

Source Water Assessment

A Hydrogeologic Susceptibility and
Vulnerability Assessment for
Garden Terrace Subdivision
Drinking Water System,
Wasilla, Alaska

PWSID # 220511.001 and 220511.002

DRINKING WATER PROTECTION PROGRAM REPORT 202 and 203
Alaska Department of Environmental Conservation

Source Water Assessment for
Garden Terrace Subdivision
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DRINKING WATER PROTECTION PROGRAM REPORT 202 and 203

The Drinking Water Protection Program 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. 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 Garden Terrace Subdivision Source of Public Drinking Water, Wasilla, Alaska

By ADEC, Drinking Water Protection

Drinking Water Protection Program Alaska Department of Environmental Conservation

determine the overall vulnerability of the drinking water source to contamination.

EXECUTIVE SUMMARY

The public water system for Garden Terrace Subdivision is a Class A (non-transient/non-community) water system consisting of two wells located near the Parks Highway and Fairview Loop. Identified potential and existing sources of contaminants include: highway and roads, railroad corridors, residential areas, large capacity septic systems, medical facilities, residential septic systems, motor vehicle repair shops, motor vehicle waste disposal, various commercial activities, recognized contaminated sites and underground fuel tanks. These identified potential and existing sources of contamination are considered sources of bacteria and viruses, nitrates and/or nitrites, volatile organic chemicals, heavy metals, synthetic organic chemicals and other organic chemicals. Overall, the public water sources for Garden Terrace Subdivision Well No.1 and Well No.2 received vulnerability rating of **High** for bacteria and viruses, nitrates and nitrites, volatile organic chemicals, and heavy metals and **Medium** for synthetic organic chemicals and other organic chemicals

INTRODUCTION

The Alaska Department of Environmental Conservation (ADEC) is completing source water assessments for all public drinking water sources in the State of Alaska. The purpose of this assessment is to provide public water system owners and/or operators, communities, and local governments with information they can use to preserve the quality of Alaska's public drinking water supplies. The results of this source water assessment can be used to decide where voluntary protection efforts are needed and feasible, and what efforts will be most effective in reducing contaminant risks to your water system.

This source water assessment combines a review of the natural conditions at the site and the potential and existing contaminant risks. These are combined to

DESCRIPTION OF THE WASILLA AREA, ALASKA

Wasilla Area

Wasilla is located near the center of the Matanuska-Susitna (Mat-Su) Borough in south central Alaska. The Mat-Su Borough encompasses approximately 23,000 square miles, including the majority of the drainage of the Susitna and Matanuska Rivers. Wasilla is located south of the Talkeetna Mountains, about 12 miles north of Knik Arm on Cook Inlet (Wickersham Alaska Corporation, 1986), (Matanuska-Susitna Borough/Fran Seager, 1991). Wasilla is 30 air miles north/northeast of Anchorage, adjacent to the Alaska Railroad main line and the George Parks Highway (ADNR, 1981).

Glacial forces during the end of the last ice age shaped the Wasilla area. Several glacial advances and retreats left a complex system of hills, ridges, lakes, and lowlands that define the topography of today. Landforms in and around Wasilla consist of undulating ridges of glacial till and flat benches of sand and gravel out wash (Matanuska-Susitna Borough, 1985).

Climate

The climate in Wasilla is transitional between the extremes of Interior Alaska and the wet conditions found along the coastal areas.

Wasilla is less than 15 miles from Knik Arm and about 75 miles from Prince William Sound. Summer temperatures are more moderate than those in the Interior due to the proximity to the coast. The Chugach and Talkeetna Mountains and the Alaska Range also protect Wasilla from the frigid cold of the Interior winter and act to break up strong storm fronts. (Western Regional Climate Center, 2000).

Wasilla averages about 18 inches of precipitation per year, including about 59 inches of snowfall. Winter thaws can decrease snow cover to a few inches.

Mean monthly high temperatures in Wasilla range from about 22 degrees in December and January to 69 degrees in July. The frost-free period in spring and summer averages 115 days, with the first frost usually arriving by September 1st.

The record low for Wasilla was - 50 degrees in January 1947. The highest recorded temperature was 90 degrees in 1969 (Wickersham Alaska Corporation, 1986).

Topography and Drainage

The Wasilla area topography varies from about 300 feet to 500 feet above sea level. The surrounding terrain gradually rises from south to north. The topography of the area is dominated by end and lateral moraine's, eskers, crevasse fillings, and other pitted features, river terraces, outwash floodplains and an extensive estuarine flat (Trainer, 1960)

The Wasilla area has hundreds of small lakes, several large lakes, and two substantial streams. At 387 acres, Wasilla Lake is one of the largest lakes in south central Alaska (Renshaw Consulting Engineers, 1983).

The Cottonwood Creek drainage system, of which Wasilla Lake is part, begins northeast of Wasilla and discharges into Knik Arm about 15 miles to the south.

Cottonwood Creek is a popular salmon-fishing stream (outside city limits), and has an average rate of flow of about 16 cubic feet per second near the outfall from Wasilla Lake.

At 362 acres, Lake Lucille is slightly smaller than Wasilla Lake. However, although within close proximity, they are part of two separate drainage's and have significantly different characteristics. Lake Lucille is shallow with an average depth of five and a half feet. Its primary water source is springs in the lakebed. No significant creek leads into it and Lucille Creek is a low flow stream that drains it into Big Lake. Water circulation and flushing action through the lake are slow.

Geology and Soils

The Matanuska Susitna Valley is dominated by geological features created by several episodes of glacial advances and retreats. These events left the area scattered with glacial drift composed of till outwash stream deposits and estuarine and lake deposits.

Most of the soils in the area provide good sources of sand, gravel and topsoil. The deposition of silt, clay and organic muck in old lakes and depressions means that some areas have soil conditions that vary over relatively short distances. (Wickersham Alaska Corporation, 1986).

Groundwater

The chief aquifers are composed of outwash sand and gravel laid down by melt-water streams or in lakes. The outwash deposits are of two chief forms. The first consists of sheet-like deposits that lie just beneath the ground surface. These deposits range in thickness from a few feet to more than 100 feet. They typically rest on till or bedrock. The water in these deposits is unconfined. The other outwash deposits are buried

beneath till. They are known to be as much as 50 to 60 feet thick, and probably are considerably thicker in some places. They commonly contain confined, or artesian, groundwater.

The glacial till and bedrock form aquifers of minor importance. The chief hydrologic significance of the till is in confining artesian aquifers. Generally, the till is poorly permeable, although locally thin layers of sand may yield small quantities of water. Till that is present at or near the land surface in much of the area makes the acquisition of shallow groundwater difficult. The bedrock is poorly permeable. It yields water only from fractures, whose location and frequency cannot be easily predicted.

In the Mat-Su Valley, groundwater is primarily recharged by snowmelt and precipitation infiltrating both directly and from the infiltration into the foothill slopes of the Talkeetna and Chugach Mountains. In addition,, aquifers may be recharged by streams where surface water percolates into surrounding permeable sediments (losing reaches of streams. Groundwater flow in the confined aquifers is generally from the north and north-northwest. The direction of groundwater flow in the upper unconfined aquifer is more variable due to the influence from surficial topography as well as its close connection with surface water bodies (Trainer,1960).

Although the quality can vary significantly in a short distance, groundwater supplies are abundant in the area. The Wasilla area has a central water system, and several subdivisions have private water systems. Many homes and businesses in the area, however, rely on individual wells for their water supply. Many of these wells are shallow with depths of less than 100 feet. Static water level in these shallow wells is approximately 30 feet below the surface. (Trainer, 1960)

GARDEN TERRACE PUBLIC DRINKING WATER SYSTEM

Garden Terrace Subdivision is a Class A (non-transient/non-community) water system. The system consists of two wells near the Parks Highway and Fairview Loop. (See Map 1 of Appendix A). This area is at an elevation of approximately 150 feet above sea level.

According to the Waiver Application for Synthetic Organic Compounds (SOC) and Other Organic Contaminants (OOC) (2/27/1998), the depths of Well No. 1 and No. 2 are 47 feet and 77 feet below the surface (bls) respectively. The well logs indicate that the wells penetrate sand and gravel and are not

screened. . Both wells appear to have a sanitary seal. A properly installed sanitary seal may provide protection against contaminants from entering the source waters at the well casing. The land surface is also appropriately sloped away from the wells providing adequate surface water drainage. Records indicate that the wells are not grouted. Proper grouting provides added protection against contaminants travelling along the well casing and into source waters. (NGWA, 2001).

This system operates year-round and serves 200 residents through two service connections.

GARDEN TERRACE SUBDIVISION DRINKING WATER PROTECTION AREAS

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. Some areas are more likely to allow contamination to reach the well than others are. These areas are determined by looking at the characteristics of the soil, groundwater, aquifer, and well.

The most probable area for contamination to reach the drinking water well is the area that contributes water to the well, the groundwater recharge area. This area is designated as the Drinking Water Protection Area (DWPA). Because releases of contaminants within the DWPA are most likely to impact the drinking water well, this area will serve as the focus for voluntary protection efforts. DWPA (Please refer to the Guidance Manual for Class A Public Water Systems for additional information).

The DWPA's established for wells by the ADEC are separated into four zones. These zones correspond to differences in the time-of-travel (TOT) of the water moving through the aquifer to the well. An analytical calculation was used to determine the size and shape of the DWPA. The input parameters describing the attributes of the aquifer in this calculation were adopted from the U.S. Geological Survey (Patrick, Brabets, and Glass, 1989), and State of Alaska Department of Water Resources (Jokela et. al., 1991).

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 DWPA zones and the calculated time-of-travel for each:

Table 1. Definition of Zones

Zone	Definition
A	¼ the distance for the 2-yr. TOT

B	Less than the 2 year TOT
C	Less Than the 5 year TOT
D	Less than the 10 year TOT

As an example, water moving through the aquifer in Zone B will reach the well in less than 2 years from the time it crosses the outer limit of Zone B.

Zone A also incorporates the area down gradient from the well to take into account the area of the aquifer that is influenced by pumping of the well. Water within the aquifer in Zone A will reach the well in several hours to several months.

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 Garden Terrace Subdivision DWPA for Well No.1 and Well No.2. 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 Maps 2 -5 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.

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, synthetic organic chemicals, and other organic chemicals.

VULNERABILITY OF GARDEN TERRACE SUBDIVISION DRINKING WATER SOURCES

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

- Natural susceptibility; and
- Contaminant risks.

Each of the six categories of drinking water contaminants has been analyzed and an overall vulnerability score of 0 to 100 is ultimately assigned:

$$\begin{aligned}
 &\text{Natural Susceptibility (0 – 50 points)} \\
 &\quad + \\
 &\text{Contaminant Risks (0 – 50 points)} \\
 &\quad = \\
 &\text{Vulnerability of the} \\
 &\text{Drinking Water Source to Contamination (0 – 100).}
 \end{aligned}$$

A score for the Natural Susceptibility is achieved by analyzing the properties of the well and the aquifer.

$$\begin{aligned}
 &\text{Susceptibility of the Wellhead (0 – 25 Points)} \\
 &\quad + \\
 &\text{Susceptibility of the Aquifer (0 – 25 Points)} \\
 &\quad = \\
 &\text{Natural Susceptibility (Susceptibility of the Well)} \\
 &\quad \text{(0 – 50 Points)}
 \end{aligned}$$

The wells for Garden Terrace Subdivision are completed in an unconfined aquifer setting. Because an unconfined aquifer is recharged by surface water and precipitation that migrates downward from the surface, contaminants at the surface have the potential to adversely impact this aquifer. Table 2 shows the Susceptibility scores and ratings for Garden Terrace Subdivision Well No.1 and Well No.2.

Table 2. Susceptibility

<u>Well No.1</u>	Score	Rating
Susceptibility of the Wellhead	5	Low

Susceptibility of the Aquifer	23	Very High
Natural Susceptibility	28	Medium

Well No. 2

	Score	Rating
Susceptibility of the Wellhead	5	Low
Susceptibility of the Aquifer	23	Very High
Natural Susceptibility	28	Medium

Contaminant risks to a drinking water source depend on the type, number or density, and distribution of contaminant sources. This data 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. Table 3 summarizes the Contaminant Risks for each category of drinking water contaminants.

Table 3. Contaminant Risks

Well No. 1

Category	Score	Rating
Bacteria and Viruses	50	Very High
Nitrates and/or Nitrites	50	Very High
Volatile Organic Chemicals	50	Very High
Heavy Metals, Cyanide, and Other Inorganic Chemicals	50	Very High
Synthetic Organic Chemicals	22	Medium
Other Organic Chemicals	28	Medium

Well No. 2

Category	Score	Rating
Bacteria and Viruses	50	Very High
Nitrates and/or Nitrites	50	Very High
Volatile Organic Chemicals	46	Very High
Heavy Metals, Cyanide, and Other Inorganic Chemicals	50	Very High
Synthetic Organic Chemicals	22	Medium
Other Organic Chemicals	30	High

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. Lastly, 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, synthetic organic chemicals, and other organic chemicals, respectively.

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

Well No. 1

Category	Score	Rating
Bacteria and Viruses	75	High
Nitrates and Nitrites	75	High
Volatile Organic Chemicals	75	High
Heavy Metals, Cyanide and Other Inorganic Chemicals	75	High
Synthetic Organic Chemicals	50	Medium
Other Organic Chemicals	55	Medium

Well No. 2

Category	Score	Rating
Bacteria and Viruses	75	High
Nitrates and Nitrites	75	High
Volatile Organic Chemicals	75	High
Heavy Metals, Cyanide and Other Inorganic Chemicals	75	High
Synthetic Organic Chemicals	50	Medium
Other Organic Chemicals	55	Medium

Bacteria and Viruses

The contaminant risk for bacteria and viruses is very high for Well No. 1 and No. 2 with large capacity and residential septic systems presenting the most significant risk to the drinking water well (See Chart 3

– Contaminant Risks for Bacteria and Viruses in Appendix D). Large capacity septic systems, designated a type of Class V Injection well by the Environmental Protection Agency (EPA), differ from residential septic systems in that they serve multiple dwellings, businesses, or communities.

Recent sampling of Garden Terrace Subdivision shows no detection of Bacteria and Viruses. After combining the contaminant risk for bacteria and viruses with the natural susceptibility of the well, the overall vulnerability of the well to contamination is medium.

Nitrates/Nitrites

The contaminant risk for bacteria and viruses is very high for Well No.1 and Well No.2. Large capacity and residential septic systems, because of their effluent discharge, pose the most significant contaminant risk to this source of public drinking water (See Chart 5 - Contaminant Risks for Nitrates and/or Nitrites in Appendix D). Nitrates are very mobile, moving at approximately the same rate as water.

Sampling history for Garden Terrace Subdivision wells indicates that low concentrations of nitrate have been detected. Existing nitrate concentration is approximately 0.379 mg/L or 4% of the Maximum Contaminant Level (MCL) of 10mg/L. The MCL is the maximum level of contaminant that is allowed to exist in drinking water and still be consumed by humans without harmful health effects. Throughout the past 5 years nitrate and/or nitrite concentrations at this site have remained relatively constant.

It is unknown how much of the existing nitrate concentration can be attributed to natural or human-made sources. Nitrate concentrations in uncontaminated groundwater are typically less than 2 milligrams per liter (mg/L) and are derived primarily from the decomposition of organic matter in soils [Wang, Strelakos, Jokela, 2000].

After combining the contaminant risk for nitrates and nitrites with the natural susceptibility of the wells, the overall vulnerability of Well No.1 is High and Well No. 2 is Medium. The difference is attributed to the higher susceptibility of Well No. 1.

Volatile Organic Chemicals

The contaminant risk for volatile organic chemicals is high for Well No. 1 and Well No. 2. The presence of motor vehicle repair shops, motor vehicle waste disposal and large capacity septic systems creating the

most significant risk for volatile organic chemicals. (See Chart 7 – Contaminant Risks for Volatile Organic Chemicals in Appendix D).

Recent sampling of Garden Terrace Subdivision wells (12/9/95) indicates that low concentrations of tetrachloroethylene have been detected at 0.00025mg/l or less than 5% of the 0.005 mg/l MCL.

According to the USEPA, tetrachloroethylene is a man made chemical that is used for cleaning and industrial metal cleaning or finishing. Water pollution can occur from tetrachloroethylene leaching from vinyl liners in some types of pipelines used for water distribution, and during chlorination water treatment. (USEPA, 2001). According to the USEPA, some people who drink water containing tetrachloroethylene in excess of the MCL over many years could have problems with their liver and may have an increased risk of getting cancer. (USEPA, 2001). The low levels detected at Garden Terrace occurred in 1995 and the system has not had any detection since. The source and extent of tetrachloroethylene at this site is unknown. Combining the contaminant risks for volatile organic chemicals with the natural susceptibility of Well No.1 and Well No. 2, the overall vulnerability of both wells to contamination is high.

Heavy Metal, Cyanide and Other Inorganic Chemicals

The contaminant risk for heavy metals is high. Motor vehicle waste disposal and repair shops create the most significant risk (See Chart 9 – Contaminant Risks for Heavy Metals, Cyanide, and Other Inorganic Chemicals in Appendix D).

Sampling history for Garden Terrace Subdivision wells indicates that low concentrations of arsenic have been detected. The highest arsenic concentration detected was 0.0039mg/l on 11/20/01. This level is well below the chemicals MCL of 0.01mg/L and does not represent a risk to Garden Terrace Subdivision drinking water source. (EPA, 2001). After combining the contaminant risk for heavy metals, cyanide and other inorganic chemicals with the natural susceptibility of Well No. 1 and Well No. 2., the overall vulnerability of both wells to contamination is high.

According to the EPA “arsenic occurs naturally in rocks and soil, water, air, and plants and animals. It can be further released into the environment through natural activities such as volcanic action, erosion of rocks, and forest fires, or through human actions. Approximately 90 percent of industrial arsenic in the U.S. is currently used as a wood preservative, but arsenic is also used in paints, dyes, metals, drugs, soaps, and semi-conductors.

Agricultural applications, mining, and smelting also contribute to arsenic releases in the environment.” (EPA, 2001) Since there are no known sources of arsenic in the area, it is likely that the arsenic detected at Garden Terrace Subdivision is naturally occurring.

Studies have linked long-term exposure to arsenic in drinking water to cancer of the bladder, lungs, skin, kidney, nasal passages, liver, and prostate. Non-cancer effects of ingesting arsenic include cardiovascular, pulmonary, immunological, neurological, and endocrine (e.g., diabetes) effects. Short-term exposure to high doses of arsenic can cause other adverse health effects, but such effects are unlikely to occur from U.S. public water supplies that are in compliance with the arsenic standard of 0.05 mg/l (EPA, 2001). The levels of arsenic detected at Garden Terrace Subdivision are considered safe for human consumption.

Synthetic Organic Chemicals

The contaminant risk for synthetic organic chemicals is medium with the motor vehicle repair shops, vehicle rental facilities, roads and large capacity septic systems representing the most significant risk.

The sampling history for Garden Terrace Subdivision wells indicates no detection of Synthetic Organic Chemicals. After combining the contaminant risks for synthetic organic chemicals with the natural susceptibility of the well, the overall vulnerability of the well to contamination is medium.

Other Organic Chemicals

The contaminant risk for other organic chemicals is medium with motor vehicle repair shops, roads, large capacity septic systems and residential area within the DWPA representing the most significant risk.

The Garden Terrace Subdivision well has not been tested for Other Organic Chemicals and has a waiver from ADEC. After combining the contaminant risks for other organic chemicals with the natural susceptibility of the well, the overall vulnerability of the well to contamination is medium.

SUMMARY

A Source Water Assessment has been completed for the sources of public drinking water serving Garden Terrace Subdivision. The overall vulnerability of this source to contamination is **High** for bacteria and viruses, nitrates and nitrites, volatile organic chemicals, heavy metals and **Medium** for synthetic organic chemicals and other organic chemicals. 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 Garden Terrace Subdivision 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 Garden Terrace Subdivision public drinking water source.

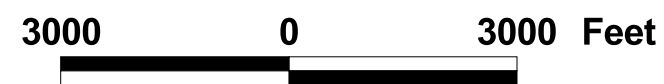
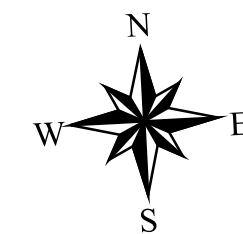
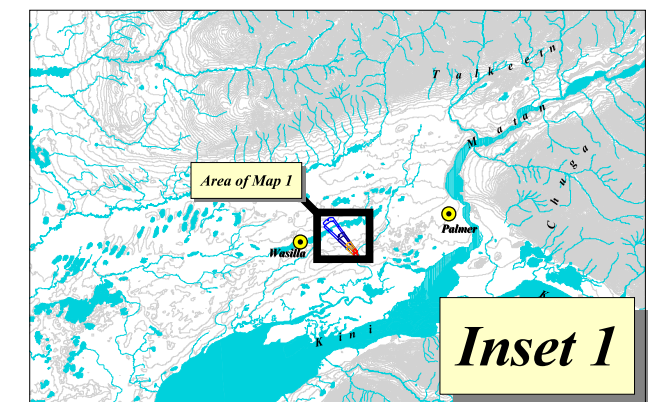
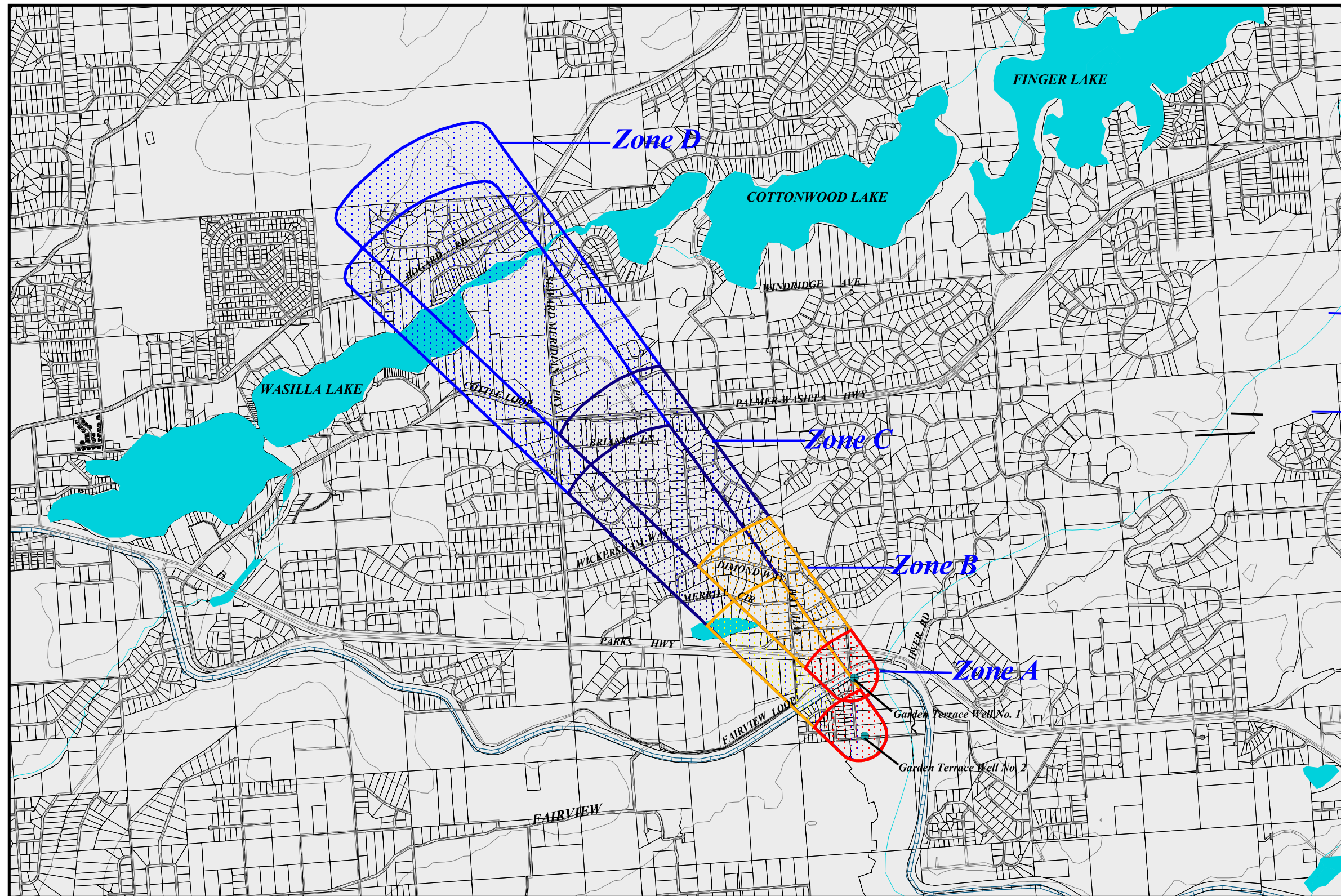
REFERENCES

- Alaska Department of Community and Economic Development (ADCED), 2002 [WWW document]. URL http://www.dced.state.ak.us/cbd/commdb/CF_BLOCK.cfm
- Jakola, J.B., Munter, J.A., and Evans, J.G., 1991, Ground-water resources of the Palmer-big Lake area, Alaska: a conceptual model. Division of Geological & Geophysical Surveys Reported of Investigations 90-4, State of Alaska Department of Natural Resources, Fairbanks, AK.
- Matanuska-Susitna Borough, 1985, Knik-Matanuska-Susitna: A Visual History of the Valleys, Wasilla, AK.
- Matanuska-Susitna Borough/Fran Seager, 1991, Major Coal Towns of the Matanuska Valley: A Pictorial History, Palmer, AK.
- National Groundwater Association, 2001, Grouting of Water Wells. Retrieved February 2002. [WWW document] URL <http://www.ngwa.org/position/issgrout.html>
- Patrick, L.D., Brabets, T.P., and Glass, R.L., 1989, Simulation of ground-water flow at Anchorage, Alaska: US Geological Survey Water-Resources Investigations Report 88-4139, 41p.
- Renshaw Consulting Engineers, 1983, Summary of Mineral Resources, Palmer, AK.
- Trainer, F.W., 1960, Geology and Groundwater Resources, Matanuska Valley, Alaska, U.S. Geological Survey Water Supply Paper 1494 U.S. Printing Office, Washington, D.C.
- U.S. Environmental Protection Agency, 2002, Region 10: The Pacific Northwest. Underground Injection Control Program. Retrieved March 2002. [WWW. document] URL <http://yosemite.epa.gov/R10/WATER.NSF/476d8e2e8829cf19882565d404706530/51bbc02148429af1882568730082f6fa?OpenDocument>
- United States. Environmental Protection Agency, 1999, The Class V Underground Injection Control Study, Vol. 5 Large-Capacity Septic Systems. Office Ground Water and Drinking Water. EPA/816-R-99-014e. September 1999.
- U.S. Environmental Protection Agency, 2001. Office of Water. National Primary Drinking Water Regulations, Consumer Factsheet on : Tetracholoethylene. Retrieved June 2002. [WWW Document] <http://www.epa.gov/safewater/dwh/c-voc/tetrachl.html>
- U.S. Environmental Protection Agency, 2001, Office of Water. Retrieved June 2002. [WWW document]. URL http://www.epa.gov/safewater/ars/ars_rule_factsheet.html
- Wang, B., Strelakos, P.M., Jokela, B., 2000, Nitrate Source Indicators in Groundwater of the Scimitar Subdivision, Peters Creek Area, Anchorage Alaska; U.S. Geological Survey Water Resources Investigations Report 00-4137, 25p.
- Western Regional Climate Center, 2000, August 24, Web extension to the Western Regional Climate Center [WWW document]. URL http://www.uaa.alaska.edu/enri/ascc_web/ascc_home.html
- Wickersham Alaska Corporation, 1986, Wasilla Comprehensive Plan, Anchorage, AK.

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Drinking Water Protection Area for Garden Terrace Subdivision Well No. 1 and No. 2



PWSID 220511.001 (Well No. 1) and 220511.002 (Well No. 2)

Map 1

APPENDIX B

Contaminant Source Inventory and Risk Ranking for Garden Terrace Subdivision (Tables 1-7)

Table 1

**Contaminant Source Inventory for
Garden Terrace Subdivision Well No. 1**

PWSID 220511.001

Contaminant Source Type	Contaminant Source ID	CS ID tag	Zone	Map Number	Comments
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-01	A	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-02	A	2	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-01	A	2	
Residential Areas	R01	R01-01	A	2	7 acres
Septic systems (serves one single-family home)	R02	R02-01	A	2	
Septic systems (serves one single-family home)	R02	R02-02	A	2	
Septic systems (serves one single-family home)	R02	R02-03	A	2	
Septic systems (serves one single-family home)	R02	R02-04	A	2	
Septic systems (serves one single-family home)	R02	R02-05	A	2	
Septic systems (serves one single-family home)	R02	R02-06	A	2	
Septic systems (serves one single-family home)	R02	R02-07	A	2	
Septic systems (serves one single-family home)	R02	R02-08	A	2	
Septic systems (serves one single-family home)	R02	R02-09	A	2	
Highways and roads, paved (cement or asphalt)	X20	X20-01	A	2	
Highways and roads, paved (cement or asphalt)	X20	X20-02	A	2	
Highways and roads, paved (cement or asphalt)	X20	X20-03	A	2	
Rail corridors	X30	X30-01	A	2	
Hardware stores	C17	C17-01	B	2	
Hardware stores	C17	C17-02	B	2	
Motor vehicle rental facilities - cars, trucks, ATV's, snow machines (with service department)	C30	C30-01	B	2	
Motor /motor vehicle repair shops	C31	C31-01	B	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-03	B	2	

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-04	B	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-05	B	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-06	B	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-07	B	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-08	B	2	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-02	B	2	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-03	B	2	
Residential Areas	R01	R01-02	B	2	43 acres
Septic systems (serves one single-family home)	R02	R02-10-30	B	2	
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-02	B	2	Valley Motors
Highways and roads, paved (cement or asphalt)	X20	X20-04	B	2	
Highways and roads, paved (cement or asphalt)	X20	X20-05	B	2	
Highways and roads, paved (cement or asphalt)	X20	X20-06	B	2	
Highways and roads, paved (cement or asphalt)	X20	X20-07	B	2	
Highways and roads, paved (cement or asphalt)	X20	X20-08	B	2	
Highways and roads, paved (cement or asphalt)	X20	X20-09	B	2	
Highways and roads, paved (cement or asphalt)	X20	X20-10	B	2	
Highways and roads, paved (cement or asphalt)	X20	X20-11	B	2	
Highways and roads, paved (cement or asphalt)	X20	X20-12	B	2	
Highways and roads, paved (cement or asphalt)	X20	X20-13	B	2	
Highways and roads, paved (cement or asphalt)	X20	X20-14	B	2	
Motor /motor vehicle repair shops	C31	C31-02	C	3	
Printers, publishers, copiers	C37	C37-01	C	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-09	C	3	

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-10	C	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-11	C	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-12	C	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-13	C	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-14	C	3	
Stone and clay processing/manufacturing	I43	I43-01	C	3	
Residential Areas	R01	R01-03	C	2	78 acres
Tanks, diesel (underground)	T08	T08-01	C	3	
Tanks, gasoline (underground)	T12	T12-01	C	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-15	D	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-16	D	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-17	D	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-18	D	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-19	D	3	

Table 2

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 1
Sources of Bacteria and Viruses*

PWSID 220511.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-01	A	High	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-02	A	High	2	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-01	A	Low	2	
Residential Areas	R01	R01-01	A	Low	2	7 acres
Septic systems (serves one single-family home)	R02	R02-01	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-02	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-03	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-04	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-05	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-06	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-07	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-08	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-09	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-01	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-02	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-03	A	Low	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-03	B	High	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-04	B	High	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-05	B	High	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-06	B	High	2	

Table 2 (continued)

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 1
Sources of Bacteria and Viruses*

PWSID 220511.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-07	B	High	2	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-02	B	Low	2	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-03	B	Low	2	
Residential Areas	R01	R01-02	B	Low	2	43 acres
Septic systems (serves one single-family home)	R02	R02-10-30	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-04	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-05	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-06	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-07	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-08	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-09	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-10	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-11	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-12	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-13	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-14	B	Low	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-11	C	High	3	

Table 3

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 1
Sources of Nitrates/Nitrites*

PWSID 220511.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-01	A	High	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-02	A	High	2	
Residential Areas	R01	R01-01	A	Low	2	7 acres
Septic systems (serves one single-family home)	R02	R02-01	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-02	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-03	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-04	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-05	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-06	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-07	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-08	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-09	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-01	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-02	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-03	A	Low	2	
Hardware stores	C17	C17-01	B	Low	2	
Hardware stores	C17	C17-02	B	Low	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-03	B	High	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-04	B	High	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-05	B	High	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-06	B	High	2	

Table 3 (continued)

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 1
Sources of Nitrates/Nitrites*

PWSID 220511.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-07	B	High	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-08	B	High	2	
Residential Areas	R01	R01-02	B	Low	2	43 acres
Septic systems (serves one single-family home)	R02	R02-10-30	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-04	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-05	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-06	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-07	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-08	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-09	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-10	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-11	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-12	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-13	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-14	B	Low	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-09	C	High	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-10	C	High	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-11	C	High	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-12	C	High	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-13	C	High	3	

Table 3 (continued)

Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 1
Sources of Nitrates/Nitrites

PWSID 220511.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-14	C	High	3	
Residential Areas	R01	R01-03	C	Low	2	78 acres
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-15	D	High	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-16	D	High	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-17	D	High	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-18	D	High	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-19	D	High	3	

Table 4

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 1
Sources of Volatile Organic Chemicals*

PWSID 220511.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-01	A	Low	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-02	A	Low	2	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-01	A	High	2	
Residential Areas	R01	R01-01	A	Low	2	7 acres
Septic systems (serves one single-family home)	R02	R02-01	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-02	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-03	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-04	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-05	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-06	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-07	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-08	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-09	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-01	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-02	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-03	A	Low	2	
Rail corridors	X30	X30-01	A	Medium	2	
Hardware stores	C17	C17-01	B	Low	2	
Hardware stores	C17	C17-02	B	Low	2	
Motor vehicle rental facilities - cars, trucks, ATV's, snow machines (with service department)	C30	C30-01	B	Medium	2	
Motor /motor vehicle repair shops	C31	C31-01	B	Medium	2	

Table 4 (continued)

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 1
Sources of Volatile Organic Chemicals*

PWSID 220511.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-03	B	Low	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-04	B	Low	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-05	B	Low	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-06	B	Low	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-07	B	Low	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-08	B	Low	2	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-02	B	High	2	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-03	B	High	2	
Residential Areas	R01	R01-02	B	Low	2	43 acres
Septic systems (serves one single-family home)	R02	R02-10-30	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-04	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-05	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-06	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-07	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-08	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-09	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-10	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-11	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-12	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-13	B	Low	2	

Table 4 (continued)

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 1
Sources of Volatile Organic Chemicals*

PWSID 220511.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Highways and roads, paved (cement or asphalt)	X20	X20-14	B	Low	2	
Motor /motor vehicle repair shops	C31	C31-02	C	Medium	3	
Printers, publishers, copiers	C37	C37-01	C	High	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-09	C	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-10	C	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-11	C	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-12	C	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-13	C	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-14	C	Low	3	
Residential Areas	R01	R01-03	C	Low	2	78 acres
Tanks, diesel (underground)	T08	T08-01	C	High	3	
Tanks, gasoline (underground)	T12	T12-01	C	High	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-15	D	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-16	D	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-17	D	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-18	D	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-19	D	Low	3	

Table 5

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 1
Sources of Heavy Metals, Cyanide and Other Inorganic Chemicals*

PWSID 220511.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-01	A	Low	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-02	A	Low	2	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-01	A	High	2	
Residential Areas	R01	R01-01	A	Low	2	7 acres
Septic systems (serves one single-family home)	R02	R02-01	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-02	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-03	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-04	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-05	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-06	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-07	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-08	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-09	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-01	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-02	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-03	A	Low	2	
Rail corridors	X30	X30-01	A	Low	2	
Hardware stores	C17	C17-01	B	Low	2	
Hardware stores	C17	C17-02	B	Low	2	
Motor vehicle rental facilities - cars, trucks, ATV's, snow machines (with service department)	C30	C30-01	B	Low	2	
Motor /motor vehicle repair shops	C31	C31-01	B	Medium	2	

