Source Water Assessment

A Hydrogeologic Susceptibility and Vulnerability Assessment for Fort Greely - Main Post Well #8 Drinking Water System, Fort Greely, Alaska

PWSID # 370780.001

July 2004

DRINKING WATER PROTECTION PROGRAM REPORT 1381
Alaska Department of Environmental Conservation

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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.

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Source Water Assessment for Fort Greely - Main Post Well #8 Source of Public Drinking Water, Delta Junction, Alaska

Drinking Water Protection Program
Alaska Department of Environmental Conservation

EXECUTIVE SUMMARY

Fort Greely - Main Post has three Public Water System (PWS) wells. Based on ADEC records, the well (PWS No. 370780.001) has been used as a drinking water source since it was drilled in 1954. This source water assessment report is exclusively limited to PWSID #370780.001.

The well is a Class A (community and non-transient/non-community) water system located at Building 625 at Fort Greely in Delta Junction, Alaska. The May 2001 sanitary survey indicates that there is secondary storage with a capacity of 188,000-gallons. The drinking water source is treated with calcium hypochlorite. This system operates year-round and serves approximately 250 residents and 500 nonresidents through 93 service connections. The wellhead received a susceptibility rating of **Low** and the aquifer received a susceptibility rating of **Medium**. Combining these two ratings produce a **Low** rating for the natural susceptibility of the well.

Identified potential and current sources of contaminants for the public drinking water source include: a gasoline station, multiple fuel storage tanks, and ADEC recognized contaminated sites. A detailed inventory can be found in 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 **Medium** for bacteria and viruses, nitrates and nitrites, and synthetic organic chemicals; and a vulnerability rating of **High** for volatile organic chemicals, heavy metals, cyanide and other inorganic chemicals, and other organic chemicals.

PUBLIC DRINKING WATER SYSTEM

The Fort Greely - Main Post Well #8 well is a Class A (community/non-transient/non-community) public water system. The system is located at Building 625 at Fort Greely, Alaska (Sec. 15, T012S, R010E, Fairbanks Meridian; see Map A of Appendix A).

Fort Greely is 5 miles south of Delta Junction on the Richardson Highway. It lies east of the Delta River, approximately 100 miles southeast of Fairbanks. The 2003 census prepared by the state demographer estimates a current population of 320 due to base closure; however, the area is also currently occupied by construction personnel and other service providers for the duration of a base conversion project estimated to be completed in 2004 (ADCED, 2003). Average annual precipitation for the area is 12 inches, including approximately 37 inches of snowfall. Temperatures can be as extreme as -63 to 92°F.

Fort Greely utilizes wells as a water source and operates a piped water and sewer system. All households are fully plumbed (ADCED, 2003). Most homes are heated by steam heat. Refuse is collected by and transported to a landfill operated by Fort Greely. Golden Valley Electric Association, a REA cooperative, provides electricity fueled by coal (ADCED, 2003). Fort Greely has an onsite diesel backup.

According to information supplied by ADEC for the Fort Greely - Main Post Well #8 PWS, the depth of the primary water well is 395 feet below the ground surface. Based on available well construction details, it is unknown if the well is screened and it is assumed to be completed in an unconfined aquifer. The well is not located within a floodplain.

Information acquired from the May 2001 sanitary survey for the public water system indicated that the land surface was 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 grouted according to ADEC regulations. Proper grouting provides added protection against contaminants traveling along the well casing annulus and into source waters.

The general area lies in the Tanana-Kuskokwim Lowland, a broad depression bordering the Alaska Range on the north. The principal surficial deposits in the surrounding area are composed of moderately well sorted silt, sand, and gravel. It is likely that

deep sediments in the area are poorly sorted lacustrine, glacial, or marine sediments of low permeability. There are five major soil types in the area: Salchaket, Jarvis, Nenana, Chena, and Tanana (Nelson, 1995).

DRINKING WATER PROTECTION AREA

In order to evaluate whether a drinking water source is at risk, we must first evaluate what the most likely pathways for surface contamination to reach the groundwater are. 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 Greely - Main Post Well #8 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 Greely - Main Post Well #8 PWS was determined using an analytical calculation and includes Zones A, B, C, and D (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 Greely - Main Post Well #8 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

The Fort Greely - Main Post Well #8 water well is 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	0	Low
Susceptibility of the Aquifer	20	Very High
Natural Susceptibility	20	Medium

Contaminant risks to a drinking water source depend on the type, number or density, and distribution of contaminant sources. This score has been derived froman 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:

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

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

Table 3. Contaminant Risks

Category	Score	Rating
Bacteria and Viruses	35	High
Nitrates and/or Nitrites	36	High
Volatile Organic Chemicals	49	Very High

Heavy Metals, Cyanide and Other Inorganic Chemicals	50	Very High
Synthetic Organic Chemicals	33	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	55	Medium
Nitrates and Nitrites	55	Medium
Volatile Organic Chemicals	70	High
Heavy Metals, Cyanide and Other Inorganic Chemicals	70	High
Synthetic Organic Chemicals	5	Medium
Other Organic Chemicals	70	High

Bacteria and Viruses

The contaminant risk for bacteria and viruses is **High**. The risk is primarily attributed to the presence of chemical and biological agents located in Zone A. Other potential contaminant sources are also found within the protection area (see Table 2 – Appendix B).

Coliform (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 coliform and E. coli, which only come from human and animal fecal waste. Harmful bacteria can cause diarrhea, cramps, nausea, headaches, or other symptoms (EPA, 2003).

No positive bacteria counts have 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 **Medium**.

Nitrates and Nitrites

The contaminant risk for nitrates and nitrites is **High**. The risk to this source of public drinking water is primarily attributed to the presence of an injection well for industrial water and water disposal located in Zone A. Other potential contaminant sources are also found 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, the reported concentrations of nitrates do not exceed the maximum contaminant level (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.

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 **Medium**.

Volatile Organic Chemicals

The contaminant risk for volatile organic chemicals is **Very High**. The risk is primarily attributed to the presence of a pesticide manufacturing facility as well as numerous ADEC recognized contaminated sites located in Zones A and B. Other potential contaminant sources are also found within the protection area (see Table 4 – Appendix B).

All recent sampling data for VOCs were below the detection levels for Fort Greely - Main Post Well #8 (See Chart 7 – Contaminant Risks for Volatile Organic Chemicals in Appendix D).

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 **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 battery manufacturing and chemical and biological agents located in Zone A. Other potential contaminant sources are also found within the protection area (see Table 5 – Appendix B).

Based on review of recent sampling records for this public water system, moderate levels of cyanide, copper and lead have been detected in recent sampling history. The analytes did not exceed their respective MCL's of 0.2 mg/L, 1.3 mg/L and 0.015 mg/L (see Chart 9 – Contaminant Risks for Heavy Metals, Cyanide, and Other Inorganic Chemicals in Appendix D).

The major sources of cyanide releases to water are reported to be discharges from metal finishing industries, iron and steel mills, and organic chemical industries. Chlorination treatment of some wastewaters can produce chloroacetonitriles as a by-product. The most commonly used form, hydrogen cyanide, is mainly used in manufacturing other cyanides, particularly adiponitrile which is used in nylon, and acrylonitrile - used in acrylic/modacrylic fibers and resins. Other cyanides such as dichlobenil, bromoxynil and bantrol, are used as herbicides. Tabun is used as a chemical warfare agent. Potassium cyanide is used for silver plating and for dyes and specialty products (EPA, 2002).

The reported concentrations of copper and lead are likely attributed to the water treatment/conveyance system. 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 **High**.

Synthetic Organic Chemicals

The contaminant risk for synthetic organic chemicals is **High**. The risk is primarily attributed the manufacturing of pesticides in Zone A. Other potential contaminant sources are also found within the protection area (see Table 6 – Appendix B).

All recent sampling data for SOC's were below detection levels for Fort Greely - Main Post Well #8 (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 **Medium**.

Other Organic Chemicals

The contaminant risk for other organic chemicals is **Very High**. The risk is primarily attributed to the manufacturing of pesticides in Zone A. Other potential contaminant sources are also found within the protection area (see Table 7 – Appendix B).

All recent sampling data for OOC's were below detection levels for Fort Greely - Main Post Well #8 (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 **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 Fort Greely - Main Post Well #8 and the communities of Fort Greely and Delta Junction 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

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

Nelson, G.L., 1995, Overview of Environmental and Hydrogeologic Conditions near Big Delta, Alaska, U.S. Geological Survey Open File Report 95-180, prepared in cooperation with the FAA.

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)

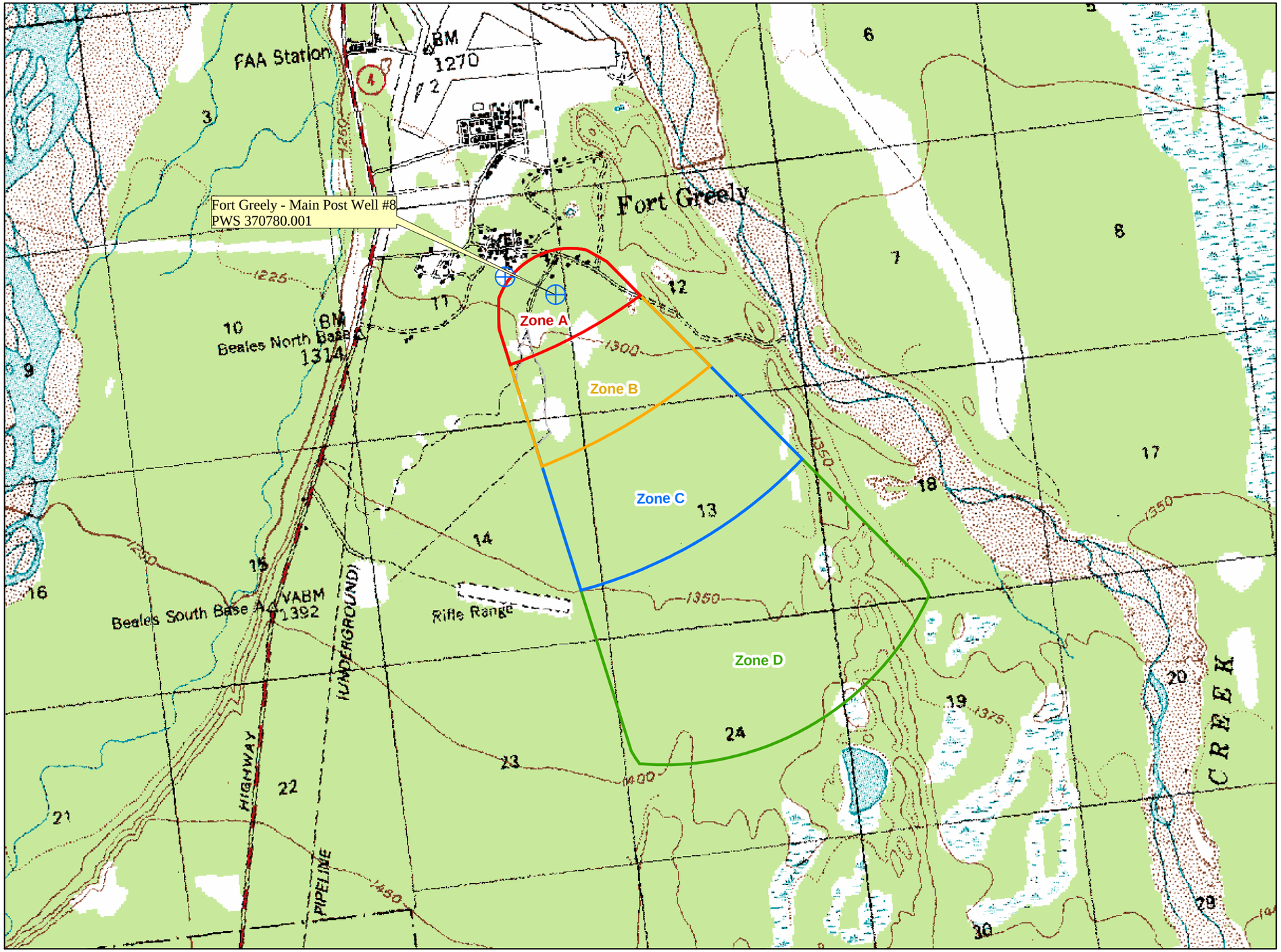
APPENDIX C

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 #370780.001 Fort Greely - Main Post Well #8



LEGEND

- Public Water System Well

Hydrography/Physical

- Parcels
- Stream
- Lake or Pond
- Contours

Transportation

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

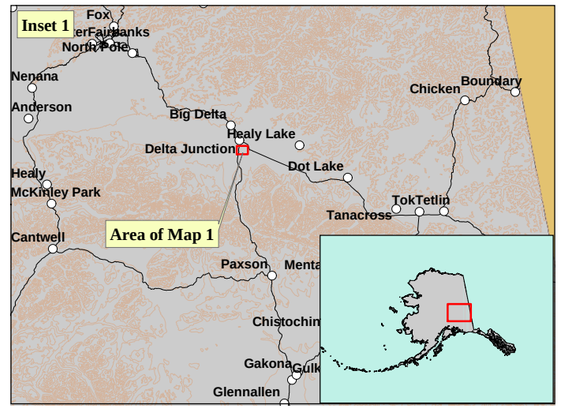
Protection Zones

- Zone A Protection Area– Several Months Travel Time
- Zone B Protection Area– 2 Years Travel Time
- Zone C Protection Area– 5 Years Travel Time
- Zone D Protection Area– 10 Years Travel Time

Data Sources:
- Contaminant Sources, Public Water System Wells, Contours Alaska Department of Environmental Conservation (ADEC)
- Critical Facilities, Federal Emergency Management Agency (FEMA)

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 0.3 0.6 1.2 1.8 2.4 Miles

Fort Greely - Main Post Well #8
PWS 370780.001
Appendix A Map A

Table 1

Contaminant Source Inventory for

Fort Greely - Main Post Well #8

PWSID 370780.001

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Map Number*	*Comments*
Gasoline stations (without repair shop)	C15	C15-01	A	C	Ft. Greely Bldg. 602 PX Gas Station
Welding shops	C43	C43-01	A	C	Ft. Greely Bldg. 612 Allied T. Shop
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-01	A	C	Assume 300 or less sewer lines in Zone A
Scrap, salvage, or junk yards	D59	D59-01	A	C	Ft. Greely Bldg. 601 Utilities Yard
Storage piles, waste impoundment, and transfer areas	D62	D62-01	A	C	Ft. Greely Bldg. 162; material release
Storage piles, waste impoundment, and transfer areas	D62	D62-02	A	C	Ft. Greely Bldg. 210; remedial actions completed
Machine and metal work shops	I23	I23-01	A	C	Ft. Greely Bldg. 612 Allied T. Shop
Septic systems	R02	R02-01	A	C	Assume 5 or less septic systems in Zone A
Tanks, diesel (underground)	T08	T08-01	A	C	Ft. Greely Bldg. 602 PX Gas Station
Tanks, gasoline (underground)	T12	T12-01	A	C	Ft. Greely Bldg. 602 PX Gas Station
Tanks, heating oil, nonresidential (aboveground)	T14	T14-01	A	C	Beales Range Facility
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-01	A	C	Fort Greely SMDC Asphalt Disposal. Reckey: 199733X100112. Status: Inactive. DRO and GRO were identified, as well as low concentrations of DDD. The date and extent of contamination are unknown.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-02	A	C	Fort Greely SMDC Sludge Drying Beds. Reckey: 199733X900111. Status: Inactive. DDT, Dieldrin, and heavy metals have been identified in surface soils. The date and extent of contamination are unknown.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-03	A	C	Fort Greely SMDC Nuclear Reactor. Reckey: 199233X830801. Status: Inactive. Cracked wall in building attached to entombed reactor.SM-1A Pipeline used to dispose of radioactive process water removed in 1998-99.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-04	A	C	Fort Greely SMDC Parcel 64 Bldg 349. Reckey: 199233X930302. Status: Inactive. High potential for pesticide, herbicide, and POL soil contamination.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-05	A	C	Fort Greely SMDC Bldg. 606. Reckey: 199233X930603. Status: Inactive. Waste oil, chlorinated solvents, and antifreeze have been discharged to drains and possibly to gravel pad around building.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-06	A	C	Fort Greely SMDC Bldg. 319. Reckey: 199233X117501. Status: Inactive. Discovered stained area from spill and excavated to 3 feet. PID readings indicate >200 ppm hydrocarbon.

