Source Water Assessment

A Hydrogeologic Susceptibility and Vulnerability Assessment for Lyle's Trailer Court, Anchorage, Alaska PWSID # 212097.001

DRINKING WATER PROTECTION PROGRAM REPORT 786

Alaska Department of Environmental Conservation

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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.

CONTENTS

TABLES

APPENDICES

Source Water Assessment for Lyle's Trailer Court Source of Public Drinking Water, Anchorage, Alaska

Drinking Water Protection Program
Alaska Department of Environmental Conservation

EXECUTIVE SUMMARY

The public water system for Lyle's Trailer Court is a Class A (community) water system consisting of one well in the Anchorage area. Identified potential and existing sources of contaminants for Lyle's Trailer Court include: sewer lines, furniture repair and finishing shops, residential areas, roads, recreational trails, roads, motor vehicle repair shops, motor vehicle waste disposal wells, underground fuel tanks, Leaking Underground Storage Tank (LUST) sites, recognized contaminated sites and various commercial and industrial activities. 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, Lyle's Trailer Court received a vulnerability rating of **High** for inorganic chemicals, **Medium** for nitrate/nitrite, volatile organic chemicals and other organic chemicals and **Low** for bacteria and viruses and synthetic organic chemicals.

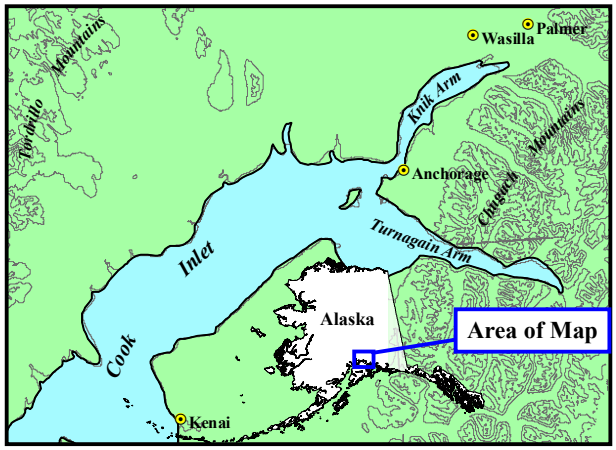

Figure 1. Index map showing the location of Anchorage, Alaska

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

DESCRIPTION OF THE ANCHORAGE AREA, ALASKA

Location

Anchorage, located in south-central Alaska, encompasses 1,698 square miles of land and 264 square miles of water. The area containing a majority of the urban development, commonly referred to as the Anchorage Bowl, encompasses approximately 180 square miles [*Partick, Brabets, and Glass, 1989*] and envelopes the low lands of the area. This area is bounded on the east by the Chugach Mountains and the north, west, and south by the Knik and Turnagain Arm of Cook Inlet (Figure 1). In recent times, urban development has extended eastward along the flanks of the Chugach Mountains. This area, known locally as the Anchorage Hillside, contains development at elevations exceeding 3,700 feet in elevation above sea level.

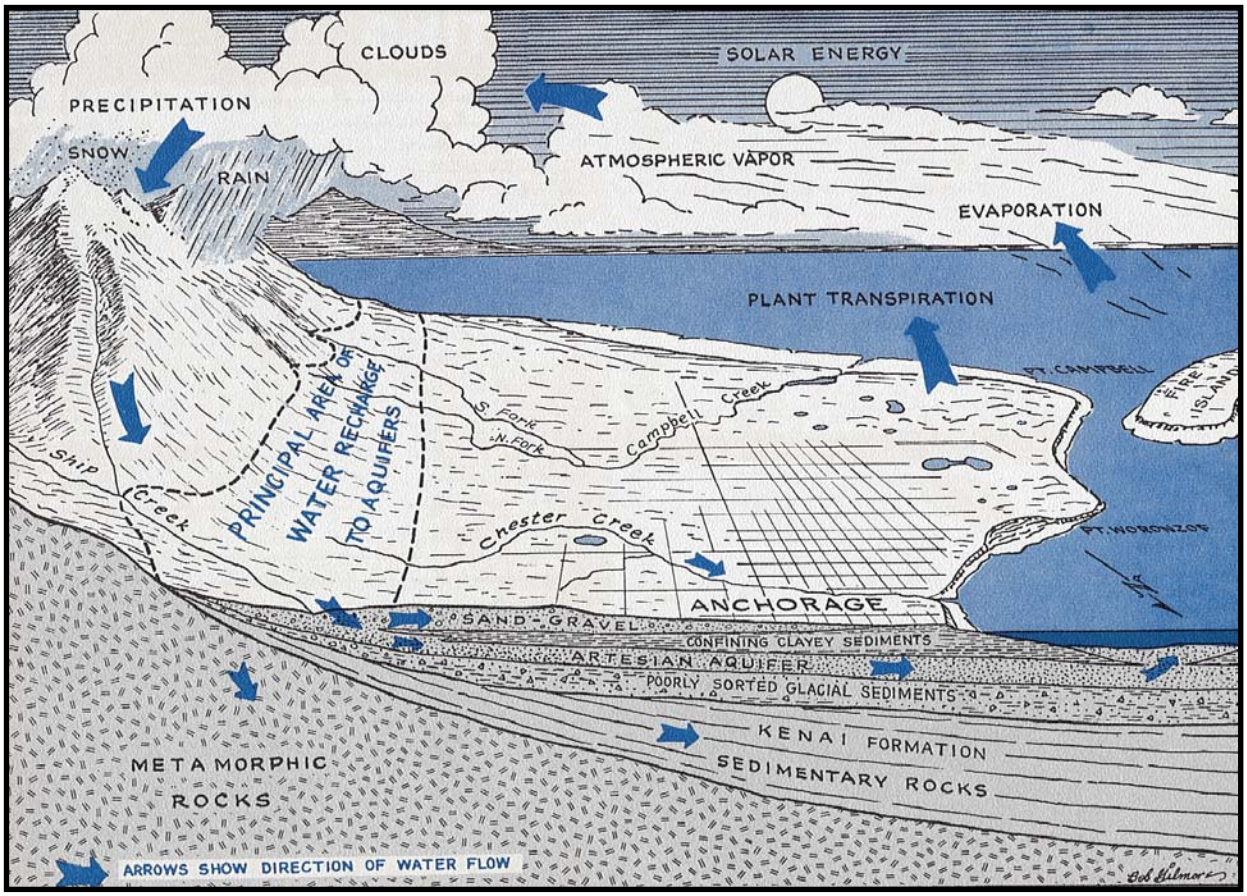

Figure 2. Generalized hydrologic cycle in the Anchorage area [*Barnwell, George, Dearborn,Weeks, and Zenone*, 1972].

Climate

The Anchorage area climate is somewhat transitional in that it does not experience large daily and annual temperature fluctuations like those experienced in the interior of Alaska nor does it experience high amounts of precipitation typified by gulf coast regions. Mean annual precipitation at the Anchorage International Airport is approximately 16 inches per year. On average, Anchorage receives a total snow accumulation of 69 inches per year. Precipitation generally increases inland toward the Chugach Mountains where annual precipitation may exceed 160 inches per year [*Barnwell, George, Dearborn, Weeks, and Zenone*, 1972]. Mean daily temperature ranges from 65^{o} F during July to 8^{o} F in January [*Western Regional Climate Center*, 2000].

Physiography and Groundwater Conditions

Surface elevations in the Anchorage area range from sea level at Knik and Turnagain Arms to well over 5,000 feet in the peaks that bound the area. Glacial moraine and outwash deposits primarily mantle the surface of the Anchorage Bowl.

The backbone of the Chugach Mountains is composed primarily of metamorphic marine and volcanic rocks (bedrock). These high peaks that bound Anchorage's east side are flanked with colluvium or slope deposits. These slope deposits eventually grade into the glacial and stream deposits at lower elevations in the Anchorage Bowl.

In the Anchorage area, two principal groundwater flow systems or aquifers exist (see Figure 2). The upper unconfined aquifer or water-table aquifer is separated from a lower confined aquifer system by layers of silty, clayey glacially derived sediments (confining layer) [*Ulery and Updike*, 1983]. The lower confined aquifer system consists of a series of hydrologically interconnected layers and lenses of gravel, sand and silt that, collectively, form the confined aquifer. The confining layer ranges from 0 to 270 feet thick throughout the Anchorage area and generally thins with increasing distance from Cook Inlet, thus pinching out at the mountain front [*Patrick, Brabets, and Glass*, 1989].

Water enters or recharges these two aquifer systems in several different ways. Along the front of the Chugach Mountains, groundwater seeps from fractures in

bedrock into the sediments. At these higher elevations, rain and snowmelt also enters the sediments. This area along the mountain front is considered the principal recharge area for wells in the Anchorage area. Precipitation in the low lands may also percolate directly into the ground. Lastly, aquifers may also be recharged by streams where surface water percolates into surrounding permeable sediments (losing reaches of streams). Groundwater flow in the confined aquifer is generally east to west from the mountain front toward Cook Inlet and Turnagain Arm, except in areas where the direction of flow is influenced by large municipal or industrial production wells. The direction of groundwater flow in the upper unconfined aquifer is more variable due to the influence from surfacial topography as well as its close connection with surface water bodies.

