Source Water Assessment

A Hydrogeologic Susceptibility and Vulnerability Assessment for The Fort Yukon Drinking Water System, Fort Yukon, Alaska

PWSID # 360256.001

June 2004

DRINKING WATER PROTECTION PROGRAM REPORT 1342
Alaska Department of Environmental Conservation

Source Water Assessment for
The Fort Yukon
Drinking Water System
Fort Yukon, Alaska

PWSID # 360256.001

DRINKING WATER PROTECTION PROGRAM REPORT 1342

The Drinking Water Protection Program (DWPP) is producing Source Water Assessments in compliance with the Safe Drinking Water Act Amendments of 1996. Each assessment includes a delineation of the source water area, an inventory of potential and existing contaminant sources that may impact the water, a risk ranking for each of these contaminants, and an evaluation of the potential vulnerability of these drinking water sources.

These assessments are intended to provide public water systems owners/operators, communities, and local governments with the best available information that may be used to protect the quality of their drinking water. The assessments combine information obtained from various sources, including the U.S. Environmental Protection Agency, Alaska Department of Environmental Conservation (ADEC), public water system owners/operators, and other public information sources. The results of this assessment are subject to change if additional data becomes available. It is anticipated this assessment will be updated every five years to reflect any changes in the vulnerability and/or susceptibility of public drinking water source. If you have any additional information that may affect the results of this assessment, please contact the Program Coordinator of DWPP, (907) 269-7521.

CONTENTS

TABLES

APPENDICES

Source Water Assessment for the Fort Yukon Source of Public Drinking Water, Fort Yukon, Alaska

Drinking Water Protection Program
Alaska Department of Environmental Conservation

EXECUTIVE SUMMARY

The community of Fort Yukon has one Public Water System (PWS) well. The well (PWS No. 360256.001) has been used as a drinking water source since it was drilled in 1978.

The well is a Class A (community and non-transient non-community) water system located on the north bank of the Yukon River. Available records indicate that there is secondary storage of drinking water, with a capacity of 120,000-gallons, and that the drinking water source is treated with calcium hypochlorite. This system operates year round and serves approximately 650 residents through 260 service connections. The wellhead received a susceptibility rating of **Very High** and the aquifer received a susceptibility rating of **High**. Combining these two ratings produce a **Very High** rating for the natural susceptibility of the well.

Identified potential and current sources of contaminants for the public drinking water source include water treatment facilities, fuel tanks, cemeteries, ADEC recognized contaminated sites, landfills, airports, power generation facilities, and bulk fuel facilities. A detailed inventory is located on Table 1 of Appendix B. These identified potential and existing sources of contamination are considered as sources of bacteria and viruses, nitrates and/or nitrites, volatile organic chemicals, heavy metals, cyanide and other inorganic chemicals, synthetic organic chemicals, and other organic chemicals contaminant categories.

Overall, the water well received a vulnerability rating of **Very High** for the bacteria and viruses, nitrates and nitrites, volatile organic chemicals, heavy metals, cyanide and other inorganic chemicals, synthetic organic chemicals, and other organic chemicals.

PUBLIC DRINKING WATER SYSTEM

The Fort Yukon well is a Class A (community/non-transient/non-community) public water system. The system located on the north bank of the Yukon River just north of Yllota Slough in Fort Yukon, Alaska (Sec. 18, T020N, R012E, Fairbanks Meridian; see Map A of Appendix A). Fort Yukon is located approximately 145 air miles northeast of Fairbanks. Fort Yukon has a population of 574 (ADCED, 2003). Average annual precipitation in Fort Yukon is 6.58 inches, including approximately 43.4 inches of snowfall. Temperatures range from the 65-72's°F in summer and –0°F in the winter.

Piped water and sewer are provided to most of the community, and the remaining residents have individual wells, haul water and use honeybuckets or septic tanks (ADCED, 2003). Fort Yukon receives electrical power from the Gwitchyaa Zhee Utility. Power generating facilities are fueled by diesel. Refuse is collected by the City and disposed of by the City and Military operated landfill (ADCED, 2003).

According to information supplied by ADEC for the Fort Yukon PWS, the depth of the well is 60 feet below the ground surface. Well construction details were not available in ADEC records, however it is assumed that the well is completed in a confined aquifer, is not screened and is located within a floodplain.

Information acquired from a January 2001 sanitary survey for the public water system indicated that the land surface was not sloped away from the well. Generally, land surfaces that slope away from the wellhead promote surface water drainage, which reduces the potential of contaminant migration down the well casing annulus. The sanitary survey indicates that the well is not grouted according to ADEC regulations. Proper grouting provides added protection against contaminants traveling along the well casing annulus and into source waters.

Fort Yukon lies within the Yukon Flats of the intermountain plateau physiographic province. The region is characterized by shallow lakes, broad valleys, oxbow lakes, meander scars, and lowland basins floored with alluvial deposits. Fort Yukon is located on the north side of the Yukon River, east of the Porcupine River. Alluvial soils up to several hundred feet thick may overlie bedrock in this area.

This area is underlain by discontinuous permafrost.

The soils generally consist of organic silt overlying a gravelly, clayey, silty fine sand (Shannon & Wilson, 1992).

DRINKING WATER PROTECTION AREA

In order to evaluate whether a drinking water source is at risk, we must first evaluate what are the most likely pathways for surface contamination to reach the groundwater. These areas are determined by looking at the characteristics of the soil, groundwater, aquifer, and well.

The most probable area for contamination to reach the drinking water well is the area that contributes water to the well, the groundwater recharge area. This area is designated as the drinking water protection area (DWPA). Because releases of contaminants within the protection area are most likely to impact the drinking water well, this area will serve as the focus for voluntary protection efforts. An analytical calculation was used to determine the size and shape of the DWPA for the Fort Yukon PWS. The input parameters describing the attributes of the aquifer in this calculation were adopted from Groundwater (Freeze and Cherry, 1979). Available geology and groundwater contours were also considered to take into account any uncertainties in groundwater flow and aquifer characteristics to arrive at a meaningful protection area.

The protection areas established for wells by the ADEC are usually separated into four zones, limited by the watershed. These zones correspond to differences in the time-of-travel (TOT) of the water moving through the aquifer to the well (Please refer to the Guidance Manual for Class A Public Water Systems for additional information).

The time of travel for contaminants within the water varies and is dependent on the physical and chemical characteristics of each contaminant. The following is a summary of the four protection area zones for wells and the calculated time-of-travel for each:

Table 1. Definition of Zones

Zone	Definition
A	¼ the distance for the 2-yr. time-of-travel
B	Less than the 2 year time-of-travel
C	Less Than the 5 year time-of-travel
D	Less than the 10 year time-of-travel

The DWPA for the Fort Yukon PWS was determined using an analytical calculation and includes Zones A, and D to the boundary of the watershed (See Map A of Appendix A).

INVENTORY OF POTENTIAL AND EXISTING CONTAMINANT SOURCES

The Drinking Water Protection Program has completed an inventory of potential and existing sources of contamination within the Fort Yukon DWPA. This inventory was completed through a search of agency records and other publicly available information. Potential sources of contamination to the drinking water aquifer include a wide range of categories and types. Potential drinking water contaminants are found within agricultural, residential, commercial, and industrial areas, but can also occur within areas that have little or no development.

For the basis of all Class A public water system assessments, six categories of drinking water contaminants were inventoried. They include:

- Bacteria and viruses,
- Nitrates and/or nitrites,
- Volatile organic chemicals,
- Heavy metals, cyanide and other inorganic chemicals,
- Synthetic organic chemicals,
- Other organic chemicals.

The sources are displayed on Map C of Appendix C and summarized in Table 1 of Appendix B.

RANKING OF CONTAMINANT RISKS

Once the potential and existing sources of contamination have been identified, they are assigned a ranking according to what type and level of risk they represent. Ranking of contaminant risks for a "potential" or "existing" source of contamination is a function of toxicity and volumes of specific contaminants associated with that source. Rankings include:

- Low,
- Medium,
- High, and
- Very High.

The time-of-travel for contaminants within the water varies and is dependent on the physical and chemical characteristics of each contaminant. Bacteria and Viruses are only inventoried in Zones A and B because of their short life span. Only "Very High" and "High" rankings are inventoried within the outer

Zone D due to the probability of contaminant dilution by the time the contaminants get to the well. Tables 2 through 7 in Appendix B contain the ranking of potential and existing sources of contamination with respect to bacteria and viruses, nitrates and/or nitrites, volatile organic chemicals, heavy metals, cyanide and other inorganic chemicals, synthetic organic chemicals, and other organic chemicals.

VULNERABILITY OF THE DRINKING WATER SYSTEM

Vulnerability of a drinking water source to contamination is a combination of two factors:

- Natural susceptibility, and
- Contaminant risks.

Appendix D contains fourteen charts, which together form the 'Vulnerability Analysis' for a source water assessment for a public drinking water source. Chart 1 analyzes the 'Susceptibility of the Wellhead' to contamination by looking at the construction of the well and its surrounding area. Chart 2 analyzes the 'Susceptibility of the Aquifer' to contamination by looking at the naturally occurring attributes of the water source and influences on the groundwater system that might lead to contamination. Chart 3 analyzes 'Contaminant Risks' for the drinking water source with respect to bacteria and viruses. The 'Contaminant Risks' portion of the analysis considers potential sources of contaminants as well as a review of contamination that has or may have occurred, but has not arrived or been detected at the well. Chart 4 contains the 'Vulnerability Analysis for Bacteria and Viruses'. Charts 5 through 14 contain the Contaminant Risks and Vulnerability Analyses for nitrates and nitrites, volatile organic chemicals, heavy metals, cyanide and other inorganic chemicals, synthetic organic chemicals, and other organic chemicals, respectively.

A score for the Natural Susceptibility is reached by considering the properties of the well and the aquifer.

Susceptibility of the Wellhead (0 – 25 Points)
(Chart 1 of Appendix D)

+

Susceptibility of the Aquifer (0 – 25 Points)
(Chart 2 of Appendix D)

=

Natural Susceptibility (Susceptibility of the Well)
(0 – 50 Points)

A ranking is assigned for the Natural Susceptibility according to the point score:

Natural Susceptibility Ratings	
40 to 50 pts	Very High
30 to < 40 pts	High
20 to < 30 pts	Medium
< 20 pts	Low

Fort Yukon's water well is assumed to be completed in a confined aquifer. Confined aquifers are less susceptible to potential groundwater quality impacts posed by the migration of surface water contaminants downward from the surface. Table 2 shows the susceptibility scores and ratings for this PWS.

Table 2. Susceptibility

	Score	**Rating**
Susceptibility of the Wellhead	25	Very High
Susceptibility of the Aquifer	19	High
Natural Susceptibility	44	Very High

Contaminant risks to a drinking water source depend on the type, number or density, and distribution of contaminant sources. This score has been derived from an examination of existing and historical contamination that has been detected at the drinking water source through routine sampling. It also evaluates potential sources of contamination. Flow charts are used to assign a point score, and ratings are assigned in the same way as for the natural susceptibility:

Table 3 summarizes the Contaminant Risks for each category of drinking water contaminants.

Contaminant Risk Ratings	
40 to 50 pts	Very High
30 to < 40 pts	High
20 to < 30 pts	Medium
< 20 pts	Low

Table 3. Contaminant Risks

Category	Score	Rating
Bacteria and Viruses	50	Very High
Nitrates and/or Nitrites	50	Very High
Volatile Organic Chemicals	50	Very High
Heavy Metals, Cyanide and Other Inorganic Chemicals	50	Very High
Synthetic Organic Chemicals	50	Very High
Other Organic Chemicals	50	Very High

Finally, an overall vulnerability score is assigned for each water system by combining each of the contaminant risk scores with the natural susceptibility score:

Natural Susceptibility (0 – 50 points)

+

Contaminant Risks (0 – 50 points)

=

Vulnerability of the Drinking Water Source to Contamination (0 – 100).

Again, rankings are assigned according to a point score:

Overall Vulnerability Ratings	
80 to 100 pts	Very High
60 to < 80 pts	High
40 to < 60 pts	Medium
< 40 pts	Low

Table 4 contains the overall vulnerability scores (0 – 100) and ratings for each of the six categories of drinking water contaminants. Note: scores are rounded off to the nearest five.

Table 4. Overall Vulnerability

Category	Score	Rating
Bacteria and Viruses	95	Very High
Nitrates and Nitrites	95	Very High
Volatile Organic Chemicals	95	Very High
Heavy Metals, Cyanide and Other Inorganic Chemicals	95	Very High
Synthetic Organic Chemicals	95	Very High
Other Organic Chemicals	95	Very High

Bacteria and Viruses

The contaminant risk for bacteria and viruses is **Very High**. The risk is primarily attributed to the presence of a sewage lagoon and landfill located in Zone A. Numerous other potential contamantant sources are also located within the protection area (see Table 2 – Appendix B).

Coliforms (a bacteria) are found naturally in the environment and although they aren't necessarily a health threat, they are an indicator of other potentially harmful bacteria in the water, more specifically, fecal coliforms and E. coli, which only come from human and animal fecal waste. Harmful bacteria can cause diarrhea, cramps, nausea, headaches, or other symptoms (EPA, 2002). Positive samples increase the overall vulnerability of the drinking water source, indicating that the source is susceptible to bacteria and virus contamination.

Positive bacteria counts have not been reported in recent (within five years) sampling events (See Chart 3 – Contaminant Risks for Bacteria and Viruses in Appendix D). Only a small amount of bacteria and viruses are required to endanger public health.

After combining the contaminant risk for bacteria and viruses with the natural susceptibility of the well, the overall vulnerability of the well to contamination is **Very High**.

Nitrates and Nitrites

The contaminant risk for nitrates and nitrites is **Very High.** The risk to this source of public drinking water is primarily attributed to the presence of a sewage lagoon, abandoned well and landfill located in Zone A. Numerous other potential contamantant sources are also located within the protection area (see Table 3 – Appendix B).

Nitrates are very mobile, moving at approximately the same rate as water. The sampling history for this well indicates that low levels of nitrates have been detected in recent sampling events, however have not exceeded the MCL of 10 mg/L. Nitrate concentrations in uncontaminated groundwater are typically less than 2 mg/L; therefore, nitrate concentrations above 2 mg/L may be indicative of man-made sources (See Chart 5 - Contaminant Risks for Nitrates and/or Nitrites in Appendix D).

Nitrate levels are often derived from the decomposition of organic matter in soils. Although the nitrate source is unknown, such occurrences may be attributed to septic systems or other sources as listed in Table 3 of Appendix B.

After combining the contaminant risk for nitrates and nitrites with the natural susceptibility of the well, the overall vulnerability of the well to nitrate and nitrite contamination is **Very High**.

Volatile Organic Chemicals

The contaminant risk for volatile organic chemicals is **Very High**. The risk is primarily attributed to the presence of a landfill, bulk fuel facilities and ADEC recognized contaminated sites located in Zone A (see Table 4 – Appendix B).

Recent sampling data for VOC's indicated the presence of total trihalomethanes (TTHM's). TTHM's are generally a byproduct of water treatment and are not indicative of source water conditions. Risk points were not assigned due to the TTHM's not exceeding the MCL in the most recent sampling events for Fort Yukon (See Chart 7 – Contaminant Risks for Volatile Organic Chemicals in Appendix D).

Possible sources of VOC's include facilities with automobiles, residential areas, fuel tanks, and roads. See Table 4 in Appendix B for a complete listing.

After combining the contaminant risk for volatile organic chemicals with the natural susceptibility of the well, the overall vulnerability of the well to contamination is **Very High**.

Heavy Metals, Cyanide and Other Inorganic Chemicals

The contaminant risk for heavy metals, cyanide and other inorganic chemicals is **Very High**. The risk is primarily attributed to the presence of lead and copper in recent sampling events and a landfill and an abandoned well located in Zone A (see Table 5 – Appendix B).

Based on review of recent sampling records for this public water system, high levels of copper and lead have been detected in recent sampling events and have exceeded their respective MCL's of 1.3 and 0.015 mg/L (see Chart 8 – Contaminant Risks for Heavy Metals, Cyanide, and Other Inorganic Chemicals in Appendix D).

The reported concentrations of copper and lead are likely attributable to the water distribution/conveyance system and are not likely indicative of source water conditions. Risk points were retained due to the MCL being exceeded in recent sampling events.

After combining the contaminant risk for heavy metals, cyanide and other inorganic chemicals with the natural susceptibility of the well, the overall vulnerability of the well to contamination is **Very High.**

Synthetic Organic Chemicals

The contaminant risk for synthetic organic chemicals is **Very High**. The risk is primarily attributed to the presence of a landfill in Zone A (see Table 6 – Appendix B).

No recent sampling data was available in ADEC records for the Fort Yukon (See Chart 11 – Contaminant Risks for Synthetic Organic Chemicals in Appendix D).

After combining the contaminant risk for synthetic organic chemicals with the natural susceptibility of the well, the overall vulnerability of the well to contamination is **Very High**.

Other Organic Chemicals

The contaminant risk for other organic chemicals is **Very High**. The risk is primarily attributed to the presence of a landfill in Zone A (see Table 7 – Appendix B).

No recent sampling data was available in ADEC records for the Fort Yukon (See Chart 13 – Contaminant Risks for Other Organic Chemicals in Appendix D).

After combining the contaminant risk for other organic chemicals with the natural susceptibility of the well, the overall vulnerability of the well to contamination is **Very High**.

Using the Source Water Assessment

This assessment of contaminant risks can be used as a foundation for local voluntary protection efforts as well as a basis for the continuous efforts on the part of the community of Fort Yukon to protect public health. It is anticipated that Source Water Assessments will be updated every five years to reflect any changes in the vulnerability and/or susceptibility of the drinking water source.

REFERENCES

Alaska Department of Community and Economic Development (ADCED), 2003 [WWW document]. URL: http://www.dced.state.ak.us/cbd/commdb/CF_COMDB.htm

Alaska Department of Environmental Conservation, Contaminated Sites Database, 2003 [WWW database], URL http://www.state.ak.us/dec/dspar/csites/cs_search.htm

Alaska Department of Environmental Conservation, Leaking Underground Storage Tank Database, 2003 [WWW database], URL http://www.dec.state.ak.us/spar/stp/ust/search/fac_search.asp

Freeze, R. A., and Cherry, J.A. 1979, Groundwater, Prentice-Hall, Englewood Cliffs, New Jersey

Shannon & Wilson, 1992. Information from Geotechnical Studies, Proposed Sewage Lagoon, Fort Yukon, Alaska, by Shannon & Wilson, Inc. dated July 1992.

United States Environmental Protection Agency (EPA), 2002 [WWW document]. URL http://www.epa.gov/safewater/mcl.html.