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Map Number*	*Comments*
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-07	A	C	Fort Greely SMDC Parcel 51 Bldg 602. Reckey: 199133X022601. Status: Closed. Petroleum release from an underground storage tank system at the PX gas station, Building 602, UST #433. Extent of contamination and threat to health unknown.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-08	A	C	Ft. Greely Bldg. 110
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-09	A	C	Fort Greely SMDC Parcel 99 B. 162. Reckey: 199033X106401. Status: Closed. 2,000 gallon heating oil UST was pulled. Excavated approximately 116 cubic yards of contaminated soil and stockpiled. DRO > migration to groundwater cleanup level.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-10	A	C	Fort Greely SMDC Parcel 72 Bldg 320. Reckey: 199033X106403. Status: Inactive. Heating oil tank #422 was excavated. 32 cubic yards of contaminated soil was excavated and stockpiled.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-11	A	C	Ft. Greely Bldg. 210. Reckey: 199033X106402. Status: Closed. 500 gallon heating oil tank UST. 33 cubic yards of contaminated soil.
Contaminated sites, Superfund (CERCLA) (inactive or abandoned hazardous wastes)	U06	U06-01	A	C	Ft. Greely Bldg. 601 Utilities Yard
Contaminated sites, Superfund (CERCLA) (inactive or abandoned hazardous wastes)	U06	U06-02	A	C	Ft. Greely Bldg. 605 Cold Test Ctr.
Contaminated sites, Superfund (CERCLA) (inactive or abandoned hazardous wastes)	U06	U06-03	A	C	Ft. Greely Bldg. 612 Allied T. Shop
Contaminated sites, Superfund (CERCLA) (inactive or abandoned hazardous wastes)	U06	U06-04	A	C	Ft. Greely Bldg. 615 Roads Shop
Contaminated sites, Superfund (CERCLA) (inactive or abandoned hazardous wastes)	U06	U06-05	A	C	Ft. Greely Bldg. 626 Auto Shop
Contaminated sites, Superfund (CERCLA) (inactive or abandoned hazardous wastes)	U06	U06-06	A	C	Ft. Greely Bldg. 628 Boat Shop
Boat yards and marinas	X15	X15-01	A	C	Ft. Greely Bldg. 628 Boat Shop
Government vehicle maintenance facilities	X19	X19-01	A	C	Ft. Greely Bldg. 605 Cold Test Ctr.
Government vehicle maintenance facilities	X19	X19-02	A	C	Ft. Greely Bldg. 615 Roads Shop
Highways and roads, dirt/gravel	X24	X24-01	A	C	Assume 1-20 roads in Zone A
Electric power generation (fossil fuels)	X36	X36-01	A	C	Ft. Greely Bldg. 606 Power Plant

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Map Number*	*Comments*
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-12	B	C	Fort Greely SMDC Parcel 99 B. 162. Reckey: 199033X106401. Status: Closed. 2,000 gallon heating oil UST was pulled. Excavated approximately 116 cubic yards of contaminated soil and stockpiled. DRO > migration to groundwater cleanup level.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-13	B	C	Ft. Greely Bldg. 210. Reckey: 199033X106402. Status: Closed. 500 gallon heating oil tank UST. 33 cubic yards of contaminated soil.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-14	B	C	Fort Greely Bldg. 617 Fuel Spill
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-15	B	C	Fort Greely SMDC Nuclear Reactor. Reckey: 199233X830801. Status: Inactive. Cracked wall in building attached to entombed reactor.SM-1A Pipeline used to dispose of radioactive process water removed in 1998-99.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-16	B	C	Fort Greely SMDC Parcel 64 Bldg 349. Reckey: 199233X930302. Status: Inactive. High potential for pesticide, herbicide, and POL soil contamination.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-17	B	C	Fort Greely SMDC Parcel 115 B. 601. Reckey: 199233X930601. Status: Inactive. Resources and Utilities (R&U) Yard north of Building 601 used since the 1950s to store raw materials as well as POLs, transformers, solvents and herbicides.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-18	B	C	Fort Greely SMDC Bldg. 605 CRTC. Reckey: 199233X930602. Status: Inactive. Building 605 houses the post vehicle maintenance shop, paint bay, and battery storage area. Building drains connected to the Post sewer system.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-19	B	C	Fort Greely SMDC Parcel 135 B.612. Reckey: 199233X930604. Status: Inactive. Waste accumulation area within 50 feet of building. Drains connected to sewer. Suspected contaminants are solvents, paint waste and corrosives.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-20	B	C	Fort Greely SMDC Bldg. 615. Reckey: 199233X930605. Status: Inactive. Drains connected to the sewer. 2000 gallon UST used for solvent wastes may be present near building.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-21	B	C	Fort Greely SMDC Parcel 130 B. 626. Reckey: 199233X930606. Status: Inactive. Past practice for disposal of spent solvent was to pour it on ground or into waste oil tank. POLs, solvents, and metals. DRO>migration to groundwater cleanup level.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-22	B	C	Fort Greely SMDC Parcel 57 Bldg 628. Reckey: 199233X930607. Status: Inactive. A dry well, waste POL fill point, and a POL product storage and dispensing area are nearby. High potential for POL and solvent contamination.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-23	B	C	Fort Greely SMDC Asphalt Disposal. Reckey: 199733X100112. Status: Inactive. DRO and GRO were identified, as well as low concentrations of DDD. The date and extent of contamination are unknown.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-24	B	C	Fort Greely SMDC Parcel 98 Bldg 159. Reckey: 199733X100113. Status: Inactive. Toluene and DRO have been identified in soil. The date and extent of contamination are unknown.

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Map Number*	*Comments*
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-25	B	C	Fort Greely SMDC Sludge Drying Beds. Reckey: 199733X900111. Status: Inactive. DDT, Dieldrin, and heavy metals have been identified in surface soils. The date and extent of contamination are unknown.
Highways and roads, dirt/gravel	X24	X24-02	B	C	Assume 1-20 roads in Zone B

Table 2

Contaminant Source Inventory and Risk Ranking for Fort Greely - Main Post Well #8 Sources of Bacteria and Viruses

PWSID 370780.001

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-01	A	Medium	C	Assume 300 or less sewer lines in Zone A
Septic systems	R02	R02-01	A	Low	C	Assume 5 or less septic systems in Zone A
Highways and roads, dirt/gravel	X24	X24-01	A	Low	C	Assume 1-20 roads in Zone A
Highways and roads, dirt/gravel	X24	X24-02	B	Low	C	Assume 1-20 roads in Zone B

Table 3

Contaminant Source Inventory and Risk Ranking for Fort Greely - Main Post Well #8 Sources of Nitrates/Nitrites

PWSID 370780.001

Contaminant Source Type	***Contaminant Source ID***	***CS ID tag***	***Zone***	***Risk Ranking for Analysis***	***Map Number***	***Comments***
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-01	A	Medium	C	Assume 300 or less sewer lines in Zone A
Septic systems	R02	R02-01	A	Low	C	Assume 5 or less septic systems in Zone A
Highways and roads, dirt/gravel	X24	X24-01	A	Low	C	Assume 1-20 roads in Zone A
Highways and roads, dirt/gravel	X24	X24-02	B	Low	C	Assume 1-20 roads in Zone B

Table 4

Contaminant Source Inventory and Risk Ranking for Fort Greely - Main Post Well #8 Sources of Volatile Organic Chemicals

PWSID 370780.001

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Gasoline stations (without repair shop)	C15	C15-01	A	High	C	Ft. Greely Bldg. 602 PX Gas Station
Welding shops	C43	C43-01	A	Medium	C	Ft. Greely Bldg. 612 Allied T. Shop
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-01	A	Low	C	Assume 300 or less sewer lines in Zone A
Scrap, salvage, or junk yards	D59	D59-01	A	Low	C	Ft. Greely Bldg. 601 Utilities Yard
Machine and metal work shops	I23	I23-01	A	High	C	Ft. Greely Bldg. 612 Allied T. Shop
Septic systems	R02	R02-01	A	Low	C	Assume 5 or less septic systems in Zone A
Tanks, diesel (underground)	T08	T08-01	A	High	C	Ft. Greely Bldg. 602 PX Gas Station
Tanks, gasoline (underground)	T12	T12-01	A	High	C	Ft. Greely Bldg. 602 PX Gas Station
Tanks, heating oil, nonresidential (aboveground)	T14	T14-01	A	Low	C	Beales Range Facility
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-01	A	High	C	Fort Greely SMDC Asphalt Disposal. Reckey: 199733X100112. Status: Inactive. DRO and GRO were identified, as well as low concentrations of DDD. The date and extent of contamination are unknown.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-02	A	High	C	Fort Greely SMDC Sludge Drying Beds. Reckey: 199733X900111. Status: Inactive. DDT, Dieldrin, and heavy metals have been identified in surface soils The date and extent of contamination are unknown.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-03	A	High	C	Fort Greely SMDC Nuclear Reactor. Reckey: 199233X830801. Status: Inactive. Cracked wall in building attached to entombed reactor.SM-1A Pipeline used to dispose of radioactive process water removed in 1998-99.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-04	A	High	C	Fort Greely SMDC Parcel 64 Bldg 349. Reckey: 199233X930302. Status: Inactive. High potential for pesticide, herbicide, and POL soil contamination.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-05	A	High	C	Fort Greely SMDC Bldg. 606. Reckey: 199233X930603. Status: Inactive. Waste oil, chlorinated solvents, and antifreeze have been discharged to drains and possibly to gravel pad around building.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-06	A	High	C	Fort Greely SMDC Bldg. 319. Reckey: 199233X117501. Status: Inactive. Discovered stained area from spill and excavated to 3 feet. PID readings indicate >200 ppm hydrocarbon.

Table 4 (continued)

Contaminant Source Inventory and Risk Ranking for Fort Greely - Main Post Well #8 Sources of Volatile Organic Chemicals

PWSID 370780.001

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	U04-07	A	High	C	Fort Greely SMDC Parcel 51 Bldg 602. Reckey: 199133X022601. Status: Closed. Petroleum release from an underground storage tank system at the PX gas station, Building 602, UST #433. Extent of contamination and threat to health unknown.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-08	A	High	C	Ft. Greely Bldg. 110
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-09	A	High	C	Fort Greely SMDC Parcel 99 B. 162. Reckey: 199033X106401. Status: Closed. 2,000 gallon heating oil UST was pulled. Excavated approximately 116 cubic yards of contaminated soil and stockpiled. DRO > migration to groundwater cleanup level.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-10	A	High	C	Fort Greely SMDC Parcel 72 Bldg 320. Reckey: 199033X106403. Status: Inactive. Heating oil tank #422 was excavated. 32 cubic yards of contaminated soil was excavated and stockpiled.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-11	A	High	C	Ft. Greely Bldg. 210. Reckey: 199033X106402. Status: Closed. 500 gallon heating oil tank UST. 33 cubic yards of contaminated soil.
Boat yards and marinas	X15	X15-01	A	Low	C	Ft. Greely Bldg. 628 Boat Shop
Government vehicle maintenance facilities	X19	X19-01	A	Medium	C	Ft. Greely Bldg. 605 Cold Test Ctr.
Government vehicle maintenance facilities	X19	X19-02	A	Medium	C	Ft. Greely Bldg. 615 Roads Shop
Highways and roads, dirt/gravel	X24	X24-01	A	Low	C	Assume 1-20 roads in Zone A
Electric power generation (fossil fuels)	X36	X36-01	A	Medium	C	Ft. Greely Bldg. 606 Power Plant
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-12	B	High	C	Fort Greely SMDC Parcel 99 B. 162. Reckey: 199033X106401. Status: Closed. 2,000 gallon heating oil UST was pulled. Excavated approximately 116 cubic yards of contaminated soil and stockpiled. DRO > migration to groundwater cleanup level.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-13	B	High	C	Ft. Greely Bldg. 210. Reckey: 199033X106402. Status: Closed. 500 gallon heating oil tank UST. 33 cubic yards of contaminated soil.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-14	B	High	C	Fort Greely Bldg. 617 Fuel Spill
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-15	B	High	C	Fort Greely SMDC Nuclear Reactor. Reckey: 199233X830801. Status: Inactive. Cracked wall in building attached to entombed reactor.SM-1A Pipeline used to dispose of radioactive process water removed in 1998-99.

Table 4 (continued)

Contaminant Source Inventory and Risk Ranking for Fort Greely - Main Post Well #8 Sources of Volatile Organic Chemicals

PWSID 370780.001

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	U04-16	B	High	C	Fort Greely SMDC Parcel 64 Bldg 349. Reckey: 199233X930302. Status: Inactive. High potential for pesticide, herbicide, and POL soil contamination.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-17	B	High	C	Fort Greely SMDC Parcel 115 B. 601. Reckey: 199233X930601. Status: Inactive. Resources and Utilities (R&U) Yard north of Building 601 used since the 1950s to store raw materials as well as POLs, transformers, solvents, and herbicides.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-18	B	High	C	Fort Greely SMDC Bldg. 605 CRTC. Reckey: 199233X930602. Status: Inactive. Building 605 houses the post vehicle maintenance shop, paint bay, and battery storage area. Building drains connected to the Post sewer system.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-19	B	High	C	Fort Greely SMDC Parcel 135 B.612. Reckey: 199233X930604. Status: Inactive. Waste accumulation area within 50 feet of building. Drains connected to sewer. Suspected contaminants are solvents, paint waste and corrosives.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-20	B	High	C	Fort Greely SMDC Bldg. 615. Reckey: 199233X930605. Status: Inactive. Drains connected to the sewer. 2000 gallon UST used for solvent wastes may be present near building.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-21	B	High	C	Fort Greely SMDC Parcel 130 B. 626. Reckey: 199233X930606. Status: Inactive. Past practice for disposal of spent solvent was to pour it on ground or into waste oil tank. POLs, solvents, and metals. DRO>migration to groundwater cleanup level.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-22	B	High	C	Fort Greely SMDC Parcel 57 Bldg 628. Reckey: 199233X930607. Status: Inactive. A dry well, waste POL fill point, and a POL product storage and dispensing area are nearby. High potential for POL and solvent contamination.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-23	B	High	C	Fort Greely SMDC Asphalt Disposal. Reckey: 199733X100112. Status: Inactive. DRO and GRO were identified, as well as low concentrations of DDD. The date and extent of contamination are unknown.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-24	B	High	C	Fort Greely SMDC Parcel 98 Bldg 159. Reckey: 199733X100113. Status: Inactive. Toluene and DRO have been identified in soil. The date and extent of contamination are unknown.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-25	B	High	C	Fort Greely SMDC Sludge Drying Beds. Reckey: 199733X900111. Status: Inactive. DDT, Dieldrin, and heavy metals have been identified in surface soils The date and extent of contamination are unknown.
Highways and roads, dirt/gravel	X24	X24-02	B	Low	C	Assume 1-20 roads in Zone B

Table 5

Contaminant Source Inventory and Risk Ranking for Fort Greely - Main Post Well #8 Sources of Heavy Metals, Cyanide and Other Inorganic Chemicals

PWSID 370780.001

Contaminant Source Type	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Map Number	Comments
Gasoline stations (without repair shop)	C15	C15-01	A	Low	C	Ft. Greely Bldg. 602 PX Gas Station
Welding shops	C43	C43-01	A	Low	C	Ft. Greely Bldg. 612 Allied T. Shop
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-01	A	Low	C	Assume 300 or less sewer lines in Zone A
Scrap, salvage, or junk yards	D59	D59-01	A	High	C	Ft. Greely Bldg. 601 Utilities Yard
Machine and metal work shops	I23	I23-01	A	High	C	Ft. Greely Bldg. 612 Allied T. Shop
Septic systems	R02	R02-01	A	Low	C	Assume 5 or less septic systems in Zone A
Tanks, gasoline (underground)	T12	T12-01	A	Medium	C	Ft. Greely Bldg. 602 PX Gas Station
Tanks, heating oil, nonresidential (aboveground)	T14	T14-01	A	Low	C	Beales Range Facility
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-01	A	Low	C	Fort Greely SMDC Asphalt Disposal. Reckey: 199733X100112. Status: Inactive. DRO and GRO were identified, as well as low concentrations of DDD. The date and extent of contamination are unknown.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-02	A	Low	C	Fort Greely SMDC Sludge Drying Beds. Reckey: 199733X900111. Status: Inactive. DDT, Dieldrin, and heavy metals have been identified in surface soils The date and extent of contamination are unknown.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-03	A	Low	C	Fort Greely SMDC Nuclear Reactor. Reckey: 199233X830801. Status: Inactive. Cracked wall in building attached to entombed reactor.SM-1A Pipeline used to dispose of radioactive process water removed in 1998-99.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-04	A	Low	C	Fort Greely SMDC Parcel 64 Bldg 349. Reckey: 199233X930302. Status: Inactive. High potential for pesticide, herbicide, and POL soil contamination.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-05	A	Low	C	Fort Greely SMDC Bldg. 606. Reckey: 199233X930603. Status: Inactive. Waste oil, chlorinated solvents, and antifreeze have been discharged to drains and possibly to gravel pad around building.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-06	A	Low	C	Fort Greely SMDC Bldg. 319. Reckey: 199233X117501. Status: Inactive. Discovered stained area from spill and excavated to 3 feet. PID readings indicate >200 ppm hydrocarbon.