LYLE'S TRAILER COURT PUBLIC DRINKING WATER SYSTEM

Lyle's Trailer Court is a Class A (community) water system. The system consists of one well in the Anchorage area. (See Map 1 of Appendix A).

The well is located near Dorbrant Ave and 36thAve, at an elevation of approximately 75 feet above sea level.

The 1997 Sanitary Survey indicates that the well is installed with caps providing a sanitary seal. A properly installed sanitary seal may provide protection against contaminants from entering the source waters at the well casing. Records indicate that the well was installed prior to grouting regulations. Thus, it is assumed that the well was not grouted according to current ADEC regulations. Proper grouting provides added protection against contaminants traveling along the well casing and into source waters.

Records indicate that the well depth is 175 feet deep. The well log is unavailable. However, logs of nearby wells indicate that there is a confining layer from 29 feet to 80 feet below the surface. This confining layer may provide protection from contaminates entering the aquifer. However, the protectiveness of the clay layers tend to thin out towards the mountains allowing contaminants that enter the subsurface near the base of the mountains to enter the confined aquifer uninhibited by the absence of any protective layer. In addition, wells penetrating the confining layer can further reduce the protectiveness.

This system operates 365 days per year and serves 60 residents through 33 service connections.

LYLE'S TRAILER COURT PROTECTION AREA

In order to evaluate whether a drinking water source is at risk, we must first evaluate what are the most likely pathways for surface contamination to reach the groundwater. Some areas are more likely to allow contamination to reach the well than others. 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.

An outline of the immediate watershed was used to determine the size and shape of the DWPA for Lyle's Trailer Court. Available geology was also considered to take into account any uncertainties in groundwater flow and aquifer characteristics to arrive at a meaningful DWPA (Please refer to the Guidance Manual for Class A Public Water Systems for additional information).

The DWPAs established for wells by the ADEC are usually separated into four zones, limited by the watershed. These zones correspond to differences in the time-of-travel (TOT) of the water moving through the aquifer to the well. 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

INVENTORY OF POTENTIAL AND EXISTING CONTAMINANT SOURCES

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

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

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

The sources are displayed on Maps 2 -5 in 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 LYLE'S TRAILER COURTDRINKING WATER SOURCE

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:

Natural Susceptibility (0 – 50 points)

+

Contaminant Risks (0 – 50 points)

=

Vulnerability of the

Drinking Water Source to Contamination (0 – 100).

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

Susceptibility of the Wellhead (0 – 25 Points)

+

Susceptibility of the Aquifer (0 – 25 Points)

=

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

Table 2 shows the Susceptibility scores and ratings for the well serving Lyle's Trailer Court.

Table 2. Susceptibility of the well

	Score	Rating
Susceptibility of the Wellhead	5	Low
Susceptibility of the Aquifer	7	Low
Natural Susceptibility	12	Low

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

Category	Score	Rating
Bacteria and Viruses	25	Medium
Nitrates and/or Nitrites	32	High
Volatile Organic Chemicals	45	Very High
Heavy Metals, Cyanide, and Other Inorganic Chemicals	50	Very High
Synthetic Organic Chemicals	12	Very High
Other Organic Chemicals	32	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

Category	**Score**	**Rating**
Bacteria and Viruses	35	Low
Nitrates and Nitrites	45	Medium
Volatile Organic Chemicals	55	Medium
Heavy Metals, Cyanide and Other Inorganic Chemicals	60	High
Synthetic Organic Chemicals	25	Low
Other Organic Chemicals	45	Medium

Bacteria and Viruses
The contaminant risk for bacteria and viruses is medium with sewer lines, residential areas, parks and recreational trails presenting the most significant risk to the drinking water well (See Chart 3 – Contaminant Risks for Bacteria and Viruses in Appendix D).

Recent sampling of the well indicates that no bacteria and viruses have been detected. .

After combining the contaminant risk for bacteria and viruses with the natural susceptibility of the well, the overall vulnerability is low.

Nitrates and Nitrites
The contaminant risk for nitrates and nitrites is high with sewer lines, residential areas, parks and recreational trails presenting the most significant risk to the drinking water well.

Sampling history indicates low concentrations of nitrates have been detected in source waters. On 12/17/98, 0.36 mg/l or 4% of the Maximum contaminant Level or MCL was detected. (See Chart 5 - Contaminant Risks for Nitrates and/or Nitrites in Appendix D).

The MCL is the maximum level of contaminant that is allowed to exist in drinking water and still be consumed by humans. 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). Due to the high solubility and weak retnetnion by soil, nitrates are very mobile, moving at approximately the same rate as water. Though nitrates were detected at the site, concentrations remain at safe levels with respect to human health.

After combining the contaminant risk for nitrates and nitrites with the natural susceptibility of the well, the overall vulnerability of the well to contamination is medium.

Volatile Organic Chemicals
The contaminant risk for volatile organic chemicals is very high with residential areas, sewer lines, roads, motor vehicle repair shops, motor vehicle waste disposal wells, Leaking Underground Storage Tank (LUST) sites and recognized contaminated sites presenting the most significant risk to the drinking water source. (See Chart 7 – Contaminant Risks for Volatile Organic Chemicals in Appendix D).

Recent sampling indicates that no volatile organic chemicals have been detected in the source waters.

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

Heavy Metals, Cyanide, and Other Inorganic Chemicals
The contaminant risk for heavy metals, cyanide and other inorganic chemicals is very high with sewer lines, residential areas, roads, motor vehicle repair shops and motor vehicle waste disposal wells presenting the most significant risk to the drinking water source (See Chart 9 – Contaminant Risks for Heavy Metals, Cyanide, and Other Inorganic Chemicals in Appendix D).

Sampling on 4/26/2002, 12/18/2000 and 11/20/1997, indicates that arsenic was detected in the source waters above the current MCL of 0.01 mg/l (See Chart 9 – Contaminant Risks for Heavy Metals and Other Inorganic Chemicals in Appendix D). The MCL for arsenic has recently been lowered from 0.050 mg/l to 0.01 mg/l. At the time of sampling, the levels detected did not exceed the prior MCL of 0.050 mg/l.

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." (USEPA, 2001). It is likely that the arsenic detected is from natural sources.

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 previous arsenic standard of 0.050 mg/l. (USEPA, 2001).

Combining the contaminant risk with the natural susceptibility of the well, leads to an overall vulnerability to heavy metals and other inorganic chemical contamination of high.

Synthetic Organic Chemicals
The contaminant risk for synthetic organic chemicals is very high with sewer lines, residential areas, furniture repair/finishing shops, and orchards/nurseries presenting the most significant risk. (See Chart 11 – Contaminant Risks for Synthetic Organic Chemicals in Appendix D, respectively).

Sampling of synthetic organic chemicals has not occurred. After combining the contaminant risk with the natural susceptibility of the well, the overall vulnerability to synthetic organic chemicals is medium.

Other Organic Chemicals
The contaminant risk for other organic chemicals is very high with sewer lines, residential areas, roads, motor vehicle repair shops, motor vehicle waste disposal wells and electrical manufacturing presenting the most significant risk.

Sampling of other organic chemicals has not occurred. After combining the contaminant risk with the natural susceptibility of the well, the overall vulnerability to other organic chemicals is high. (See Chart 13 – Contaminant Risks for Other Organic Chemicals in Appendix D, respectively).

SUMMARY

A *Source Water Assessment* has been completed for the source of public drinking water serving Lyle's Trailer Court. The overall vulnerability of this source to contamination is **High** for inorganic chemicals, **Medium** for nitrate/nitrites, volatile organic chemicals and other organic chemicals and **Low** for bacteria and viruses and synthetic 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 Lyle's Trailer Court 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 Lyle's Trailer Court public drinking water source.