APPENDIX A

Drinking Water Protection Area Location Map
(Map A)

APPENDIX B

Contaminant Source Inventory and Risk Ranking (Tables 1-7)

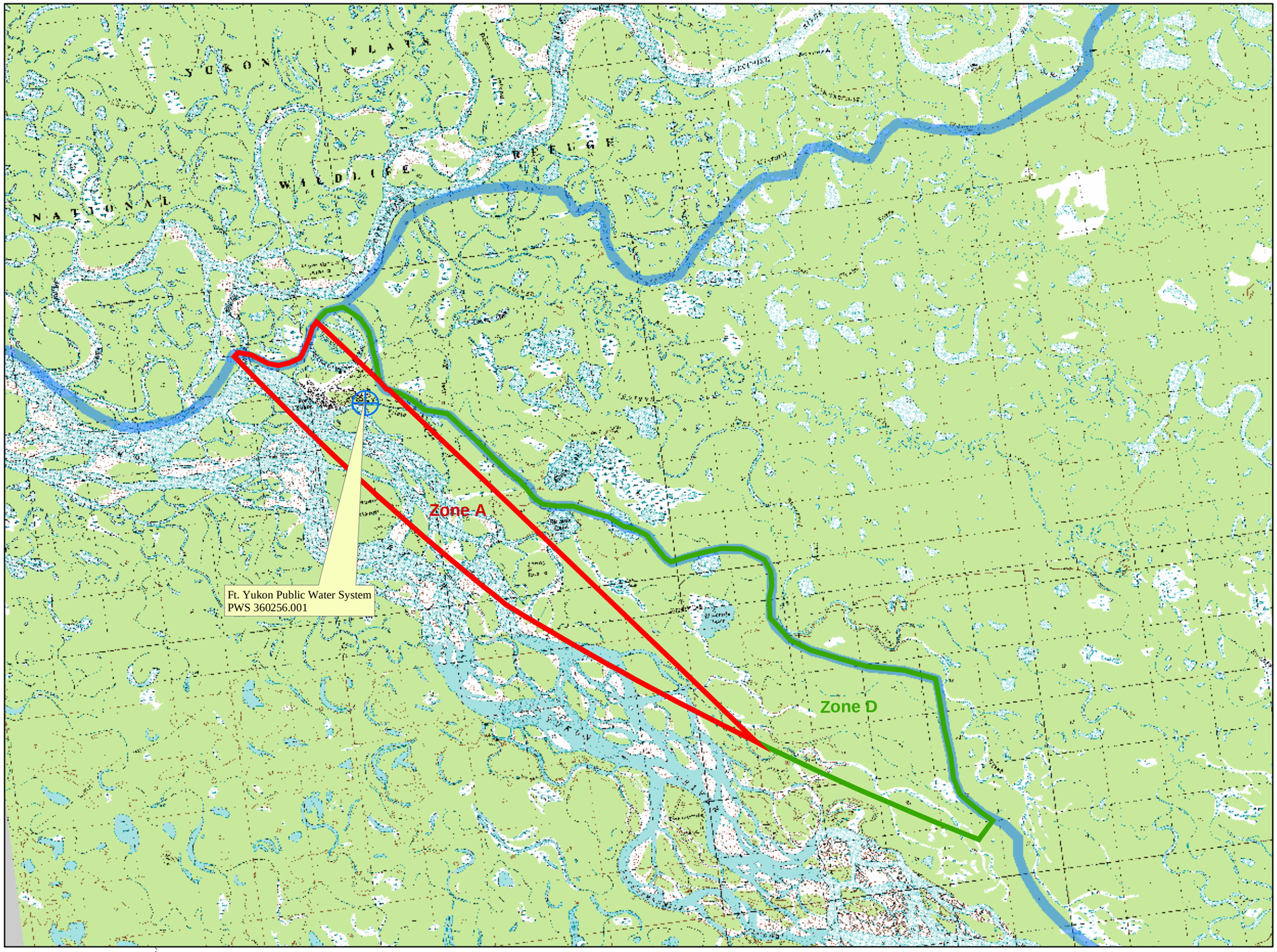
APPENDIX C

Drinking Water Protection Area
and Potential and Existing Contaminant Sources
(Map C)

APPENDIX D

Vulnerability Analysis for Public Drinking Water Source (Charts 1-14)

Public Water Well System for PWS #360256.001 Ft. Yukon Public Water System



LEGEND

- Public Water System Well

Hydrography/Physical

- Parcels
- Stream
- Lake or Pond
- Contours
- Watershed Boundary

Transportation

- Primary Route (Class 1)
- Secondary Route (Class 2)
- Road (Class 3)
- Road (Class 4)
- Road (Class 5, Four-wheel drive)

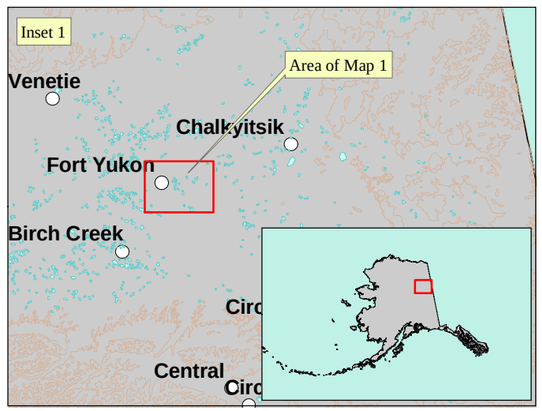
Groundwater Protection Zones

- Zone A Protection Area– Several Months Travel Time
- Zone D Protection Area– 10 Years Travel Time or watershed boundary

Data Sources:
Contaminant Sources, Public Water System Wells, Contours
Alaska Department of Environmental Conservation (ADEC)

All other data:
United States Geological Survey (USGS)
Drinking Water Protection Areas based on "Alaska Drinking Water Protection Program - Guidance Manual for Class A Public Water Systems" published by ADEC

URS Corporation does not guarantee the accuracy or validity of the data provided.



0 1.5 3 6 9 12 Miles

Ft. Yukon Public Water System
PWS 360256.001
Appendix A Map A

Table 1

Contaminant Source Inventory for

Ft. Yukon Public Water System

PWSID 360256.001

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Map Number*	*Comments*
Laundromats without dry cleaning	C22	C22-01	A	C	
Laundromats without dry cleaning	C22	C22-02	A	C	Washeteria
Motor /motor vehicle repair shops	C31	C31-01	A	C	Service/Maintenance Shop
Motor /motor vehicle repair shops	C31	C31-02	A	C	Service/Maintenance Shop
Motor /motor vehicle repair shops	C31	C31-03	A	C	Service/Maintenance Shop
Motor /motor vehicle repair shops	C31	C31-04	A	C	Service/Maintenance Shop
Motor /motor vehicle repair shops	C31	C31-05	A	C	Service/Maintenance Shop
Motor /motor vehicle repair shops	C31	C31-06	A	C	Service/Maintenance Shop
Motor /motor vehicle repair shops	C31	C31-08	A	C	
Domestic wastewater treatment plant disposal ponds/lagoons	D02	D02-01	A	C	Sewage Lagoon
Incinerators (municipal wastes)	D21	D21-01	A	C	Two composite soil samples collected found around
Landfills (municipal; Class III)	D51	D51-01	A	C	Landfill/Incinerator
Tanks, diesel (above ground)	T06	T06-01	A	C	Generator
Tanks, diesel (above ground)	T06	T06-02	A	C	Generator
Tanks, diesel (underground)	T08	T08-01	A	C	
Tanks, diesel (underground)	T08	T08-02	A	C	
Closed tanks, diesel (underground)	T09	T09-01	A	C	Not Listed
Tanks, gasoline (underground)	T12	T12-01	A	C	
Tanks, gasoline (underground)	T12	T12-02	A	C	
Tanks, heating oil, nonresidential (aboveground)	T14	T14-01	A	C	Power Generation Facility
Tanks, heating oil, nonresidential (aboveground)	T14	T14-02	A	C	Radio Transmitter

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Map Number*	*Comments*
Tanks, heating oil, nonresidential (aboveground)	T14	T14-03	A	C	Store
Tanks, heating oil, nonresidential (aboveground)	T14	T14-04	A	C	Telephone
Tanks, heating oil, nonresidential (aboveground)	T14	T14-05	A	C	Church
Tanks, heating oil, nonresidential (aboveground)	T14	T14-06	A	C	Church
Tanks, heating oil, nonresidential (aboveground)	T14	T14-07	A	C	Church
Tanks, heating oil, nonresidential (aboveground)	T14	T14-08	A	C	Community Hall
Tanks, heating oil, nonresidential (aboveground)	T14	T14-09	A	C	National Guard
Tanks, heating oil, nonresidential (aboveground)	T14	T14-10	A	C	Offices
Tanks, heating oil, nonresidential (aboveground)	T14	T14-11	A	C	Offices
Tanks, heating oil, nonresidential (aboveground)	T14	T14-12	A	C	Offices
Tanks, heating oil, nonresidential (aboveground)	T14	T14-13	A	C	Offices
Tanks, heating oil, nonresidential (aboveground)	T14	T14-14	A	C	Offices
Tanks, heating oil, nonresidential (aboveground)	T14	T14-15	A	C	Police Station
Tanks, heating oil, nonresidential (aboveground)	T14	T14-16	A	C	Post Office
Tanks, heating oil, nonresidential (aboveground)	T14	T14-17	A	C	Satellite
Tanks, heating oil, nonresidential (aboveground)	T14	T14-18	A	C	Satellite
Tanks, heating oil, nonresidential (aboveground)	T14	T14-19	A	C	Satellite
Tanks, heating oil, nonresidential (aboveground)	T14	T14-20	A	C	School
Tanks, heating oil, nonresidential (aboveground)	T14	T14-21	A	C	School
Tanks, heating oil, nonresidential (aboveground)	T14	T14-22	A	C	School
Tanks, heating oil, nonresidential (aboveground)	T14	T14-23	A	C	Senior Center
Tanks, heating oil, nonresidential (underground)	T16	T16-01	A	C	
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-01	A	C	Fort Yukon Federal Scout Armory. Petroleum contamination in soil.

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Map Number*	*Comments*
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-02	A	C	FAA Facility Incinerator.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-03	A	C	FAA Fort Yukon Utility Bldg. 601.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-04	A	C	FAA Fort Yukon Shop Bldg. 300.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-05	A	C	FAA Fort Yukon H Marker Fac. Reckey: 1992310928405. Status: Active. Soil samples indicated contamination as elevated levels of PAHs.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-06	A	C	Fort Yukon LRRS LUST - (.26) (SS06). Reckey: 199131X024803. Status: Closed. 6000 gallon Mogas tank was removed. Contamination was detected via EPA method 8100 EPH at 156 ppm.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-07	A	C	Fort Yukon LRRS -White Alice (OT05). Reckey: 198931X902528. Status: Closed. Waste oils which may have been mixed with fuel, chlorinated solvents, PCBs, and pesticides were reportedly applied to facility roads for dust control.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-08	A	C	Fort Yukon LRRS -Waste Accum (SS01). Reckey: 198931X102526. Status: Closed. POL contaminated soils.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-09	A	C	Fort Yukon LRRS -Power Plant (SS03). Reckey: 198931X102527. Status: Active. Pipeline and 10,000 gallon tank also suspected as source of extensive POL soil (10,000 - 25,000 mg/Kg) and groundwater contamination (120 mg/L).
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-10	A	C	Fort Yukon LRRS -Road Oiling (OT04). Reckey: 198931X902527. Status: Closed. Contaminants of concern include waste oil, fuel, chlorinated solvents, PCBs, and pesticides(DDT).
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-11	A	C	Alaska Commercial Company - Marina. Reckey: 1994310132602. Status: Closed. Approximately 175 cubic yards of diesel contaminated soil with maximum concentration of 2200 ppm.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-12	A	C	City of Fort Yukon Water Supply. Reckey: 1982310115301. Status: Inactive. 1974 diesel spill estimated at 2500 gallons contaminated infiltration gallery.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-13	A	C	City of Fort Yukon Water Supply. Reckey: 1982310115301. Status: Inactive. 1974 diesel spill estimated at 2500 gallons contaminated infiltration gallery.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-14	A	C	Fort Yukon LRRS -Waste Accum (SS01). Reckey: 198931X102526. Status: Closed. POL contaminated soils.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-15	A	C	Fort Yukon LRRS -Power Plant (SS03). Reckey: 198931X102527. Status: Active. Pipeline and 10,000 gallon tank also suspected as source of extensive POL soil (10,000 - 25,000 mg/Kg) and groundwater contamination (120 mg/L).
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-16	A	C	Fort Yukon LRRS (All Sites)

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Map Number*	*Comments*
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-17	A	C	Fort Yukon LRRS -Road Oiling (OT04). Reckey: 198931X902527. Status: Closed. Contaminants of concern include waste oil, fuel, chlorinated solvents, PCBs, and pesticides(DDT).
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-18	A	C	Fort Yukon LRRS -Landfill #1 (LF02). Reckey: 198931X902529. Status: Closed. 2 acre landfill may contain paints, lead, oils, and other wastes. Subsequent investigations established background concentrations of lead in both soils and groundwater.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-19	A	C	FAA Fort Yukon VORTAC. Reckey: 1991310120101. Status: Active. Abandoned 1100 gallon diesel tank and associated contaminated soil.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-20	A	C	Fort Yukon LRRS LUST - (.26) (SS06). Reckey: 199131X024803. Status: Closed. 6000 gallon Mogas tank was removed. Contamination was detected via EPA method 8100 EPH at 156 ppm.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-21	A	C	FAA Fort Yukon Quarters Facility. Reckey: 1992310128401. Status: Active. Bld 300 contamination (lead & DRPH) of floor drain and (PAHs) from drum storage area and stained soils. Bld 601 DRO, GRO, TPH, GRPH, DRPH, BTEX and PAHs found in soil samples.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-22	A	C	Alaska Village In. Old Warehouse. Reckey: 1994310132601. Status: Inactive. Diesel and possibly solvent-contaminated soils at Marina and Old Warehouse revealed in SA1 and SA2. Extent of contamination unknown at both, but appears limited.
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-01	A	C	
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-02	A	C	
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U08-01	A	C	On 9/5/91 a 6000 gal. Mogas tank was removed. Con
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U08-02	A	C	Two 3,000-gal. jet fuel USTs floated to surface i
Abandoned wells	W01	W01-01	A	C	
Water supply wells	W09	W09-01	A	C	
Cemeteries	X01	X01-01	A	C	Cemetery
Cemeteries	X01	X01-02	A	C	Cemetery
Cemeteries	X01	X01-03	A	C	
Municipal or city parks (with green areas)	X04	X04-01	A	C	Park
Petroleum product bulk station/terminals	X11	X01-04	A	C	

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Map Number*	*Comments*
Petroleum product bulk station/terminals	X11	X11-01	A	C	Fuel Storage Tanks (>500gal)
Airports	X14	X14-01	A	C	FORT YUKON MUNICIPAL
Airports	X14	X14-02	A	C	Airport
Boat yards and marinas	X15	X15-01	A	C	Harbor/Dock/Port
Highways and roads, paved (cement or asphalt)	X20	X20-01	A	C	Assume 1-20 roads in Zone A
Electric power generation (fossil fuels)	X36	X36-01	A	C	Power Generation Facility
Electric power generation (fossil fuels)	X36	X36-02	A	C	
Medical/veterinary facilities (doctor or dentist offices, hospitals, nursing homes)	X40	X40-02	A	C	
Motor /motor vehicle repair shops	C31	C31-07	D	C	Service/Maintenance Shop
Landfills (municipal; Class III)	D51	D51-01	D	C	Ft. Yukon AFS White Alice Station
Tanks, heating oil, nonresidential (aboveground)	T14	T14-24	D	C	Hospital/Clinic/ER
Tanks, heating oil, nonresidential (aboveground)	T14	T14-25	D	C	Radio Transmitter
Tanks, heating oil, nonresidential (aboveground)	T14	T14-26	D	C	Store
Tanks, heating oil, nonresidential (aboveground)	T14	T14-27	D	C	Teachers Quarters
Tanks, heating oil, nonresidential (aboveground)	T14	T14-28	D	C	School
Highways and roads, paved (cement or asphalt)	X20	X20-02	D	C	Assume 1-20 roads in Zone D
Medical/veterinary facilities (doctor or dentist offices, hospitals, nursing homes)	X40	X40-01	D	C	Hospital/Clinic/ER

Table 2

Contaminant Source Inventory and Risk Ranking for Ft. Yukon Public Water System Sources of Bacteria and Viruses

PWSID 360256.001

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Laundromats without dry cleaning	C22	C22-01	A	Low	C	
Laundromats without dry cleaning	C22	C22-02	A	Low	C	Washeteria
Domestic wastewater treatment plant disposal ponds/lagoons	D02	D02-01	A	High	C	Sewage Lagoon
Incinerators (municipal wastes)	D21	D21-01	A	Medium	C	Two composite soil samples collected found around
Landfills (municipal; Class III)	D51	D51-01	A	High	C	Landfill/Incinerator
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U08-01	A	Low	C	On 9/5/91 a 6000 gal. Mogas tank was removed. Con
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U08-02	A	Low	C	Two 3,000-gal. jet fuel USTs floated to surface i
Abandoned wells	W01	W01-01	A	Medium	C	
Municipal or city parks (with green areas)	X04	X04-01	A	Medium	C	Park
Highways and roads, paved (cement or asphalt)	X20	X20-01	A	Low	C	Assume 1-20 roads in Zone A
Medical/veterinary facilities (doctor or dentist offices, hospitals, nursing homes)	X40	X40-02	A	Medium	C	

Table 3

Contaminant Source Inventory and Risk Ranking for Ft. Yukon Public Water System Sources of Nitrates/Nitrites

PWSID 360256.001

Contaminant Source Type	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Map Number	Comments
Laundromats without dry cleaning	C22	C22-01	A	Low	C	
Laundromats without dry cleaning	C22	C22-02	A	Low	C	Washeteria
Domestic wastewater treatment plant disposal ponds/lagoons	D02	D02-01	A	High	C	Sewage Lagoon
Incinerators (municipal wastes)	D21	D21-01	A	Low	C	Two composite soil samples collected found around
Landfills (municipal; Class III)	D51	D51-01	A	Very High	C	Landfill/Incinerator
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U08-01	A	Low	C	On 9/5/91 a 6000 gal. Mogas tank was removed. Con
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U08-02	A	Low	C	Two 3,000-gal. jet fuel USTs floated to surface i
Abandoned wells	W01	W01-01	A	High	C	
Cemeteries	X01	X01-01	A	Medium	C	Cemetery
Cemeteries	X01	X01-02	A	Medium	C	Cemetery
Cemeteries	X01	X01-03	A	Medium	C	
Municipal or city parks (with green areas)	X04	X04-01	A	Medium	C	Park
Airports	X14	X14-01	A	Low	C	FORT YUKON MUNICIPAL
Airports	X14	X14-02	A	Low	C	Airport
Highways and roads, paved (cement or asphalt)	X20	X20-01	A	Low	C	Assume 1-20 roads in Zone A
Medical/veterinary facilities (doctor or dentist offices, hospitals, nursing homes)	X40	X40-02	A	Low	C	
Landfills (municipal; Class III)	D51	D51-01	D	Very High	C	Ft. Yukon AFS White Alice Station

Table 4

Contaminant Source Inventory and Risk Ranking for Ft. Yukon Public Water System Sources of Volatile Organic Chemicals

PWSID 360256.001

Contaminant Source Type	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Map Number	Comments
Laundromats without dry cleaning	C22	C22-01	A	Low	C	
Laundromats without dry cleaning	C22	C22-02	A	Low	C	Washeteria
Motor /motor vehicle repair shops	C31	C31-01	A	Medium	C	Service/Maintenance Shop
Motor /motor vehicle repair shops	C31	C31-02	A	Medium	C	Service/Maintenance Shop
Motor /motor vehicle repair shops	C31	C31-03	A	Medium	C	Service/Maintenance Shop
Motor /motor vehicle repair shops	C31	C31-04	A	Medium	C	Service/Maintenance Shop
Motor /motor vehicle repair shops	C31	C31-05	A	Medium	C	Service/Maintenance Shop
Motor /motor vehicle repair shops	C31	C31-06	A	Medium	C	Service/Maintenance Shop
Motor /motor vehicle repair shops	C31	C31-08	A	Medium	C	
Domestic wastewater treatment plant disposal ponds/lagoons	D02	D02-01	A	Low	C	Sewage Lagoon
Incinerators (municipal wastes)	D21	D21-01	A	Low	C	Two composite soil samples collected found around
Landfills (municipal; Class III)	D51	D51-01	A	High	C	Landfill/Incinerator
Tanks, diesel (above ground)	T06	T06-01	A	Medium	C	Generator
Tanks, diesel (above ground)	T06	T06-02	A	Medium	C	Generator
Tanks, diesel (underground)	T08	T08-01	A	High	C	
Tanks, diesel (underground)	T08	T08-02	A	High	C	
Closed tanks, diesel (underground)	T09	T09-01	A	Medium	C	Not Listed
Tanks, gasoline (underground)	T12	T12-01	A	High	C	
Tanks, gasoline (underground)	T12	T12-02	A	High	C	
Tanks, heating oil, nonresidential (aboveground)	T14	T14-01	A	Low	C	Power Generation Facility

Contaminant Source Type	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Map Number	Comments
Tanks, heating oil, nonresidential (aboveground)	T14	T14-02	A	Low	C	Radio Transmitter
Tanks, heating oil, nonresidential (aboveground)	T14	T14-03	A	Low	C	Store
Tanks, heating oil, nonresidential (aboveground)	T14	T14-04	A	Low	C	Telephone
Tanks, heating oil, nonresidential (aboveground)	T14	T14-05	A	Low	C	Church
Tanks, heating oil, nonresidential (aboveground)	T14	T14-06	A	Low	C	Church
Tanks, heating oil, nonresidential (aboveground)	T14	T14-07	A	Low	C	Church
Tanks, heating oil, nonresidential (aboveground)	T14	T14-08	A	Low	C	Community Hall
Tanks, heating oil, nonresidential (aboveground)	T14	T14-09	A	Low	C	National Guard
Tanks, heating oil, nonresidential (aboveground)	T14	T14-10	A	Low	C	Offices
Tanks, heating oil, nonresidential (aboveground)	T14	T14-11	A	Low	C	Offices
Tanks, heating oil, nonresidential (aboveground)	T14	T14-12	A	Low	C	Offices
Tanks, heating oil, nonresidential (aboveground)	T14	T14-13	A	Low	C	Offices
Tanks, heating oil, nonresidential (aboveground)	T14	T14-14	A	Low	C	Offices
Tanks, heating oil, nonresidential (aboveground)	T14	T14-15	A	Low	C	Police Station
Tanks, heating oil, nonresidential (aboveground)	T14	T14-16	A	Low	C	Post Office
Tanks, heating oil, nonresidential (aboveground)	T14	T14-17	A	Low	C	Satellite
Tanks, heating oil, nonresidential (aboveground)	T14	T14-18	A	Low	C	Satellite
Tanks, heating oil, nonresidential (aboveground)	T14	T14-19	A	Low	C	Satellite
Tanks, heating oil, nonresidential (aboveground)	T14	T14-20	A	Low	C	School
Tanks, heating oil, nonresidential (aboveground)	T14	T14-21	A	Low	C	School

Contaminant Source Type	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Map Number	Comments
Tanks, heating oil, nonresidential (aboveground)	T14	T14-22	A	Low	C	School
Tanks, heating oil, nonresidential (aboveground)	T14	T14-23	A	Low	C	Senior Center
Tanks, heating oil, nonresidential (underground)	T16	T16-01	A	Low	C	
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-01	A	High	C	Fort Yukon Federal Scout Armory. Petroleum contamination in soil.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-02	A	High	C	FAA Facility Incinerator.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-03	A	High	C	FAA Fort Yukon Utility Bldg. 601.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-04	A	High	C	FAA Fort Yukon Shop Bldg. 300.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-05	A	High	C	FAA Fort Yukon H Marker Fac. Reckey: 1992310928405. Status: Active. Soil samples indicated contamination as elevated levels of PAHs.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-06	A	High	C	Fort Yukon LRRS LUST - (.26) (SS06). Reckey: 199131X024803. Status: Closed. 6000 gallon Mogas tank was removed. Contamination was detected via EPA method 8100 EPH at 156 ppm.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-07	A	High	C	Fort Yukon LRRS -White Alice (OT05). Reckey: 198931X902528. Status: Closed. Waste oils which may have been mixed with fuel, chlorinated solvents, PCBs, and pesticides were reportedly applied to facility roads for dust control.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-08	A	High	C	Fort Yukon LRRS -Waste Accum (SS01). Reckey: 198931X102526. Status: Closed. POL contaminated soils.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-09	A	High	C	Fort Yukon LRRS -Power Plant (SS03). Reckey: 198931X102527. Status: Active. Pipeline and 10,000 gallon tank also suspected as source of extensive POL soil (10,000 - 25,000 mg/Kg) and groundwater contamination (120 mg/L).
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-10	A	High	C	Fort Yukon LRRS -Road Oiling (OT04). Reckey: 198931X902527. Status: Closed. Contaminants of concern include waste oil, fuel, chlorinated solvents, PCBs, and pesticides(DDT).
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-11	A	High	C	Alaska Commercial Company - Marina. Reckey: 1994310132602. Status: Closed. Approximately 175 cubic yards of diesel contaminated soil with maximum concentration of 2200 ppm.