Table 5 (continued)

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 1
Sources of Heavy Metals, Cyanide and Other Inorganic Chemicals*

PWSID 220511.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-03	B	Low	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-04	B	Low	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-05	B	Low	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-06	B	Low	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-07	B	Low	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-08	B	Low	2	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-02	B	High	2	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-03	B	High	2	
Residential Areas	R01	R01-02	B	Low	2	43 acres
Septic systems (serves one single-family home)	R02	R02-10-30	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-04	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-05	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-06	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-07	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-08	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-09	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-10	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-11	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-12	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-13	B	Low	2	

Table 5 (continued)

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 1
Sources of Heavy Metals, Cyanide and Other Inorganic Chemicals*

PWSID 220511.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Highways and roads, paved (cement or asphalt)	X20	X20-14	B	Low	2	
Motor /motor vehicle repair shops	C31	C31-02	C	Medium	3	
Printers, publishers, copiers	C37	C37-01	C	Medium	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-09	C	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-10	C	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-11	C	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-12	C	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-13	C	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-14	C	Low	3	
Stone and clay processing/manufacturing	I43	I43-01	C	Medium	3	
Residential Areas	R01	R01-03	C	Low	2	78 acres
Tanks, gasoline (underground)	T12	T12-01	C	Medium	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-15	D	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-16	D	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-17	D	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-18	D	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-19	D	Low	3	

Table 6

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 1
Sources of Synthetic Organic Chemicals*

PWSID 220511.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-01	A	Low	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-02	A	Low	2	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-01	A	Low	2	
Residential Areas	R01	R01-01	A	Low	2	7 acres
Septic systems (serves one single-family home)	R02	R02-01	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-02	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-03	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-04	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-05	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-06	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-07	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-08	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-09	A	Low	2	
Rail corridors	X30	X30-01	A	Medium	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-03	B	Low	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-04	B	Low	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-05	B	Low	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-06	B	Low	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-07	B	Low	2	

Table 6 (continued)

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 1
Sources of Synthetic Organic Chemicals*

PWSID 220511.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-08	B	Low	2	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-02	B	Low	2	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-03	B	Low	2	
Residential Areas	R01	R01-02	B	Low	2	43 acres
Septic systems (serves one single-family home)	R02	R02-10-30	B	Low	2	
Printers, publishers, copiers	C37	C37-01	C	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-09	C	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-10	C	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-11	C	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-12	C	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-13	C	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-14	C	Low	3	
Residential Areas	R01	R01-03	C	Low	2	78 acres
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-15	D	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-16	D	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-17	D	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-18	D	Low	3	

Table 6 (continued)

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 1
Sources of Synthetic Organic Chemicals*

PWSID 220511.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-19	D	Low	3	

Table 7

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 1
Sources of Other Organic Chemicals*

PWSID 220511.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-01	A	Low	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-02	A	Low	2	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-01	A	Medium	2	
Residential Areas	R01	R01-01	A	Low	2	7 acres
Septic systems (serves one single-family home)	R02	R02-01	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-02	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-03	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-04	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-05	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-06	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-07	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-08	A	Low	2	
Septic systems (serves one single-family home)	R02	R02-09	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-01	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-02	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-03	A	Low	2	
Rail corridors	X30	X30-01	A	Low	2	
Hardware stores	C17	C17-01	B	Low	2	
Hardware stores	C17	C17-02	B	Low	2	
Motor vehicle rental facilities - cars, trucks, ATV's, snow machines (with service department)	C30	C30-01	B	Medium	2	
Motor /motor vehicle repair shops	C31	C31-01	B	Medium	2	

Table 7 (continued)

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 1
Sources of Other Organic Chemicals*

PWSID 220511.001

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-03	B	Low	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-04	B	Low	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-05	B	Low	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-06	B	Low	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-07	B	Low	2	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-08	B	Low	2	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-02	B	Medium	2	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-03	B	Medium	2	
Residential Areas	R01	R01-02	B	Low	2	43 acres
Septic systems (serves one single-family home)	R02	R02-10-30	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-04	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-05	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-06	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-07	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-08	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-09	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-10	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-11	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-12	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-13	B	Low	2	

Table 7 (continued)

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 1
Sources of Other Organic Chemicals*

PWSID 220511.001

Contaminant Source Type	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Map Number	Comments
Highways and roads, paved (cement or asphalt)	X20	X20-14	B	Low	2	
Motor /motor vehicle repair shops	C31	C31-02	C	Medium	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-09	C	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-10	C	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-11	C	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-12	C	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-13	C	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-14	C	Low	3	
Residential Areas	R01	R01-03	C	Low	2	78 acres
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-15	D	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-16	D	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-17	D	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-18	D	Low	3	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-19	D	Low	3	

Table 1

**Contaminant Source Inventory for
Garden Terrace Subdivision Well No. 2**

PWSID 220511.002

Contaminant Source Type	Contaminant Source ID	CS ID tag	Zone	Map Number	Comments
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-01	A	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-02	A	4	
Residential Areas	R01	R01-01	A	4	6 acres
Septic systems (serves one single-family home)	R02	R02-01-21	A	4	
Highways and roads, paved (cement or asphalt)	X20	X20-01	A	4	
Highways and roads, paved (cement or asphalt)	X20	X20-02	A	4	
Highways and roads, paved (cement or asphalt)	X20	X20-03	A	4	
Highways and roads, paved (cement or asphalt)	X20	X20-04	A	4	
Highways and roads, paved (cement or asphalt)	X20	X20-05	A	4	
Hardware stores	C17	C17-01	B	4	
Hardware stores	C17	C17-02	B	4	
Pharmacies (with on-site wastewater disposal)	C35	C25-01	B	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-03	B	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-04	B	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-05	B	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-06	B	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-07	B	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-08	B	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-09	B	4	

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-10	B	4	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-01	B	4	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-02	B	4	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-03	B	4	
Meat processing	N05	N05	B	4	
Residential Areas	R01	R01-02	B	4	24 acres
Septic systems (serves one single-family home)	R02	R02-22-35	B	4	
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-01	B	4	Valley Motors
Highways and roads, paved (cement or asphalt)	X20	X20-06	B	4	
Highways and roads, paved (cement or asphalt)	X20	X20-07	B	4	
Highways and roads, paved (cement or asphalt)	X20	X20-08	B	4	
Highways and roads, paved (cement or asphalt)	X20	X20-09	B	4	
Highways and roads, paved (cement or asphalt)	X20	X20-10	B	4	
Highways and roads, paved (cement or asphalt)	X20	X20-11	B	4	
Highways and roads, paved (cement or asphalt)	X20	X20-13	B	4	
Highways and roads, paved (cement or asphalt)	X20	X20-14	B	4	
Rail corridors	X30	X30-01	B	4	
Construction trade areas and materials	C09	C09-01	C	4	
Construction trade areas and materials	C09	C09-02	C	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-11	C	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-12	C	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-13	C	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-14	C	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-15	C	5	

Table 2

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 2
Sources of Bacteria and Viruses*

PWSID 220511.002

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-01	A	High	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-02	A	High	4	
Residential Areas	R01	R01-01	A	Low	4	6 acres
Septic systems (serves one single-family home)	R02	R02-01-21	A	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-01	A	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-02	A	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-03	A	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-04	A	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-05	A	Low	4	
Pharmacies (with on-site wastewater disposal)	C35	C25-01	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-03	B	High	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-04	B	High	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-05	B	High	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-06	B	High	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-07	B	High	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-08	B	High	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-09	B	High	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-10	B	High	4	

Table 2 (continued)

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 2
Sources of Bacteria and Viruses*

PWSID 220511.002

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-01	B	Low	4	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-02	B	Low	4	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-03	B	Low	4	
Meat processing	N05	N05	B	Medium	4	
Residential Areas	R01	R01-02	B	Low	4	24 acres
Septic systems (serves one single-family home)	R02	R02-22-35	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-06	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-07	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-08	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-09	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-10	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-11	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-13	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-14	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-21	D	High	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-24	D	High	5	

Table 3

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 2
Sources of Nitrates/Nitrites*

PWSID 220511.002

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-01	A	High	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-02	A	High	4	
Residential Areas	R01	R01-01	A	Low	4	6 acres
Septic systems (serves one single-family home)	R02	R02-01-21	A	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-01	A	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-02	A	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-03	A	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-04	A	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-05	A	Low	4	
Hardware stores	C17	C17-01	B	Low	4	
Hardware stores	C17	C17-02	B	Low	4	
Pharmacies (with on-site wastewater disposal)	C35	C25-01	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-03	B	High	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-04	B	High	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-05	B	High	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-06	B	High	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-07	B	High	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-08	B	High	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-09	B	High	4	

Table 3 (continued)

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 2
Sources of Nitrates/Nitrites*

PWSID 220511.002

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-10	B	High	4	
Meat processing	N05	N05	B	Low	4	
Residential Areas	R01	R01-02	B	Low	4	24 acres
Septic systems (serves one single-family home)	R02	R02-22-35	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-06	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-07	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-08	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-09	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-10	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-11	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-13	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-14	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-11	C	High	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-12	C	High	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-13	C	High	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-14	C	High	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-15	C	High	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-26	C	High	5	
Residential Areas	R01	R01-03	C	Low	4	21 acres
Highways and roads, paved (cement or asphalt)	X20	X20-15-22	C	Low	5	8 paved roads X20-15 through X20-22

Table 3 (continued)

Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 2
Sources of Nitrates/Nitrites

PWSID 220511.002

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-16	D	High	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-17	D	High	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-18	D	High	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-19	D	High	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-20	D	High	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-21	D	High	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-22	D	High	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-23	D	High	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-24	D	High	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-25	D	High	5	

Table 4

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 2
Sources of Volatile Organic Chemicals*

PWSID 220511.002

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-01	A	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-02	A	Low	4	
Residential Areas	R01	R01-01	A	Low	4	6 acres
Septic systems (serves one single-family home)	R02	R02-01-21	A	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-01	A	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-02	A	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-03	A	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-04	A	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-05	A	Low	4	
Hardware stores	C17	C17-01	B	Low	4	
Hardware stores	C17	C17-02	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-03	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-04	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-05	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-06	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-07	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-08	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-09	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-10	B	Low	4	

Table 4 (continued)

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 2
Sources of Volatile Organic Chemicals*

PWSID 220511.002

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-01	B	High	4	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-02	B	High	4	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-03	B	High	4	
Meat processing	N05	N05	B	Medium	4	
Residential Areas	R01	R01-02	B	Low	4	24 acres
Septic systems (serves one single-family home)	R02	R02-22-35	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-06	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-07	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-08	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-09	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-10	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-11	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-13	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-14	B	Low	4	
Rail corridors	X30	X30-01	B	Medium	4	
Construction trade areas and materials	C09	C09-01	C	Low	4	
Construction trade areas and materials	C09	C09-02	C	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-11	C	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-12	C	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-13	C	Low	5	

Table 4 (continued)

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 2
Sources of Volatile Organic Chemicals*

PWSID 220511.002

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-14	C	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-15	C	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-26	C	Low	5	
Residential Areas	R01	R01-03	C	Low	4	21 acres
Tanks, diesel (underground)	T08	T08-01	C	High	5	
Tanks, diesel (underground)	T08	T08-01	C	High	5	
Tanks, gasoline (underground)	T12	T12-0-1	C	High	5	
Highways and roads, paved (cement or asphalt)	X20	X20-15-22	C	Low	5	8 paved roads X20-15 through X20-22
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-16	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-17	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-18	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-19	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-20	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-21	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-22	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-23	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-24	D	Low	5	

Table 4 (continued)

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 2
Sources of Volatile Organic Chemicals*

PWSID 220511.002

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-25	D	Low	5	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-04	D	High	5	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-05	D	High	5	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-06	D	High	5	

Table 5

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 2
Sources of Heavy Metals, Cyanide and Other Inorganic Chemicals*

PWSID 220511.002

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-01	A	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-02	A	Low	4	
Residential Areas	R01	R01-01	A	Low	4	6 acres
Septic systems (serves one single-family home)	R02	R02-01-21	A	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-01	A	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-02	A	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-03	A	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-04	A	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-05	A	Low	4	
Hardware stores	C17	C17-01	B	Low	4	
Hardware stores	C17	C17-02	B	Low	4	
Pharmacies (with on-site wastewater disposal)	C35	C25-01	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-03	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-04	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-05	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-06	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-07	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-08	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-09	B	Low	4	

Table 5 (continued)

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 2
Sources of Heavy Metals, Cyanide and Other Inorganic Chemicals*

PWSID 220511.002

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-10	B	Low	4	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-01	B	High	4	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-02	B	High	4	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-03	B	High	4	
Residential Areas	R01	R01-02	B	Low	4	24 acres
Septic systems (serves one single-family home)	R02	R02-22-35	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-06	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-07	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-08	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-09	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-10	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-11	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-13	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-14	B	Low	4	
Rail corridors	X30	X30-01	B	Low	4	
Construction trade areas and materials	C09	C09-01	C	Low	4	
Construction trade areas and materials	C09	C09-02	C	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-11	C	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-12	C	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-13	C	Low	5	

Table 5 (continued)

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 2
Sources of Heavy Metals, Cyanide and Other Inorganic Chemicals*

PWSID 220511.002

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-14	C	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-15	C	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-26	C	Low	5	
Residential Areas	R01	R01-03	C	Low	4	21 acres
Tanks, diesel (underground)	T08	T08-01	C	Medium	5	
Tanks, gasoline (underground)	T12	T12-0-1	C	Medium	5	
Highways and roads, paved (cement or asphalt)	X20	X20-15-22	C	Low	5	8 paved roads X20-15 through X20-22
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-16	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-17	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-18	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-19	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-20	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-21	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-22	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-23	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-24	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-25	D	Low	5	

Table 5 (continued)

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 2
Sources of Heavy Metals, Cyanide and Other Inorganic Chemicals*

PWSID 220511.002

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-04	D	High	5	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-05	D	High	5	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-06	D	High	5	

Table 6

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 2
Sources of Synthetic Organic Chemicals*

PWSID 220511.002

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-01	A	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-02	A	Low	4	
Residential Areas	R01	R01-01	A	Low	4	6 acres
Septic systems (serves one single-family home)	R02	R02-01-21	A	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-03	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-04	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-05	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-06	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-07	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-08	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-09	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-10	B	Low	4	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-01	B	Low	4	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-02	B	Low	4	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-03	B	Low	4	
Residential Areas	R01	R01-02	B	Low	4	24 acres
Septic systems (serves one single-family home)	R02	R02-22-35	B	Low	4	

Table 6 (continued)

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 2
Sources of Synthetic Organic Chemicals*

PWSID 220511.002

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Rail corridors	X30	X30-01	B	Medium	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-11	C	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-12	C	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-13	C	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-14	C	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-15	C	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-26	C	Low	5	
Residential Areas	R01	R01-03	C	Low	4	21 acres
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-16	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-17	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-18	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-19	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-20	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-21	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-22	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-23	D	Low	5	

Table 6 (continued)

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 2
Sources of Synthetic Organic Chemicals*

PWSID 220511.002

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	D10-24	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-25	D	Low	5	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-04	D	Low	5	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-05	D	Low	5	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-06	D	Low	5	

Table 7

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 2
Sources of Other Organic Chemicals*

PWSID 220511.002

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-01	A	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-02	A	Low	4	
Residential Areas	R01	R01-01	A	Low	4	6 acres
Septic systems (serves one single-family home)	R02	R02-01-21	A	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-01	A	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-02	A	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-03	A	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-04	A	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-05	A	Low	4	
Hardware stores	C17	C17-01	B	Low	4	
Hardware stores	C17	C17-02	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-03	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-04	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-05	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-06	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-07	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-08	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-09	B	Low	4	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-10	B	Low	4	

Table 7 (continued)

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 2
Sources of Other Organic Chemicals*

PWSID 220511.002

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-01	B	Medium	4	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-02	B	Medium	4	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-03	B	Medium	4	
Meat processing	N05	N05	B	Low	4	
Residential Areas	R01	R01-02	B	Low	4	24 acres
Septic systems (serves one single-family home)	R02	R02-22-35	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-06	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-07	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-08	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-09	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-10	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-11	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-13	B	Low	4	
Highways and roads, paved (cement or asphalt)	X20	X20-14	B	Low	4	
Rail corridors	X30	X30-01	B	Low	4	
Construction trade areas and materials	C09	C09-01	C	Low	4	
Construction trade areas and materials	C09	C09-02	C	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-11	C	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-12	C	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-13	C	Low	5	

Table 7 (continued)

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 2
Sources of Other Organic Chemicals*

PWSID 220511.002

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Risk Ranking for Analysis</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-14	C	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-15	C	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-26	C	Low	5	
Residential Areas	R01	R01-03	C	Low	4	21 acres
Highways and roads, paved (cement or asphalt)	X20	X20-15-22	C	Low	5	8 paved roads X20-15 through X20-22
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-16	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-17	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-18	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-19	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-20	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-21	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-22	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-23	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-24	D	Low	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-25	D	Low	5	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-04	D	Medium	5	

Table 7 (continued)

*Contaminant Source Inventory and Risk Ranking for
Garden Terrace Subdivision Well No. 2
Sources of Other Organic Chemicals*

PWSID 220511.002

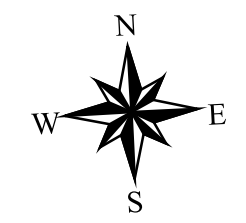
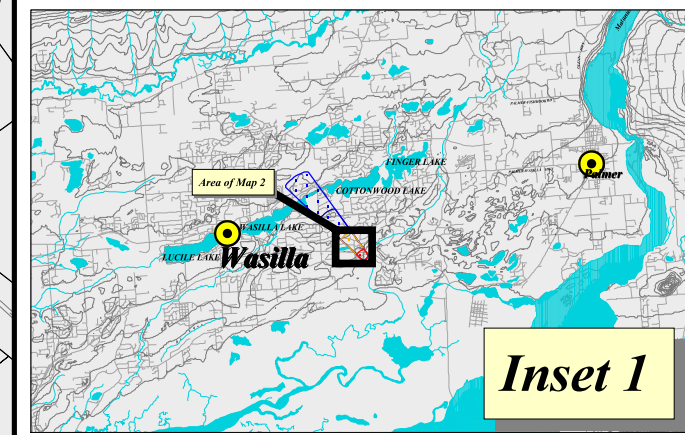
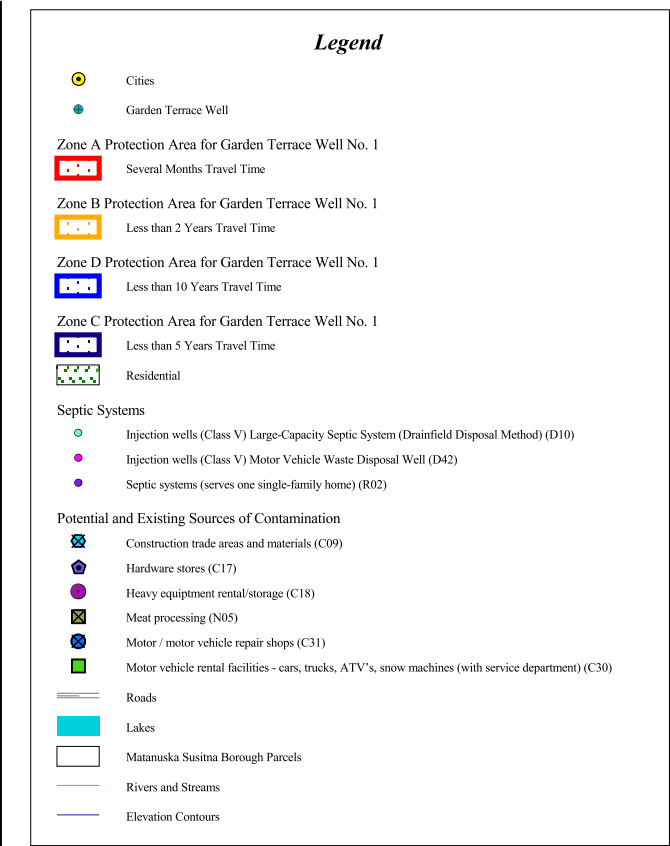
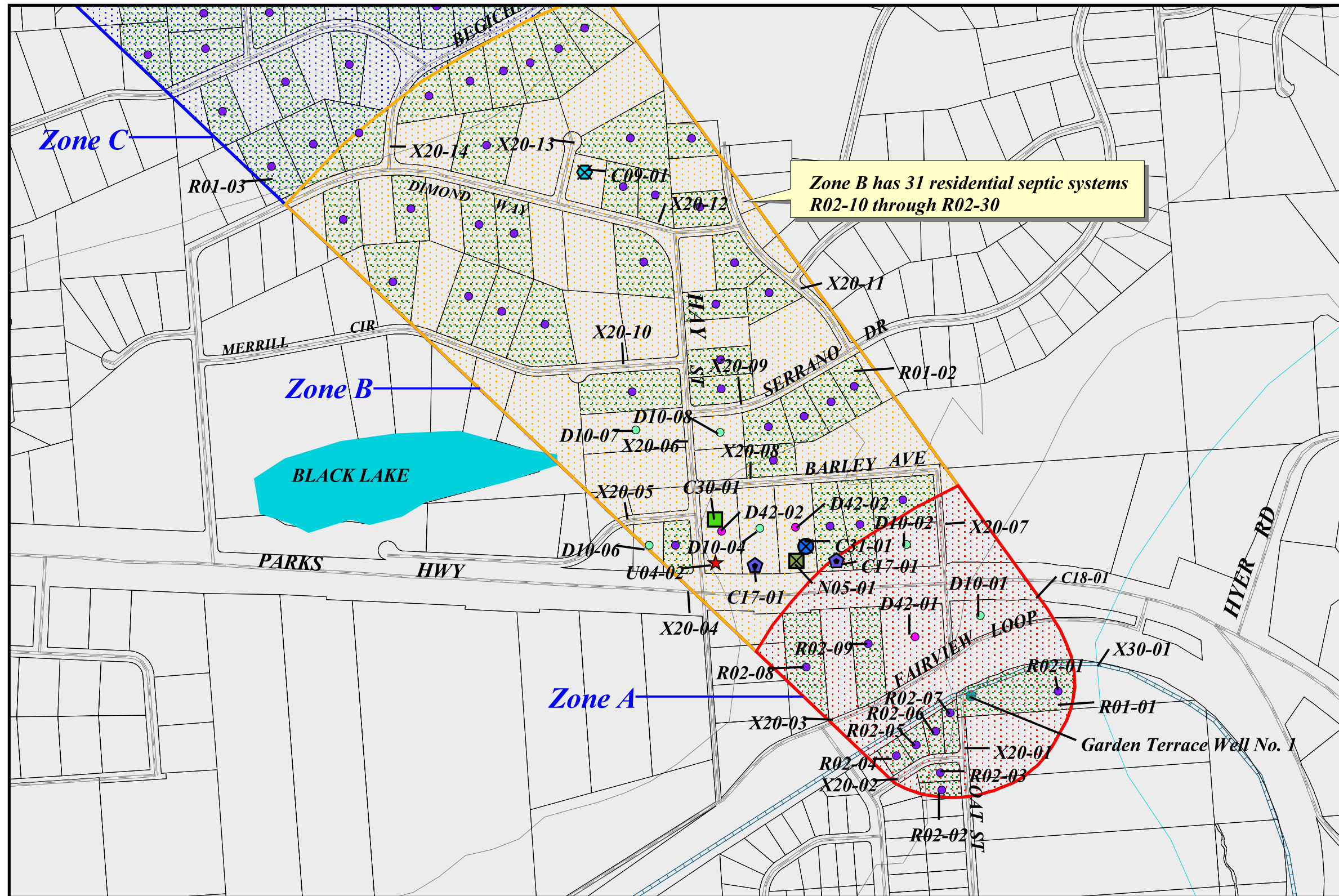
Contaminant Source Type	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Map Number	Comments
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-05	D	Medium	5	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-06	D	Medium	5	

<i>Contaminant Source Type</i>	<i>Contaminant Source ID</i>	<i>CS ID tag</i>	<i>Zone</i>	<i>Map Number</i>	<i>Comments</i>
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-26	C	5	
Residential Areas	R01	R01-03	C	4	21 acres
Tanks, diesel (underground)	T08	T08-01	C	5	
Tanks, gasoline (underground)	T12	T12-0-1	C	5	
Highways and roads, paved (cement or asphalt)	X20	X20-15-22	C	5	8 paved roads X20-15 through X20-22
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-16	D	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-17	D	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-18	D	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-19	D	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-20	D	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-21	D	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-22	D	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-23	D	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-24	D	5	
Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method)	D10	D10-25	D	5	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-04	D	5	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-05	D	5	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-06	D	5	

APPENDIX C

Garden Terrace Subdivision Drinking Water Protection Area and Potential and Existing Contaminant Sources (Maps 2-5)

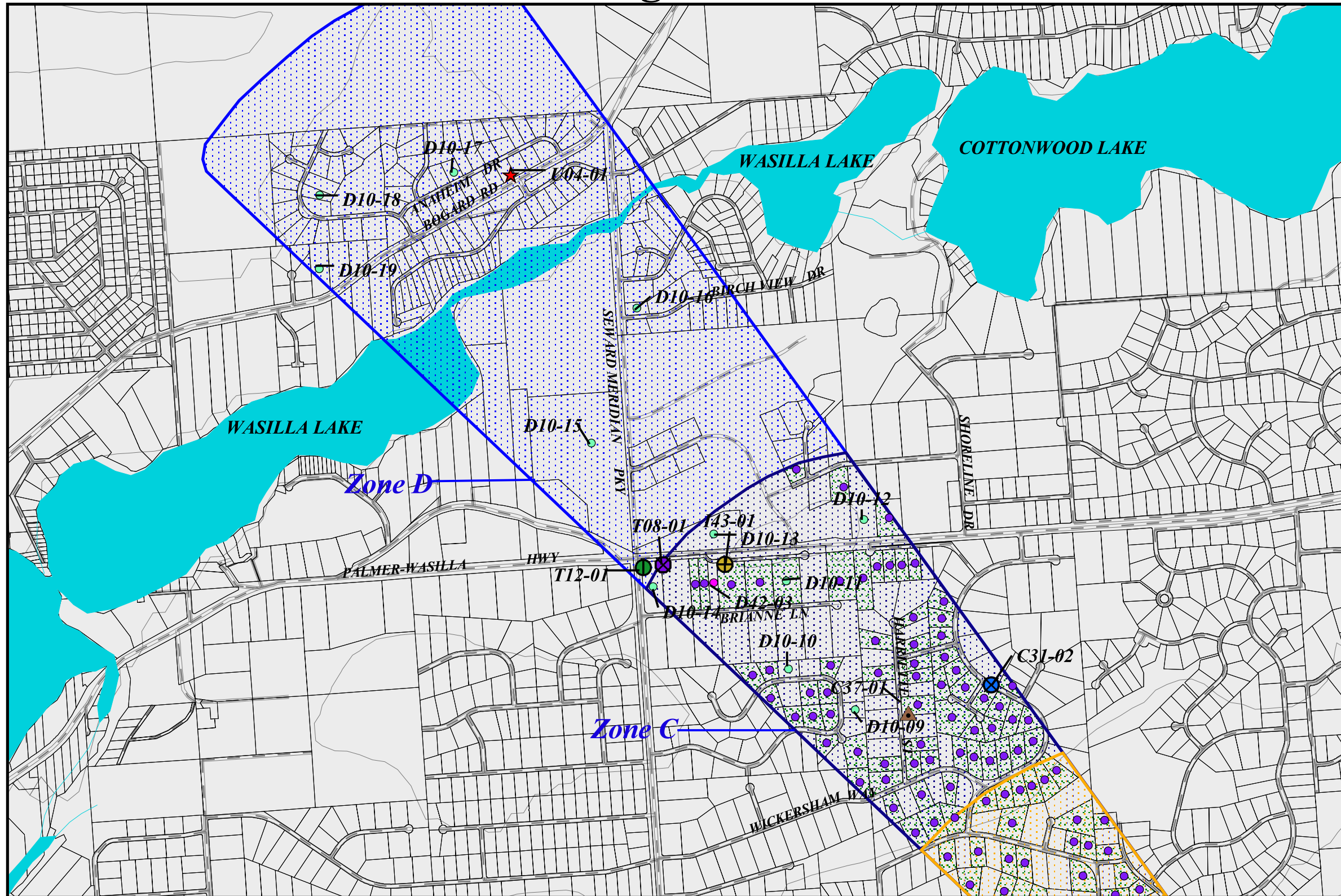
Drinking Water Protection Area for Garden Terrace Well No. 1 and Potential and Existing Sources of Contamination



PWSID 220511.001 (Well No. 1)

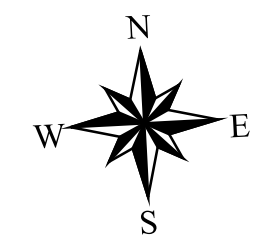
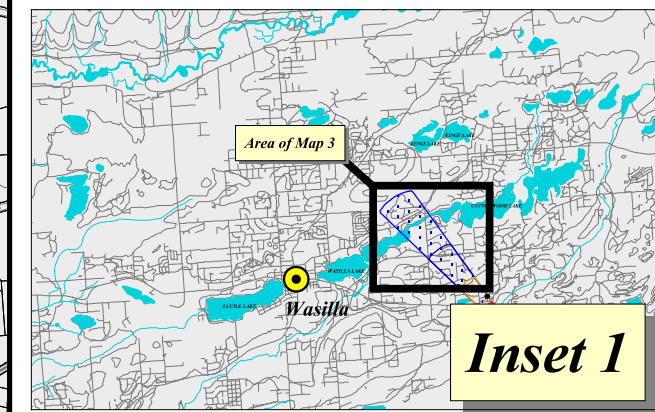
Map 2

Drinking Water Protection Area for Garden Terrace Well No. 1 and Potential and Existing Sources of Contamination



Legend

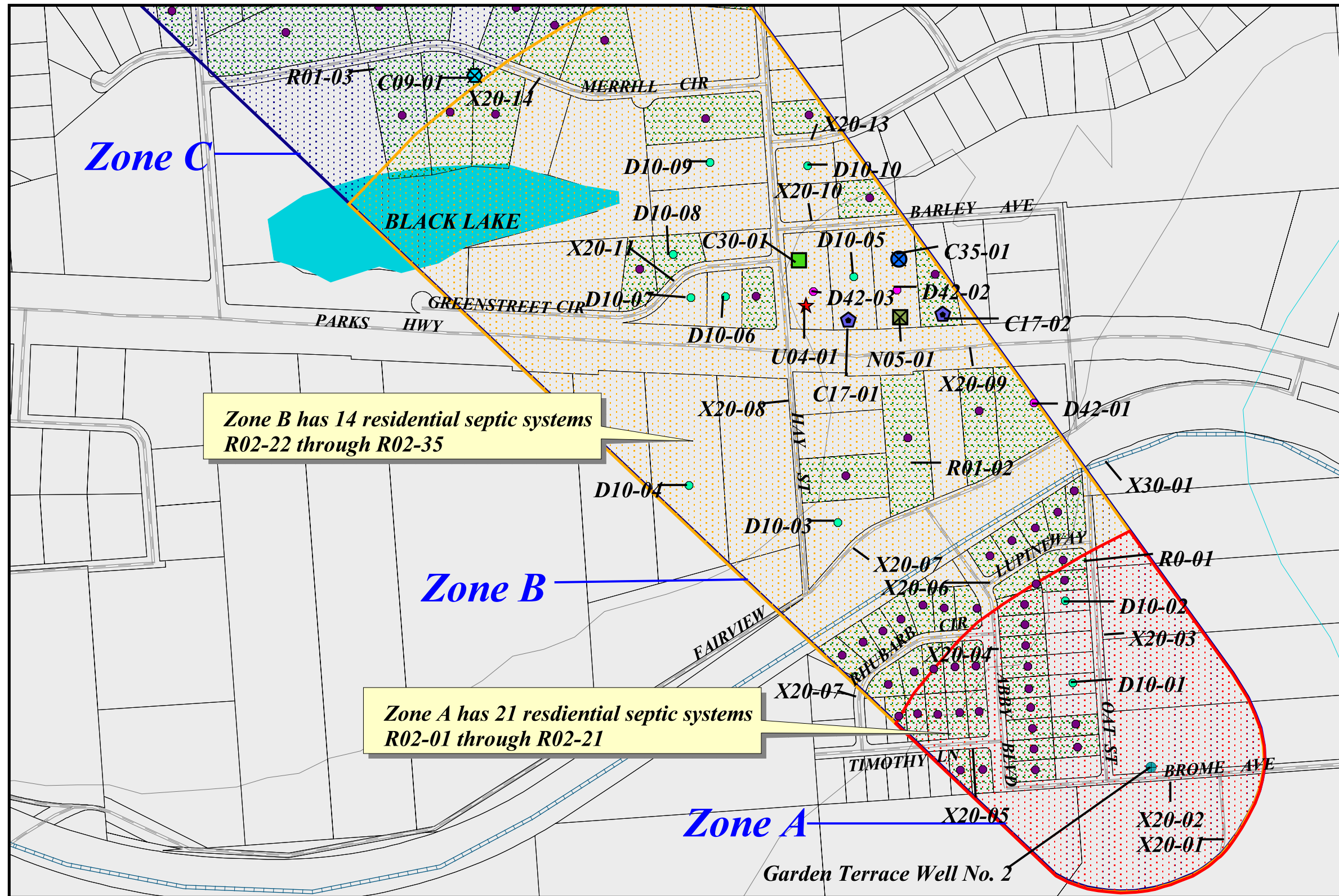
- Cities
- Garden Terrace Well
- Zone A Protection Area for Garden Terrace Well No. 1
Several Months Travel Time
- Zone B Protection Area for Garden Terrace Well No. 1
Less than 2 Years Travel Time
- Zone C Protection Area for Garden Terrace Well No. 1
Less than 5 Years Travel Time
- Zone D Protection Area for Garden Terrace Well No. 1
Less than 10 Years Travel Time
- Septic Systems
 - Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method) (D10)
 - Injection wells (Class V) Motor Vehicle Waste Disposal Well (D42)
 - Septic systems (serves one single-family home) (R02)
- Potential and Existing Sources of Contamination
 - Contaminated sites, DEC recognized, non-Superfund, non-RCRA
 - Heavy equipment rental/storage
 - Meat processing
 - Motor / motor vehicle repair shops
 - Printers, publishers, copiers
 - Stone and clay processing/manufacturing
 - Tanks, diesel (underground)
 - Tanks, gasoline (underground)
 - Rivers and Streams
 - Lakes
 - Matanuska Susitna Borough Parcels
 - Roads
 - Elevation Contours



PWSID 223983.001 (Well No. 1)

Map 3

Drinking Water Protection Area for Garden Terrace Well No. 2 and Potential and Existing Sources of Contamination

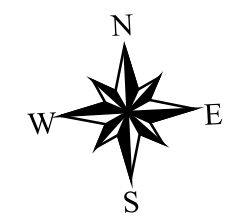
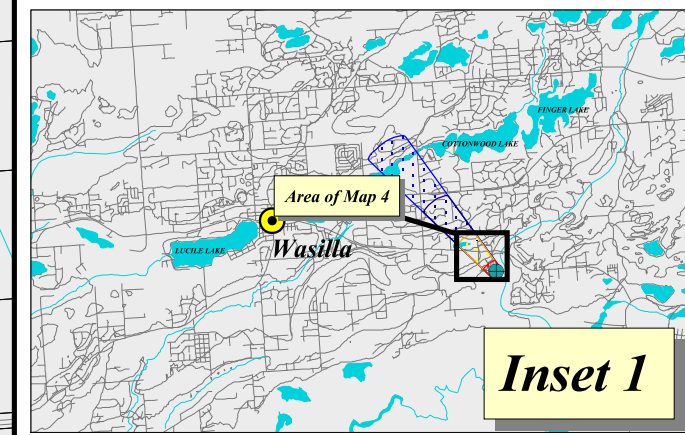