REFERENCES

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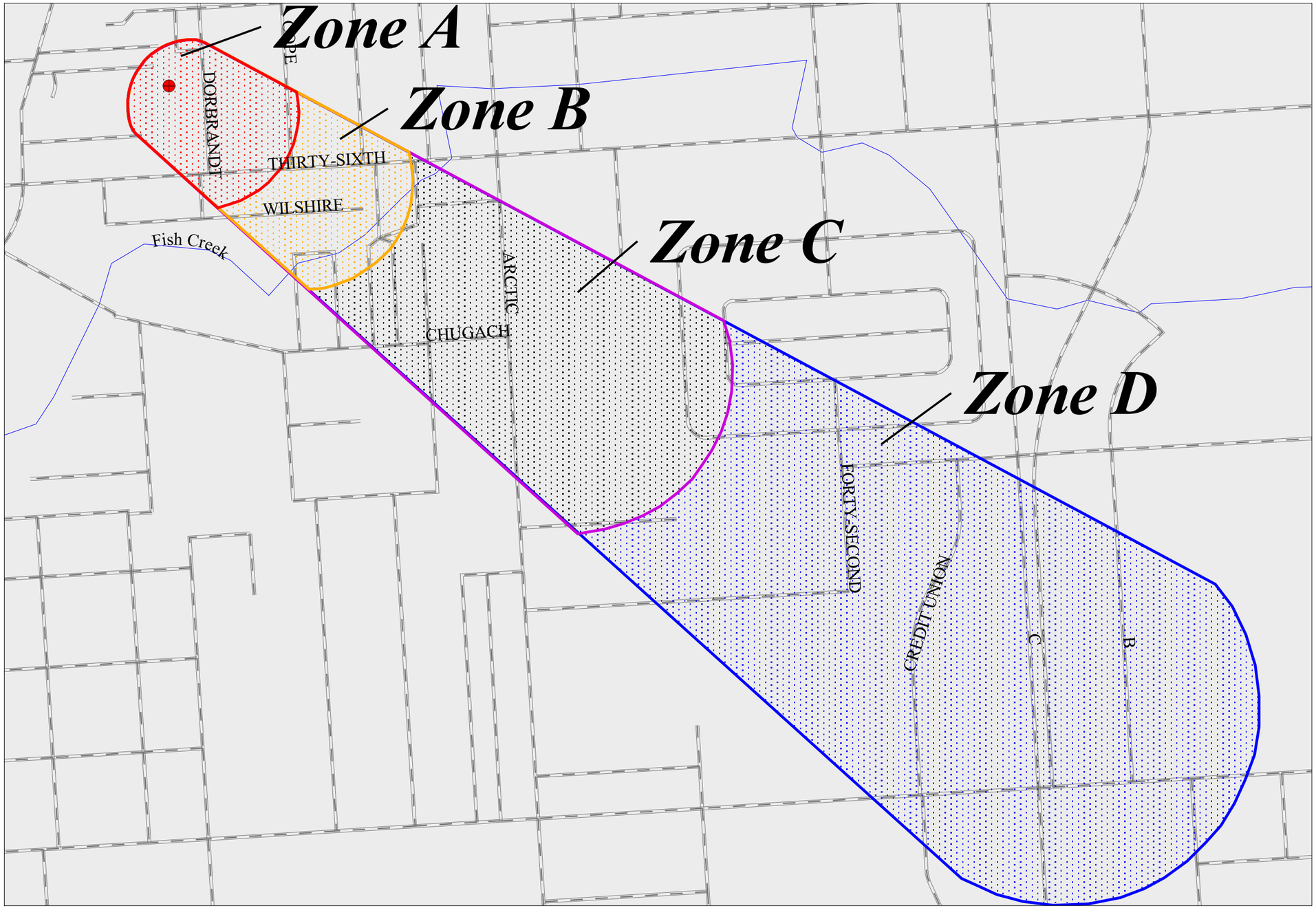
APPENDIX A

Lyle's Trailer Court
Drinking Water Protection Area Location
(Map 1)

Drinking Water Protection Area for Lyle's Trailer Court



Legend

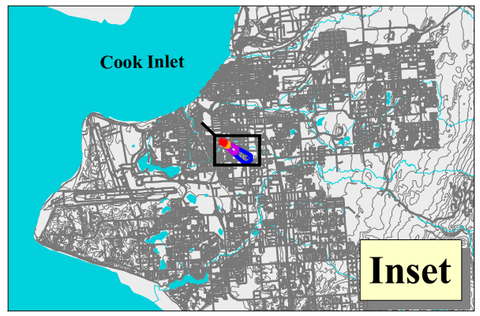
- Lyle's Trailer Court Well

Zone A Protection Area
- Several Months Travel Time

Zone B Protection Area
- Less Than 2 Years Travel Time

Zone C Protection Area
- Less Than 5 Years Travel Time

Zone D Protection Area
- Less Than 10 Years Travel Time
- Roads
- Streams



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Map 1

APPENDIX B

Contaminant Source Inventory and Risk Ranking for Lyle's Trailer Court (Tables 1-7)

Table 1

Contaminant Source Inventory for ***Lyle's Trailer Court***

PWSID 212097.001

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Map Number*	*Comments*
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-1	A	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-2	A	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-3	A	2	
Residential Areas	R01	R1-1	A	3	Residential parcels in area had home heating tanks.
Municipal or city parks (with green areas)	X04	X4-1	A	3	
Highways and roads, paved (cement or asphalt)	X20	X20-1	A	2	
Highways and roads, paved (cement or asphalt)	X20	X20-2	A	2	
Highways and roads, paved (cement or asphalt)	X20	X20-3	A	2	
Highways and roads, paved (cement or asphalt)	X20	X20-4	A	2	
Dog walking areas/foot trails	X46	X46-1	A	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-4	B	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-5	B	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-6	B	2	
Residential Areas	R01	R1-2	B	3	Residential parcels in area had home heating tanks.
Highways and roads, paved (cement or asphalt)	X20	X20-5	B	2	
Highways and roads, paved (cement or asphalt)	X20	X20-6	B	2	
Highways and roads, paved (cement or asphalt)	X20	X20-7	B	2	
Highways and roads, paved (cement or asphalt)	X20	X20-8	B	2	
Highways and roads, paved (cement or asphalt)	X20	X20-9	B	2	
Construction trade areas and materials	C09	C9-4	C	4	
Motor vehicle rental facilities - cars, trucks, ATV's, snow machines (with service department)	C30	C30-1	C	4	

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Map Number*	*Comments*
Motor /motor vehicle repair shops	C31	C31-2	C	4	
Printers, publishers, copiers	C37	C37-1	C	4	
Electrical, electronic, computer, and communications equipment/component manufacturing	I13	I13-4	C	4	
Residential Areas	R01	R1-3	C	4	Residential parcels in area had home heating tanks.
Closed tanks, diesel (underground)	T09	T9-1	C	4	
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U7-1	C	4	File No. L55.48 Gasoline contaminated soil/groundwater found during removal of 6,000 gallon unleaded gasoline UST in 11/89. 65 cubic yards contaminated soils excavated. Extent of contamination and health impact unknown.Priority: Medium
Municipal or city parks (with green areas)	X04	X4-2	C	4	
Medical/veterinary facilities (doctor or dentist offices, hospitals, nursing homes)	X40	X40-1	C	4	
Medical/veterinary facilities (doctor or dentist offices, hospitals, nursing homes)	X40	X40-2	C	4	
Dog walking areas/foot trails	X46	X46-2	C	4	
Dog walking areas/foot trails	X46	X46-3	C	4	
Dog walking areas/foot trails	X46	X46-4	C	4	
Furniture manufacturing, repair, and finishing shops	C14	C14-2	D	5	
Printers, publishers, copiers	C37	C37-5	D	5	
Printers, publishers, copiers	C37	C37-6	D	5	
Printers, publishers, copiers	C37	C37-7	D	5	
Printers, publishers, copiers	C37	C37-8	D	5	
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U7-2	D	5	File No. L30.12 Gasoline/diesel soil contamination encountered in 1987. BTEX contaminated detected in 1990. Contamiantion threatens potable groundwater resources. Priority: High

Table 2

Contaminant Source Inventory and Risk Ranking for Lyle's Trailer Court Sources of Bacteria and Viruses

PWSID 212097.001

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-1	A	Medium	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-2	A	Medium	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-3	A	Medium	2	
Residential Areas	R01	R1-1	A	Low	3	Residential parcels in area had home heating tanks.
Highways and roads, paved (cement or asphalt)	X20	X20-1	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-3	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-4	A	Low	2	
Municipal or city parks (with green areas)	X04	X4-1	A	Medium	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-4	B	Medium	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-5	B	Medium	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-6	B	Medium	2	
Residential Areas	R01	R1-2	B	Low	3	Residential parcels in area had home heating tanks.
Highways and roads, paved (cement or asphalt)	X20	X20-5	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-6	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-7	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-8	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-9	B	Low	2	

Table 3

Contaminant Source Inventory and Risk Ranking for Lyle's Trailer Court Sources of Nitrates/Nitrites

PWSID 212097.001

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-1	A	Medium	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-2	A	Medium	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-3	A	Medium	2	
Residential Areas	R01	R1-1	A	Low	3	Residential parcels in area had home heating tanks.
Highways and roads, paved (cement or asphalt)	X20	X20-1	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-3	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-4	A	Low	2	
Municipal or city parks (with green areas)	X04	X4-1	A	Medium	3	
Dog walking areas/foot trails	X46	X46-1	A	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-4	B	Medium	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-5	B	Medium	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-6	B	Medium	2	
Residential Areas	R01	R1-2	B	Low	3	Residential parcels in area had home heating tanks.
Highways and roads, paved (cement or asphalt)	X20	X20-5	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-6	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-7	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-8	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-9	B	Low	2	
Residential Areas	R01	R1-3	C	Low	4	Residential parcels in area had home heating tanks.
Municipal or city parks (with green areas)	X04	X4-2	C	Medium	4	
Dog walking areas/foot trails	X46	X46-2	C	Low	4	

Table 3 (continued)

Contaminant Source Inventory and Risk Ranking for Lyle's Trailer Court Sources of Nitrates/Nitrites

PWSID 212097.001

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Dog walking areas/foot trails	X46	X46-3	C	Low	4	

