxin, Inorganics, SOCs
Chemical Processing / Storage		
Above/Below ground storage tanks	Heating oil; diesel fuel; gasoline; other chemicals	Inorganics, SOCs, VOCs
Chemical/petroleum processing/storage	Hazardous chemicals; solvents; hydrocarbons; heavy metals; asphalt	Inorganics, SOCs, VOCs
Coal Gasification Facility	Gas loss, leaching of residual products found in ash residue in the spent gasification cavity (calcium, sodium, sulfate, bicarbonate, metals), condensed liquids (BTEX, phenolic compounds, Polycyclic aromatic hydrocarbons (PAHs) and heterocyclic compounds.	Inorganics, SOCs, VOCs
Pesticide / Herbicide / Fertilizer Manufacture / Distribution / Storage	Wide variety of hazardous and nonhazardous wastes depending on the nature of the facility.	Inorganics, SOCs, VOCs
Plastics/synthetics producers	Solvents; oils; miscellaneous organic and inorganics (phenols, resins); paint wastes; cyanides; acids; alkalis; wastewater treatment sludges; cellulose esters; surfactant; glycols; phenols; formaldehyde; peroxides; etc.	Inorganics, SOCs, VOCs
Disposal		
Solid Waste Collection / Transfer Site	Wide variety of contaminants depending on the historical use. Anthropogenic waste (toxic metals, hydrocarbons, chlorinated hydrocarbons, surfactant-derived compounds, phthalates, pharmaceutical chemicals. Biological waste (ammonia, dissolved organic carbon, aliphatic compounds, phenols, derivates of abietic acid)	Inorganics, Microbial, SOCs, VOCs
Hazardous Waste Recovery Facility / Waste Transfer / Storage / Disposal and Superfund Sites	Wide variety of contaminants depending on historical use.	Inorganics, Microbial, RADs SOCs, VOCs
Resource Extraction		
Shale Gas extraction / Coalbed methane extractions / Tight sands hydraulic fracturing	Total dissolved solids, fracturing fluid additives: acids, biocides, gel agents, clay stabilizers, corrosion inhibitors, pH adjusting agents, scale inhibitors, surfactants; metals, naturally occurring radioactive materials.	Inorganics, RADs, SOCs, VOCs
Mines/gravel pits	Mine spills or tailings that often contain metals; acids; highly corrosive mineralized waters; metal sulfides; metals; acids; minerals sulfides; other hazardous and nonhazardous chemicals <sup>9</sup>	Inorganics, RADs, VOCs
NON-INDUSTRIAL		
Golf courses	Fertilizers <sup>12</sup> ; herbicides <sup>11</sup> ; pesticides for controlling mosquitoes, ticks, ants, gypsy moths, and other pests <sup>5</sup>	Inorganics, SOCs, VOCs
Transportation		