Zone B has 14 residential septic systems R02-22 through R02-35

Zone A has 21 residential septic systems R02-01 through R02-21

Legend

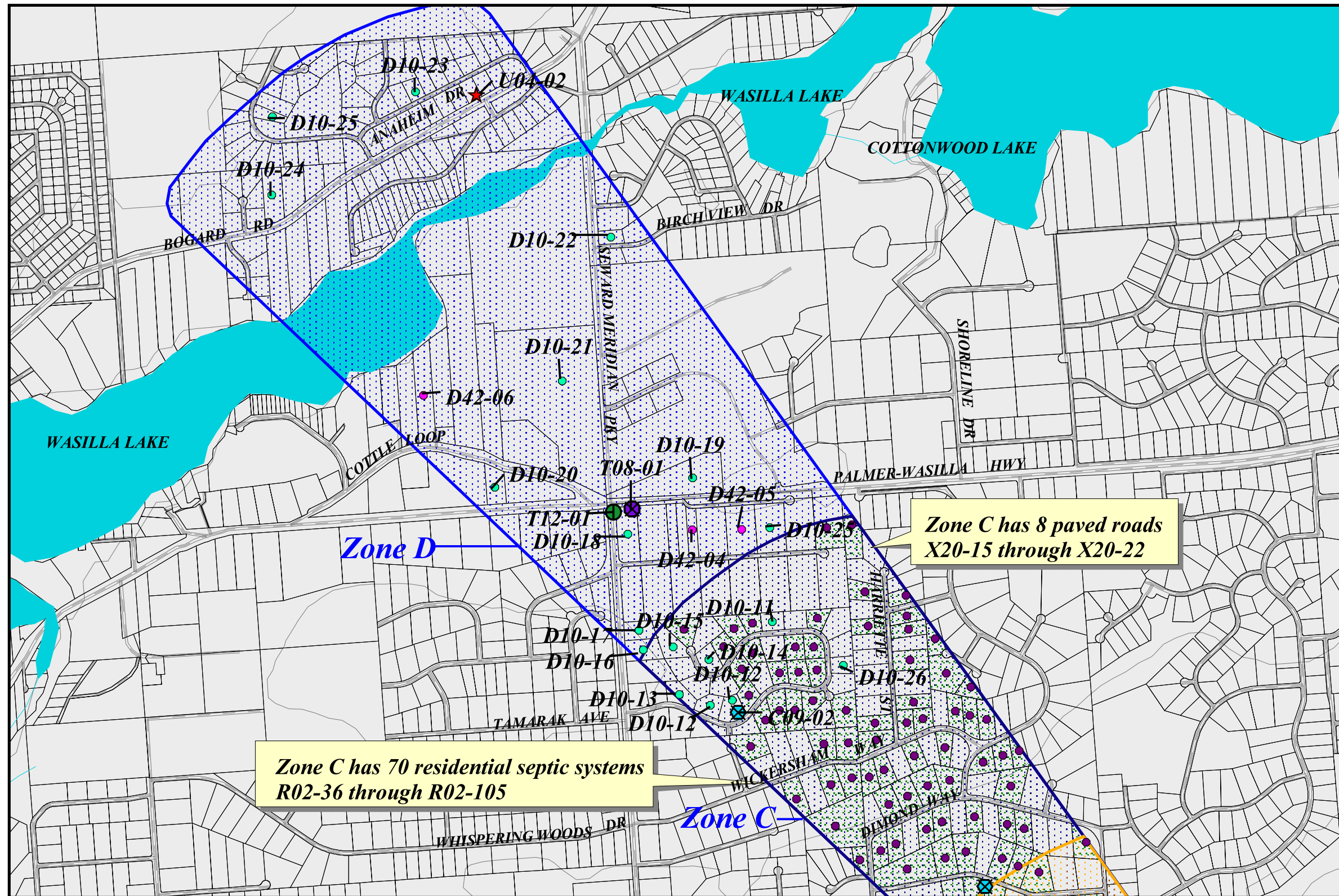
- Cities
- Garden Terrace Well No. 2
- Zone A Protection Area for Garden Terrace Well No. 2
 - Several Months Travel Time
 - Less than 2 Years Travel Time
- Zone B Protection Area for Garden Terrace Well No. 2
 - Less than 5 Years Travel Time
 - Less than 10 Years Travel Time
- Zone C Protection Area for Garden Terrace Well No. 2
 - Less than 10 Years Travel Time
- Zone D Protection Area for Garden Terrace Well No. 2
 - Less than 10 Years Travel Time
- Residential (R02)
- Septics
 - Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method) (D10)
 - Injection wells (Class V) Motor Vehicle Waste Disposal Well (D42)
 - Septic systems (serves one single-family home) (R02)
- Potential and Existing Sources of Contamination
 - Construction trade areas and materials
 - Contaminated sites, DEC recognized, non-Superfund, non-RCRA
 - Hardware stores
 - Meat processing
 - Motor / motor vehicle repair shops
 - Motor vehicle rental facilities - cars, trucks, ATV's, snow machines (with service department)
 - Rivers and Streams
 - Lakes
 - Roads
 - Railroad
 - Matanuska Susitna Borough Parcels
 - Elevation Contours



PWSID 220511.002 (Well No. 2)

Map 4

Drinking Water Protection Area for Garden Terraces Well No. 2 and Potential and Existing Sources of Contamination

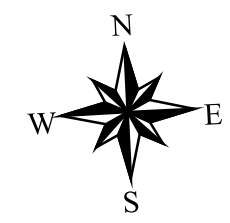
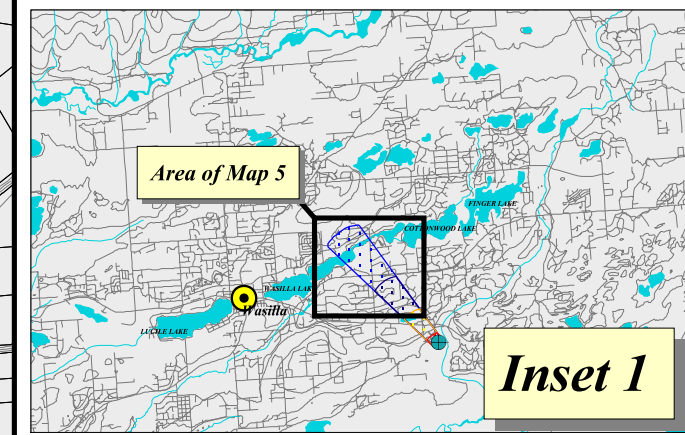


Legend

- Garden Terrace Well No. 2
 - Garden Terrace Well No. 2
- Zone A Protection Area for Garden Terrace Well No. 2
 - Several Months Travel Time
- Zone B Protection Area for Garden Terrace Well No. 2
 - Less than 2 Years Travel Time
- Zone C Protection Area for Garden Terrace Well No. 2
 - Less than 5 Years Travel Time
- Zone D Protection Area for Garden Terrace Well No. 2
 - Less than 10 Years Travel Time
- Residential (R02)
 - Residential (R02)
- Septics
 - Injection wells (Class V) Large-Capacity Septic System (Drainfield Disposal Method) (D10)
 - Injection wells (Class V) Motor Vehicle Waste Disposal Well (D42)
 - Septic systems (serves one single-family home) (R02)
- Potential and Existing Sources of Contamination
 - Construction trade areas and materials
 - Contaminated sites, DEC recognized, non-Superfund, non-RCRA
 - Tanks, diesel (underground)
 - Tanks, gasoline (underground)
 - Lakes
 - Rivers and Streams
 - Matanuska Susitna Borough Parcels
 - Roads
 - Elevation Contours

Zone C has 8 paved roads
X20-15 through X20-22

Zone C has 70 residential septic systems
R02-36 through R02-105



PWSID 220511.002

Map 5

APPENDIX D

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

Chart 1. Susceptibility of the wellhead - Garden Terrace Well No. 1

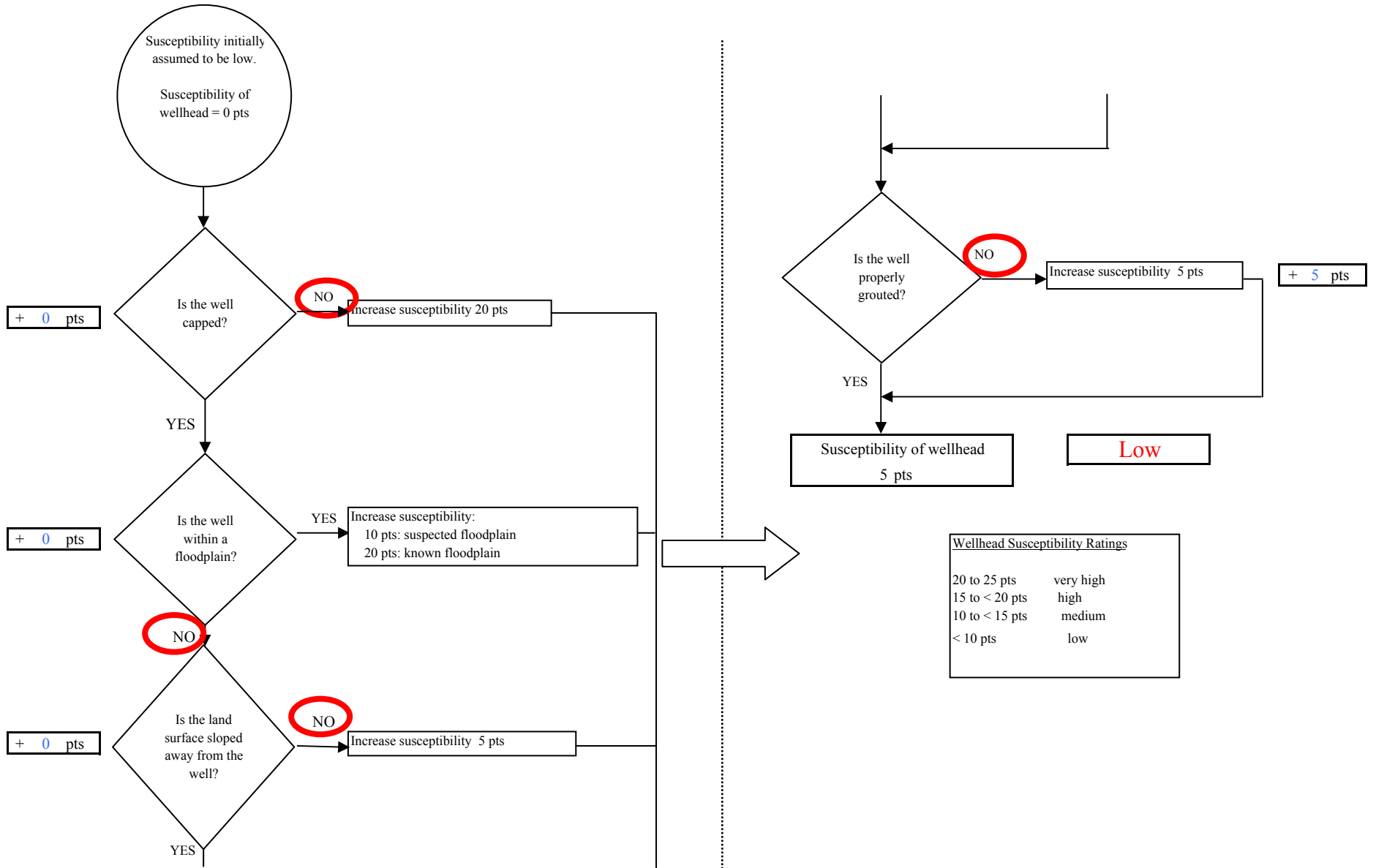


Chart 2. Susceptibility of the aquifer - Garden Terrace Well No. 1

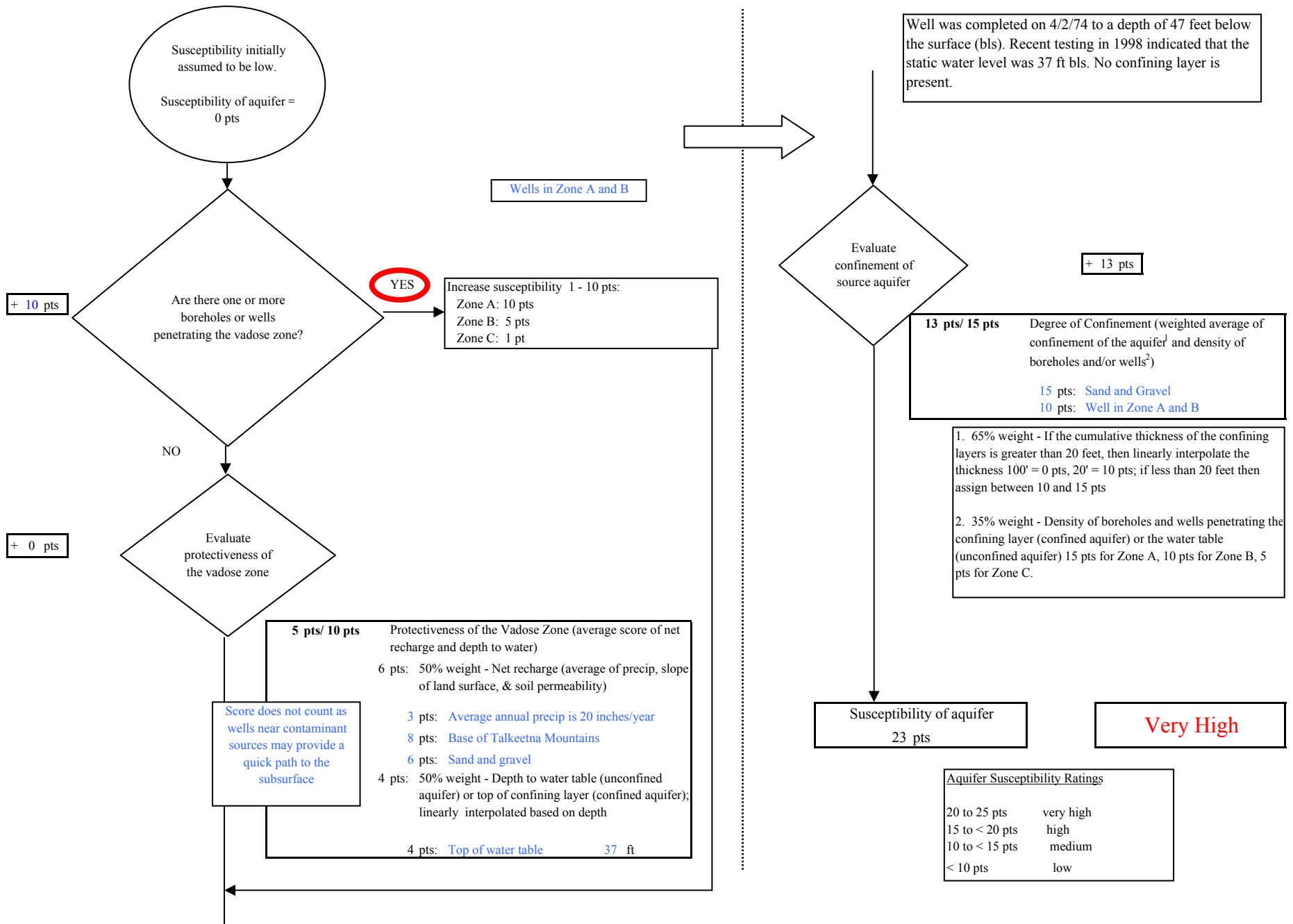
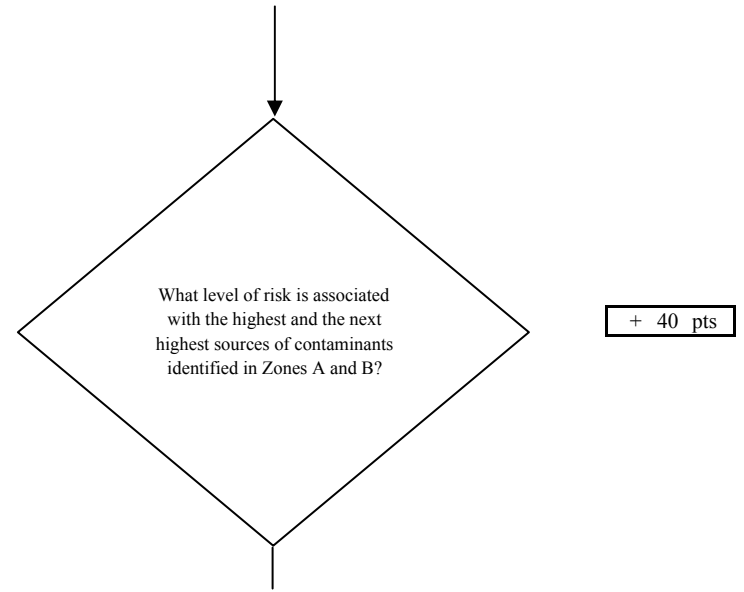
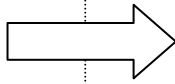
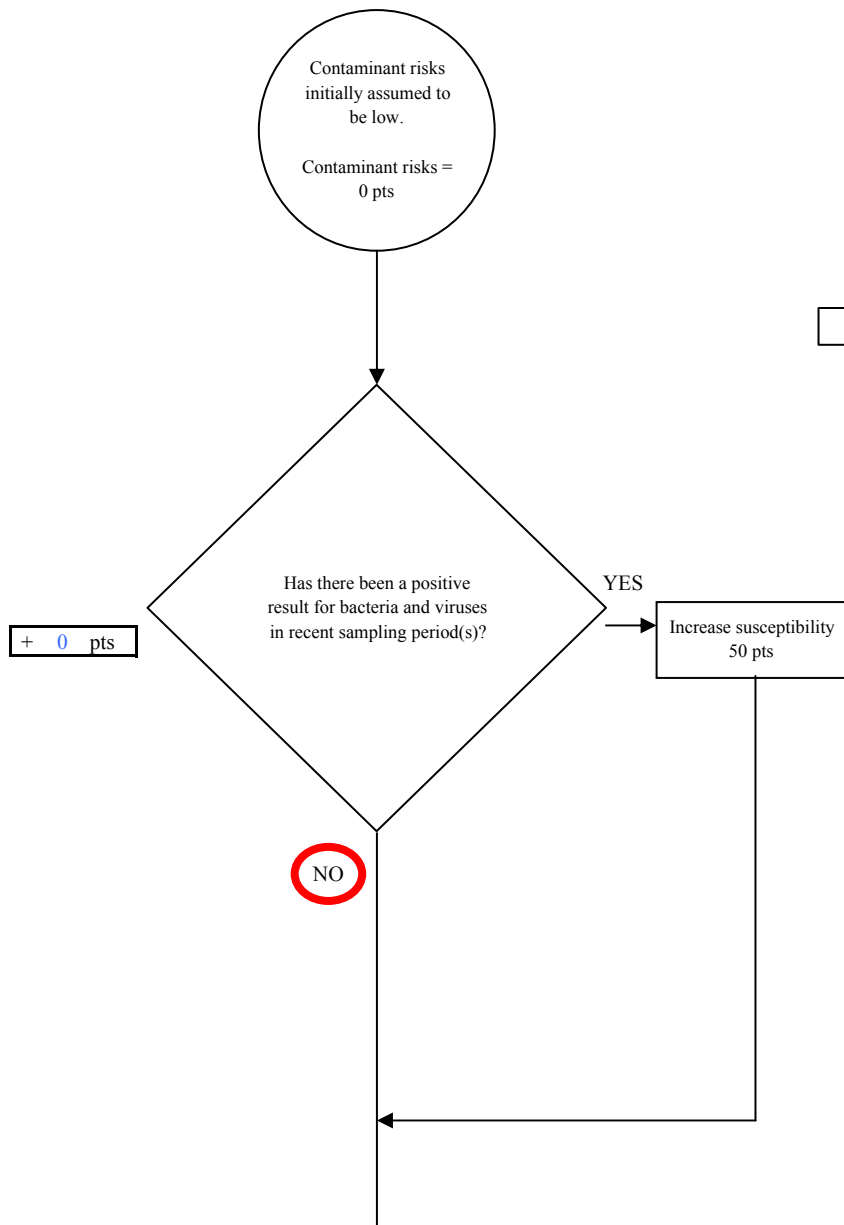


Chart 3. Contaminant risks for Garden Terrace Well No. 1 - Bacteria & Viruses



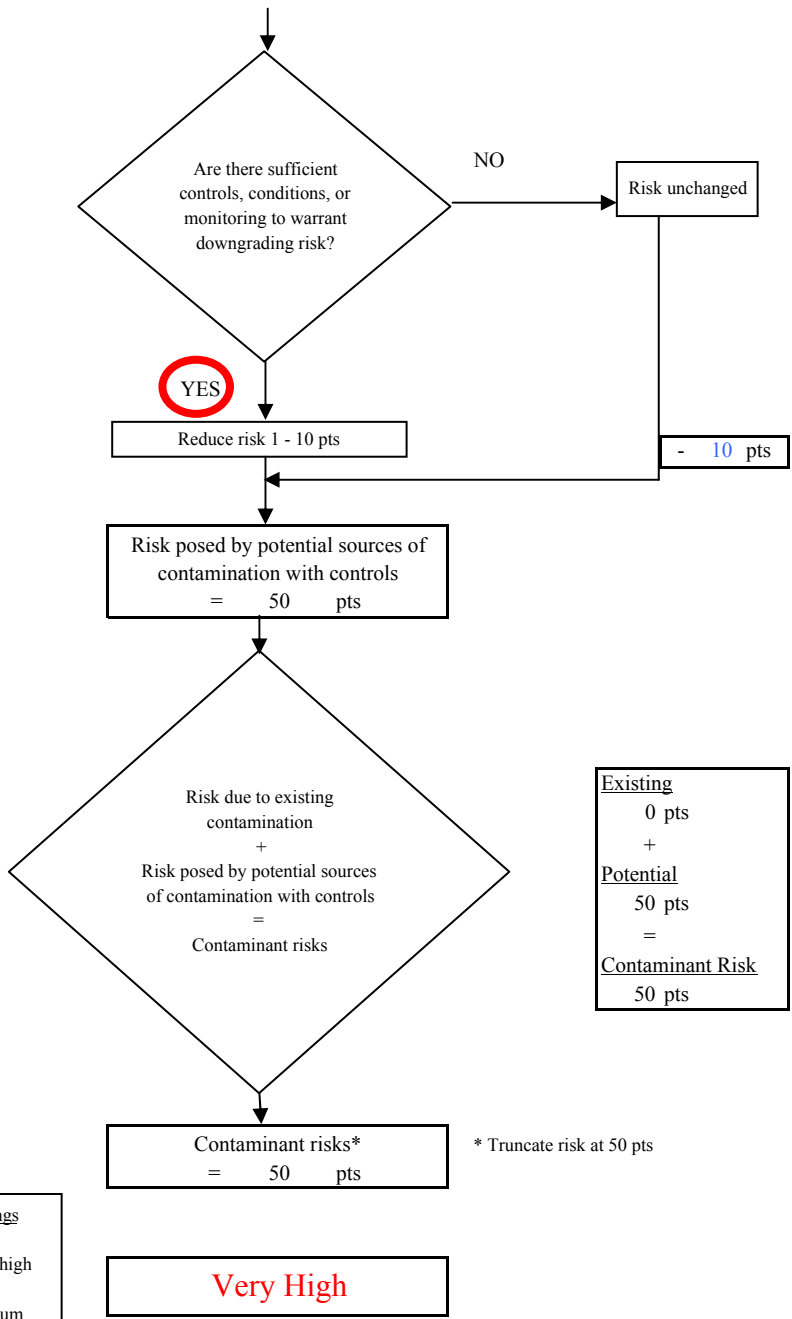
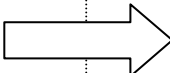
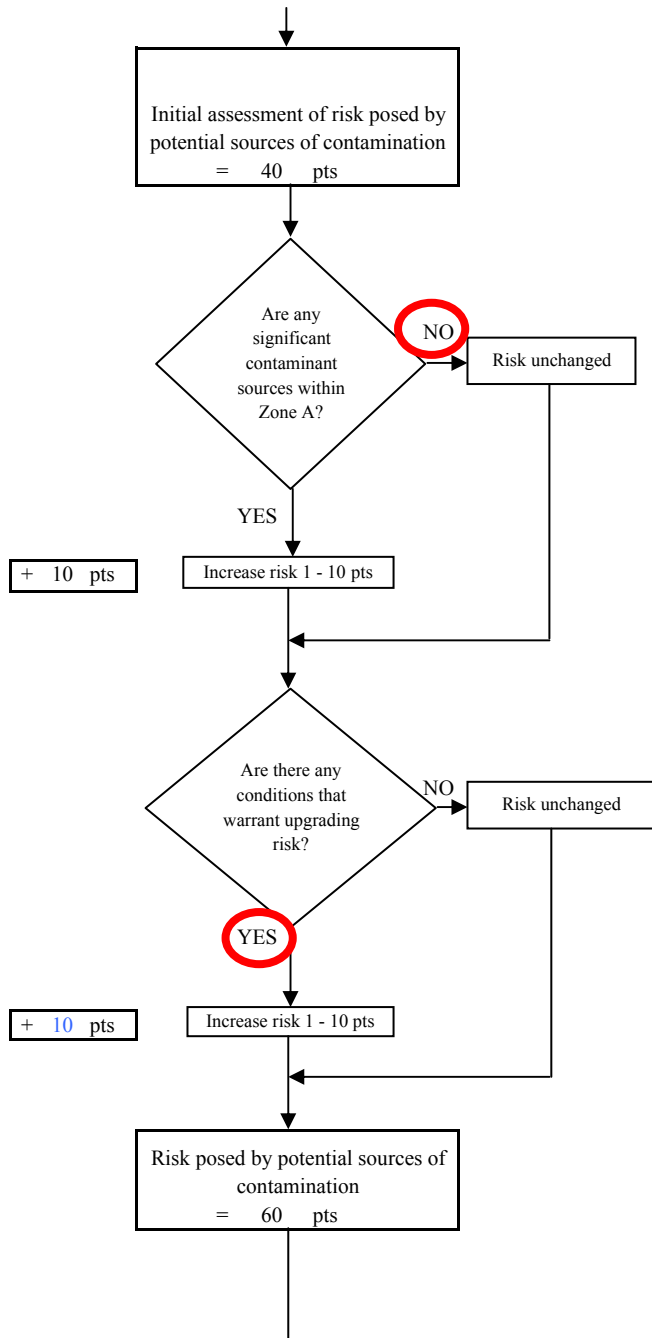
Risk Rankings for Contaminant Sources Identified in Zones A and B			
	Zone A	Zone B	Total
Very High(s)	0	0	0
High(s)	2	5	7
Medium(s)	0	0	0
Low(s)	12	8	20

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

Matrix Score 40

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

Chart 3. Contaminant risks for Garden Terrace Well No. 1 - Bacteria & Viruses



Existing
0 pts
+
Potential
50 pts
=
Contaminant Risk
50 pts

Contaminant Risk Ratings	
40 to 50 pts	very high
30 to < 40 pts	high
20 to < 30 pts	medium
< 20 pts	low

* Truncate risk at 50 pts

Chart 4. Vulnerability analysis for Garden Terrace Well No. 1 - Bacteria & Viruses

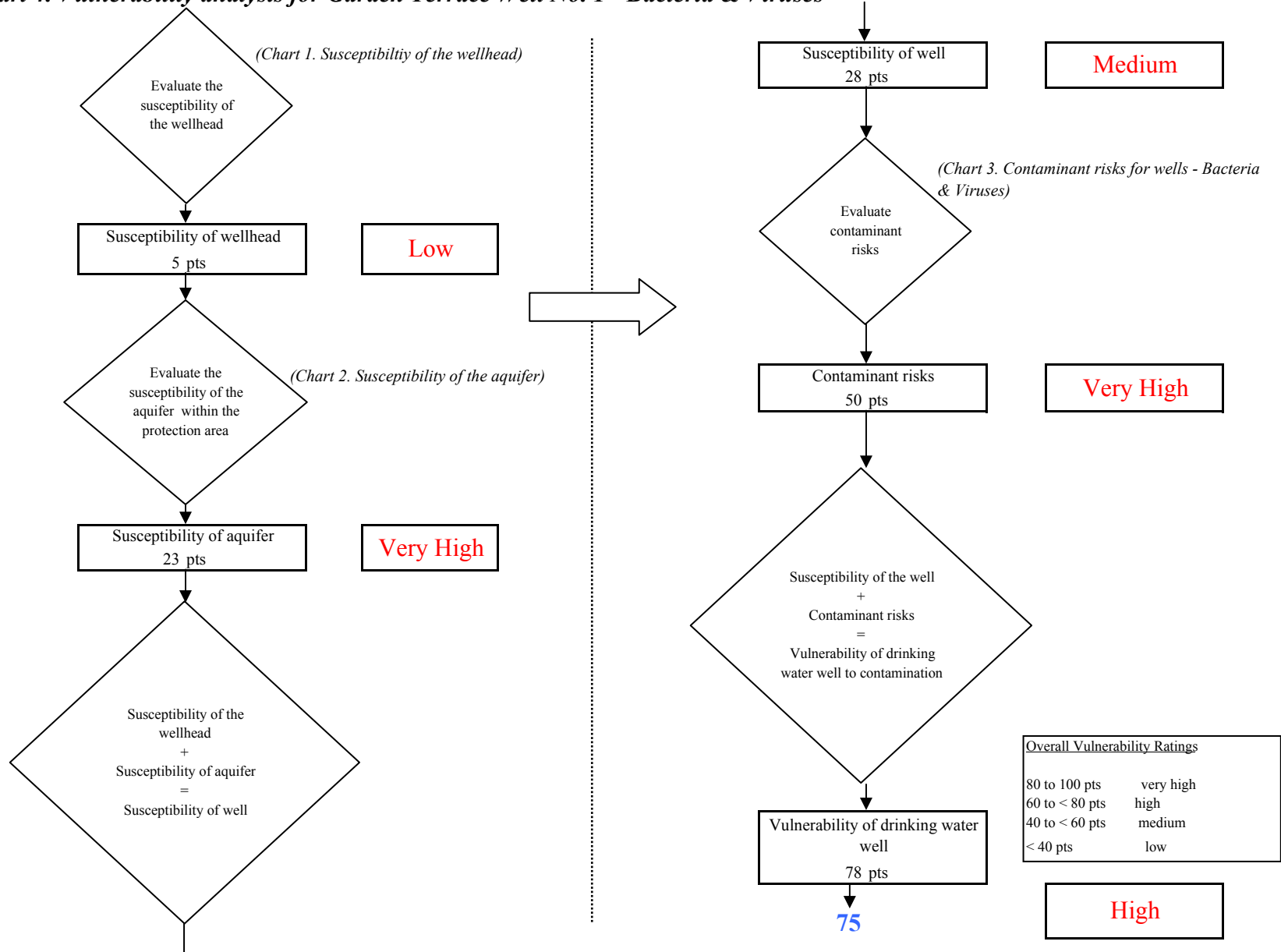


Chart 5. Contaminant risks for Garden Terrace Well No. 1 - Nitrates and Nitrites

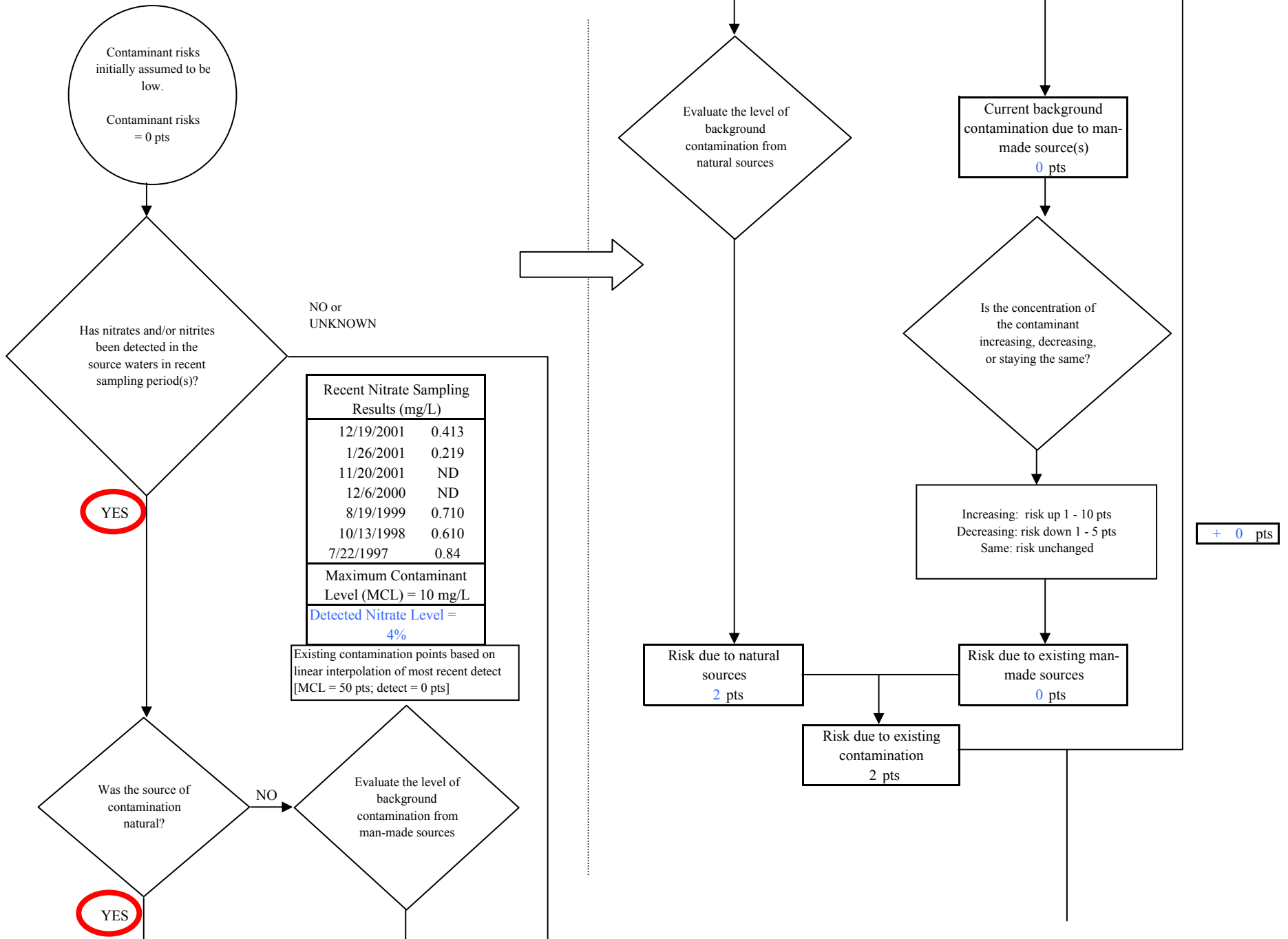
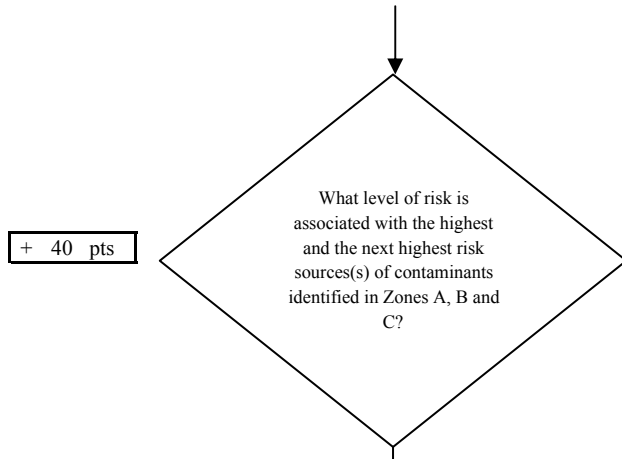


Chart 5. Contaminant risks for Garden Terrace Well No. 1 - Nitrates and Nitrites



+ 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)	2	12	14
Medium(s)	0	0	0
Low(s)	11	9	20

	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.