Table 4

Contaminant Source Inventory and Risk Ranking for Lyle's Trailer Court Sources of Volatile Organic Chemicals

PWSID 212097.001

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-1	A	Low	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-2	A	Low	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-3	A	Low	2	
Residential Areas	R01	R1-1	A	Medium	3	Residential parcels in area had home heating tanks.
Highways and roads, paved (cement or asphalt)	X20	X20-1	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-3	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-4	A	Low	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-4	B	Low	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-5	B	Low	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-6	B	Low	2	
Residential Areas	R01	R1-2	B	Medium	3	Residential parcels in area had home heating tanks.
Highways and roads, paved (cement or asphalt)	X20	X20-5	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-6	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-7	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-8	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-9	B	Low	2	
Motor vehicle rental facilities - cars, trucks, ATV's, snow machines (with service department)	C30	C30-1	C	Medium	4	
Motor /motor vehicle repair shops	C31	C31-2	C	Medium	4	
Printers, publishers, copiers	C37	C37-1	C	High	4	
Construction trade areas and materials	C09	C9-4	C	Low	4	

Table 4 (continued)

Contaminant Source Inventory and Risk Ranking for Lyle's Trailer Court Sources of Volatile Organic Chemicals

PWSID 212097.001

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Electrical, electronic, computer, and communications equipment/component manufacturing	I13	I13-4	C	Very High	4	
Residential Areas	R01	R1-3	C	Medium	4	Residential parcels in area had home heating tanks.
Closed tanks, diesel (underground)	T09	T9-1	C	Medium	4	
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U7-1	C	High	4	File No. L55.48 Gasoline contaminated soil/groundwater found during removal of 6,000 gallon unleaded gasoline UST in 11/89. 65 cubic yards contaminated soils excavated. Extent of contamination and health impact unknown.Priority: Medium
Medical/veterinary facilities (doctor or dentist offices, hospitals, nursing homes)	X40	X40-1	C	Low	4	
Medical/veterinary facilities (doctor or dentist offices, hospitals, nursing homes)	X40	X40-2	C	Low	4	
Furniture manufacturing, repair, and finishing shops	C14	C14-2	D	Medium	5	
Printers, publishers, copiers	C37	C37-5	D	High	5	
Printers, publishers, copiers	C37	C37-6	D	High	5	
Printers, publishers, copiers	C37	C37-7	D	High	5	
Printers, publishers, copiers	C37	C37-8	D	High	5	
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U7-2	D	High	5	File No. L30.12 Gasoline/diesel soil contamination encountered in 1987. BTEX contaminated detected in 1990. Contamiantion threatens potable groundwater resources. Priority: High

Table 5

Contaminant Source Inventory and Risk Ranking for Lyle's Trailer Court

Sources of Heavy Metals, Cyanide and Other Inorganic Chemicals

PWSID 212097.001

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-1	A	Low	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-2	A	Low	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-3	A	Low	2	
Residential Areas	R01	R1-1	A	Low	3	Residential parcels in area had home heating tanks.
Highways and roads, paved (cement or asphalt)	X20	X20-1	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-3	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-4	A	Low	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-4	B	Low	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-5	B	Low	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-6	B	Low	2	
Residential Areas	R01	R1-2	B	Low	3	Residential parcels in area had home heating tanks.
Highways and roads, paved (cement or asphalt)	X20	X20-5	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-6	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-7	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-8	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-9	B	Low	2	
Motor vehicle rental facilities - cars, trucks, ATV's, snow machines (with service department)	C30	C30-1	C	Low	4	
Motor /motor vehicle repair shops	C31	C31-2	C	Medium	4	
Printers, publishers, copiers	C37	C37-1	C	Medium	4	
Construction trade areas and materials	C09	C9-4	C	Low	4	

Contaminant Source Inventory and Risk Ranking for Lyle's Trailer Court

Sources of Heavy Metals, Cyanide and Other Inorganic Chemicals

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Electrical, electronic, computer, and communications equipment/component manufacturing	I13	I13-4	C	High	4	
Residential Areas	R01	R1-3	C	Low	4	Residential parcels in area had home heating tanks.
Medical/veterinary facilities (doctor or dentist offices, hospitals, nursing homes)	X40	X40-1	C	Low	4	
Medical/veterinary facilities (doctor or dentist offices, hospitals, nursing homes)	X40	X40-2	C	Low	4	
Furniture manufacturing, repair, and finishing shops	C14	C14-2	D	Low	5	
Printers, publishers, copiers	C37	C37-5	D	Medium	5	
Printers, publishers, copiers	C37	C37-6	D	Medium	5	
Printers, publishers, copiers	C37	C37-7	D	Medium	5	
Printers, publishers, copiers	C37	C37-8	D	Medium	5	

Table 6

Contaminant Source Inventory and Risk Ranking for Lyle's Trailer Court
Sources of Synthetic Organic Chemicals

PWSID 212097.001

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-1	A	Low	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-2	A	Low	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-3	A	Low	2	
Residential Areas	R01	R1-1	A	Low	3	Residential parcels in area had home heating tanks.
Municipal or city parks (with green areas)	X04	X4-1	A	Low	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-4	B	Low	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-5	B	Low	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-6	B	Low	2	
Residential Areas	R01	R1-2	B	Low	3	Residential parcels in area had home heating tanks.
Printers, publishers, copiers	C37	C37-1	C	Low	4	
Residential Areas	R01	R1-3	C	Low	4	Residential parcels in area had home heating tanks.
Municipal or city parks (with green areas)	X04	X4-2	C	Low	4	
Medical/veterinary facilities (doctor or dentist offices, hospitals, nursing homes)	X40	X40-1	C	Low	4	
Medical/veterinary facilities (doctor or dentist offices, hospitals, nursing homes)	X40	X40-2	C	Low	4	
Furniture manufacturing, repair, and finishing shops	C14	C14-2	D	Medium	5	
Printers, publishers, copiers	C37	C37-5	D	Low	5	
Printers, publishers, copiers	C37	C37-6	D	Low	5	
Printers, publishers, copiers	C37	C37-7	D	Low	5	
Printers, publishers, copiers	C37	C37-8	D	Low	5	

Table 7

Contaminant Source Inventory and Risk Ranking for Lyle's Trailer Court Sources of Other Organic Chemicals

PWSID 212097.001

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-1	A	Low	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-2	A	Low	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-3	A	Low	2	
Residential Areas	R01	R1-1	A	Low	3	Residential parcels in area had home heating tanks.
Highways and roads, paved (cement or asphalt)	X20	X20-1	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-3	A	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-4	A	Low	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-4	B	Low	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-5	B	Low	2	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D1-6	B	Low	2	
Residential Areas	R01	R1-2	B	Low	3	Residential parcels in area had home heating tanks.
Highways and roads, paved (cement or asphalt)	X20	X20-5	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-6	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-7	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-8	B	Low	2	
Highways and roads, paved (cement or asphalt)	X20	X20-9	B	Low	2	
Motor vehicle rental facilities - cars, trucks, ATV's, snow machines (with service department)	C30	C30-1	C	Medium	4	
Motor /motor vehicle repair shops	C31	C31-2	C	Medium	4	
Construction trade areas and materials	C09	C9-4	C	Low	4	
Electrical, electronic, computer, and communications equipment/component manufacturing	I13	I13-4	C	Very High	4	