Airports (maintenance/fueling areas)	Jet fuels; deicers; diesel fuel; chlorinated solvents; automotive wastes; heating oil; building wastes 6	VOCs
Barge and Vessel Traffic	Fuel, miscellaneous wastes; oil; variable transported materials	Inorganics, Microbial, RADs, SOCs, VOCs
Boat ramps and marinas	Gasoline, diesel, miscellaneous wastes, lead, waste oil; solvents; gasoline and diesel fuel from vehicles and storage tanks; fuel oil; other automotive wastes <sup>4</sup> ; deicing products; variable transported materials	Inorganics, SOCs, VOCs
Fleet / trucking / bus terminals	Waste oil; solvents; gasoline and diesel fuel from vehicles and storage tanks; fuel oil; other automotive wastes <sup>4</sup>	Inorganics, SOCs, VOCs
Primary Roadways / Truck Terminals	Gasoline, diesel, miscellaneous wastes, lead, waste oil; solvents; gasoline and diesel fuel from vehicles and storage tanks; fuel oil; other automotive wastes <sup>4</sup> ; deicing products; variable transported materials	Inorganics, Microbial, RADs SOCs, VOCs
Railroad tracks / yards / maintenance / fueling areas	Diesel fuel; herbicides for rights-of-way <sup>11</sup> ; creosote from preserving wood ties; solvents; paints; waste oils	Inorganics, Microbial, RADs SOCs, VOCs
Agriculture		
Crop and Fodder Production/ Specialty Crop Production/Nursery	Pesticides, herbicides, fertilizers, nitrates.	Inorganics, SOCs, VOCs
Feeding Operations/Aguaculture	Nutrients: nitrogen, ammonia, and phosphorus; organic matter; pathogens; parasites, bacteria, and viruses; solid matter; pesticides and hormones; antibiotics, metals	Inorganics, Microbial
Land Disposal		
Cemetery	Microbiological contaminants including <i>Staphylococcus spp.</i> , <i>Bacillus spp., Enterobacteriaceae spp.</i> , fecal streptococci, <i>Clostridium spp.</i> , <i>Helicobacter pylori</i> , enteroviruses, rotavirus, calicivirus; arsenic, mercury, formaldehyde, copper, lead, zinc.	Inorganics, Microbial, SOCs
Injection wells/drywells/sumps	Stormwater runoff; spilled liquids; used oils; antifreeze; gasoline; solvents; other petroleum products; pesticides <sup>11</sup> ; and a wide variety	Inorganics, Microbial, RADs, SOCs, VOCs
Landfills/dumps (active and closed)	Leachate; organic and inorganic chemical contaminants; waste from households <sup>7</sup> and businesses <sup>6</sup> ; nitrates; oils; metals; solvents; sludge	Inorganics, Microbial, SOCs, VOCs
Septic systems	Nitrates; septage; Cryptosporidium; Giardia; coliform <sup>10</sup> and noncoliform bacteria; viruses; drain cleaners; solvents; heavy metals; synthetic detergents; cooking and motor oils; bleach; pesticides; <sup>5,13</sup> paints; paint thinner; swimming pool chemicals; <sup>14</sup> septic tank/cesspool cleaner chemicals <sup>15</sup> ; elevated levels of chloride, sulfate, calcium, magnesium, potassium, and phosphate; other household hazardous wastes <sup>7</sup>	Inorganics, Microbial
Utilities		
Urban stormwater management infrastructure	TSS, pesticides and fertilizers, animal waste, metals, oil and grease/hydrocarbons, bacteria and viruses, nitrogen and phosphorus,	Inorganics, Microbial, SOCs, VOCs
Utility stations/maintenance areas	PCBs from transformers and capacitors; oils; solvents; sludges; acid solution; metal plating solutions (chromium, nickel, cadmium); herbicides from utility rights-of-way	Dioxin, SOCs
Wastewater treatment facilities	Municipal wastewater; sludge <sup>16</sup> ; treatment chemicals <sup>17</sup> ; nitrates; heavy metals; coliform <sup>10</sup> and noncoliform bacteria; nonhazardous wastes <sup>16</sup>	Inorganics, Microbial, SOCs, VOCs

### NOTES

<sup>&</sup>lt;sup>1</sup> This table lists the most common wastes, but not all potential wastes. For example, it is not possible to list all potential contaminants contained in stormwater runoff or from military installations.

<sup>&</sup>lt;sup>2</sup> In general, water contamination stems from the misuse and improper disposal of liquid and solid wastes; the illegal dumping or abandonment of household, commercial, or industrial chemicals; the accidental spilling of chemicals from trucks, railways, aircraft, handling facilities, and storage tanks; or the improper siting, design, construction, operation, or maintenance of agricultural, residential, municipal, commercial, and industrial

drinking water wells and liquid and solid waste disposal facilities. Contaminants also can stem from atmospheric pollutants, such as airborne sulfur and nitrogen compounds, which are created by smoke, flue dust, aerosols, and automobile emissions, fall as acid rain, and percolate through the soil. When the contaminants list in this table are used and managed properly, environmental contamination is not likely to occur.

<sup>&</sup>lt;sup>3</sup> Contaminants can reach water bodies from activities occurring on the land surface, such as industrial waste storage; from sources below the land surface but above the water table, such as septic systems; from structures beneath the water table, such as wells; or from contaminated recharge water.

