Source Water Assessment

A Hydrogeologic Susceptibility and Vulnerability Assessment for the Valdez Water System - Main Drinking Water System, Valdez, Alaska

PWSID # 298103.002

June 2004

DRINKING WATER PROTECTION PROGRAM REPORT 1372
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 Valdez Water System - Main Public Water System Source of Public Drinking Water, Valdez, Alaska

Drinking Water Protection Program
Alaska Department of Environmental Conservation

EXECUTIVE SUMMARY

The Valdez Water System - Main Public Water System (PWS) has four wells. This well (PWS No. 298103.002) has been used as drinking water source since it was drilled in 1954. This report contains information exclusively for PWS No. 298103.002.

The well is a Class A (community and non-transient non-community) water system located at the northwest corner of Hazelet and Hanagita Streets in Valdez, Alaska. Available records indicate that the system has secondary storage capacity of 1,500,000-gallons and that the drinking water source is not treated. This system operates year round and serves approximately 4000 residents and 500 non-residents through approximately 1050 service connections. The wellhead received a susceptibility rating of **Medium** and the aquifer received a susceptibility rating of **Very High**. Combining these two ratings produce a **High** rating for the natural susceptibility of the well.

Identified potential and current sources of contaminants for the public drinking water source include: injection wells, ADEC recognized contaminated sites, bulk fuel facilities, fuel storage tanks, pipelines, and a large-capacity septic system. A detailed inventory can be found in Table 1 of Appendix B. These identified potential and existing sources of contamination are considered 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 well received a vulnerability rating of **Very High** for nitrates and nitrites, volatile organic chemicals, heavy metals, cyanide and other inorganic chemicals, and other organic chemicals and a vulnerability rating of **High** for bacteria and viruses, and synthetic organic chemicals.

PUBLIC DRINKING WATER SYSTEM

The Valdez Water System - Main PWS well is a Class A (community/non-transient/non-community) public water system. The system is located at the northwest corner of Hazelet and Hanagita streets in Valdez, Alaska (Sec. 32, T008S, R006W, Copper River Meridian, see Map A of Appendix A). Valdez is located on the north shore of Port Valdez in Prince William Sound. The community has a population of 4060 (ADCED, 2003). Total annual precipitation in Valdez is 62 inches, including approximately 325 inches of snowfall. Average temperatures range from 21 to 30°F in January and 46 to 61°F in July.

A piped water and sewer distribution system serves the majority of homes. Over 95% of households are fully plumbed (ADCED, 2003). The remaining community residents haul water and utilize individual wells and septic tanks (ADCED, 2003). Valdez receives electrical power from Copper Valley Electric Association, a REA Cooperative. Power generating facilities are hydro-powered with diesel backup. Refuse is collected by the City and disposed of at the community landfill, also operated by the City.

According to information supplied by ADEC for the Valdez PWS, the depth of the well is 75 feet below the ground surface. Based on available well construction details, the well is screened and is completed in an unconfined aquifer. Based on the location, the well is suspected to be located within a floodplain.

The May 1998 sanitary survey indicates 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. Records also indicate 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.

Valdez is a narrow, steep-walled fjord in the Chugach Mountains and is the northeastern-most extension of Price William Sound. The topography and drainage of Valdez are directly related to past and present alpine glacial activity. Valdez Glacier has scoured and shaped the valley. In the past, other smaller glaciers have filled the valleys and coalesced with Valdez Glacier to completely cover the area. All of the glaciers have been receding during historical time and continue their retreat. The resultant topography is comprised of a gently sloping glacial outwash apron, which laps up against the ice scoured bedrock spurs. Valdez Glacier extends down to the City of Valdez from the northeast, and its delta coalesces with the delta deposited by Lowe River flowing from the east (NTS, 1978).

Deposits in the Valdez area consist of two main units including bedrock and glacio-fluvial outwash. The bedrock consists of interbedded slate, phillite, and greywacke prevailing in thick beds. The bedrock sequence also includes minor amounts of argillite and some arkosic sandstone that grades locally in to conglomerate (NTS, 1978).

Glacio-fluvial materials constitute the deposits in the river valleys leading into Valdez. The outwash plains of the Robe River, the Lowe River, and the stream from Valdez Glacier coalesce to from a broad delta at the eastern end of Valdez. The grain size of the alluvium ranges from silt, sand, and gravel near the tidewater and becomes increasingly coarse upstream (NTS, 1978).

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 Valdez Water System - Main 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 Valdez Water System - Main PWS was determined using an analytical calculation and includes Zones A, B, 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 Valdez Water System - Main PWS 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, and
- 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 Valdez Water System - Main PWS's water well is completed in an unconfined aquifer. Unconfined aquifers are more 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	10	Medium
Susceptibility of the Aquifer	25	Very High

Natural Susceptibility	35	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:

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	40	Very High
Nitrates and/or Nitrites	49	Very High
Volatile Organic Chemicals	50	Very High
Heavy Metals, Cyanide and Other Inorganic Chemicals	50	Very High
Synthetic Organic Chemicals	30	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	75	Very High
Nitrates and Nitrites	85	Very High
Volatile Organic Chemicals	85	Very High
Heavy Metals, Cyanide and Other Inorganic Chemicals	85	Very High
Synthetic Organic Chemicals	65	High
Other Organic Chemicals	85	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 large capacity septic system located in Zone A. Numerous other potential contaminant sources are also found 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.

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 **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 large capacity septic system located in Zone A. Numerous 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 nitrates have been detected in recent sampling events, however they did not exceed 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 in 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 **Very High.**

Volatile Organic Chemicals

The contaminant risk for volatile organic chemicals is **Very High**. The risk is primarily attributed to the presence of several gasoline stations, multiple injection wells, several fuel storage tanks and many ADEC recognized contaminated sites located in Zone A. Numerous other potential contaminant sources are also found within the protection area (see Table 4 – Appendix B).

All recent sampling data for Volatile Organic Chemicals reported results below detection levels (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 **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 motor vehicle waste injection wells in Zone A. Numerous 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 copper and lead have been detected in recent sampling history, however they did not exceeded their respective MCLs of 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 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 **Very High**.

Synthetic Organic Chemicals

The contaminant risk for synthetic organic chemicals is **High**. The risk is primarily attributed to an airport located in Zone A. Numerous other potential contaminant sources are also found within the protection area (see Table 6 – Appendix B).

All recent sampling data was below detection levels for the Valdez Water System - Main PWS (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 **High**.

Other Organic Chemicals

The contaminant risk for other organic chemicals is **Very High**. The risk is primarily attributed to the presence of petroleum product bulk stations/terminals located in Zone A. Several other potential contaminant sources are also found within the protection area (see Table 7 – Appendix B).

All recent sampling data was below detection levels for the Valdez Water System - Main PWS (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 Valdez 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.

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

Northern Technical Services (NTS), September 1978. Information from Preliminary Site and Soils Investigation of Proposed Plant Sites at Valdez and Kenai, Alaska for Alaska Petrochemical Company.

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)

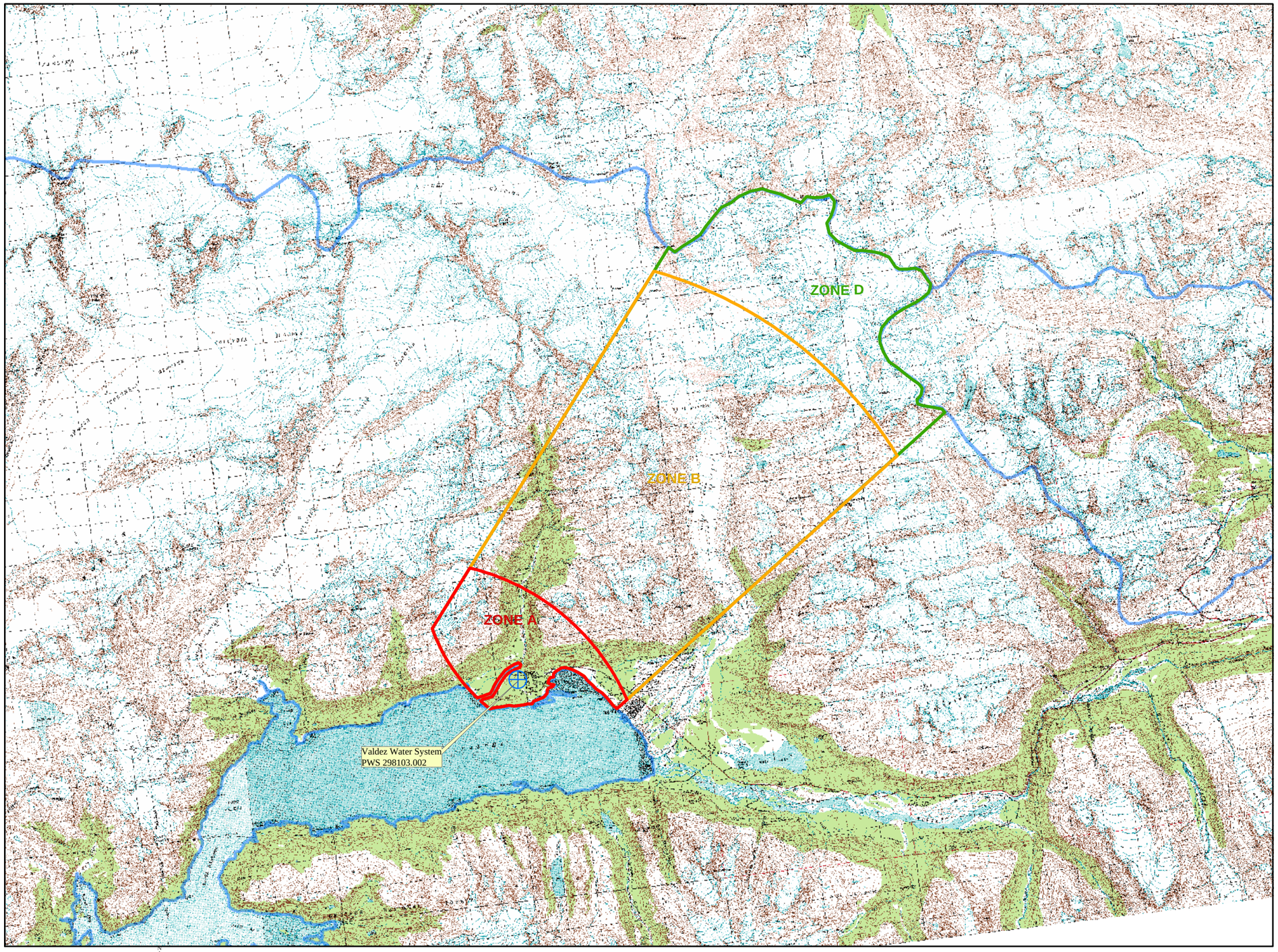
APPENDIX C

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 #298103.002 Valdez Water System - Main



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)

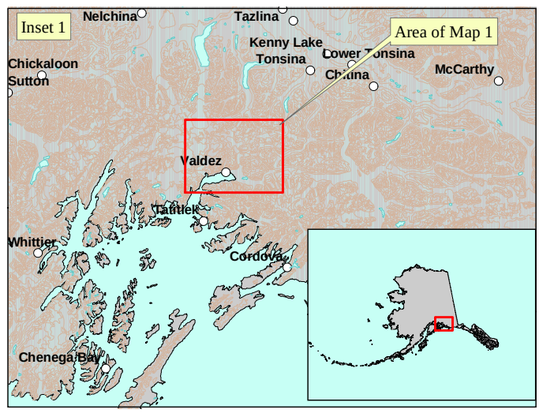
Groundwater Protection Zones

- Zone A Protection Area– Several Months Travel Time
- Zone B Protection Area– 2 Years 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)
- 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 1.25 2.5 5 7.5 10 Miles

Valdez Water System - Main
PWS 298103.002
Appendix A Map A

Table 1

Contaminant Source Inventory for ***Valdez Water System - Main***

PWSID298103.002

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Map Number*	*Comments*
Aircraft maintenance shops	C01	C01-01	A	C	VALDEZ AIRPORT MAINT. STATION
Gasoline stations (without repair shop)	C15	C15-01	A	C	Valdez Chevron
Gasoline stations (without repair shop)	C15	C15-02	A	C	CAPT'N JOE'S GAS
Gasoline stations (without repair shop)	C15	C15-03	A	C	CJ's Cardlock
Gasoline stations (without repair shop)	C15	C15-04	A	C	Discount Gas dba CJ's
Gasoline stations (without repair shop)	C15	C15-05	A	C	Harbor Fuel Company
Gasoline stations (with repair shop)	C16	C16-01	A	C	VALDEZ TESORO SERVICE STATION
Gasoline stations (with repair shop)	C16	C16-02	A	C	BIG WHEEL TIRE ,INC.
Motor vehicle rental facilities - cars, trucks, ATV's, snow machi (with service department)	C30	C30-01	A	C	ALEUT SUN ADVENTURES
Motor /motor vehicle repair shops	C31	C31-01	A	C	THOMPSON PASS MAINT. STATION
Injection wells (Class V) Large-Capacity Septic System (Drainfie Disposal Method)	D10	D10-01	A	C	CITY OF VALDEZ WATERLINE
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-01	A	C	CAPT'N JOE'S GAS
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-02	A	C	Valdez Tesoro
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-03	A	C	VALDEZ INDUSTRIAL REPAIR
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-04	A	C	BENCO-BIG WHEEL SERVICE
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-05	A	C	A-1 BODY SHOP
Quarries (sand, gravel, rock, other?)	E10	E10-01	A	C	BLONDEAU PIT
Quarries (sand, gravel, rock, other?)	E10	E10-02	A	C	DEVINNEY AND DOLAN
Quarries (sand, gravel, rock, other?)	E10	E10-03	A	C	JOHNSON SAND & GRAVEL, INC.
Quarries (sand, gravel, rock, other?)	E10	E10-03	A	C	YELLOW BAR

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Map Number*	*Comments*
Seafood processing	N10	N10-01	A	C	PETER PAN SEA FOODS INC.
Seafood processing	N10	N10-02	A	C	SEA HAWK SEAFOODS, INC
Seafood processing	N10	N10-03	A	C	Nautilus Seafood
Tanks, diesel (underground)	T08	T08-01	A	C	Valdez Chevron
Tanks, diesel (underground)	T08	T08-02	A	C	BIG WHEEL TIRE ,INC.
Tanks, diesel (underground)	T08	T08-03	A	C	WESTMARK VALDEZ
Tanks, diesel (underground)	T08	T08-04	A	C	WESTMARK VALDEZ
Tanks, diesel (underground)	T08	T08-05	A	C	CAPT'N JOE'S GAS
Tanks, diesel (underground)	T08	T08-06	A	C	CJ's Cardlock
Tanks, diesel (underground)	T08	T08-07	A	C	USCG MSO VALDEZ
Tanks, diesel (underground)	T08	T08-08	A	C	Valdez City Schools
Tanks, diesel (underground)	T08	T08-09	A	C	Valdez City Schools
Tanks, diesel (underground)	T08	T08-10	A	C	Discount Gas dba CJ's
Tanks, diesel (underground)	T08	T08-11	A	C	Harbor Fuel Company
Closed tanks, diesel (underground)	T09	T09-01	A	C	VALDEZ TESORO SERVICE STATION
Closed tanks, diesel (underground)	T09	T09-02	A	C	VALDEZ AIRPORT MAINT. STATION
Closed tanks, diesel (underground)	T09	T09-03	A	C	VALDEZ EQUIPMENT SHOP - STEAM PL
Closed tanks, diesel (underground)	T09	T09-04	A	C	VALDEZ EQUIPMENT SHOP - STEAM PL
Closed tanks, diesel (underground)	T09	T09-05	A	C	VEHICLE MAINTENANCE FACILITY
Closed tanks, diesel (underground)	T09	T09-06	A	C	VEHICLE MAINTENANCE FACILITY
Closed tanks, diesel (underground)	T09	T09-07	A	C	BUILDING & GROUNDS WAREHOUSE
Closed tanks, diesel (underground)	T09	T09-08	A	C	LYNDEN TRANSPORT INC.
Closed tanks, diesel (underground)	T09	T09-09	A	C	VALDEZ MARINE TERMINAL

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Map Number*	*Comments*
Tanks, gasoline (underground)	T12	T12-01	A	C	Valdez Tesoro
Tanks, gasoline (underground)	T12	T12-02	A	C	Valdez Tesoro
Tanks, gasoline (underground)	T12	T12-03	A	C	Valdez Tesoro
Tanks, gasoline (underground)	T12	T12-04	A	C	THOMPSON PASS MAINT. STATION
Tanks, gasoline (underground)	T12	T12-05	A	C	BIG WHEEL TIRE ,INC.
Tanks, gasoline (underground)	T12	T12-06	A	C	CAPT'N JOE'S GAS
Tanks, gasoline (underground)	T12	T12-07	A	C	CJ's Cardlock
Tanks, gasoline (underground)	T12	T12-08	A	C	Valdez Fuel Dock
Tanks, gasoline (underground)	T12	T12-09	A	C	Discount Gas dba CJ's
Tanks, gasoline (underground)	T12	T12-10	A	C	Harbor Fuel Company
Closed tanks, gasoline (underground)	T13	T13-01	A	C	VALDEZ TESORO SERVICE STATION
Closed tanks, gasoline (underground)	T13	T13-02	A	C	VALDEZ TESORO SERVICE STATION
Closed tanks, gasoline (underground)	T13	T13-03	A	C	VALDEZ AIRPORT MAINT. STATION
Closed tanks, gasoline (underground)	T13	T13-04	A	C	VEHICLE MAINTENANCE FACILITY
Closed tanks, gasoline (underground)	T13	T13-05	A	C	BUILDING & GROUNDS WAREHOUSE
Closed tanks, gasoline (underground)	T13	T13-06	A	C	PUMP STATION #6
Closed tanks, gasoline (underground)	T13	T13-07	A	C	SEA OTTER RV PARK
Closed tanks, gasoline (underground)	T13	T13-08	A	C	SEA OTTER RV PARK
Closed tanks, gasoline (underground)	T13	T13-09	A	C	City of Valdez
Tanks, heating oil, nonresidential (underground)	T16	T16-01	A	C	PETER PAN SEA FOODS INC.
Tanks, lubricants or other petroleum products (underground)	T20	T20-01	A	C	THOMPSON PASS MAINT. STATION
Closed tanks, lubricants or other petroleum products (undergrour	T21	T21-01	A	C	VEHICLE MAINTENANCE FACILITY
Wastewater Holding Tank	T22	T22-01	A	C	TESORO - ALASKA PETROLEUM COMPANY

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Map Number*	*Comments*
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-01	A	C	Westmark Inn, Valdez 2. Reckey: 1988240115302. Status: Closed. 3 unregulated heating oil tanks removed. Excessive levels of contamination remain. Groundwater contamination reported.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-02	A	C	Alyeska VMT Catch Basin #2, Crude. Reckey: 1997710112001. Status: Active. Crude oil release at West Tank Farm near manhole 55-MH-2-12. broken lines entering the oily water sewer manhole (55-MH-2-12) as the source.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-03	A	C	Robe River Well House. Reckey: 1996240132401. Status: Active. Leak i in fuel line connected to pumphouse heater. Estimated 1,000 gallons of # fuel oil leaked.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-04	A	C	Crowley Dock UST
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-05	A	C	Alyeska SERVS Terminal. Reckey: 1993710127301. Status: Inactive. Lov concentrations of petroleum hydrocarbons are present in all samples. Dies some others. Origin of these petroleum hydrocarbons is unknown.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-06	A	C	USCG Valdez Housing. Reckey: 1993240113001. Status: Inactive. Home heating tank leak.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-07	A	C	U.S. Postal Service - Valdez. Reckey: 1991240120401. Status: Inactive. During removal of a heating oil tank diesel contaminated soil and groundwater encountered.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-08	A	C	CVEA Valdez Containment Dike. Reckey: 1991240130501. Status: No Further Remedial Action Planned. Soil and ground water diesel contamina at Valdez plant from tank farm containment dike. Total extent of contamination is unknown.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-09	A	C	Residence - Chena Street. Reckey: 1991240130901. Status: Closed. Home heating oil tank is suspected to have contaminated groundwater.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-10	A	C	Valdez Small Boat Harbor. Reckey: 1991240124001. Status: Inactive. Wa oil contamination around above ground tank due to poor management practices.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-11	A	C	Rainbow Service Station. Reckey: 1988240125501. Status: Inactive. Lead gasoline contaminated groundwater June 87. 1500 gallons spilled, 700 gall recovered, extent of contamination unknown. 1 class B public water supp within 100 feet.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-12	A	C	Fairmont Bay Mariculture. Reckey: 1998240118801. Status: Active. Petroleum.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-13	A	C	PWS Community College. Reckey: 1988240134601. Status: Inactive. Suspected diesel spillage and leaking underground storage tank potential discovered December 1988. Unknown quantity, extent and disposal date. Possibility of groundwater contamination.