Table 5 (continued)

Contaminant Source Inventory and Risk Ranking for Fort Greely - Main Post Well #8

Sources of Heavy Metals, Cyanide and Other Inorganic Chemicals

PWSID 370780.001

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	U04-07	A	Low	C	Fort Greely SMDC Parcel 51 Bldg 602. Reckey: 199133X022601. Status: Closed. Petroleum release from an underground storage tank system at the PX gas station, Building 602, UST #433. Extent of contamination and threat to health unknown.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-08	A	Low	C	Ft. Greely Bldg. 110
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-09	A	Low	C	Fort Greely SMDC Parcel 99 B. 162. Reckey: 199033X106401. Status: Closed. 2,000 gallon heating oil UST was pulled. Excavated approximately 116 cubic yards of contaminated soil and stockpiled. DRO > migration to groundwater cleanup level.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-10	A	Low	C	Fort Greely SMDC Parcel 72 Bldg 320. Reckey: 199033X106403. Status: Inactive. Heating oil tank #422 was excavated. 32 cubic yards of contaminated soil was excavated and stockpiled.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-11	A	Low	C	Ft. Greely Bldg. 210. Reckey: 199033X106402. Status: Closed. 500 gallon heating oil tank UST. 33 cubic yards of contaminated soil.
Boat yards and marinas	X15	X15-01	A	Low	C	Ft. Greely Bldg. 628 Boat Shop
Government vehicle maintenance facilities	X19	X19-01	A	Low	C	Ft. Greely Bldg. 605 Cold Test Ctr.
Government vehicle maintenance facilities	X19	X19-02	A	Low	C	Ft. Greely Bldg. 615 Roads Shop
Highways and roads, dirt/gravel	X24	X24-01	A	Low	C	Assume 1-20 roads in Zone A
Electric power generation (fossil fuels)	X36	X36-01	A	Medium	C	Ft. Greely Bldg. 606 Power Plant
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-12	B	Low	C	Fort Greely SMDC Parcel 99 B. 162. Reckey: 199033X106401. Status: Closed. 2,000 gallon heating oil UST was pulled. Excavated approximately 116 cubic yards of contaminated soil and stockpiled. DRO > migration to groundwater cleanup level.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-13	B	Low	C	Ft. Greely Bldg. 210. Reckey: 199033X106402. Status: Closed. 500 gallon heating oil tank UST. 33 cubic yards of contaminated soil.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-14	B	Low	C	Fort Greely Bldg. 617 Fuel Spill
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-15	B	Low	C	Fort Greely SMDC Nuclear Reactor. Reckey: 199233X830801. Status: Inactive. Cracked wall in building attached to entombed reactor.SM-1A Pipeline used to dispose of radioactive process water removed in 1998-99.

Table 5 (continued)

Contaminant Source Inventory and Risk Ranking for Fort Greely - Main Post Well #8 Sources of Heavy Metals, Cyanide and Other Inorganic Chemicals

PWSID 370780.001

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	U04-16	B	Low	C	Fort Greely SMDC Parcel 64 Bldg 349. Reckey: 199233X930302. Status: Inactive. High potential for pesticide, herbicide, and POL soil contamination.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-17	B	Low	C	Fort Greely SMDC Parcel 115 B. 601. Reckey: 199233X930601. Status: Inactive. Resources and Utilities (R&U) Yard north of Building 601 used since the 1950s to store raw materials as well as POLs, transformers, solvents, and herbicides.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-18	B	Low	C	Fort Greely SMDC Bldg. 605 CRTC. Reckey: 199233X930602. Status: Inactive. Building 605 houses the post vehicle maintenance shop, paint bay, and battery storage area. Building drains connected to the Post sewer system.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-19	B	Low	C	Fort Greely SMDC Parcel 135 B.612. Reckey: 199233X930604. Status: Inactive. Waste accumulation area within 50 feet of building. Drains connected to sewer. Suspected contaminants are solvents, paint waste and corrosives.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-20	B	Low	C	Fort Greely SMDC Bldg. 615. Reckey: 199233X930605. Status: Inactive. Drains connected to the sewer. 2000 gallon UST used for solvent wastes may be present near building.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-21	B	Low	C	Fort Greely SMDC Parcel 130 B. 626. Reckey: 199233X930606. Status: Inactive. Past practice for disposal of spent solvent was to pour it on ground or into waste oil tank. POLs, solvents, and metals. DRO>migration to groundwater cleanup level.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-22	B	Low	C	Fort Greely SMDC Parcel 57 Bldg 628. Reckey: 199233X930607. Status: Inactive. A dry well, waste POL fill point, and a POL product storage and dispensing area are nearby. High potential for POL and solvent contamination.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-23	B	Low	C	Fort Greely SMDC Asphalt Disposal. Reckey: 199733X100112. Status: Inactive. DRO and GRO were identified, as well as low concentrations of DDD. The date and extent of contamination are unknown.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-24	B	Low	C	Fort Greely SMDC Parcel 98 Bldg 159. Reckey: 199733X100113. Status: Inactive. Toluene and DRO have been identified in soil. The date and extent of contamination are unknown.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-25	B	Low	C	Fort Greely SMDC Sludge Drying Beds. Reckey: 199733X900111. Status: Inactive. DDT, Dieldrin, and heavy metals have been identified in surface soils The date and extent of contamination are unknown.
Highways and roads, dirt/gravel	X24	X24-02	B	Low	C	Assume 1-20 roads in Zone B

Table 6

Contaminant Source Inventory and Risk Ranking for Fort Greely - Main Post Well #8 Sources of Synthetic Organic Chemicals

PWSID 370780.001

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-01	A	Low	C	Assume 300 or less sewer lines in Zone A
Scrap, salvage, or junk yards	D59	D59-01	A	Medium	C	Ft. Greely Bldg. 601 Utilities Yard
Machine and metal work shops	I23	I23-01	A	Low	C	Ft. Greely Bldg. 612 Allied T. Shop
Septic systems	R02	R02-01	A	Low	C	Assume 5 or less septic systems in Zone A
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-01	A	Low	C	Fort Greely SMDC Asphalt Disposal. Reckey: 199733X100112. Status: Inactive. DRO and GRO were identified, as well as low concentrations of DDD. The date and extent of contamination are unknown.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-02	A	Low	C	Fort Greely SMDC Sludge Drying Beds. Reckey: 199733X900111. Status: Inactive. DDT, Dieldrin, and heavy metals have been identified in surface soils The date and extent of contamination are unknown.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-03	A	Low	C	Fort Greely SMDC Nuclear Reactor. Reckey: 199233X830801. Status: Inactive. Cracked wall in building attached to entombed reactor.SM-1A Pipeline used to dispose of radioactive process water removed in 1998-99.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-04	A	Low	C	Fort Greely SMDC Parcel 64 Bldg 349. Reckey: 199233X930302. Status: Inactive. High potential for pesticide, herbicide, and POL soil contamination.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-05	A	Low	C	Fort Greely SMDC Bldg. 606. Reckey: 199233X930603. Status: Inactive. Waste oil, chlorinated solvents, and antifreeze have been discharged to drains and possibly to gravel pad around building.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-06	A	Low	C	Fort Greely SMDC Bldg. 319. Reckey: 199233X117501. Status: Inactive. Discovered stained area from spill and excavated to 3 feet. PID readings indicate >200 ppm hydrocarbon.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-07	A	Low	C	Fort Greely SMDC Parcel 51 Bldg 602. Reckey: 199133X022601. Status: Closed. Petroleum release from an underground storage tank system at the PX gas station, Building 602, UST #433. Extent of contamination and threat to health unknown.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-08	A	Low	C	Ft. Greely Bldg. 110
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-09	A	Low	C	Fort Greely SMDC Parcel 99 B. 162. Reckey: 199033X106401. Status: Closed. 2,000 gallon heating oil UST was pulled. Excavated approximately 116 cubic yards of contaminated soil and stockpiled. DRO > migration to groundwater cleanup level.

Table 6 (continued)

Contaminant Source Inventory and Risk Ranking for Fort Greely - Main Post Well #8 Sources of Synthetic Organic Chemicals

PWSID 370780.001

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	U04-10	A	Low	C	Fort Greely SMDC Parcel 72 Bldg 320. Reckey: 199033X106403. Status: Inactive. Heating oil tank #422 was excavated. 32 cubic yards of contaminated soil was excavated and stockpiled.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-11	A	Low	C	Ft. Greely Bldg. 210. Reckey: 199033X106402. Status: Closed. 500 gallon heating oil tank UST. 33 cubic yards of contaminated soil.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-12	B	Low	C	Fort Greely SMDC Parcel 99 B. 162. Reckey: 199033X106401. Status: Closed. 2,000 gallon heating oil UST was pulled. Excavated approximately 116 cubic yards of contaminated soil and stockpiled. DRO > migration to groundwater cleanup level.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-13	B	Low	C	Ft. Greely Bldg. 210. Reckey: 199033X106402. Status: Closed. 500 gallon heating oil tank UST. 33 cubic yards of contaminated soil.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-14	B	Low	C	Fort Greely Bldg. 617 Fuel Spill
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-15	B	Low	C	Fort Greely SMDC Nuclear Reactor. Reckey: 199233X830801. Status: Inactive. Cracked wall in building attached to entombed reactor.SM-1A Pipeline used to dispose of radioactive process water removed in 1998-99.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-16	B	Low	C	Fort Greely SMDC Parcel 64 Bldg 349. Reckey: 199233X930302. Status: Inactive. High potential for pesticide, herbicide, and POL soil contamination.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-17	B	Low	C	Fort Greely SMDC Parcel 115 B. 601. Reckey: 199233X930601. Status: Inactive. Resources and Utilities (R&U) Yard north of Building 601 used since the 1950s to store raw materials as well as POLs, transformers, solvents, and herbicides.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-18	B	Low	C	Fort Greely SMDC Bldg. 605 CRTC. Reckey: 199233X930602. Status: Inactive. Building 605 houses the post vehicle maintenance shop, paint bay, and battery storage area. Building drains connected to the Post sewer system.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-19	B	Low	C	Fort Greely SMDC Parcel 135 B.612. Reckey: 199233X930604. Status: Inactive. Waste accumulation area within 50 feet of building. Drains connected to sewer. Suspected contaminants are solvents, paint waste and corrosives.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-20	B	Low	C	Fort Greely SMDC Bldg. 615. Reckey: 199233X930605. Status: Inactive. Drains connected to the sewer. 2000 gallon UST used for solvent wastes may be present near building.

Table 6 (continued)

Contaminant Source Inventory and Risk Ranking for
Fort Greely - Main Post Well #8
Sources of Synthetic Organic Chemicals

PWSID 370780.001

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	U04-21	B	Low	C	Fort Greely SMDC Parcel 130 B. 626. Reckey: 199233X930606. Status: Inactive. Past practice for disposal of spent solvent was to pour it on ground or into waste oil tank. POLs, solvents, and metals. DRO>migration to groundwater cleanup level.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-22	B	Low	C	Fort Greely SMDC Parcel 57 Bldg 628. Reckey: 199233X930607. Status: Inactive. A dry well, waste POL fill point, and a POL product storage and dispensing area are nearby. High potential for POL and solvent contamination.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-23	B	Low	C	Fort Greely SMDC Asphalt Disposal. Reckey: 199733X100112. Status: Inactive. DRO and GRO were identified, as well as low concentrations of DDD. The date and extent of contamination are unknown.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-24	B	Low	C	Fort Greely SMDC Parcel 98 Bldg 159. Reckey: 199733X100113. Status: Inactive. Toluene and DRO have been identified in soil. The date and extent of contamination are unknown.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-25	B	Low	C	Fort Greely SMDC Sludge Drying Beds. Reckey: 199733X900111. Status: Inactive. DDT, Dieldrin, and heavy metals have been identified in surface soils The date and extent of contamination are unknown.

Table 7

Contaminant Source Inventory and Risk Ranking for Fort Greely - Main Post Well #8 Sources of Other Organic Chemicals

PWSID 370780.001

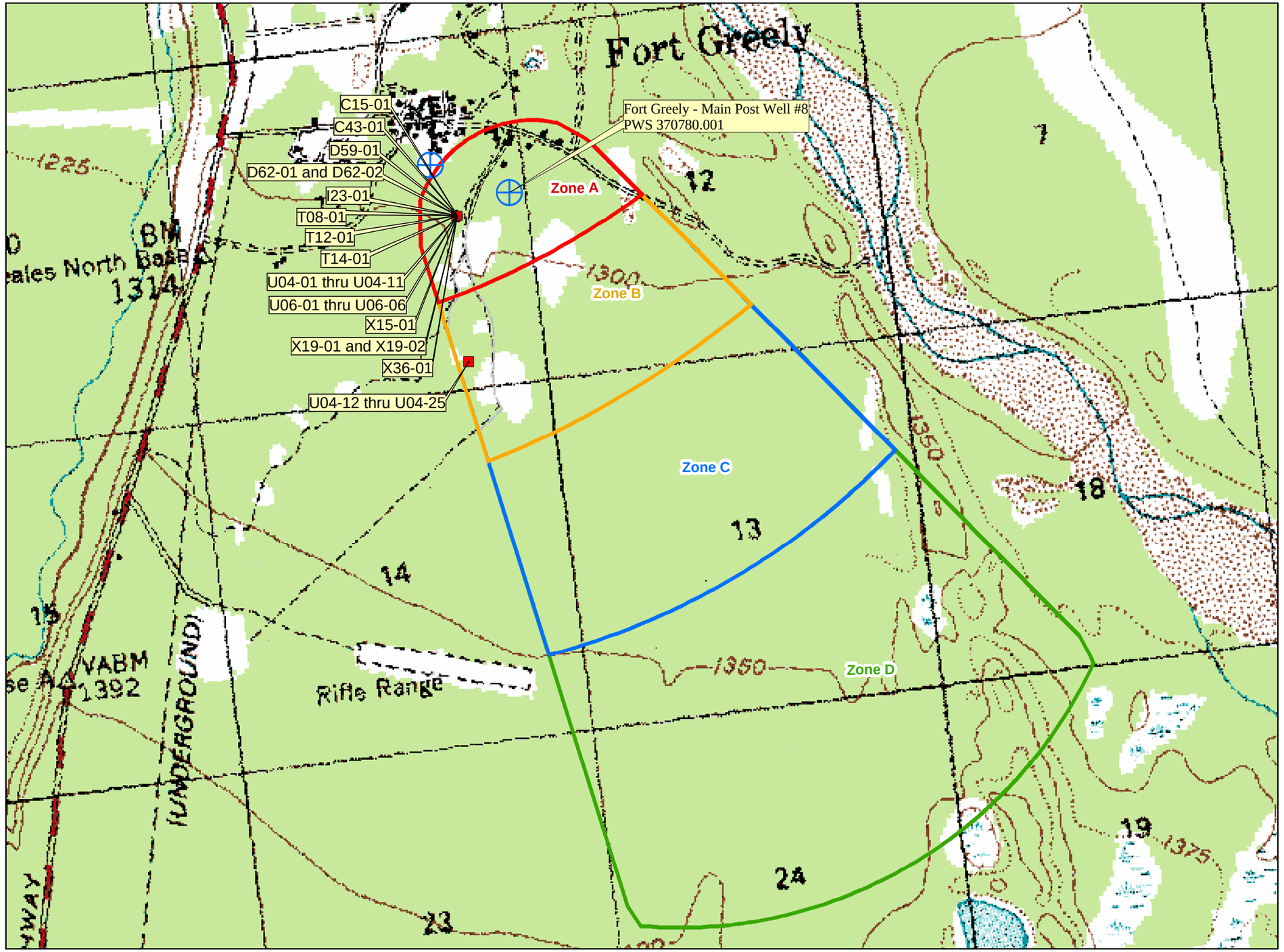
Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Gasoline stations (without repair shop)	C15	C15-01	A	Low	C	Ft. Greely Bldg. 602 PX Gas Station
Welding shops	C43	C43-01	A	Low	C	Ft. Greely Bldg. 612 Allied T. Shop
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-01	A	Low	C	Assume 300 or less sewer lines in Zone A
Scrap, salvage, or junk yards	D59	D59-01	A	High	C	Ft. Greely Bldg. 601 Utilities Yard
Machine and metal work shops	I23	I23-01	A	High	C	Ft. Greely Bldg. 612 Allied T. Shop
Septic systems	R02	R02-01	A	Low	C	Assume 5 or less septic systems in Zone A
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-01	A	Low	C	Fort Greely SMDC Asphalt Disposal. Reckey: 199733X100112. Status: Inactive. DRO and GRO were identified, as well as low concentrations of DDD. The date and extent of contamination are unknown.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-02	A	Low	C	Fort Greely SMDC Sludge Drying Beds. Reckey: 199733X900111. Status: Inactive. DDT, Dieldrin, and heavy metals have been identified in surface soils The date and extent of contamination are unknown.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-03	A	Low	C	Fort Greely SMDC Nuclear Reactor. Reckey: 199233X830801. Status: Inactive. Cracked wall in building attached to entombed reactor.SM-1A Pipeline used to dispose of radioactive process water removed in 1998-99.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-04	A	Low	C	Fort Greely SMDC Parcel 64 Bldg 349. Reckey: 199233X930302. Status: Inactive. High potential for pesticide, herbicide, and POL soil contamination.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-05	A	Low	C	Fort Greely SMDC Bldg. 606. Reckey: 199233X930603. Status: Inactive. Waste oil, chlorinated solvents, and antifreeze have been discharged to drains and possibly to gravel pad around building.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-06	A	Low	C	Fort Greely SMDC Bldg. 319. Reckey: 199233X117501. Status: Inactive. Discovered stained area from spill and excavated to 3 feet. PID readings indicate >200 ppm hydrocarbon.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-07	A	Low	C	Fort Greely SMDC Parcel 51 Bldg 602. Reckey: 199133X022601. Status: Closed. Petroleum release from an underground storage tank system at the PX gas station, Building 602, UST #433. Extent of contamination and threat to health unknown.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-08	A	Low	C	Ft. Greely Bldg. 110