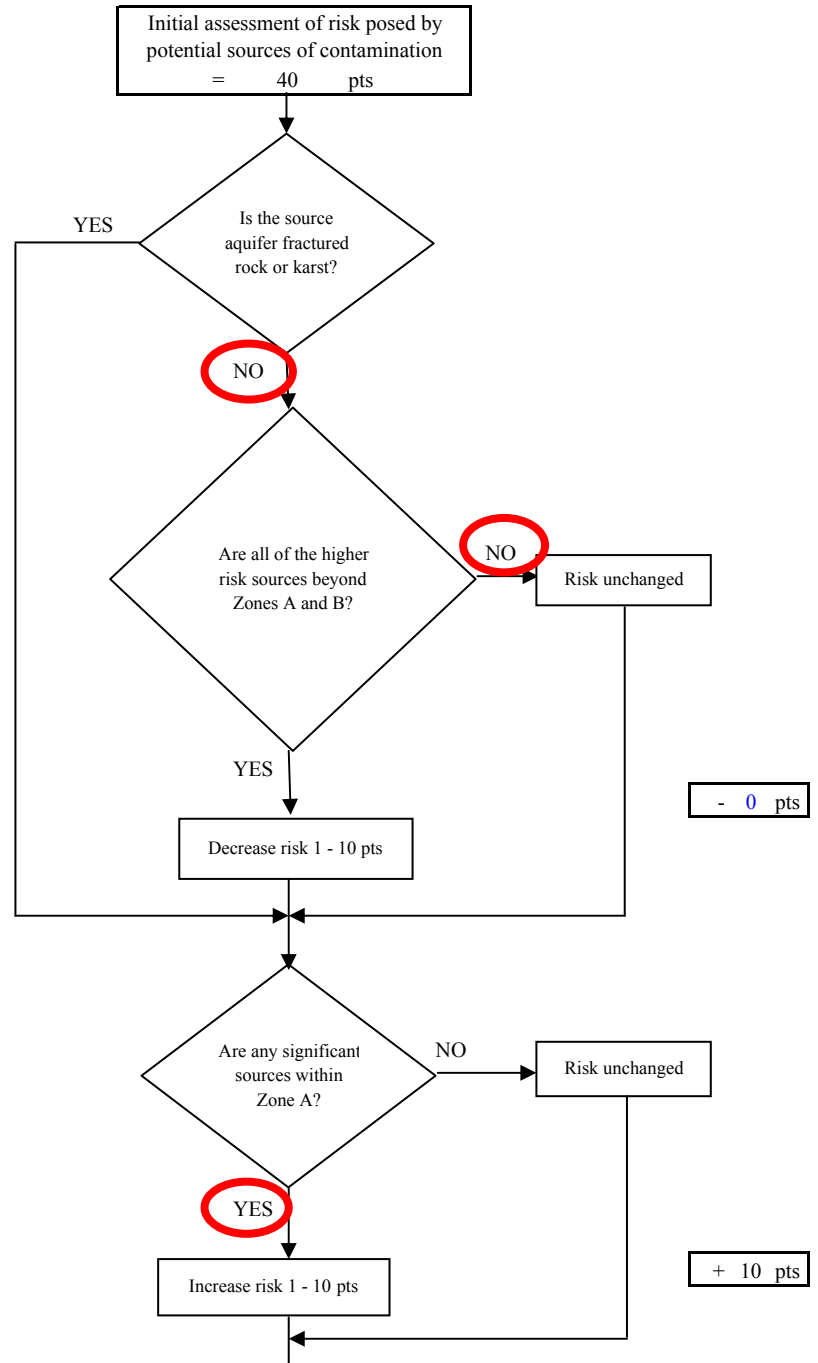
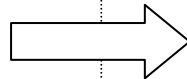


Chart 6. Vulnerability analysis for Garden Terrace Well No. 1 - Nitrates and Nitrites

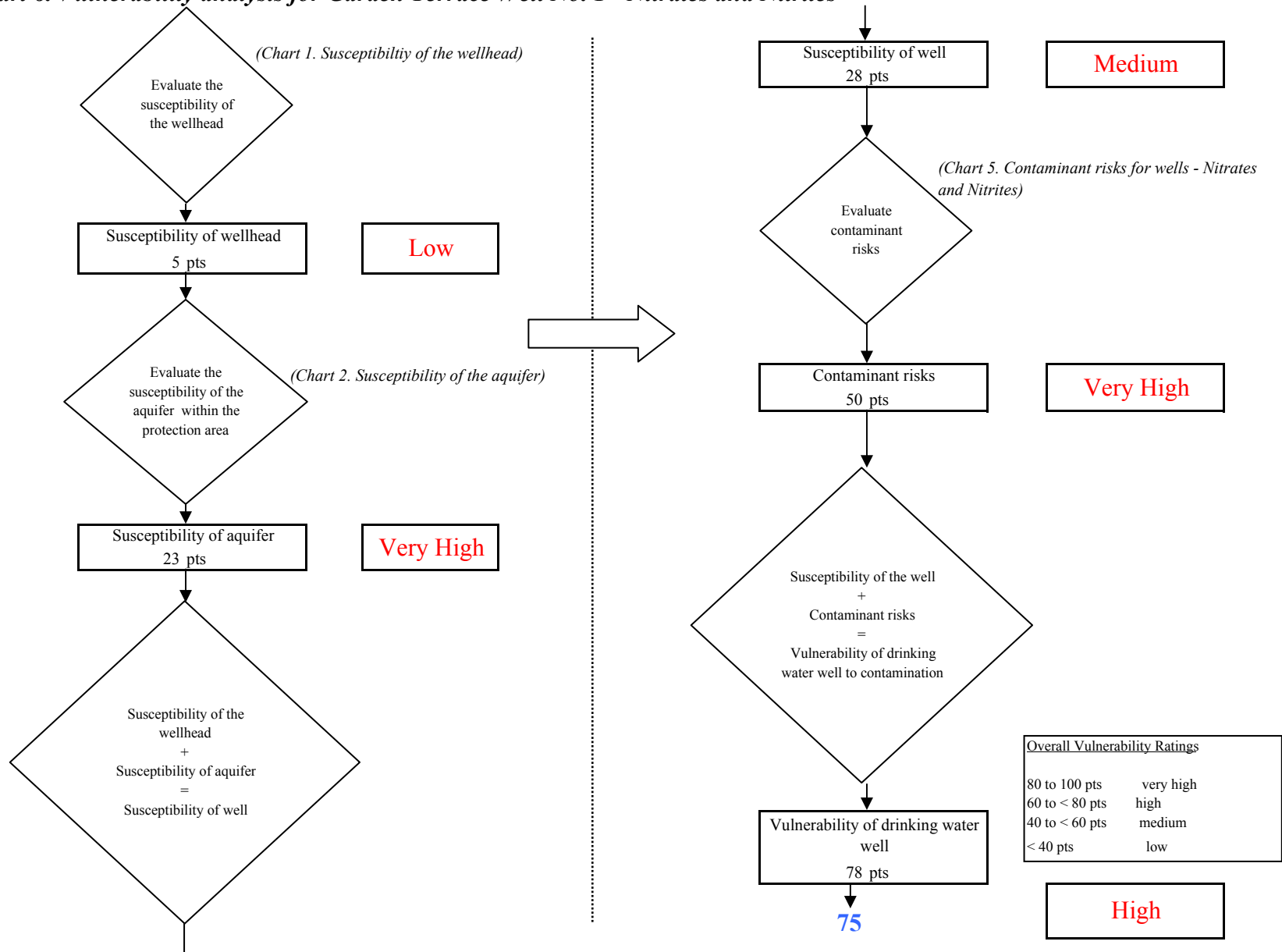


Chart 7. Contaminant risks for Garden Terrace Well No. 1 - Volatile Organic Chemicals

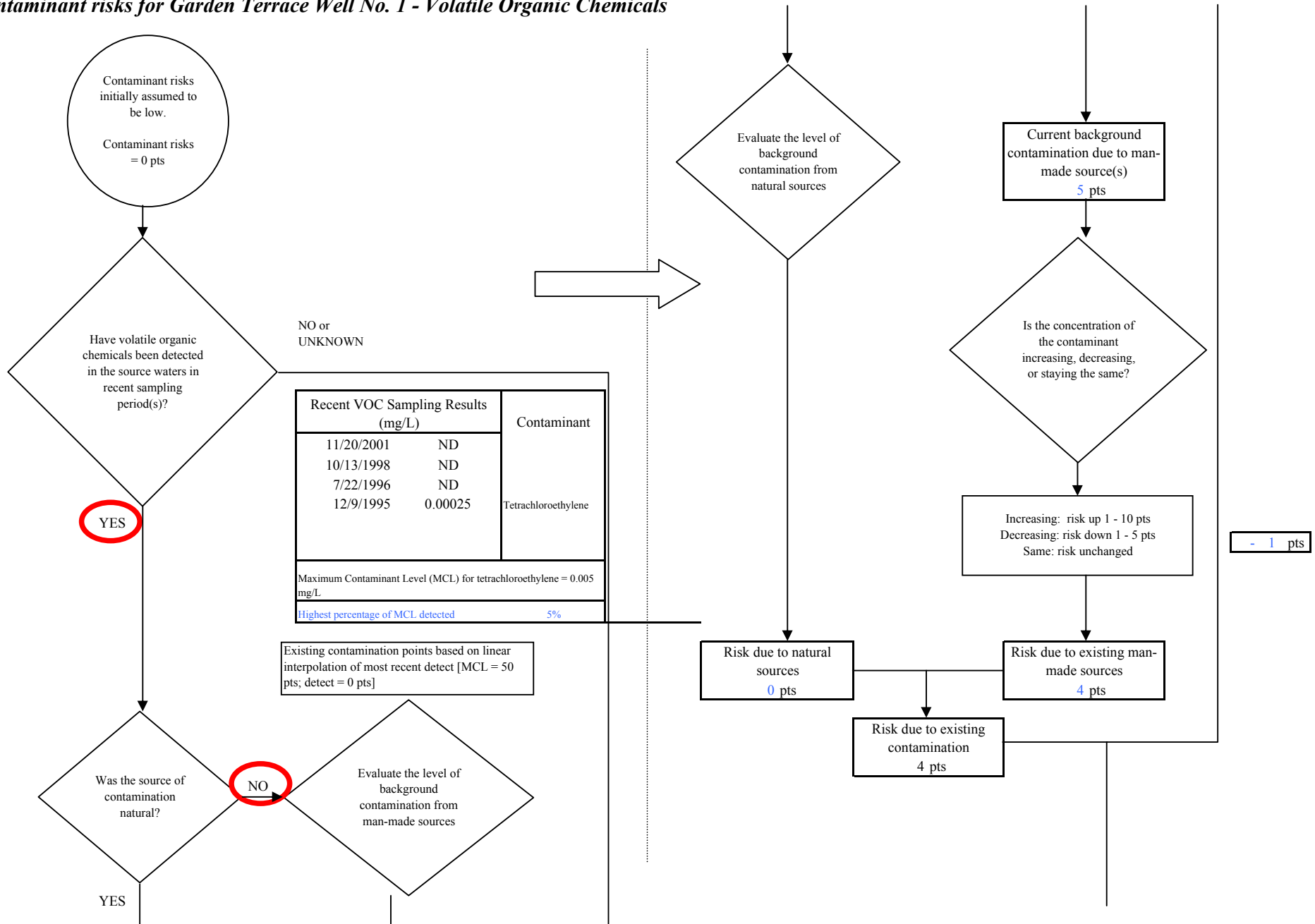
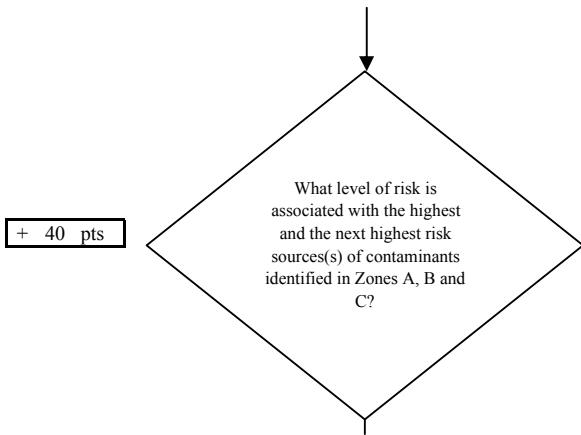


Chart 7. Contaminant risks for Garden Terrace Well No. 1 - Volatile Organic Chemicals



Risk Levels for Contaminant Sources identified in Zones A, B and C			
	Zone A	Zones B&C	Total
Very High(s)	0	0	0
High(s)	1	5	6
Medium(s)	1	3	4
Low(s)	5	18	23

	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.

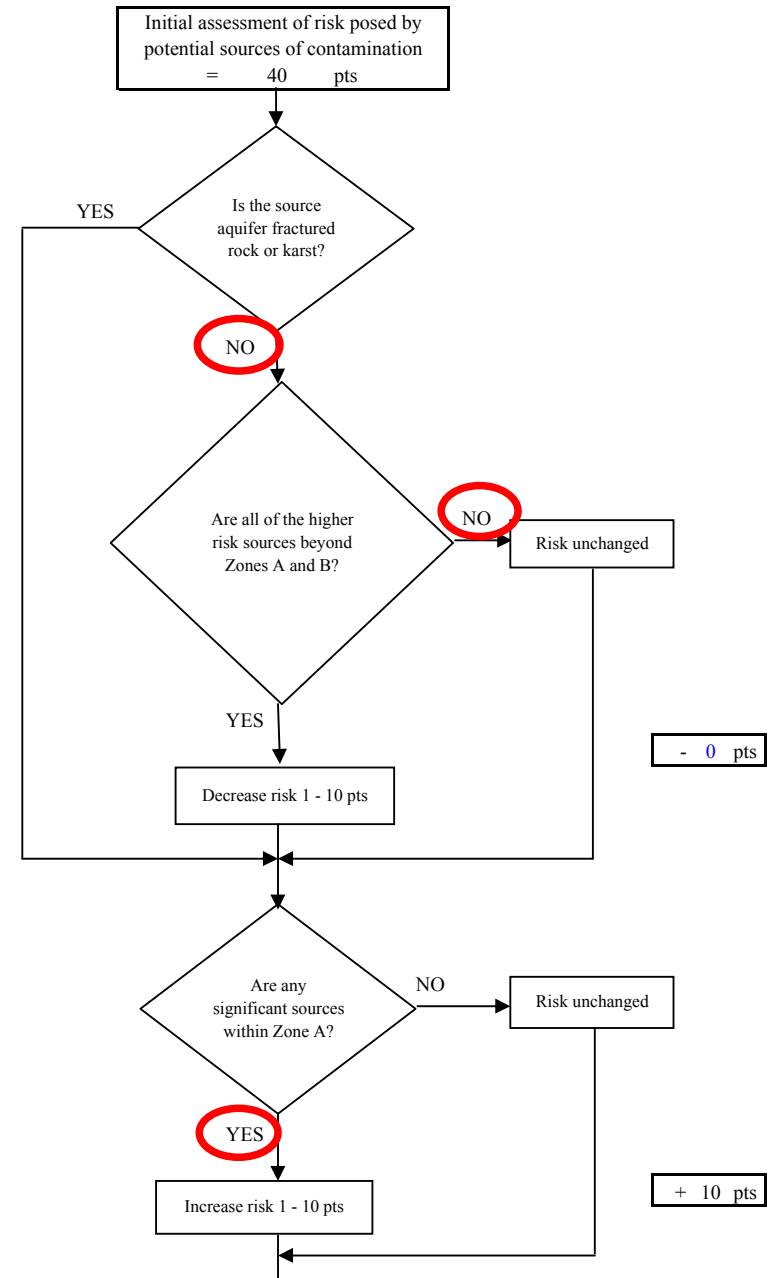
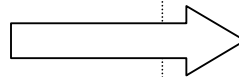


Chart 7. Contaminant risks for Garden Terrace Well No. 1 - Volatile Organic Chemicals

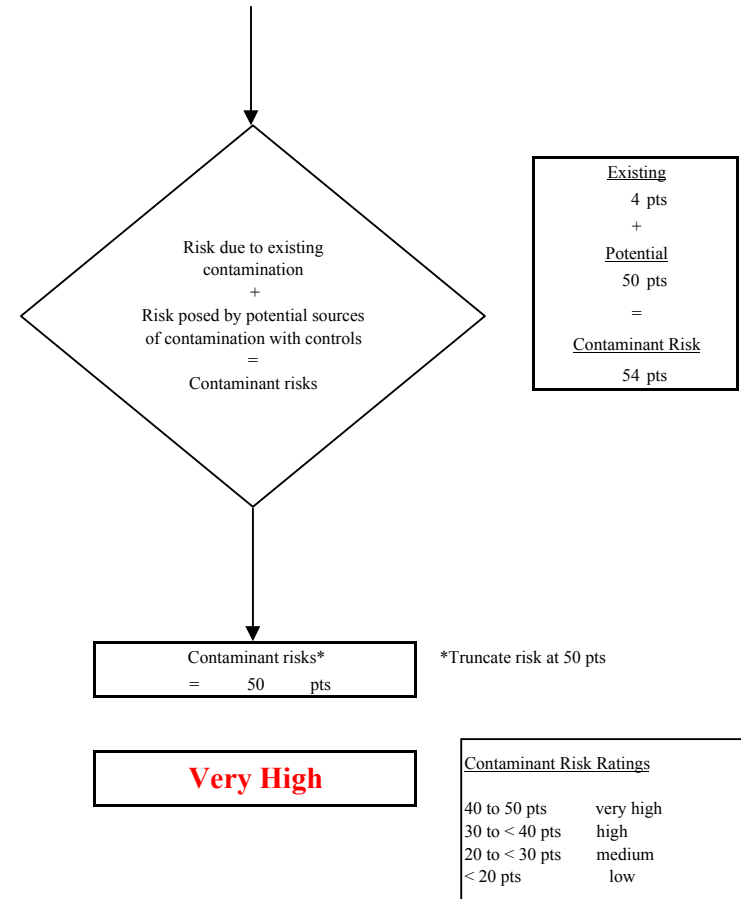
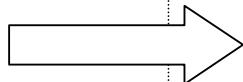
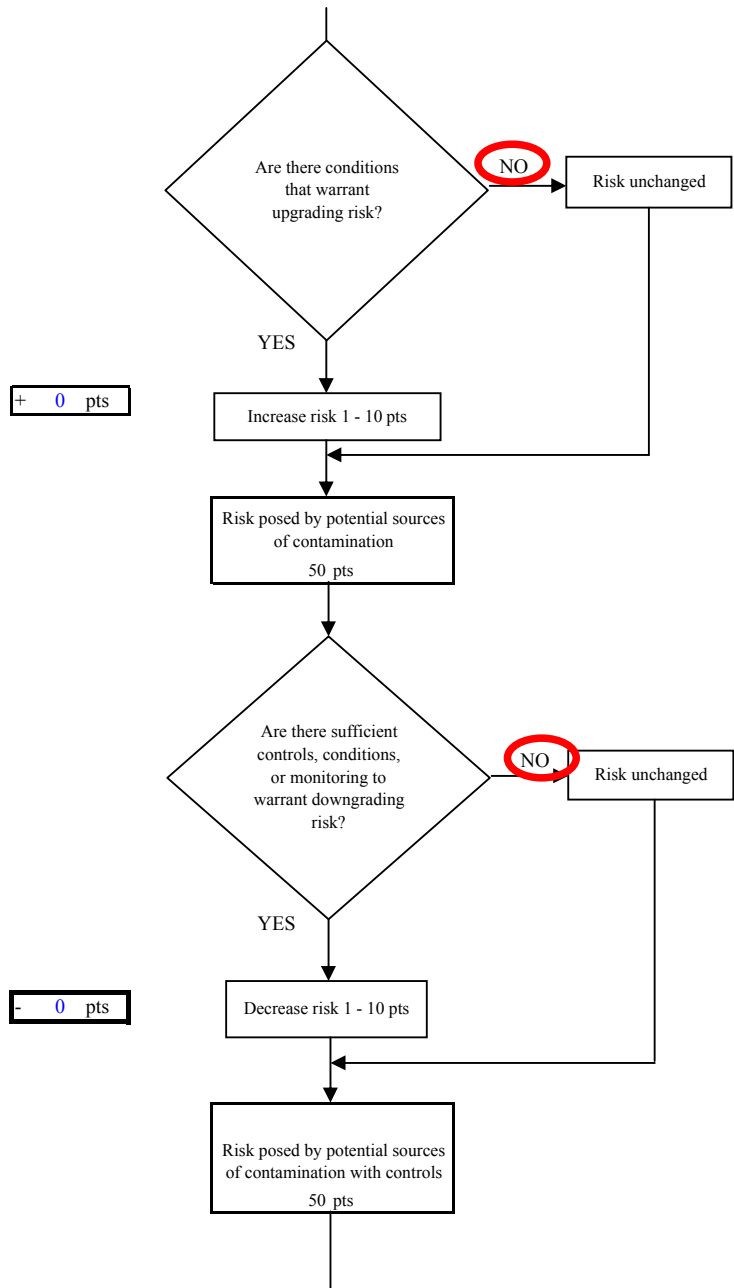


Chart 8. Vulnerability analysis for Garden Terrace Well No. 1 - Volatile Organic Chemicals

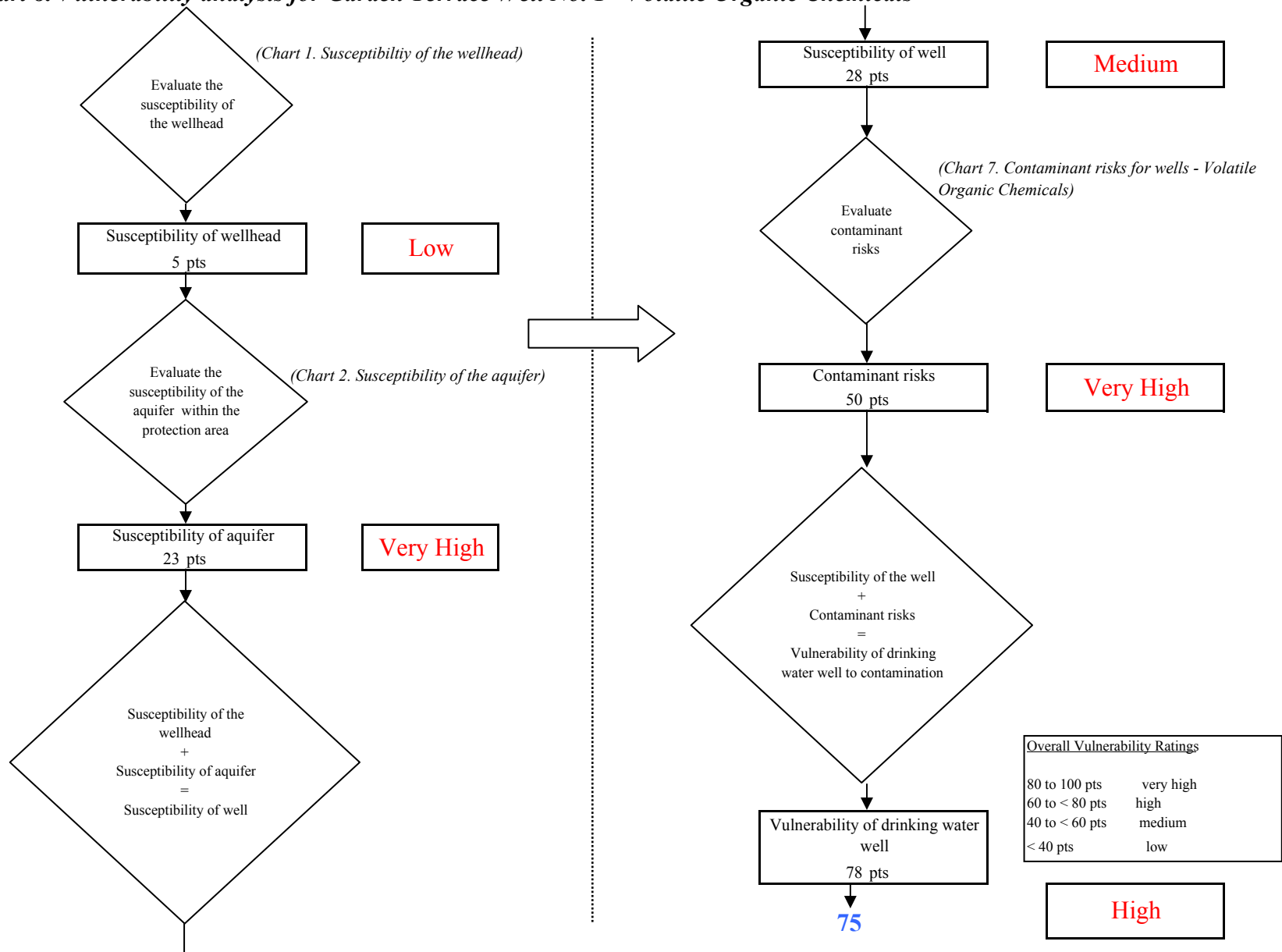


Chart 9. Contaminant risks for Garden Terrace Well No. 1 - Heavy Metals, Cyanide and Other Inorganic Chemicals

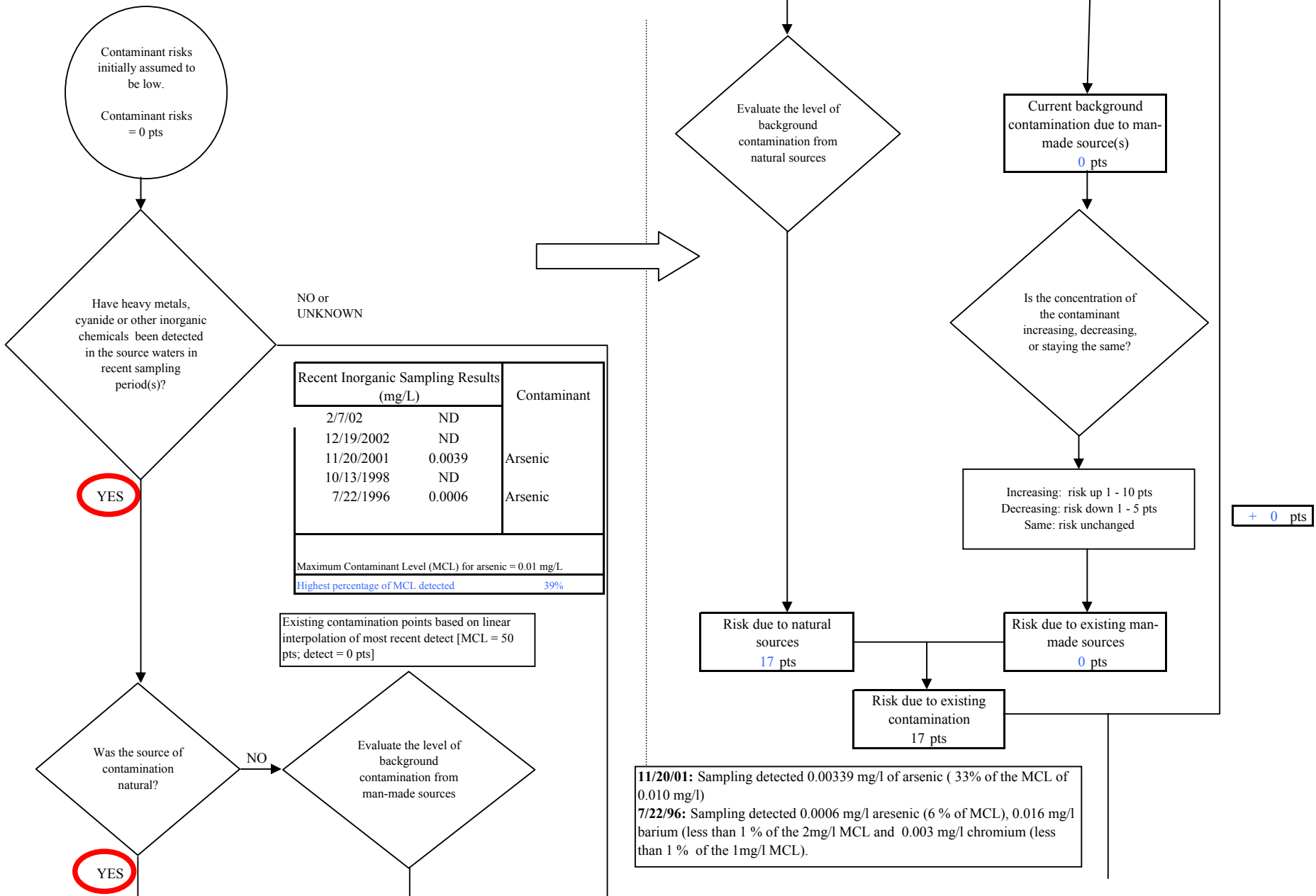
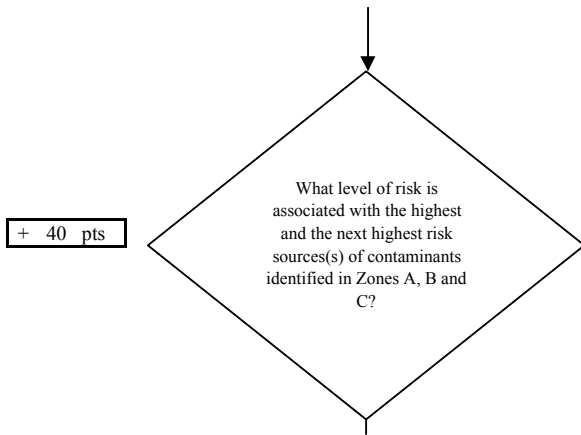


Chart 9. Contaminant risks for Garden Terrace Well No. 1 - Heavy Metals, Cyanide and Other Inorganic Chemicals



+ 40 pts

Risk Levels for Contaminant Sources identified in Zones A, B and C			
	Zone A	Zones B&C	Total
Very High(s)	0	0	0
High(s)	1	2	3
Medium(s)	0	5	5
Low(s)	6	18	24

	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.

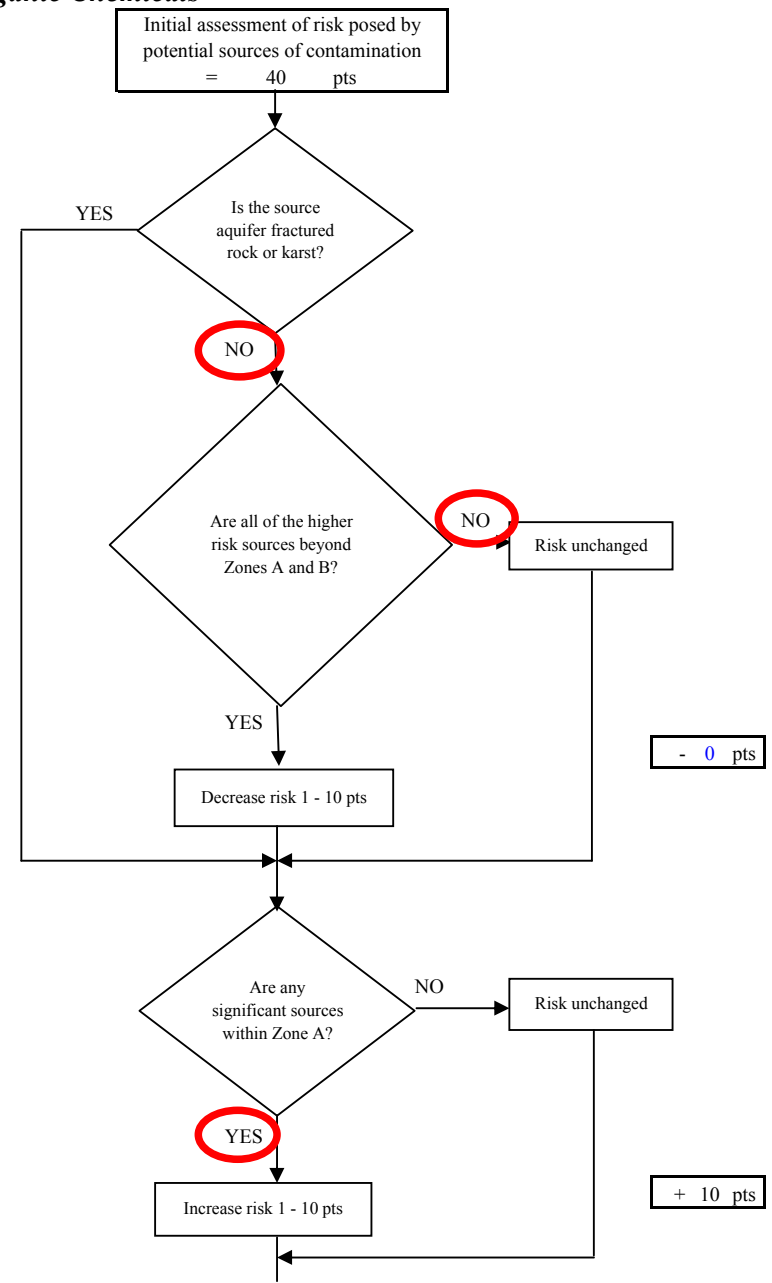
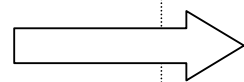


Chart 9. Contaminant risks for Garden Terrace Well No. 1 - Heavy Metals, Cyanide and Other Inorganic Chemicals

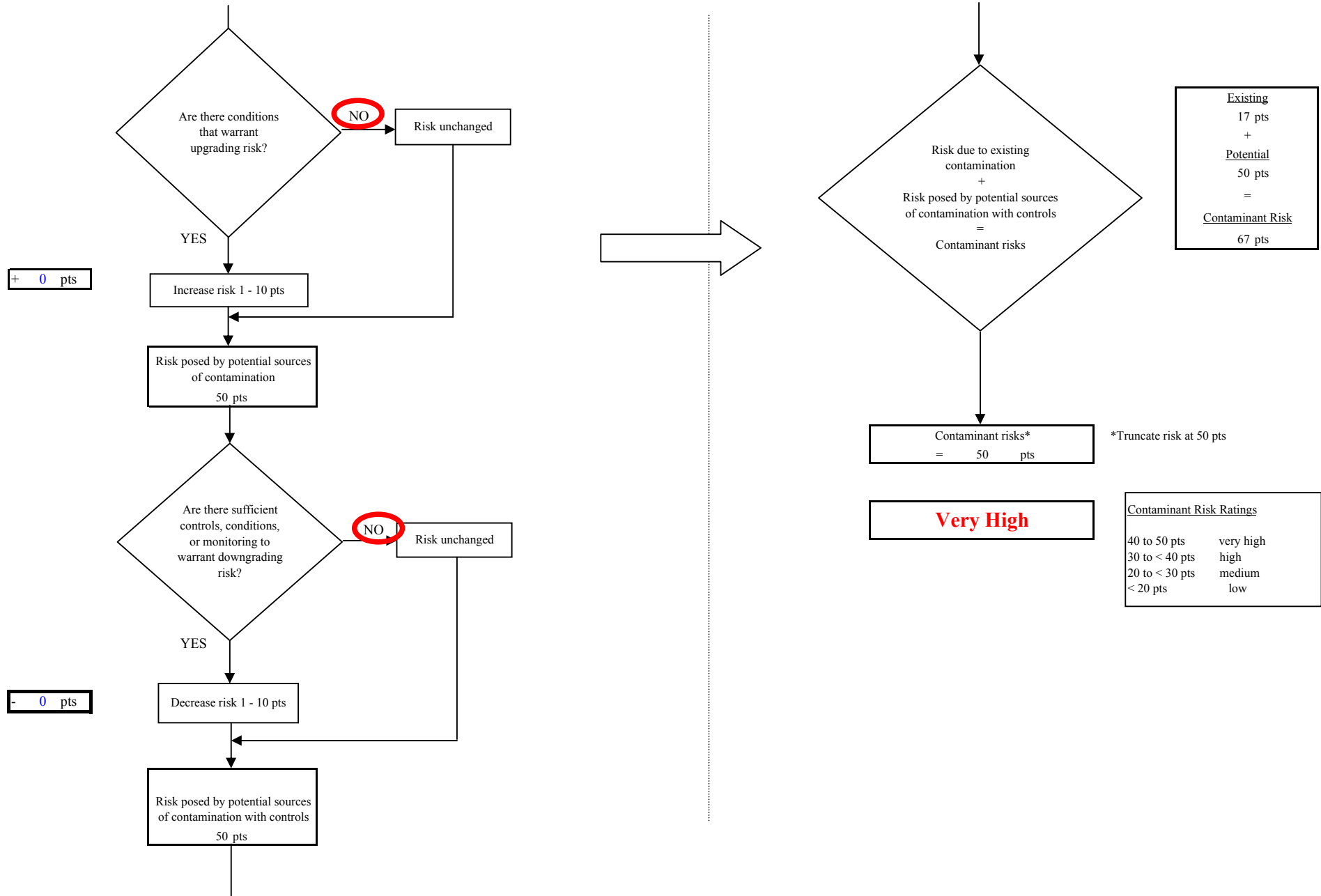


Chart 10. Vulnerability analysis for Garden Terrace Well No. 1 - Heavy Metals, Cyanide and Other Inorganic Chemicals