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Map Number*	*Comments*
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-14	A	C	Best Western, Valdez
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-15	A	C	Best Western, Valdez
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-16	A	C	Rainbow Service Station. Reckey: 1988240125501. Status: Inactive. Lead gasoline contaminated groundwater June 87. 1500 gallons spilled, 700 gall recovered, extent of contamination unknown. 1 class B public water supp within 100 feet.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-17	A	C	PWS Community College. Reckey: 1988240134601. Status: Inactive. Suspected diesel spillage and leaking underground storage tank potential discovered December 1988. Unknown quantity, extent and disposal date. Possibility of groundwater contamination.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-18	A	C	Chevron/Tesoro/Petro Star Tank Farm. Reckey: 1989240101001. Status: Inactive. Historic petroleum product spillage. Soil/groundwater contamination. Diesel, gasoline are major products at sites.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-19	A	C	ADOT&PF Steam Plant. Reckey: 1989240108001. Status: Inactive. Oil leaked from waste oil tank transfer hose when valve was left partially ope following transfer of waste oil. Estimated quantity spilled is 550 gallons.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-20	A	C	Former American Legion Building. Reckey: 1991240125303. Status: Clos Petroleum contamination was encountered during the removal of a heatin tank.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-21	A	C	CVEA Valdez Containment Dike. Reckey: 1991240130501. Status: No Further Remedial Action Planned. Soil and ground water diesel contamina at Valdez plant from tank farm containment dike. Total extent of contamination is unknown.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-22	A	C	Lot 7, Block 13, Mineral Creek Sub.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-23	A	C	USCG Valdez Housing. Reckey: 1993240113001. Status: Inactive. Home heating tank leak.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-24	A	C	Old Valdez Townsite Landfill. Reckey: 1993240126501. Status: Closed. Contaminated seepage flowing from Old Landfill.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-25	A	C	Alyeska SERVS Terminal. Reckey: 1993710127301. Status: Inactive. Lov concentrations of petroleum hydrocarbons are present in all samples. Dies some others. Origin of these petroleum hydrocarbons is unknown.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-26	A	C	USCG Valdez Hanagita and Anchor UST. Reckey: 1999240117301. Status: Inactive. DRO contaminated soils confirmed at East and West Housing heating oil UST decommissioning project.

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Map Number*	*Comments*
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-27	A	C	City of Valdez Fire Station #4. Reckey: 2000240111001. Status: Inactive gallon heating oil tank removal. Lab analysis of a single soil sample collec at the bottom center of the excavation, 7 feet below ground surface, show 940 mg/kg DRO.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-28	A	C	City of Valdez Recreation Cntr. UST
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-29	A	C	City of Valdez Teen Center UST. Reckey: 2000240126203. Status: No Further Remedial Action Planned. 830 gallon heating oil tank removed. 2 samples , 8 feet below ground surface, with 370 mg/kg DRO and a trace of xylene.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-30	A	C	City of Valdez Wellhouse #1 UST. Reckey: 1998240129207. Status: Inac 300-gallon heating oil tank removal. 10 cubic yards of petroleum contaminated soil, 2.5 feet below ground surface, showed 330 mg/kg DRO
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-01	A	C	VALDEZ TESORO SERVICE STATION
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-02	A	C	Valdez Chevron
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-03	A	C	Valdez Chevron
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-04	A	C	VALDEZ EQUIPMENT SHOP - STEAM PL
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-05	A	C	BIG WHEEL TIRE ,INC.
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-06	A	C	ERA HELICOPTERS INC. Valdez Airport
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-07	A	C	SEA HAWK SEAFOODS, INC
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-08	A	C	Valdez Marina Duplicate of FACID1889
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-09	A	C	Well House #1
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U08-01	A	C	JOHNSON SAND & GRAVEL, INC.
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U08-02	A	C	WESTMARK VALDEZ
Petroleum product bulk station/terminals	X11	X11-01	A	C	Valdez Fuel Dock
Petroleum product bulk station/terminals	X11	X11-02	A	C	CVEA Valdez Containment Dike
Boat yards and marinas	X15	X15-01	A	C	Valdez Small Boat Harbor
Government vehicle maintenance facilities	X19	X19-01	A	C	ADOTPF - ERNESTINE MAINTENANCE STATION
Government vehicle maintenance facilities	X19	X19-02	A	C	VALDEZ EQUIPMENT SHOP - STEAM PL

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Map Number*	*Comments*
Motor vehicle/general storage yards/facilities	X27	X27-01	A	C	VEHICLE MAINTENANCE FACILITY
Motor vehicle/general storage yards/facilities	X27	X27-02	A	C	LYNDEN TRANSPORT INC.
Pump Stations (oil and gas)	X43	X43-01	A	C	PUMP STATION #6
Landfills (industrial; type of industrial waste?)	D52	D52-01	B	C	Valdez, City of Biosolids Land Application
Metals mining, placer (active or inactive?)	E04	E04-01	B	C	ETHEL MINE
Metals mining, placer (active or inactive?)	E04	E04-02	B	C	MINERAL CREEK
Quarries (sand, gravel, rock, other?)	E10	E10-04	B	C	45
Quarries (sand, gravel, rock, other?)	E10	E10-05	B	C	ALASKAN
Quarries (sand, gravel, rock, other?)	E10	E10-06	B	C	BLUE RIBBON
Quarries (sand, gravel, rock, other?)	E10	E10-07	B	C	DONOHUE
Quarries (sand, gravel, rock, other?)	E10	E10-08	B	C	ETHEL
Quarries (sand, gravel, rock, other?)	E10	E10-09	B	C	ETHEL MINING COMPANY
Quarries (sand, gravel, rock, other?)	E10	E10-10	B	C	GLACIER STREAM PIT
Quarries (sand, gravel, rock, other?)	E10	E10-11	B	C	GOLDEN DOLLAR
Quarries (sand, gravel, rock, other?)	E10	E10-12	B	C	HECLA
Quarries (sand, gravel, rock, other?)	E10	E10-13	B	C	HIGH GRADE
Quarries (sand, gravel, rock, other?)	E10	E10-14	B	C	IBEX
Quarries (sand, gravel, rock, other?)	E10	E10-15	B	C	LITTLE GIANT
Quarries (sand, gravel, rock, other?)	E10	E10-16	B	C	MCINTOSH
Quarries (sand, gravel, rock, other?)	E10	E10-17	B	C	MOUNTAIN VIEW
Quarries (sand, gravel, rock, other?)	E10	E10-18	B	C	OLSON AND WOODS
Quarries (sand, gravel, rock, other?)	E10	E10-19	B	C	PINOCHLE
Quarries (sand, gravel, rock, other?)	E10	E10-20	B	C	QUEEN OF SHEBA

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Map Number*	*Comments*
Quarries (sand, gravel, rock, other?)	E10	E10-21	B	C	RAMSAY-RUTHERFORD
Quarries (sand, gravel, rock, other?)	E10	E10-22	B	C	ROSE JOHNSON
Quarries (sand, gravel, rock, other?)	E10	E10-23	B	C	TIGER
Quarries (sand, gravel, rock, other?)	E10	E10-24	B	C	VALDEZ BONANZA
Airports	X14	X14-01	B	C	VALDEZ AIRPORT

Table 2

Contaminant Source Inventory and Risk Ranking for Valdez Water System - Main Sources of Bacteria and Viruses

PWSID 298103.002

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-01	A	High	C	CITY OF VALDEZ WATERLINE
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-01	A	Low	C	CAPT'N JOE'S GAS
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-02	A	Low	C	Valdez Tesoro
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-03	A	Low	C	VALDEZ INDUSTRIAL REPAIR
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-04	A	Low	C	BENCO-BIG WHEEL SERVICE
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-05	A	Low	C	A-1 BODY SHOP
Seafood processing	N10	N10-01	A	Medium	C	PETER PAN SEA FOODS INC.
Seafood processing	N10	N10-02	A	Medium	C	SEA HAWK SEAFOODS, INC
Seafood processing	N10	N10-03	A	Medium	C	Nautilus Seafood
Wastewater Holding Tank	T22	T22-01	A	Low	C	TESORO - ALASKA PETROLEUM COMPANY
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U08-01	A	Low	C	JOHNSON SAND & GRAVEL, INC.
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U08-02	A	Low	C	WESTMARK VALDEZ

Table 3

Contaminant Source Inventory and Risk Ranking for Valdez Water System - Main Sources of Nitrates/Nitrites

PWSID 298103.002

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-01	A	High	C	CITY OF VALDEZ WATERLINE
Quarries (sand, gravel, rock, other?)	E10	E10-01	A	Low	C	BLONDEAU PIT
Quarries (sand, gravel, rock, other?)	E10	E10-02	A	Low	C	DEVINNEY AND DOLAN
Quarries (sand, gravel, rock, other?)	E10	E10-03	A	Low	C	JOHNSON SAND & GRAVEL, INC.
Quarries (sand, gravel, rock, other?)	E10	E10-03	A	Low	C	YELLOW BAR
Seafood processing	N10	N10-01	A	Low	C	PETER PAN SEA FOODS INC.
Seafood processing	N10	N10-02	A	Low	C	SEA HAWK SEAFOODS, INC
Seafood processing	N10	N10-03	A	Low	C	Nautilus Seafood
Wastewater Holding Tank	T22	T22-01	A	Low	C	TESORO - ALASKA PETROLEUM COMPANY
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U08-01	A	Low	C	JOHNSON SAND & GRAVEL, INC.
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U08-02	A	Low	C	WESTMARK VALDEZ
Quarries (sand, gravel, rock, other?)	E10	E10-04	B	Low	C	45
Quarries (sand, gravel, rock, other?)	E10	E10-05	B	Low	C	ALASKAN
Quarries (sand, gravel, rock, other?)	E10	E10-06	B	Low	C	BLUE RIBBON
Quarries (sand, gravel, rock, other?)	E10	E10-07	B	Low	C	DONOHUE
Quarries (sand, gravel, rock, other?)	E10	E10-08	B	Low	C	ETHEL
Quarries (sand, gravel, rock, other?)	E10	E10-09	B	Low	C	ETHEL MINING COMPANY
Quarries (sand, gravel, rock, other?)	E10	E10-10	B	Low	C	GLACIER STREAM PIT
Quarries (sand, gravel, rock, other?)	E10	E10-11	B	Low	C	GOLDEN DOLLAR

Contaminant Source Inventory and Risk Ranking for Valdez Water System - Main Sources of Nitrates/Nitrites

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Quarries (sand, gravel, rock, other?)	E10	E10-12	B	Low	C	HECLA
Quarries (sand, gravel, rock, other?)	E10	E10-13	B	Low	C	HIGH GRADE
Quarries (sand, gravel, rock, other?)	E10	E10-14	B	Low	C	IBEX
Quarries (sand, gravel, rock, other?)	E10	E10-15	B	Low	C	LITTLE GIANT
Quarries (sand, gravel, rock, other?)	E10	E10-16	B	Low	C	MCINTOSH
Quarries (sand, gravel, rock, other?)	E10	E10-17	B	Low	C	MOUNTAIN VIEW
Quarries (sand, gravel, rock, other?)	E10	E10-18	B	Low	C	OLSON AND WOODS
Quarries (sand, gravel, rock, other?)	E10	E10-19	B	Low	C	PINOCHLE
Quarries (sand, gravel, rock, other?)	E10	E10-20	B	Low	C	QUEEN OF SHEBA
Quarries (sand, gravel, rock, other?)	E10	E10-21	B	Low	C	RAMSAY-RUTHERFORD
Quarries (sand, gravel, rock, other?)	E10	E10-22	B	Low	C	ROSE JOHNSON
Quarries (sand, gravel, rock, other?)	E10	E10-23	B	Low	C	TIGER
Quarries (sand, gravel, rock, other?)	E10	E10-24	B	Low	C	VALDEZ BONANZA
Airports	X14	X14-01	B	Low	C	VALDEZ AIRPORT

Table 4

Contaminant Source Inventory and Risk Ranking for Valdez Water System - Main Sources of Volatile Organic Chemicals

PWSID 298103.002

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Aircraft maintenance shops	C01	C01-01	A	Low	C	VALDEZ AIRPORT MAINT. STATION
Gasoline stations (without repair shop)	C15	C15-01	A	High	C	Valdez Chevron
Gasoline stations (without repair shop)	C15	C15-02	A	High	C	CAPT'N JOE'S GAS
Gasoline stations (without repair shop)	C15	C15-03	A	High	C	CJ's Cardlock
Gasoline stations (without repair shop)	C15	C15-04	A	High	C	Discount Gas dba CJ's
Gasoline stations (without repair shop)	C15	C15-05	A	High	C	Harbor Fuel Company
Gasoline stations (with repair shop)	C16	C16-01	A	High	C	VALDEZ TESORO SERVICE STATION
Gasoline stations (with repair shop)	C16	C16-02	A	High	C	BIG WHEEL TIRE ,INC.
Motor vehicle rental facilities - cars, trucks, ATV's snow machines (with service department)	C30	C30-01	A	Medium	C	ALEUT SUN ADVENTURES
Motor /motor vehicle repair shops	C31	C31-01	A	Medium	C	THOMPSON PASS MAINT. STATION
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-01	A	Low	C	CITY OF VALDEZ WATERLINE
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-01	A	High	C	CAPT'N JOE'S GAS
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-02	A	High	C	Valdez Tesoro
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-03	A	High	C	VALDEZ INDUSTRIAL REPAIR
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-04	A	High	C	BENCO-BIG WHEEL SERVICE
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-05	A	High	C	A-1 BODY SHOP
Quarries (sand, gravel, rock, other?)	E10	E10-01	A	Low	C	BLONDEAU PIT
Quarries (sand, gravel, rock, other?)	E10	E10-02	A	Low	C	DEVINNEY AND DOLAN

Table 4 (continued)

Contaminant Source Inventory and Risk Ranking for Valdez Water System - Main Sources of Volatile Organic Chemicals

PWSID 298103.002

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Quarries (sand, gravel, rock, other?)	E10	E10-03	A	Low	C	YELLOW BAR
Quarries (sand, gravel, rock, other?)	E10	E10-03	A	Low	C	JOHNSON SAND & GRAVEL, INC.
Tanks, diesel (underground)	T08	T08-01	A	High	C	Valdez Chevron
Tanks, diesel (underground)	T08	T08-02	A	High	C	BIG WHEEL TIRE ,INC.
Tanks, diesel (underground)	T08	T08-03	A	High	C	WESTMARK VALDEZ
Tanks, diesel (underground)	T08	T08-04	A	High	C	WESTMARK VALDEZ
Tanks, diesel (underground)	T08	T08-05	A	High	C	CAPT'N JOE'S GAS
Tanks, diesel (underground)	T08	T08-06	A	High	C	CJ's Cardlock
Tanks, diesel (underground)	T08	T08-07	A	High	C	USCG MSO VALDEZ
Tanks, diesel (underground)	T08	T08-08	A	High	C	Valdez City Schools
Tanks, diesel (underground)	T08	T08-09	A	High	C	Valdez City Schools
Tanks, diesel (underground)	T08	T08-10	A	High	C	Discount Gas dba CJ's
Tanks, diesel (underground)	T08	T08-11	A	High	C	Harbor Fuel Company
Closed tanks, diesel (underground)	T09	T09-01	A	Medium	C	VALDEZ TESORO SERVICE STATION
Closed tanks, diesel (underground)	T09	T09-02	A	Medium	C	VALDEZ AIRPORT MAINT. STATION
Closed tanks, diesel (underground)	T09	T09-03	A	Medium	C	VALDEZ EQUIPMENT SHOP - STEAM PL
Closed tanks, diesel (underground)	T09	T09-04	A	Medium	C	VALDEZ EQUIPMENT SHOP - STEAM PL
Closed tanks, diesel (underground)	T09	T09-05	A	Medium	C	VEHICLE MAINTENANCE FACILITY
Closed tanks, diesel (underground)	T09	T09-06	A	Medium	C	VEHICLE MAINTENANCE FACILITY
Closed tanks, diesel (underground)	T09	T09-07	A	Medium	C	BUILDING & GROUNDS WAREHOUSE

Table 4 (continued)

Contaminant Source Inventory and Risk Ranking for Valdez Water System - Main Sources of Volatile Organic Chemicals

PWSID 298103.002

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Closed tanks, diesel (underground)	T09	T09-08	A	Medium	C	LYNDEN TRANSPORT INC.
Closed tanks, diesel (underground)	T09	T09-09	A	Medium	C	VALDEZ MARINE TERMINAL
Tanks, gasoline (underground)	T12	T12-01	A	High	C	Valdez Tesoro
Tanks, gasoline (underground)	T12	T12-02	A	High	C	Valdez Tesoro
Tanks, gasoline (underground)	T12	T12-03	A	High	C	Valdez Tesoro
Tanks, gasoline (underground)	T12	T12-04	A	High	C	THOMPSON PASS MAINT. STATION
Tanks, gasoline (underground)	T12	T12-05	A	High	C	BIG WHEEL TIRE ,INC.
Tanks, gasoline (underground)	T12	T12-06	A	High	C	CAPT'N JOE'S GAS
Tanks, gasoline (underground)	T12	T12-07	A	High	C	CJ's Cardlock
Tanks, gasoline (underground)	T12	T12-08	A	High	C	Valdez Fuel Dock
Tanks, gasoline (underground)	T12	T12-09	A	High	C	Discount Gas dba CJ's
Tanks, gasoline (underground)	T12	T12-10	A	High	C	Harbor Fuel Company
Closed tanks, gasoline (underground)	T13	T13-01	A	Medium	C	VALDEZ TESORO SERVICE STATION
Closed tanks, gasoline (underground)	T13	T13-02	A	Medium	C	VALDEZ TESORO SERVICE STATION
Closed tanks, gasoline (underground)	T13	T13-03	A	Medium	C	VALDEZ AIRPORT MAINT. STATION
Closed tanks, gasoline (underground)	T13	T13-04	A	Medium	C	VEHICLE MAINTENANCE FACILITY
Closed tanks, gasoline (underground)	T13	T13-05	A	Medium	C	BUILDING & GROUNDS WAREHOUSE
Closed tanks, gasoline (underground)	T13	T13-06	A	Medium	C	PUMP STATION #6
Closed tanks, gasoline (underground)	T13	T13-07	A	Medium	C	SEA OTTER RV PARK
Closed tanks, gasoline (underground)	T13	T13-08	A	Medium	C	SEA OTTER RV PARK

Table 4 (continued)

Contaminant Source Inventory and Risk Ranking for Valdez Water System - Main Sources of Volatile Organic Chemicals

PWSID 298103.002

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Closed tanks, gasoline (underground)	T13	T13-09	A	Medium	C	City of Valdez
Tanks, heating oil, nonresidential (underground)	T16	T16-01	A	Low	C	PETER PAN SEA FOODS INC.
Wastewater Holding Tank	T22	T22-01	A	Medium	C	TESORO - ALASKA PETROLEUM COMPANY
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-01	A	High	C	Westmark Inn, Valdez 2. Reckey: 1988240115302. Status: Closed. 3 unregulated heating oil tanks removed. Excessive levels of contamination remain. Groundwater contamination reported.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-02	A	High	C	Alyeska VMT Catch Basin #2, Crude. Reckey: 1997710112001. Status: Ac Crude oil release at West Tank Farm near manhole 55-MH-2-12. Two brol lines entering the oily water sewer manhole (55-MH-2-12) as the source.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-03	A	High	C	Robe River Well House. Reckey: 1996240132401. Status: Active. Leak in in fuel line connected to pumphouse heater. Estimated 1,000 gallons of #1 oil leaked.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-04	A	High	C	Crowley Dock UST
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-05	A	High	C	Alyeska SERVS Terminal. Reckey: 1993710127301. Status: Inactive. Low concentrations of petroleum hydrocarbons are present in all samples. Diese some others. Origin of these petroleum hydrocarbons is unknown.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-06	A	High	C	USCG Valdez Housing. Reckey: 1993240113001. Status: Inactive. Home heating tank leak.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-07	A	High	C	U.S. Postal Service - Valdez. Reckey: 1991240120401. Status: Inactive. Du removal of a heating oil tank diesel contaminated soil and groundwater encountered.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-08	A	High	C	CVEA Valdez Containment Dike. Reckey: 1991240130501. Status: No Fu Remedial Action Planned. Soil and ground water diesel contamination at Valdez plant from tank farm containment dike. Total extent of contamina unknown.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-09	A	High	C	Residence - Chena Street. Reckey: 1991240130901. Status: Closed. Home heating oil tank is suspected to have contaminated groundwater.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-10	A	High	C	Valdez Small Boat Harbor. Reckey: 1991240124001. Status: Inactive. Was oil contamination around above ground tank due to poor management prac

Table 4 (continued)

Contaminant Source Inventory and Risk Ranking for Valdez Water System - Main Sources of Volatile Organic Chemicals

PWSID 298103.002

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-11	A	High	C	Rainbow Service Station. Reckey: 1988240125501. Status: Inactive. Leade gasoline contaminated groundwater June 87. 1500 gallons spilled, 700 gallo recovered, extent of contamination unknown. 1 class B public water supply within 100 feet.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-12	A	High	C	Fairmont Bay Mariculture. Reckey: 1998240118801. Status: Active. Petro
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-13	A	High	C	PWS Community College. Reckey: 1988240134601. Status: Inactive. Suspected diesel spillage and leaking underground storage tank potential discovered December 1988. Unknown quantity, extent and disposal date. Possibility of groundwater contamination.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-14	A	High	C	Best Western, Valdez
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-15	A	High	C	Best Western, Valdez
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-16	A	High	C	Rainbow Service Station. Reckey: 1988240125501. Status: Inactive. Leade gasoline contaminated groundwater June 87. 1500 gallons spilled, 700 gallo recovered, extent of contamination unknown. 1 class B public water supply within 100 feet.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-17	A	High	C	PWS Community College. Reckey: 1988240134601. Status: Inactive. Suspected diesel spillage and leaking underground storage tank potential discovered December 1988. Unknown quantity, extent and disposal date. Possibility of groundwater contamination.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-18	A	High	C	Chevron/Tesoro/Petro Star Tank Farm. Reckey: 1989240101001. Status: Inactive. Historic petroleum product spillage. Soil/groundwater contaminat Diesel, gasoline are major products at sites.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-19	A	High	C	ADOT&PF Steam Plant. Reckey: 1989240108001. Status: Inactive. Oil le from waste oil tank transfer hose when valve was left partially open follow transfer of waste oil. Estimated quantity spilled is 550 gallons.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-20	A	High	C	Former American Legion Building. Reckey: 1991240125303. Status: Close Petroleum contamination was encountered during the removal of a heating tank.