Contaminant Source Type	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Map Number	Comments
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-12	A	High	C	City of Fort Yukon Water Supply. Reckey: 1982310115301. Status: Inactive. 1974 diesel spill estimated at 2500 gallons contaminated infiltration gallery.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-13	A	High	C	City of Fort Yukon Water Supply. Reckey: 1982310115301. Status: Inactive. 1974 diesel spill estimated at 2500 gallons contaminated infiltration gallery.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-14	A	High	C	Fort Yukon LRRS -Waste Accum (SS01). Reckey: 198931X102526. Status: Closed. POL contaminated soils.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-15	A	High	C	Fort Yukon LRRS -Power Plant (SS03). Reckey: 198931X102527. Status: Active. Pipeline and 10,000 gallon tank also suspected as source of extensive POL soil (10,000 - 25,000 mg/Kg) and groundwater contamination (120 mg/L).
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-16	A	High	C	Fort Yukon LRRS (All Sites)
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-17	A	High	C	Fort Yukon LRRS -Road Oiling (OT04). Reckey: 198931X902527. Status: Closed. Contaminants of concern include waste oil, fuel, chlorinated solvents, PCBs, and pesticides(DDT).
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-18	A	High	C	Fort Yukon LRRS -Landfill #1 (LF02). Reckey: 198931X902529. Status: Closed. 2 acre landfill may contain paints, lead, oils, and other wastes. Subsequent investigations established background concentrations of lead in both soils and groundwater.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-19	A	High	C	FAA Fort Yukon VORTAC. Reckey: 1991310120101. Status: Active. Abandoned 1100 gallon diesel tank and associated contaminated soil.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-20	A	High	C	Fort Yukon LRRS LUST - (.26) (SS06). Reckey: 199131X024803. Status: Closed. 6000 gallon Mogas tank was removed. Contamination was detected via EPA method 8100 EPH at 156 ppm.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-21	A	High	C	FAA Fort Yukon Quarters Facility. Reckey: 1992310128401. Status: Active. Bld 300 contamination (lead & DRPH) of floor drain and (PAHs) from drum storage area and stained soils. Bld 601 DRO, GRO, TPH, GRPH, DRPH, BTEX and PAHs found in soil samples.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-22	A	High	C	Alaska Village In. Old Warehouse. Reckey: 1994310132601. Status: Inactive. Diesel and possibly solvent-contaminated soils at Marina and Old Warehouse revealed in SA1 and SA2. Extent of contamination unknown at both, but appears limited.
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-01	A	High	C	

Table 4 (continued)

Contaminant Source Inventory and Risk Ranking for Ft. Yukon Public Water System

Sources of Volatile Organic Chemicals

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-02	A	High	C	
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U08-01	A	High	C	On 9/5/91 a 6000 gal. Mogas tank was removed. Con
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U08-02	A	High	C	Two 3,000-gal. jet fuel USTs floated to surface i
Abandoned wells	W01	W01-01	A	High	C	
Petroleum product bulk station/terminals	X11	X01-04	A	Very High	C	
Petroleum product bulk station/terminals	X11	X11-01	A	Very High	C	Fuel Storage Tanks (>500gal)
Airports	X14	X14-01	A	High	C	FORT YUKON MUNICIPAL
Airports	X14	X14-02	A	High	C	Airport
Boat yards and marinas	X15	X15-01	A	Low	C	Harbor/Dock/Port
Highways and roads, paved (cement or asphalt)	X20	X20-01	A	Low	C	Assume 1-20 roads in Zone A
Electric power generation (fossil fuels)	X36	X36-01	A	Medium	C	Power Generation Facility
Electric power generation (fossil fuels)	X36	X36-02	A	Medium	C	
Medical/veterinary facilities (doctor or dentist offices, hospitals, nursing homes)	X40	X40-02	A	Low	C	
Landfills (municipal; Class III)	D51	D51-01	D	High	C	Ft. Yukon AFS White Alice Station

Table 5

Contaminant Source Inventory and Risk Ranking for Ft. Yukon Public Water System Sources of Heavy Metals, Cyanide and Other Inorganic Chemicals

PWSID 360256.001

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Motor /motor vehicle repair shops	C31	C31-01	A	Medium	C	Service/Maintenance Shop
Motor /motor vehicle repair shops	C31	C31-02	A	Medium	C	Service/Maintenance Shop
Motor /motor vehicle repair shops	C31	C31-03	A	Medium	C	Service/Maintenance Shop
Motor /motor vehicle repair shops	C31	C31-04	A	Medium	C	Service/Maintenance Shop
Motor /motor vehicle repair shops	C31	C31-05	A	Medium	C	Service/Maintenance Shop
Motor /motor vehicle repair shops	C31	C31-06	A	Medium	C	Service/Maintenance Shop
Motor /motor vehicle repair shops	C31	C31-08	A	Medium	C	
Domestic wastewater treatment plant disposal ponds/lagoons	D02	D02-01	A	Low	C	Sewage Lagoon
Incinerators (municipal wastes)	D21	D21-01	A	High	C	Two composite soil samples collected found around
Landfills (municipal; Class III)	D51	D51-01	A	High	C	Landfill/Incinerator
Tanks, gasoline (underground)	T12	T12-01	A	Medium	C	
Tanks, gasoline (underground)	T12	T12-02	A	Medium	C	
Tanks, heating oil, nonresidential (aboveground)	T14	T14-01	A	Low	C	Power Generation Facility
Tanks, heating oil, nonresidential (aboveground)	T14	T14-02	A	Low	C	Radio Transmitter
Tanks, heating oil, nonresidential (aboveground)	T14	T14-03	A	Low	C	Store
Tanks, heating oil, nonresidential (aboveground)	T14	T14-04	A	Low	C	Telephone
Tanks, heating oil, nonresidential (aboveground)	T14	T14-05	A	Low	C	Church
Tanks, heating oil, nonresidential (aboveground)	T14	T14-06	A	Low	C	Church
Tanks, heating oil, nonresidential (aboveground)	T14	T14-07	A	Low	C	Church
Tanks, heating oil, nonresidential (aboveground)	T14	T14-08	A	Low	C	Community Hall

Contaminant Source Type	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Map Number	Comments
Tanks, heating oil, nonresidential (aboveground)	T14	T14-09	A	Low	C	National Guard
Tanks, heating oil, nonresidential (aboveground)	T14	T14-10	A	Low	C	Offices
Tanks, heating oil, nonresidential (aboveground)	T14	T14-11	A	Low	C	Offices
Tanks, heating oil, nonresidential (aboveground)	T14	T14-12	A	Low	C	Offices
Tanks, heating oil, nonresidential (aboveground)	T14	T14-13	A	Low	C	Offices
Tanks, heating oil, nonresidential (aboveground)	T14	T14-14	A	Low	C	Offices
Tanks, heating oil, nonresidential (aboveground)	T14	T14-15	A	Low	C	Police Station
Tanks, heating oil, nonresidential (aboveground)	T14	T14-16	A	Low	C	Post Office
Tanks, heating oil, nonresidential (aboveground)	T14	T14-17	A	Low	C	Satellite
Tanks, heating oil, nonresidential (aboveground)	T14	T14-18	A	Low	C	Satellite
Tanks, heating oil, nonresidential (aboveground)	T14	T14-19	A	Low	C	Satellite
Tanks, heating oil, nonresidential (aboveground)	T14	T14-20	A	Low	C	School
Tanks, heating oil, nonresidential (aboveground)	T14	T14-21	A	Low	C	School
Tanks, heating oil, nonresidential (aboveground)	T14	T14-22	A	Low	C	School
Tanks, heating oil, nonresidential (aboveground)	T14	T14-23	A	Low	C	Senior Center
Tanks, heating oil, nonresidential (underground)	T16	T16-01	A	Low	C	
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-01	A	Low	C	Fort Yukon Federal Scout Armory. Petroleum contamination in soil.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-02	A	Low	C	FAA Facility Incinerator.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-03	A	Low	C	FAA Fort Yukon Utility Bldg. 601.

Contaminant Source Type	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Map Number	Comments
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-04	A	Low	C	FAA Fort Yukon Shop Bldg. 300.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-05	A	Low	C	FAA Fort Yukon H Marker Fac. Reckey: 1992310928405. Status: Active. Soil samples indicated contamination as elevated levels of PAHs.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-06	A	Low	C	Fort Yukon LRRS LUST - (.26) (SS06). Reckey: 199131X024803. Status: Closed. 6000 gallon Mogas tank was removed. Contamination was detected via EPA method 8100 EPH at 156 ppm.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-07	A	Low	C	Fort Yukon LRRS -White Alice (OT05). Reckey: 198931X902528. Status: Closed. Waste oils which may have been mixed with fuel, chlorinated solvents, PCBs, and pesticides were reportedly applied to facility roads for dust control.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-08	A	Low	C	Fort Yukon LRRS -Waste Accum (SS01). Reckey: 198931X102526. Status: Closed. POL contaminated soils.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-09	A	Low	C	Fort Yukon LRRS -Power Plant (SS03). Reckey: 198931X102527. Status: Active. Pipeline and 10,000 gallon tank also suspected as source of extensive POL soil (10,000 - 25,000 mg/Kg) and groundwater contamination (120 mg/L).
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-10	A	Low	C	Fort Yukon LRRS -Road Oiling (OT04). Reckey: 198931X902527. Status: Closed. Contaminants of concern include waste oil, fuel, chlorinated solvents, PCBs, and pesticides(DDT).
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-11	A	Low	C	Alaska Commercial Company - Marina. Reckey: 1994310132602. Status: Closed. Approximately 175 cubic yards of diesel contaminated soil with maximum concentration of 2200 ppm.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-12	A	Low	C	City of Fort Yukon Water Supply. Reckey: 1982310115301. Status: Inactive. 1974 diesel spill estimated at 2500 gallons contaminated infiltration gallery.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-13	A	Low	C	City of Fort Yukon Water Supply. Reckey: 1982310115301. Status: Inactive. 1974 diesel spill estimated at 2500 gallons contaminated infiltration gallery.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-14	A	Low	C	Fort Yukon LRRS -Waste Accum (SS01). Reckey: 198931X102526. Status: Closed. POL contaminated soils.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-15	A	Low	C	Fort Yukon LRRS -Power Plant (SS03). Reckey: 198931X102527. Status: Active. Pipeline and 10,000 gallon tank also suspected as source of extensive POL soil (10,000 - 25,000 mg/Kg) and groundwater contamination (120 mg/L).
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-16	A	Low	C	Fort Yukon LRRS (All Sites)

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-17	A	Low	C	Fort Yukon LRRS -Road Oiling (OT04). Reckey: 198931X902527. Status: Closed. Contaminants of concern include waste oil, fuel, chlorinated solvents, PCBs, and pesticides(DDT).
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-18	A	Low	C	Fort Yukon LRRS -Landfill #1 (LF02). Reckey: 198931X902529. Status: Closed. 2 acre landfill may contain paints, lead, oils, and other wastes. Subsequent investigations established background concentrations of lead in both soils and groundwater.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-19	A	Low	C	FAA Fort Yukon VORTAC. Reckey: 1991310120101. Status: Active. Abandoned 1100 gallon diesel tank and associated contaminated soil.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-20	A	Low	C	Fort Yukon LRRS LUST - (.26) (SS06). Reckey: 199131X024803. Status: Closed. 6000 gallon Mogas tank was removed. Contamination was detected via EPA method 8100 EPH at 156 ppm.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-21	A	Low	C	FAA Fort Yukon Quarters Facility. Reckey: 1992310128401. Status: Active. Bld 300 contamination (lead & DRPH) of floor drain and (PAHs) from drum storage area and stained soils. Bld 601 DRO, GRO, TPH, GRPH, DRPH, BTEX and PAHs found in soil samples.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-22	A	Low	C	Alaska Village In. Old Warehouse. Reckey: 1994310132601. Status: Inactive. Diesel and possibly solvent-contaminated soils at Marina and Old Warehouse revealed in SA1 and SA2. Extent of contamination unknown at both, but appears limited.
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U08-01	A	Low	C	On 9/5/91 a 6000 gal. Mogas tank was removed. Con
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U08-02	A	Low	C	Two 3,000-gal. jet fuel USTs floated to surface i
Abandoned wells	W01	W01-01	A	Very High	C	
Cemeteries	X01	X01-01	A	Low	C	Cemetery
Cemeteries	X01	X01-02	A	Low	C	Cemetery
Cemeteries	X01	X01-03	A	Low	C	
Petroleum product bulk station/terminals	X11	X01-04	A	Low	C	
Municipal or city parks (with green areas)	X04	X04-01	A	Low	C	Park

Contaminant Source Inventory and Risk Ranking for
Ft. Yukon Public Water System
Sources of Heavy Metals, Cyanide and Other Inorganic Chemicals

Contaminant Source Type	***Contaminant Source ID***	***CS ID tag***	***Zone***	***Risk Ranking for Analysis***	***Map Number***	***Comments***
Petroleum product bulk station/terminals	X11	X11-01	A	Low	C	Fuel Storage Tanks (>500gal)
Airports	X14	X14-01	A	Low	C	FORT YUKON MUNICIPAL
Airports	X14	X14-02	A	Low	C	Airport
Boat yards and marinas	X15	X15-01	A	Low	C	Harbor/Dock/Port
Highways and roads, paved (cement or asphalt)	X20	X20-01	A	Low	C	Assume 1-20 roads in Zone A
Electric power generation (fossil fuels)	X36	X36-01	A	Medium	C	Power Generation Facility
Electric power generation (fossil fuels)	X36	X36-02	A	Medium	C	
Medical/veterinary facilities (doctor or dentist offices, hospitals, nursing homes)	X40	X40-02	A	Low	C	
Landfills (municipal; Class III)	D51	D51-01	D	High	C	Ft. Yukon AFS White Alice Station

Table 6

Contaminant Source Inventory and Risk Ranking for Ft. Yukon Public Water System Sources of Synthetic Organic Chemicals

PWSID 360256.001

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Domestic wastewater treatment plant disposal ponds/lagoons	D02	D02-01	A	Low	C	Sewage Lagoon
Incinerators (municipal wastes)	D21	D21-01	A	Medium	C	Two composite soil samples collected found around
Landfills (municipal; Class III)	D51	D51-01	A	Very High	C	Landfill/Incinerator
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-01	A	Low	C	Fort Yukon Federal Scout Armory. Petroleum contamination in soil.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-02	A	Low	C	FAA Facility Incinerator.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-03	A	Low	C	FAA Fort Yukon Utility Bldg. 601.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-04	A	Low	C	FAA Fort Yukon Shop Bldg. 300.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-05	A	Low	C	FAA Fort Yukon H Marker Fac. Reckey: 1992310928405. Status: Active. Soil samples indicated contamination as elevated levels of PAHs.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-06	A	Low	C	Fort Yukon LRRS LUST - (.26) (SS06). Reckey: 199131X024803. Status: Closed. 6000 gallon Mogas tank was removed. Contamination was detected via EPA method 8100 EPH at 156 ppm.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-07	A	Low	C	Fort Yukon LRRS -White Alice (OT05). Reckey: 198931X902528. Status: Closed. Waste oils which may have been mixed with fuel, chlorinated solvents, PCBs, and pesticides were reportedly applied to facility roads for dust control.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-08	A	Low	C	Fort Yukon LRRS -Waste Accum (SS01). Reckey: 198931X102526. Status: Closed. POL contaminated soils.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-09	A	Low	C	Fort Yukon LRRS -Power Plant (SS03). Reckey: 198931X102527. Status: Active. Pipeline and 10,000 gallon tank also suspected as source of extensive POL soil (10,000 - 25,000 mg/Kg) and groundwater contamination (120 mg/L).
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-10	A	Low	C	Fort Yukon LRRS -Road Oiling (OT04). Reckey: 198931X902527. Status: Closed. Contaminants of concern include waste oil, fuel, chlorinated solvents, PCBs, and pesticides(DDT).
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-11	A	Low	C	Alaska Commercial Company - Marina. Reckey: 1994310132602. Status: Closed. Approximately 175 cubic yards of diesel contaminated soil with maximum concentration of 2200 ppm.

Contaminant Source Type	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Map Number	Comments
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-12	A	Low	C	City of Fort Yukon Water Supply. Reckey: 1982310115301. Status: Inactive. 1974 diesel spill estimated at 2500 gallons contaminated infiltration gallery.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-13	A	Low	C	City of Fort Yukon Water Supply. Reckey: 1982310115301. Status: Inactive. 1974 diesel spill estimated at 2500 gallons contaminated infiltration gallery.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-14	A	Low	C	Fort Yukon LRRS -Waste Accum (SS01). Reckey: 198931X102526. Status: Closed. POL contaminated soils.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-15	A	Low	C	Fort Yukon LRRS -Power Plant (SS03). Reckey: 198931X102527. Status: Active. Pipeline and 10,000 gallon tank also suspected as source of extensive POL soil (10,000 - 25,000 mg/Kg) and groundwater contamination (120 mg/L).
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-16	A	Low	C	Fort Yukon LRRS (All Sites)
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-17	A	Low	C	Fort Yukon LRRS -Road Oiling (OT04). Reckey: 198931X902527. Status: Closed. Contaminants of concern include waste oil, fuel, chlorinated solvents, PCBs, and pesticides(DDT).
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-18	A	Low	C	Fort Yukon LRRS -Landfill #1 (LF02). Reckey: 198931X902529. Status: Closed. 2 acre landfill may contain paints, lead, oils, and other wastes. Subsequent investigations established background concentrations of lead in both soils and groundwater.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-19	A	Low	C	FAA Fort Yukon VORTAC. Reckey: 1991310120101. Status: Active. Abandoned 1100 gallon diesel tank and associated contaminated soil.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-20	A	Low	C	Fort Yukon LRRS LUST - (.26) (SS06). Reckey: 199131X024803. Status: Closed. 6000 gallon Mogas tank was removed. Contamination was detected via EPA method 8100 EPH at 156 ppm.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-21	A	Low	C	FAA Fort Yukon Quarters Facility. Reckey: 1992310128401. Status: Active. Bld 300 contamination (lead & DRPH) of floor drain and (PAHs) from drum storage area and stained soils. Bld 601 DRO, GRO, TPH, GRPH, DRPH, BTEX and PAHs found in soil samples.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-22	A	Low	C	Alaska Village In. Old Warehouse. Reckey: 1994310132601. Status: Inactive. Diesel and possibly solvent-contaminated soils at Marina and Old Warehouse revealed in SA1 and SA2. Extent of contamination unknown at both, but appears limited.
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-01	A	Low	C	

Contaminant Source Type	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Map Number	Comments
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-02	A	Low	C	
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U08-01	A	Low	C	On 9/5/91 a 6000 gal. Mogas tank was removed. Con
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U08-02	A	Low	C	Two 3,000-gal. jet fuel USTs floated to surface i
Abandoned wells	W01	W01-01	A	High	C	
Cemeteries	X01	X01-01	A	Medium	C	Cemetery
Cemeteries	X01	X01-02	A	Medium	C	Cemetery
Cemeteries	X01	X01-03	A	Medium	C	
Petroleum product bulk station/terminals	X11	X01-04	A	Low	C	
Municipal or city parks (with green areas)	X04	X04-01	A	Low	C	Park
Petroleum product bulk station/terminals	X11	X11-01	A	Low	C	Fuel Storage Tanks (>500gal)
Airports	X14	X14-01	A	Medium	C	FORT YUKON MUNICIPAL
Airports	X14	X14-02	A	Medium	C	Airport
Medical/veterinary facilities (doctor or dentist offices, hospitals, nursing homes)	X40	X40-02	A	Low	C	
Landfills (municipal; Class III)	D51	D51-01	D	Very High	C	Ft. Yukon AFS White Alice Station

Table 7

Contaminant Source Inventory and Risk Ranking for Ft. Yukon Public Water System Sources of Other Organic Chemicals

PWSID 360256.001

Contaminant Source Type	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Map Number	Comments
Motor /motor vehicle repair shops	C31	C31-01	A	Medium	C	Service/Maintenance Shop
Motor /motor vehicle repair shops	C31	C31-02	A	Medium	C	Service/Maintenance Shop
Motor /motor vehicle repair shops	C31	C31-03	A	Medium	C	Service/Maintenance Shop
Motor /motor vehicle repair shops	C31	C31-04	A	Medium	C	Service/Maintenance Shop
Motor /motor vehicle repair shops	C31	C31-05	A	Medium	C	Service/Maintenance Shop
Motor /motor vehicle repair shops	C31	C31-06	A	Medium	C	Service/Maintenance Shop
Motor /motor vehicle repair shops	C31	C31-08	A	Medium	C	
Domestic wastewater treatment plant disposal ponds/lagoons	D02	D02-01	A	Low	C	Sewage Lagoon
Incinerators (municipal wastes)	D21	D21-01	A	Very High	C	Two composite soil samples collected found around
Landfills (municipal; Class III)	D51	D51-01	A	Very High	C	Landfill/Incinerator
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-01	A	Low	C	Fort Yukon Federal Scout Armory. Petroleum contamination in soil.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-02	A	Low	C	FAA Facility Incinerator.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-03	A	Low	C	FAA Fort Yukon Utility Bldg. 601.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-04	A	Low	C	FAA Fort Yukon Shop Bldg. 300.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-05	A	Low	C	FAA Fort Yukon H Marker Fac. Reckey: 1992310928405. Status: Active. Soil samples indicated contamination as elevated levels of PAHs.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-06	A	Low	C	Fort Yukon LRRS LUST - (.26) (SS06). Reckey: 199131X024803. Status: Closed. 6000 gallon Mogas tank was removed. Contamination was detected via EPA method 8100 EPH at 156 ppm.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-07	A	Low	C	Fort Yukon LRRS -White Alice (OT05). Reckey: 198931X902528. Status: Closed. Waste oils which may have been mixed with fuel, chlorinated solvents, PCBs, and pesticides were reportedly applied to facility roads for dust control.