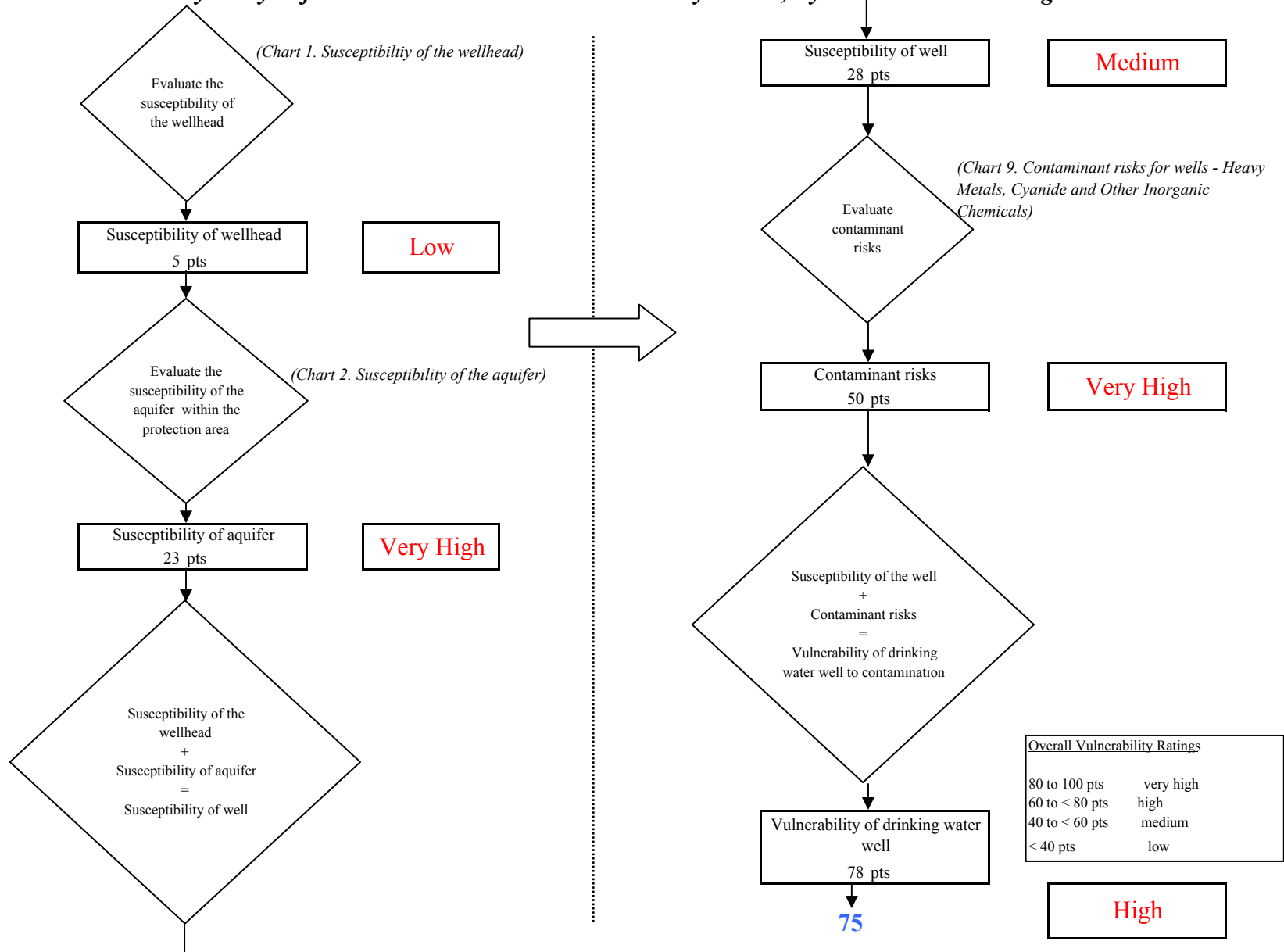


Chart 11. Contaminant risks for Garden Terrace Well No. 1 - Synthetic Organic Chemicals

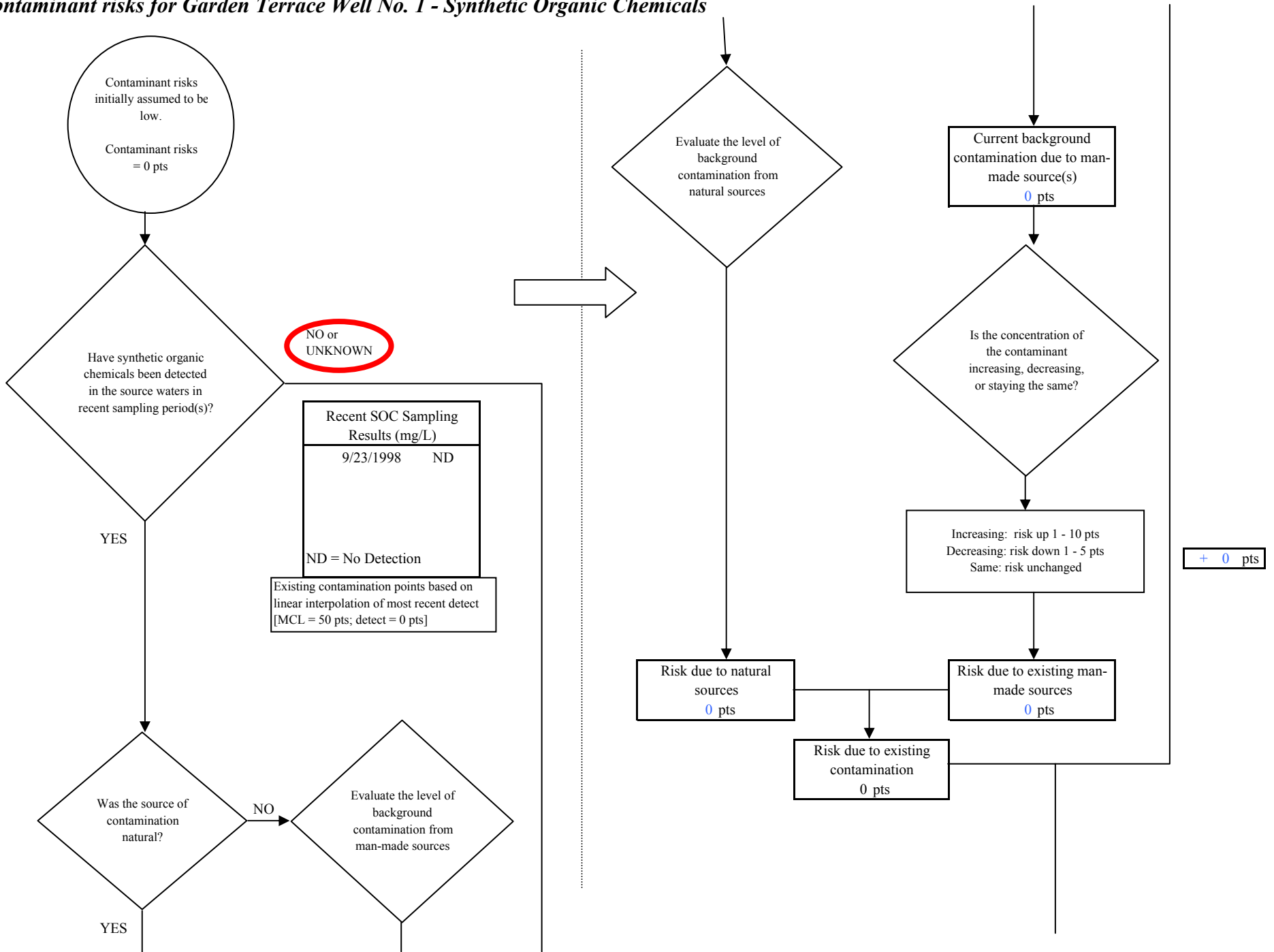
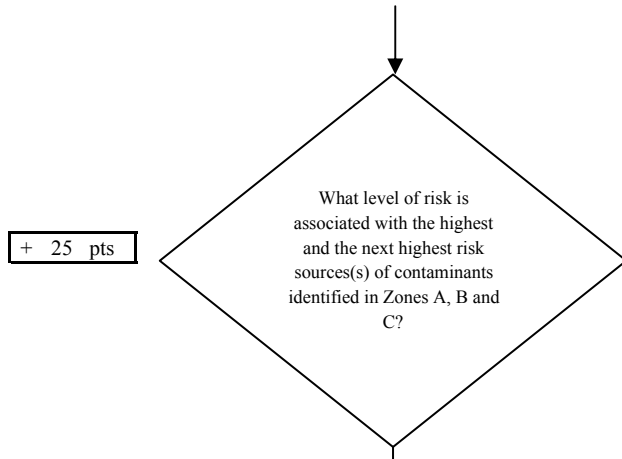


Chart 11. Contaminant risks for Garden Terrace Well No. 1 - Synthetic Organic Chemicals



Risk Levels for Contaminant Sources identified in Zones A, B and C			
	Zone A	Zones B&C	Total
Very Highs(s)	0	0	0
High(s)	0	0	0
Medium(s)	1	0	1
Low(s)	5	17	22

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

Matrix Score 25

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

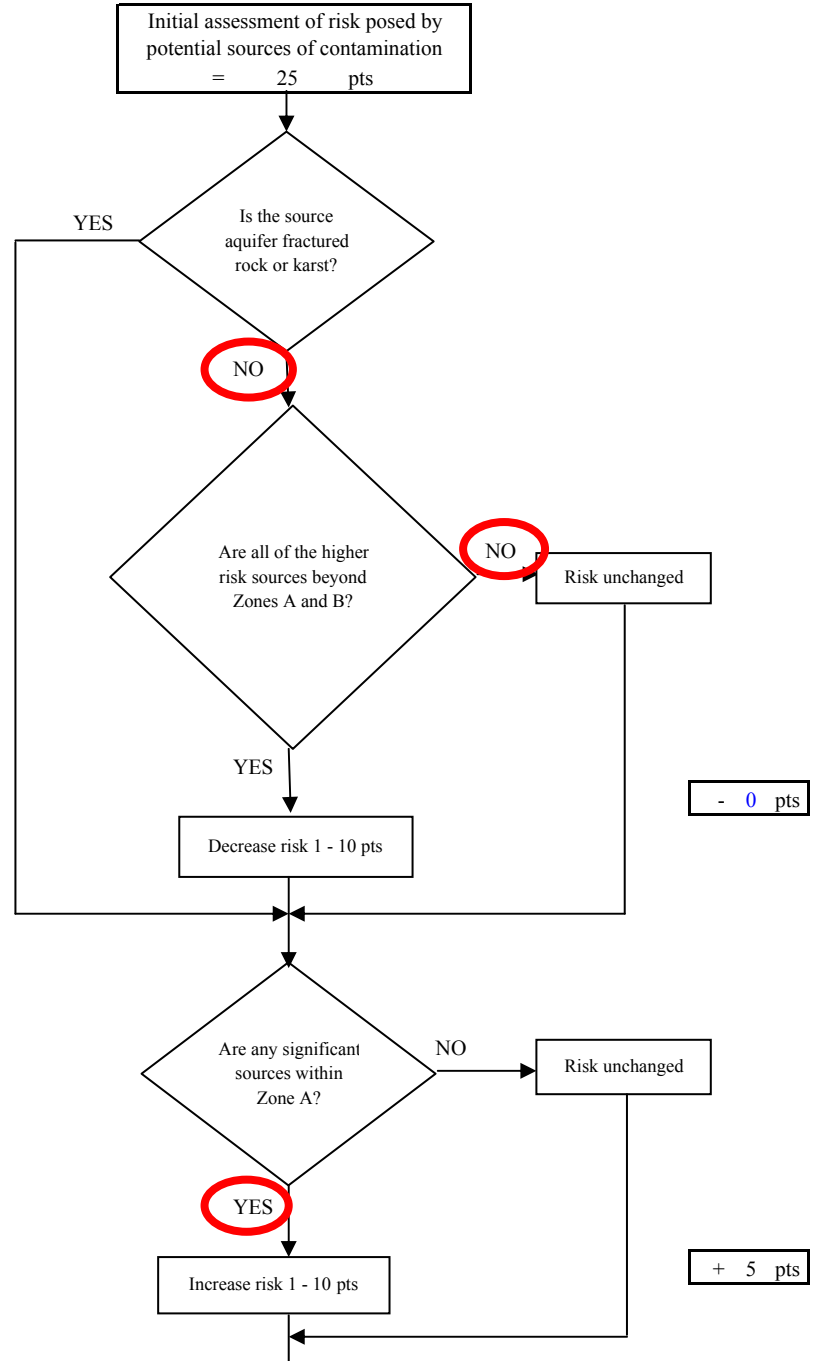
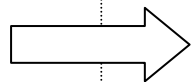


Chart 11. Contaminant risks for Garden Terrace Well No. 1 - Synthetic Organic Chemicals

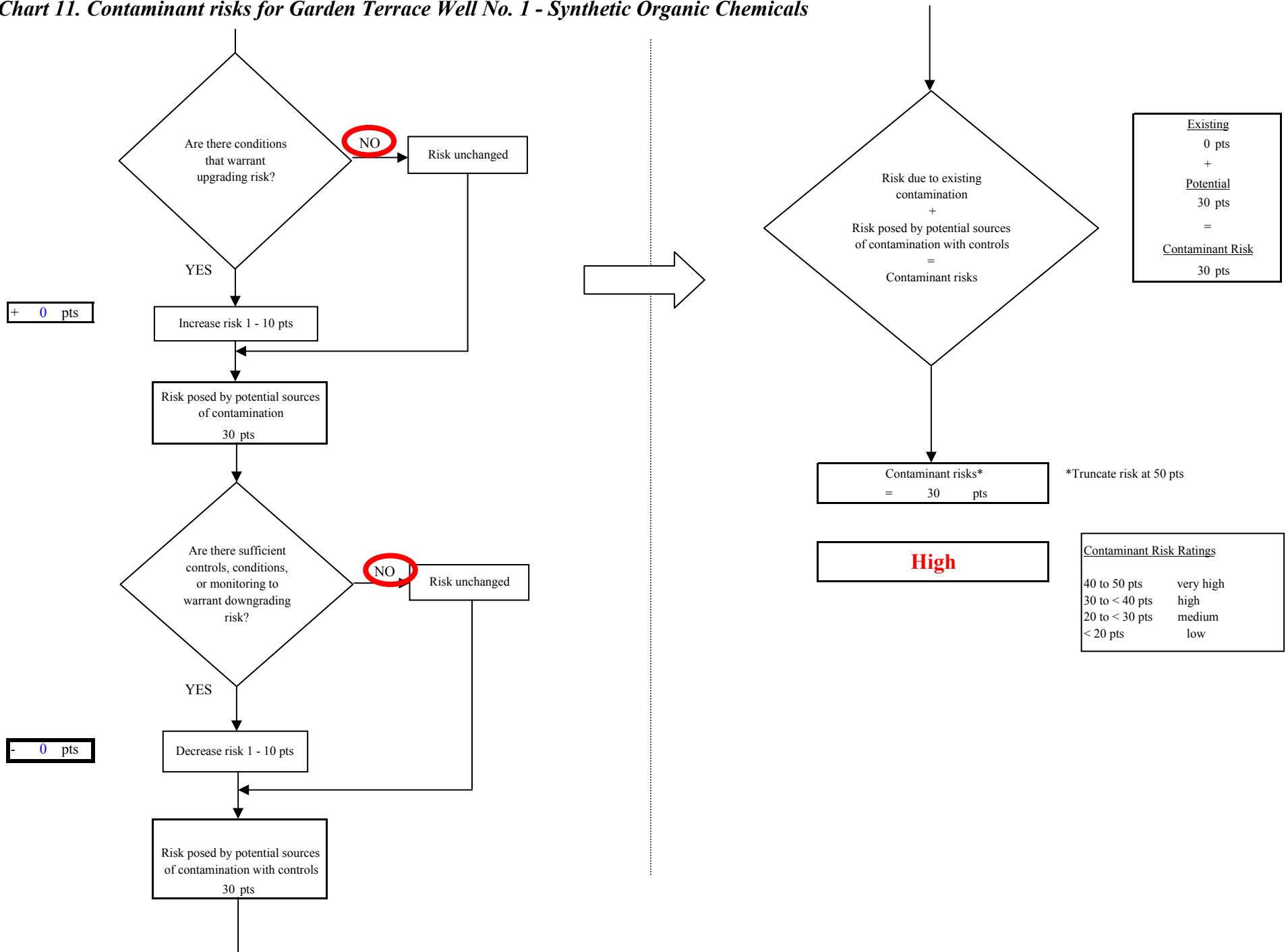


Chart 12. Vulnerability analysis for Garden Terrace Well No. 1 - Synthetic Organic Chemicals

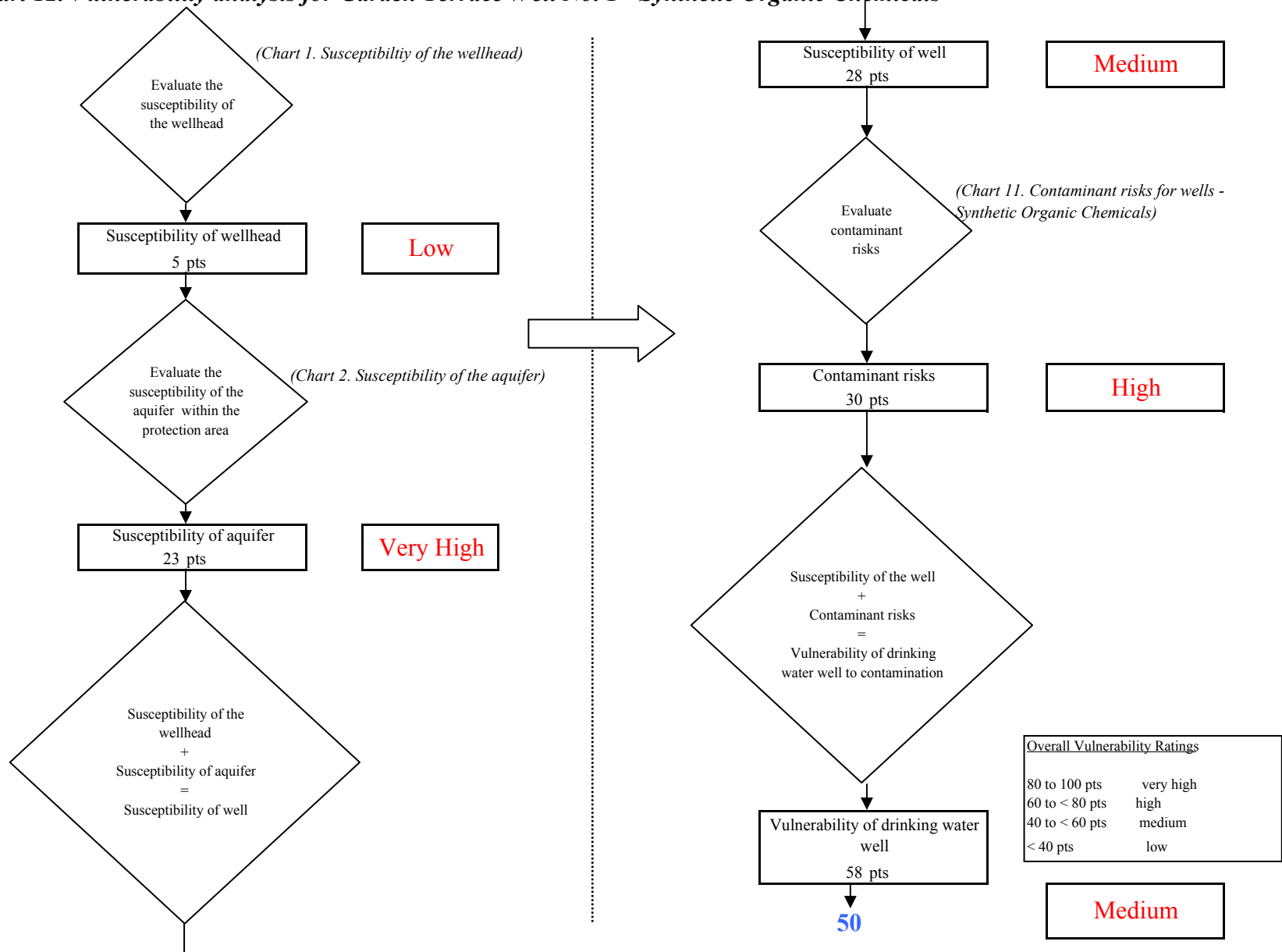


Chart 13. Contaminant risks for Garden Terrace Well No. 1 - Other Organic Chemicals

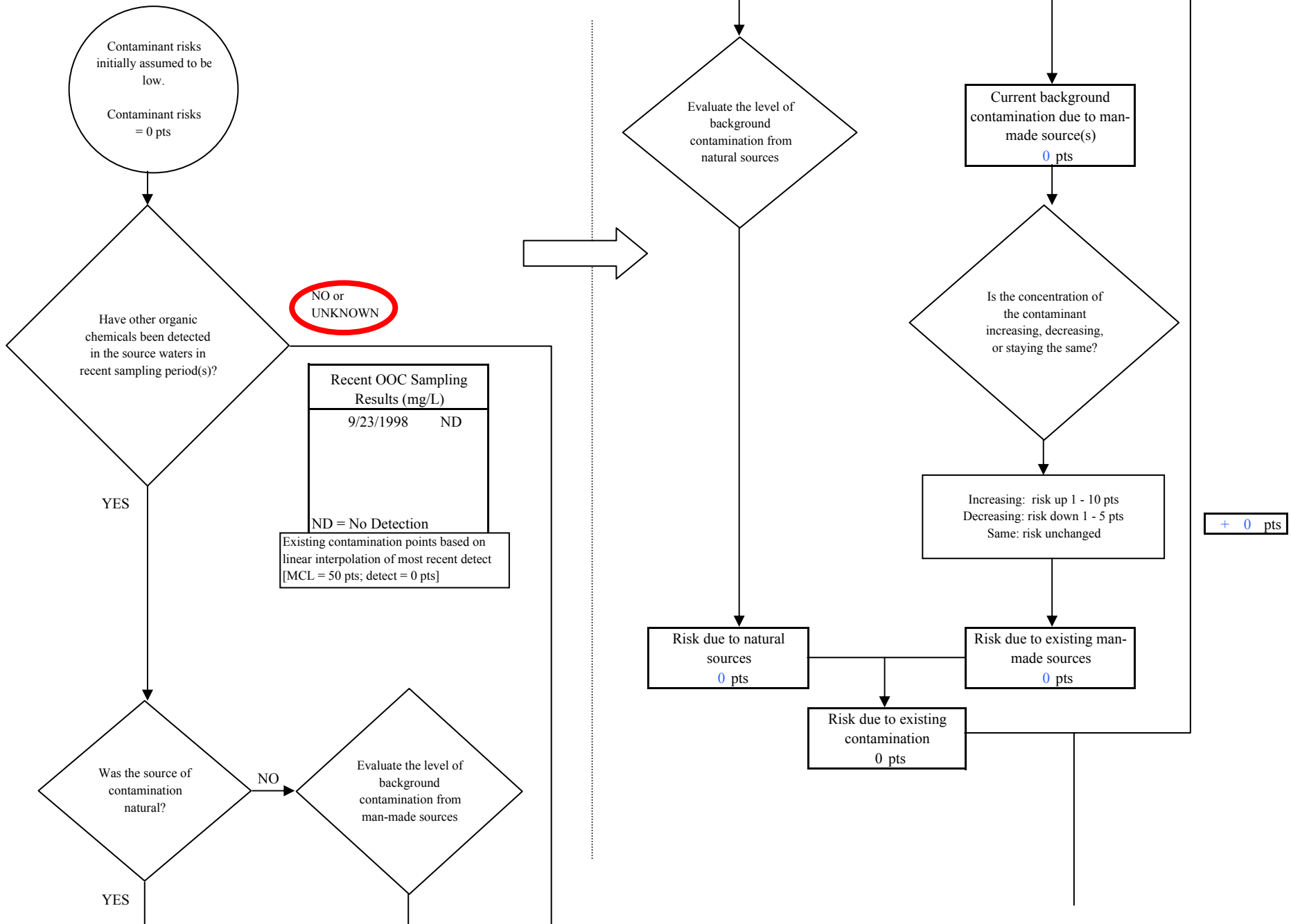
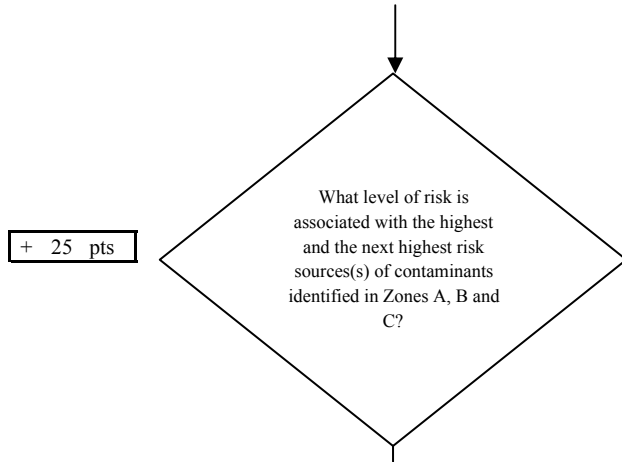


Chart 13. Contaminant risks for Garden Terrace Well No. 1 - Other Organic Chemicals



+ 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)	1	5	6
Low(s)	6	17	23

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

Matrix Score 25

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

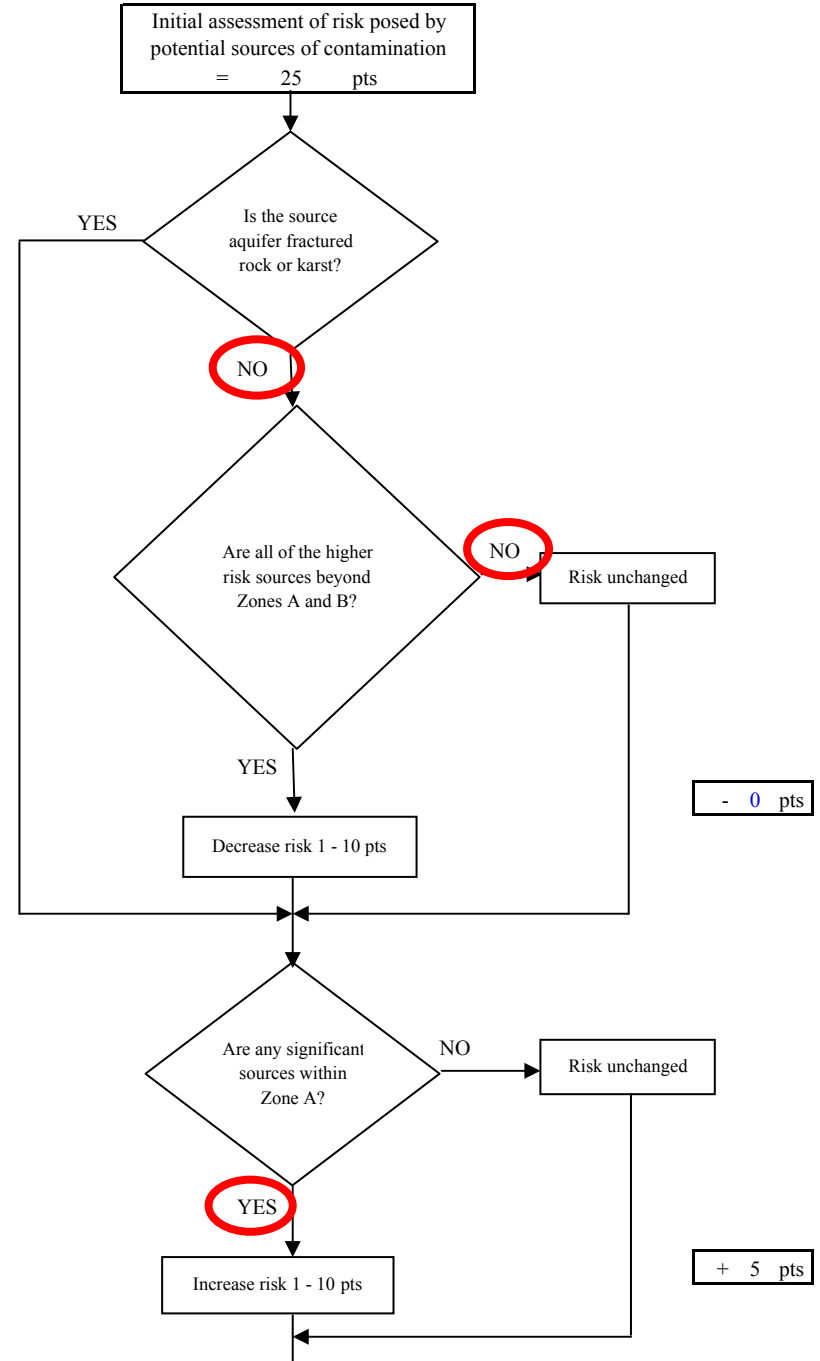
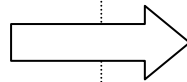


Chart 13. Contaminant risks for Garden Terrace Well No. 1 - Other Organic Chemicals

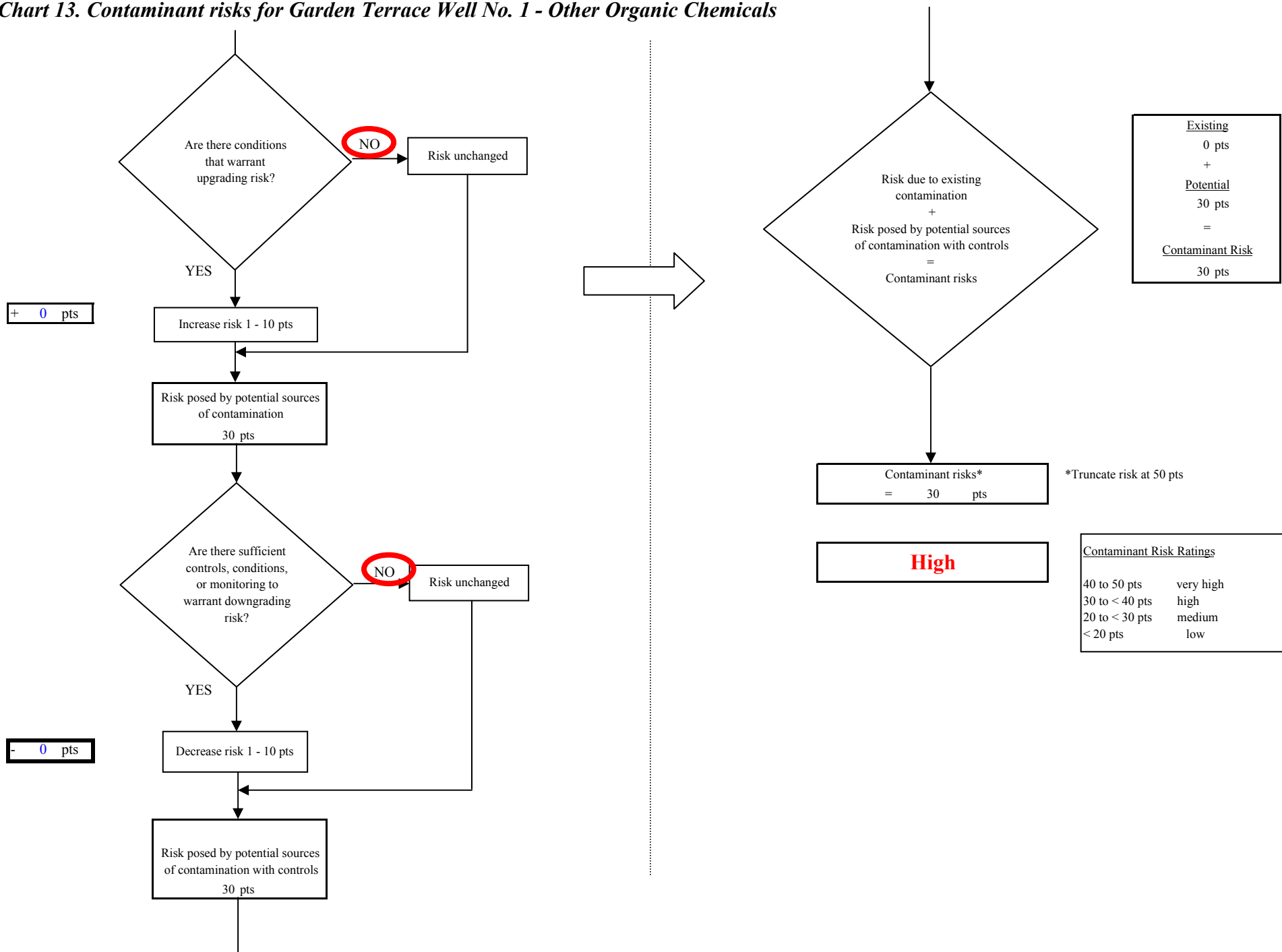


Chart 14. Vulnerability analysis for Garden Terrace Well No. 1 - Other Organic Chemicals