Contaminant Source Inventory and Risk Ranking for Valdez Water System - Main Sources of Volatile Organic Chemicals

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-21	A	High	C	CVEA Valdez Containment Dike. Reckey: 1991240130501. Status: No Fu Remedial Action Planned. Soil and ground water diesel contamination at Valdez plant from tank farm containment dike. Total extent of contamina unknown.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-22	A	High	C	Lot 7, Block 13, Mineral Creek Sub.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-23	A	High	C	USCG Valdez Housing. Reckey: 1993240113001. Status: Inactive. Home heating tank leak.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-24	A	High	C	Old Valdez Townsite Landfill. Reckey: 1993240126501. Status: Closed. Contaminated seepage flowing from Old Landfill.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-25	A	High	C	Alyeska SERVS Terminal. Reckey: 1993710127301. Status: Inactive. Low concentrations of petroleum hydrocarbons are present in all samples. Diese some others. Origin of these petroleum hydrocarbons is unknown.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-26	A	High	C	USCG Valdez Hanagita and Anchor UST. Reckey: 1999240117301. Status: Inactive. DRO contaminated soils confirmed at East and West Housing hea oil UST decommissioning project.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-27	A	High	C	City of Valdez Fire Station #4. Reckey: 2000240111001. Status: Inactive. gallon heating oil tank removal. Lab analysis of a single soil sample collect the bottom center of the excavation, 7 feet below ground surface, showed 9 mg/kg DRO.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-28	A	High	C	City of Valdez Recreation Cntr. UST
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-29	A	High	C	City of Valdez Teen Center UST. Reckey: 2000240126203. Status: No Fu Remedial Action Planned. 830 gallon heating oil tank removed. 2 soil samp 8 feet below ground surface, with 370 mg/kg DRO and a trace of xylene.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-30	A	High	C	City of Valdez Wellhouse #1 UST. Reckey: 1998240129207. Status: Inacti 300-gallon heating oil tank removal. 10 cubic yards of petroleum contamin soil, 2.5 feet below ground surface, showed 330 mg/kg DRO.
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-01	A	High	C	VALDEZ TESORO SERVICE STATION
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-02	A	High	C	Valdez Chevron

Contaminant Source Inventory and Risk Ranking for Valdez Water System - Main 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	U07-03	A	High	C	Valdez Chevron
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-04	A	High	C	VALDEZ EQUIPMENT SHOP - STEAM PL
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-05	A	High	C	BIG WHEEL TIRE ,INC.
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-06	A	High	C	ERA HELICOPTERS INC. Valdez Airport
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-07	A	High	C	SEA HAWK SEAFOODS, INC
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-08	A	High	C	Valdez Marina Duplicate of FACID1889
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-09	A	High	C	Well House #1
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U08-01	A	High	C	JOHNSON SAND & GRAVEL, INC.
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U08-02	A	High	C	WESTMARK VALDEZ
Petroleum product bulk station/terminals	X11	X11-01	A	Very High	C	Valdez Fuel Dock
Petroleum product bulk station/terminals	X11	X11-02	A	Very High	C	CVEA Valdez Containment Dike
Boat yards and marinas	X15	X15-01	A	Low	C	Valdez Small Boat Harbor
Government vehicle maintenance facilities	X19	X19-01	A	Medium	C	ADOTPF - ERNESTINE MAINTENANCE STATION
Government vehicle maintenance facilities	X19	X19-02	A	Medium	C	VALDEZ EQUIPMENT SHOP - STEAM PL
Motor vehicle/general storage yards/facilities	X27	X27-01	A	Low	C	VEHICLE MAINTENANCE FACILITY
Motor vehicle/general storage yards/facilities	X27	X27-02	A	Low	C	LYNDEN TRANSPORT INC.
Pump Stations (oil and gas)	X43	X43-01	A	Low	C	PUMP STATION #6

Contaminant Source Inventory and Risk Ranking for Valdez Water System - Main Sources of Volatile Organic Chemicals

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Quarries (sand, gravel, rock, other?)	E10	E10-04	B	Low	C	45
Quarries (sand, gravel, rock, other?)	E10	E10-05	B	Low	C	ALASKAN
Quarries (sand, gravel, rock, other?)	E10	E10-06	B	Low	C	BLUE RIBBON
Quarries (sand, gravel, rock, other?)	E10	E10-07	B	Low	C	DONOHUE
Quarries (sand, gravel, rock, other?)	E10	E10-08	B	Low	C	ETHEL
Quarries (sand, gravel, rock, other?)	E10	E10-09	B	Low	C	ETHEL MINING COMPANY
Quarries (sand, gravel, rock, other?)	E10	E10-10	B	Low	C	GLACIER STREAM PIT
Quarries (sand, gravel, rock, other?)	E10	E10-11	B	Low	C	GOLDEN DOLLAR
Quarries (sand, gravel, rock, other?)	E10	E10-12	B	Low	C	HECLA
Quarries (sand, gravel, rock, other?)	E10	E10-13	B	Low	C	HIGH GRADE
Quarries (sand, gravel, rock, other?)	E10	E10-14	B	Low	C	IBEX
Quarries (sand, gravel, rock, other?)	E10	E10-15	B	Low	C	LITTLE GIANT
Quarries (sand, gravel, rock, other?)	E10	E10-16	B	Low	C	MCINTOSH
Quarries (sand, gravel, rock, other?)	E10	E10-17	B	Low	C	MOUNTAIN VIEW
Quarries (sand, gravel, rock, other?)	E10	E10-18	B	Low	C	OLSON AND WOODS
Quarries (sand, gravel, rock, other?)	E10	E10-19	B	Low	C	PINOCHLE
Quarries (sand, gravel, rock, other?)	E10	E10-20	B	Low	C	QUEEN OF SHEBA
Quarries (sand, gravel, rock, other?)	E10	E10-21	B	Low	C	RAMSAY-RUTHERFORD
Quarries (sand, gravel, rock, other?)	E10	E10-22	B	Low	C	ROSE JOHNSON
Quarries (sand, gravel, rock, other?)	E10	E10-23	B	Low	C	TIGER

Contaminant Source Inventory and Risk Ranking for Valdez Water System - Main Sources of Volatile Organic Chemicals

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Quarries (sand, gravel, rock, other?)	E10	E10-24	B	Low	C	VALDEZ BONANZA
Airports	X14	X14-01	B	High	C	VALDEZ AIRPORT

Table 5

Contaminant Source Inventory and Risk Ranking for Valdez Water System - Main

Sources of Heavy Metals, Cyanide and Other Inorganic Chemicals

PWSID 298103.002

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Aircraft maintenance shops	C01	C01-01	A	Low	C	VALDEZ AIRPORT MAINT. STATION
Gasoline stations (without repair shop)	C15	C15-01	A	Low	C	Valdez Chevron
Gasoline stations (without repair shop)	C15	C15-02	A	Low	C	CAPT'N JOE'S GAS
Gasoline stations (without repair shop)	C15	C15-03	A	Low	C	CJ's Cardlock
Gasoline stations (without repair shop)	C15	C15-04	A	Low	C	Discount Gas dba CJ's
Gasoline stations (without repair shop)	C15	C15-05	A	Low	C	Harbor Fuel Company
Gasoline stations (with repair shop)	C16	C16-01	A	Low	C	VALDEZ TESORO SERVICE STATION
Gasoline stations (with repair shop)	C16	C16-02	A	Low	C	BIG WHEEL TIRE ,INC.
Motor vehicle rental facilities - cars, trucks, ATV's snow machines (with service department)	C30	C30-01	A	Low	C	ALEUT SUN ADVENTURES
Motor /motor vehicle repair shops	C31	C31-01	A	Medium	C	THOMPSON PASS MAINT. STATION
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-01	A	Low	C	CITY OF VALDEZ WATERLINE
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-01	A	High	C	CAPT'N JOE'S GAS
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-02	A	High	C	Valdez Tesoro
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-03	A	High	C	VALDEZ INDUSTRIAL REPAIR
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-04	A	High	C	BENCO-BIG WHEEL SERVICE
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-05	A	High	C	A-1 BODY SHOP
Tanks, gasoline (underground)	T12	T12-01	A	Medium	C	Valdez Tesoro
Tanks, gasoline (underground)	T12	T12-02	A	Medium	C	Valdez Tesoro

Table 5 (continued)

Contaminant Source Inventory and Risk Ranking for Valdez Water System - Main

Sources of Heavy Metals, Cyanide and Other Inorganic Chemicals

PWSID 298103.002

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Tanks, gasoline (underground)	T12	T12-03	A	Medium	C	Valdez Tesoro
Tanks, gasoline (underground)	T12	T12-04	A	Medium	C	THOMPSON PASS MAINT. STATION
Tanks, gasoline (underground)	T12	T12-05	A	Medium	C	BIG WHEEL TIRE ,INC.
Tanks, gasoline (underground)	T12	T12-06	A	Medium	C	CAPT'N JOE'S GAS
Tanks, gasoline (underground)	T12	T12-07	A	Medium	C	CJ's Cardlock
Tanks, gasoline (underground)	T12	T12-08	A	Medium	C	Valdez Fuel Dock
Tanks, gasoline (underground)	T12	T12-09	A	Medium	C	Discount Gas dba CJ's
Tanks, gasoline (underground)	T12	T12-10	A	Medium	C	Harbor Fuel Company
Tanks, heating oil, nonresidential (underground)	T16	T16-01	A	Low	C	PETER PAN SEA FOODS INC.
Tanks, lubricants or other petroleum products (underground)	T20	T20-01	A	Medium	C	THOMPSON PASS MAINT. STATION
Closed tanks, lubricants or other petroleum produc (underground)	T21	T21-01	A	Medium	C	VEHICLE MAINTENANCE FACILITY
Wastewater Holding Tank	T22	T22-01	A	Medium	C	TESORO - ALASKA PETROLEUM COMPANY
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-01	A	Low	C	Westmark Inn, Valdez 2. Reckey: 1988240115302. Status: Closed. 3 unregulated heating oil tanks removed. Excessive levels of contamination remain. Groundwater contamination reported.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-02	A	Low	C	Alyeska VMT Catch Basin #2, Crude. Reckey: 1997710112001. Status: Ac Crude oil release at West Tank Farm near manhole 55-MH-2-12. Two brol lines entering the oily water sewer manhole (55-MH-2-12) as the source.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-03	A	Low	C	Robe River Well House. Reckey: 1996240132401. Status: Active. Leak in in fuel line connected to pumphouse heater. Estimated 1,000 gallons of #1 oil leaked.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-04	A	Low	C	Crowley Dock UST

Table 5 (continued)

Contaminant Source Inventory and Risk Ranking for Valdez Water System - Main

Sources of Heavy Metals, Cyanide and Other Inorganic Chemicals

PWSID 298103.002

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-05	A	Low	C	Alyeska SERVS Terminal. Reckey: 1993710127301. Status: Inactive. Low concentrations of petroleum hydrocarbons are present in all samples. Diese some others. Origin of these petroleum hydrocarbons is unknown.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-06	A	Low	C	USCG Valdez Housing. Reckey: 1993240113001. Status: Inactive. Home heating tank leak.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-07	A	Low	C	U.S. Postal Service - Valdez. Reckey: 1991240120401. Status: Inactive. Du removal of a heating oil tank diesel contaminated soil and groundwater encountered.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-08	A	Low	C	CVEA Valdez Containment Dike. Reckey: 1991240130501. Status: No Fu Remedial Action Planned. Soil and ground water diesel contamination at Valdez plant from tank farm containment dike. Total extent of contamina unknown.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-09	A	Low	C	Residence - Chena Street. Reckey: 1991240130901. Status: Closed. Home heating oil tank is suspected to have contaminated groundwater.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-10	A	Low	C	Valdez Small Boat Harbor. Reckey: 1991240124001. Status: Inactive. Was oil contamination around above ground tank due to poor management prac
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-11	A	Low	C	Rainbow Service Station. Reckey: 1988240125501. Status: Inactive. Leade gasoline contaminated groundwater June 87. 1500 gallons spilled, 700 gallo recovered, extent of contamination unknown. 1 class B public water supply within 100 feet.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-12	A	Low	C	Fairmont Bay Mariculture. Reckey: 1998240118801. Status: Active. Petro
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-13	A	Low	C	PWS Community College. Reckey: 1988240134601. Status: Inactive. Suspected diesel spillage and leaking underground storage tank potential discovered December 1988. Unknown quantity, extent and disposal date. Possibility of groundwater contamination.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-14	A	Low	C	Best Western, Valdez
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-15	A	Low	C	Best Western, Valdez

Contaminant Source Inventory and Risk Ranking for Valdez Water System - Main

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*
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-16	A	Low	C	Rainbow Service Station. Reckey: 1988240125501. Status: Inactive. Leade gasoline contaminated groundwater June 87. 1500 gallons spilled, 700 gallo recovered, extent of contamination unknown. 1 class B public water supply within 100 feet.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-17	A	Low	C	PWS Community College. Reckey: 1988240134601. Status: Inactive. Suspected diesel spillage and leaking underground storage tank potential discovered December 1988. Unknown quantity, extent and disposal date. Possibility of groundwater contamination.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-18	A	Low	C	Chevron/Tesoro/Petro Star Tank Farm. Reckey: 1989240101001. Status: Inactive. Historic petroleum product spillage. Soil/groundwater contaminat Diesel, gasoline are major products at sites.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-19	A	Low	C	ADOT&PF Steam Plant. Reckey: 1989240108001. Status: Inactive. Oil le from waste oil tank transfer hose when valve was left partially open follow transfer of waste oil. Estimated quantity spilled is 550 gallons.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-20	A	Low	C	Former American Legion Building. Reckey: 1991240125303. Status: Close Petroleum contamination was encountered during the removal of a heating tank.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-21	A	Low	C	CVEA Valdez Containment Dike. Reckey: 1991240130501. Status: No Fu Remedial Action Planned. Soil and ground water diesel contamination at Valdez plant from tank farm containment dike. Total extent of contamina unknown.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-22	A	Low	C	Lot 7, Block 13, Mineral Creek Sub.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-23	A	Low	C	USCG Valdez Housing. Reckey: 1993240113001. Status: Inactive. Home heating tank leak.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-24	A	Low	C	Old Valdez Townsite Landfill. Reckey: 1993240126501. Status: Closed. Contaminated seepage flowing from Old Landfill.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-25	A	Low	C	Alyeska SERVS Terminal. Reckey: 1993710127301. Status: Inactive. Low concentrations of petroleum hydrocarbons are present in all samples. Diese some others. Origin of these petroleum hydrocarbons is unknown.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-26	A	Low	C	USCG Valdez Hanagita and Anchor UST. Reckey: 1999240117301. Status: Inactive. DRO contaminated soils confirmed at East and West Housing hea oil UST decommissioning project.

Table 5 (continued)

Contaminant Source Inventory and Risk Ranking for Valdez Water System - Main

Sources of Heavy Metals, Cyanide and Other Inorganic Chemicals

PWSID 298103.002

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-27	A	Low	C	City of Valdez Fire Station #4. Reckey: 2000240111001. Status: Inactive. gallon heating oil tank removal. Lab analysis of a single soil sample collect the bottom center of the excavation, 7 feet below ground surface, showed 9 mg/kg DRO.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-28	A	Low	C	City of Valdez Recreation Cntr. UST
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-29	A	Low	C	City of Valdez Teen Center UST. Reckey: 2000240126203. Status: No Fur Remedial Action Planned. 830 gallon heating oil tank removed. 2 soil samp 8 feet below ground surface, with 370 mg/kg DRO and a trace of xylene.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-30	A	Low	C	City of Valdez Wellhouse #1 UST. Reckey: 1998240129207. Status: Inacti 300-gallon heating oil tank removal. 10 cubic yards of petroleum contamin soil, 2.5 feet below ground surface, showed 330 mg/kg DRO.
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U08-01	A	Low	C	JOHNSON SAND & GRAVEL, INC.
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U08-02	A	Low	C	WESTMARK VALDEZ
Petroleum product bulk station/terminals	X11	X11-01	A	Low	C	Valdez Fuel Dock
Petroleum product bulk station/terminals	X11	X11-02	A	Low	C	CVEA Valdez Containment Dike
Boat yards and marinas	X15	X15-01	A	Low	C	Valdez Small Boat Harbor
Government vehicle maintenance facilities	X19	X19-01	A	Low	C	ADOTPF - ERNESTINE MAINTENANCE STATION
Government vehicle maintenance facilities	X19	X19-02	A	Low	C	VALDEZ EQUIPMENT SHOP - STEAM PL
Pump Stations (oil and gas)	X43	X43-01	A	Low	C	PUMP STATION #6
Metals mining, placer (active or inactive?)	E04	E04-01	B	Low	C	ETHEL MINE
Metals mining, placer (active or inactive?)	E04	E04-02	B	Low	C	MINERAL CREEK
Airports	X14	X14-01	B	Low	C	VALDEZ AIRPORT

Table 6

Contaminant Source Inventory and Risk Ranking for Valdez Water System - Main Sources of Synthetic Organic Chemicals

PWSID 298103.002

Contaminant Source Type	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Map Number	Comments
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-01	A	Low	C	CITY OF VALDEZ WATERLINE
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-01	A	Low	C	CAPT'N JOE'S GAS
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-02	A	Low	C	Valdez Tesoro
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-03	A	Low	C	VALDEZ INDUSTRIAL REPAIR
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-04	A	Low	C	BENCO-BIG WHEEL SERVICE
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-05	A	Low	C	A-1 BODY SHOP
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-01	A	Low	C	Westmark Inn, Valdez 2. Reckey: 1988240115302. Status: Closed. 3 unregulated heating oil tanks removed. Excessive levels of contamination remain. Groundwater contamination reported.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-02	A	Low	C	Alyeska VMT Catch Basin #2, Crude. Reckey: 1997710112001. Status: Ac Crude oil release at West Tank Farm near manhole 55-MH-2-12. Two brol lines entering the oily water sewer manhole (55-MH-2-12) as the source.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-03	A	Low	C	Robe River Well House. Reckey: 1996240132401. Status: Active. Leak in in fuel line connected to pumphouse heater. Estimated 1,000 gallons of #1 oil leaked.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-04	A	Low	C	Crowley Dock UST
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-05	A	Low	C	Alyeska SERVS Terminal. Reckey: 1993710127301. Status: Inactive. Low concentrations of petroleum hydrocarbons are present in all samples. Diese some others. Origin of these petroleum hydrocarbons is unknown.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-06	A	Low	C	USCG Valdez Housing. Reckey: 1993240113001. Status: Inactive. Home heating tank leak.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-07	A	Low	C	U.S. Postal Service - Valdez. Reckey: 1991240120401. Status: Inactive. Du removal of a heating oil tank diesel contaminated soil and groundwater encountered.

Table 6 (continued)

Contaminant Source Inventory and Risk Ranking for Valdez Water System - Main Sources of Synthetic Organic Chemicals

PWSID 298103.002

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-08	A	Low	C	CVEA Valdez Containment Dike. Reckey: 1991240130501. Status: No Fu Remedial Action Planned. Soil and ground water diesel contamination at Valdez plant from tank farm containment dike. Total extent of contamina unknown.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-09	A	Low	C	Residence - Chena Street. Reckey: 1991240130901. Status: Closed. Home heating oil tank is suspected to have contaminated groundwater.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-10	A	Low	C	Valdez Small Boat Harbor. Reckey: 1991240124001. Status: Inactive. Was oil contamination around above ground tank due to poor management prac
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-11	A	Low	C	Rainbow Service Station. Reckey: 1988240125501. Status: Inactive. Leade gasoline contaminated groundwater June 87. 1500 gallons spilled, 700 gallo recovered, extent of contamination unknown. 1 class B public water supply within 100 feet.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-12	A	Low	C	Fairmont Bay Mariculture. Reckey: 1998240118801. Status: Active. Petro
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-13	A	Low	C	PWS Community College. Reckey: 1988240134601. Status: Inactive. Suspected diesel spillage and leaking underground storage tank potential discovered December 1988. Unknown quantity, extent and disposal date. Possibility of groundwater contamination.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-14	A	Low	C	Best Western, Valdez
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-15	A	Low	C	Best Western, Valdez
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-16	A	Low	C	Rainbow Service Station. Reckey: 1988240125501. Status: Inactive. Leade gasoline contaminated groundwater June 87. 1500 gallons spilled, 700 gallo recovered, extent of contamination unknown. 1 class B public water supply within 100 feet.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-17	A	Low	C	PWS Community College. Reckey: 1988240134601. Status: Inactive. Suspected diesel spillage and leaking underground storage tank potential discovered December 1988. Unknown quantity, extent and disposal date. Possibility of groundwater contamination.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-18	A	Low	C	Chevron/Tesoro/Petro Star Tank Farm. Reckey: 1989240101001. Status: Inactive. Historic petroleum product spillage. Soil/groundwater contaminat Diesel, gasoline are major products at sites.