Table 7 (continued)

Contaminant Source Inventory and Risk Ranking for Ft. Yukon Public Water System Sources of Other Organic Chemicals

PWSID 360256.001

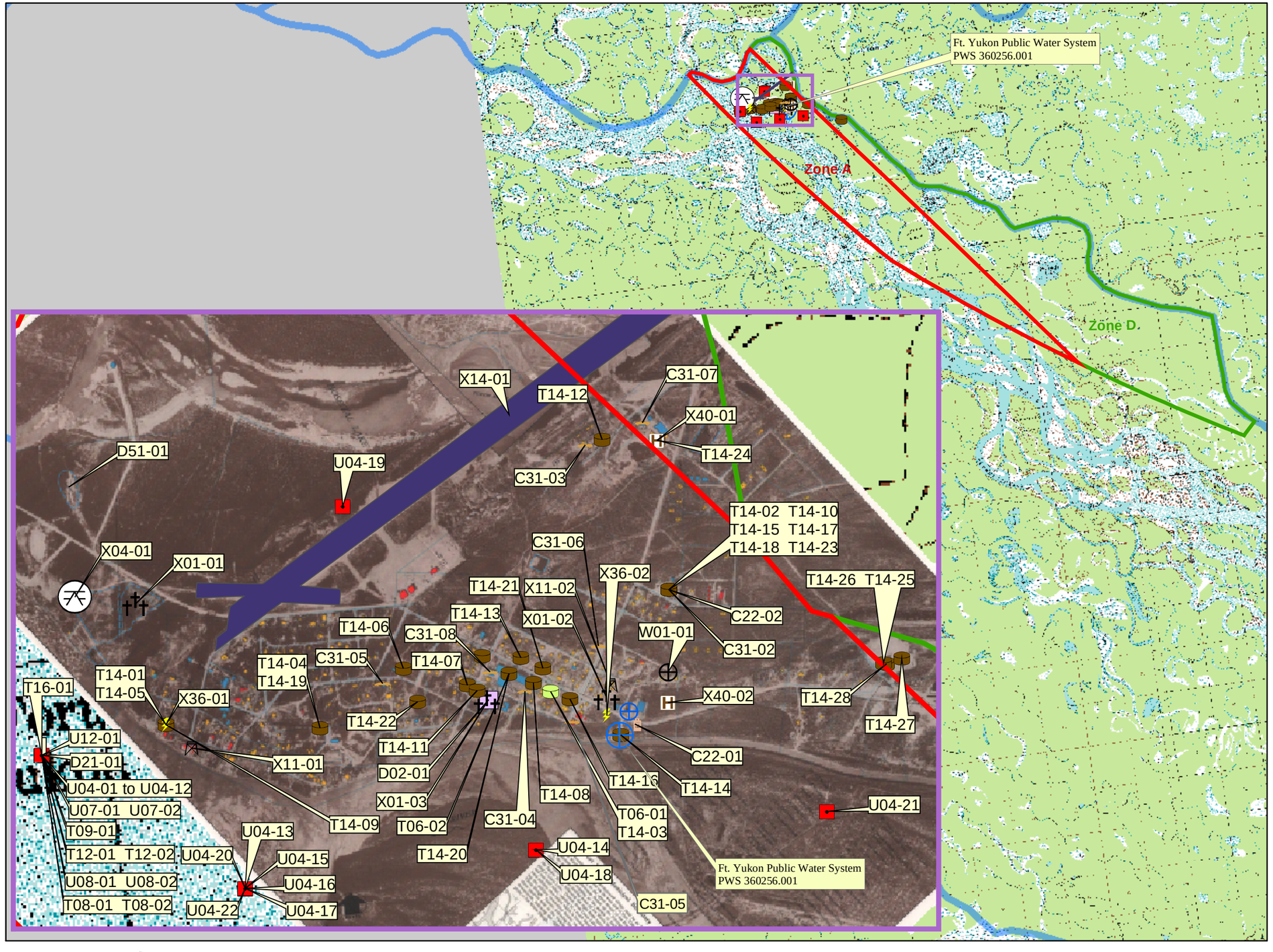
Contaminant Source Type	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Map Number	Comments
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-08	A	Low	C	Fort Yukon LRRS -Waste Accum (SS01). Reckey: 198931X102526. Status: Closed. POL contaminated soils.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-09	A	Low	C	Fort Yukon LRRS -Power Plant (SS03). Reckey: 198931X102527. Status: Active. Pipeline and 10,000 gallon tank also suspected as source of extensive POL soil (10,000 - 25,000 mg/Kg) and groundwater contamination (120 mg/L).
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-10	A	Low	C	Fort Yukon LRRS -Road Oiling (OT04). Reckey: 198931X902527. Status: Closed. Contaminants of concern include waste oil, fuel, chlorinated solvents, PCBs, and pesticides(DDT).
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-11	A	Low	C	Alaska Commercial Company - Marina. Reckey: 1994310132602. Status: Closed. Approximately 175 cubic yards of diesel contaminated soil with maximum concentration of 2200 ppm.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-12	A	Low	C	City of Fort Yukon Water Supply. Reckey: 1982310115301. Status: Inactive. 1974 diesel spill estimated at 2500 gallons contaminated infiltration gallery.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-13	A	Low	C	City of Fort Yukon Water Supply. Reckey: 1982310115301. Status: Inactive. 1974 diesel spill estimated at 2500 gallons contaminated infiltration gallery.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-14	A	Low	C	Fort Yukon LRRS -Waste Accum (SS01). Reckey: 198931X102526. Status: Closed. POL contaminated soils.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-15	A	Low	C	Fort Yukon LRRS -Power Plant (SS03). Reckey: 198931X102527. Status: Active. Pipeline and 10,000 gallon tank also suspected as source of extensive POL soil (10,000 - 25,000 mg/Kg) and groundwater contamination (120 mg/L).
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-16	A	Low	C	Fort Yukon LRRS (All Sites)
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-17	A	Low	C	Fort Yukon LRRS -Road Oiling (OT04). Reckey: 198931X902527. Status: Closed. Contaminants of concern include waste oil, fuel, chlorinated solvents, PCBs, and pesticides(DDT).
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-18	A	Low	C	Fort Yukon LRRS -Landfill #1 (LF02). Reckey: 198931X902529. Status: Closed. 2 acre landfill may contain paints, lead, oils, and other wastes. Subsequent investigations established background concentrations of lead in both soils and groundwater.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-19	A	Low	C	FAA Fort Yukon VORTAC. Reckey: 1991310120101. Status: Active. Abandoned 1100 gallon diesel tank and associated contaminated soil.

Sources of Other Organic Chemicals

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-20	A	Low	C	Fort Yukon LRRS LUST - (.26) (SS06). Reckey: 199131X024803. Status: Closed. 6000 gallon Mogas tank was removed. Contamination was detected via EPA method 8100 EPH at 156 ppm.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-21	A	Low	C	FAA Fort Yukon Quarters Facility. Reckey: 1992310128401. Status: Active. Bld 300 contamination (lead & DRPH) of floor drain and (PAHs) from drum storage area and stained soils. Bld 601 DRO, GRO, TPH, GRPH, DRPH, BTEX and PAHs found in soil samples.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-22	A	Low	C	Alaska Village In. Old Warehouse. Reckey: 1994310132601. Status: Inactive. Diesel and possibly solvent-contaminated soils at Marina and Old Warehouse revealed in SA1 and SA2. Extent of contamination unknown at both, but appears limited.
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-01	A	Low	C	
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-02	A	Low	C	
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U08-01	A	Low	C	On 9/5/91 a 6000 gal. Mogas tank was removed. Con
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U08-02	A	Low	C	Two 3,000-gal. jet fuel USTs floated to surface i
Abandoned wells	W01	W01-01	A	High	C	
Petroleum product bulk station/terminals	X11	X01-04	A	High	C	
Petroleum product bulk station/terminals	X11	X11-01	A	High	C	Fuel Storage Tanks (>500gal)
Airports	X14	X14-01	A	Medium	C	FORT YUKON MUNICIPAL
Airports	X14	X14-02	A	Medium	C	Airport
Boat yards and marinas	X15	X15-01	A	Low	C	Harbor/Dock/Port
Highways and roads, paved (cement or asphalt)	X20	X20-01	A	Low	C	Assume 1-20 roads in Zone A
Electric power generation (fossil fuels)	X36	X36-01	A	High	C	Power Generation Facility
Electric power generation (fossil fuels)	X36	X36-02	A	High	C	

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Landfills (municipal; Class III)	D51	D51-01	D	Very High	C	Ft. Yukon AFS White Alice Station

Public Water Well System for PWS #360256.001 Ft. Yukon Public Water System
Showing Sources of Potential and Existing Contamination



LEGEND

- Public Water System Well

Hydrography/Physical

- Parcels
- Stream
- Lake or Pond
- Contours
- Watershed Boundary

Transportation

- Primary Route (Class 1)
- Secondary Route (Class 2)
- Road (Class 3)
- Road (Class 4)
- Road (Class 5, Four-wheel drive)

Groundwater Protection Zones

- Zone A Protection Area– Several Months Travel Time
- Zone D Protection Area– 10 Years Travel Time

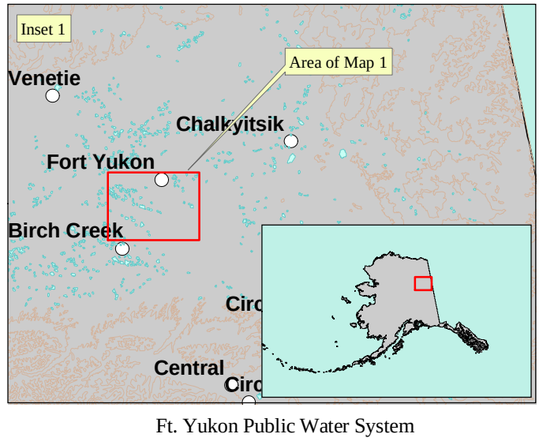
or watershed boundary

Existing or Potential Contaminant Sources

- Laundromat without dry cleaning (C22)
- Motor/motor vehicle repair shop (C31)
- Tanks, diesel, aboveground (T06)
- Tanks, diesel, underground (T08)
- Closed tanks, diesel, underground (T09)
- Tanks, gasoline, underground (T12)
- Nonresidential aboveground heating oil tank (T14)
- Tanks, heating oil, nonresidential, underground (T16)
- Contaminated sites, DEC recognized, non-Superfund, non-RCRA (U04)
- Open Leaking Underground Fuel Storage Tank (LUST) (lubricants or other petroleum products) (U07)
- Closed Leaking Underground Fuel Storage Tank (LUST) (lubricant or other petroleum products) (U08)
- Closed Leaking Underground Fuel Storage Tank (LUST) (aviation) (U12)
- Abandoned wells (W01)
- Water Supply Wells (W09)
- Cemetery (X01)
- Municipal or City Park (X04)
- Petroleum product bulk storage/terminal (X11)
- Electric Power Generation (fossil fuels) (X36)
- Medical/veterinary facility (X40)
- Domestic wastewater treatment plant disposal ponds/lagoons (D02)
- Landfill, municipal, Class III (D51)
- Landing strip/airport (X14)

Data Sources:
Contaminant Sources, Public Water System Wells, Contours
Alaska Department of Environmental Conservation (ADEC)
All other data:
United States Geological Survey (USGS)
Drinking Water Protection Areas based on "Alaska Drinking Water Protection Program - Guidance Manual for Class A Public Water Systems" published by ADEC

URS Corporation does not guarantee the accuracy or validity of the data provided.



0 2 4 8 12 16 Miles

Ft. Yukon Public Water System
PWS 360256.001
Appendix C Map C

Chart 1. Susceptibility of the wellhead - Ft. Yukon Public Water System (PWS No. 360256.001)

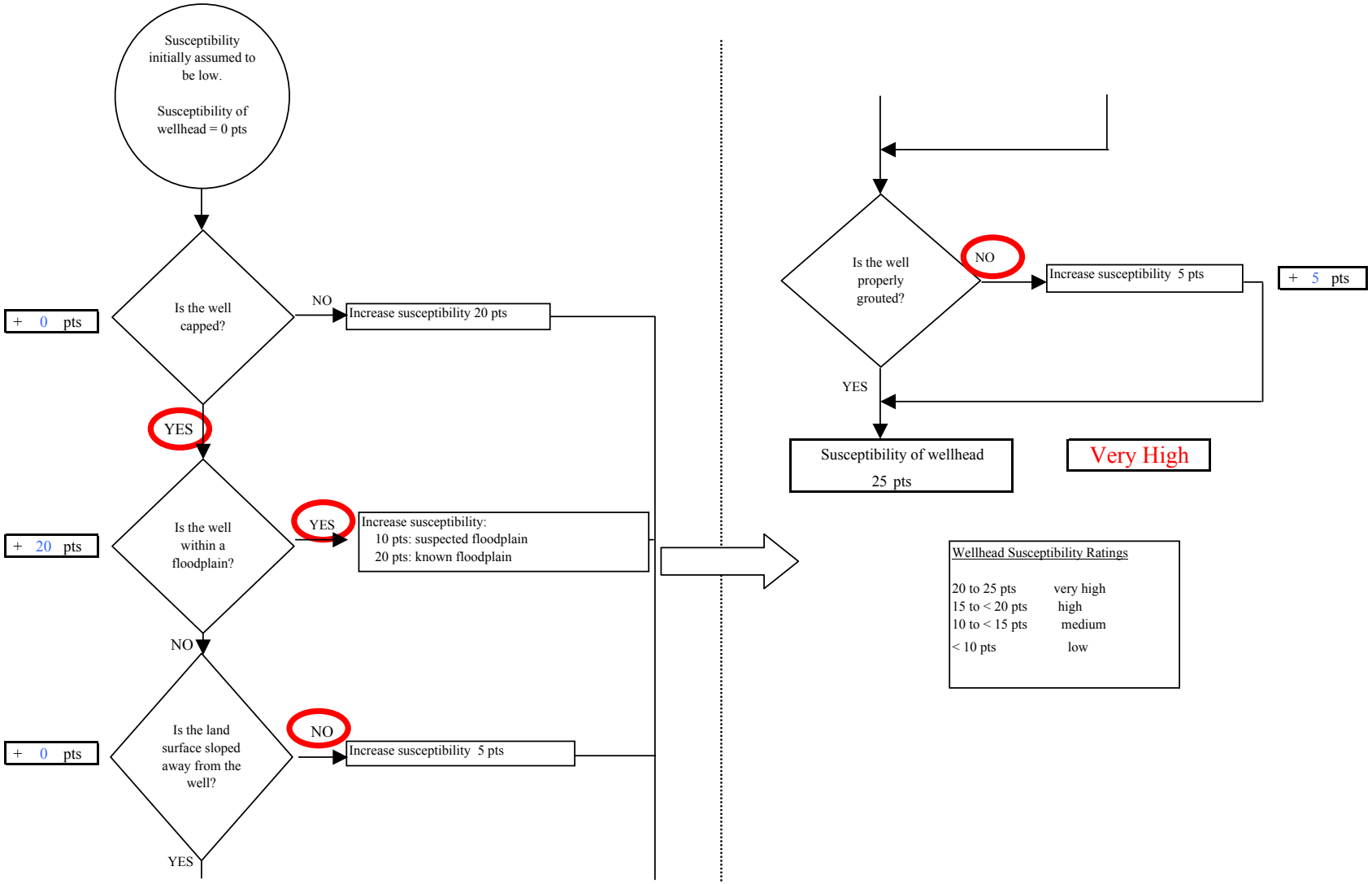


Chart 2. Susceptibility of the aquifer Ft. Yukon Public Water System (PWS No. 360256.001)

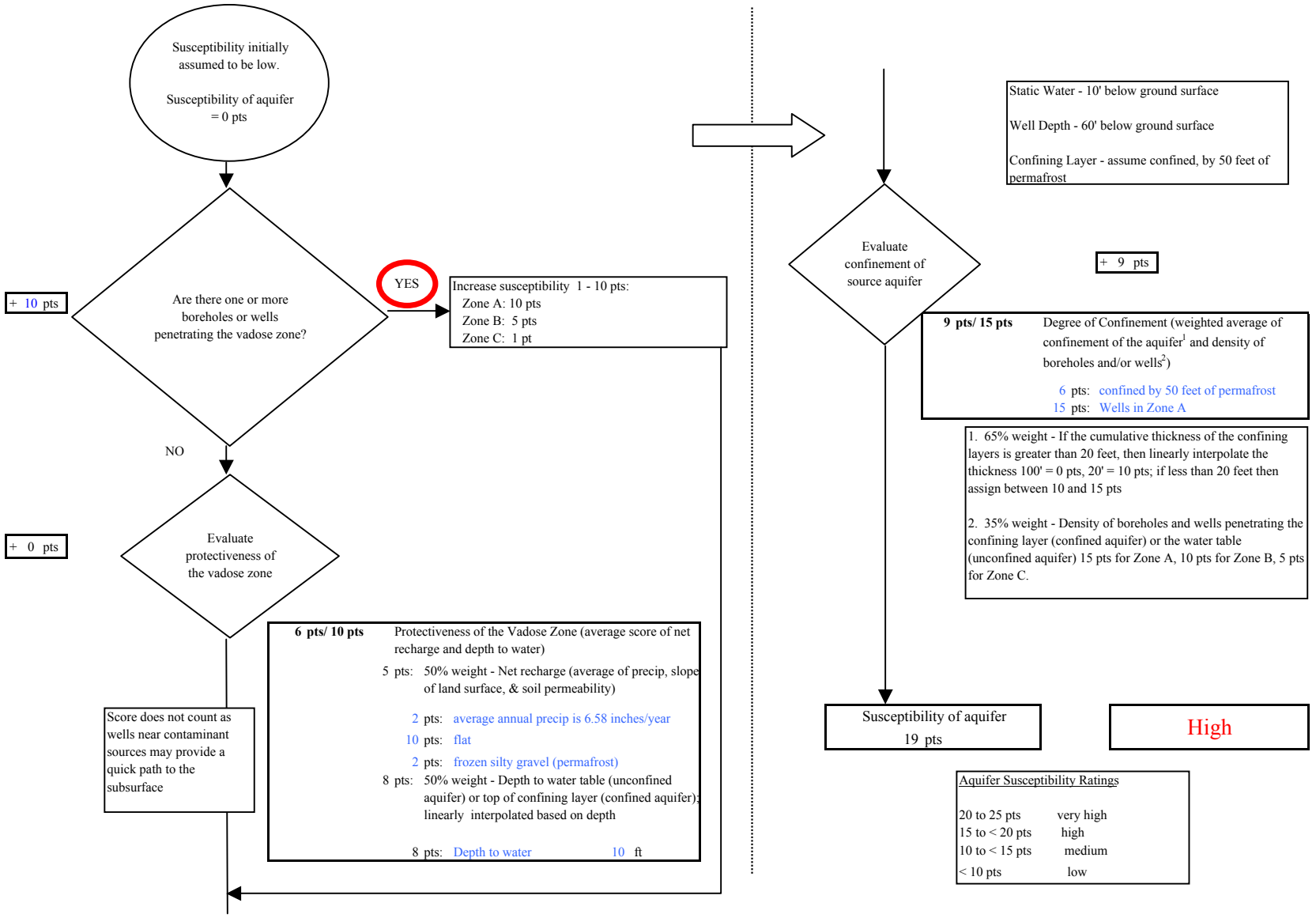
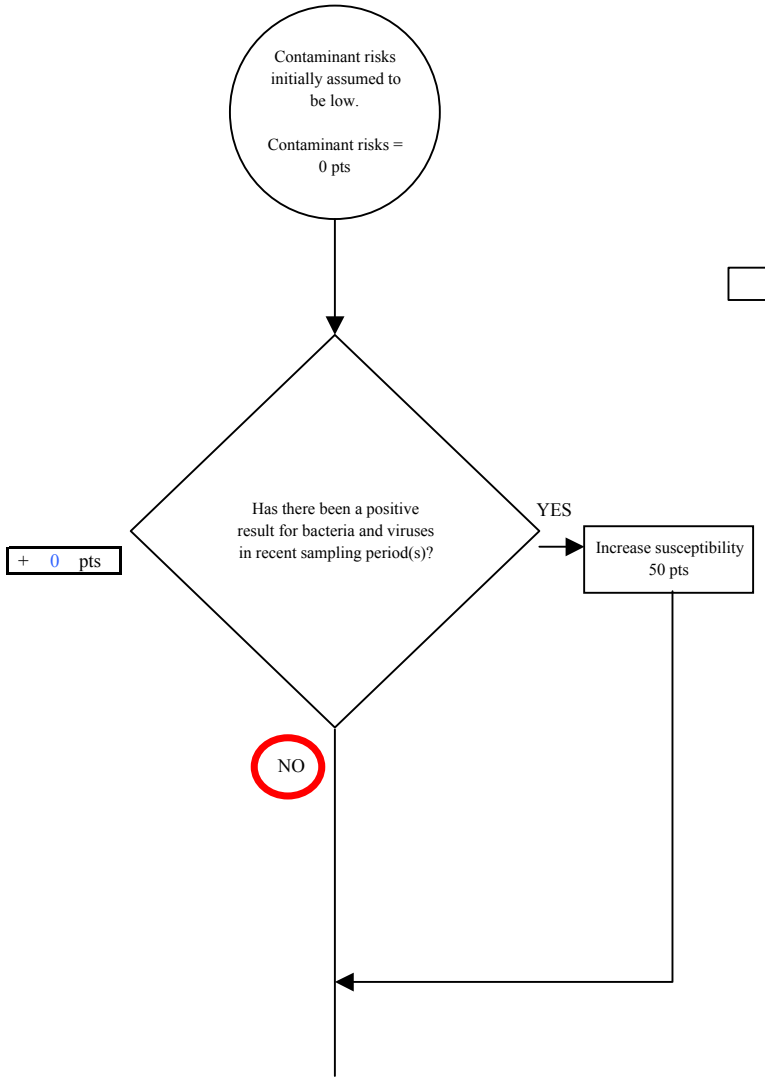
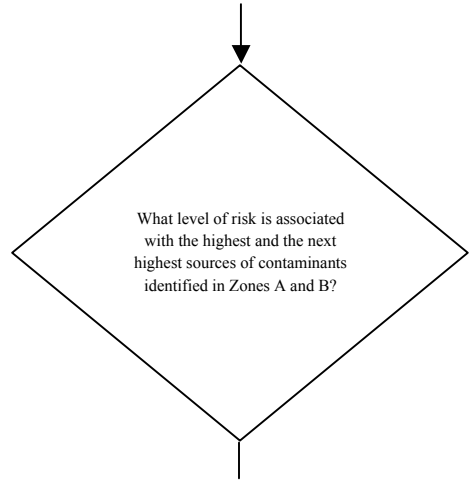