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	U04-09	A	Low	C	Fort Greely SMDC Parcel 99 B. 162. Reckey: 199033X106401. Status: Closed. 2,000 gallon heating oil UST was pulled. Excavated approximately 116 cubic yards of contaminated soil and stockpiled. DRO > migration to groundwater cleanup level.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-10	A	Low	C	Fort Greely SMDC Parcel 72 Bldg 320. Reckey: 199033X106403. Status: Inactive. Heating oil tank #422 was excavated. 32 cubic yards of contaminated soil was excavated and stockpiled.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-11	A	Low	C	Ft. Greely Bldg. 210. Reckey: 199033X106402. Status: Closed. 500 gallon heating oil tank UST. 33 cubic yards of contaminated soil.
Boat yards and marinas	X15	X15-01	A	Low	C	Ft. Greely Bldg. 628 Boat Shop
Government vehicle maintenance facilities	X19	X19-01	A	Medium	C	Ft. Greely Bldg. 605 Cold Test Ctr.
Government vehicle maintenance facilities	X19	X19-02	A	Medium	C	Ft. Greely Bldg. 615 Roads Shop
Highways and roads, dirt/gravel	X24	X24-01	A	Low	C	Assume 1-20 roads in Zone A
Electric power generation (fossil fuels)	X36	X36-01	A	High	C	Ft. Greely Bldg. 606 Power Plant
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-12	B	Low	C	Fort Greely SMDC Parcel 99 B. 162. Reckey: 199033X106401. Status: Closed. 2,000 gallon heating oil UST was pulled. Excavated approximately 116 cubic yards of contaminated soil and stockpiled. DRO > migration to groundwater cleanup level.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-13	B	Low	C	Ft. Greely Bldg. 210. Reckey: 199033X106402. Status: Closed. 500 gallon heating oil tank UST. 33 cubic yards of contaminated soil.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-14	B	Low	C	Fort Greely Bldg. 617 Fuel Spill
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-15	B	Low	C	Fort Greely SMDC Nuclear Reactor. Reckey: 199233X830801. Status: Inactive. Cracked wall in building attached to entombed reactor.SM-1A Pipeline used to dispose of radioactive process water removed in 1998-99.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-16	B	Low	C	Fort Greely SMDC Parcel 64 Bldg 349. Reckey: 199233X930302. Status: Inactive. High potential for pesticide, herbicide, and POL soil contamination.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-17	B	Low	C	Fort Greely SMDC Parcel 115 B. 601. Reckey: 199233X930601. Status: Inactive. Resources and Utilities (R&U) Yard north of Building 601 used since the 1950s to store raw materials as well as POLs, transformers, solvents, and herbicides.

Contaminant Source Inventory and Risk Ranking for Fort Greely - Main Post Well #8 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	U04-18	B	Low	C	Fort Greely SMDC Bldg. 605 CRTC. Reckey: 199233X930602. Status: Inactive. Building 605 houses the post vehicle maintenance shop, paint bay, and battery storage area. Building drains connected to the Post sewer system.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-19	B	Low	C	Fort Greely SMDC Parcel 135 B.612. Reckey: 199233X930604. Status: Inactive. Waste accumulation area within 50 feet of building. Drains connected to sewer. Suspected contaminants are solvents, paint waste and corrosives.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-20	B	Low	C	Fort Greely SMDC Bldg. 615. Reckey: 199233X930605. Status: Inactive. Drains connected to the sewer. 2000 gallon UST used for solvent wastes may be present near building.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-21	B	Low	C	Fort Greely SMDC Parcel 130 B. 626. Reckey: 199233X930606. Status: Inactive. Past practice for disposal of spent solvent was to pour it on ground or into waste oil tank. POLs, solvents, and metals. DRO>migration to groundwater cleanup level.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-22	B	Low	C	Fort Greely SMDC Parcel 57 Bldg 628. Reckey: 199233X930607. Status: Inactive. A dry well, waste POL fill point, and a POL product storage and dispensing area are nearby. High potential for POL and solvent contamination.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-23	B	Low	C	Fort Greely SMDC Asphalt Disposal. Reckey: 199733X100112. Status: Inactive. DRO and GRO were identified, as well as low concentrations of DDD. The date and extent of contamination are unknown.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-24	B	Low	C	Fort Greely SMDC Parcel 98 Bldg 159. Reckey: 199733X100113. Status: Inactive. Toluene and DRO have been identified in soil. The date and extent of contamination are unknown.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-25	B	Low	C	Fort Greely SMDC Sludge Drying Beds. Reckey: 199733X900111. Status: Inactive. DDT, Dieldrin, and heavy metals have been identified in surface soils The date and extent of contamination are unknown.
Highways and roads, dirt/gravel	X24	X24-02	B	Low	C	Assume 1-20 roads in Zone B

Public Water Well System for PWS #370780.001 Fort Greely - Main Post Well #8
Showing Potential and Existing Sources of Contamination



LEGEND

Public Water System Well

Hydrography/Physical

- Parcels
- Stream
- Lake or Pond
- Contours

Transportation

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

Protection Zones

- Zone A Protection Area– Several Months Travel Time
- Zone B Protection Area– 2 Years Travel Time
- Zone C Protection Area– 5 Years Travel Time
- Zone D Protection Area– 10 Years Travel Time

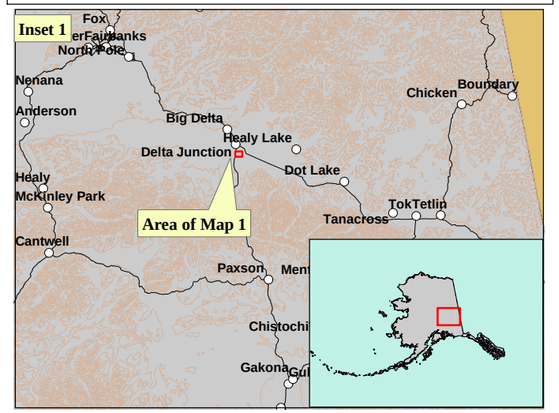
Existing or Potential Contaminant Sources

- Gasoline stations without repair shops (C15)
- Welding shop (C43)
- Scrap, salvage, or junk yards (D59)
- Storage piles, waste impoundment, and transfer areas (D62)
- Machine and metal work shops (I23)
- Tanks, diesel (underground) (T08)
- Tanks, gasoline (underground) (T12)
- Tanks, heating oil, nonresidential (aboveground) (T14)
- Contaminated sites, DEC recognized, non-Superfund, non-RCRA (U04)
- Contaminated sites, superfund (CERCLA) (inactive/abondoned hazardous wastes) (U06)
- Boat yards and marinas (X15)
- Government vehicle maintenance facilities (X19)
- Electric Power Generation (fossil fuels) (X36)

Data Sources:
- Contaminant Sources, Public Water System Wells, Contours Alaska Department of Environmental Conservation (ADEC)
- Critical Facilities, Federal Emergency Management Agency (FEMA)

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.



Fort Greely - Main Post Well #8
PWS 370780.001

Appendix C Map C

Chart 1. Susceptibility of the wellhead - Fort Greely - Main Post Well #8 (PWS No. 370780.001)

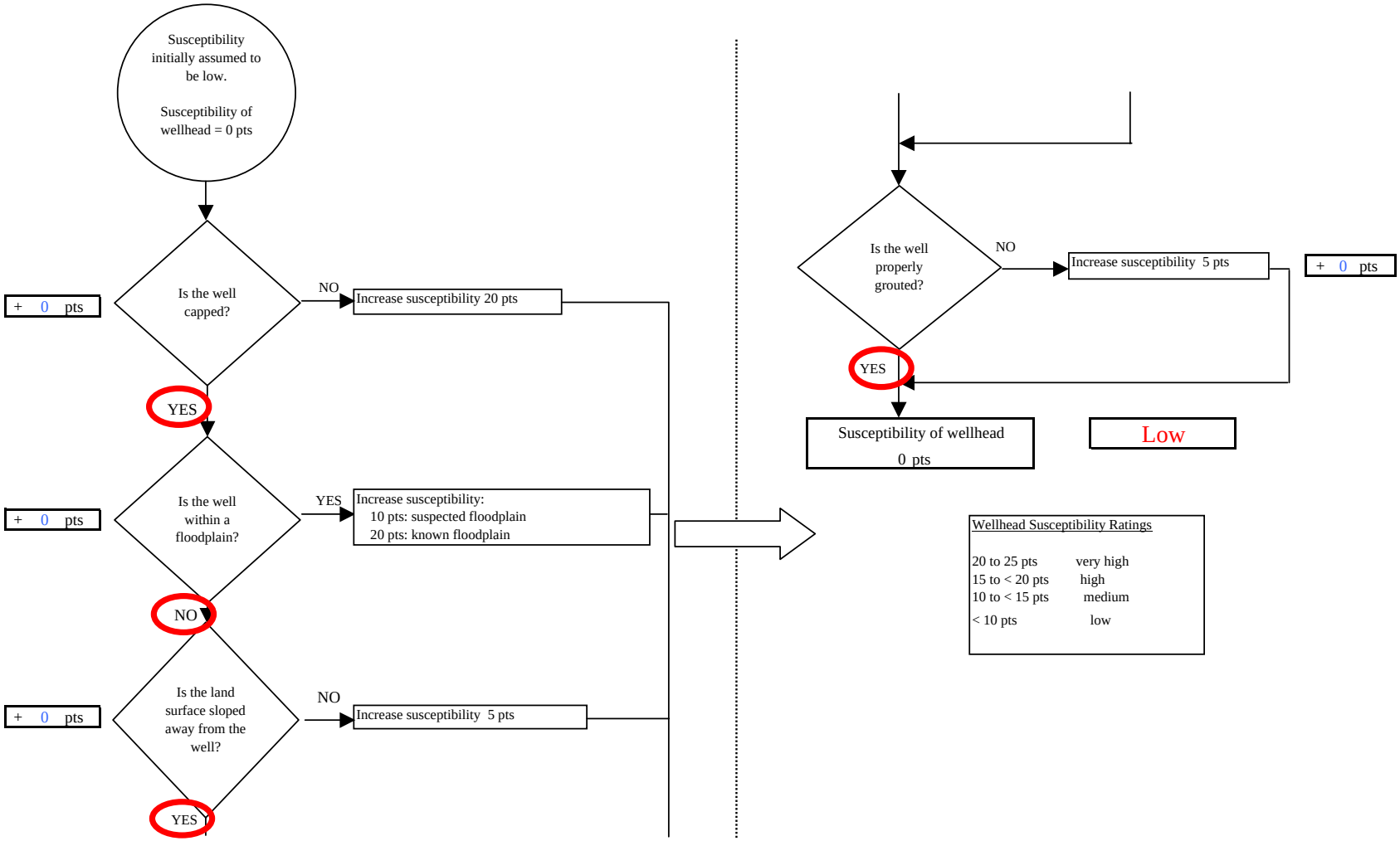


Chart 2. Susceptibility of the aquifer Fort Greely - Main Post Well #8 (PWS No. 370780.001)

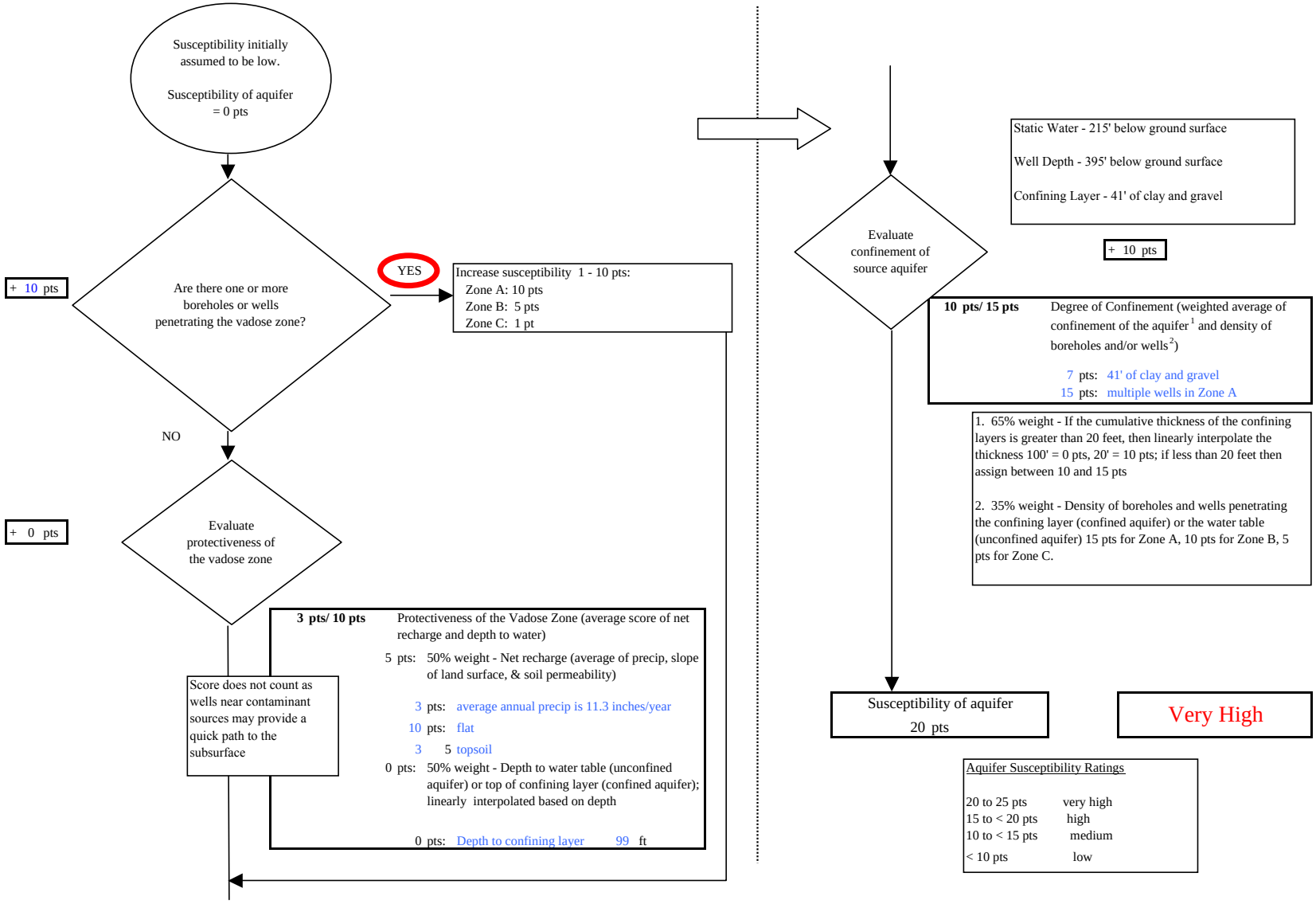
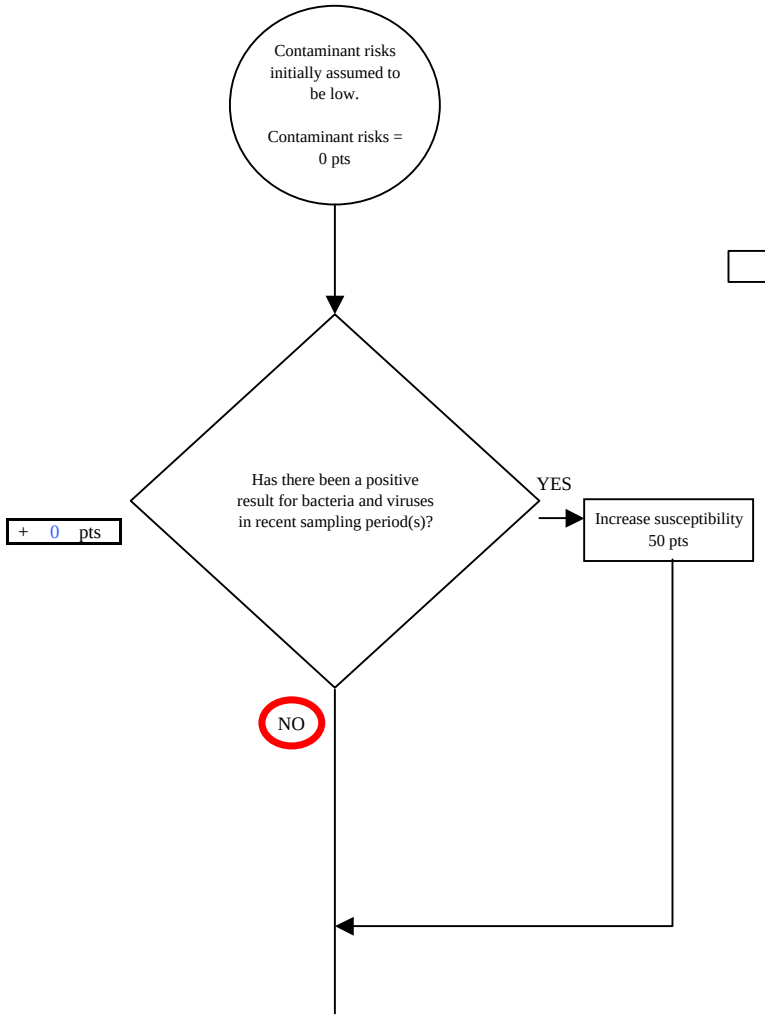
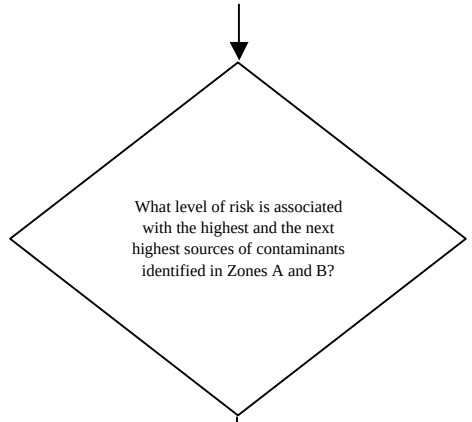