Table 6 (continued)

Contaminant Source Inventory and Risk Ranking for Valdez Water System - Main
Sources of Synthetic Organic Chemicals

PWSID 298103.002

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-19	A	Low	C	ADOT&PF Steam Plant. Reckey: 1989240108001. Status: Inactive. Oil lea from waste oil tank transfer hose when valve was left partially open follow transfer of waste oil. Estimated quantity spilled is 550 gallons.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-20	A	Low	C	Former American Legion Building. Reckey: 1991240125303. Status: Close Petroleum contamination was encountered during the removal of a heating tank.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-21	A	Low	C	CVEA Valdez Containment Dike. Reckey: 1991240130501. Status: No Fur Remedial Action Planned. Soil and ground water diesel contamination at Valdez plant from tank farm containment dike. Total extent of contamina unknown.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-22	A	Low	C	Lot 7, Block 13, Mineral Creek Sub.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-23	A	Low	C	USCG Valdez Housing. Reckey: 1993240113001. Status: Inactive. Home heating tank leak.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-24	A	Low	C	Old Valdez Townsite Landfill. Reckey: 1993240126501. Status: Closed. Contaminated seepage flowing from Old Landfill.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-25	A	Low	C	Alyeska SERVS Terminal. Reckey: 1993710127301. Status: Inactive. Low concentrations of petroleum hydrocarbons are present in all samples. Diese some others. Origin of these petroleum hydrocarbons is unknown.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-26	A	Low	C	USCG Valdez Hanagita and Anchor UST. Reckey: 1999240117301. Status: Inactive. DRO contaminated soils confirmed at East and West Housing hea oil UST decommissioning project.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-27	A	Low	C	City of Valdez Fire Station #4. Reckey: 2000240111001. Status: Inactive. gallon heating oil tank removal. Lab analysis of a single soil sample collect the bottom center of the excavation, 7 feet below ground surface, showed 9 mg/kg DRO.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-28	A	Low	C	City of Valdez Recreation Cntr. UST
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-29	A	Low	C	City of Valdez Teen Center UST. Reckey: 2000240126203. Status: No Fur Remedial Action Planned. 830 gallon heating oil tank removed. 2 soil samp 8 feet below ground surface, with 370 mg/kg DRO and a trace of xylene.

Table 6 (continued)

Contaminant Source Inventory and Risk Ranking for Valdez Water System - Main Sources of Synthetic Organic Chemicals

PWSID 298103.002

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-30	A	Low	C	City of Valdez Wellhouse #1 UST. Reckey: 1998240129207. Status: Inacti 300-gallon heating oil tank removal. 10 cubic yards of petroleum contamin soil, 2.5 feet below ground surface, showed 330 mg/kg DRO.
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-01	A	Low	C	VALDEZ TESORO SERVICE STATION
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-02	A	Low	C	Valdez Chevron
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-03	A	Low	C	Valdez Chevron
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-04	A	Low	C	VALDEZ EQUIPMENT SHOP - STEAM PL
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-05	A	Low	C	BIG WHEEL TIRE ,INC.
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-06	A	Low	C	ERA HELICOPTERS INC. Valdez Airport
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-07	A	Low	C	SEA HAWK SEAFOODS, INC
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-08	A	Low	C	Valdez Marina Duplicate of FACID1889
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-09	A	Low	C	Well House #1
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U08-01	A	Low	C	JOHNSON SAND & GRAVEL, INC.
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U08-02	A	Low	C	WESTMARK VALDEZ
Petroleum product bulk station/terminals	X11	X11-01	A	Low	C	Valdez Fuel Dock
Petroleum product bulk station/terminals	X11	X11-02	A	Low	C	CVEA Valdez Containment Dike
Airports	X14	X14-01	B	Medium	C	VALDEZ AIRPORT

Table 7

Contaminant Source Inventory and Risk Ranking for Valdez Water System - Main Sources of Other Organic Chemicals

PWSID 298103.002

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Aircraft maintenance shops	C01	C01-01	A	Low	C	VALDEZ AIRPORT MAINT. STATION
Gasoline stations (without repair shop)	C15	C15-01	A	Low	C	Valdez Chevron
Gasoline stations (without repair shop)	C15	C15-02	A	Low	C	CAPT'N JOE'S GAS
Gasoline stations (without repair shop)	C15	C15-03	A	Low	C	CJ's Cardlock
Gasoline stations (without repair shop)	C15	C15-04	A	Low	C	Discount Gas dba CJ's
Gasoline stations (without repair shop)	C15	C15-05	A	Low	C	Harbor Fuel Company
Gasoline stations (with repair shop)	C16	C16-01	A	Medium	C	VALDEZ TESORO SERVICE STATION
Gasoline stations (with repair shop)	C16	C16-02	A	Medium	C	BIG WHEEL TIRE ,INC.
Motor vehicle rental facilities - cars, trucks, ATV's snow machines (with service department)	C30	C30-01	A	Medium	C	ALEUT SUN ADVENTURES
Motor /motor vehicle repair shops	C31	C31-01	A	Medium	C	THOMPSON PASS MAINT. STATION
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-01	A	Low	C	CITY OF VALDEZ WATERLINE
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-01	A	Medium	C	CAPT'N JOE'S GAS
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-02	A	Medium	C	Valdez Tesoro
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-03	A	Medium	C	VALDEZ INDUSTRIAL REPAIR
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-04	A	Medium	C	BENCO-BIG WHEEL SERVICE
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-05	A	Medium	C	A-1 BODY SHOP
Quarries (sand, gravel, rock, other?)	E10	E10-01	A	Low	C	BLONDEAU PIT
Quarries (sand, gravel, rock, other?)	E10	E10-02	A	Low	C	DEVINNEY AND DOLAN

Table 7 (continued)

Contaminant Source Inventory and Risk Ranking for Valdez Water System - Main Sources of Other Organic Chemicals

PWSID 298103.002

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Quarries (sand, gravel, rock, other?)	E10	E10-03	A	Low	C	YELLOW BAR
Quarries (sand, gravel, rock, other?)	E10	E10-03	A	Low	C	JOHNSON SAND & GRAVEL, INC.
Wastewater Holding Tank	T22	T22-01	A	Medium	C	TESORO - ALASKA PETROLEUM COMPANY
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-01	A	Low	C	Westmark Inn, Valdez 2. Reckey: 1988240115302. Status: Closed. 3 unregulated heating oil tanks removed. Excessive levels of contamination remain. Groundwater contamination reported.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-02	A	Low	C	Alyeska VMT Catch Basin #2, Crude. Reckey: 1997710112001. Status: Ac Crude oil release at West Tank Farm near manhole 55-MH-2-12. Two brol lines entering the oily water sewer manhole (55-MH-2-12) as the source.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-03	A	Low	C	Robe River Well House. Reckey: 1996240132401. Status: Active. Leak in in fuel line connected to pumphouse heater. Estimated 1,000 gallons of #1 oil leaked.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-04	A	Low	C	Crowley Dock UST
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-05	A	Low	C	Alyeska SERVS Terminal. Reckey: 1993710127301. Status: Inactive. Low concentrations of petroleum hydrocarbons are present in all samples. Diese some others. Origin of these petroleum hydrocarbons is unknown.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-06	A	Low	C	USCG Valdez Housing. Reckey: 1993240113001. Status: Inactive. Home heating tank leak.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-07	A	Low	C	U.S. Postal Service - Valdez. Reckey: 1991240120401. Status: Inactive. Du removal of a heating oil tank diesel contaminated soil and groundwater encountered.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-08	A	Low	C	CVEA Valdez Containment Dike. Reckey: 1991240130501. Status: No Fu Remedial Action Planned. Soil and ground water diesel contamination at Valdez plant from tank farm containment dike. Total extent of contamina unknown.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-09	A	Low	C	Residence - Chena Street. Reckey: 1991240130901. Status: Closed. Home heating oil tank is suspected to have contaminated groundwater.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-10	A	Low	C	Valdez Small Boat Harbor. Reckey: 1991240124001. Status: Inactive. Was oil contamination around above ground tank due to poor management prac

Contaminant Source Inventory and Risk Ranking for Valdez Water System - Main 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-Superfun non-RCRA	U04	U04-11	A	Low	C	Rainbow Service Station. Reckey: 1988240125501. Status: Inactive. Leade gasoline contaminated groundwater June 87. 1500 gallons spilled, 700 gallo recovered, extent of contamination unknown. 1 class B public water supply within 100 feet.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-12	A	Low	C	Fairmont Bay Mariculture. Reckey: 1998240118801. Status: Active. Petro
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-13	A	Low	C	PWS Community College. Reckey: 1988240134601. Status: Inactive. Suspected diesel spillage and leaking underground storage tank potential discovered December 1988. Unknown quantity, extent and disposal date. Possibility of groundwater contamination.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-14	A	Low	C	Best Western, Valdez
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-15	A	Low	C	Best Western, Valdez
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-16	A	Low	C	Rainbow Service Station. Reckey: 1988240125501. Status: Inactive. Leade gasoline contaminated groundwater June 87. 1500 gallons spilled, 700 gallo recovered, extent of contamination unknown. 1 class B public water supply within 100 feet.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-17	A	Low	C	PWS Community College. Reckey: 1988240134601. Status: Inactive. Suspected diesel spillage and leaking underground storage tank potential discovered December 1988. Unknown quantity, extent and disposal date. Possibility of groundwater contamination.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-18	A	Low	C	Chevron/Tesoro/Petro Star Tank Farm. Reckey: 1989240101001. Status: Inactive. Historic petroleum product spillage. Soil/groundwater contaminat Diesel, gasoline are major products at sites.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-19	A	Low	C	ADOT&PF Steam Plant. Reckey: 1989240108001. Status: Inactive. Oil le from waste oil tank transfer hose when valve was left partially open follow transfer of waste oil. Estimated quantity spilled is 550 gallons.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-20	A	Low	C	Former American Legion Building. Reckey: 1991240125303. Status: Close Petroleum contamination was encountered during the removal of a heating tank.

Table 7 (continued)

Contaminant Source Inventory and Risk Ranking for Valdez Water System - Main Sources of Other Organic Chemicals

PWSID 298103.002

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-21	A	Low	C	CVEA Valdez Containment Dike. Reckey: 1991240130501. Status: No Fu Remedial Action Planned. Soil and ground water diesel contamination at Valdez plant from tank farm containment dike. Total extent of contamina unknown.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-22	A	Low	C	Lot 7, Block 13, Mineral Creek Sub.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-23	A	Low	C	USCG Valdez Housing. Reckey: 1993240113001. Status: Inactive. Home heating tank leak.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-24	A	Low	C	Old Valdez Townsite Landfill. Reckey: 1993240126501. Status: Closed. Contaminated seepage flowing from Old Landfill.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-25	A	Low	C	Alyeska SERVS Terminal. Reckey: 1993710127301. Status: Inactive. Low concentrations of petroleum hydrocarbons are present in all samples. Diese some others. Origin of these petroleum hydrocarbons is unknown.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-26	A	Low	C	USCG Valdez Hanagita and Anchor UST. Reckey: 1999240117301. Status: Inactive. DRO contaminated soils confirmed at East and West Housing hea oil UST decommissioning project.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-27	A	Low	C	City of Valdez Fire Station #4. Reckey: 2000240111001. Status: Inactive. gallon heating oil tank removal. Lab analysis of a single soil sample collect the bottom center of the excavation, 7 feet below ground surface, showed 9 mg/kg DRO.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-28	A	Low	C	City of Valdez Recreation Cntr. UST
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-29	A	Low	C	City of Valdez Teen Center UST. Reckey: 2000240126203. Status: No Fu Remedial Action Planned. 830 gallon heating oil tank removed. 2 soil samp 8 feet below ground surface, with 370 mg/kg DRO and a trace of xylene.
Contaminated sites, DEC recognized, non-Superfun non-RCRA	U04	U04-30	A	Low	C	City of Valdez Wellhouse #1 UST. Reckey: 1998240129207. Status: Inacti 300-gallon heating oil tank removal. 10 cubic yards of petroleum contamin soil, 2.5 feet below ground surface, showed 330 mg/kg DRO.
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-01	A	Low	C	VALDEZ TESORO SERVICE STATION
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-02	A	Low	C	Valdez Chevron

Contaminant Source Inventory and Risk Ranking for Valdez Water System - Main Sources of Other 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	U07-03	A	Low	C	Valdez Chevron
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-04	A	Low	C	VALDEZ EQUIPMENT SHOP - STEAM PL
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-05	A	Low	C	BIG WHEEL TIRE ,INC.
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-06	A	Low	C	ERA HELICOPTERS INC. Valdez Airport
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-07	A	Low	C	SEA HAWK SEAFOODS, INC
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-08	A	Low	C	Valdez Marina Duplicate of FACID1889
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-09	A	Low	C	Well House #1
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U08-01	A	Low	C	JOHNSON SAND & GRAVEL, INC.
Closed Leaking Underground Fuel Storage Tank (LUST) Sites	U08	U08-02	A	Low	C	WESTMARK VALDEZ
Petroleum product bulk station/terminals	X11	X11-01	A	High	C	Valdez Fuel Dock
Petroleum product bulk station/terminals	X11	X11-02	A	High	C	CVEA Valdez Containment Dike
Boat yards and marinas	X15	X15-01	A	Low	C	Valdez Small Boat Harbor
Government vehicle maintenance facilities	X19	X19-01	A	Medium	C	ADOTPF - ERNESTINE MAINTENANCE STATION
Government vehicle maintenance facilities	X19	X19-02	A	Medium	C	VALDEZ EQUIPMENT SHOP - STEAM PL
Motor vehicle/general storage yards/facilities	X27	X27-01	A	Low	C	VEHICLE MAINTENANCE FACILITY
Motor vehicle/general storage yards/facilities	X27	X27-02	A	Low	C	LYNDEN TRANSPORT INC.
Landfills (industrial; type of industrial waste?)	D52	D52-01	B	Very High	C	Valdez, City of Biosolids Land Application

Table 7 (continued)

Contaminant Source Inventory and Risk Ranking for Valdez Water System - Main Sources of Other Organic Chemicals

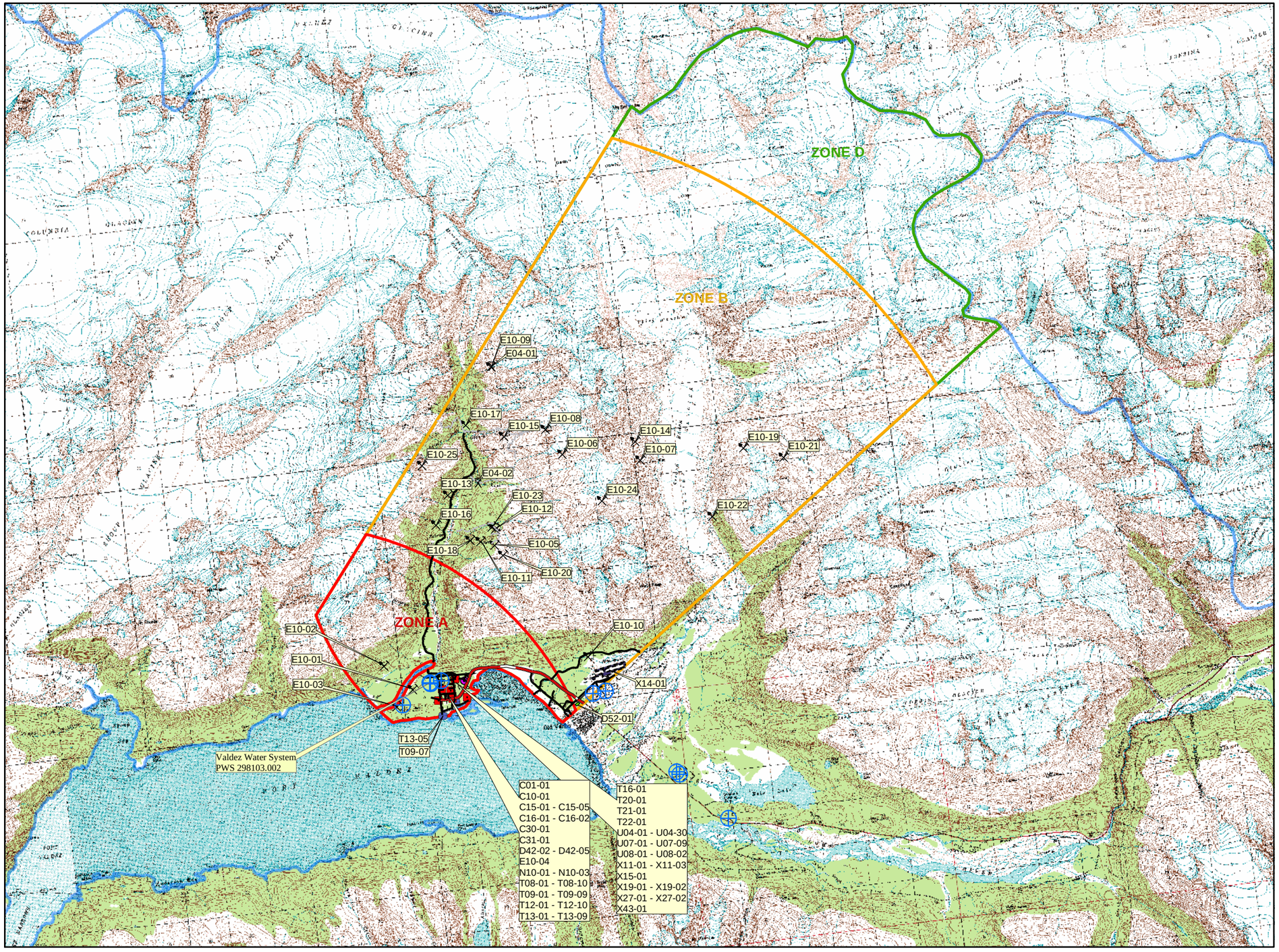
PWSID 298103.002

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Quarries (sand, gravel, rock, other?)	E10	E10-04	B	Low	C	45
Quarries (sand, gravel, rock, other?)	E10	E10-05	B	Low	C	ALASKAN
Quarries (sand, gravel, rock, other?)	E10	E10-06	B	Low	C	BLUE RIBBON
Quarries (sand, gravel, rock, other?)	E10	E10-07	B	Low	C	DONOHUE
Quarries (sand, gravel, rock, other?)	E10	E10-08	B	Low	C	ETHEL
Quarries (sand, gravel, rock, other?)	E10	E10-09	B	Low	C	ETHEL MINING COMPANY
Quarries (sand, gravel, rock, other?)	E10	E10-10	B	Low	C	GLACIER STREAM PIT
Quarries (sand, gravel, rock, other?)	E10	E10-11	B	Low	C	GOLDEN DOLLAR
Quarries (sand, gravel, rock, other?)	E10	E10-12	B	Low	C	HECLA
Quarries (sand, gravel, rock, other?)	E10	E10-13	B	Low	C	HIGH GRADE
Quarries (sand, gravel, rock, other?)	E10	E10-14	B	Low	C	IBEX
Quarries (sand, gravel, rock, other?)	E10	E10-15	B	Low	C	LITTLE GIANT
Quarries (sand, gravel, rock, other?)	E10	E10-16	B	Low	C	MCINTOSH
Quarries (sand, gravel, rock, other?)	E10	E10-17	B	Low	C	MOUNTAIN VIEW
Quarries (sand, gravel, rock, other?)	E10	E10-18	B	Low	C	OLSON AND WOODS
Quarries (sand, gravel, rock, other?)	E10	E10-19	B	Low	C	PINOCHLE
Quarries (sand, gravel, rock, other?)	E10	E10-20	B	Low	C	QUEEN OF SHEBA
Quarries (sand, gravel, rock, other?)	E10	E10-21	B	Low	C	RAMSAY-RUTHERFORD
Quarries (sand, gravel, rock, other?)	E10	E10-22	B	Low	C	ROSE JOHNSON
Quarries (sand, gravel, rock, other?)	E10	E10-23	B	Low	C	TIGER

Contaminant Source Inventory and Risk Ranking for Valdez Water System - Main
Sources of Other Organic Chemicals

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Quarries (sand, gravel, rock, other?)	E10	E10-24	B	Low	C	VALDEZ BONANZA
Airports	X14	X14-01	B	Medium	C	VALDEZ AIRPORT

Public Water Well System for PWS #298103.002 Valdez Water System - Main
Potential and Existing Sources of 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 B Protection Area– 2 Years Travel Time
- Zone D Protection Area– 10 Years Travel Time or Watershed Boundary

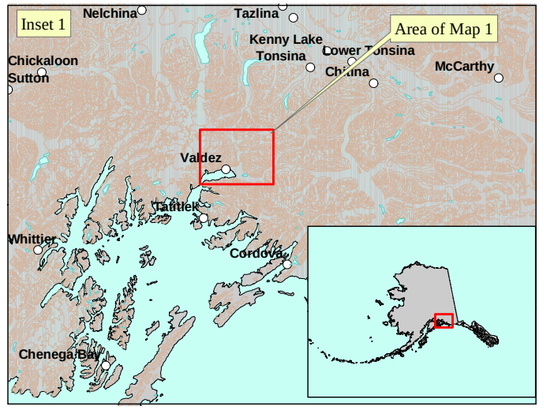
Existing or Potential Contaminant Sources

- Aircraft maintenance shops (C01)
- Dry cleaners (C10)
- Gasoline stations without repair shops (C15)
- Gasoline stations with repair shops (C16)
- Motor vehicle rental facilities - cars, trucks, ATVs, snow machines (with service departments) (C30)
- Motor/motor vehicle repair facilities (C31)
- Injection wells, Class V, Motor Vehicle Waste Disposal (D42)
- Placer Mine (E04)
- Other Mine or Quarry (E10)
- Seafood processing (N10)
- Tanks, diesel (underground) (T08)
- Closed tanks, diesel (underground) (T09)
- Tanks, gasoline (underground) (T12)
- Closed tanks, gasoline (underground) (T13)
- Tanks, heating oil, nonresidential (underground) (T16)
- Tanks, lubricants or other petroleum products (underground) (T20)
- Closed tanks, lubricants or other petroleum products (underground) (T21)
- Wastewater Holding Tank (T22)
- Contaminated sites, DEC recognized, non-Superfund, non-RCRA (U04)
- Open Leaking Underground Storage Tank (LUST) (lubricants or other petroleum products) (U07)
- Closed Leaking Underground Storage Tank (LUST) (lubricants or other petroleum products) (U08)
- Petroleum product bulk station/terminals (X11)
- Boat yards and marinas (X15)
- Government vehicle maintenance facilities (X19)
- Motor vehicle/general storage yards/facilities (X27)
- Pump Station (X43)
- Landfill, industrial (D52)
- Airport or landing strip (X14)