Chart 3. Contaminant risks for Ft. Yukon Public Water System (PWS No. 360256.001) - Bacteria & Viruses





+ 40 pts

Risk Rankings for Contaminant Sources Identified in Zones A and B

	Zone A	Zone B	Total
Very Highs(s)	0	0	0
High(s)	2	0	2
Medium(s)	4	0	4
Low(s)	5	0	5

	LOW 10 pts	**MEDIUM** 20 pts	**HIGH** 30 pts	**VERY HIGH** 40 pts
LOW	≥ 10 sources + 10 pts	≥ 10 sources + 5 pts	≥ 20 sources + 5 pts	----
MEDIUM	----	≥ 2 sources + 5 pts	≥ 5 sources + 5 pts	≥ 10 sources + 5 pts
HIGH	----	----	≥ 1 source + 10 pts	≥ 2 sources + 10 pts
VERY HIGH	----	----	----	≥ 1 source + 10 pts

Matrix Score 40

Note: Septic systems, sewerlines, and roads are each assigned a risk ranking for each individual contaminant source in the CSI. The VA, however, counts these contaminant sources as a group and assigns a calculated number of either "lows" or "mediums" based on the density.

Chart 3. Contaminant risks for Ft. Yukon Public Water System (PWS No. 360256.001) - Bacteria & Viruses

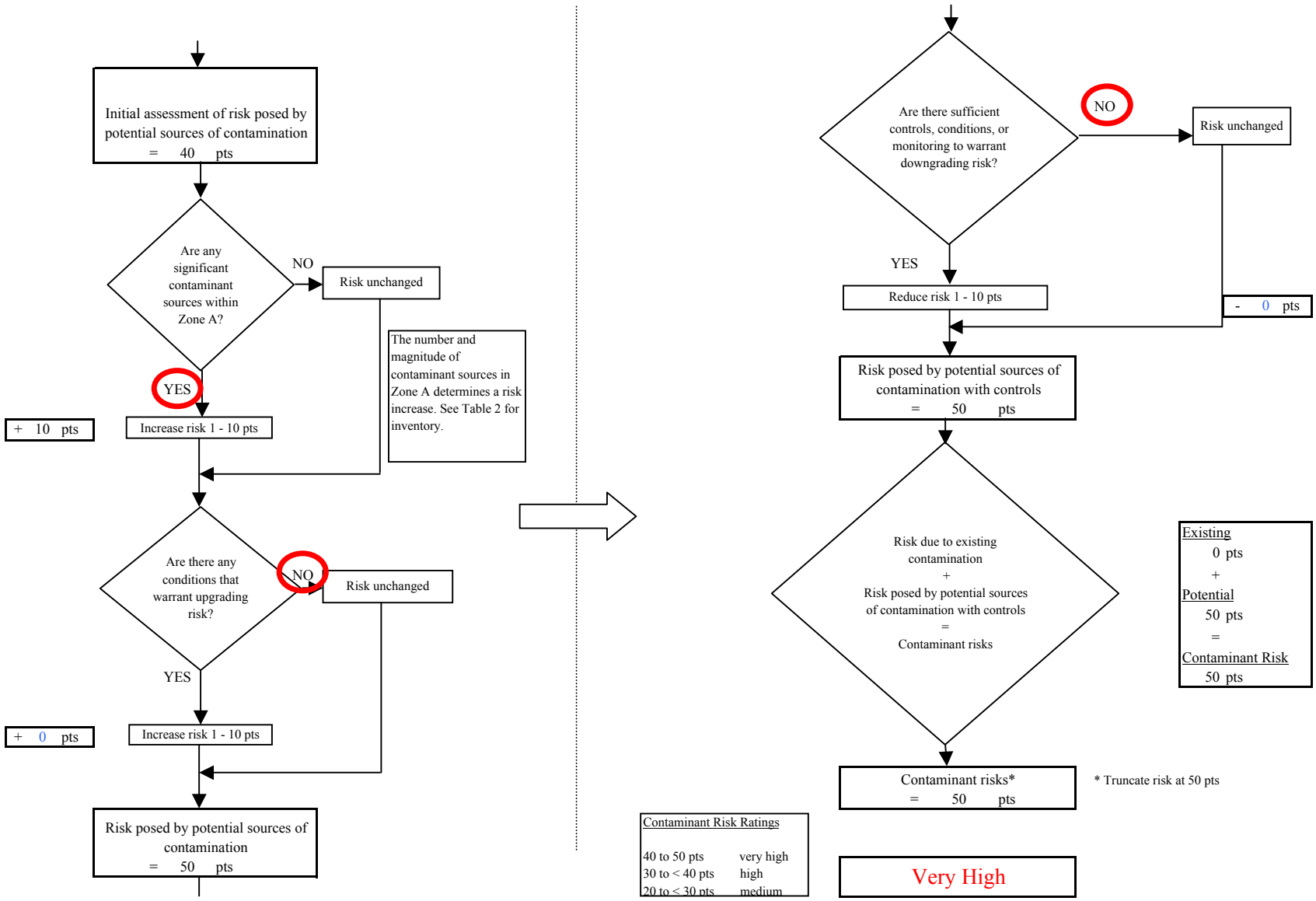


Chart 4. Vulnerability analysis for Ft. Yukon Public Water System (PWS No. 360256.001) - Bacteria & Viruses

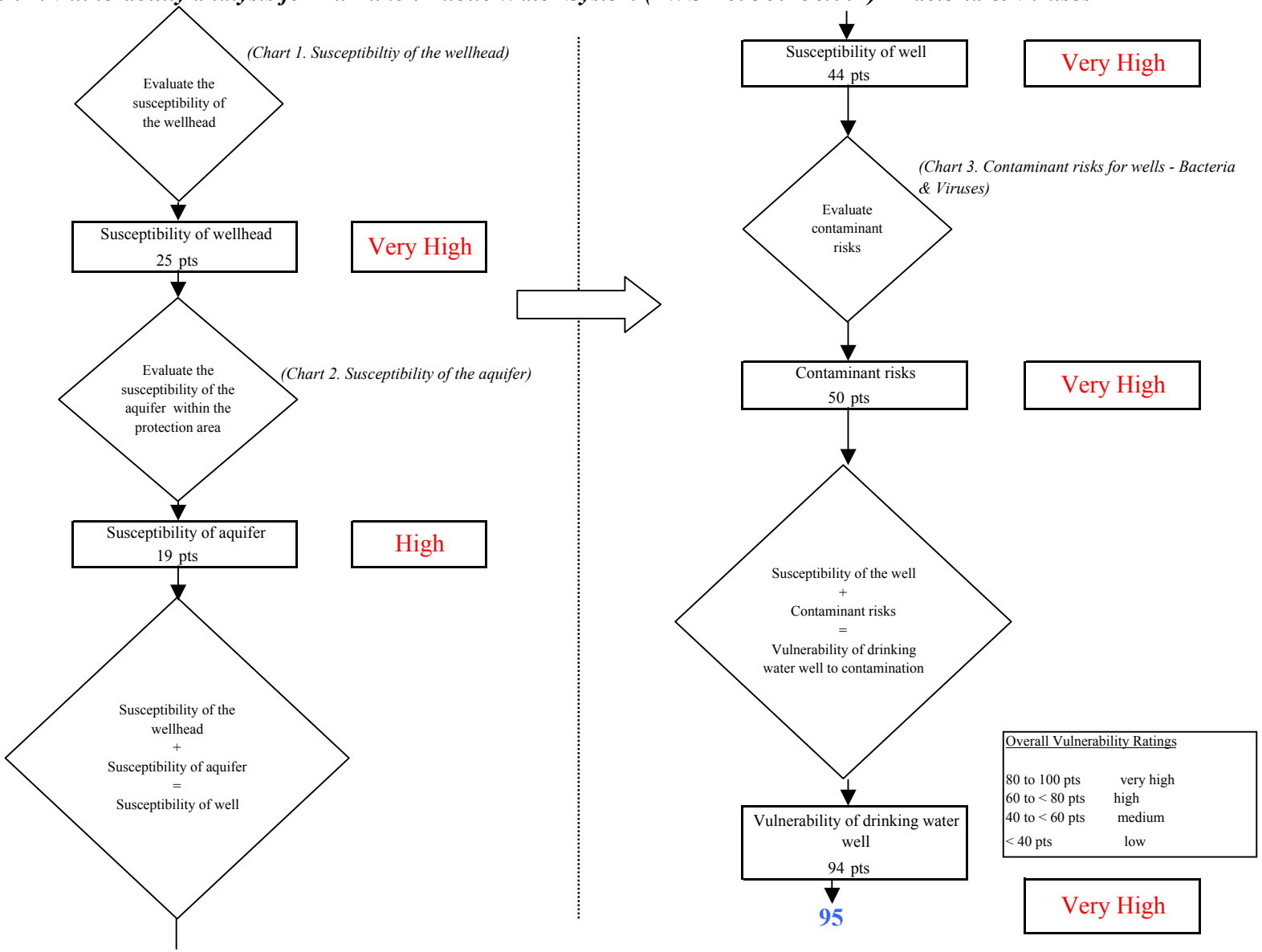


Chart 5. Contaminant risks for Ft. Yukon Public Water System (PWS No. 360256.001) - Nitrates and Nitrites

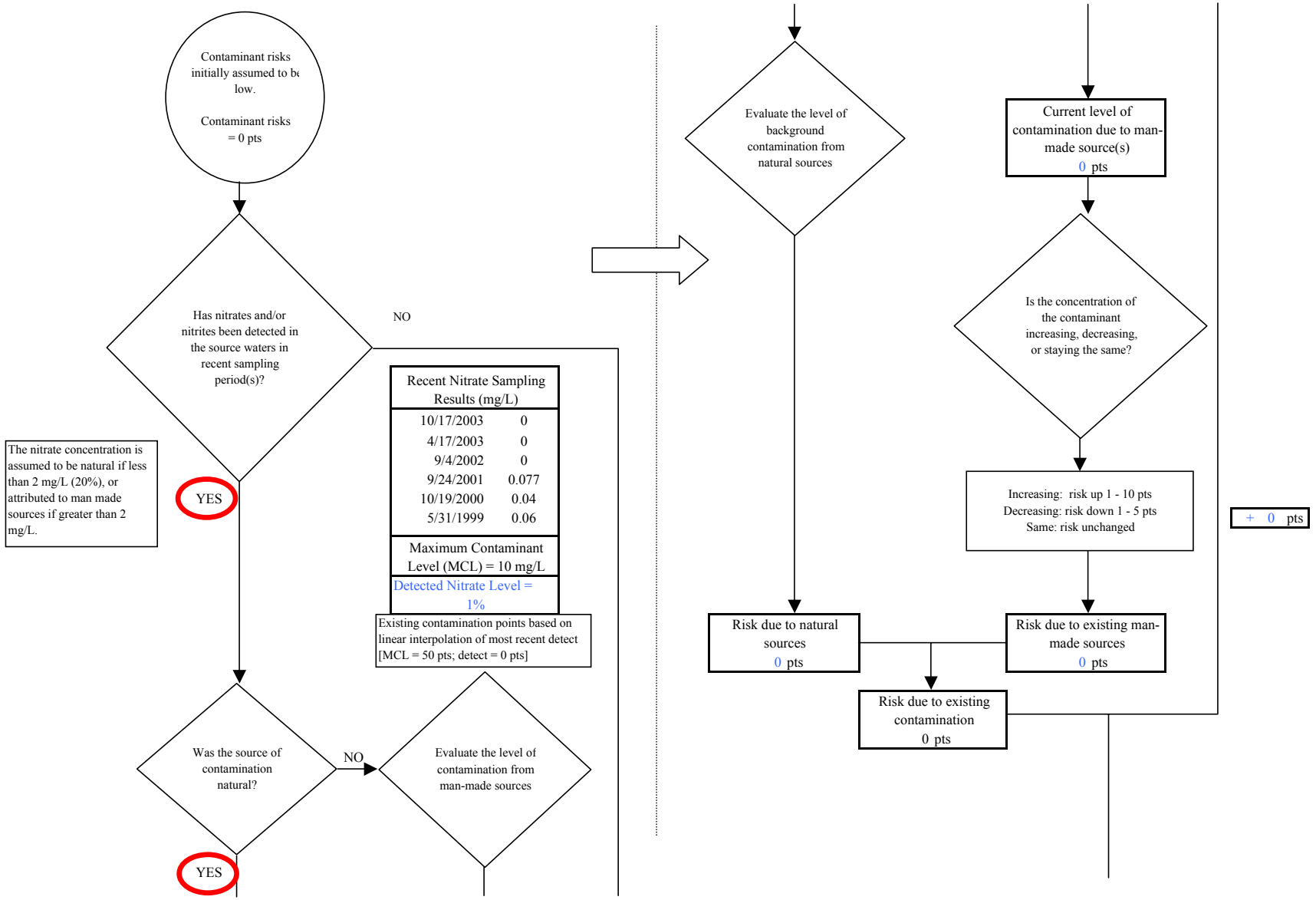


Chart 5. Contaminant risks for Ft. Yukon Public Water System (PWS No. 360256.001) - Nitrates and Nitrites

+ 50 pts

What level of risk is associated with the highest and the next highest risk sources(s) of contaminants identified in Zones A, B and C?

Risk Levels for Contaminant Sources identified in Zones A, B and C

	Zone A	Zones B&C	Total
Very Highs(s)	1	0	1
High(s)	2	0	2
Medium(s)	4	0	4
Low(s)	9	0	9

	LOW 10 pts	**MEDIUM** 20 pts	**HIGH** 30 pts	**VERY HIGH** 40 pts
LOW	≥ 10 sources + 10 pts	≥ 10 sources + 5 pts	≥ 20 sources + 5 pts	----
MEDIUM	----	≥ 2 sources + 5 pts	≥ 5 sources + 5 pts	≥ 10 sources + 5 pts
HIGH	----	----	≥ 1 source + 10 pts	≥ 2 sources + 10 pts
VERY HIGH	----	----	----	≥ 1 source + 10 pts

Matrix Score 50

Note: Septic systems, sewerlines, and roads are each assigned a risk ranking for each individua contaminant source in the CSI. The VA, however, counts these contaminant sources as a group and assigns a calculated number of either "lows" or "mediums" based on the density.

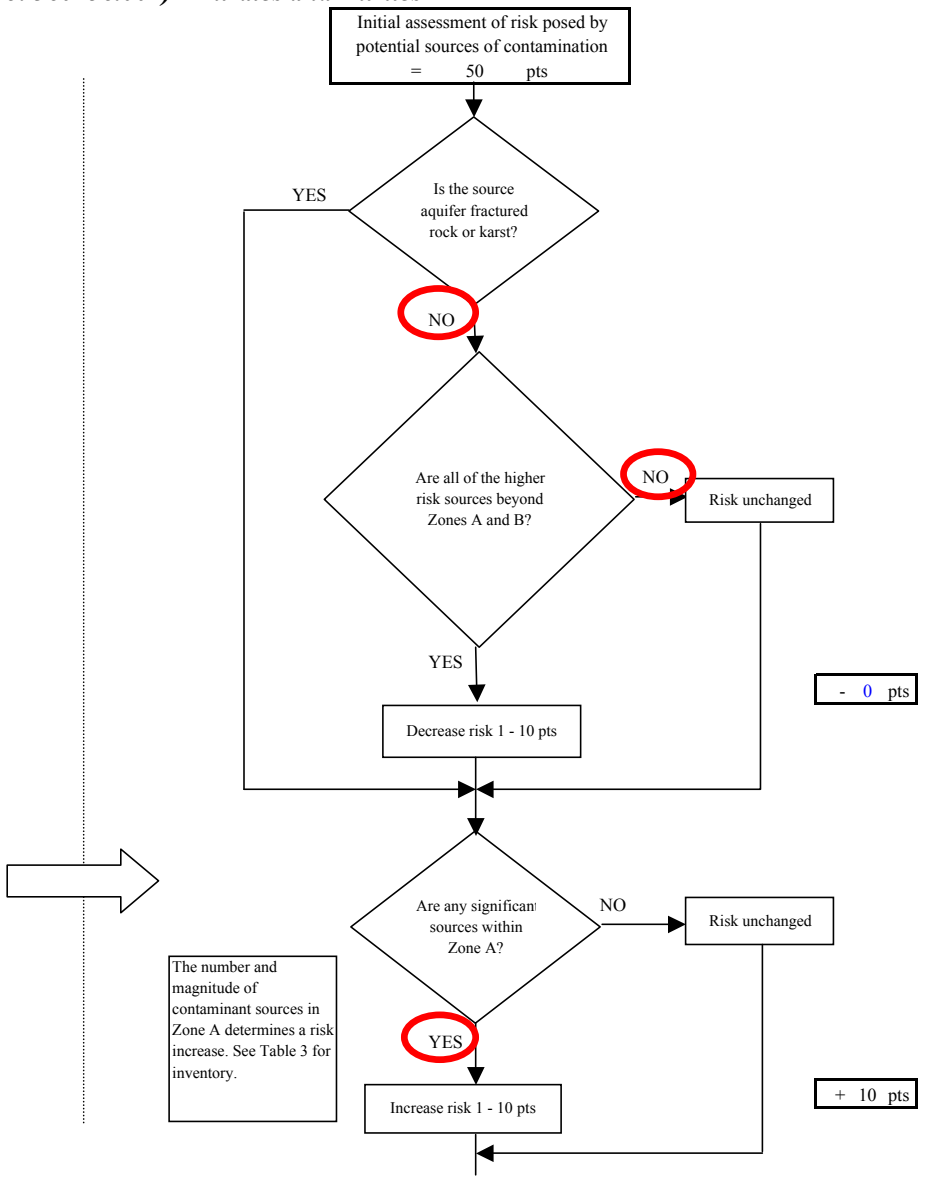


Chart 5. Contaminant risks for Ft. Yukon Public Water System (PWS No. 360256.001) - Nitrates and Nitrites