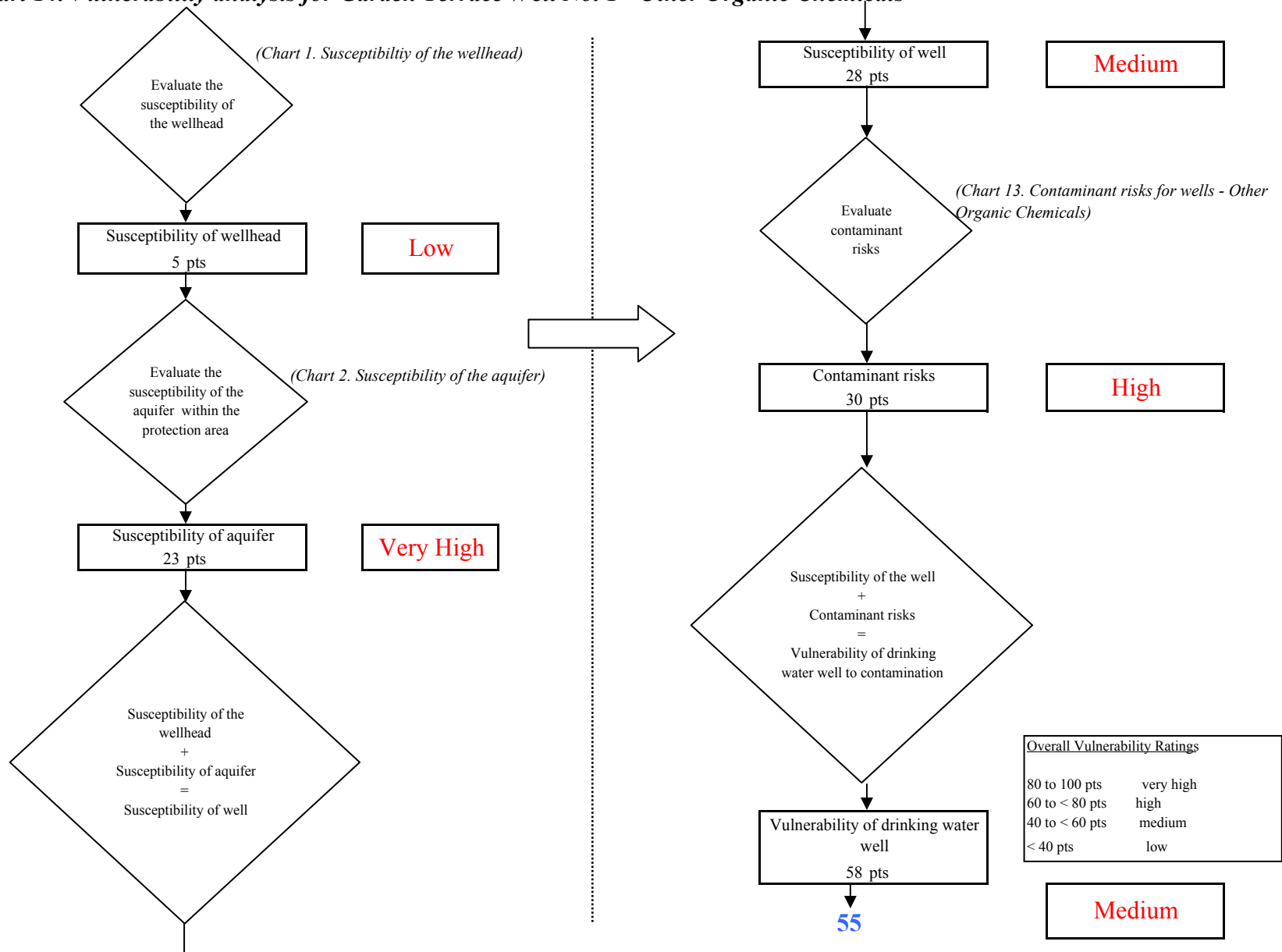


Chart 1. Susceptibility of the wellhead - Garden Terrace Well No. 2

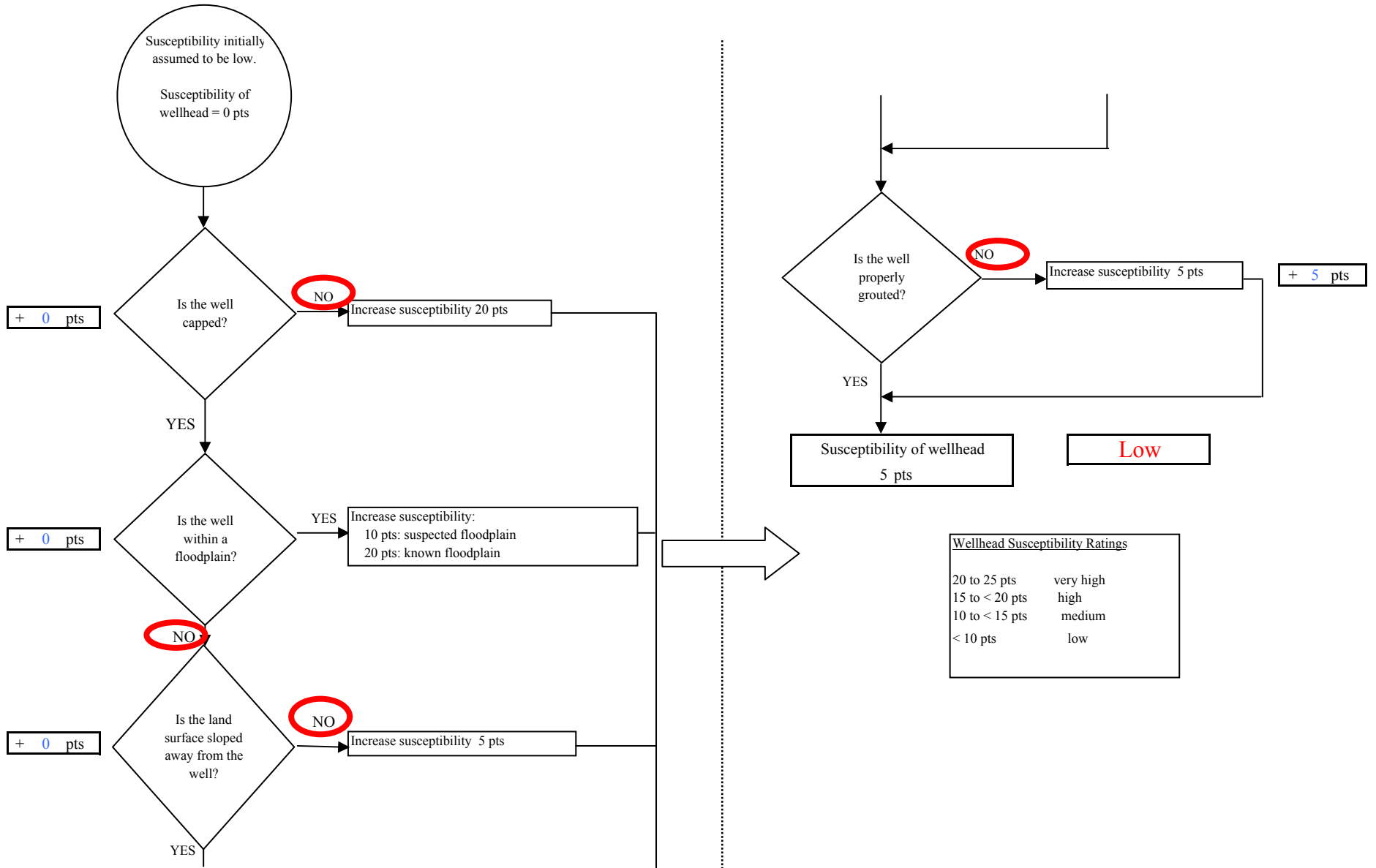


Chart 2. Susceptibility of the aquifer - Garden Terrace Well No. 2

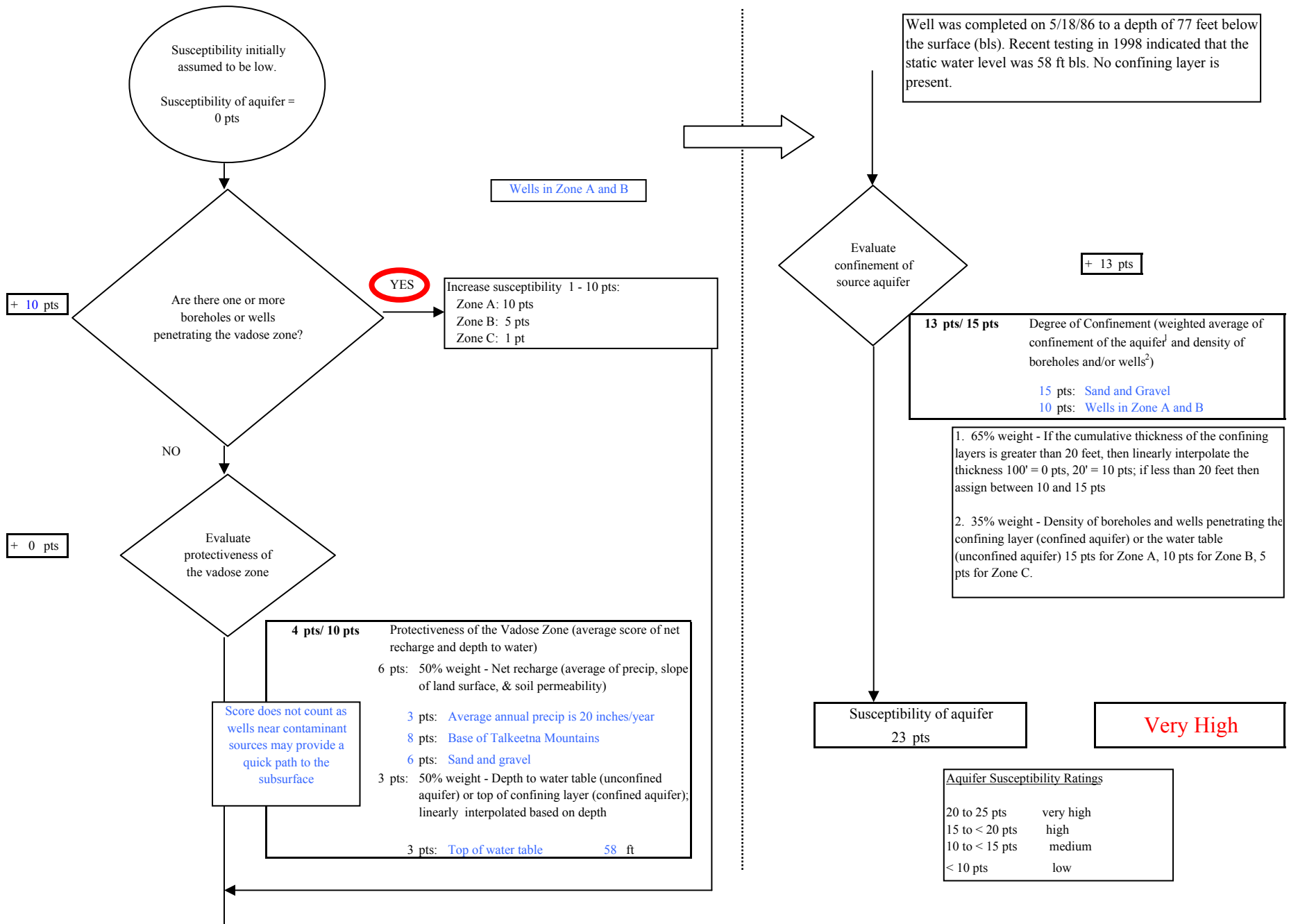
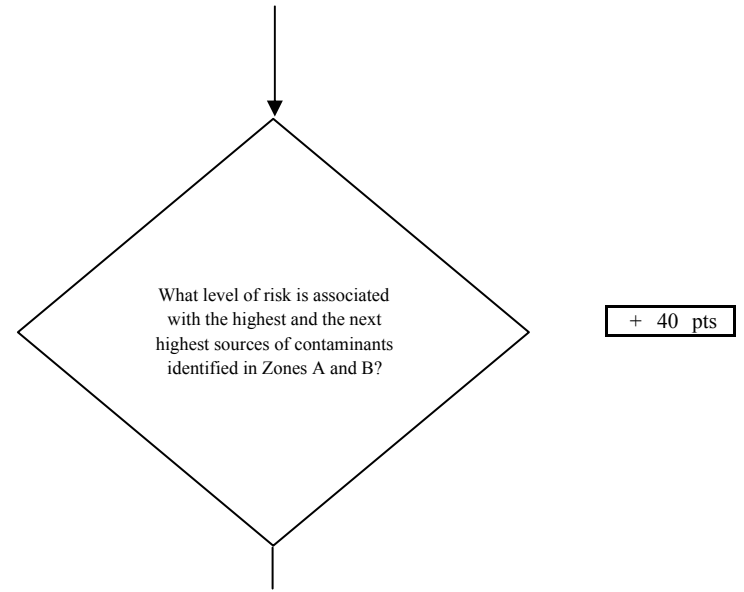
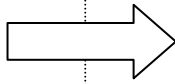
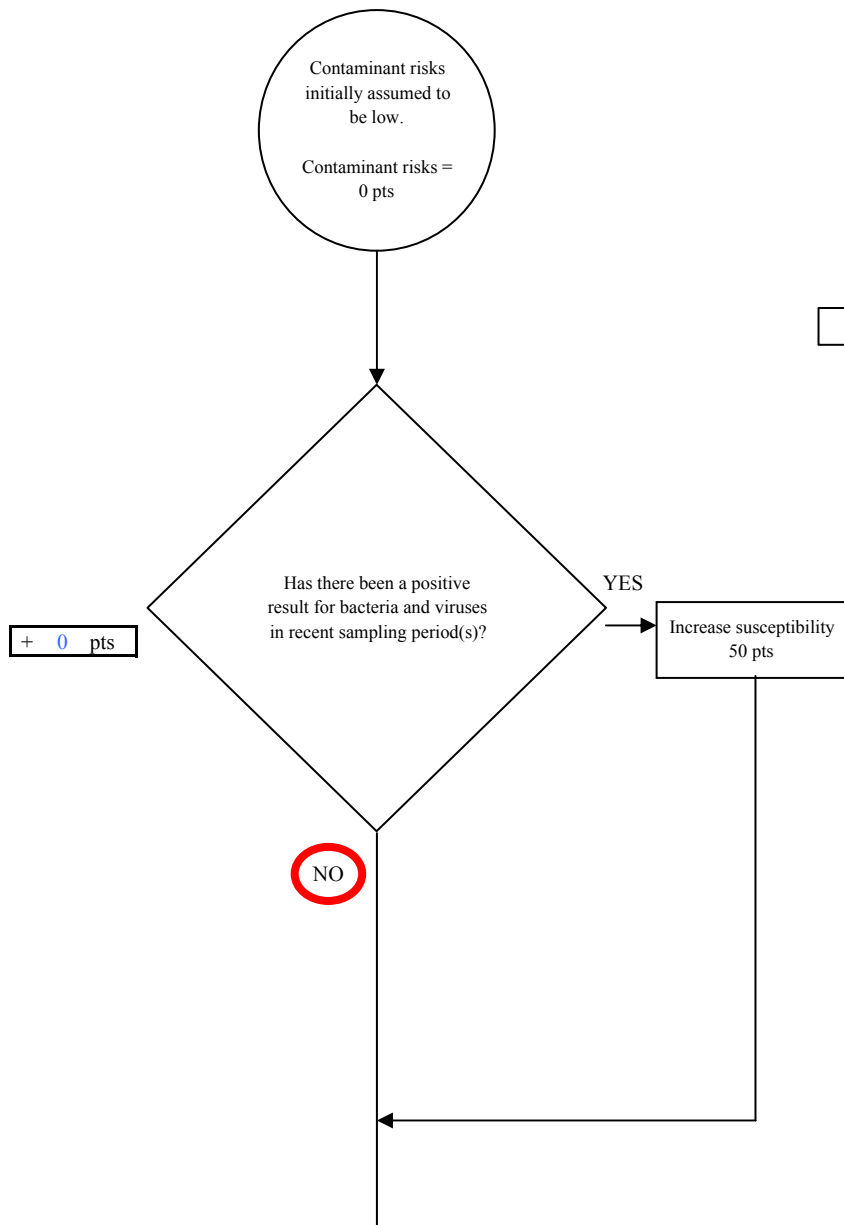


Chart 3. Contaminant risks for Garden Terrace Well No. 2 - Bacteria & Viruses



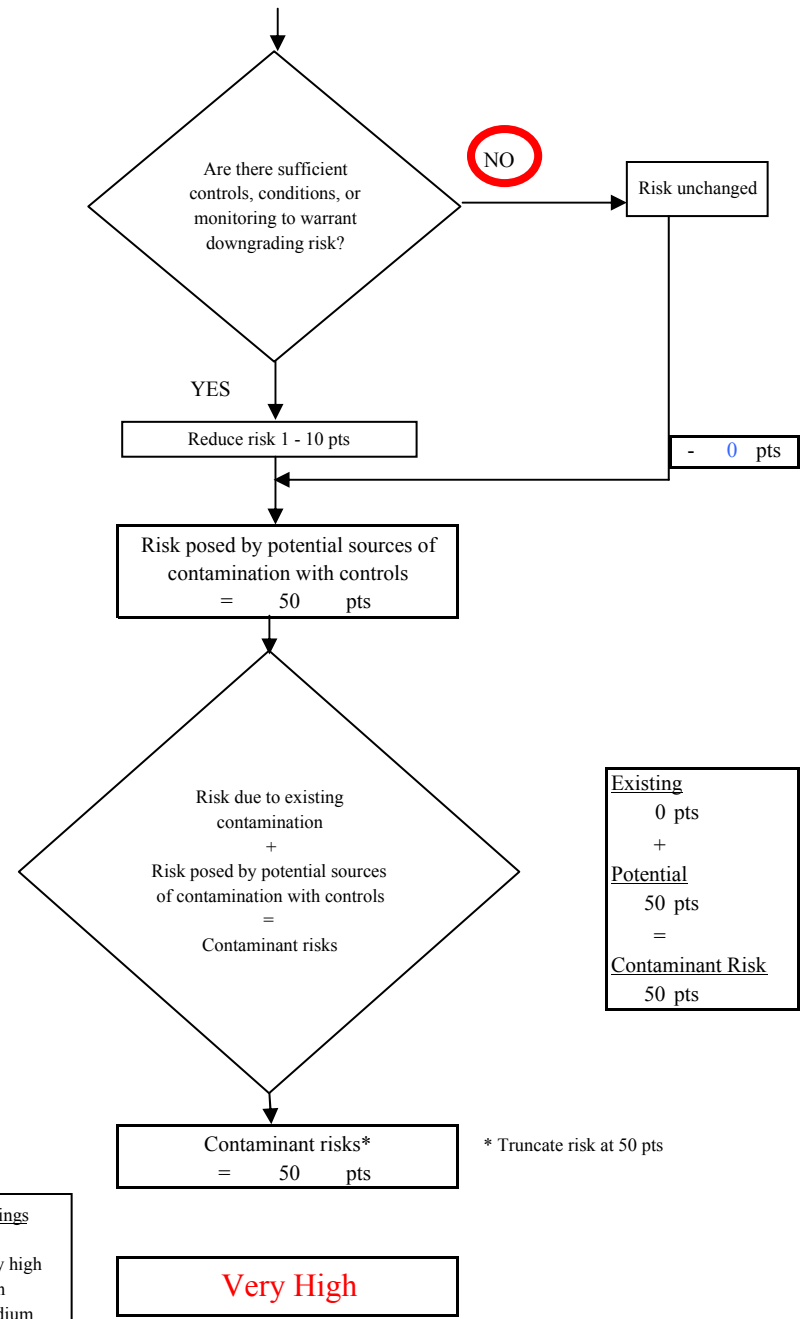
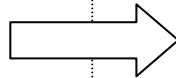
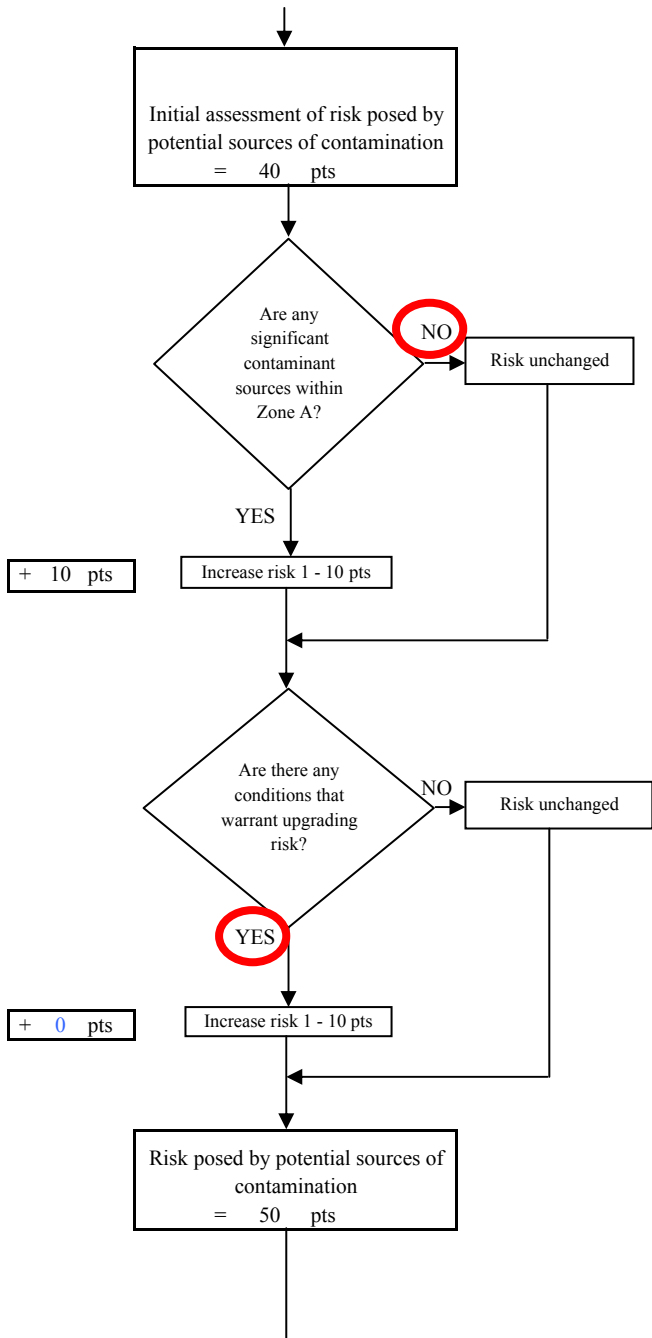
Risk Rankings for Contaminant Sources Identified in Zones A and B			
	Zone A	Zone B	Total
Very High(s)	0	0	0
High(s)	2	8	10
Medium(s)	0	1	1
Low(s)	24	9	33

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

Matrix Score 40

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

Chart 3. Contaminant risks for Garden Terrace Well No. 2 - Bacteria & Viruses



Contaminant Risk Ratings	
40 to 50 pts	very high
30 to < 40 pts	high
20 to < 30 pts	medium
< 20 pts	low

Existing	0 pts
+	
Potential	50 pts
=	
Contaminant Risk	50 pts

Chart 4. Vulnerability analysis for Garden Terrace Well No. 2 - Bacteria & Viruses

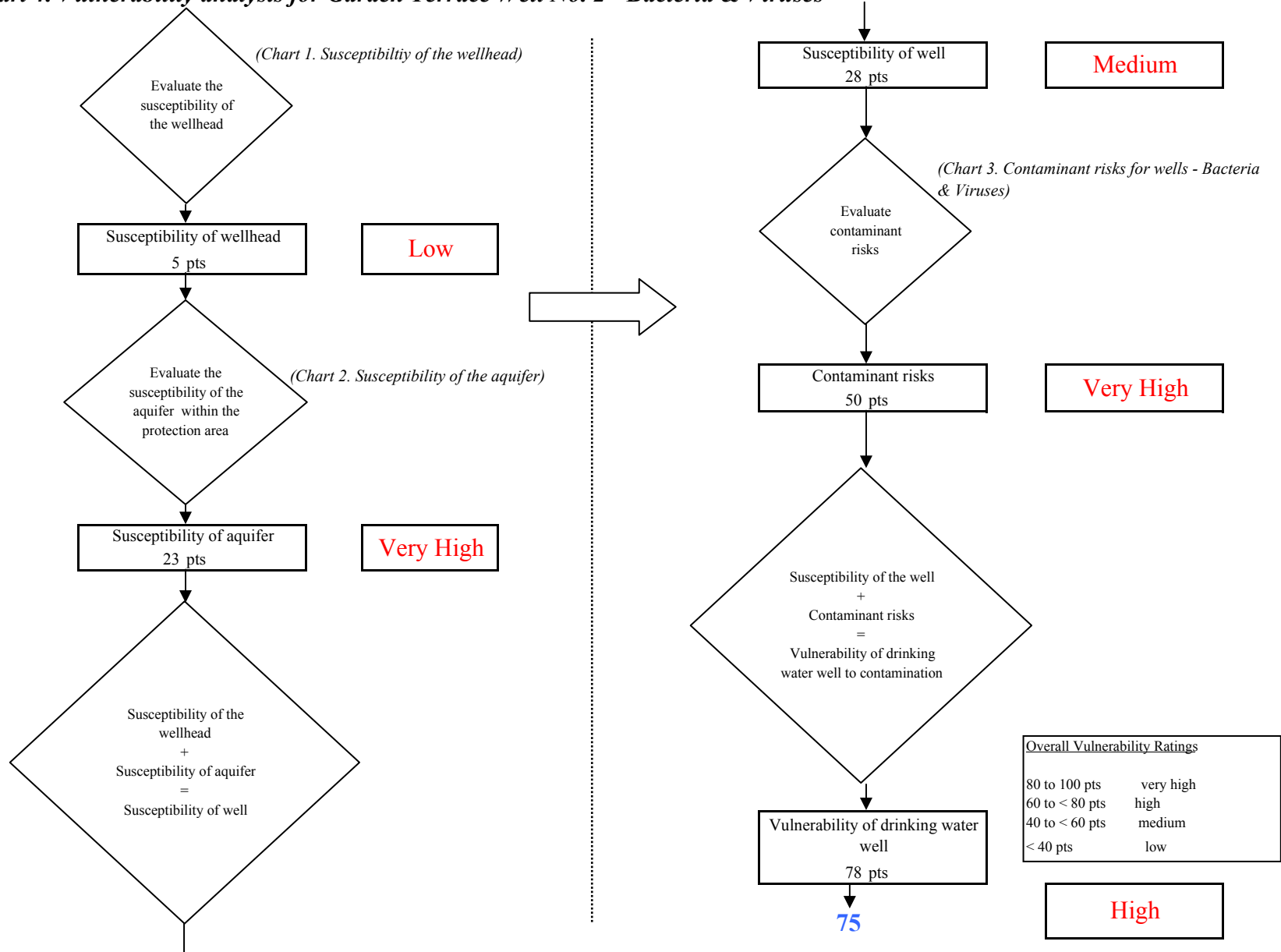


Chart 5. Contaminant risks for Garden Terrace Well No. 2 - Nitrates and Nitrites

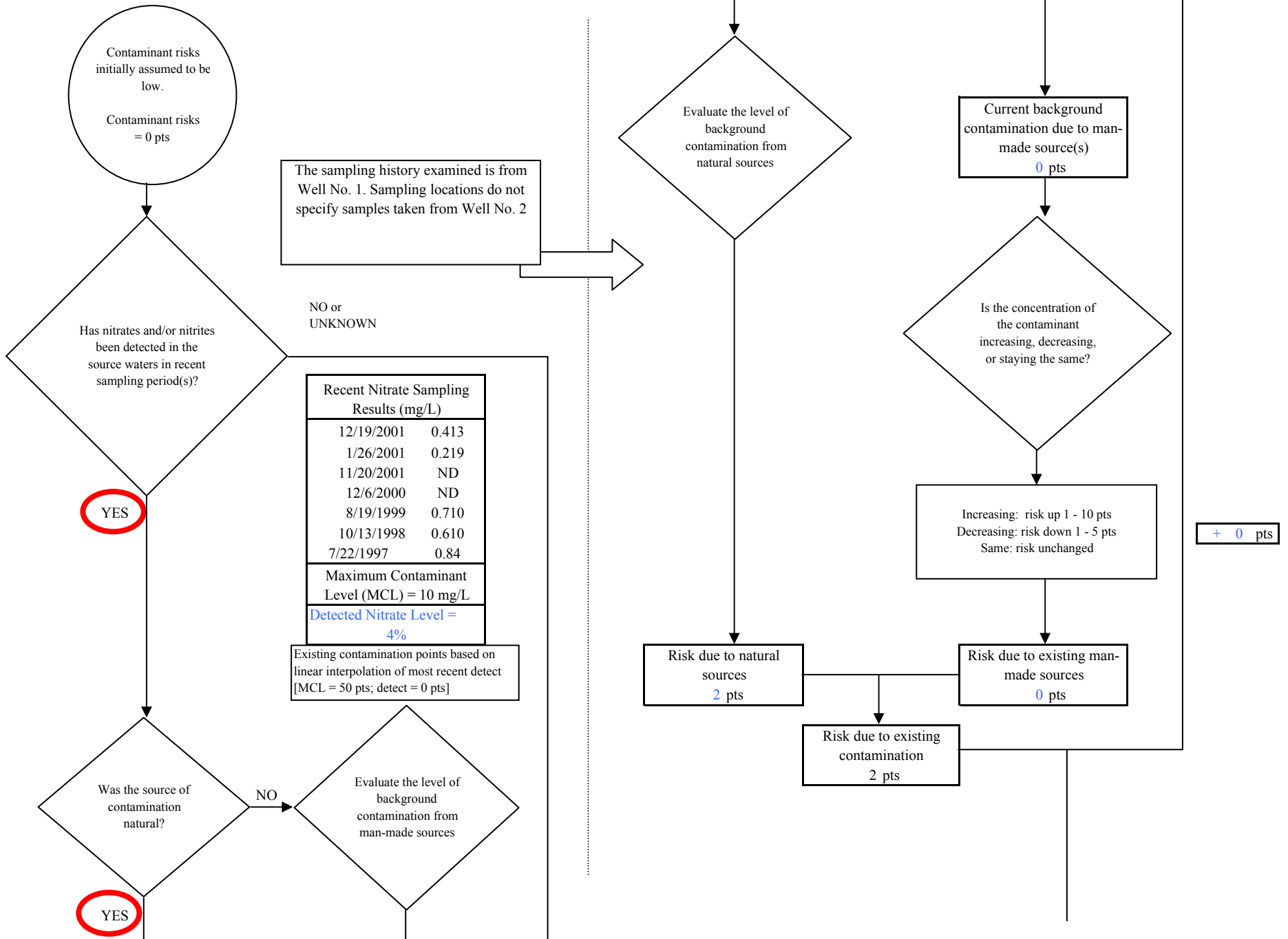
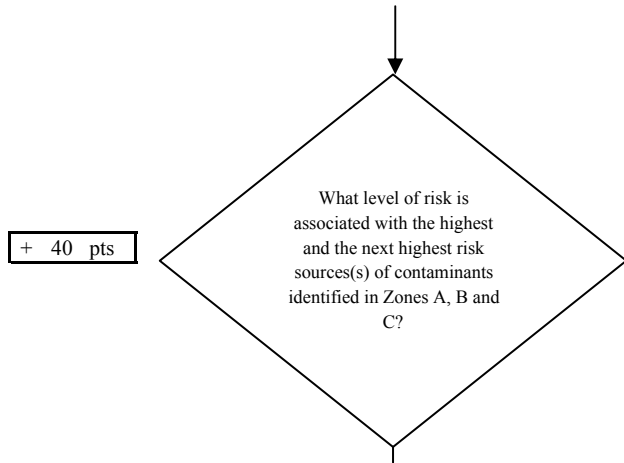


Chart 5. Contaminant risks for Garden Terrace Well No. 2 - Nitrates and Nitrites



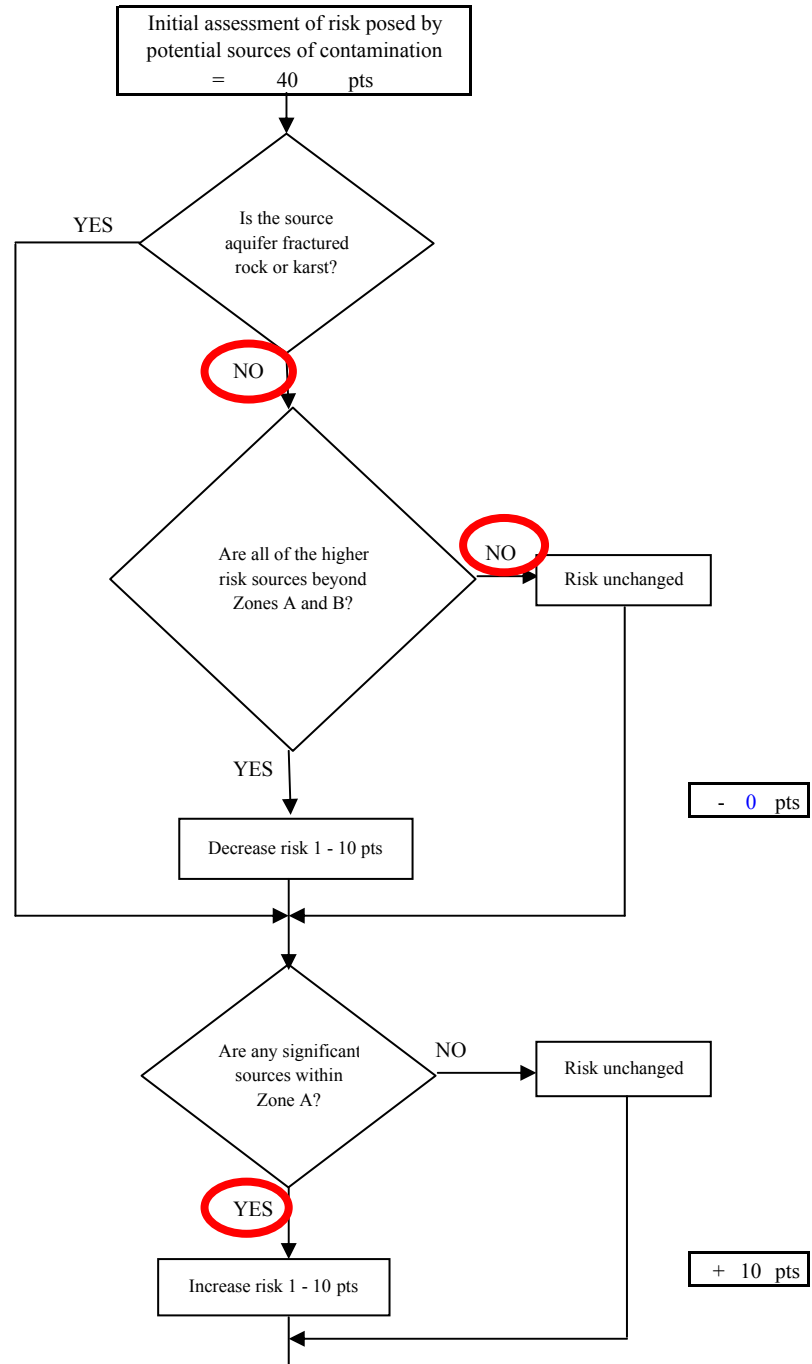
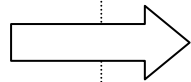
+ 40 pts

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)	2	14	16
Medium(s)	0	0	0
Low(s)	24	9	33

	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.