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 1 2 4 6 8 Miles

Valdez Water System - Main
PWS 298103.002
Appendix C Map C

Chart 1. Susceptibility of the wellhead - Valdez Water System - Main (PWS No. 298103.002)

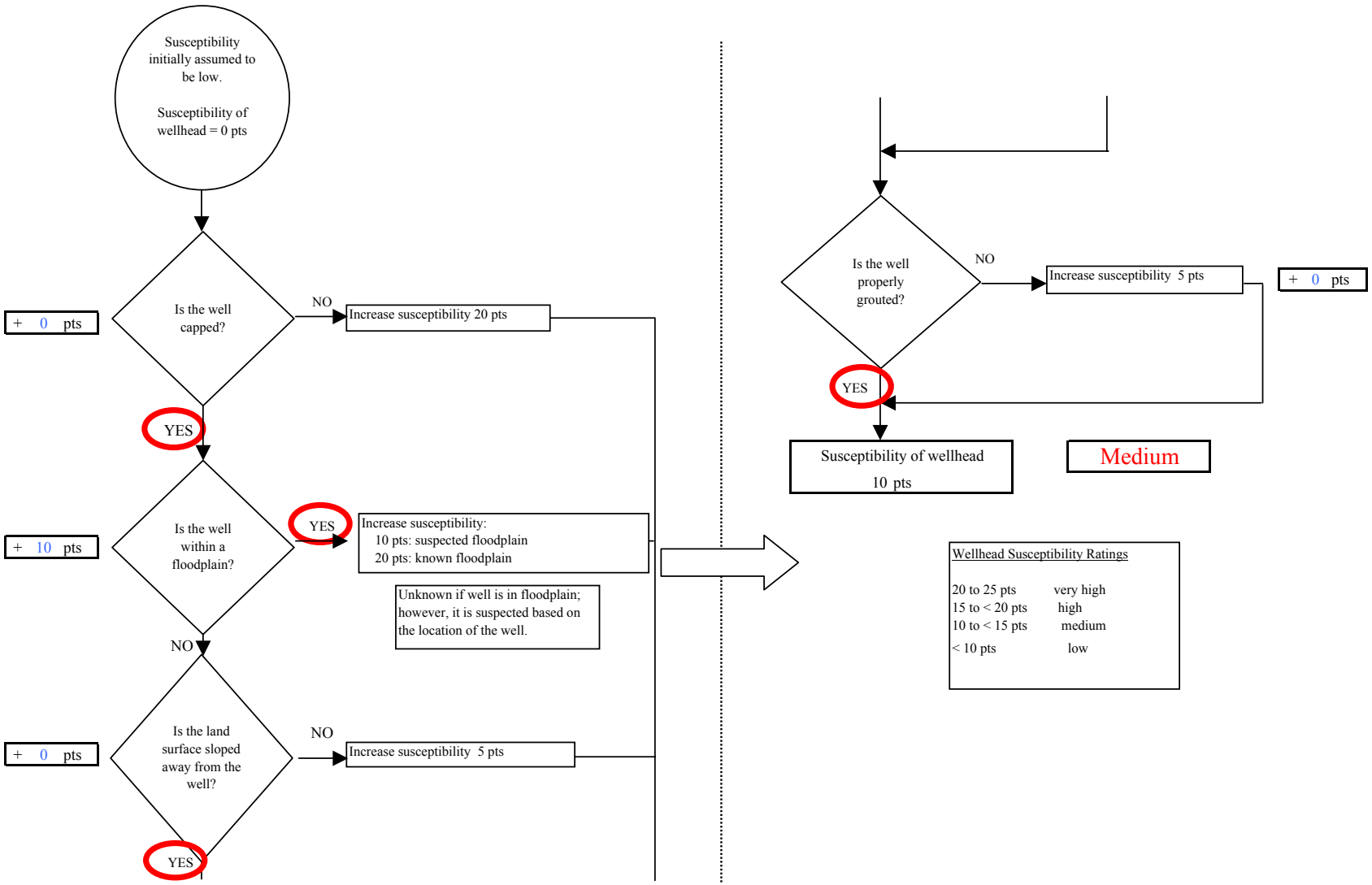


Chart 2. Susceptibility of the aquifer Valdez Water System - Main (PWS No. 298103.002)

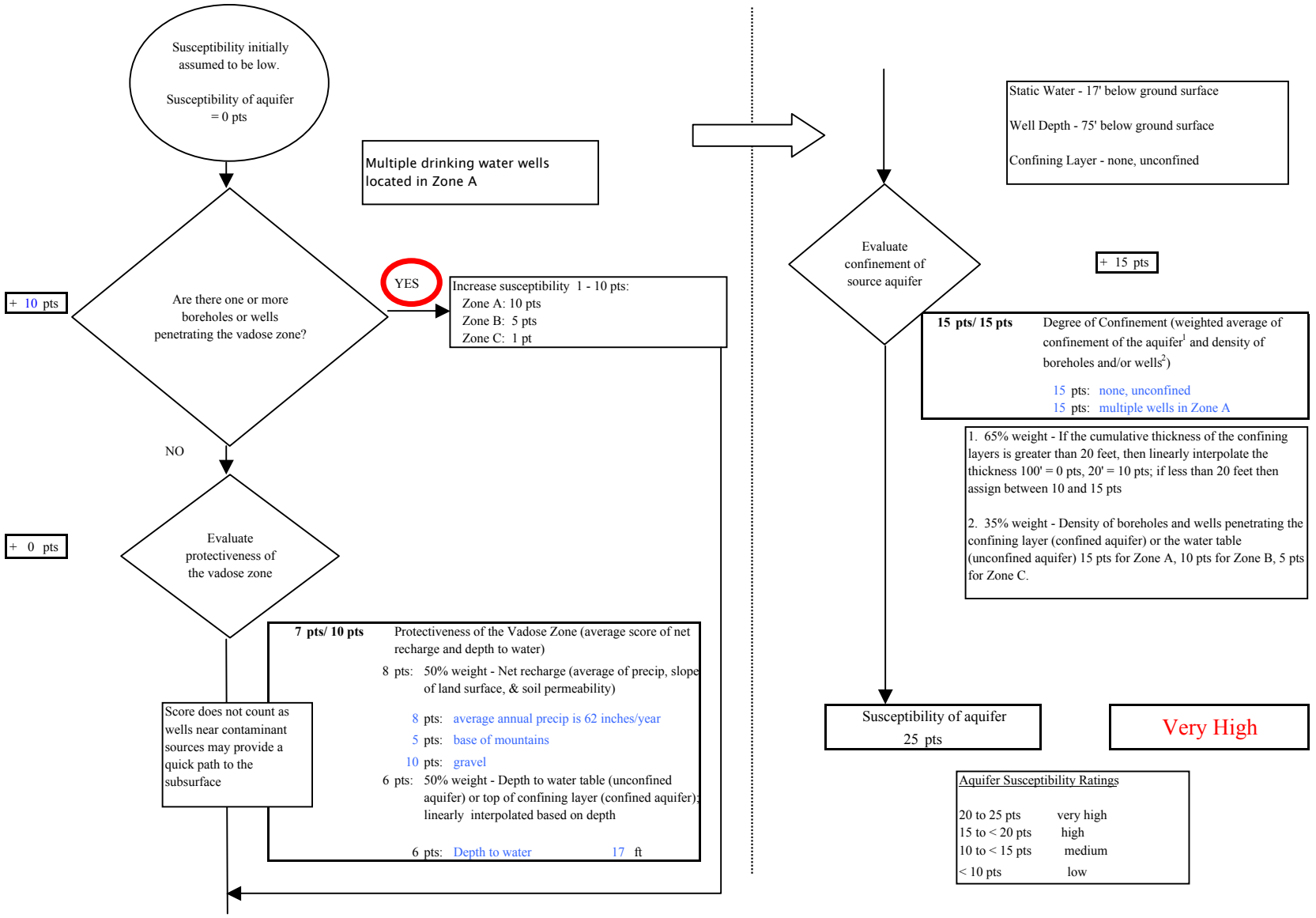
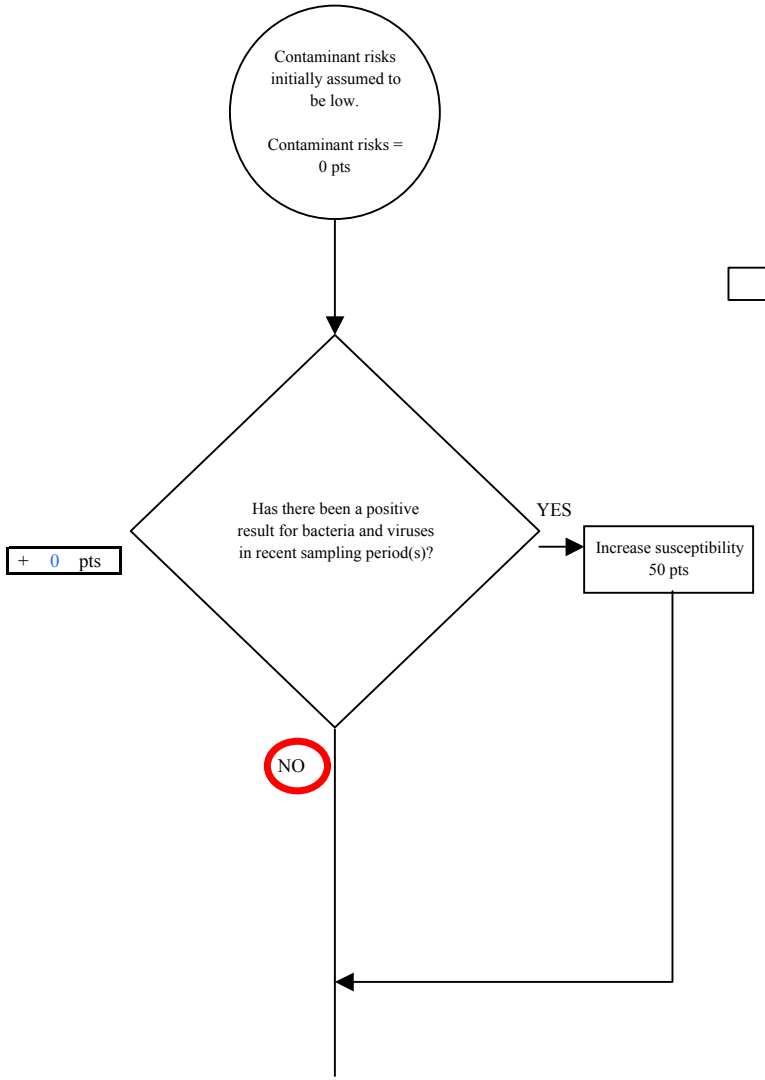
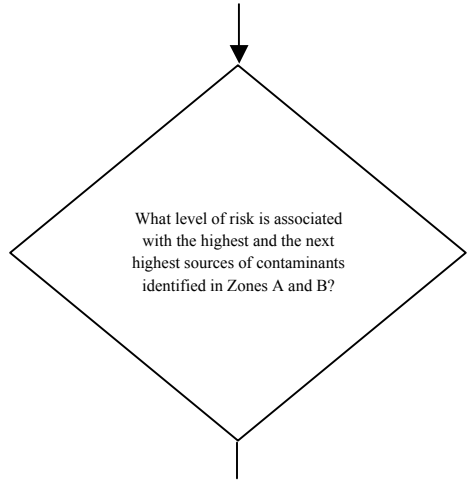


Chart 3. Contaminant risks for Valdez Water System - Main (PWS No. 298103.002) - Bacteria & Viruses





+ 30 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)	1	0	1
Medium(s)	3	0	3
Low(s)	8	0	8

	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 30

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 Valdez Water System - Main (PWS No. 298103.002) - Bacteria & Viruses

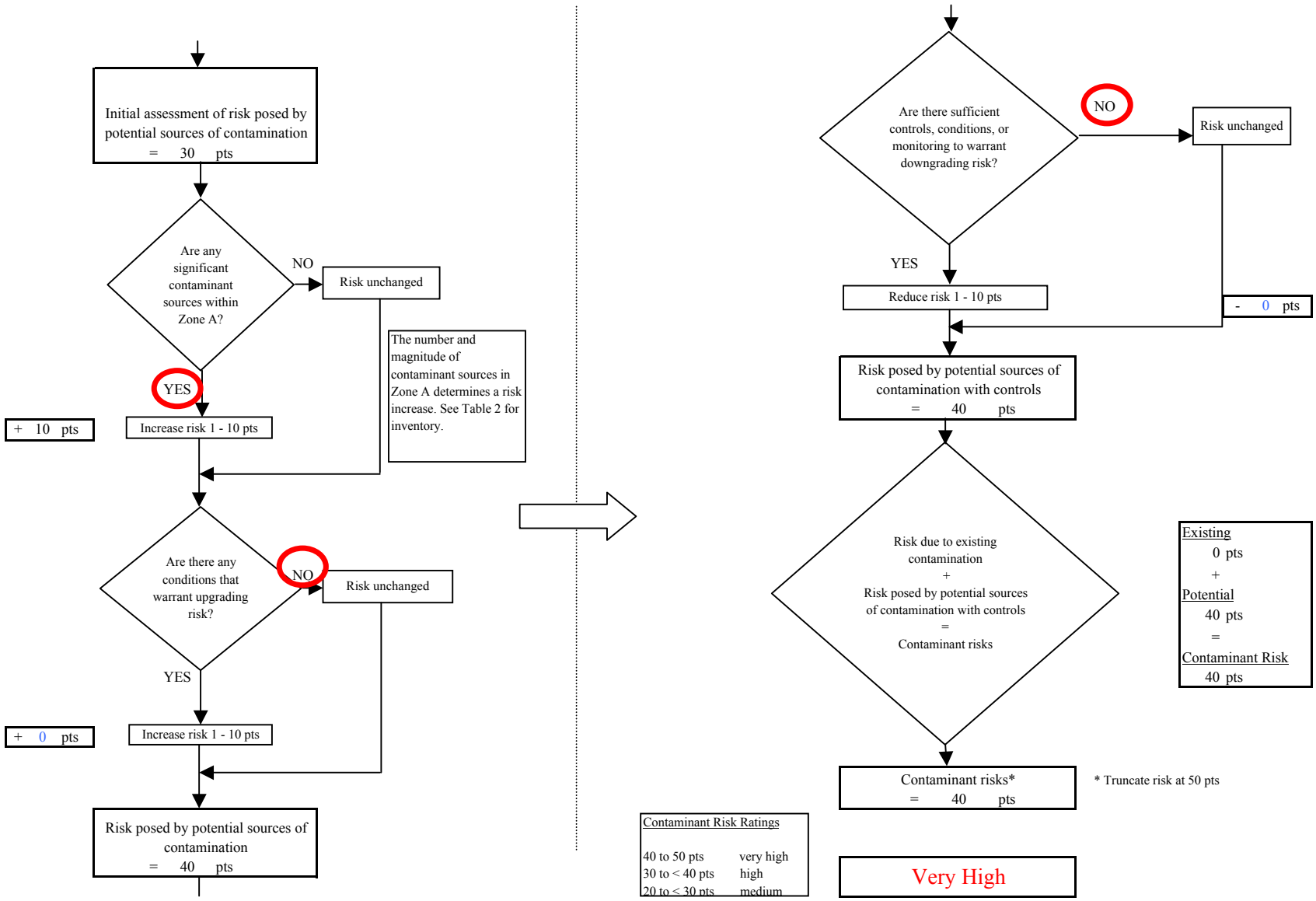


Chart 4. Vulnerability analysis for Valdez Water System - Main (PWS No. 298103.002) - Bacteria & Viruses

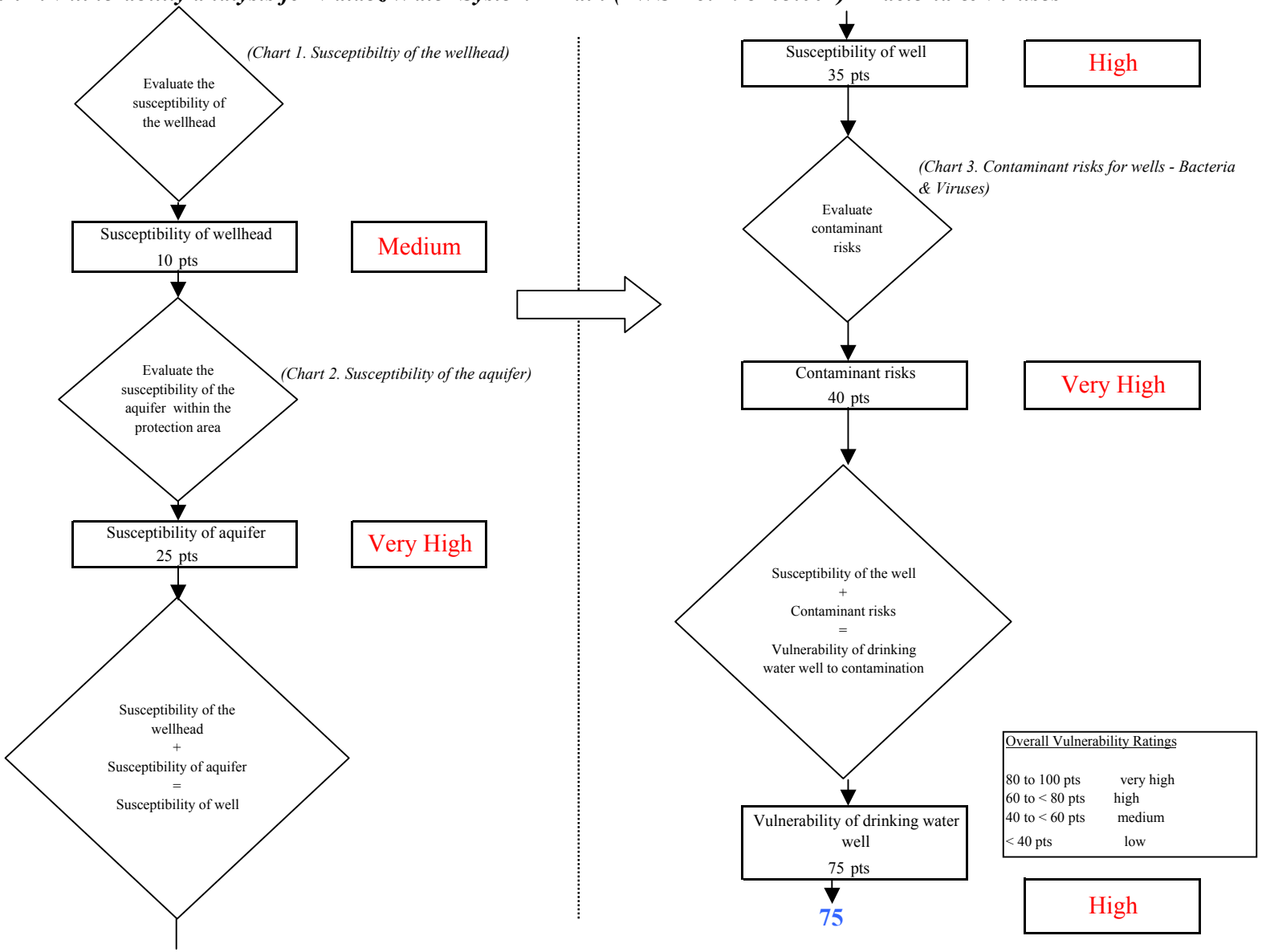


Chart 5. Contaminant risks for Valdez Water System - Main (PWS No. 298103.002) - Nitrates and Nitrites