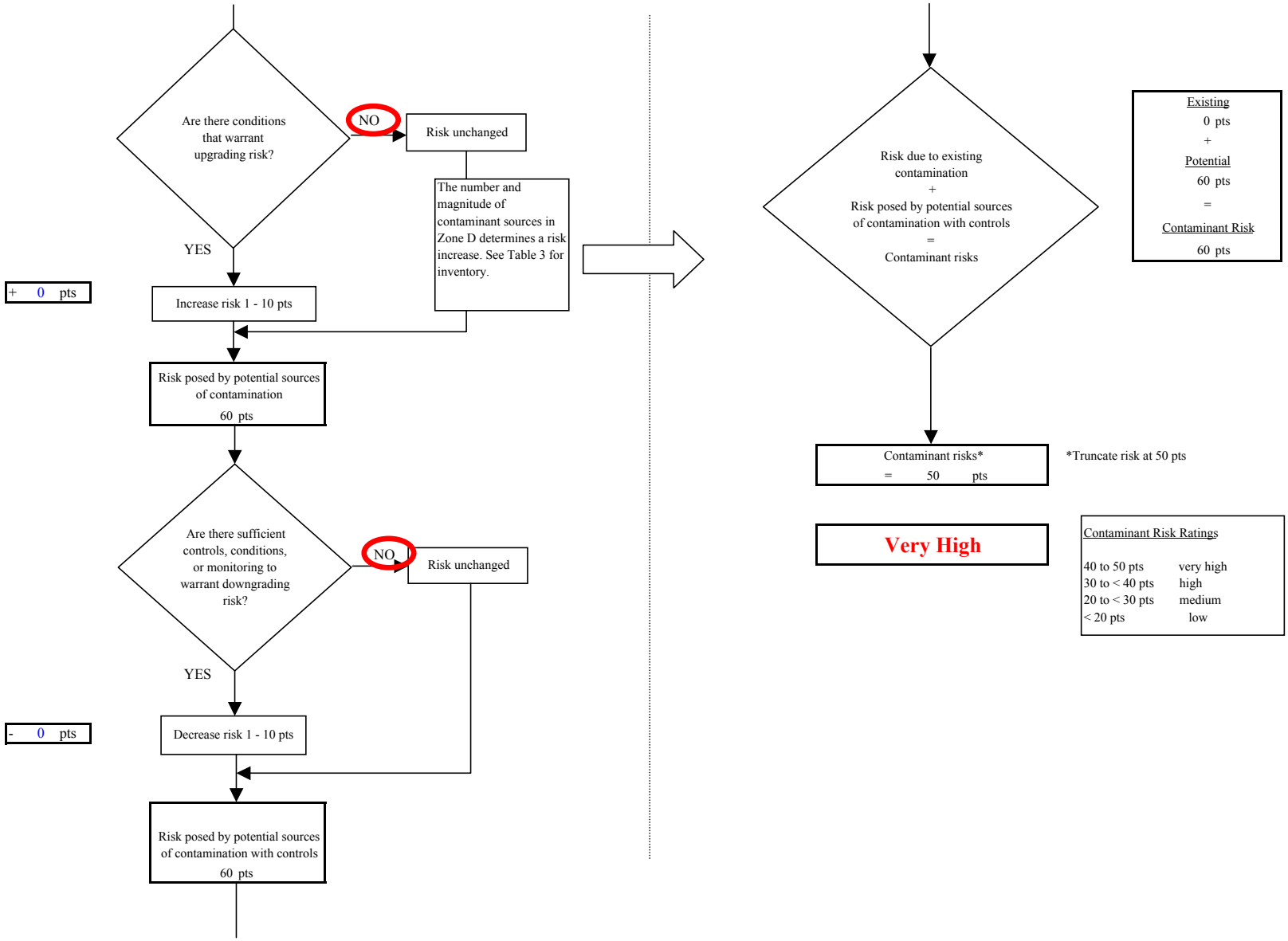


Chart 6. Vulnerability analysis for Ft. Yukon Public Water System (PWS No. 360256.001) - Nitrates and Nitrites

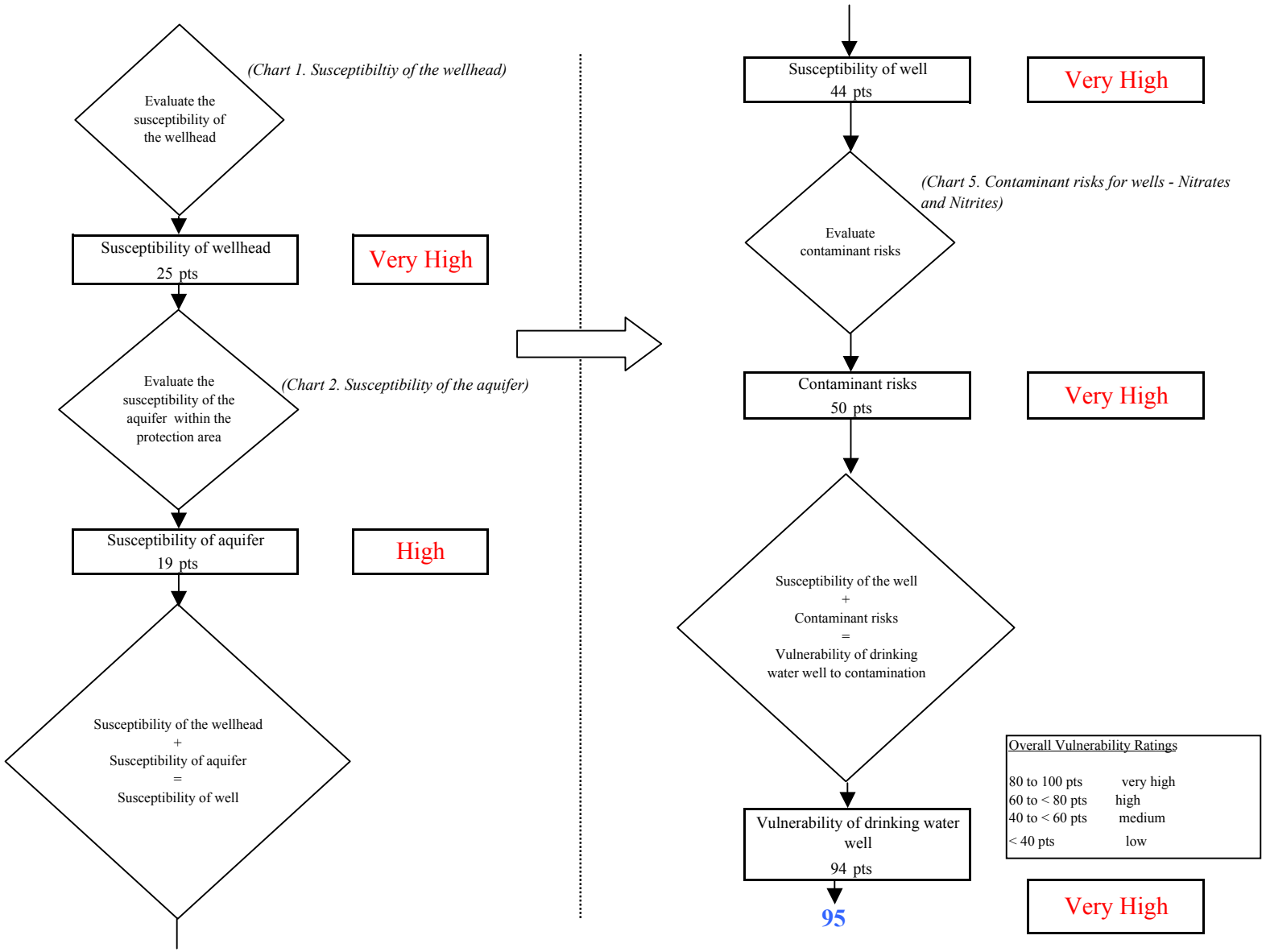


Chart 7. Contaminant risks for Ft. Yukon Public Water System (PWS No. 360256.001) - Volatile Organic Chemicals

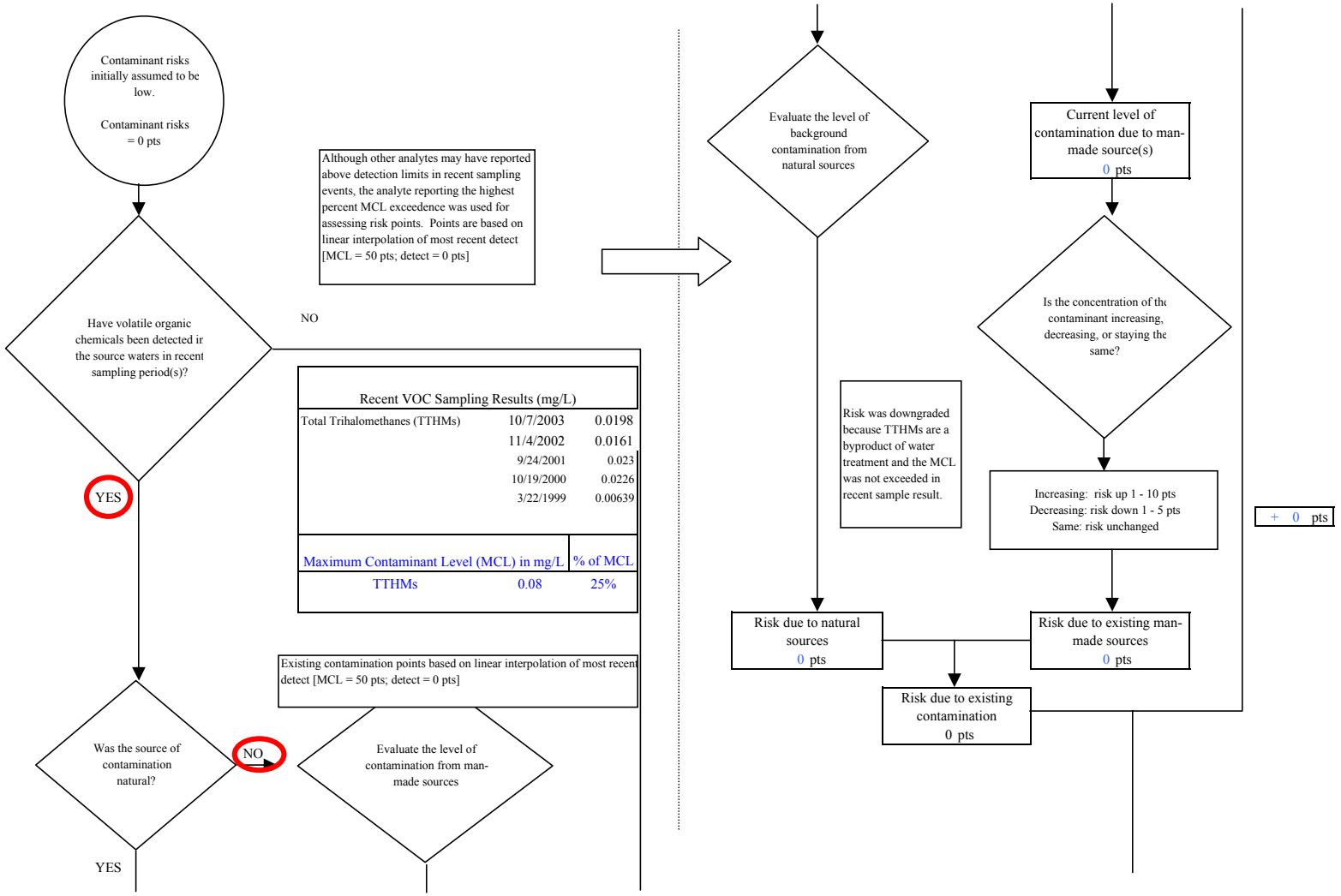


Chart 7. Contaminant risks for Ft. Yukon Public Water System (PWS No. 360256.001) - Volatile Organic Chemicals

+ 50 pts

What level of risk is associated with the highest and the next highest risk sources(s) of contaminants identified in Zones A, B and C?

Risk Levels for Contaminant Sources identified in Zones A, B and C

	Zone A	Zones B&C	Total
Very Highs(s)	2	0	2
High(s)	34	0	34
Medium(s)	12	0	12
Low(s)	31	0	31

	LOW 10 pts	**MEDIUM** 20 pts	**HIGH** 30 pts	**VERY HIGH** 40 pts
LOW	**≥** 10 sources + 10 pts	≥ 10 sources + 5 pts	≥ 20 sources + 5 pts	----
MEDIUM	----	≥ 2 sources + 5 pts	≥ 5 sources + 5 pts	≥ 10 sources + 5 pts
HIGH	----	----	≥ 1 source + 10 pts	≥ 2 sources + 10 pts
VERY HIGH	----	----	----	≥ 1 source + 10 pts

Matrix Score 50

Note: Septic systems, sewerlines, and roads are each assigned a risk ranking for each individual contaminant source in tl CSI. The VA, however, counts these contaminant sources as a group and assigns a calculated number of either "lows" or "mediums" based on the density.

Initial assessment of risk posed by potential sources of contamination = 50 pts

Is the source aquifer fractured rock or karst?

YES

NO

Are all of the higher risk sources beyond Zones A and B?

NO → Risk unchanged

YES → Decrease risk 1 - 10 pts

- 0 pts

Are any significant sources within Zone A?

NO → Risk unchanged

YES → Increase risk 1 - 10 pts

+ 10 pts

The number and magnitude of contaminant sources in Zone A determines a risk increase. See Table 4 for inventory.

Chart 7. Contaminant risks for Ft. Yukon Public Water System (PWS No. 360256.001) - Volatile Organic Chemicals

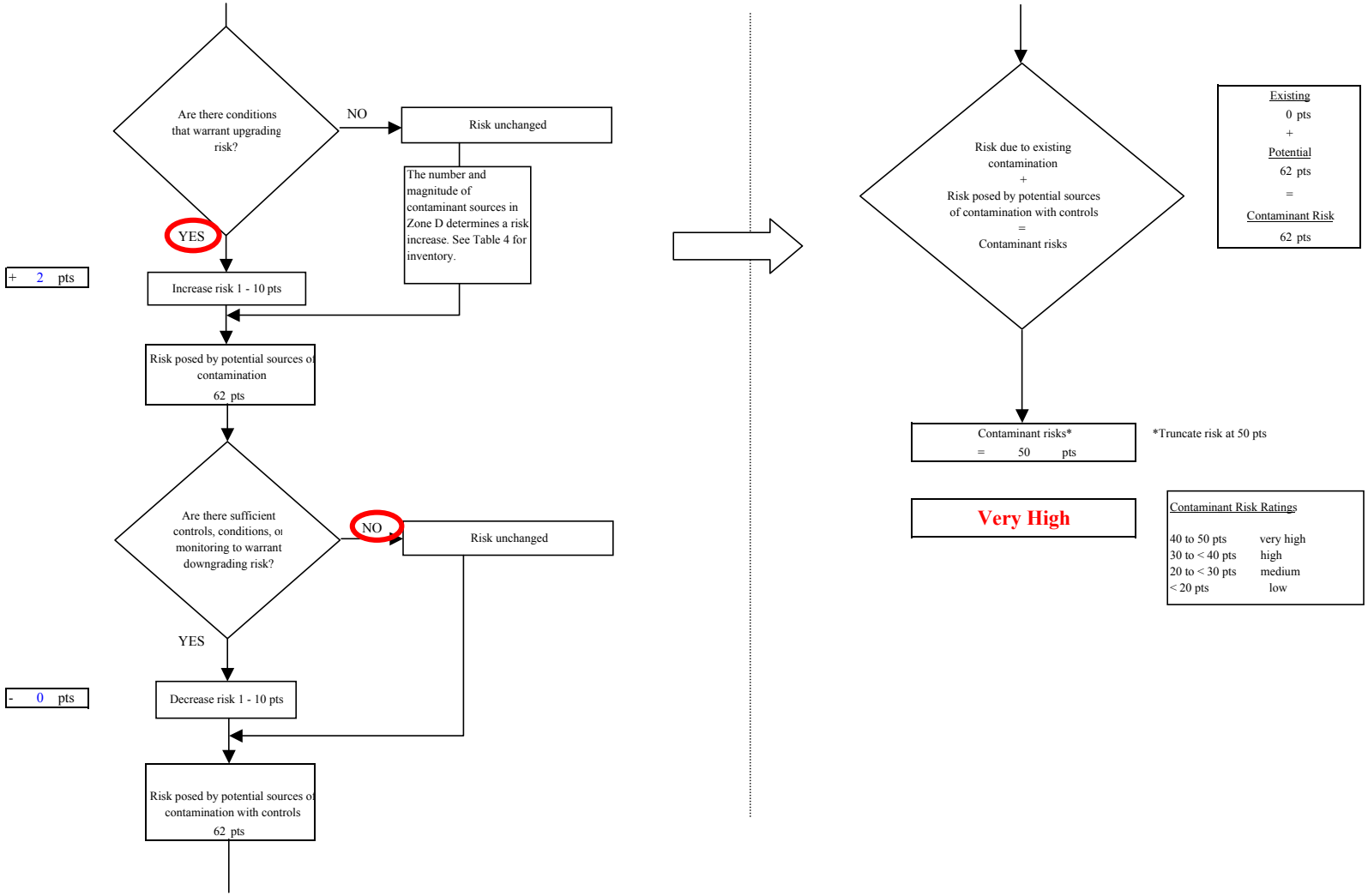


Chart 8. Vulnerability analysis for Ft. Yukon Public Water System (PWS No. 360256.001) - Volatile Organic Chemicals

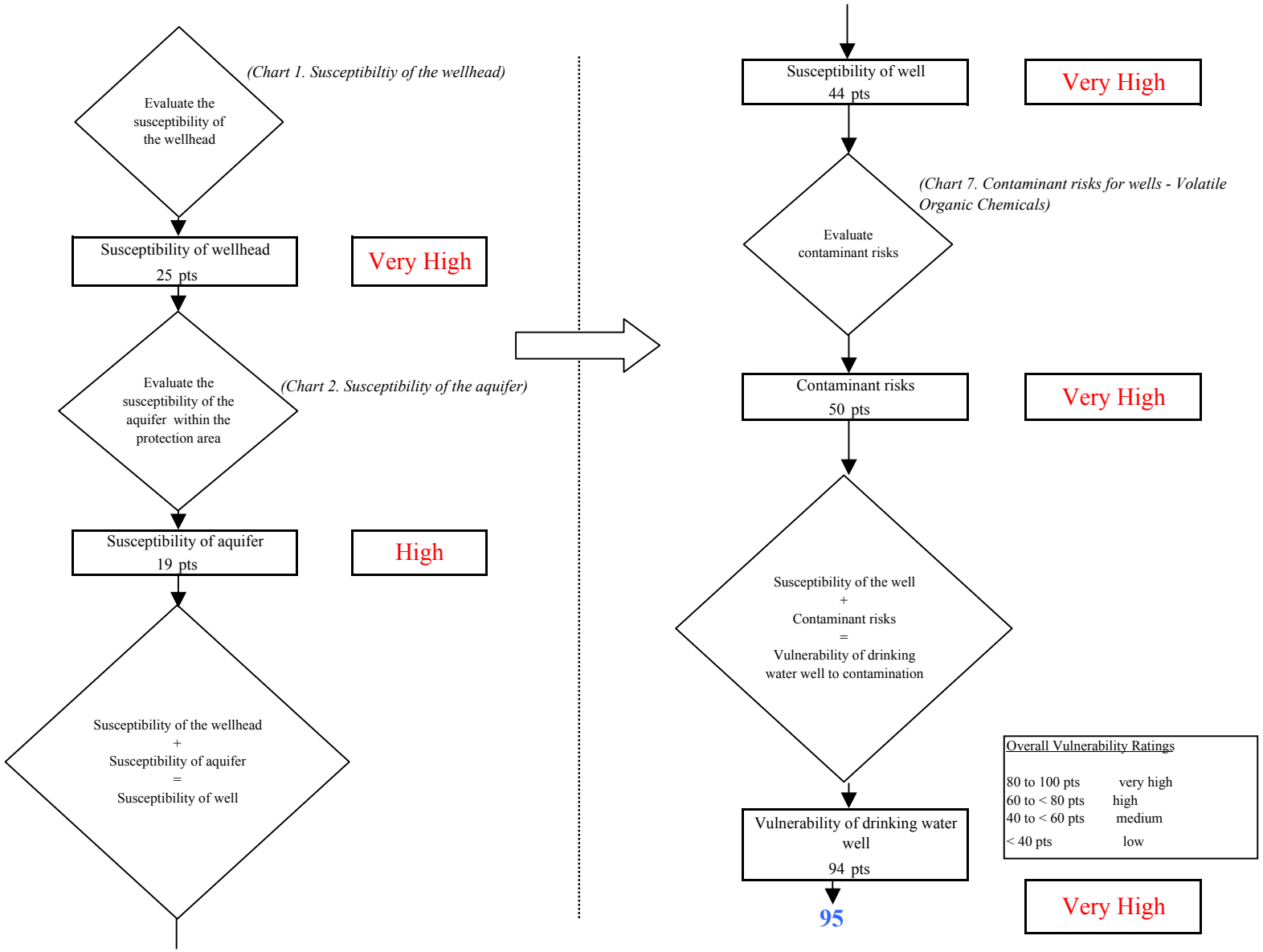


Chart 9. Contaminant risks for Ft. Yukon Public Water System (PWS No. 360256.001) - Heavy Metals, Cyanide and Other Inorganic Chemicals