Chart 3. Contaminant risks for Fort Greely - Main Post Well #8 (PWS No. 370780.001) - Bacteria & Viruses





+ 25 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)	0	0	0
Medium(s)	30	0	30
Low(s)	5	1	6

	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 25

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 Fort Greely - Main Post Well #8 (PWS No. 370780.001) - Bacteria & Viruses

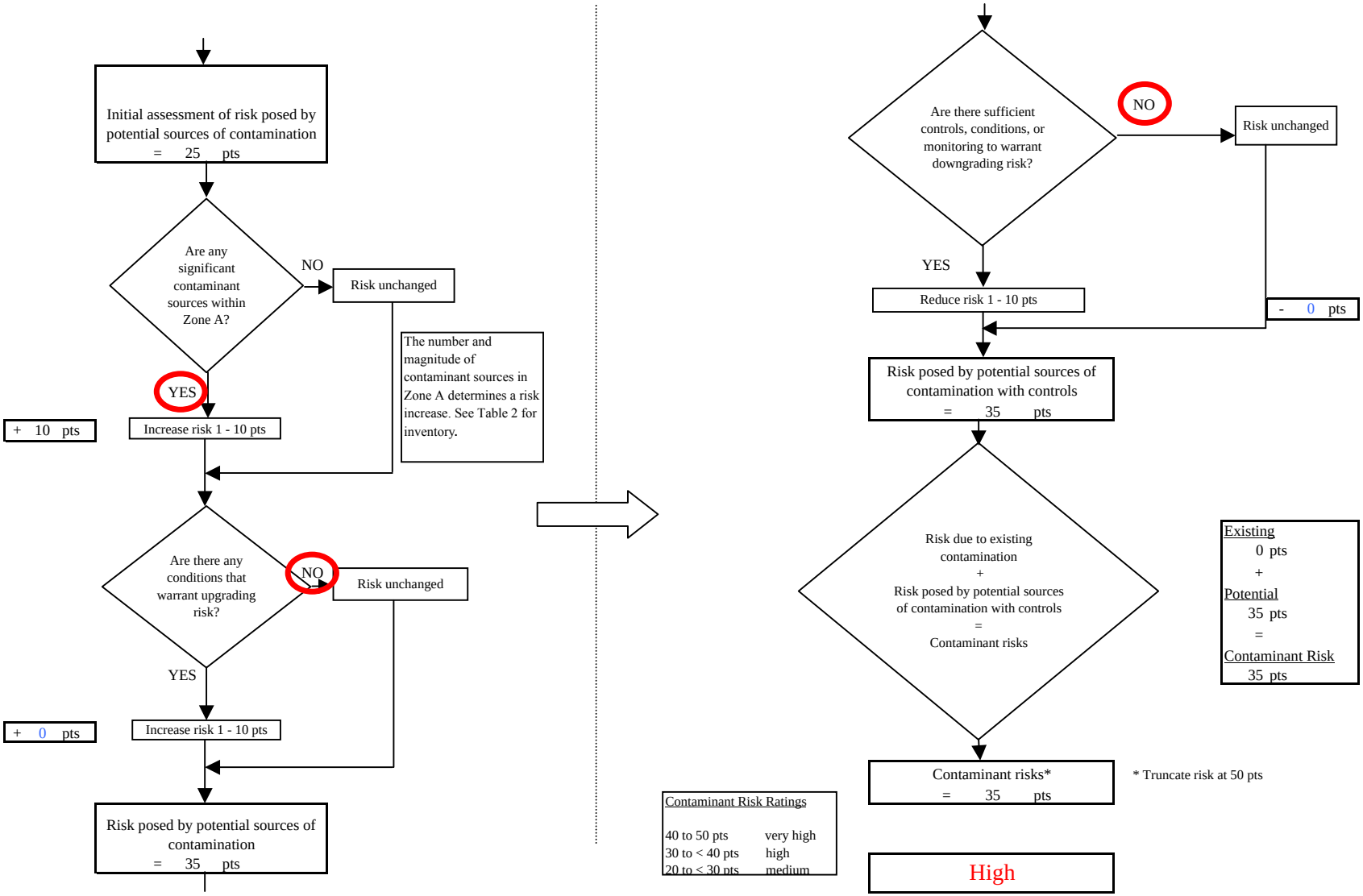


Chart 4. Vulnerability analysis for Fort Greely - Main Post Well #8 (PWS No. 370780.001) - Bacteria & Viruses

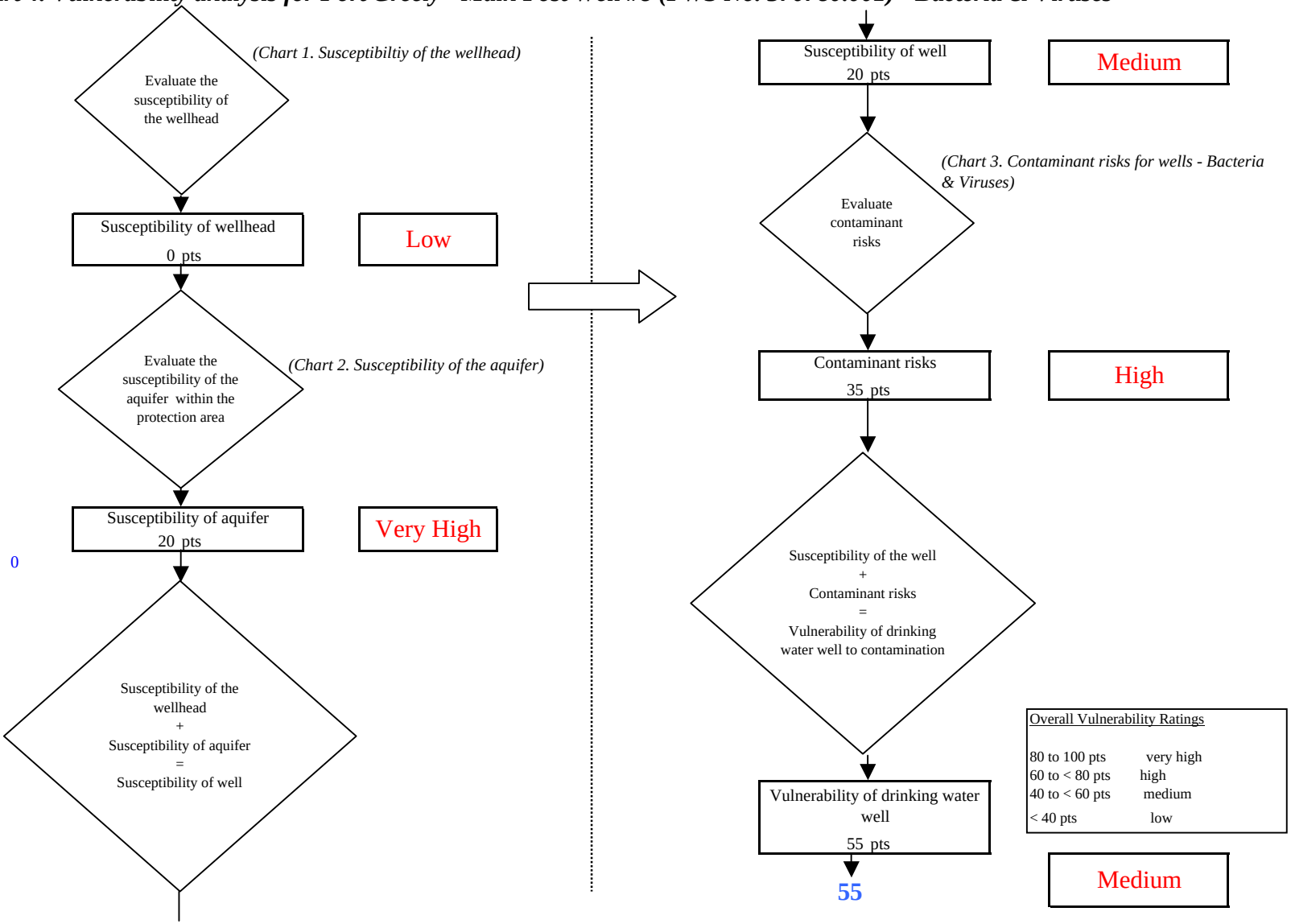


Chart 5. Contaminant risks for Fort Greely - Main Post Well #8 (PWS No. 370780.001) - Nitrates and Nitrites

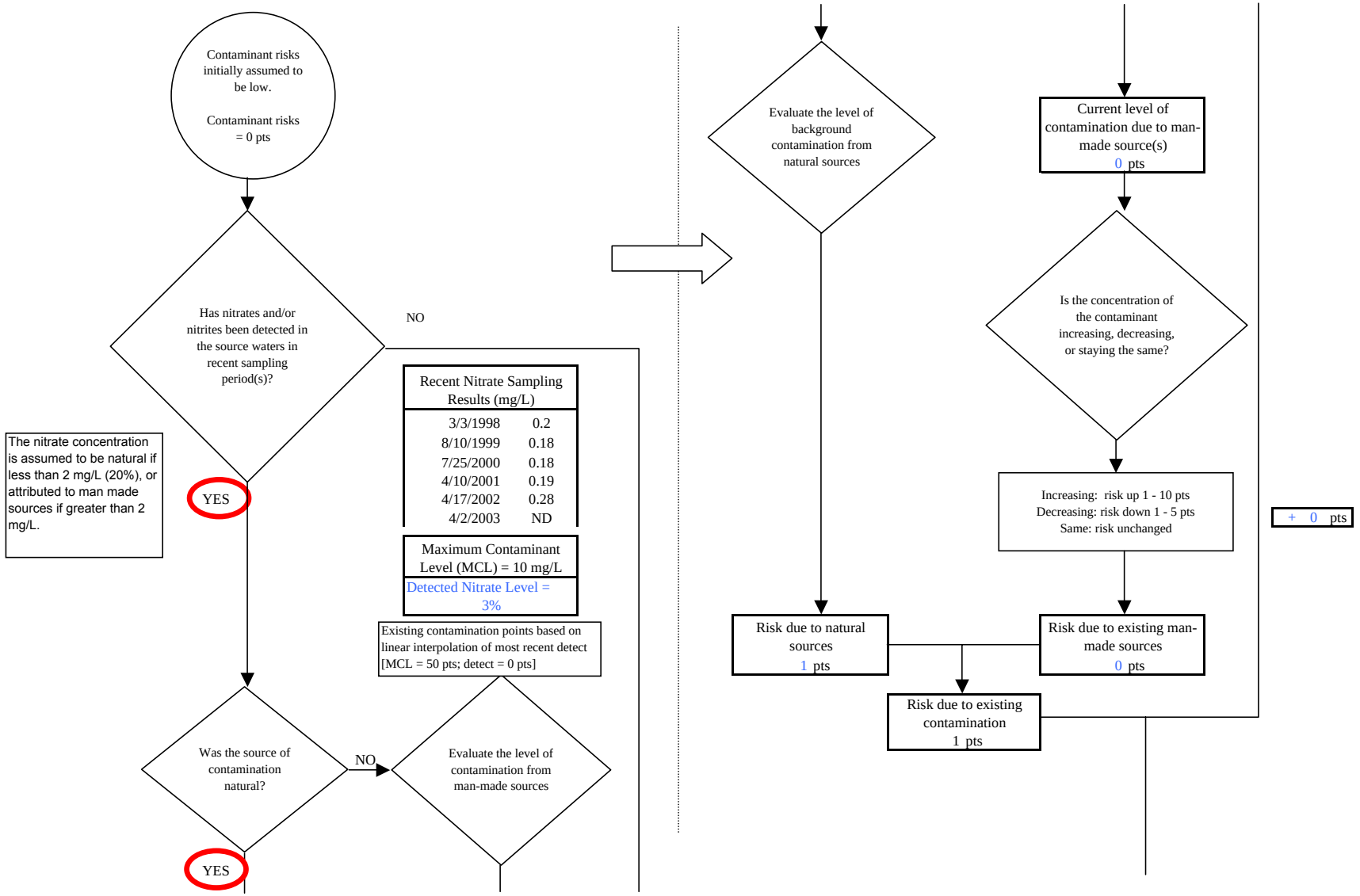


Chart 5. Contaminant risks for Fort Greely - Main Post Well #8 (PWS No. 370780.001) - Nitrates and Nitrites

+ 25 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)	0	0	0
High(s)	0	0	0
Medium(s)	30	0	30
Low(s)	5	1	6

	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 25

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.

Initial assessment of risk posed by potential sources of contamination = 25 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 3 for inventory.