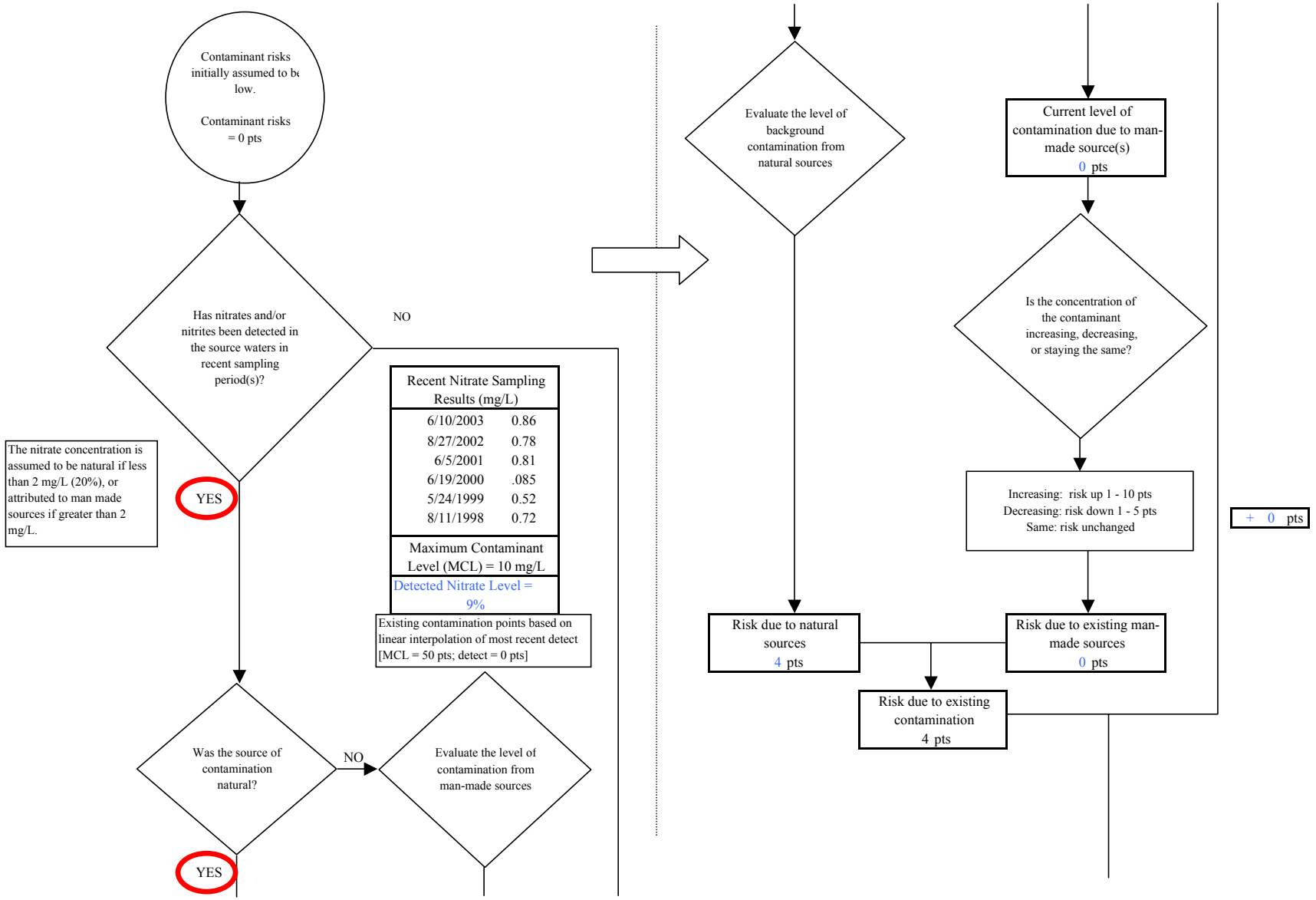


Chart 5. Contaminant risks for Valdez Water System - Main (PWS No. 298103.002) - Nitrates and Nitrites

+ 35 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)	1	0	1
Medium(s)	0	0	0
Low(s)	10	22	32

	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 35

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 = 35 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 Valdez Water System - Main (PWS No. 298103.002) - Nitrates and Nitrites

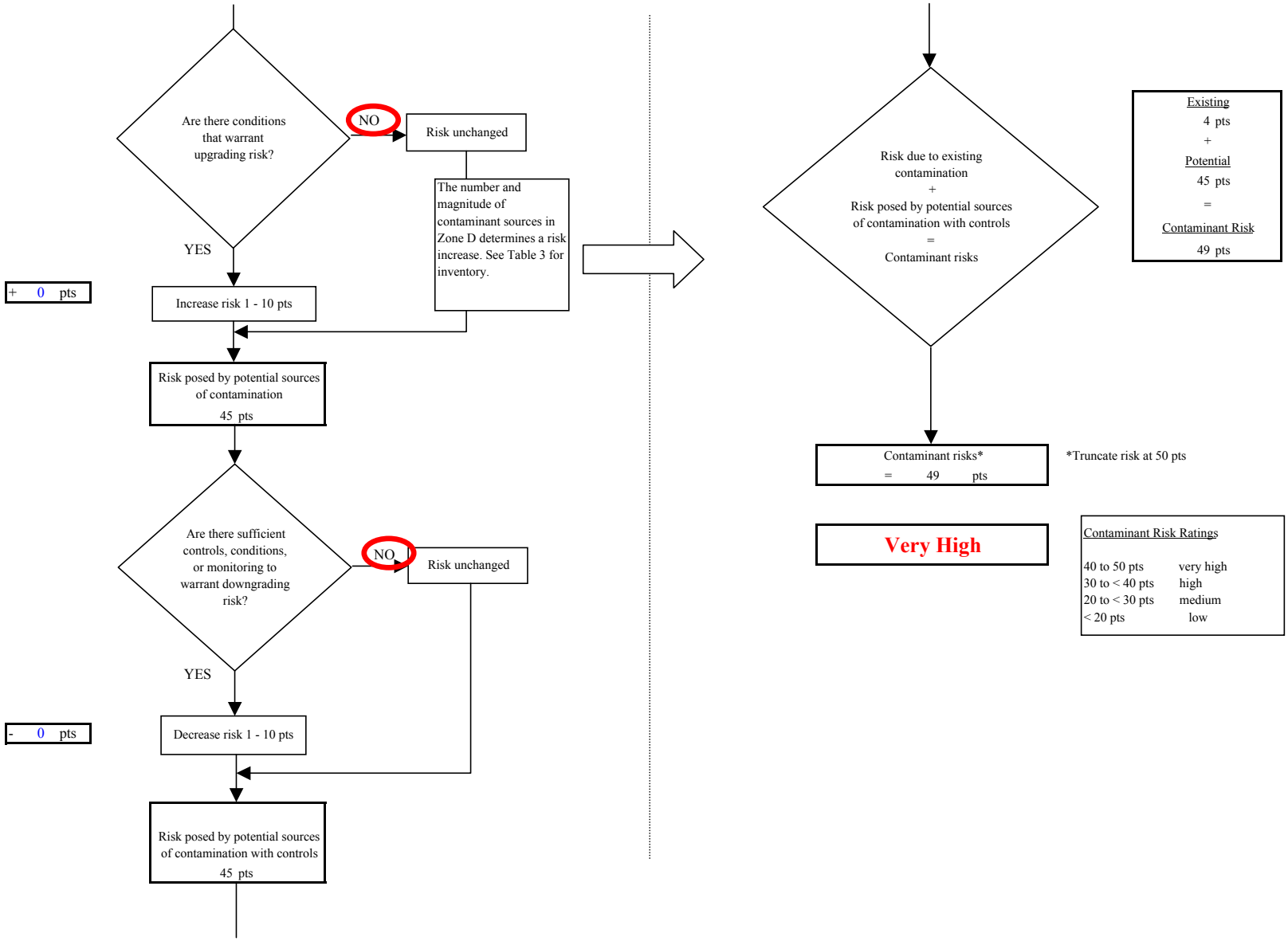


Chart 6. Vulnerability analysis for Valdez Water System - Main (PWS No. 298103.002) - Nitrates and Nitrites

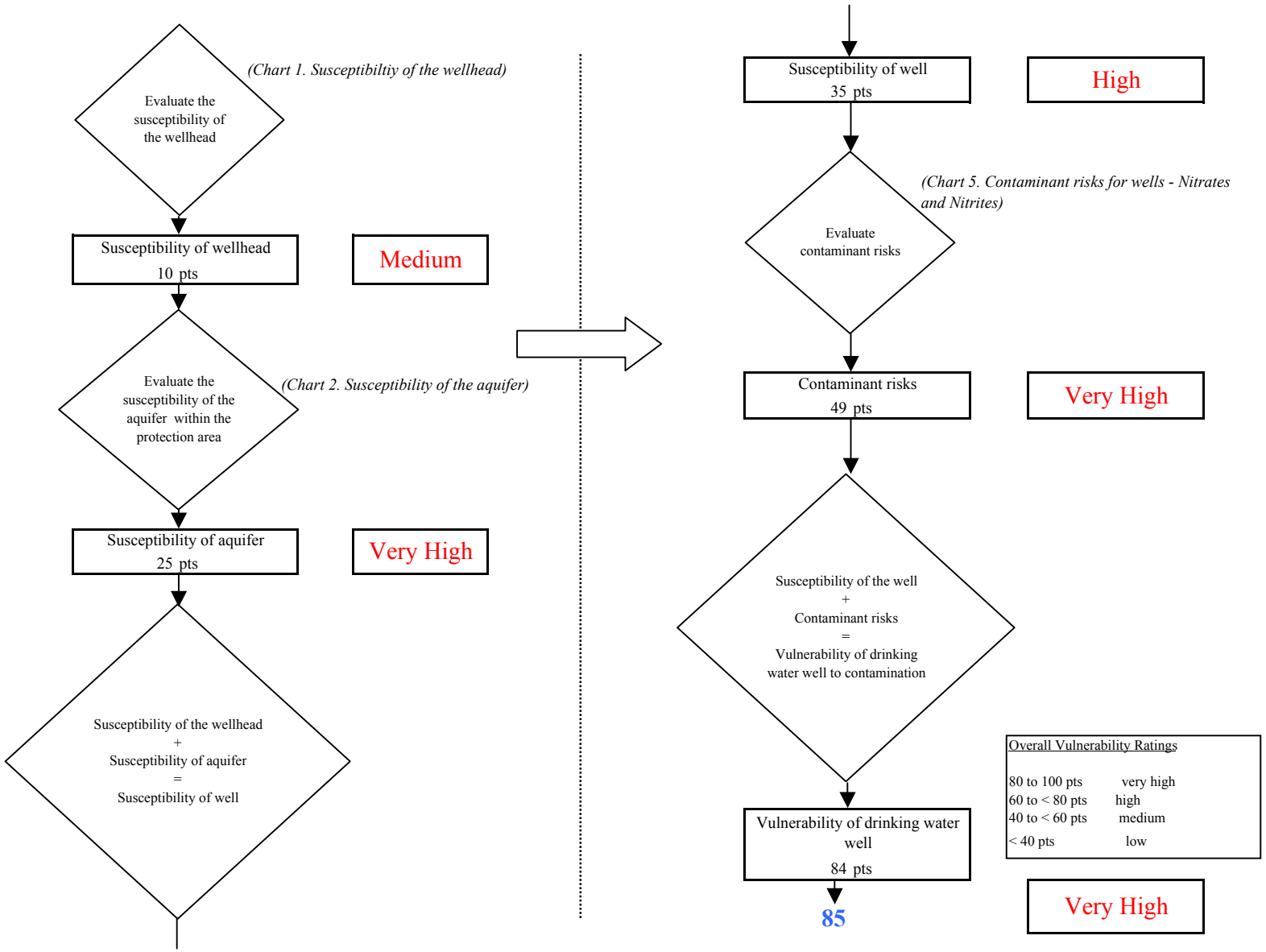


Chart 7. Contaminant risks for Valdez Water System - Main (PWS No. 298103.002) - Volatile Organic Chemicals

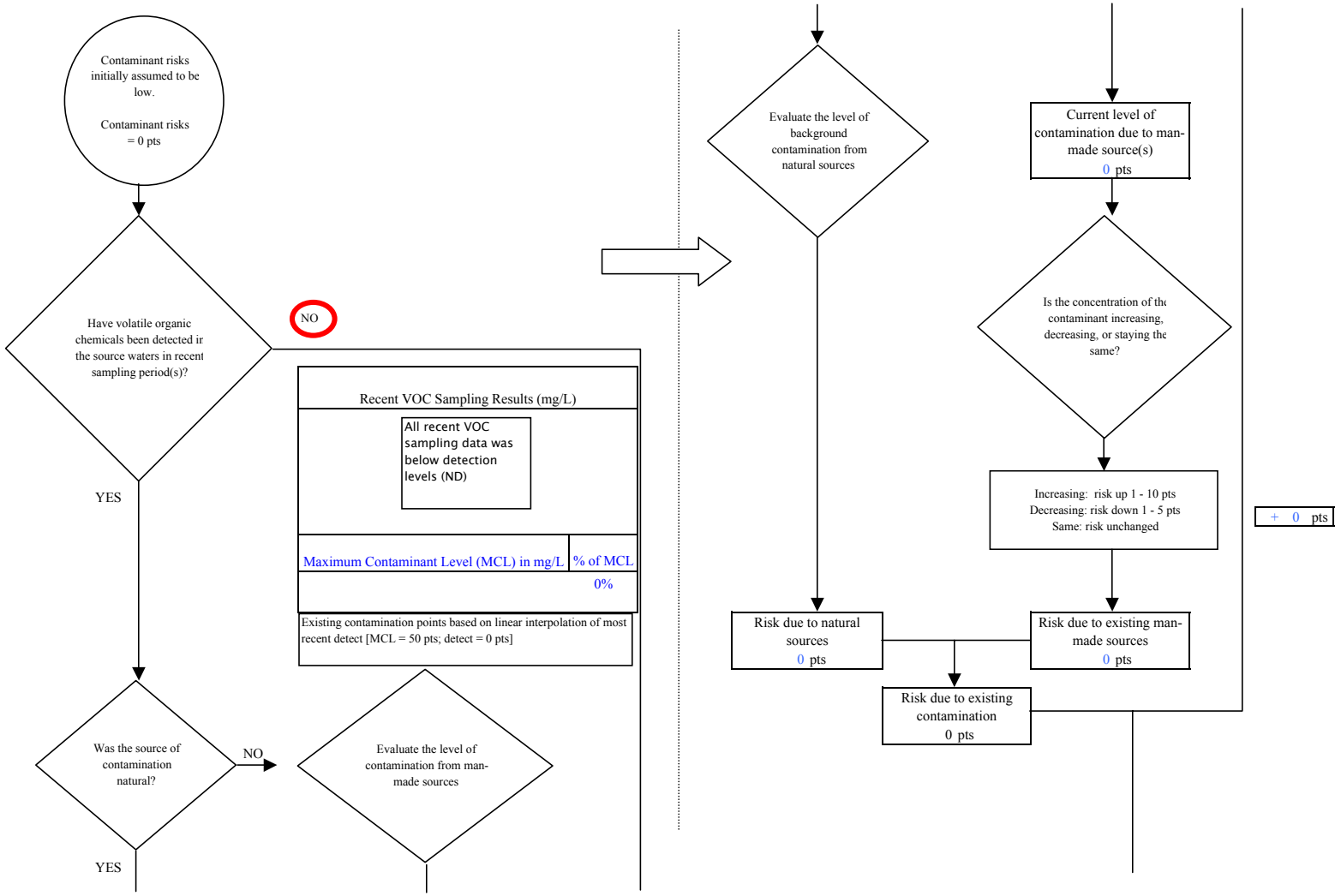
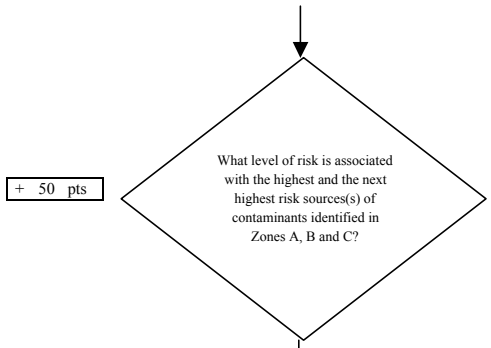


Chart 7. Contaminant risks for Valdez Water System - Main (PWS No. 298103.002) - Volatile Organic Chemicals



+ 50 pts

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)	74	1	75
Medium(s)	23	0	23
Low(s)	11	21	32

	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.

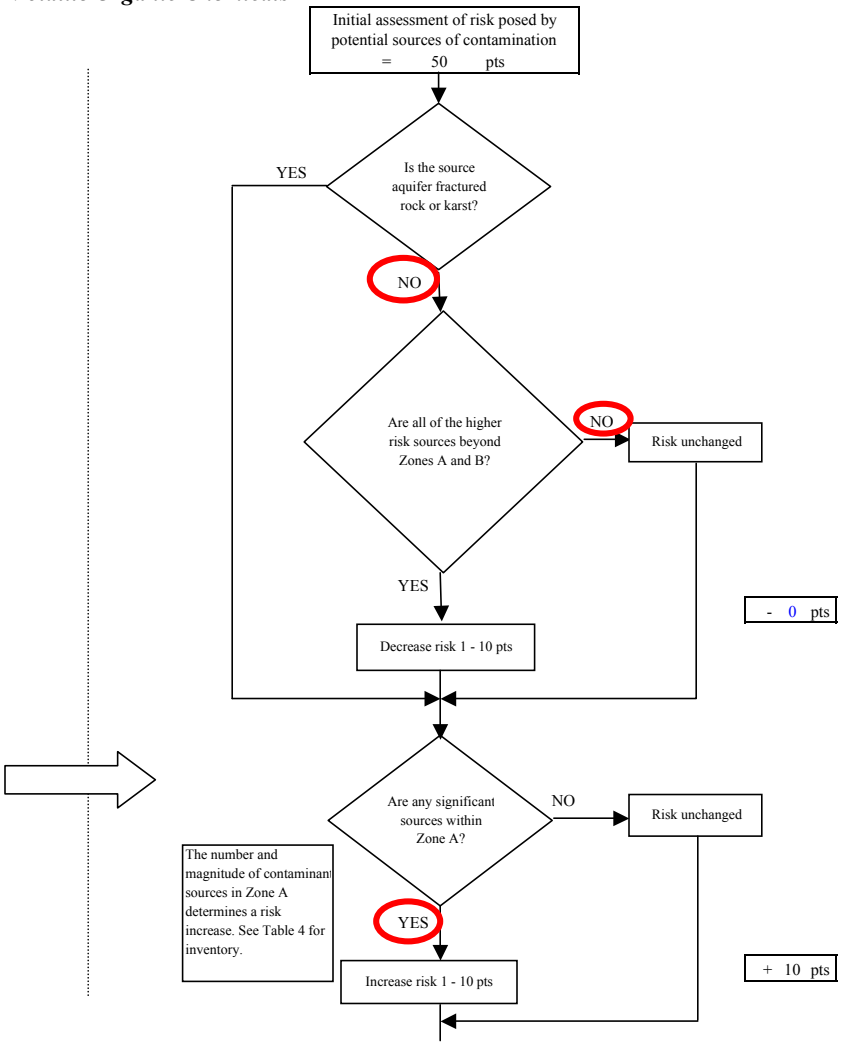


Chart 7. Contaminant risks for Valdez Water System - Main (PWS No. 298103.002) - Volatile Organic Chemicals

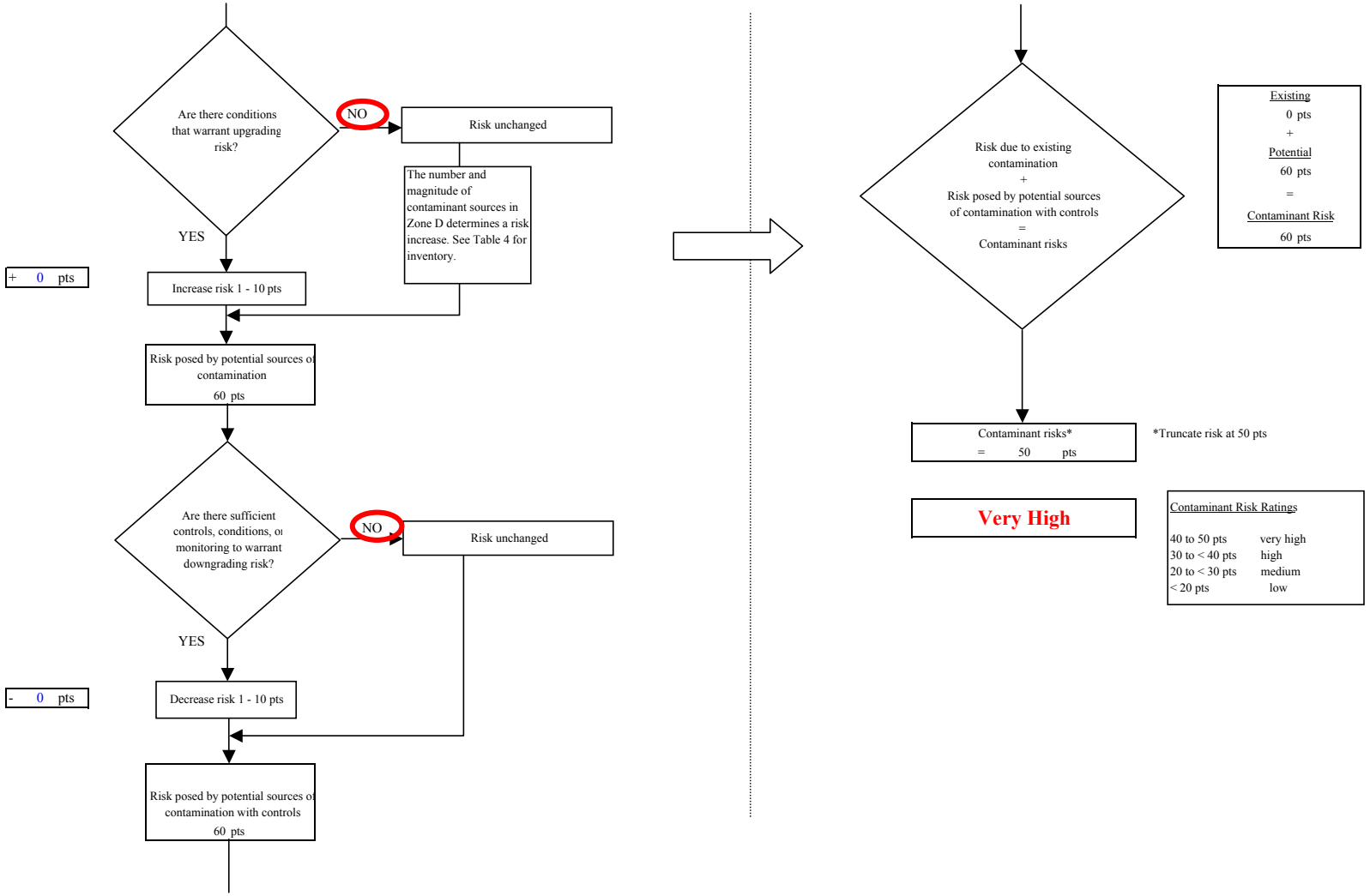


Chart 8. Vulnerability analysis for Valdez Water System - Main (PWS No. 298103.002) - Volatile Organic Chemicals