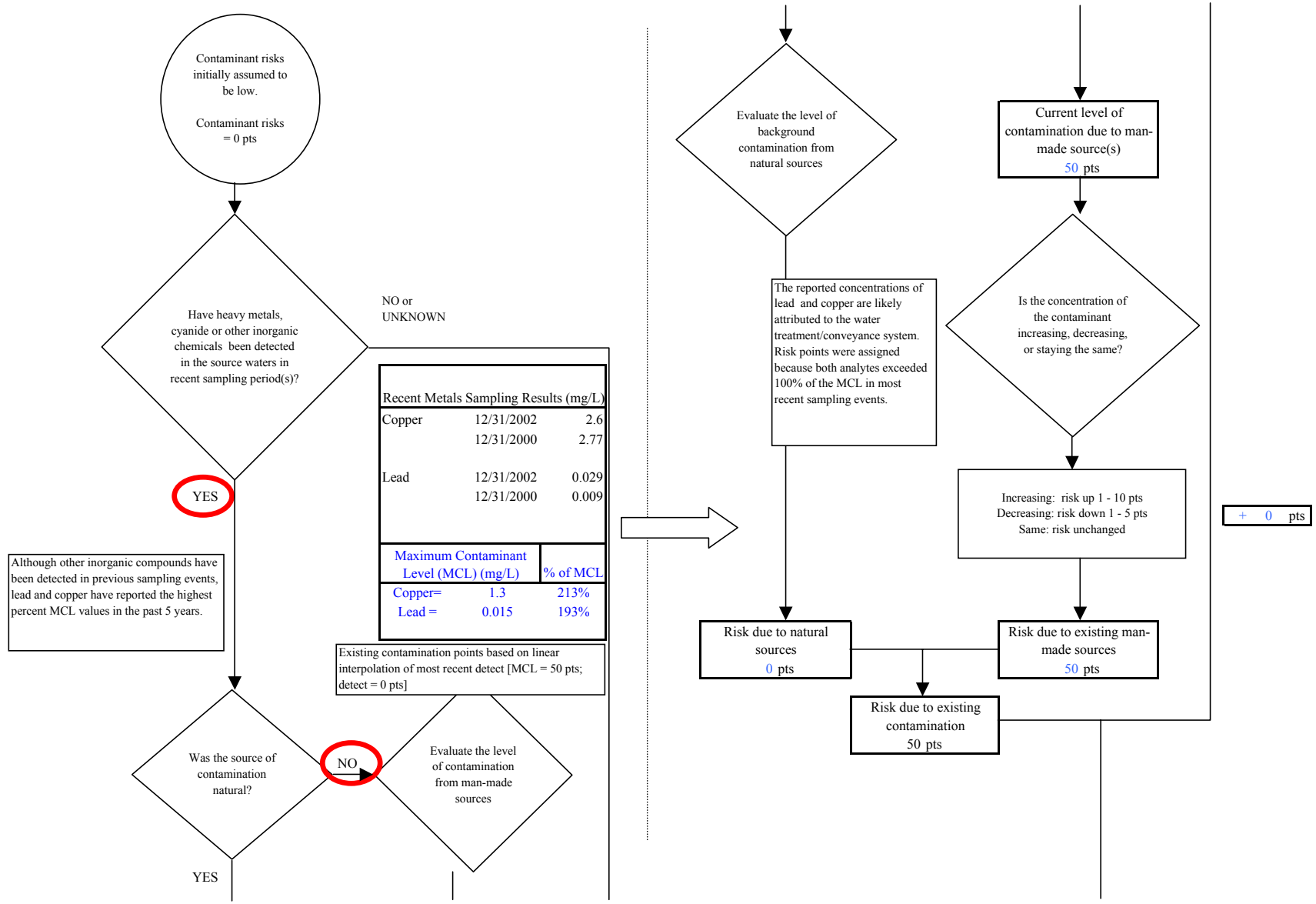
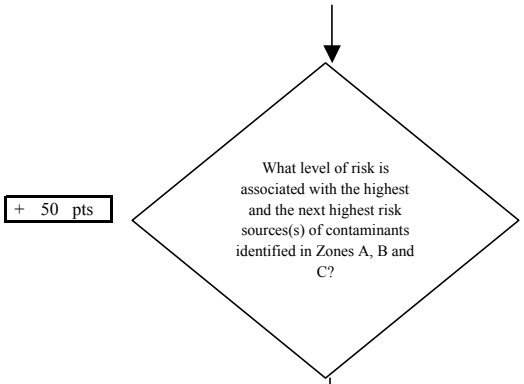


Chart 9. Contaminant risks for Ft. Yukon Public Water System (PWS No. 360256.001) - Heavy Metals, Cyanide and Other Inorganic Chemicals



+ 50 pts

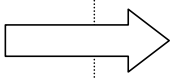
Risk Levels for Contaminant Sources identified in Zones A, B and C

	Zone A	Zones B&C	Total
Very Highs(s)	1	0	1
High(s)	2	0	2
Medium(s)	11	0	11
Low(s)	60	0	60

	LOW 10 pts	**MEDIUM** 20 pts	**HIGH** 30 pts	**VERY HIGH** 40 pts
LOW	≥ 10 sources + 10 pts	≥ 10 sources + 5 pts	≥ 20 sources + 5 pts	----
MEDIUM	----	≥ 2 sources + 5 pts	≥ 5 sources + 5 pts	≥ 10 sources + 5 pts
HIGH	----	----	≥ 1 source + 10 pts	≥ 2 sources + 10 pts
VERY HIGH	----	----	----	≥ 1 source + 10 pts

Matrix Score 50

Note: Septic systems, sewerlines, and roads are each assigned a risk ranking for each individual contaminant source in the CSI. The VA, however, counts these contaminant sources as a group and assigns a calculated number of either "lows" or "mediums" based on the density.



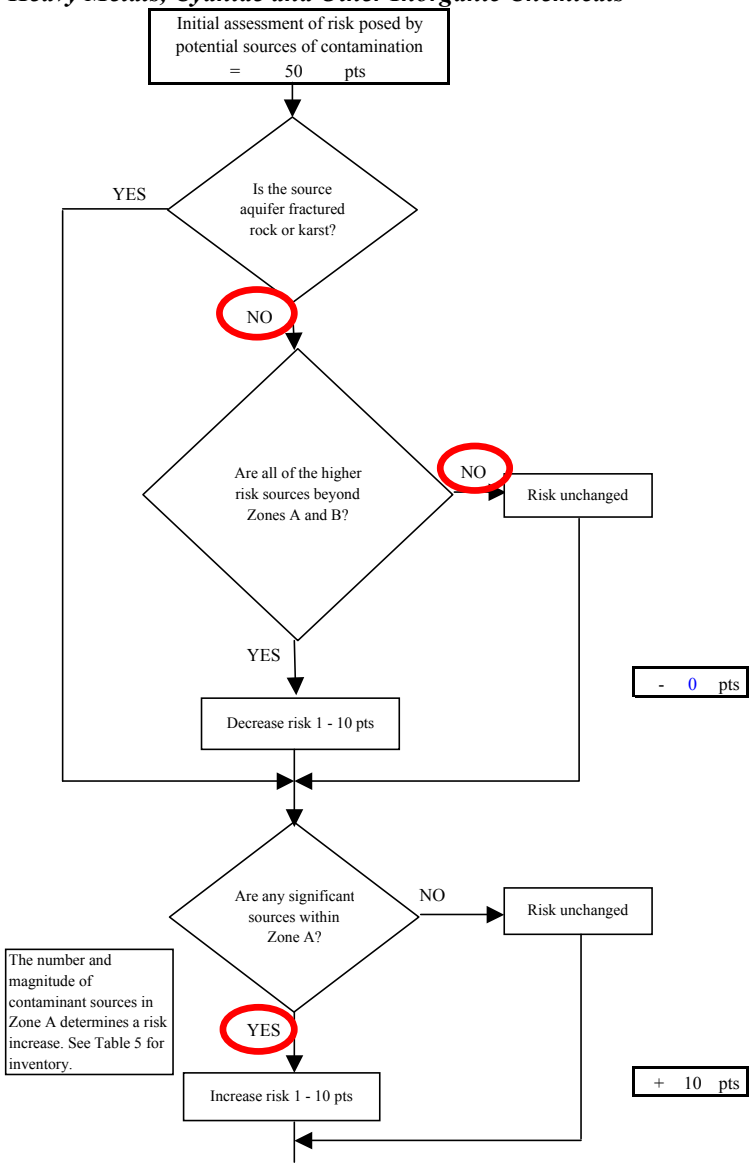


Chart 9. Contaminant risks for Ft. Yukon Public Water System (PWS No. 360256.001) - Heavy Metals, Cyanide and Other Inorganic Chemicals

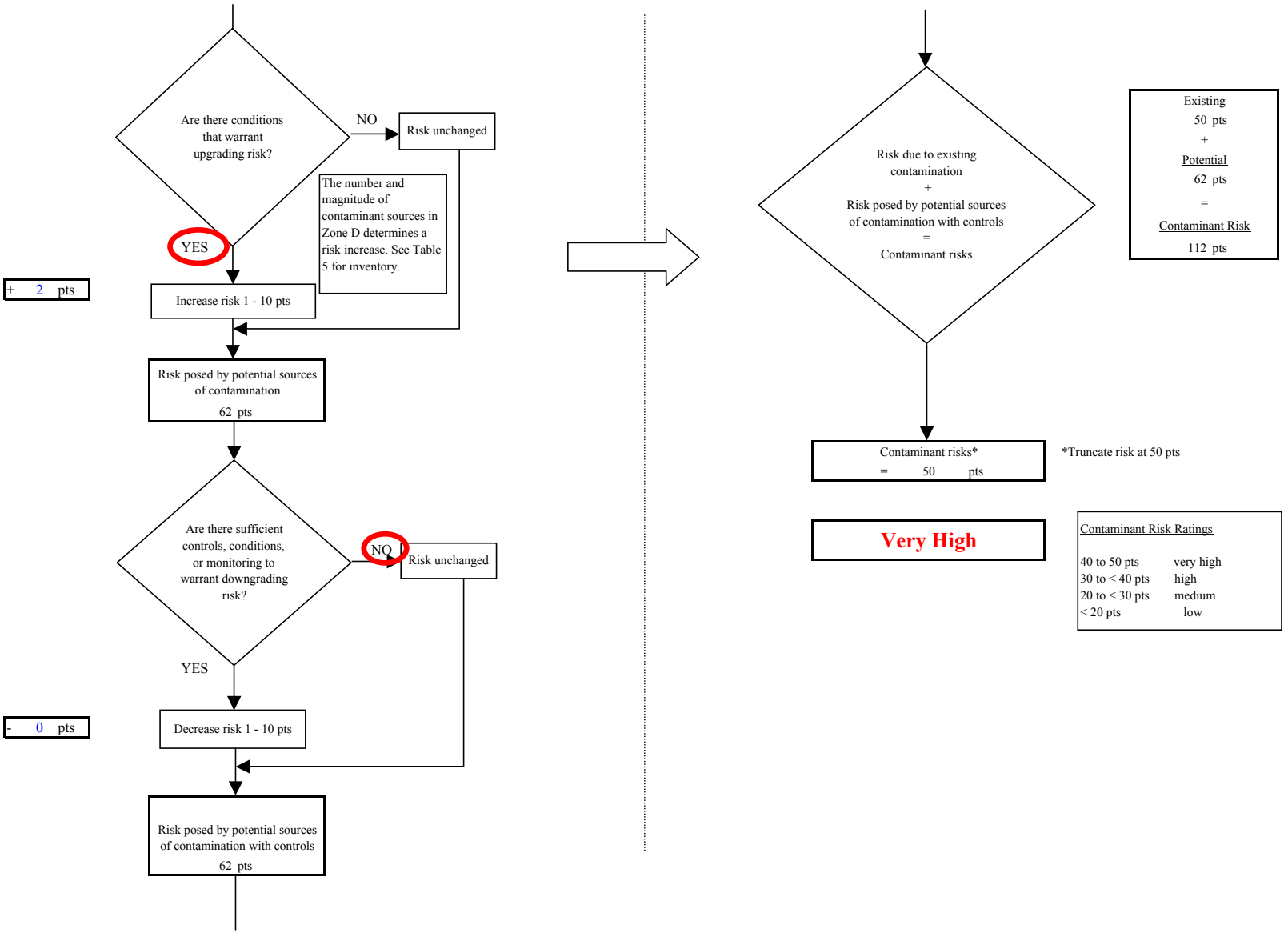


Chart 10. Vulnerability analysis for Ft. Yukon Public Water System (PWS No. 360256.001) - Heavy Metals, Cyanide and Other Inorganic Chemicals

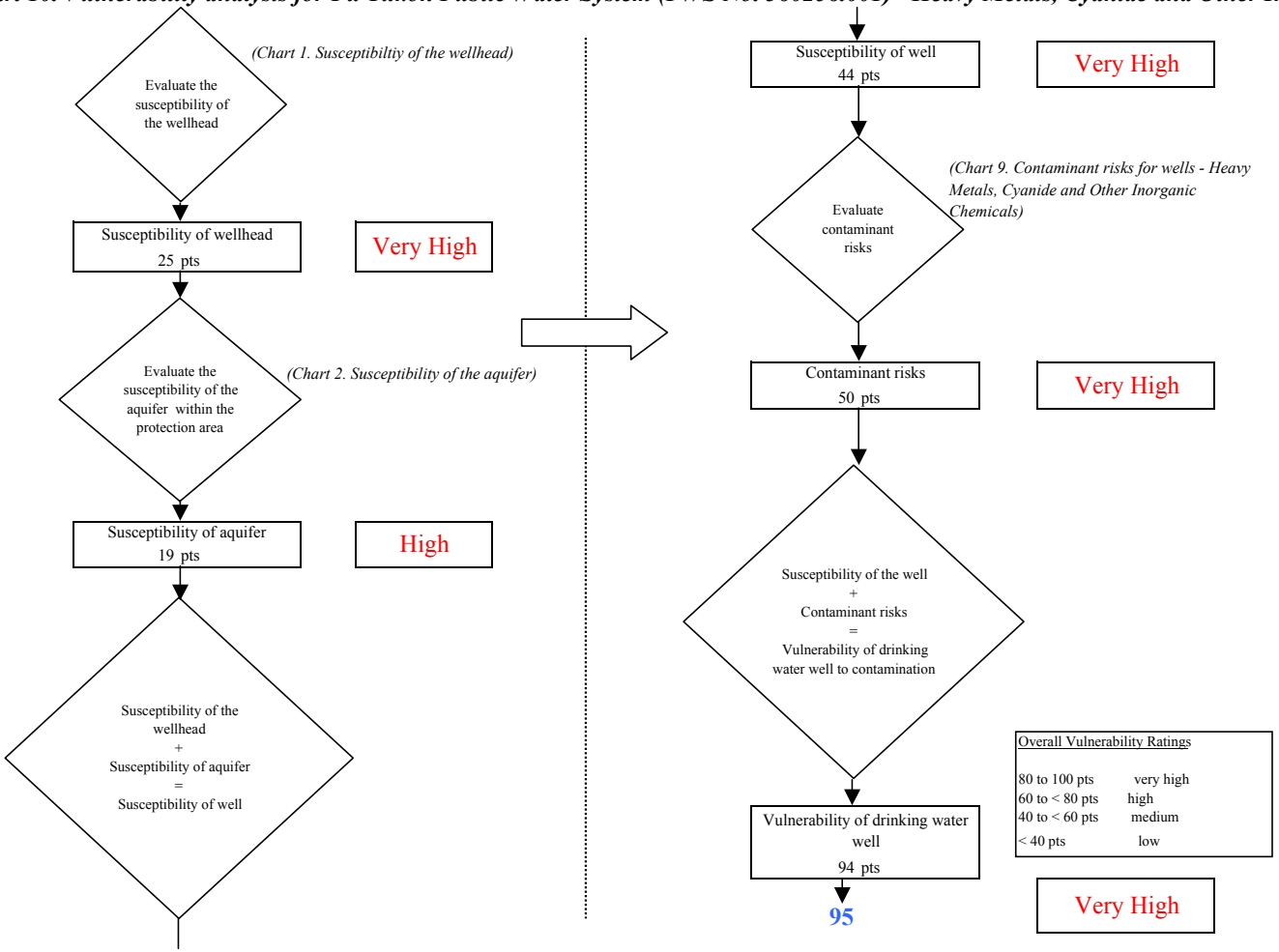


Chart 11. Contaminant risks for Ft. Yukon Public Water System (PWS No. 360256.001) - Synthetic Organic Chemicals

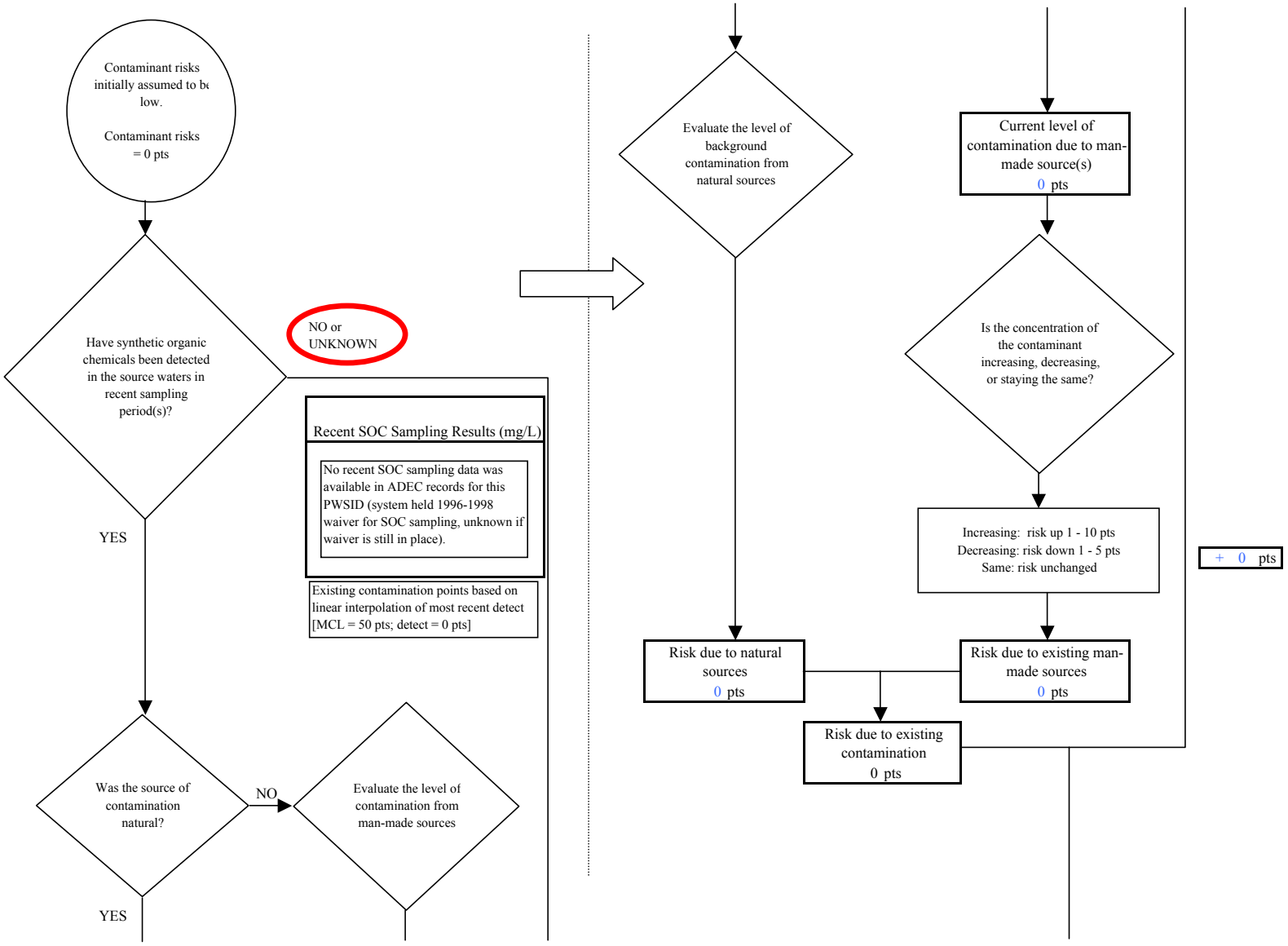
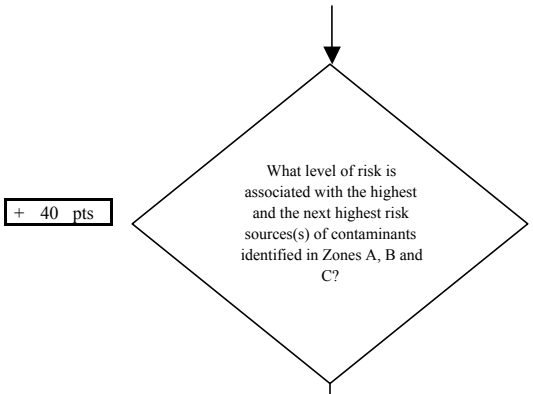


Chart 11. Contaminant risks for Ft. Yukon Public Water System (PWS No. 360256.001) - Synthetic Organic Chemicals



+ 40 pts

Risk Levels for Contaminant Sources identified in Zones A, B and C

	Zone A	Zones B&C	Total
Very Highs(s)	1	0	1
High(s)	1	0	1
Medium(s)	6	0	6
Low(s)	31	0	31

	LOW 10 pts	**MEDIUM** 20 pts	**HIGH** 30 pts	**VERY HIGH** 40 pts
LOW	≥ 10 sources + 10 pts	≥ 10 sources + 5 pts	≥ 20 sources + 5 pts	----
MEDIUM	----	≥ 2 sources + 5 pts	≥ 5 sources + 5 pts	≥ 10 sources + 5 pts
HIGH	----	----	≥ 1 source + 10 pts	≥ 2 sources + 10 pts
VERY HIGH	----	----	----	≥ 1 source + 10 pts

Matrix Score 40

Note: Septic systems, sewerlines, and roads are each assigned a risk ranking for each individua contaminant source in the CSI. The VA, however, counts these contaminant sources as a group and assigns a calculated number of either "lows" or "mediums" based on the density.