Chart 5. Contaminant risks for Fort Greely - Main Post Well #8 (PWS No. 370780.001) - Nitrates and Nitrites

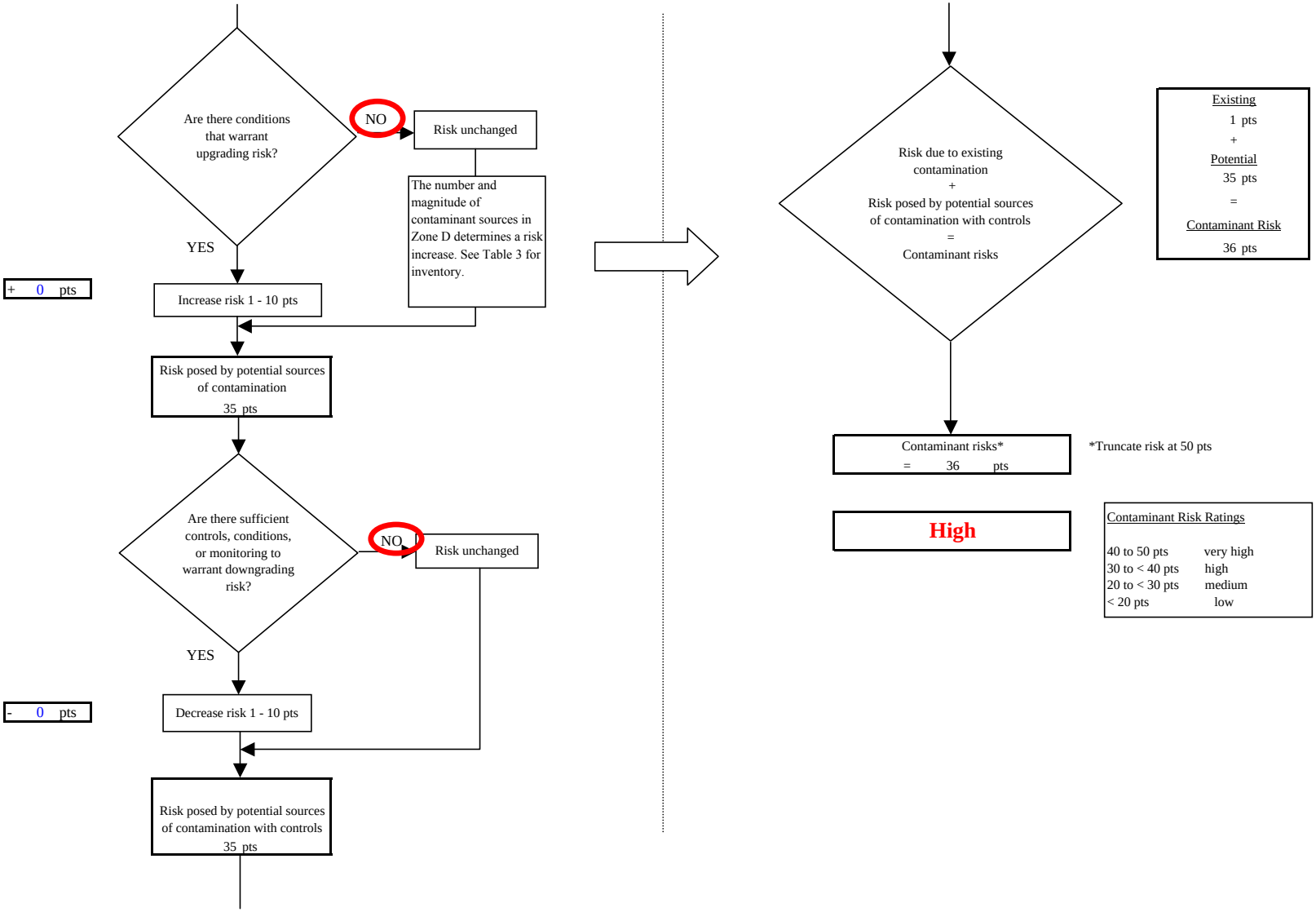


Chart 6. Vulnerability analysis for Fort Greely - Main Post Well #8 (PWS No. 370780.001) - Nitrates and Nitrites

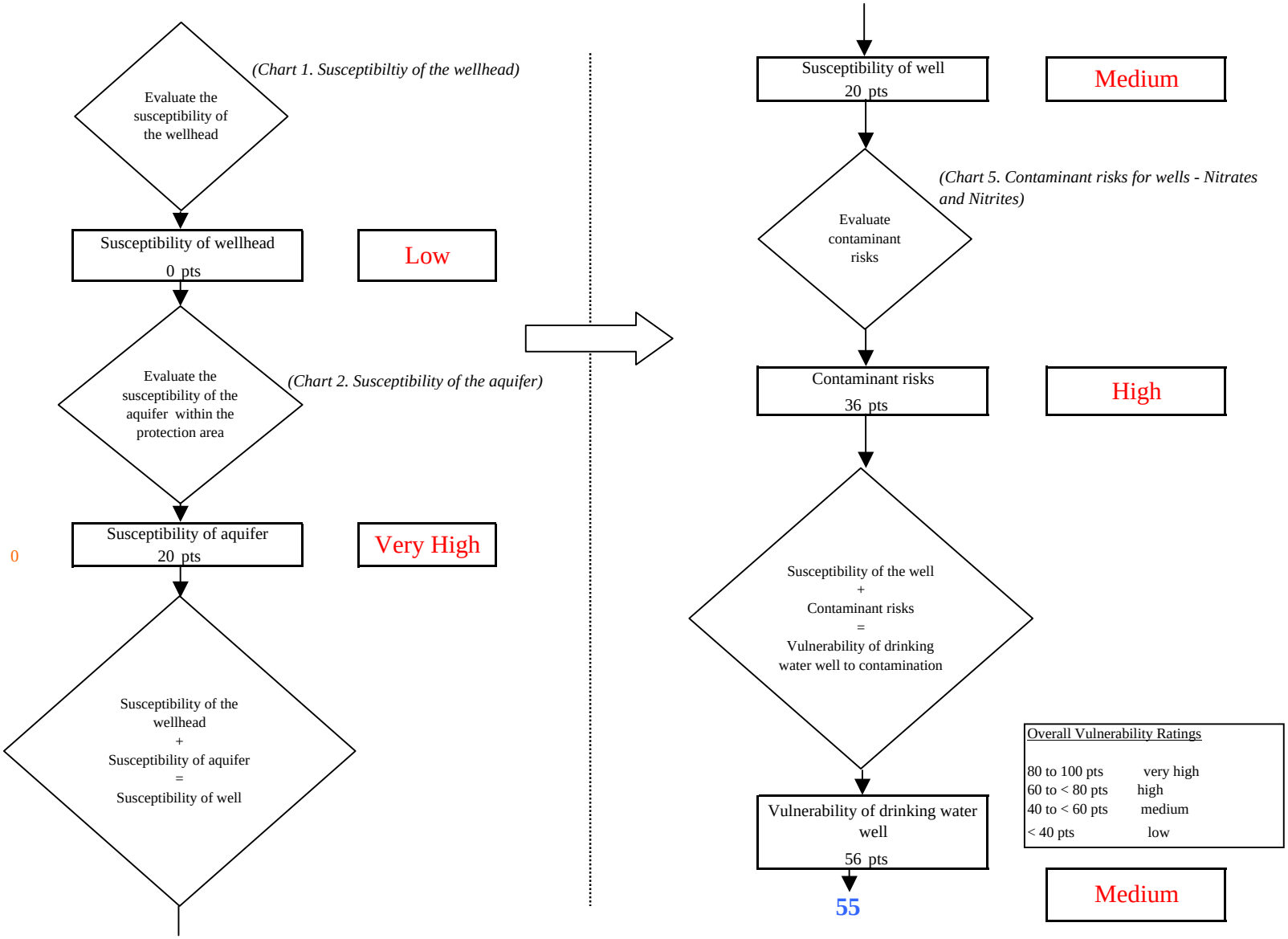


Chart 7. Contaminant risks for Fort Greely - Main Post Well #8 (PWS No. 370780.001) - Volatile Organic Chemicals

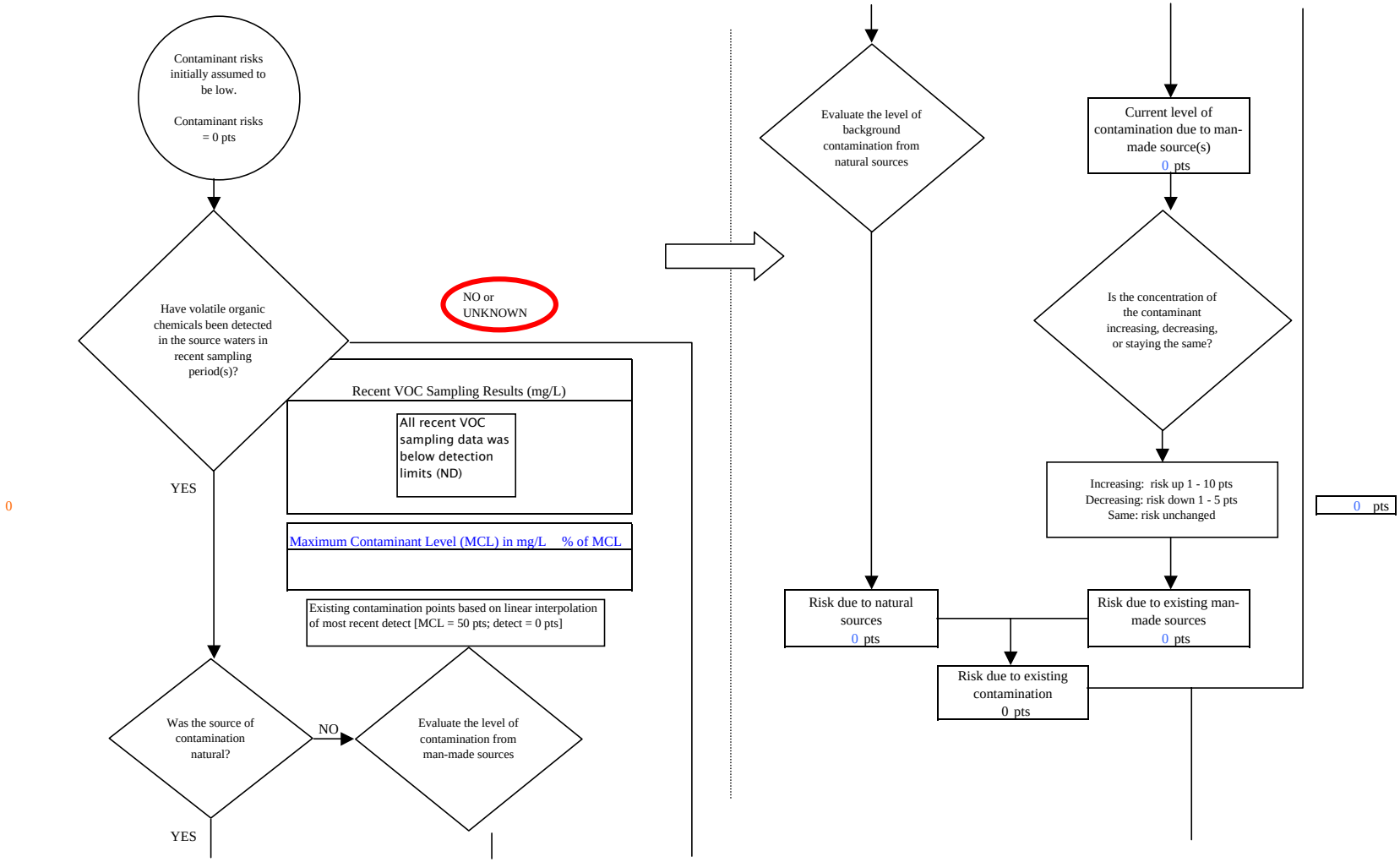


Chart 7. Contaminant risks for Fort Greely - Main Post Well #8 (PWS No. 370780.001) - Volatile Organic Chemicals

+ 40 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)	0	0	0
High(s)	15	14	29
Medium(s)	4	0	4
Low(s)	35	1	36

	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.

Initial assessment of risk posed by potential sources of contamination = 40 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

- 1 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 Fort Greely - Main Post Well #8 (PWS No. 370780.001) - Volatile Organic Chemicals

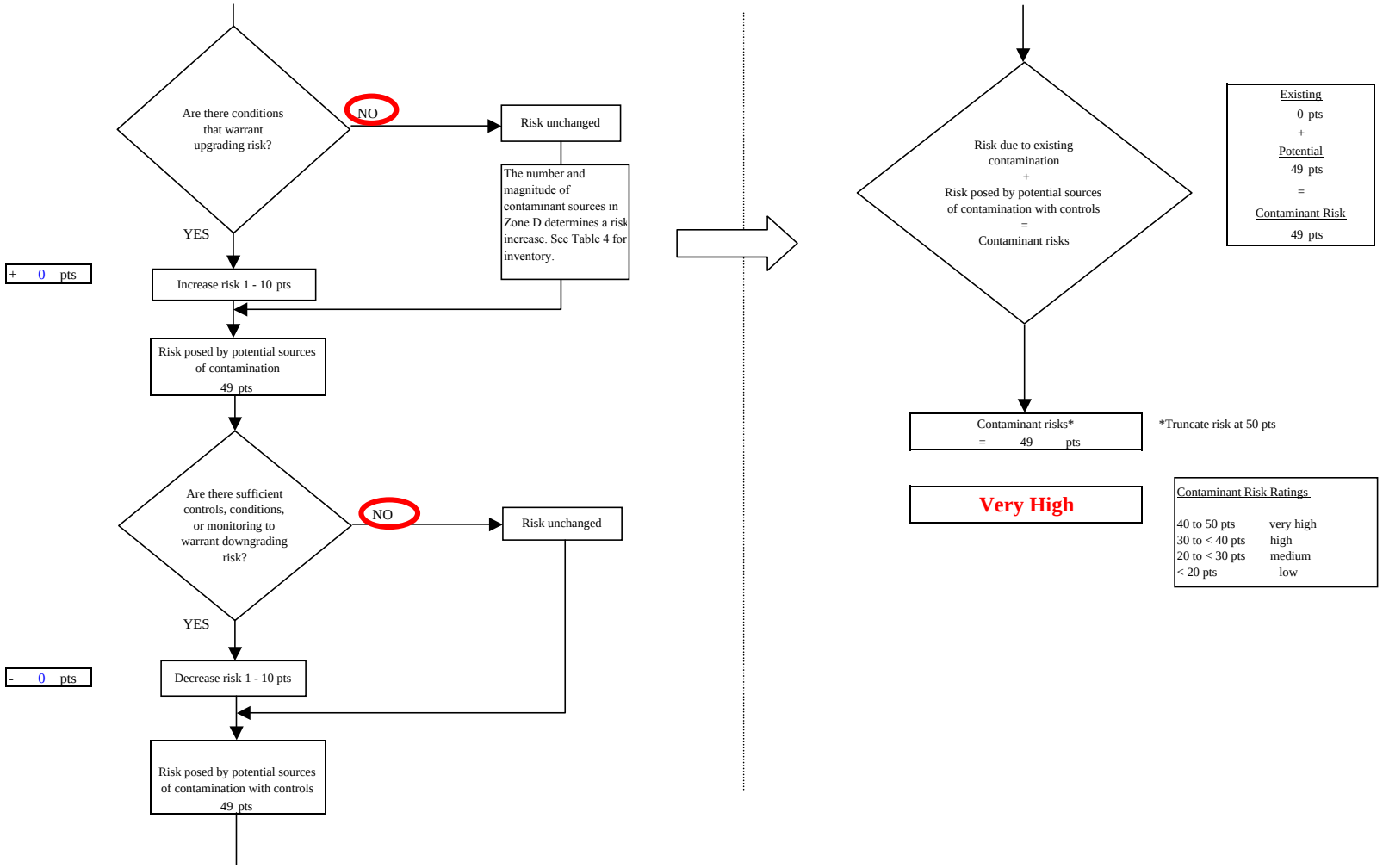


Chart 8. Vulnerability analysis for Fort Greely - Main Post Well #8 (PWS No. 370780.001) - Volatile Organic Chemicals

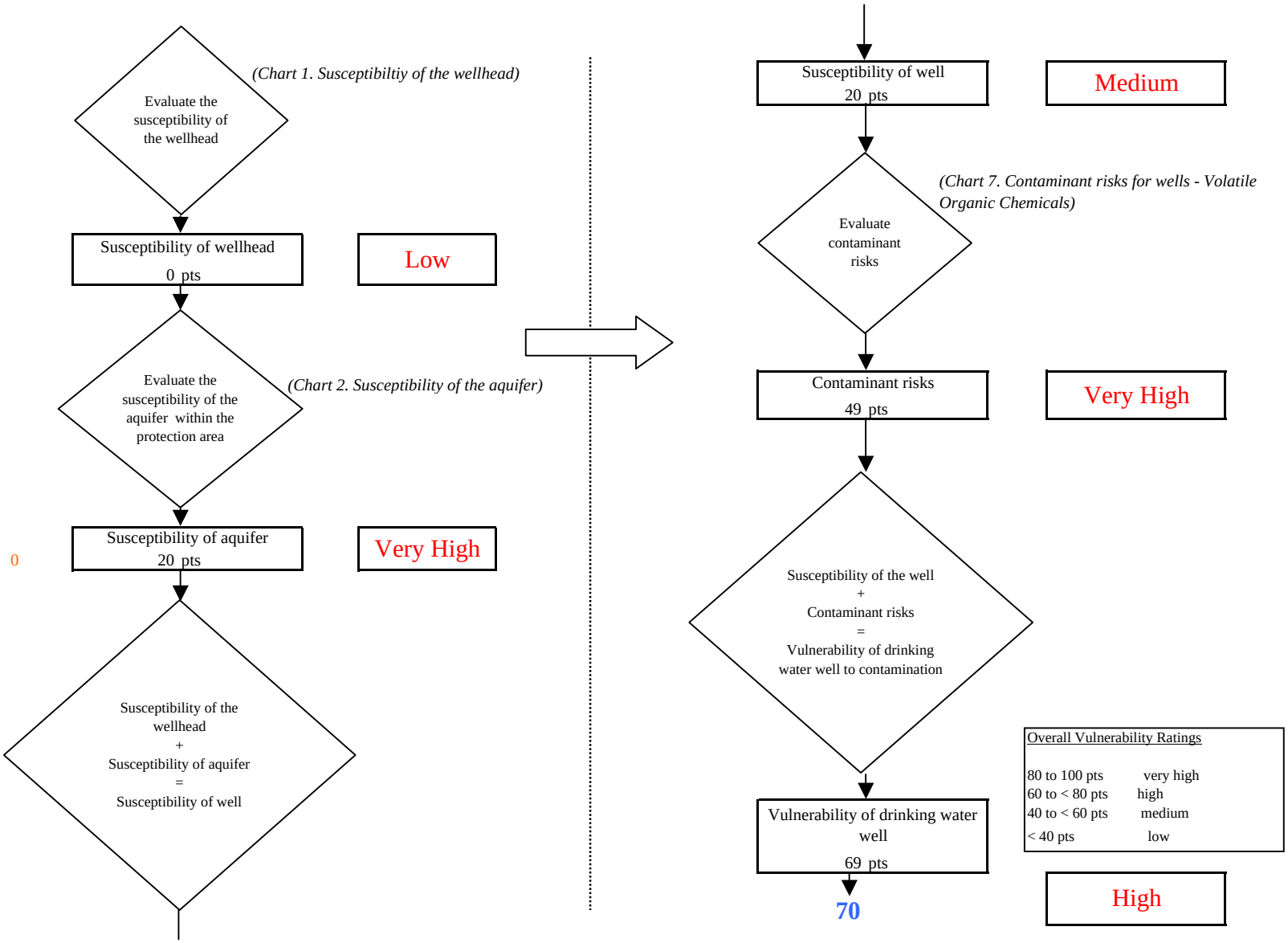


Chart 9. Contaminant risks for Fort Greely - Main Post Well #8 (PWS No. 370780.001) - Heavy Metals, Cyanide and Other Inorganic Chemicals