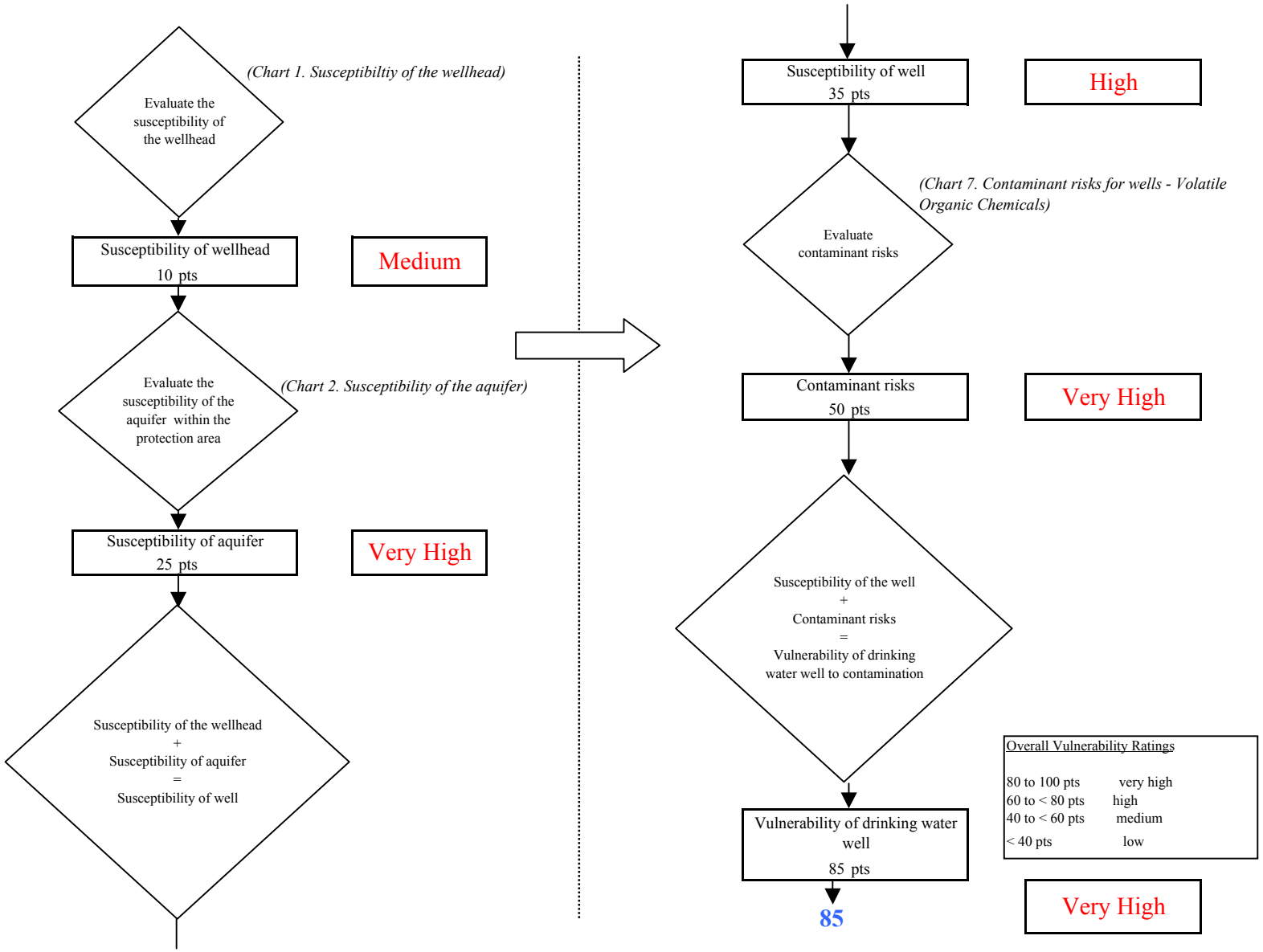


Chart 9. Contaminant risks for Valdez Water System - Main (PWS No. 298103.002) - Heavy Metals, Cyanide and Other Inorganic Chemicals

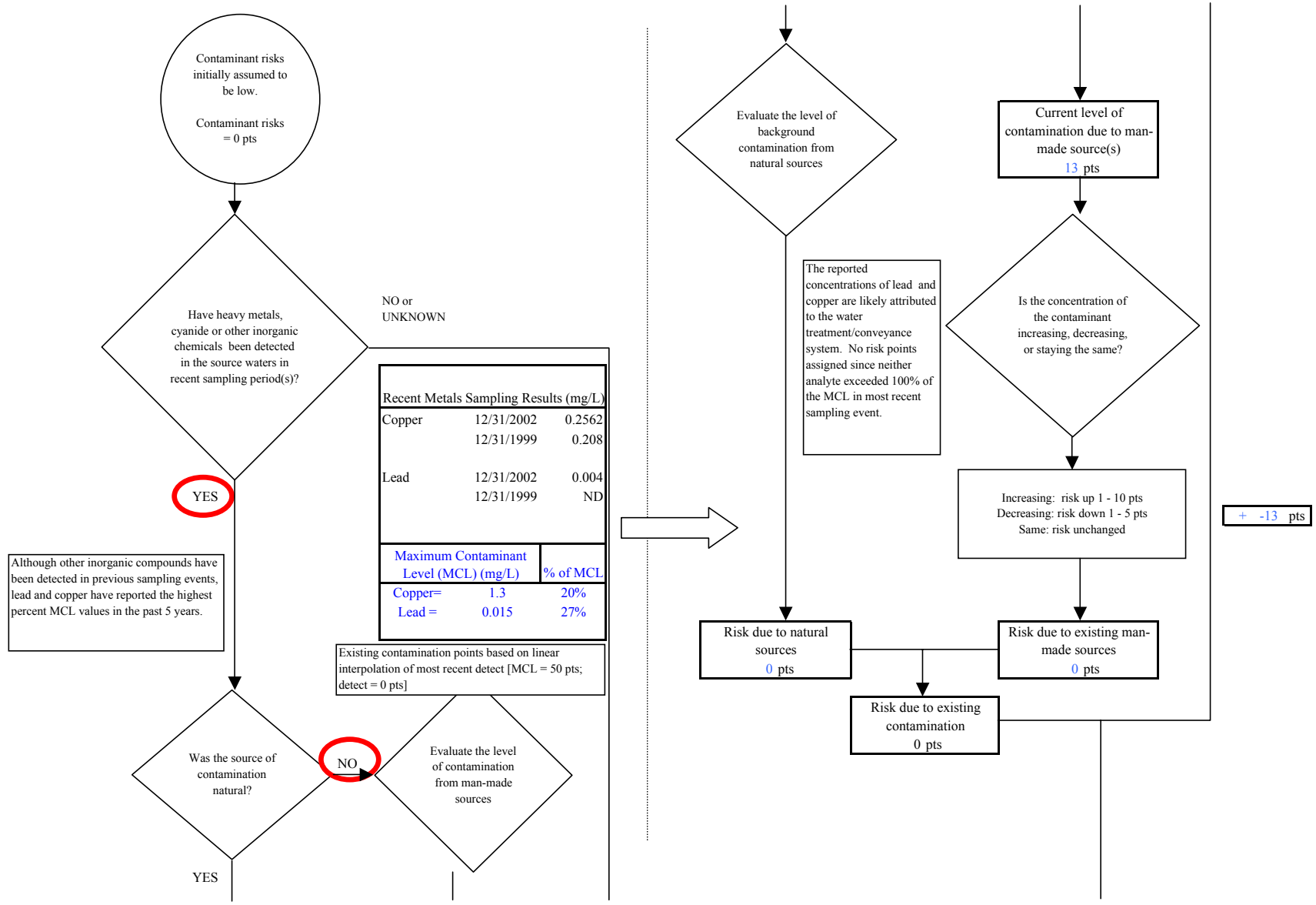
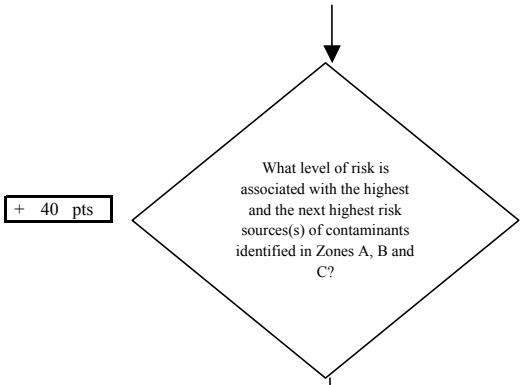


Chart 9. Contaminant risks for Valdez Water System - Main (PWS No. 298103.002) - Heavy Metals, Cyanide and Other Inorganic Chemicals



+ 40 pts

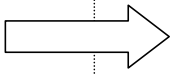
Risk Levels for Contaminant Sources identified in Zones A, B and C

	Zone A	Zones B&C	Total
Very Highs(s)	0	0	0
High(s)	5	0	5
Medium(s)	14	0	14
Low(s)	49	3	52

	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.



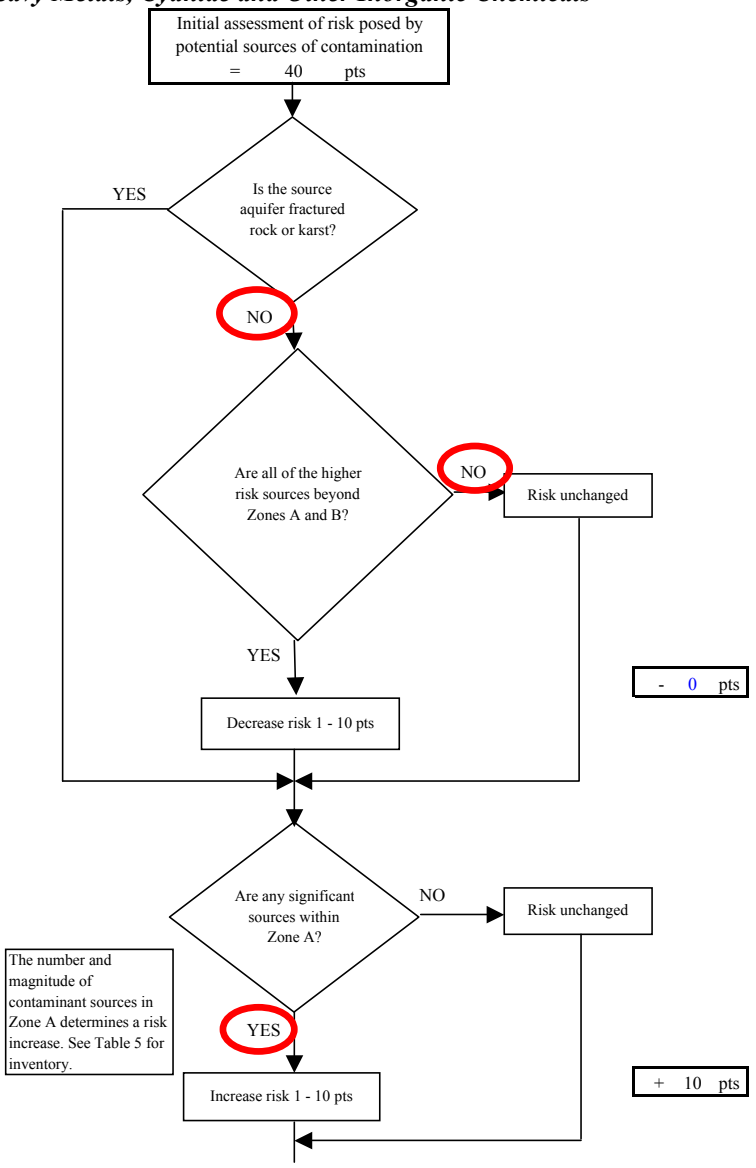


Chart 9. Contaminant risks for Valdez Water System - Main (PWS No. 298103.002) - Heavy Metals, Cyanide and Other Inorganic Chemicals

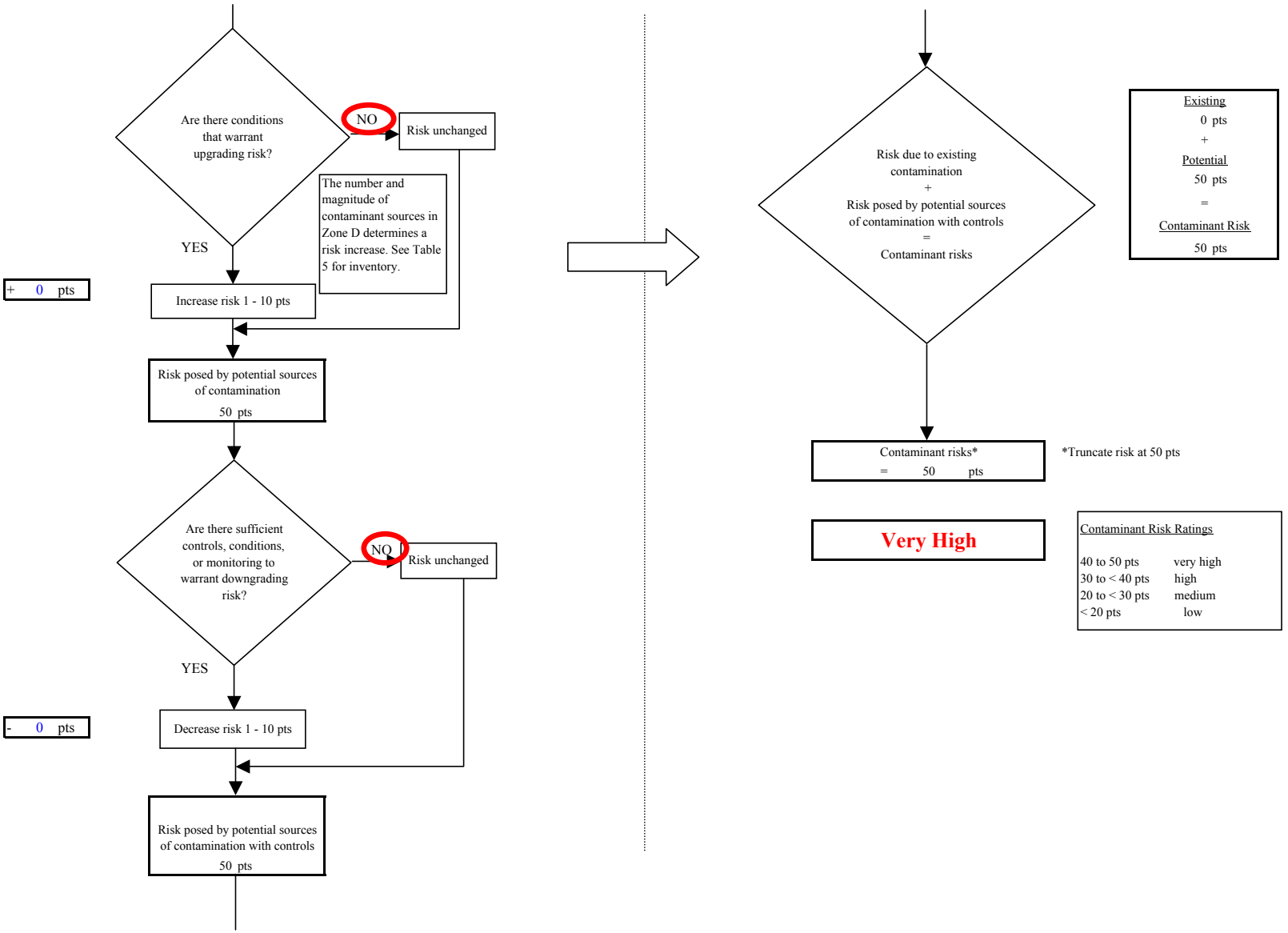


Chart 10. Vulnerability analysis for Valdez Water System - Main (PWS No. 298103.002) - Heavy Metals, Cyanide and Other Inorganic Chemicals

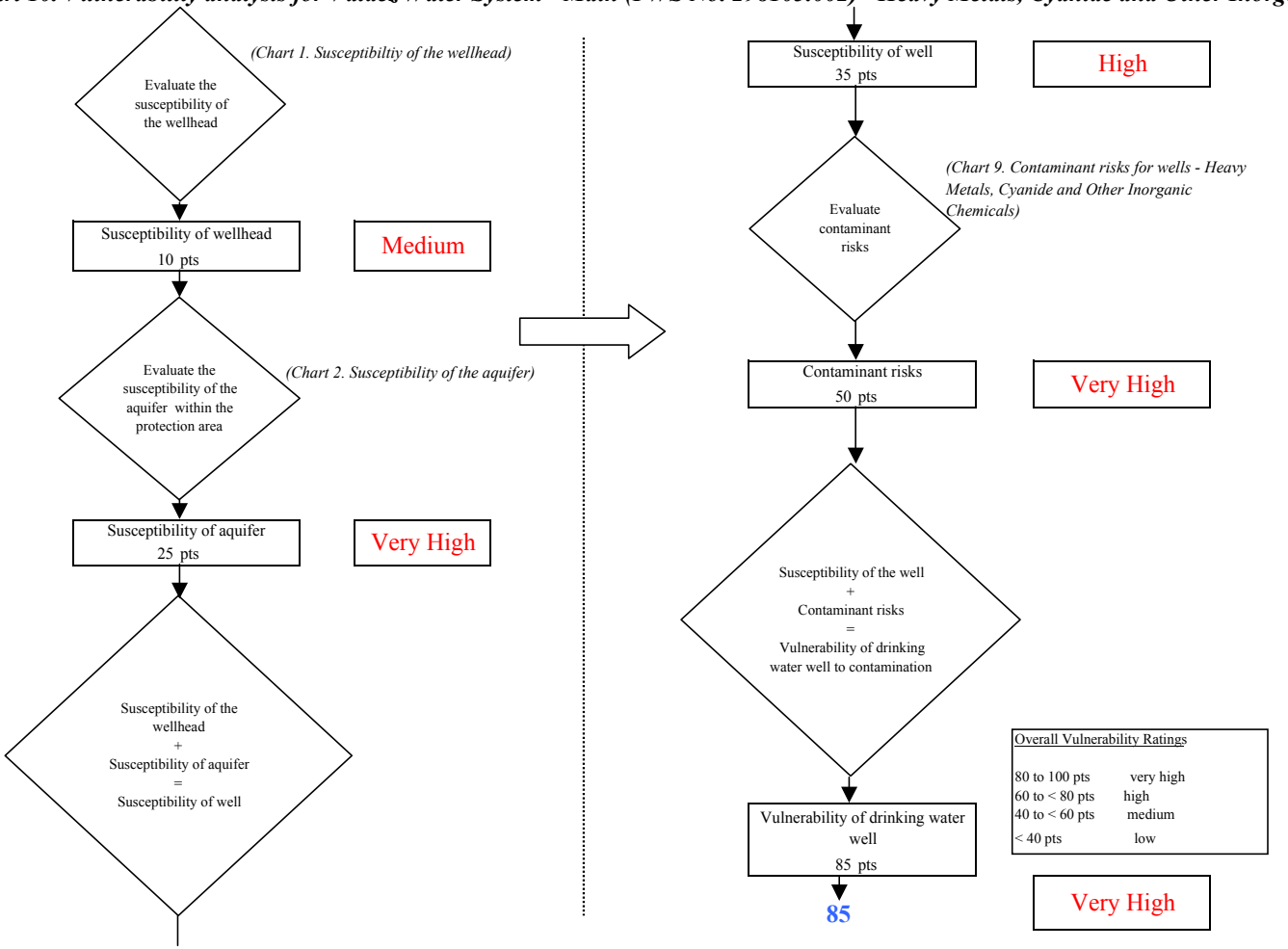


Chart 11. Contaminant risks for Valdez Water System - Main (PWS No. 298103.002) - Synthetic Organic Chemicals

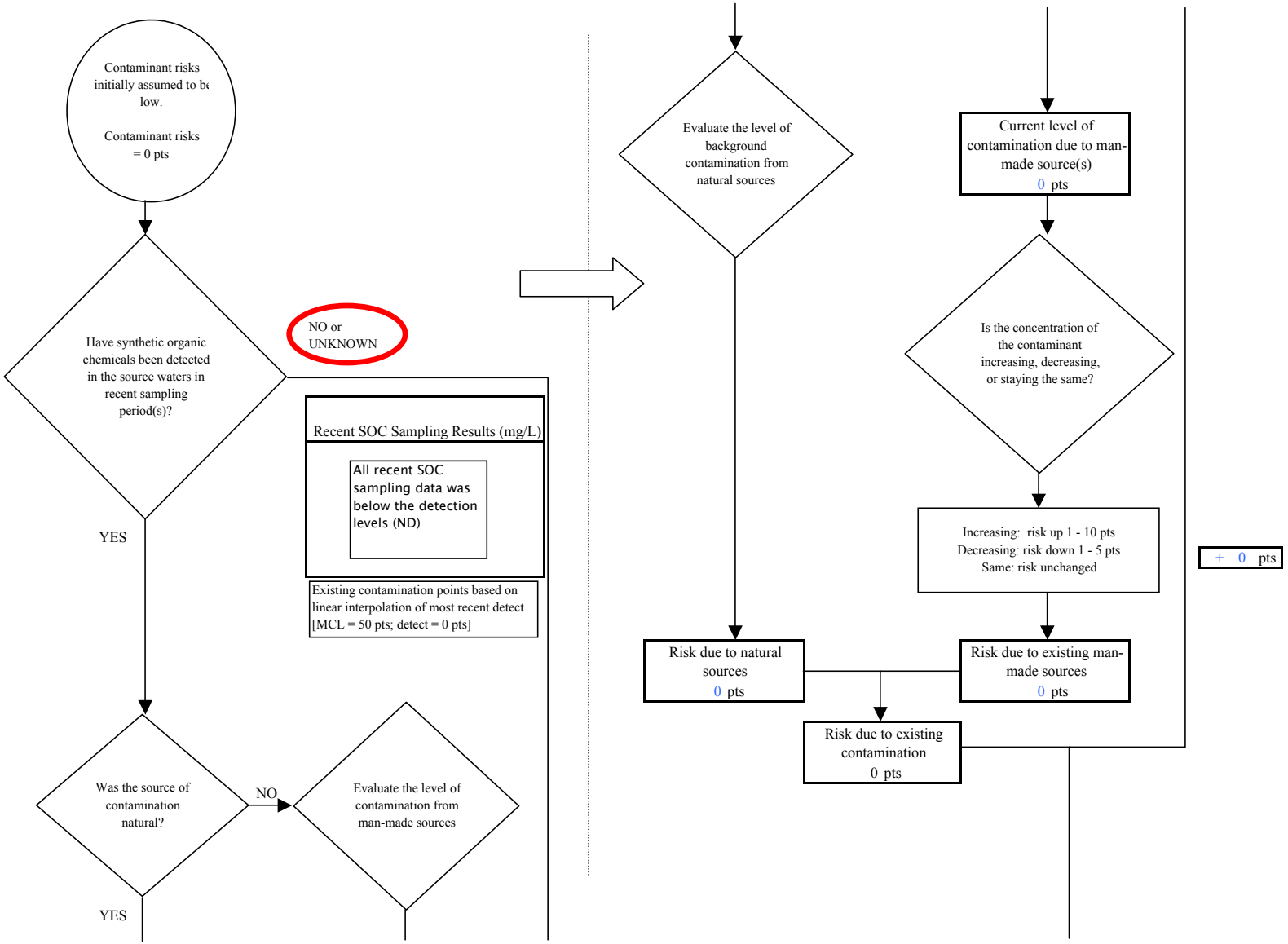
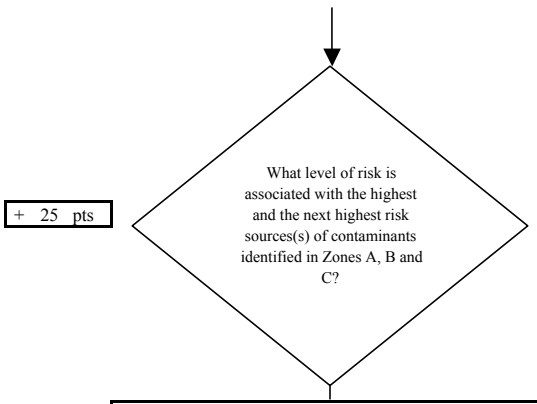


Chart 11. Contaminant risks for Valdez Water System - Main (PWS No. 298103.002) - Synthetic Organic Chemicals



+ 25 pts

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)	0	1	1
Low(s)	49	0	49

	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 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.