The number and magnitude of contaminant sources in Zone A determines a risk increase. See Table 6 for inventory.

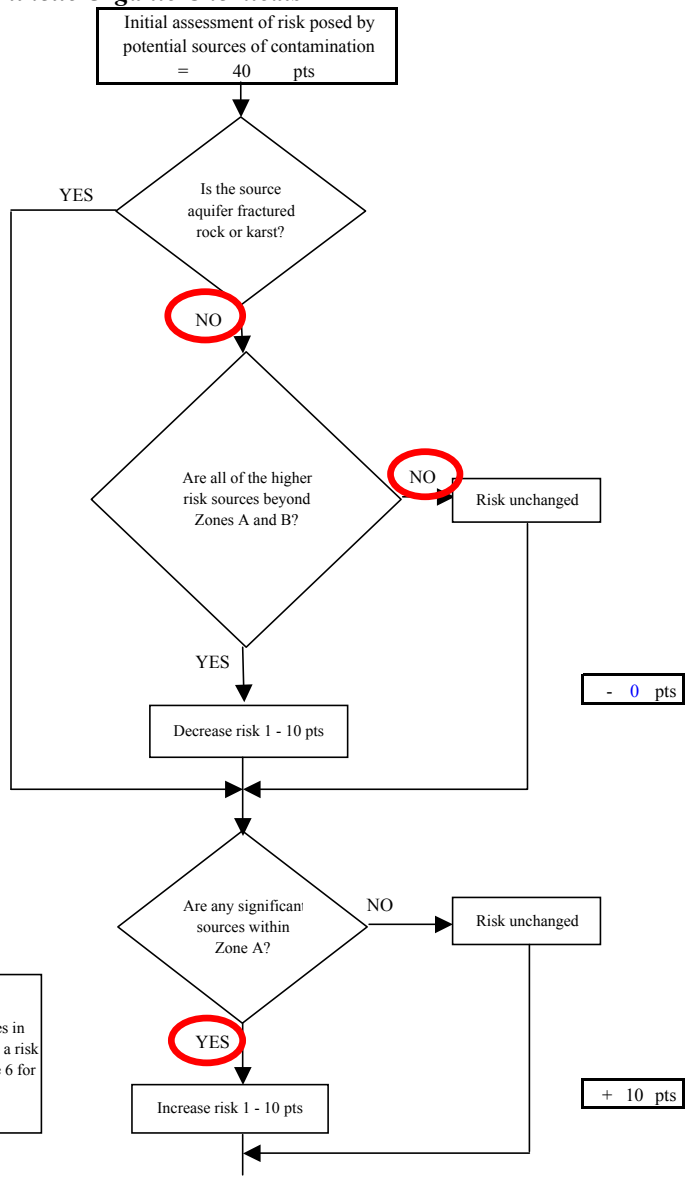


Chart 11. Contaminant risks for Ft. Yukon Public Water System (PWS No. 360256.001) - Synthetic Organic Chemicals

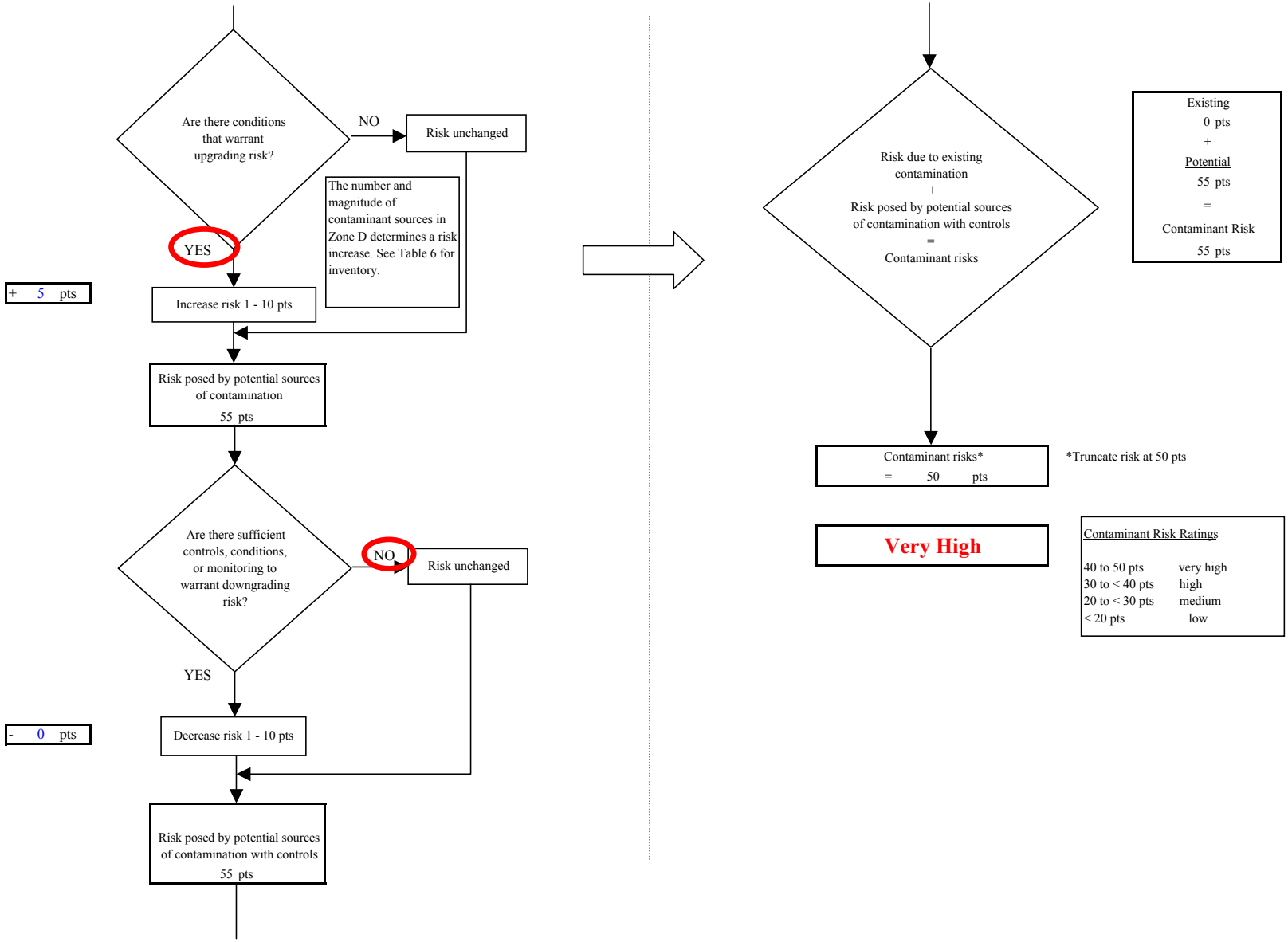


Chart 12. Vulnerability analysis for Ft. Yukon Public Water System (PWS No. 360256.001) - Synthetic Organic Chemicals

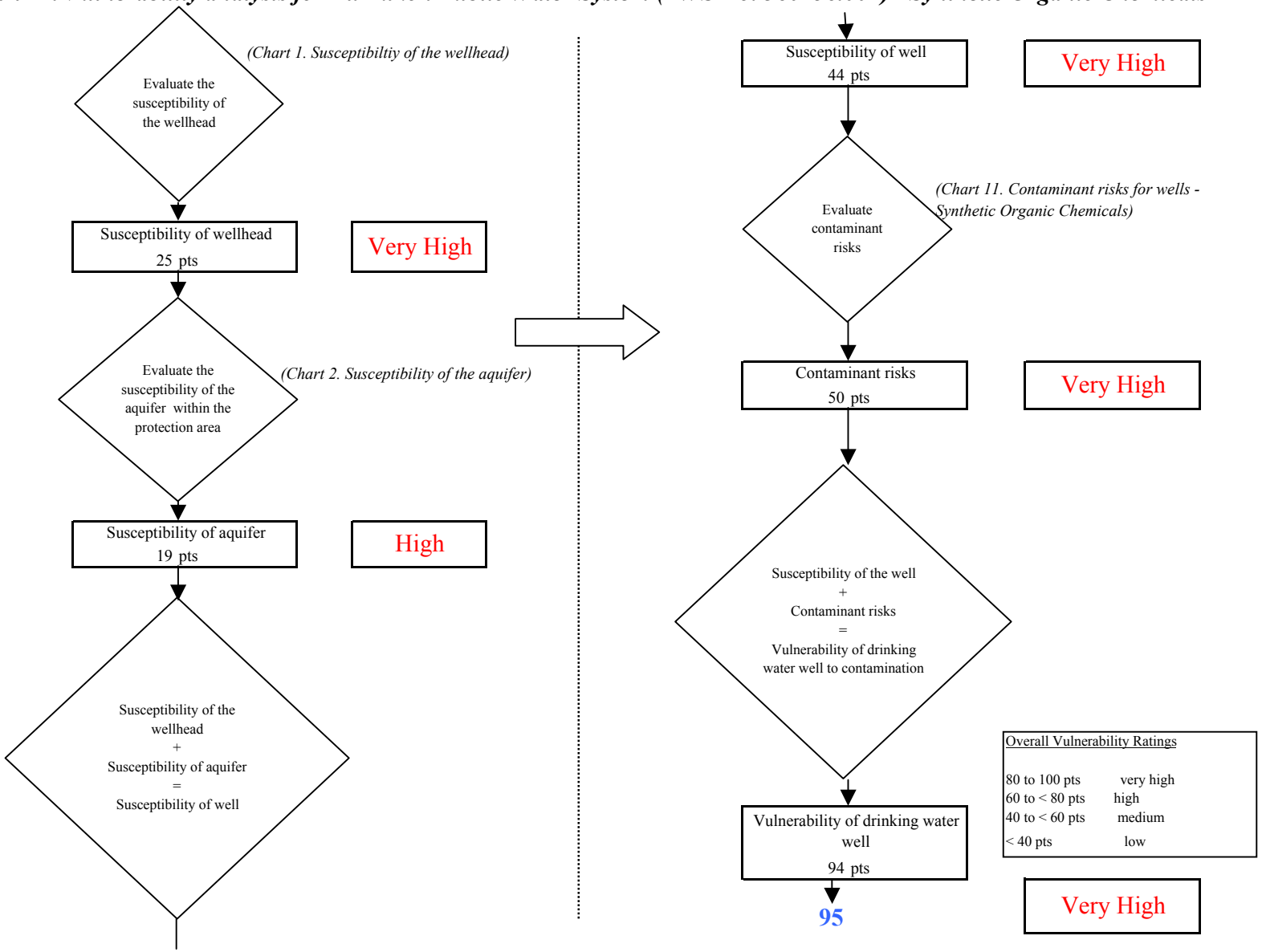


Chart 13. Contaminant risks for Ft. Yukon Public Water System (PWS No. 360256.001) - Other Organic Chemicals

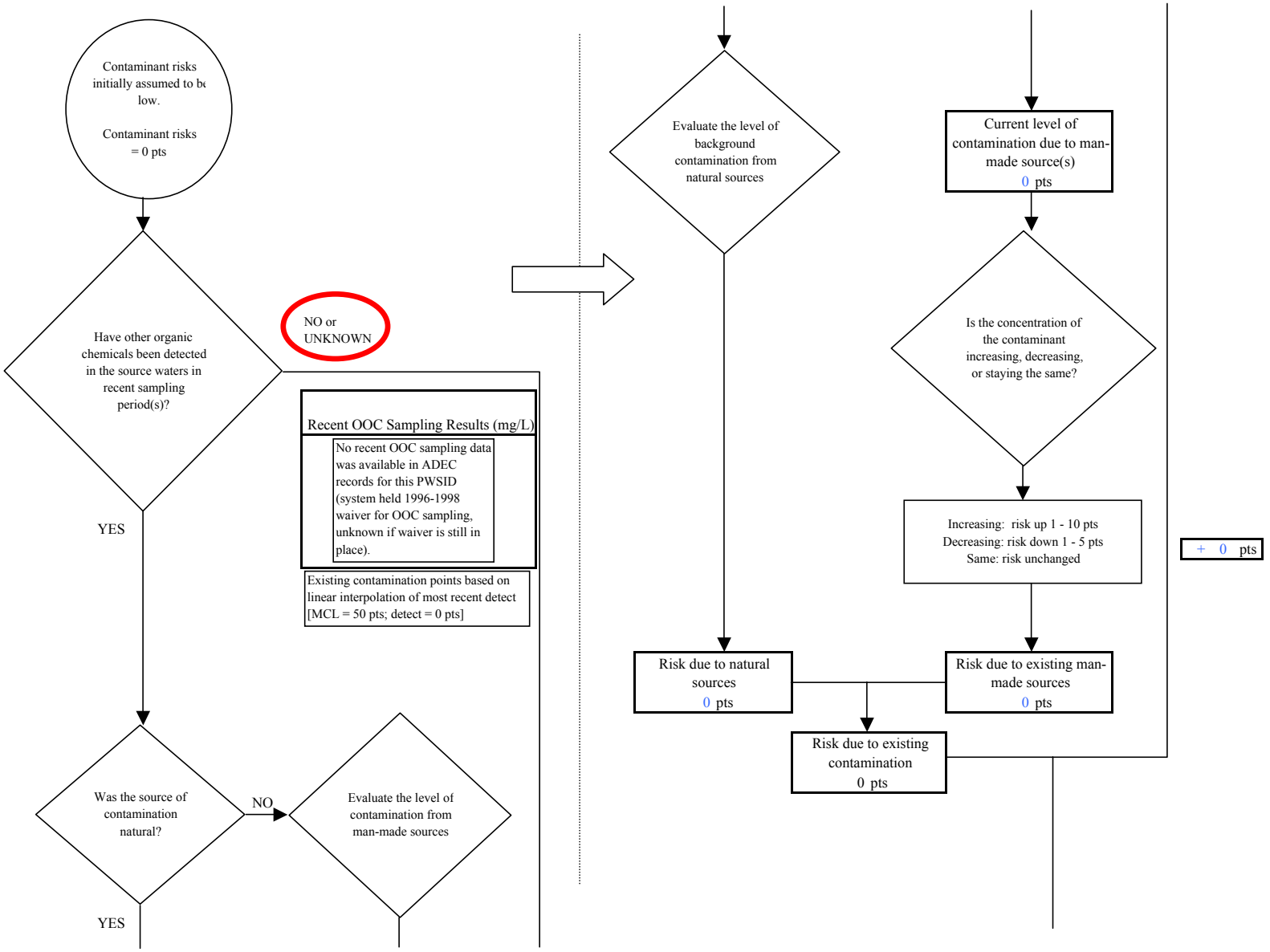


Chart 13. Contaminant risks for Ft. Yukon Public Water System (PWS No. 360256.001) - Other Organic Chemicals

+ 50 pts

What level of risk is associated with the highest and the next highest risk sources(s) of contaminants identified in Zones A, B and C?

Risk Levels for Contaminant Sources identified in Zones A, B and C

	Zone A	Zones B&C	Total
Very Highs(s)	2	0	2
High(s)	5	0	5
Medium(s)	9	0	9
Low(s)	29	0	29

	LOW 10 pts	**MEDIUM** 20 pts	**HIGH** 30 pts	**VERY HIGH** 40 pts
LOW	≥ 10 sources + 10 pts	≥ 10 sources + 5 pts	≥ 20 sources + 5 pts	----
MEDIUM	----	≥ 2 sources + 5 pts	≥ 5 sources + 5 pts	≥ 10 sources + 5 pts
HIGH	----	----	≥ 1 source + 10 pts	≥ 2 sources + 10 pts
VERY HIGH	----	----	----	≥ 1 source + 10 pts

Matrix Score 50

Note: Septic systems, sewerlines, and roads are each assigned a risk ranking for each individua contaminant source in the CSI. The VA, however, counts these contaminant sources as a group and assigns a calculated number of either "lows" or "mediums" based on the density.

Initial assessment of risk posed by potential sources of contamination = 50 pts

Is the source aquifer fractured rock or karst?

YES

NO

Are all of the higher risk sources beyond Zones A and B?

NO

Risk unchanged

YES

Decrease risk 1 - 10 pts

- 0 pts

Are any significant sources within Zone A?

NO

Risk unchanged

YES

Increase risk 1 - 10 pts

+ 10 pts

The number and magnitude of contaminant sources in Zone A determines a risk increase. See Table 7 for inventory.

Chart 13. Contaminant risks for Ft. Yukon Public Water System (PWS No. 360256.001) - Other Organic Chemicals

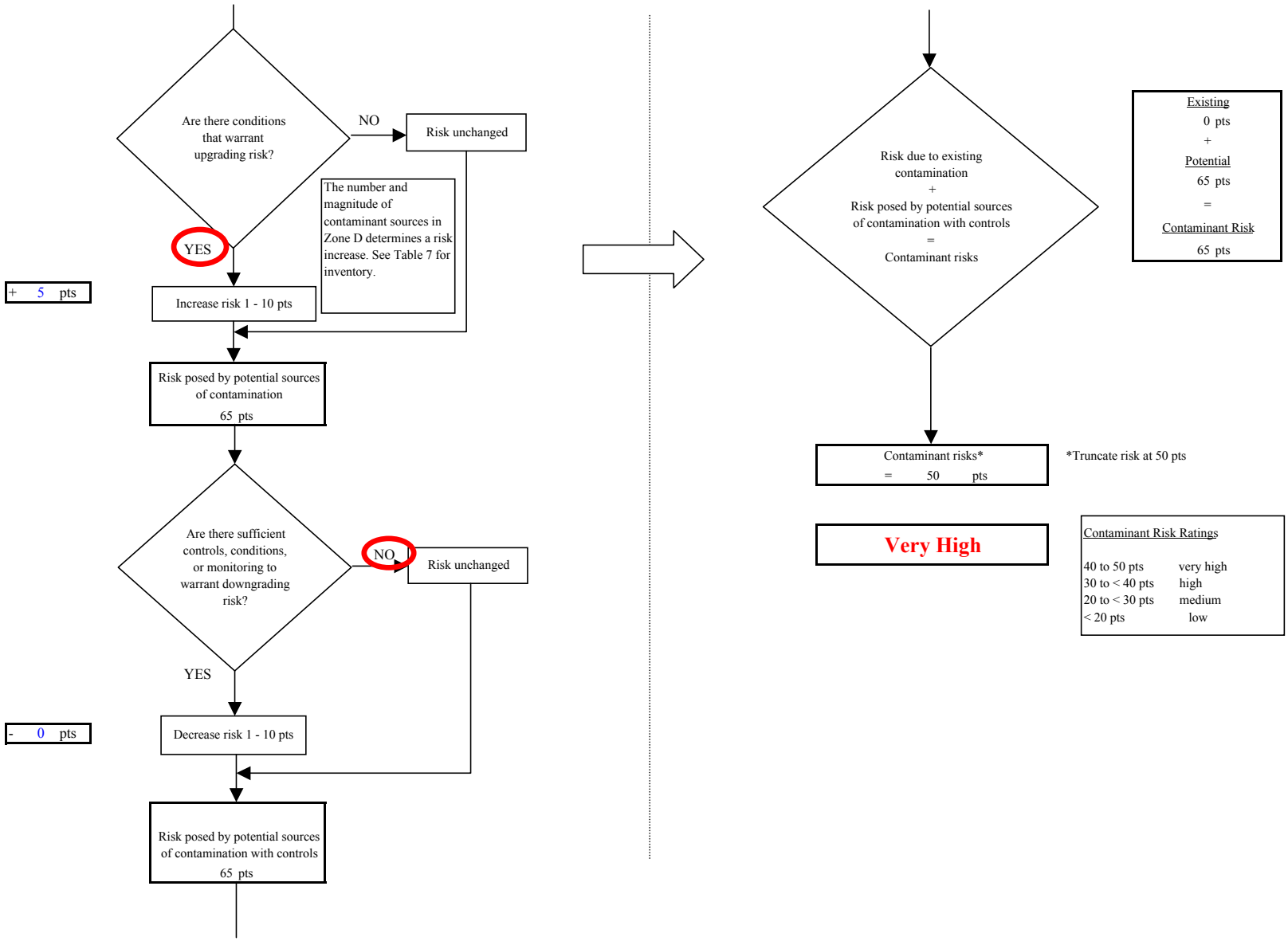


Chart 14. Vulnerability analysis for Ft. Yukon Public Water System (PWS No. 360256.001) - Other Organic Chemicals