<sup>&</sup>lt;sup>4</sup>Automobile wastes can include gasoline; antifreeze; automatic transmission fluid; battery acid; engine and radiator flushes; engine and metal degreasers; hydraulic (brake) fluid; and motor oils.

<sup>&</sup>lt;sup>5</sup> Common pesticides used for lawn and garden maintenance (i.e., weed killers, and mite, grub, and aphid controls) include such chemicals as 2,4-D; chlorpyrifos; diazinon; benomyl; captan; dicofol; and methoxychlor.

<sup>&</sup>lt;sup>6</sup> Common wastes from public and commercial buildings include automotive wastes; and residues from cleaning products that may contain chemicals such a xylenols, glycol esters, isopropanol, 1,1,1-trichloroethane, sulfonates, chlorinated phenols, and cresols.

<sup>&</sup>lt;sup>7</sup> Household hazardous wastes are common household products which contain a wide variety of toxic or hazardous.

<sup>&</sup>lt;sup>8</sup> X-ray developers and fixers may contain reclaimable silver, glutaraldehyde, hydroquinone, potassium bromide, sodium sulfite, sodium carbonate, thiosulfates, and potassium alum.

<sup>&</sup>lt;sup>9</sup> The Resource Conservation and Recovery Act (RCRA) defines a hazardous waste as a solid waste that may cause an increase in mortality or serious illness or pose a substantial threat to human health and the environment when improperly treated, stored, transported, disposed of, or otherwise managed. A waste is hazardous if it exhibits characteristics of ignitability, corrosivity, reactivity, and/or toxicity. Not covered by RCRA regulations are domestic sewage; irrigation waters or industrial discharges allowed by the Clean Water Act; certain nuclear and mining wastes; household wastes; agricultural wastes (excluding some pesticides); and small quantity hazardous wastes (i.e., less than 220 pounds per month) generated by businesses.

<sup>&</sup>lt;sup>10</sup> Coliform bacteria can indicate the presence of pathogenic (disease-causing) microorganisms that may be transmitted in human feces. Diseases such as typhoid fever, hepatitis, diarrhea, and dysentery can result from sewage contamination of drinking water supplies.

<sup>&</sup>lt;sup>11</sup> Pesticides include herbicides, insecticides, rodenticides, fungicides and avicides. EPA has registered approximately 50,000 different pesticide products for use in the United States. Many are highly toxic and quite mobile in the subsurface. An EPA survey found that the most common pesticides found in drinking water wells were DCPA (dacthal) and atrazine, which EPA classifies as moderately toxic (class 3) and slightly toxic (class 4) materials, respectively

<sup>&</sup>lt;sup>12</sup> The EPA National Pesticides Survey found that the use of fertilizers correlates to nitrate contamination of groundwater supplies.

<sup>&</sup>lt;sup>13</sup> Common household pesticides for controlling pests such as ants, termites, bees, wasps, flies, cockroaches, silverfish, mites, ticks, fleas, worm, rates, and mice can contain active ingredients include naphthalene, phosphorus, xylene, chloroform, heavy metals, chlorinated hydrocarbons, arsenic, strychnine, kerosene, nitrosamines, and dioxin.

<sup>&</sup>lt;sup>14</sup> Swimming pool chemicals can contain free and combined chlorine; bromine; iodine; mercury-based, copper-based, and quaternary algaecides; cyanuric acid; calcium or sodium hypochlorite; muriatic acid; sodium carbonate.

<sup>&</sup>lt;sup>15</sup> Septic tank/cesspool cleaners include synthetic organic chemicals such as 1,1,1 trichloroethane, tetrachloroethylene, carbon tetrachloride, and methylene chloride.

<sup>&</sup>lt;sup>16</sup> Municipal wastewater treatment sludge can contain organic matter, nitrates; inorganic salts, heavy metals; coliform and noncoliform bacteria; and viruses

<sup>&</sup>lt;sup>17</sup> Municipal wastewater treatment chemicals include calcium oxide; alum; activated alum, carbon, and silica; polymers; ion exchange resins; sodium hydroxide; chlorine; ozone; and corrosion inhibitors.