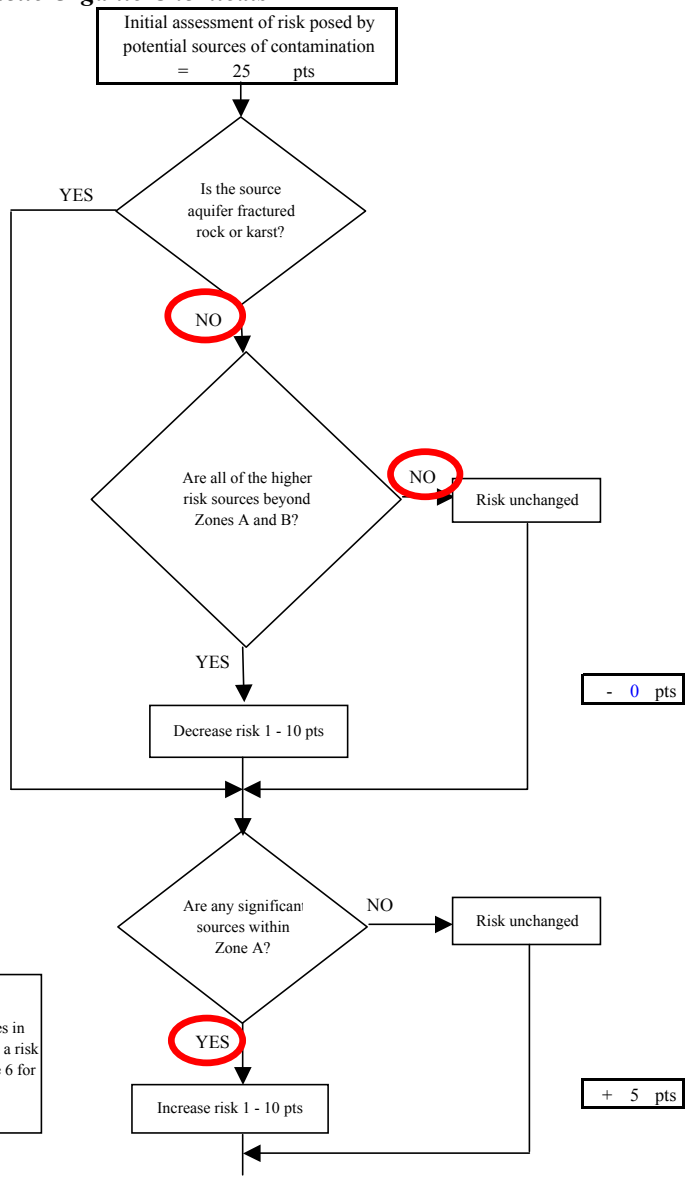


Chart 11. Contaminant risks for Valdez Water System - Main (PWS No. 298103.002) - Synthetic Organic Chemicals

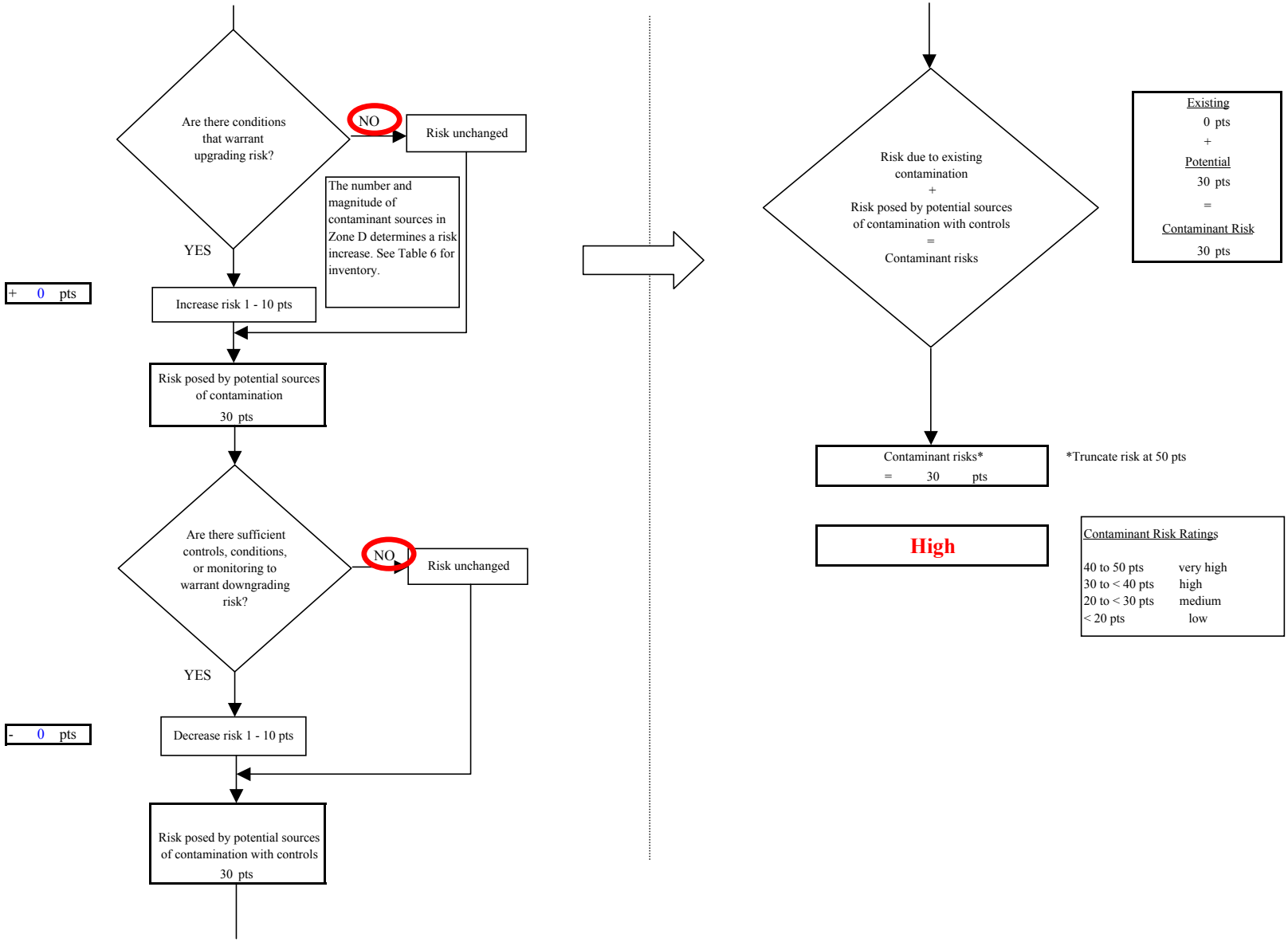


Chart 12. Vulnerability analysis for Valdez Water System - Main (PWS No. 298103.002) - Synthetic Organic Chemicals

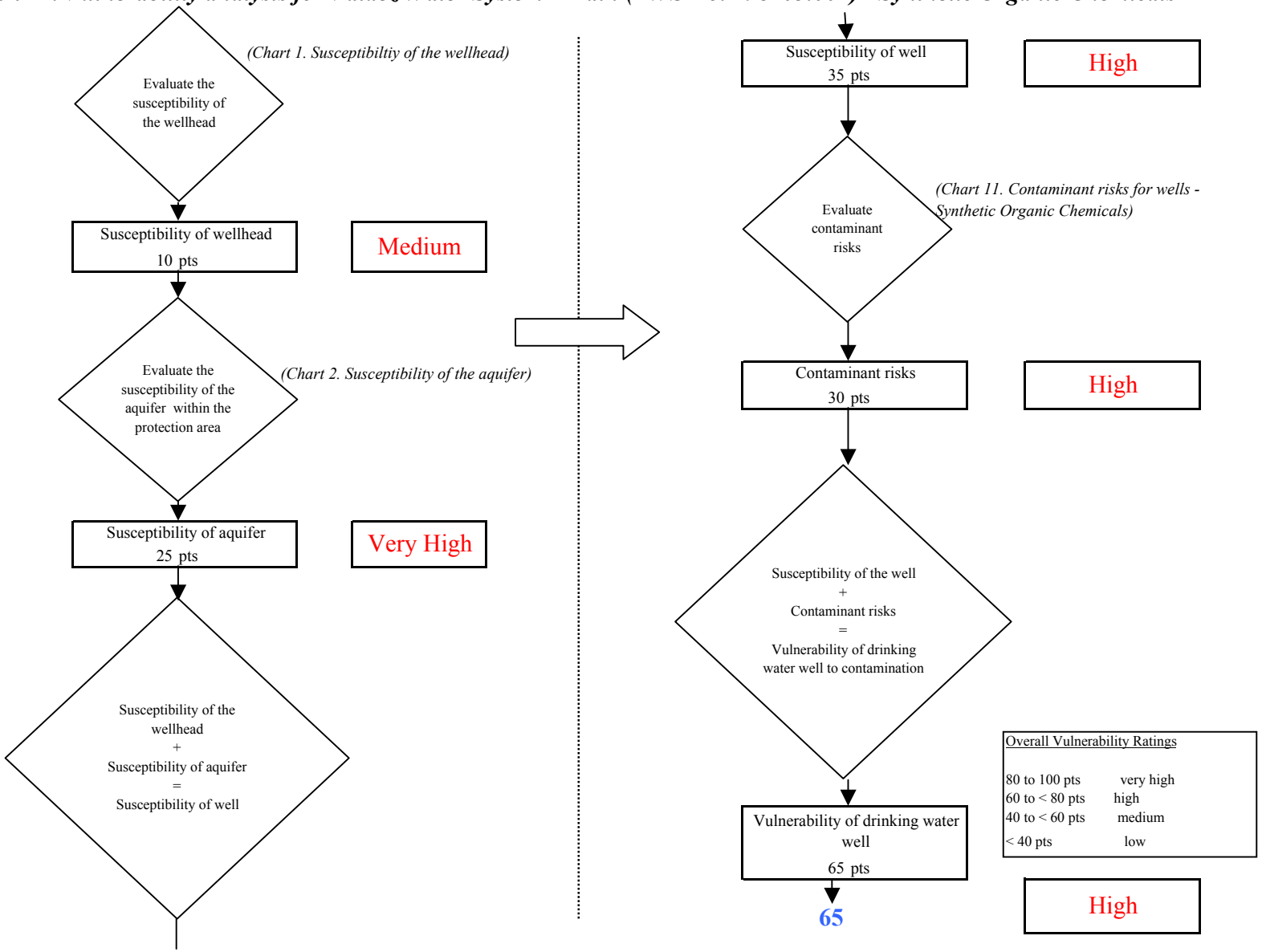


Chart 13. Contaminant risks for Valdez Water System - Main (PWS No. 298103.002) - Other Organic Chemicals

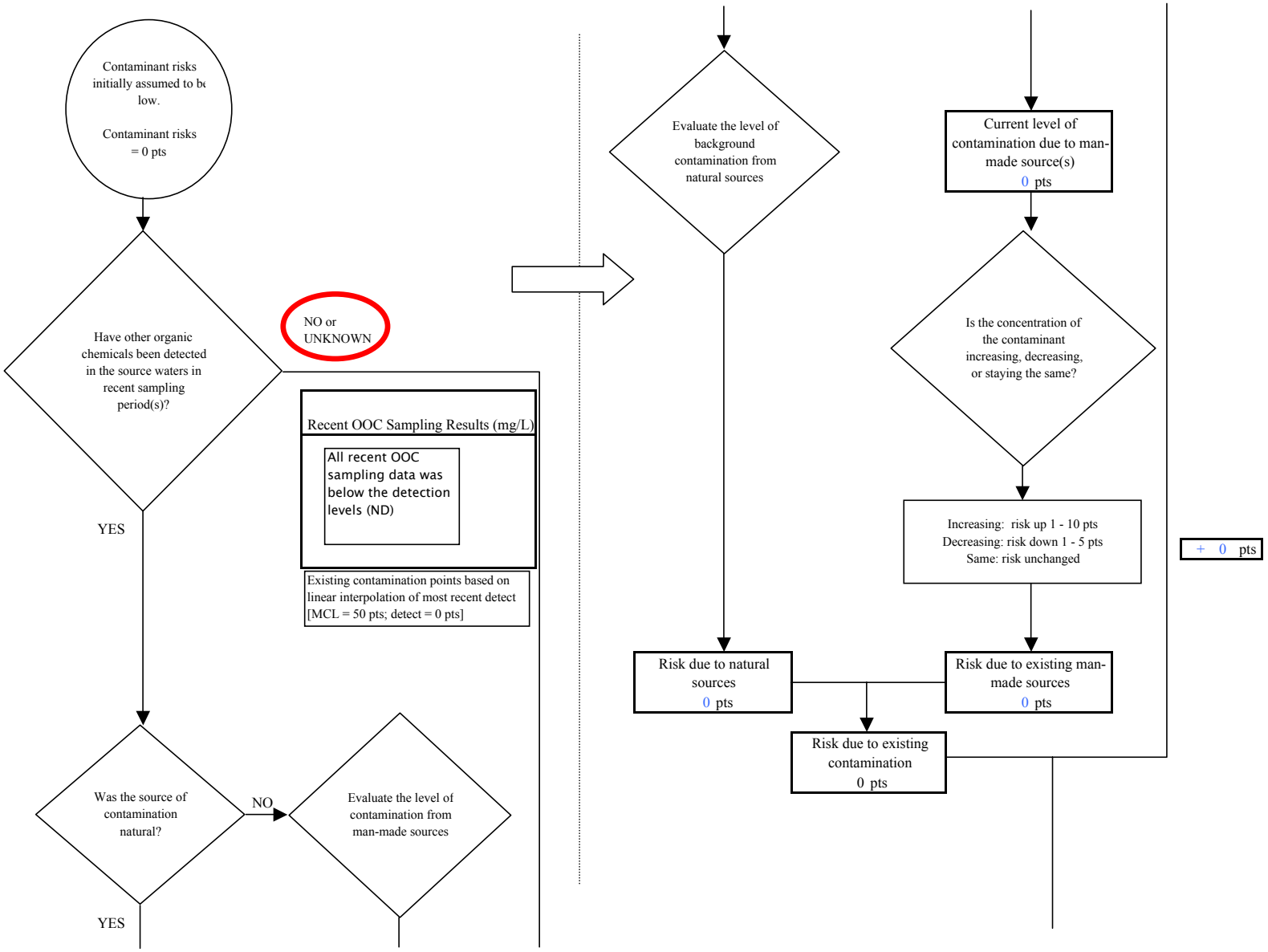


Chart 13. Contaminant risks for Valdez Water System - Main (PWS No. 298103.002) - Other Organic Chemicals

+ 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)	0	1	1
High(s)	2	0	2
Medium(s)	12	1	13
Low(s)	55	21	76

	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 Valdez Water System - Main (PWS No. 298103.002) - Other Organic Chemicals

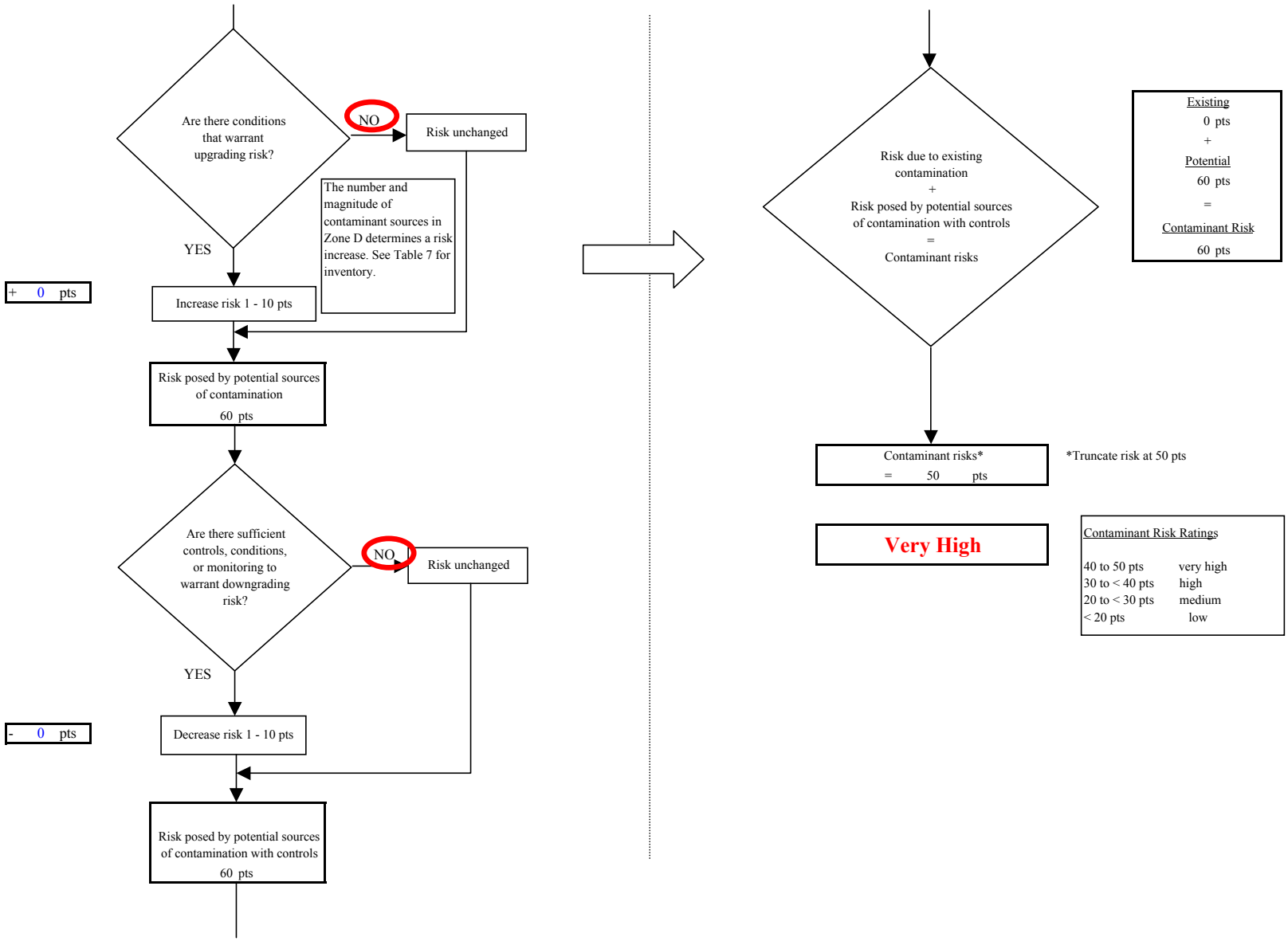


Chart 14. Vulnerability analysis for Valdez Water System - Main (PWS No. 298103.002) - Other Organic Chemicals