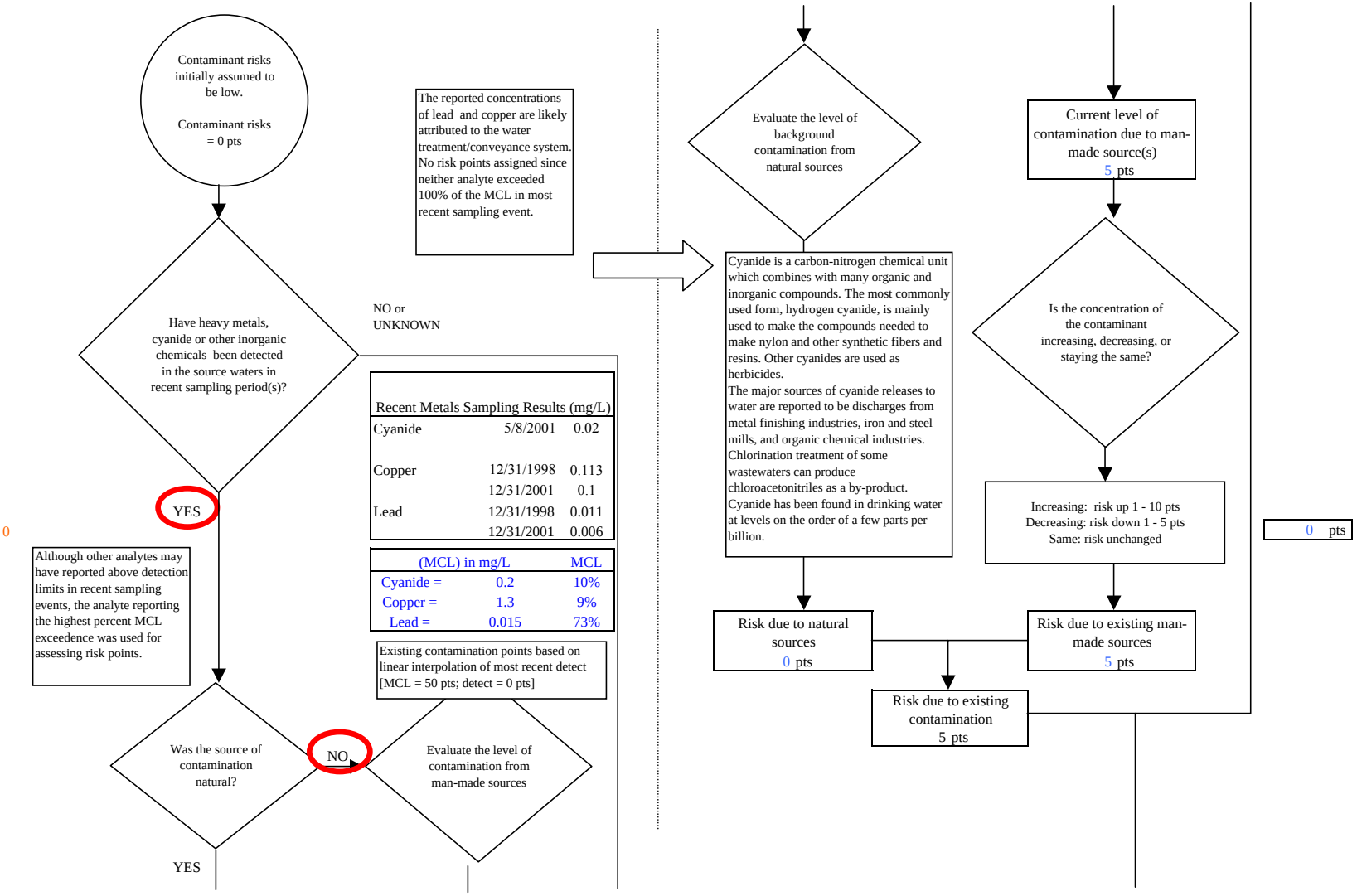


Chart 9. Contaminant risks for Fort Greely - Main Post Well #8 (PWS No. 370780.001) - Heavy Metals, Cyanide and Other Inorganic Chemicals

+ 40 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)	0	0	0
High(s)	2	0	2
Medium(s)	2	0	2
Low(s)	31	15	46

	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.

Initial assessment of risk posed by potential sources of contamination = 40 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 5 for inventory.

Chart 9. Contaminant risks for Fort Greely - Main Post Well #8 (PWS No. 370780.001) - Heavy Metals, Cyanide and Other Inorganic Chemicals

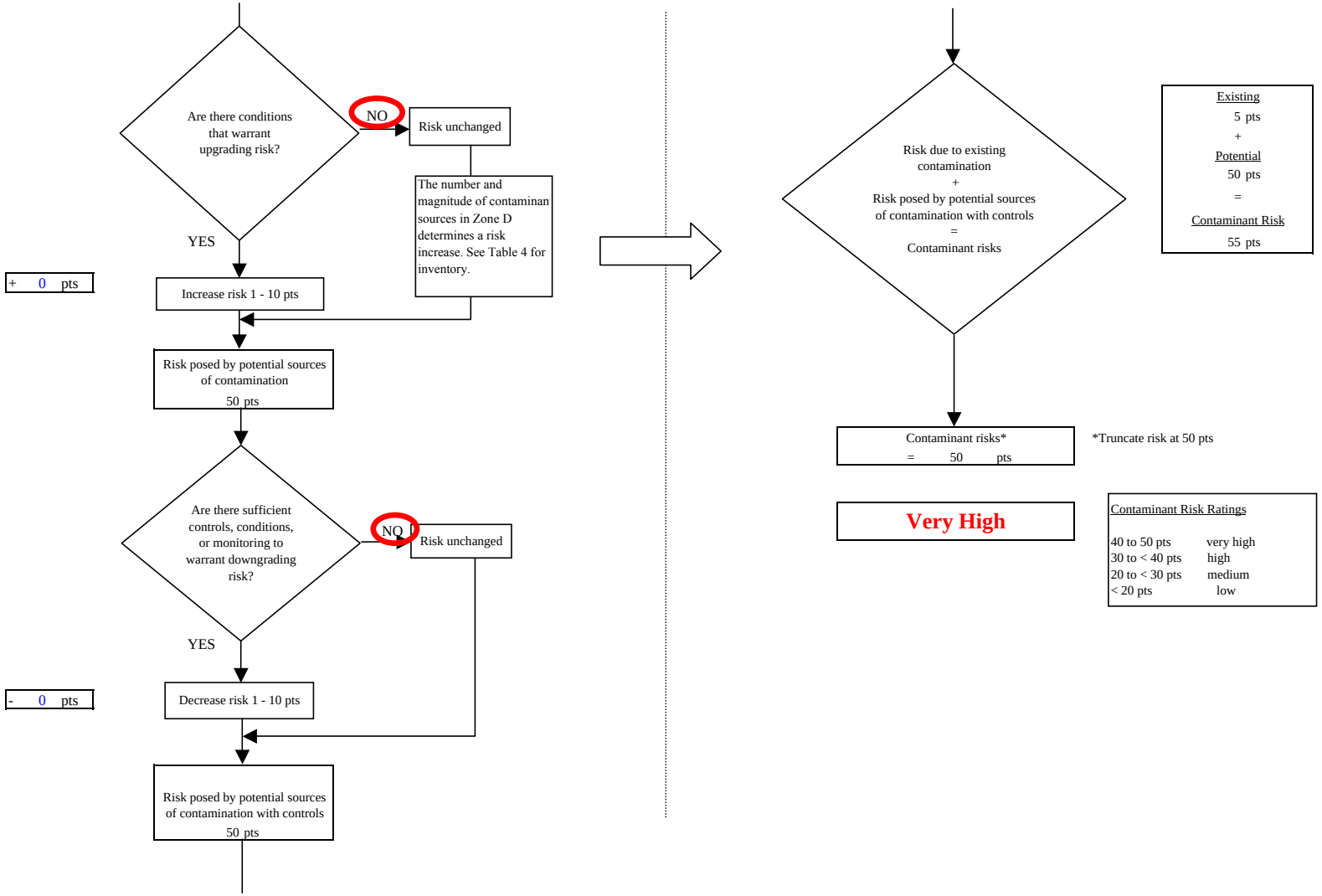


Chart 10. Vulnerability analysis for Fort Greely - Main Post Well #8 (PWS No. 370780.001) - Heavy Metals, Cyanide and Other Inorganic Chemicals

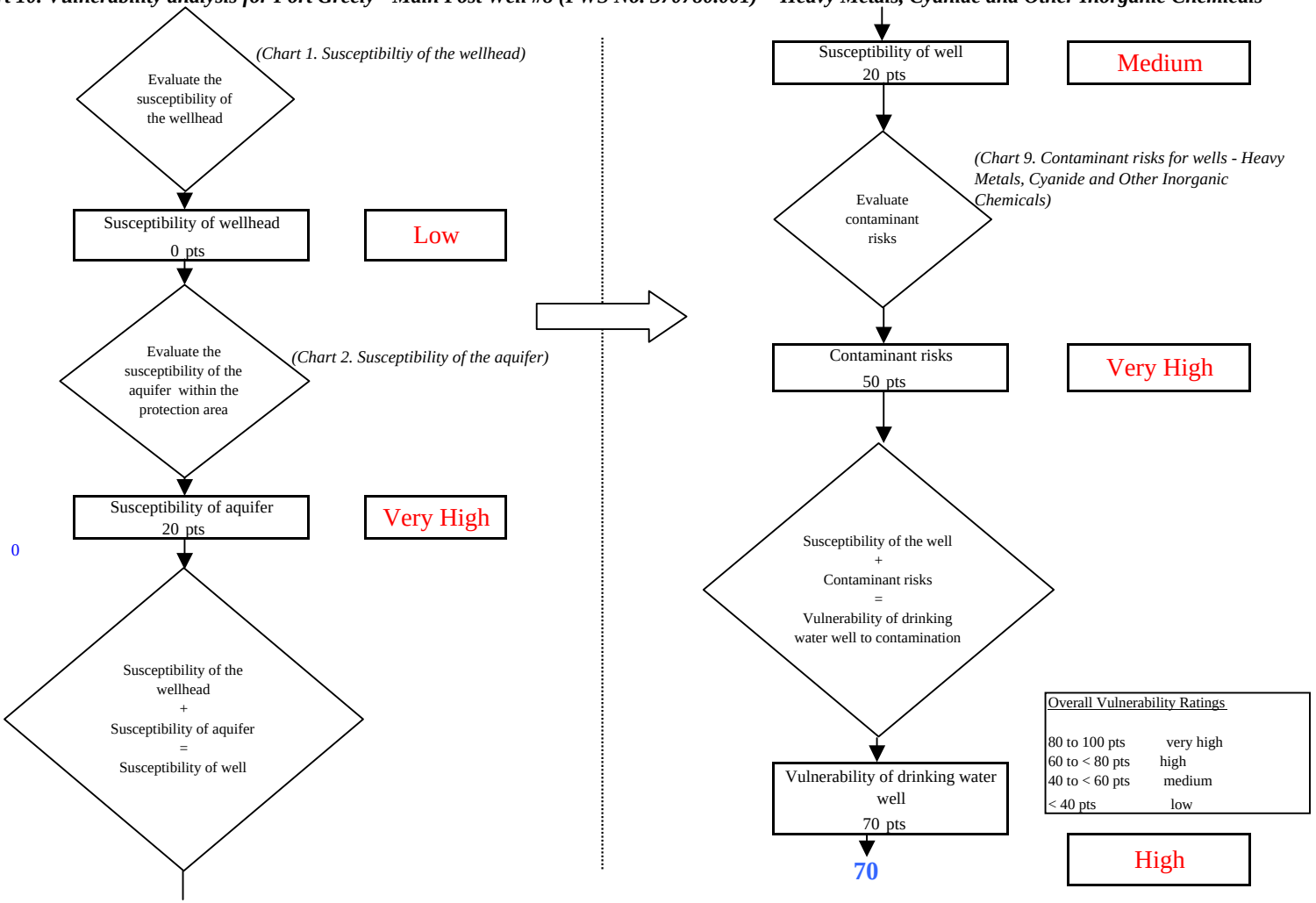


Chart 11. Contaminant risks for Fort Greely - Main Post Well #8 (PWS No. 370780.001) - Synthetic Organic Chemicals

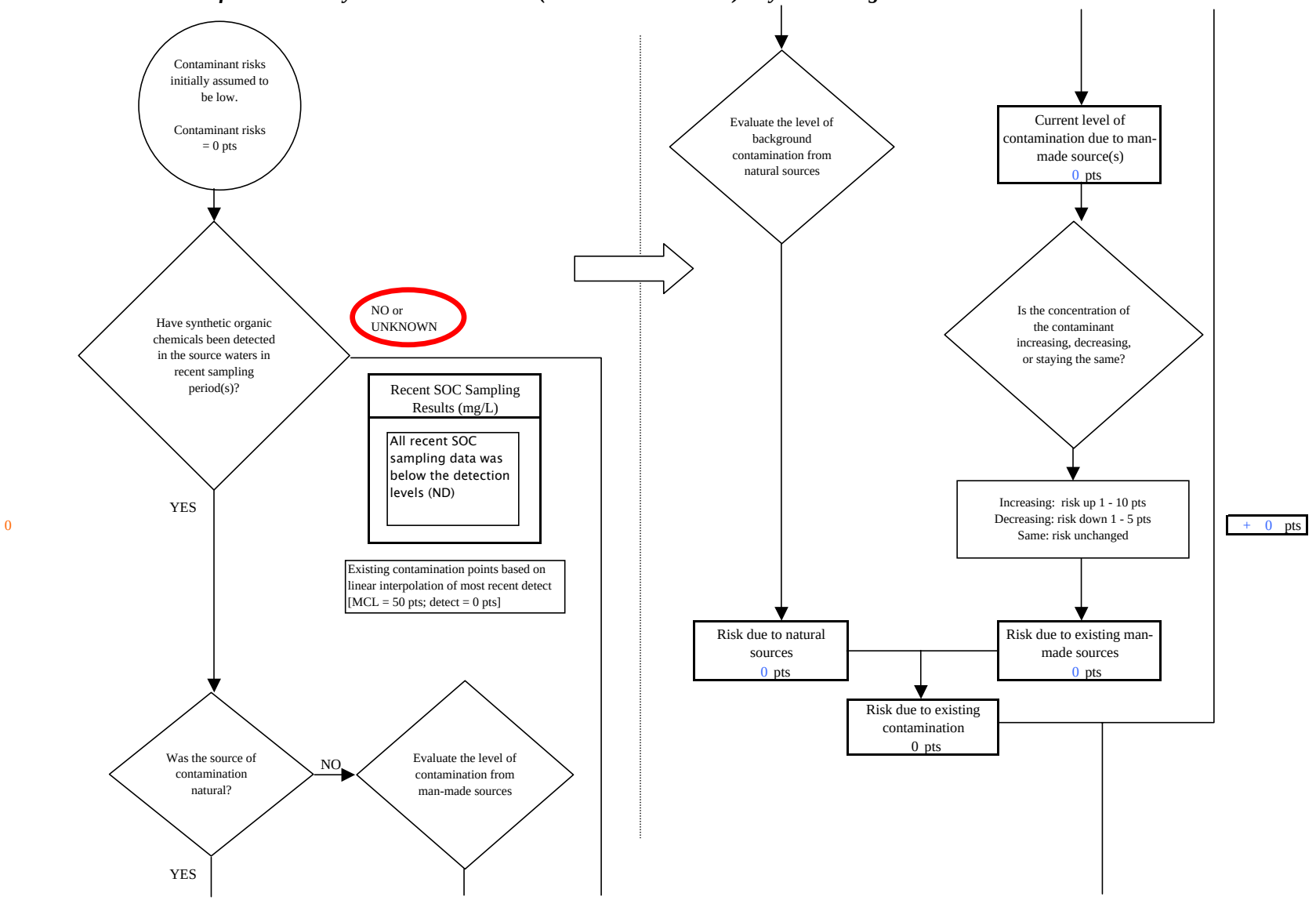


Chart 11. Contaminant risks for Fort Greely - Main Post Well #8 (PWS No. 370780.001) - Synthetic Organic Chemicals

+ 25 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)	0	0	0
High(s)	0	0	0
Medium(s)	1	0	1
Low(s)	16	14	30

	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 25

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.