- 0 pts

+ 10 pts

Chart 5. Contaminant risks for Garden Terrace Well No. 2 - Nitrates and Nitrites

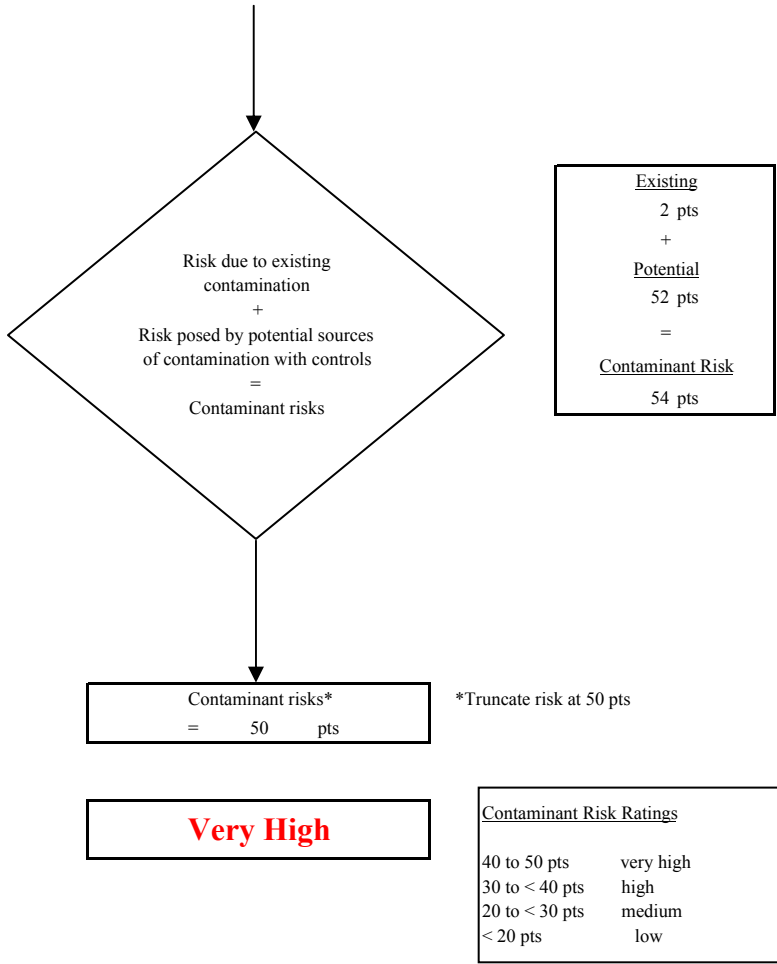
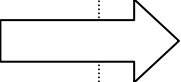
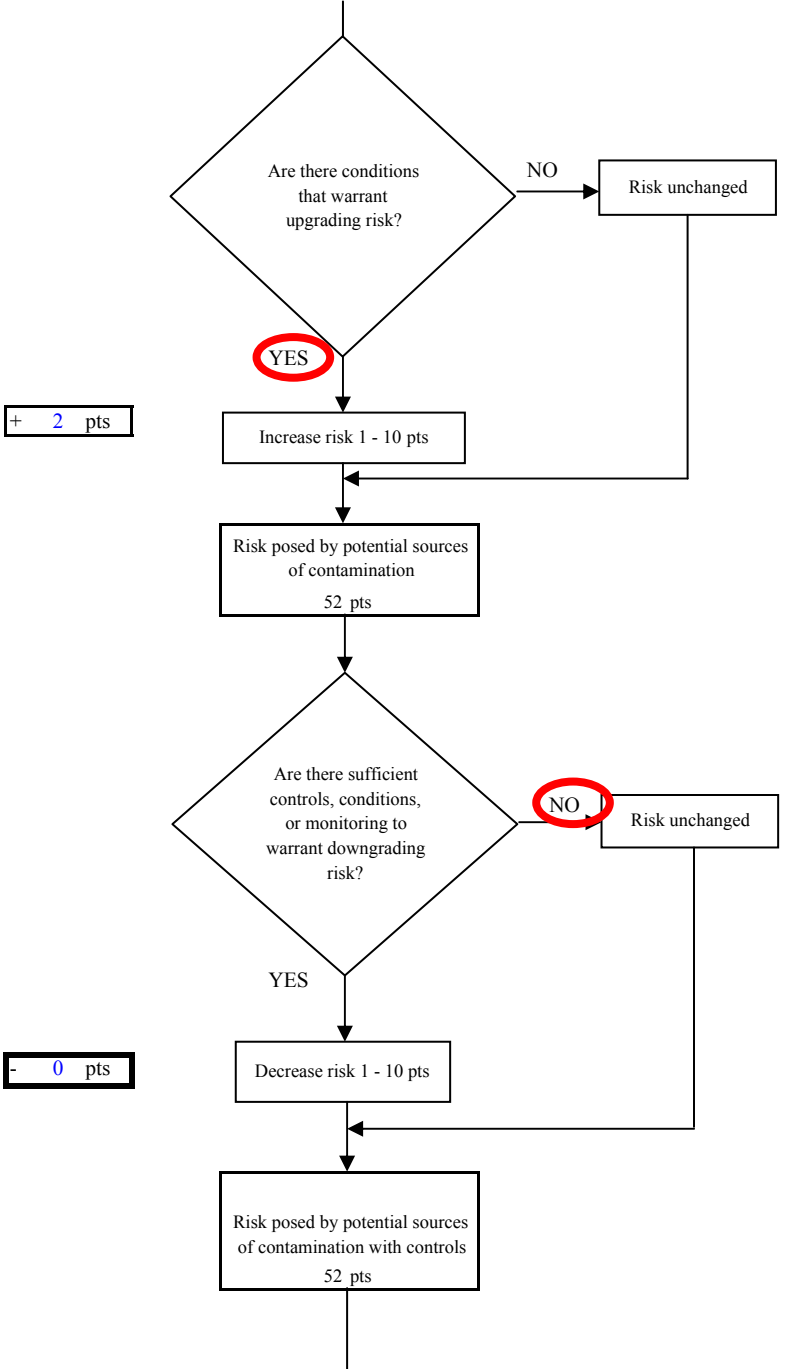


Chart 6. Vulnerability analysis for Garden Terrace Well No. 2 - Nitrates and Nitrites

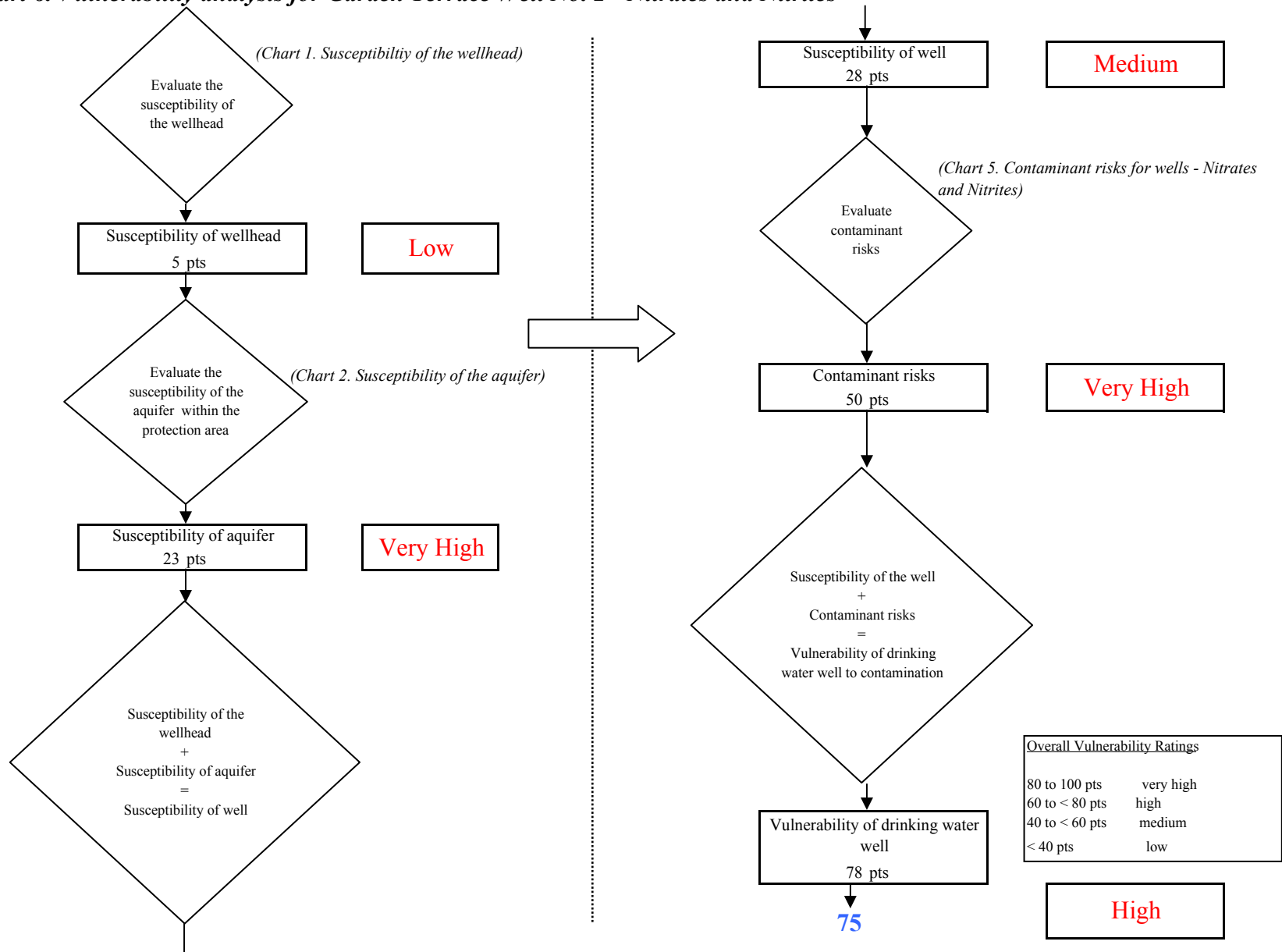


Chart 7. Contaminant risks for Garden Terrace Well No. 2 - Volatile Organic Chemicals

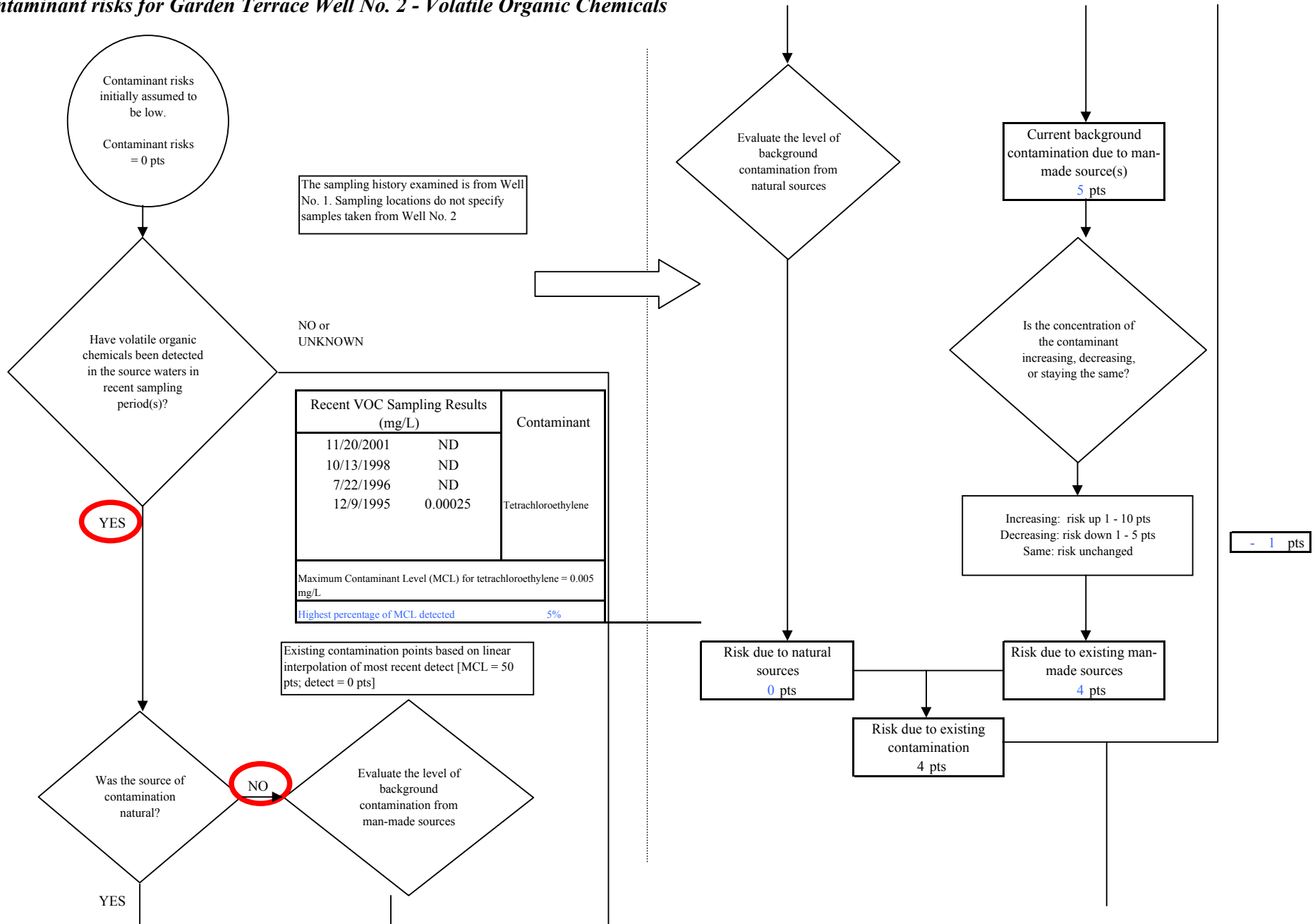
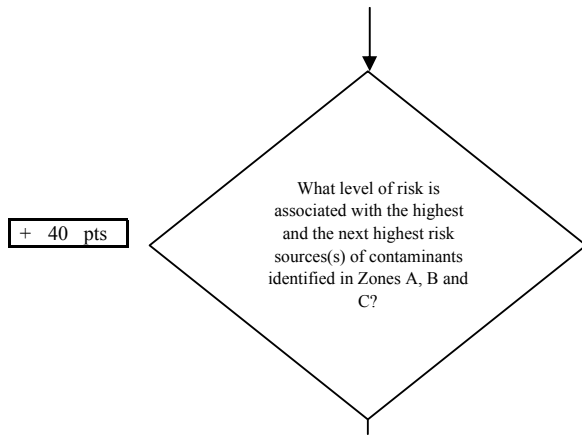


Chart 7. Contaminant risks for Garden Terrace Well No. 2 - Volatile Organic Chemicals



Risk Levels for Contaminant Sources identified in Zones A, B and C			
	Zone A	Zones B&C	Total
Very High(s)	0	0	0
High(s)	0	6	6
Medium(s)	0	1	1
Low(s)	6	22	28

	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.

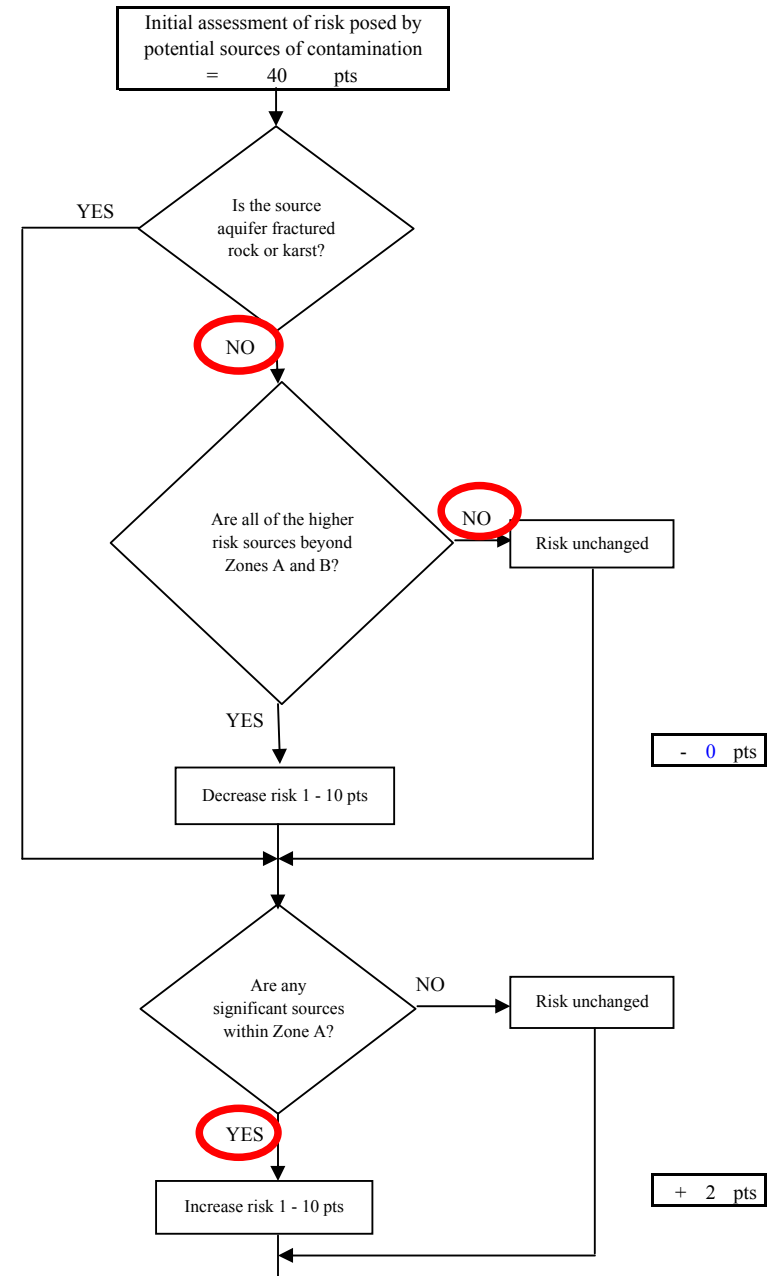
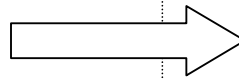


Chart 7. Contaminant risks for Garden Terrace Well No. 2 - Volatile Organic Chemicals

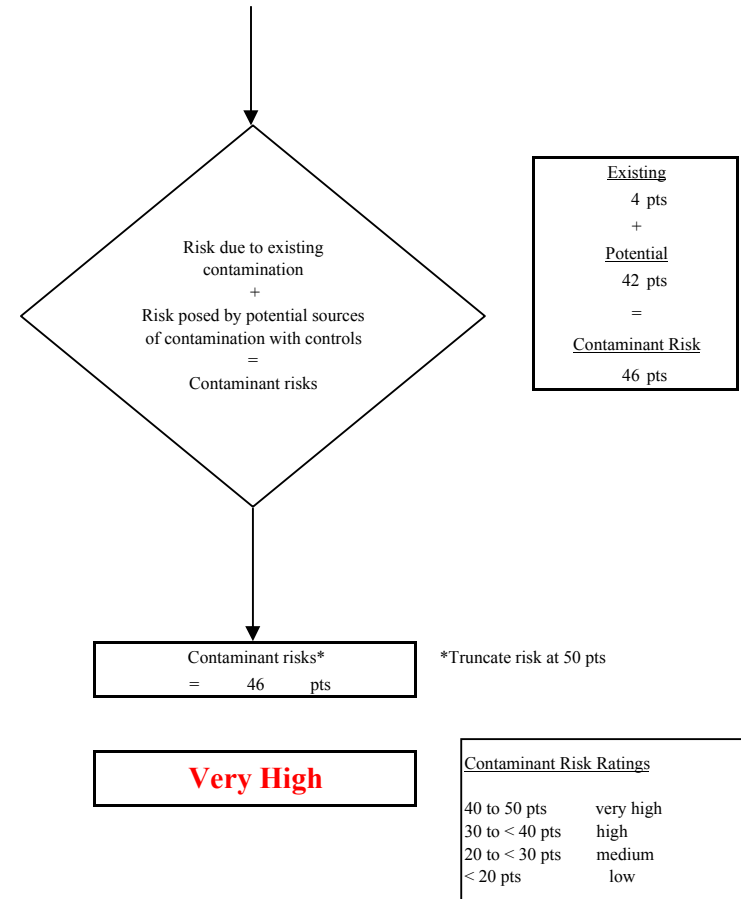
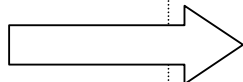
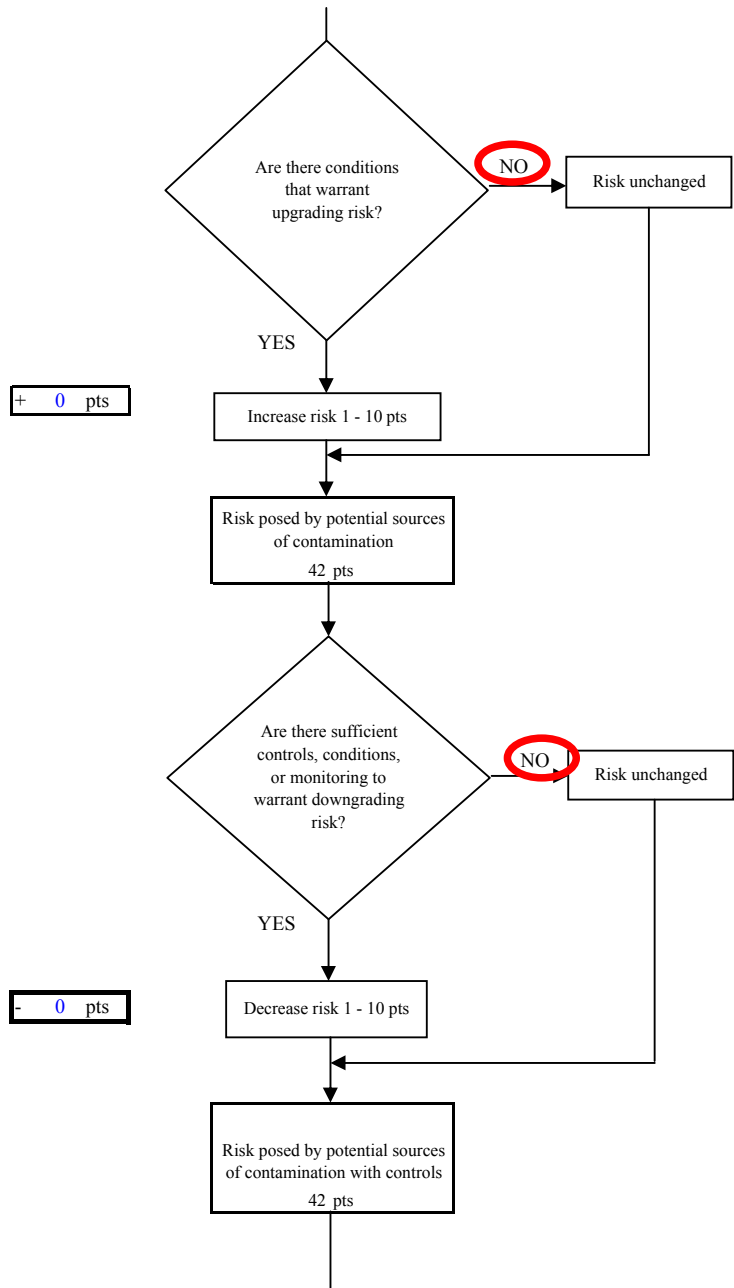


Chart 8. Vulnerability analysis for Garden Terrace Well No. 2 - Volatile Organic Chemicals

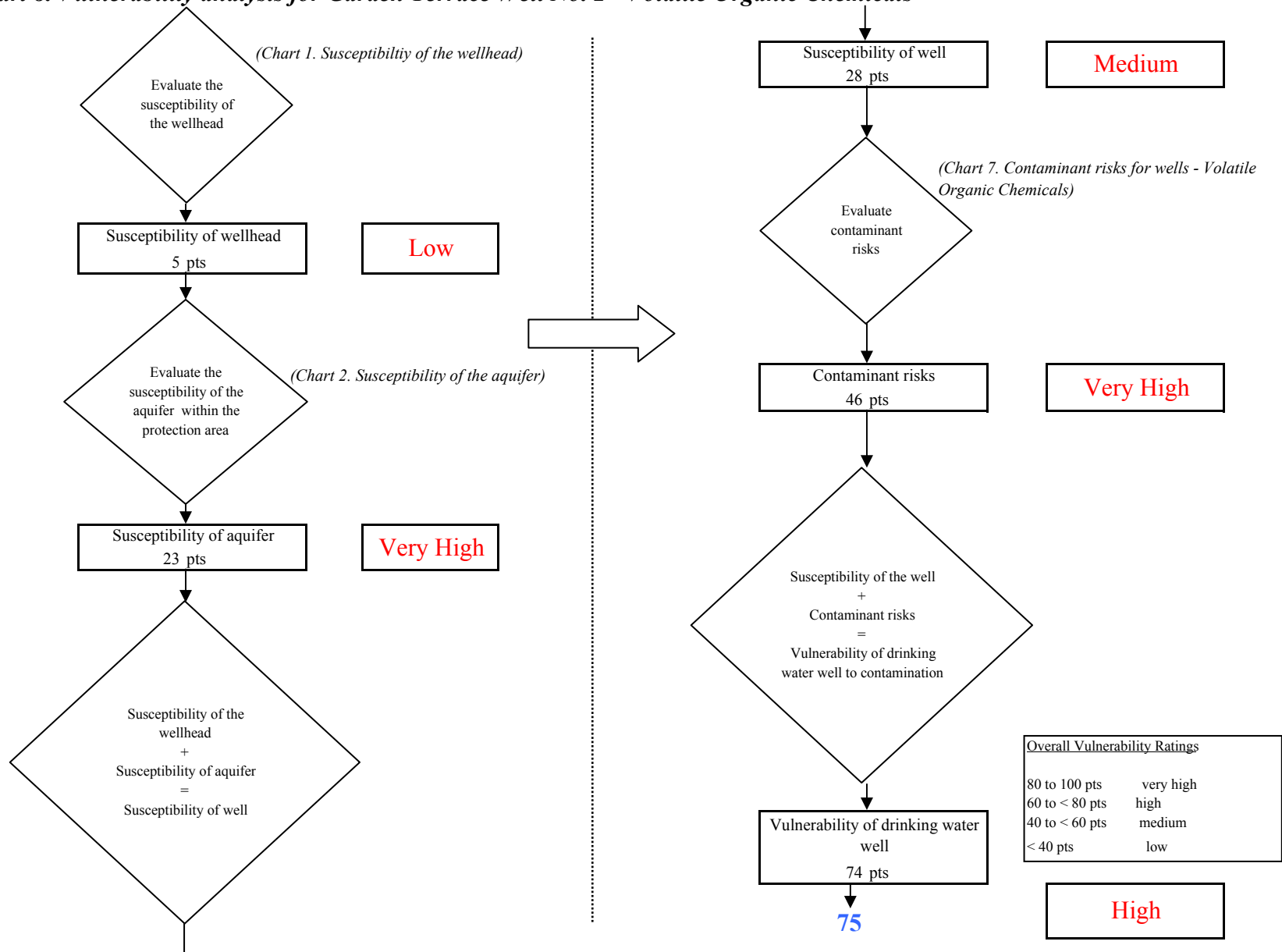


Chart 9. Contaminant risks for Garden Terrace Well No. 2 - Heavy Metals, Cyanide and Other Inorganic Chemicals

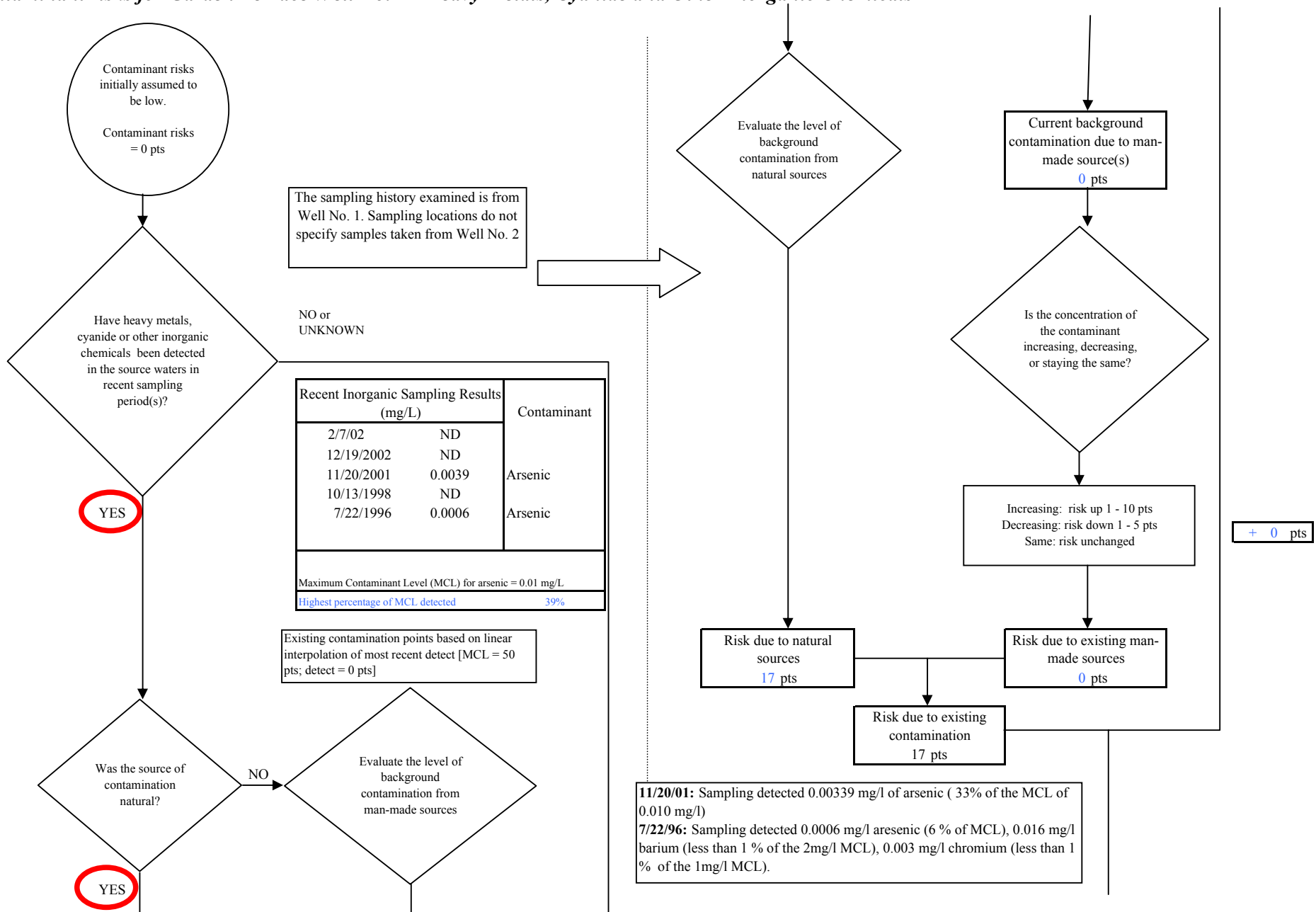


Chart 9. Contaminant risks for Garden Terrace Well No. 2 - Heavy Metals, Cyanide and Other Inorganic Chemicals

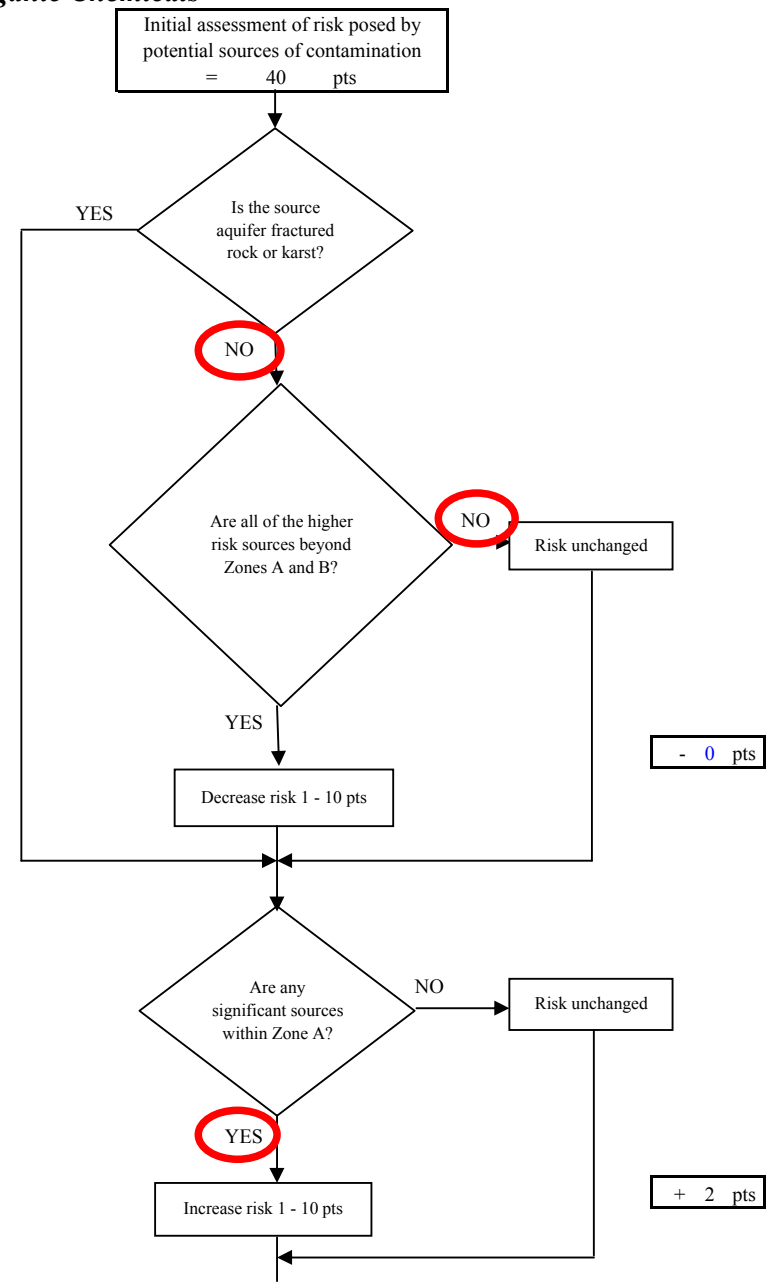
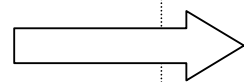
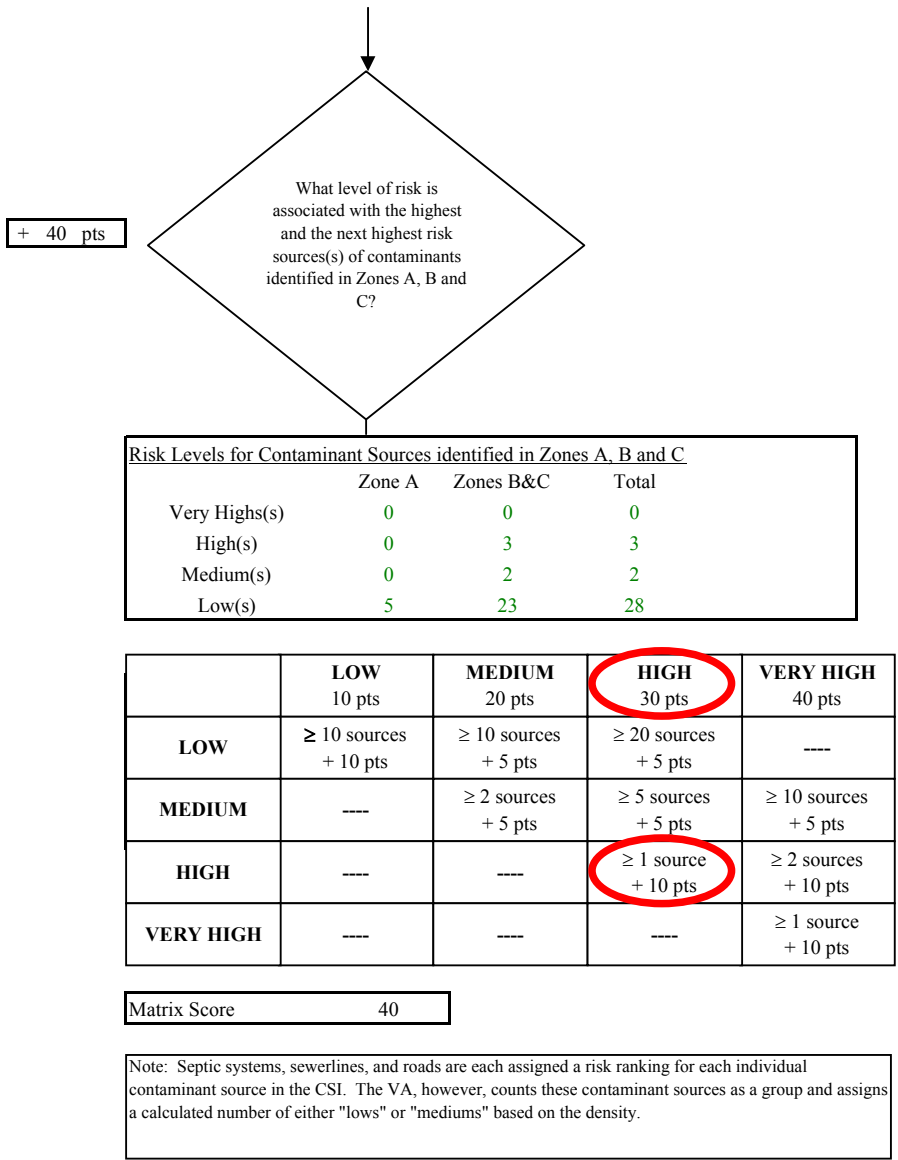


Chart 9. Contaminant risks for Garden Terrace Well No. 2 - Heavy Metals, Cyanide and Other Inorganic Chemicals