Contaminant Source Inventory and Risk Ranking for Lyle's Trailer Court

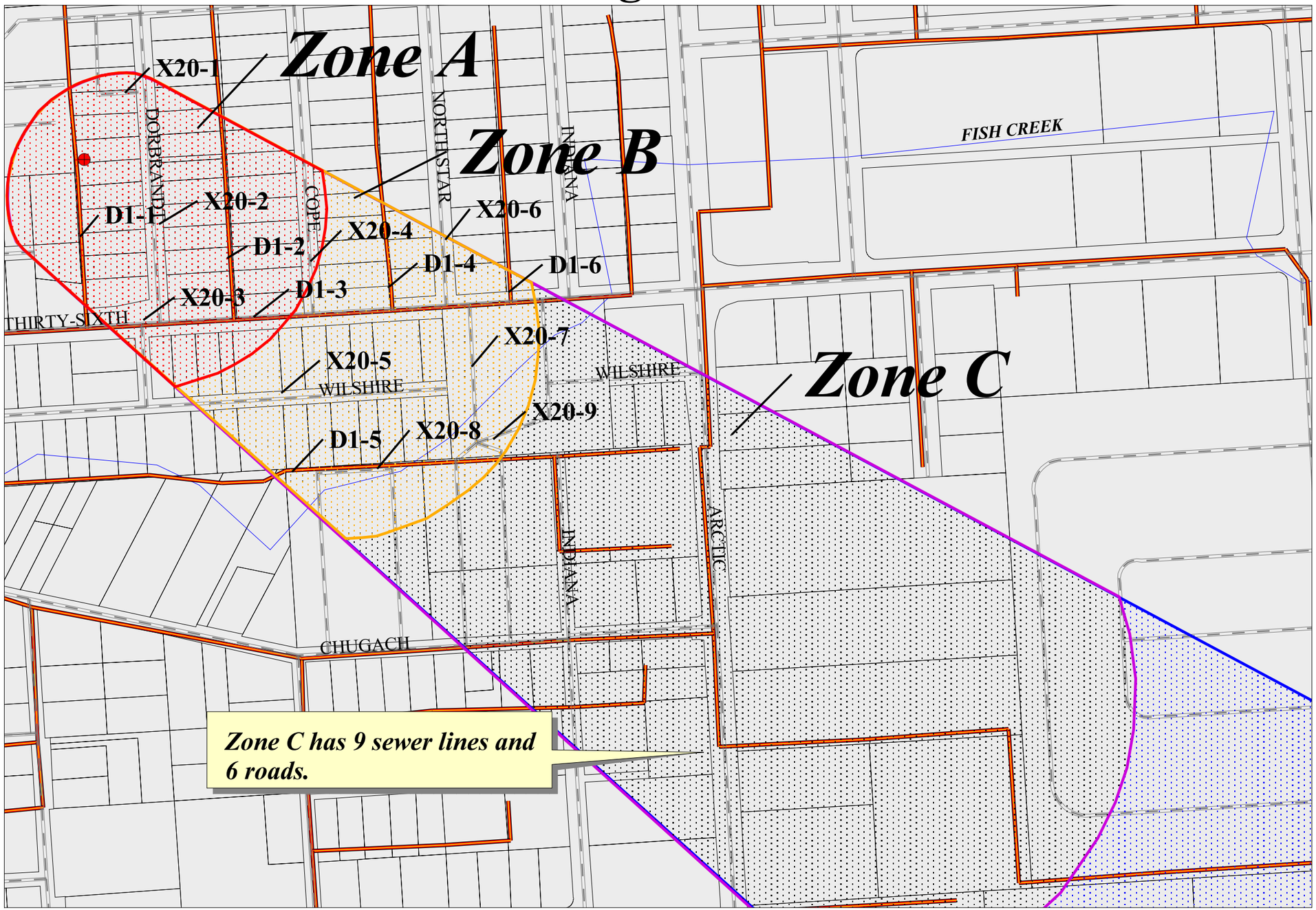
Sources of Other Organic Chemicals

Contaminant Source Type	*Contaminant Source ID*	*CS ID tag*	*Zone*	*Risk Ranking for Analysis*	*Map Number*	*Comments*
Residential Areas	R01	R1-3	C	Low	4	Residential parcels in area had home heating tanks.
Furniture manufacturing, repair, and finishing shops	C14	C14-2	D	Medium	5	

APPENDIX C

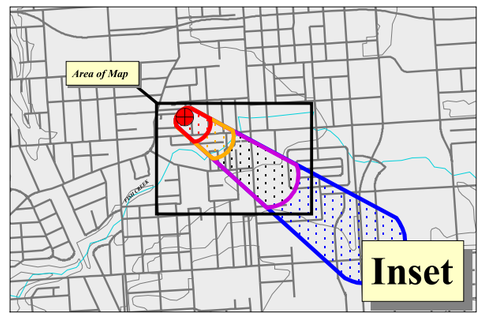
Lyle's Trailer Court
Drinking Water Protection Area
and Potential and Existing Contaminant Sources
(Maps 2-5)

Drinking Water Protection Area for Lyle's Trailer Court and Potential and Exisitng Sources of Contamination



Legend

- Lyle's Trailer Court Well
- Zone A Protection Area
  - Several Months Travel Time
- Zone B Protection Area
  - Less Than 2 Years Travel Time
- Zone C Protection Area
  - Less Than 5 Years Travel Time
- Zone D Protection Area
  - Less Than 10 Years Travel Time
- Roads
- Sewers (D1)
- Streams
- MOA Land Parcels



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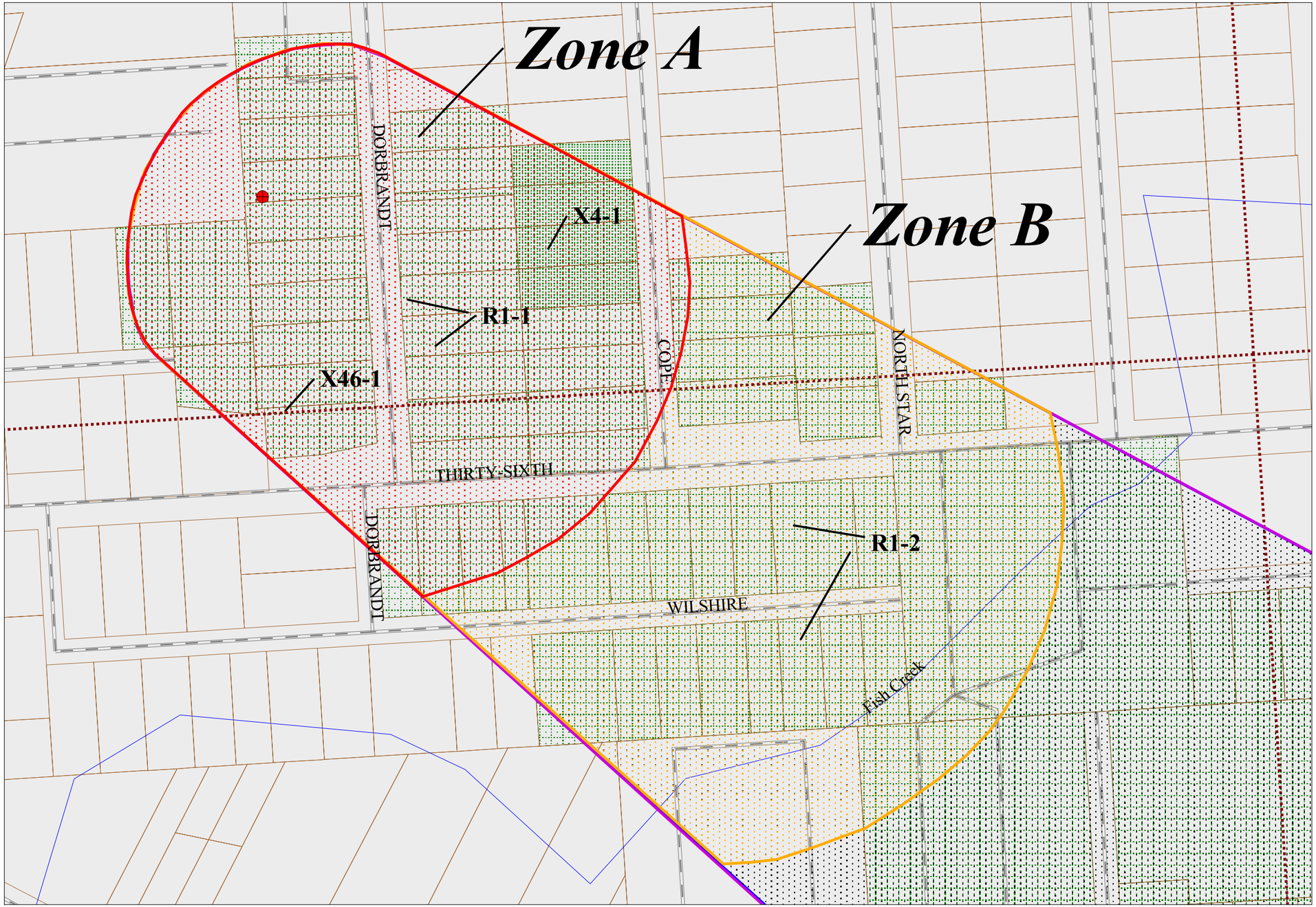
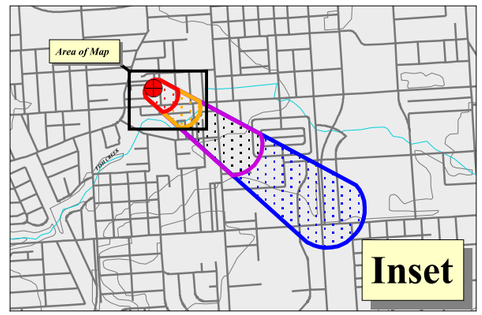
Map 2

Drinking Water Protection Area for Lyle's Trailer Court and Potential and Exisitng Sources of Contamination



Legend

- Lyle's Trailer Court Well
- Zone A Protection Area
- Several Months Travel Time
- Zone B Protection Area
- Less Than 2 Years Travel Time
- Zone C Protection Area
- Less Than 5 Years Travel Time
- Zone D Protection Area
- Less Than 10 Years Travel Time
- Trails (X46)
- Roads
- Streams
- MOA Land Parcels
- Parks (X4)
- Lawns and gardens (R1)