Initial assessment of risk posed by potential sources of contamination = 25 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

+ 8 pts

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

Chart 11. Contaminant risks for Fort Greely - Main Post Well #8 (PWS No. 370780.001) - Synthetic Organic Chemicals

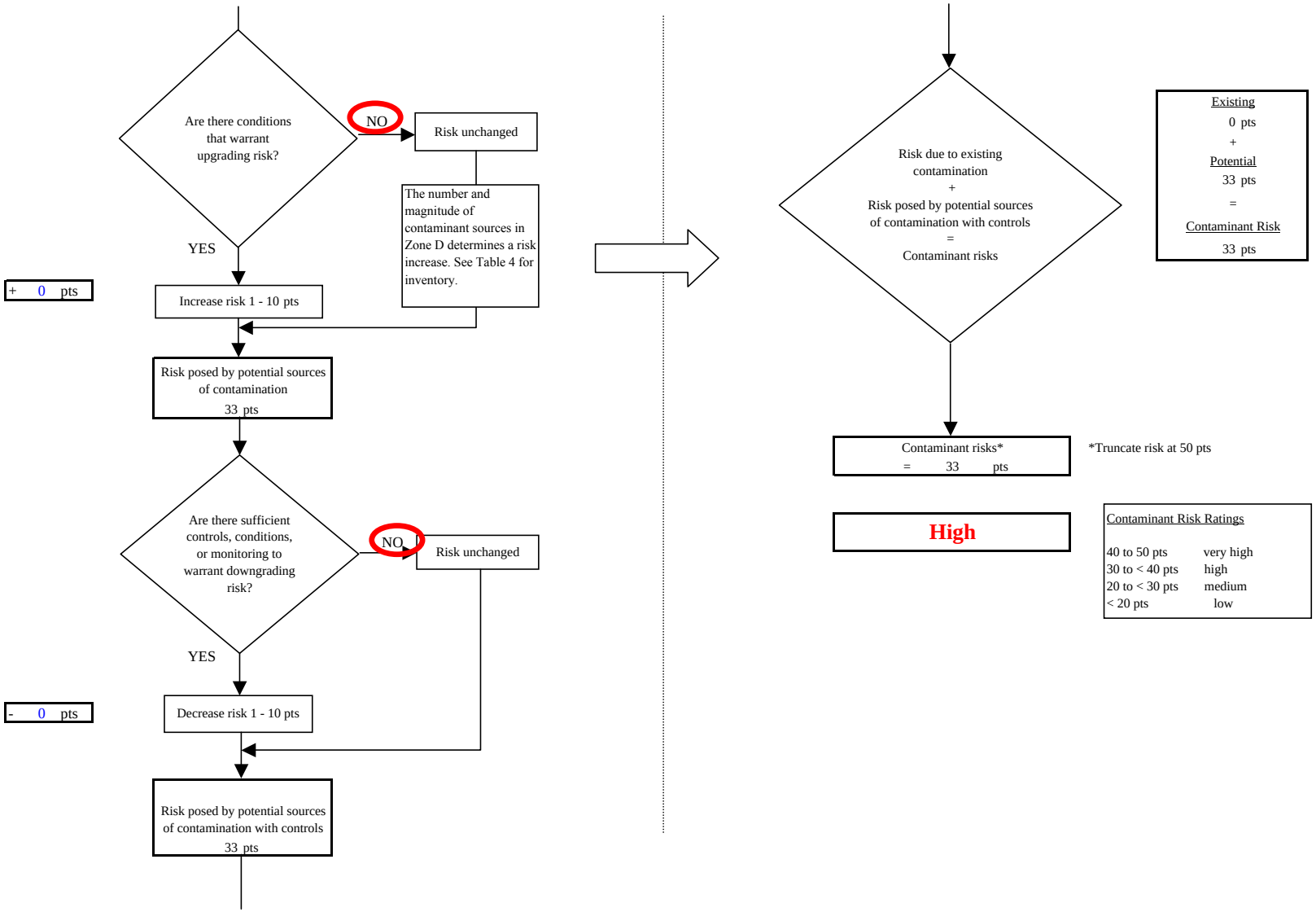


Chart 12. Vulnerability analysis for Fort Greely - Main Post Well #8 (PWS No. 370780.001) - Synthetic Organic Chemicals

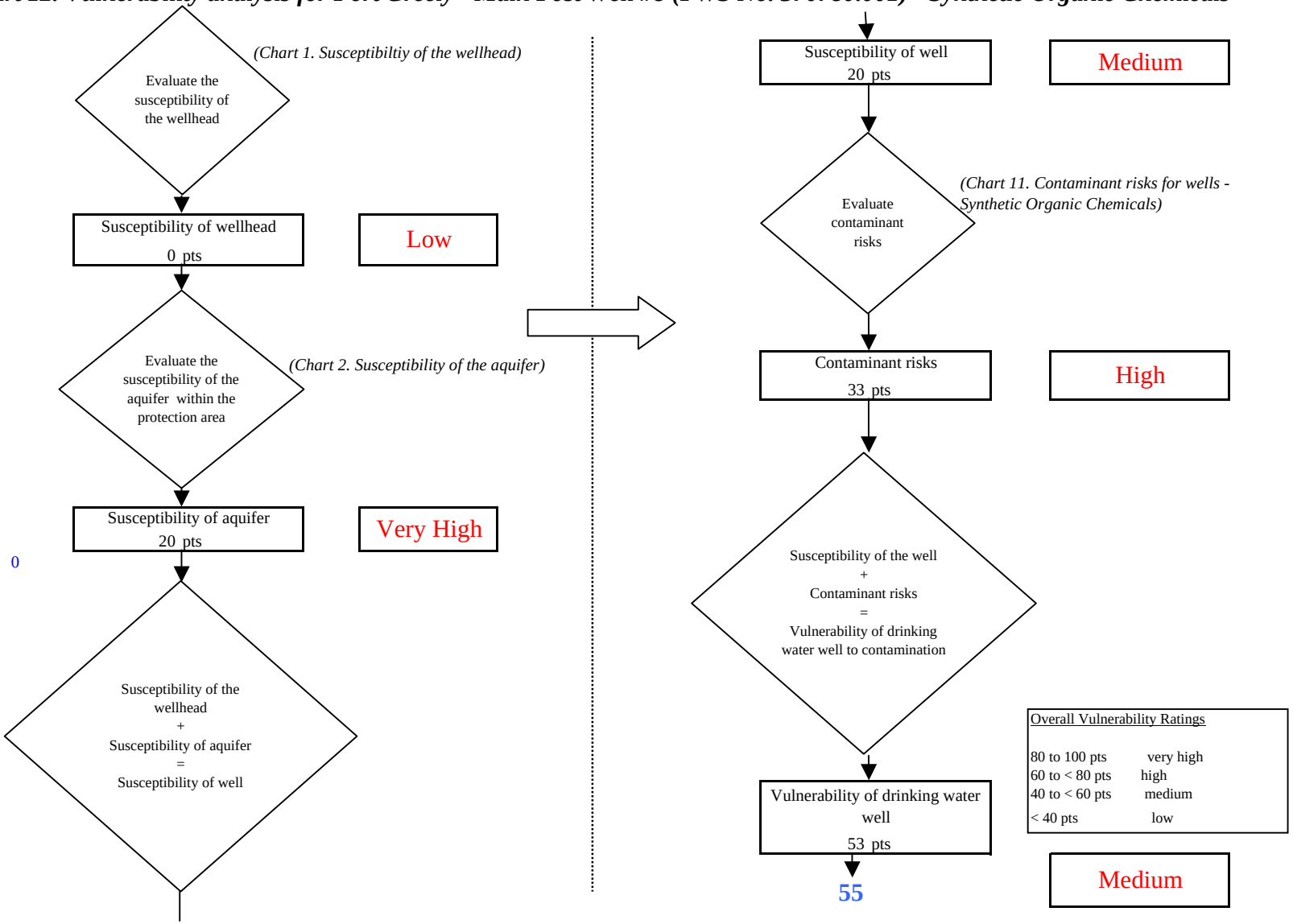


Chart 13. Contaminant risks for Fort Greely - Main Post Well #8 (PWS No. 370780.001) - Other Organic Chemicals

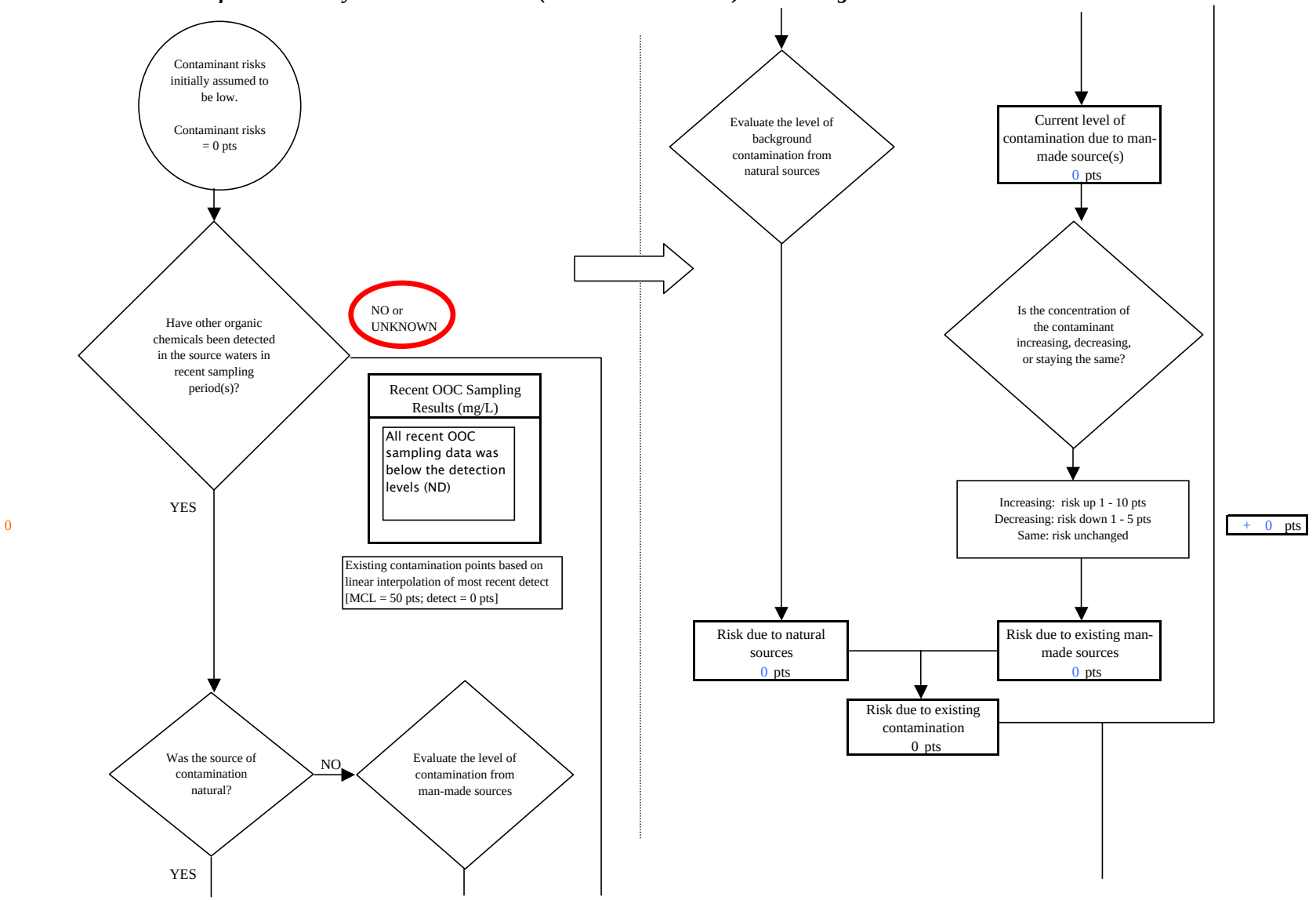


Chart 13. Contaminant risks for Fort Greely - Main Post Well #8 (PWS No. 370780.001) - Other Organic Chemicals

+ 40 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)	0	0	0
High(s)	3	0	3
Medium(s)	2	0	2
Low(s)	19	15	34

	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.

Initial assessment of risk posed by potential sources of contamination = 40 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

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

YES

Increase risk 1 - 10 pts

+ 10 pts

Chart 13. Contaminant risks for Fort Greely - Main Post Well #8 (PWS No. 370780.001) - Other Organic Chemicals

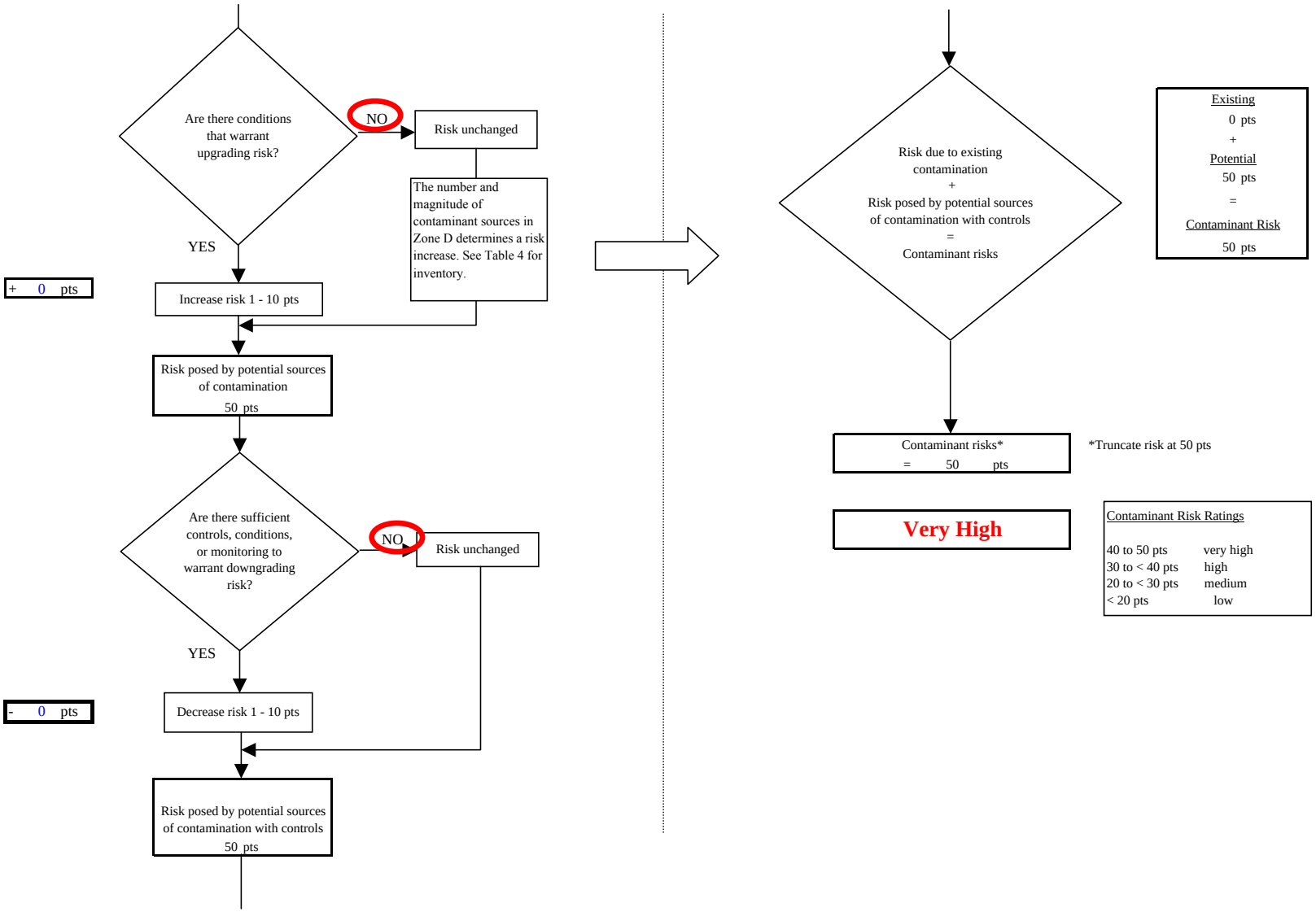


Chart 14. Vulnerability analysis for Fort Greely - Main Post Well #8 (PWS No. 370780.001) - Other Organic Chemicals