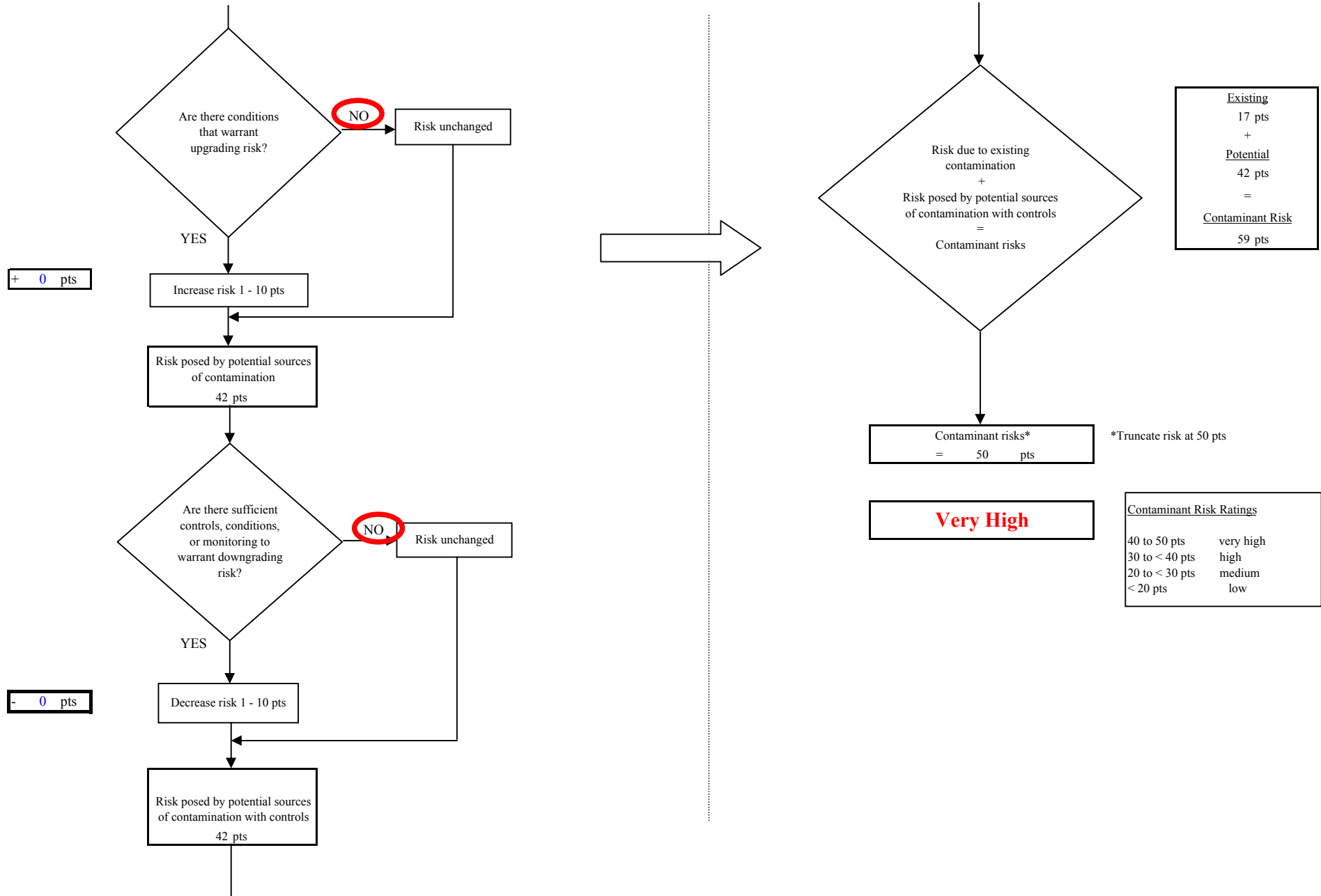


Chart 10. Vulnerability analysis for Garden Terrace Well No. 2 - Heavy Metals, Cyanide and Other Inorganic Chemicals

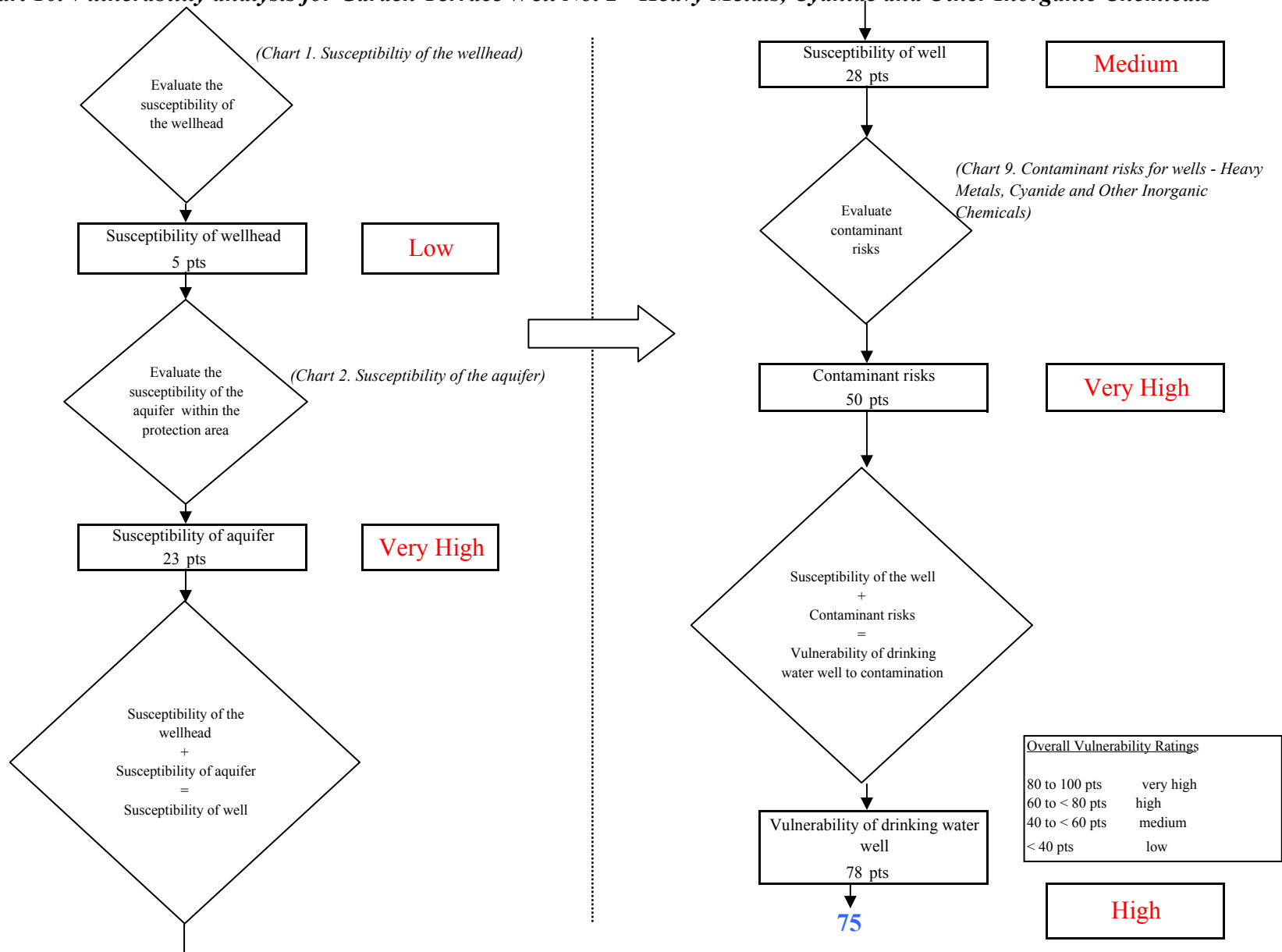


Chart 11. Contaminant risks for Garden Terrace Well No. 2 - Synthetic Organic Chemicals

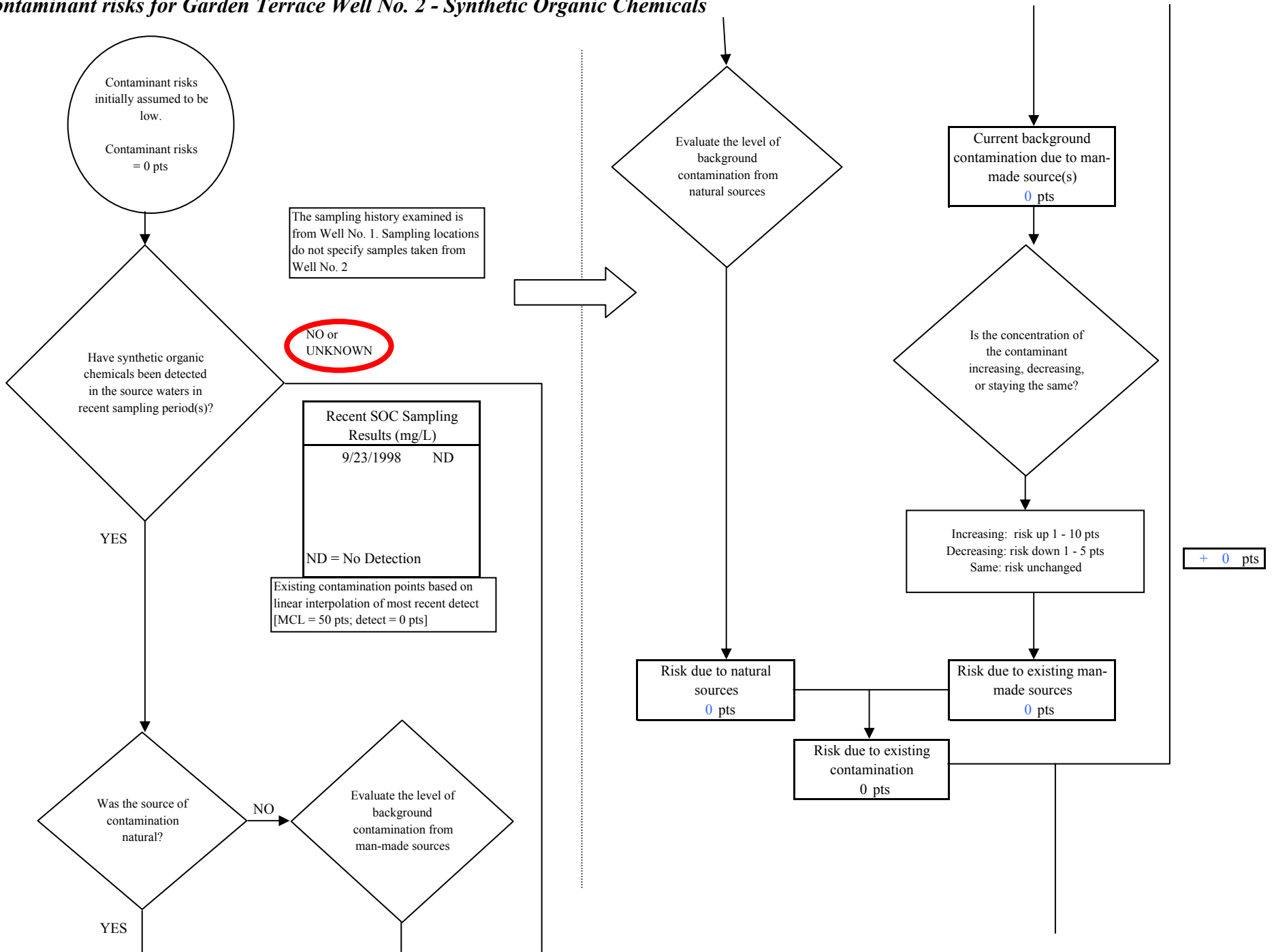
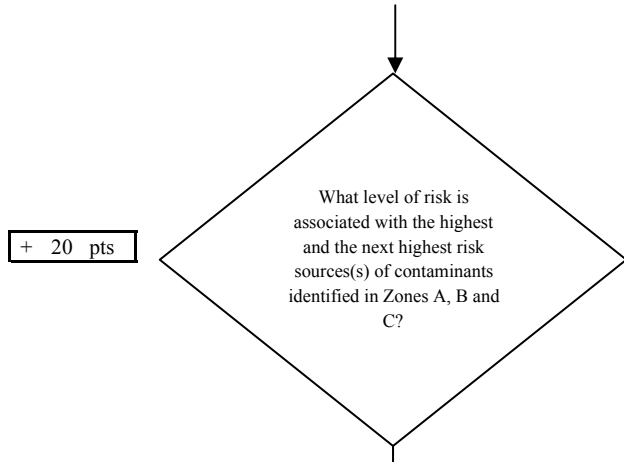


Chart 11. Contaminant risks for Garden Terrace Well No. 2 - Synthetic Organic Chemicals



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	0	0
Low(s)	4	20	24

	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 20

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.

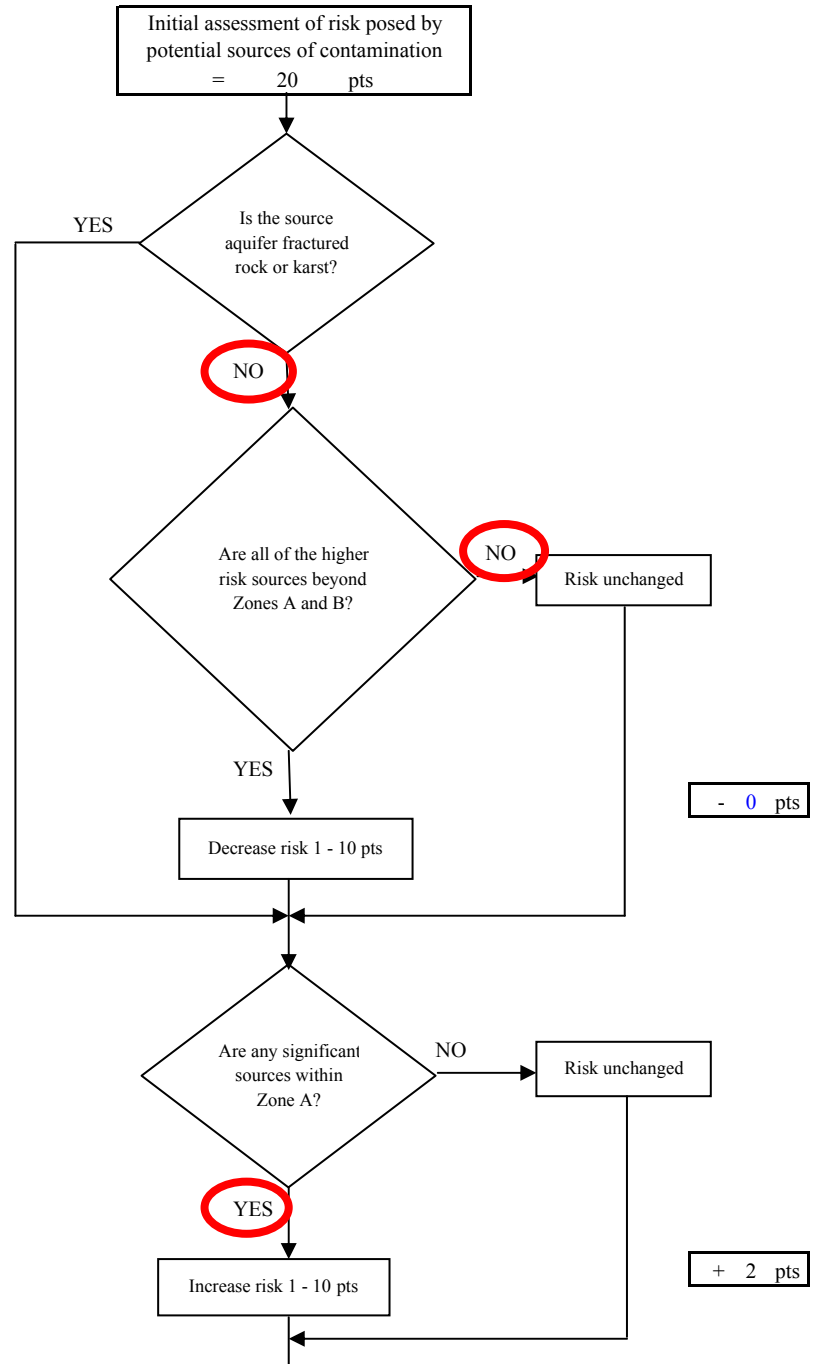
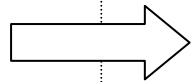


Chart 11. Contaminant risks for Garden Terrace Well No. 2 - Synthetic Organic Chemicals

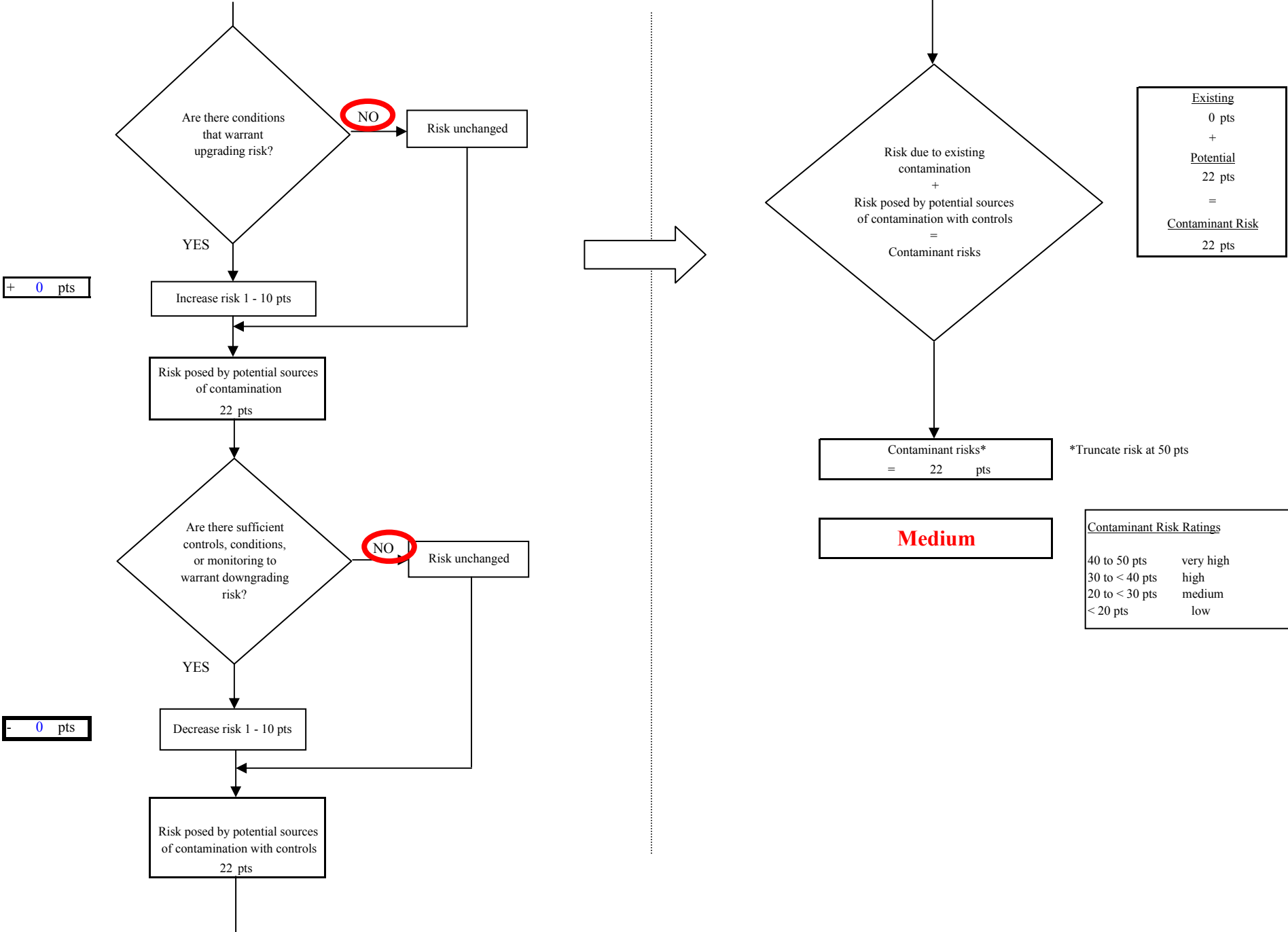


Chart 12. Vulnerability analysis for Garden Terrace Well No. 2 - Synthetic Organic Chemicals

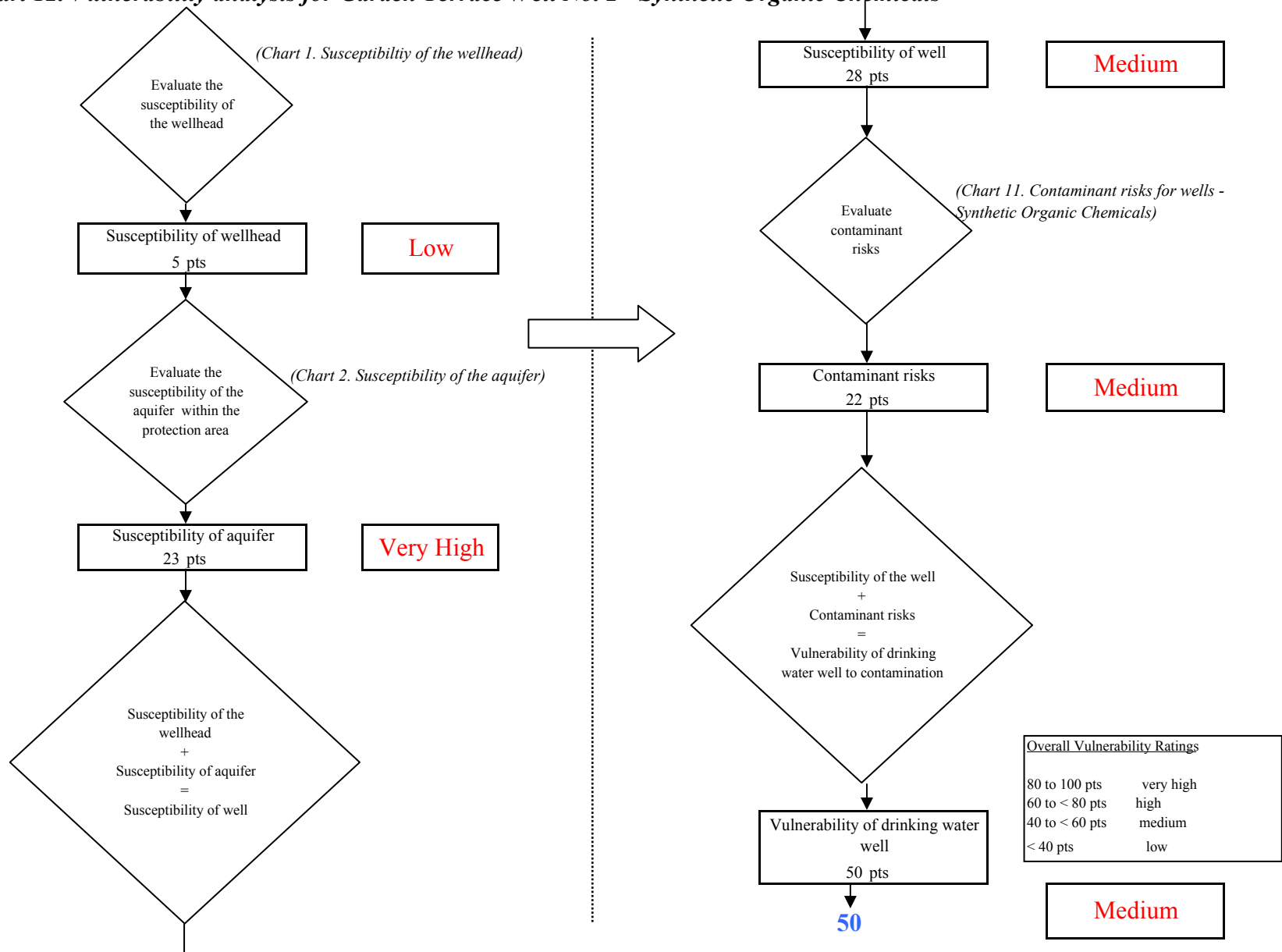


Chart 13. Contaminant risks for Garden Terrace Well No. 2 - Other Organic Chemicals

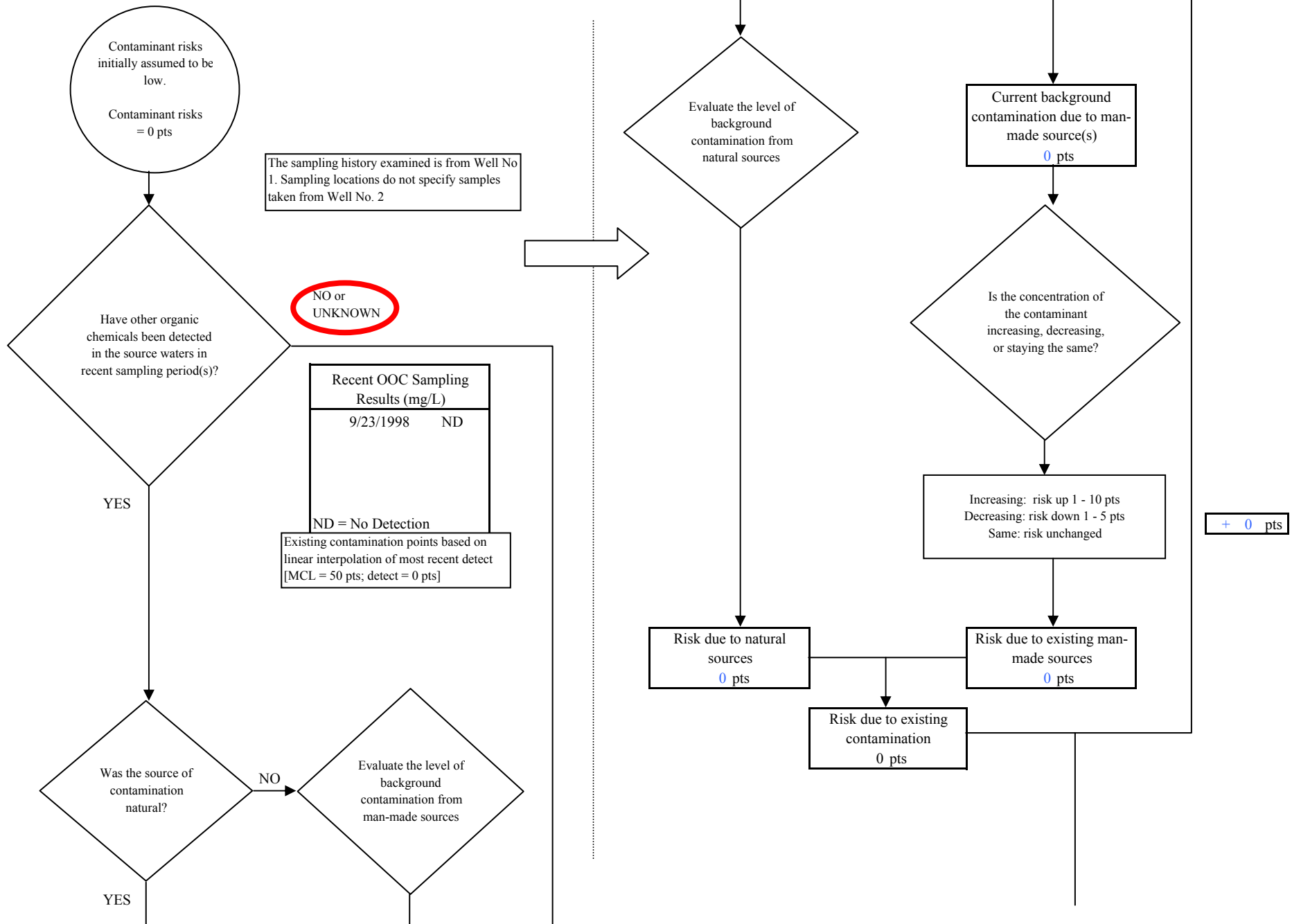
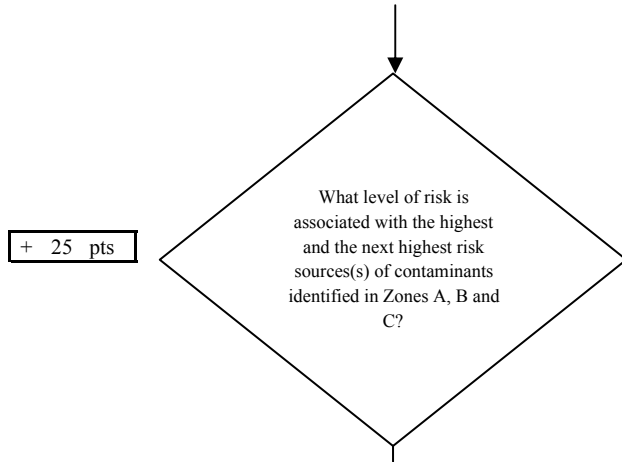


Chart 13. Contaminant risks for Garden Terrace Well No. 2 - Other Organic Chemicals



Risk Levels for Contaminant Sources identified in Zones A, B and C			
	Zone A	Zones B&C	Total
Very High(s)	0	0	0
High(s)	0	0	0
Medium(s)	0	3	3
Low(s)	5	23	28

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

Matrix Score 25

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

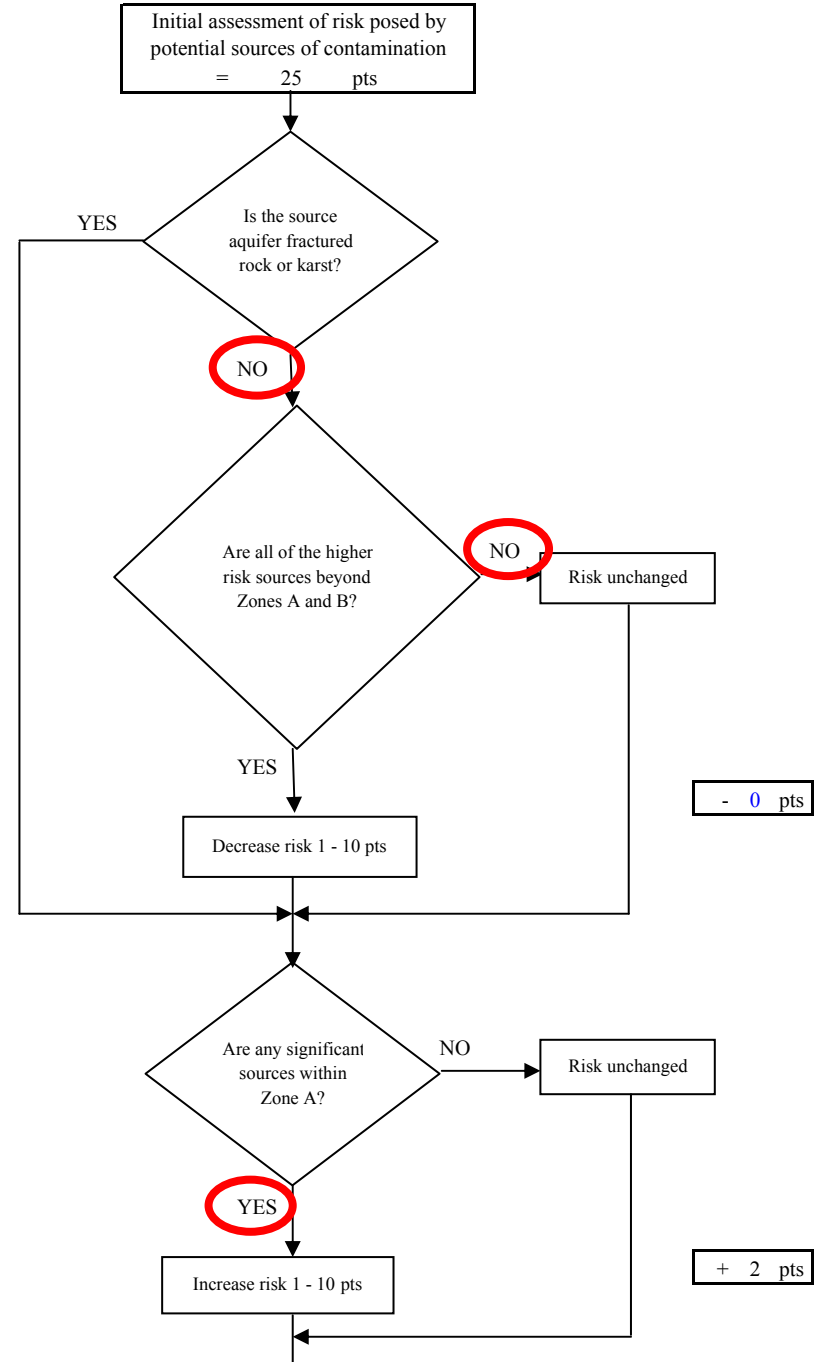
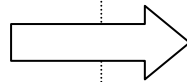


Chart 13. Contaminant risks for Garden Terrace Well No. 2 - Other Organic Chemicals

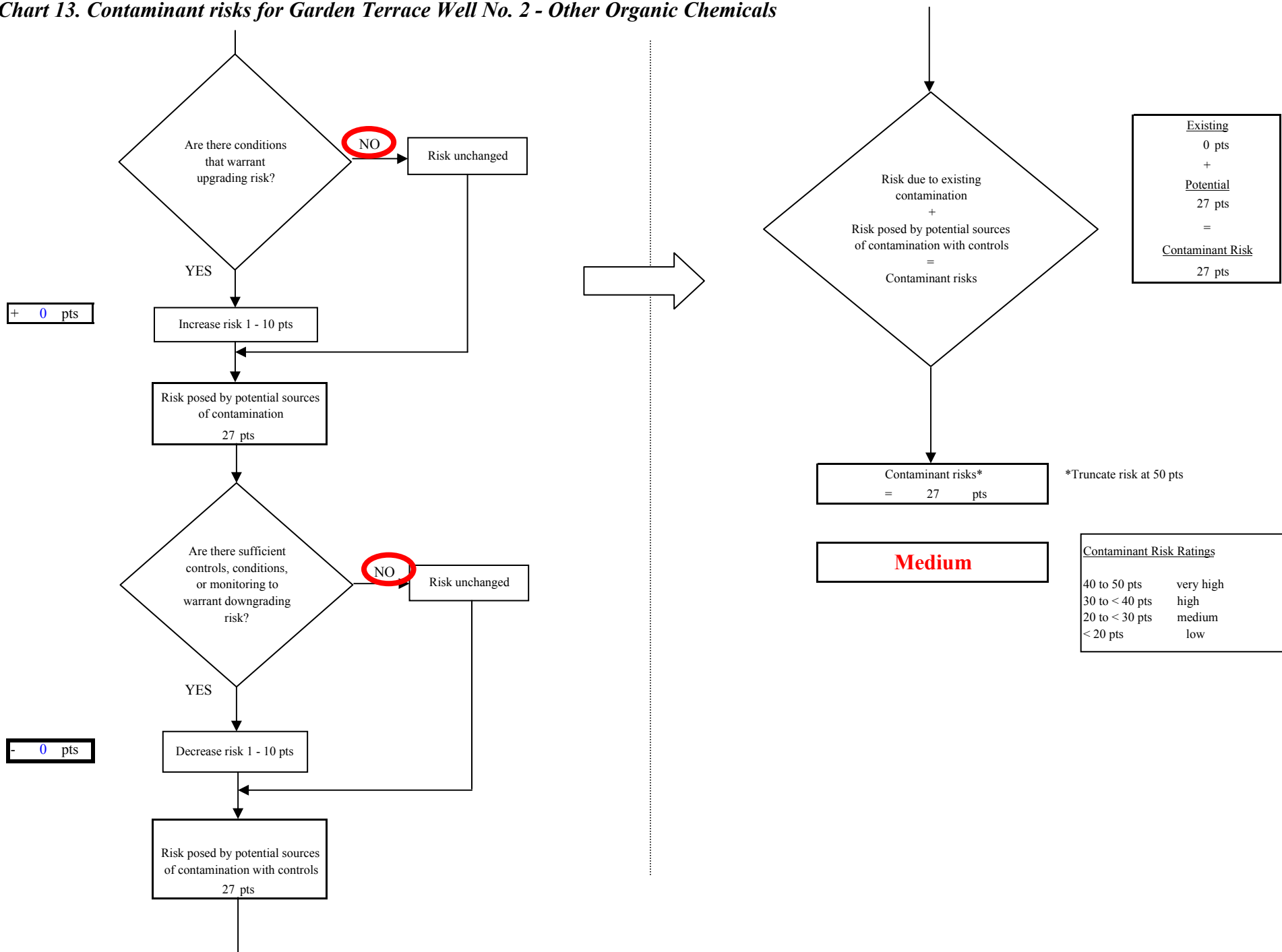


Chart 14. Vulnerability analysis for Garden Terrace Well No. 2 - Other Organic Chemicals