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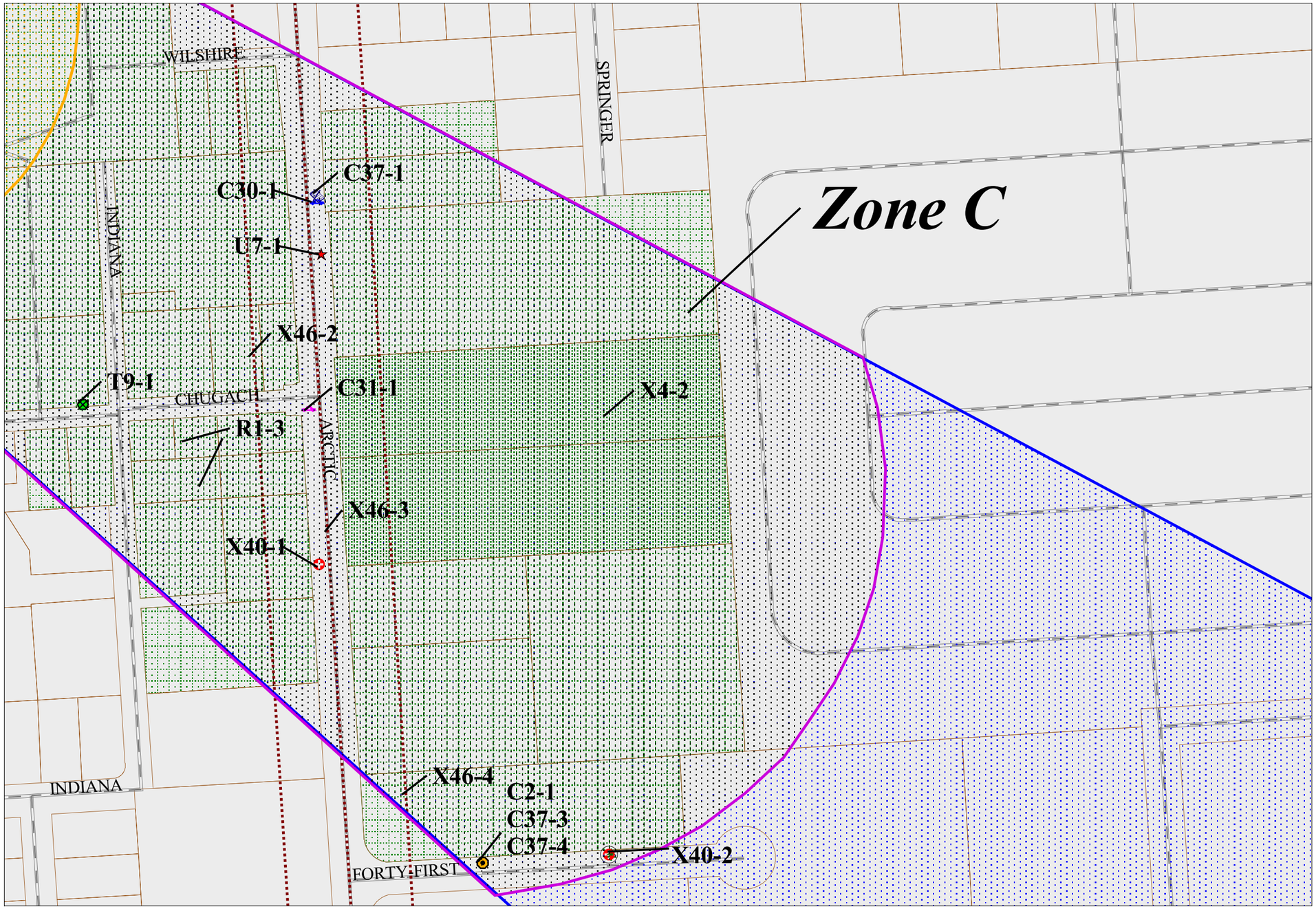
Map 3

Drinking Water Protection Area for Lyle's Trailer Court and Potential and Exisitng Sources of Contamination

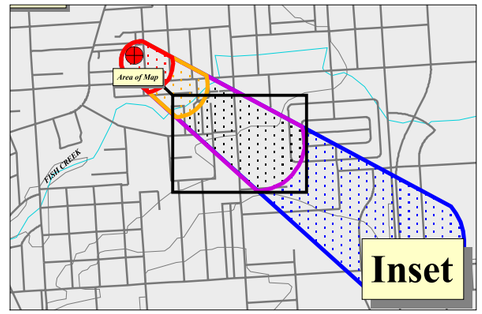


Legend

Zone A Protection Area
Several Months Travel Time
Zone B Protection Area
Less Than 2 Years Travel Time
Zone C Protection Area
Less Than 5 Years Travel Time
Zone D Protection Area
Less Than 10 Years Travel Time
Trails (X46)

Contaminant Sources
- Orchards or nurseries (A10)
- Florists (C12)
- Hardware stores (C17)
- Heavy equipment rental/storage (C18)
- Agricultural chemical/sales (C2)
- Leather processing (C24)
- Motor vehicle rental facilities (C30)
- Motor vehilce repair shop (C31)
- Paint sales/service (C32)
- Photography supplies/photo processing (C36)
- Printers, publishers, copiers (C37)
- Welding shops (C43)
- Construction trade areas (C9)
- Electrical/electronic/communications component manufacturing (I13)
- Asphalt and tar processing/storage (I3)
- Sign manufacturing (I39)
- Closed tanks, diesel (underground) (T9)
- Contaminated site, DEC recognized (U4)
- Motor vehicle/general storage (X27)
- Mecial/veterinary facilities (X40)

Roads
MOA Land Parcels
Parks (X4)
Lawns and gardens (R1)



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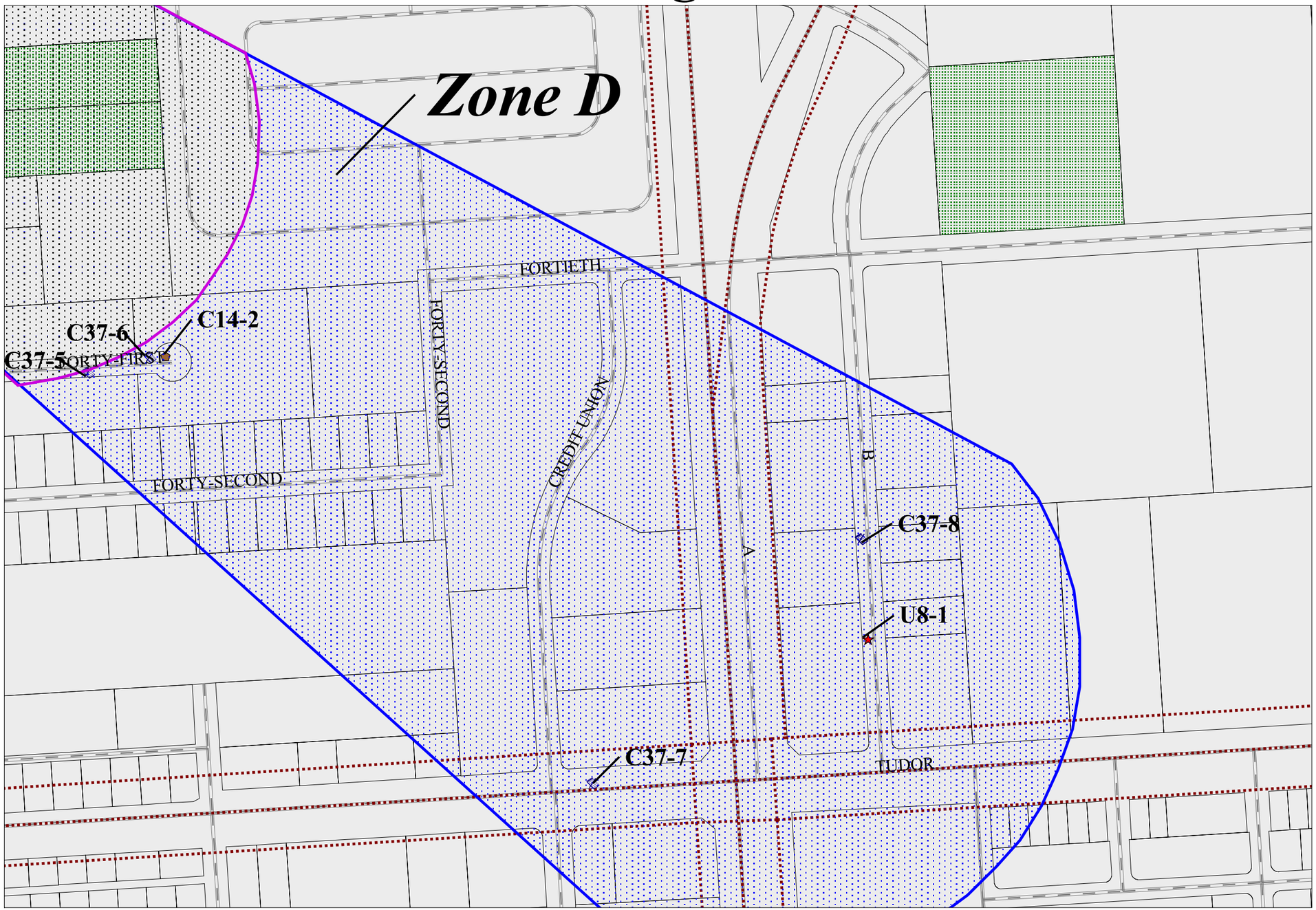
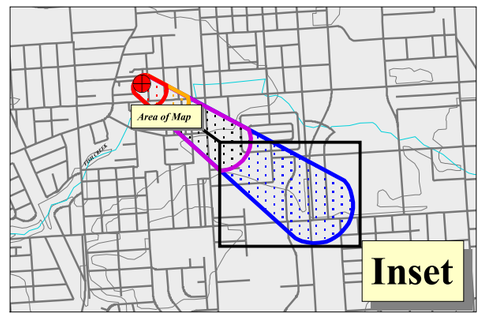
Map 4

Drinking Water Protection Area for Lyle's Trailer Court and Potential and Exisitng Sources of Contamination



Legend

Zone A Protection Area
Several Months Travel Time
Zone B Protection Area
Less Than 2 Years Travel Time
Zone C Protection Area
Less Than 5 Years Travel Time
Zone D Protection Area
Less Than 10 Years Travel Time
Contaminant Sources
Furniture manufacturing, repair (C14)
Gasoline stations (without repair shop) (C15)
Printers, publishers, copiers (C37)
Injection well (CLass V) Motor vehicle waste (D42)
Electrical/electronic/computer component manufacturing (I13)
Lumber processing and preservation (N4)
Tanks, gasoline (underground) (T12)
Tanks, diesel (underground) (T8)
Contaminated site, DEC recognized (U4)
Trails (X46)
Roads
MOA Land Parcels
Parks (X4)



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Map 5

APPENDIX D

Vulnerability Analysis for Lyle's Trailer Court

(Charts 1-14)

Chart 1. Susceptibility of the wellhead - Lyle's Trailer Court

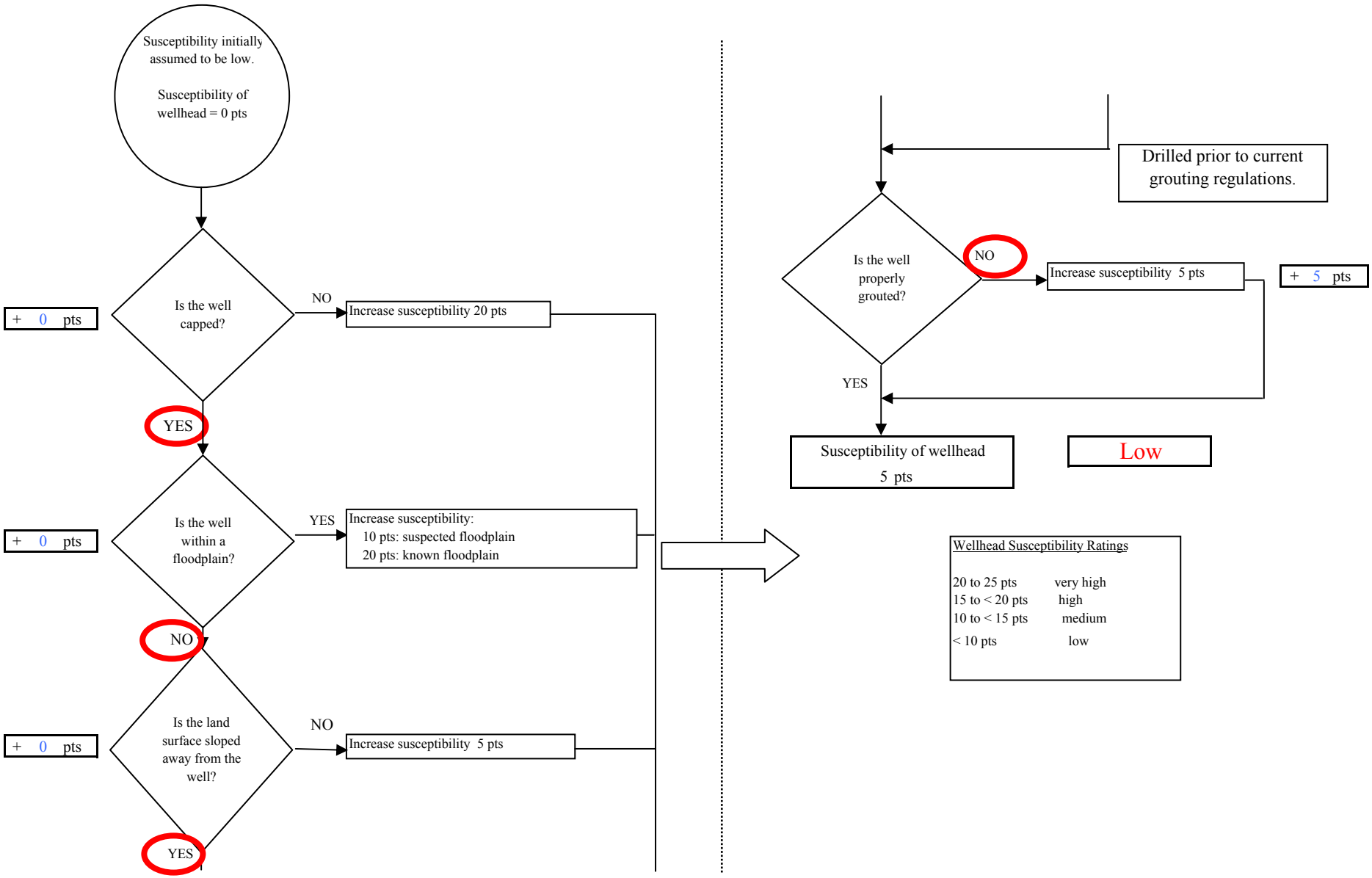


Chart 2. Susceptibility of the aquifer - Lyle's Trailer Court

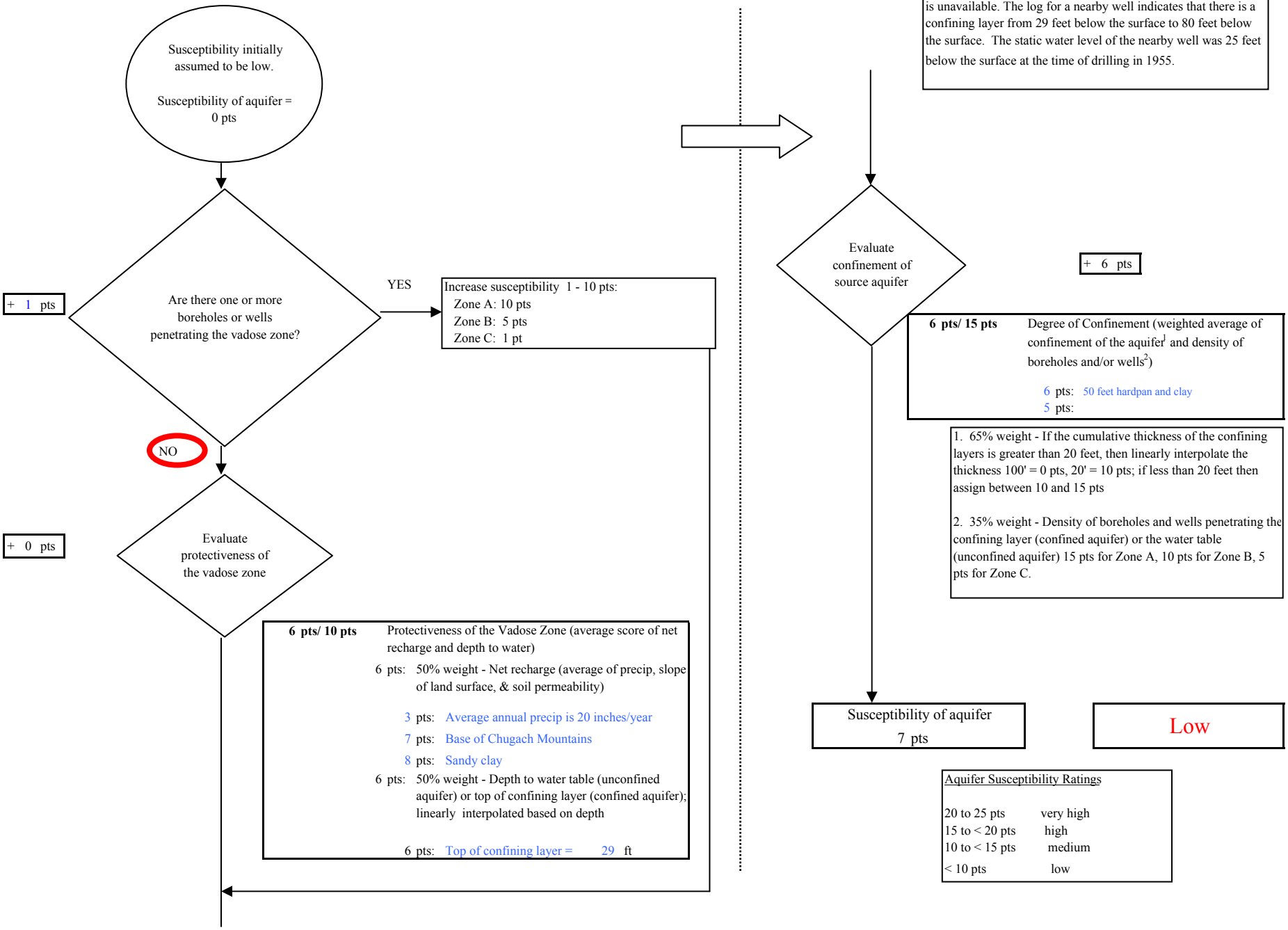
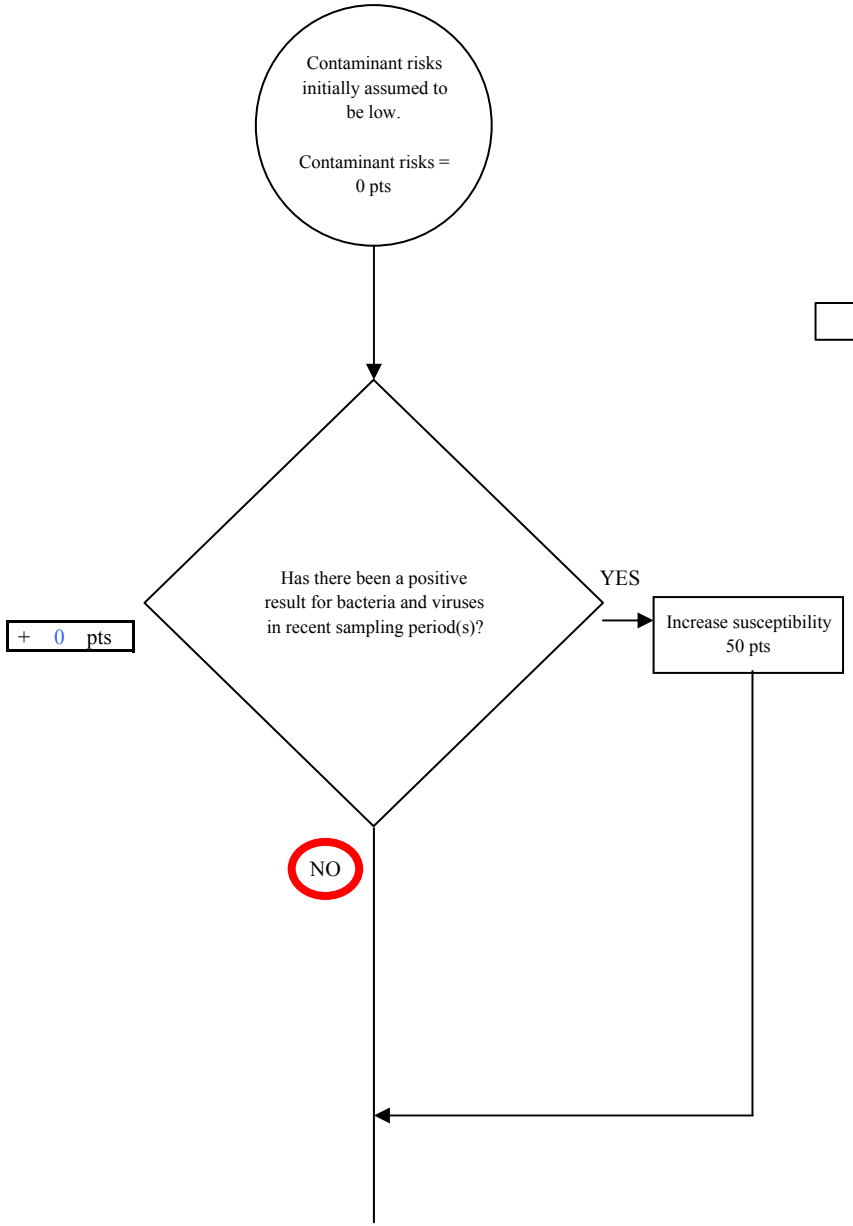
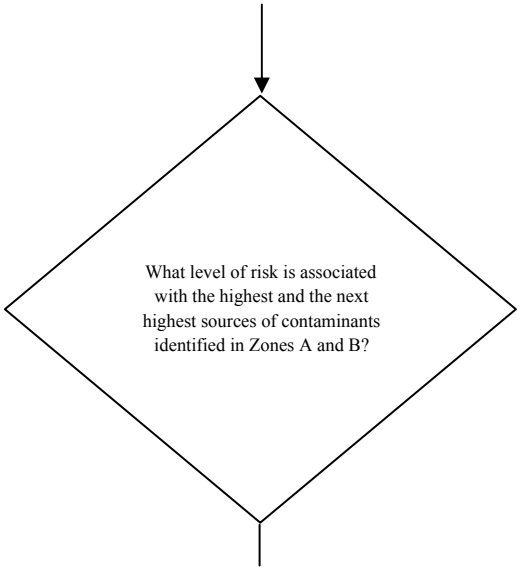


Chart 3. Contaminant risks for Lyle's Trailer Court- Bacteria & Viruses





+ 20 pts

Risk Rankings for Contaminant Sources Identified in Zones A and B

	Zone A	Zone B	Total
Very Highs(s)	0	0	0
High(s)	0	0	0
Medium(s)	2	0	2
Low(s)	2	3	5

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

Matrix Score 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 3. Contaminant risks for Lyle's Trailer Court- Bacteria & Viruses

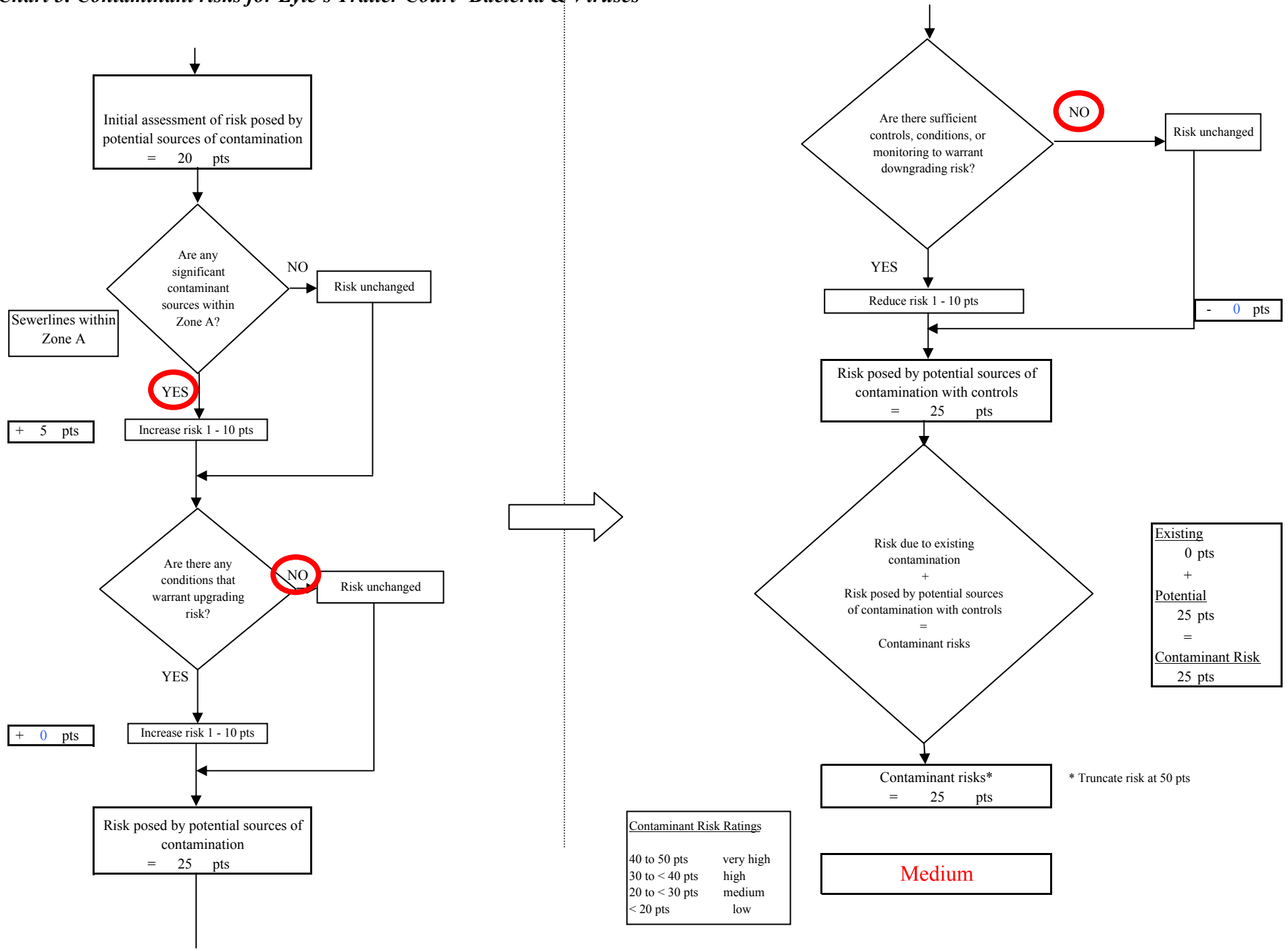


Chart 4. Vulnerability analysis for Lyle's Trailer Court- Bacteria & Viruses

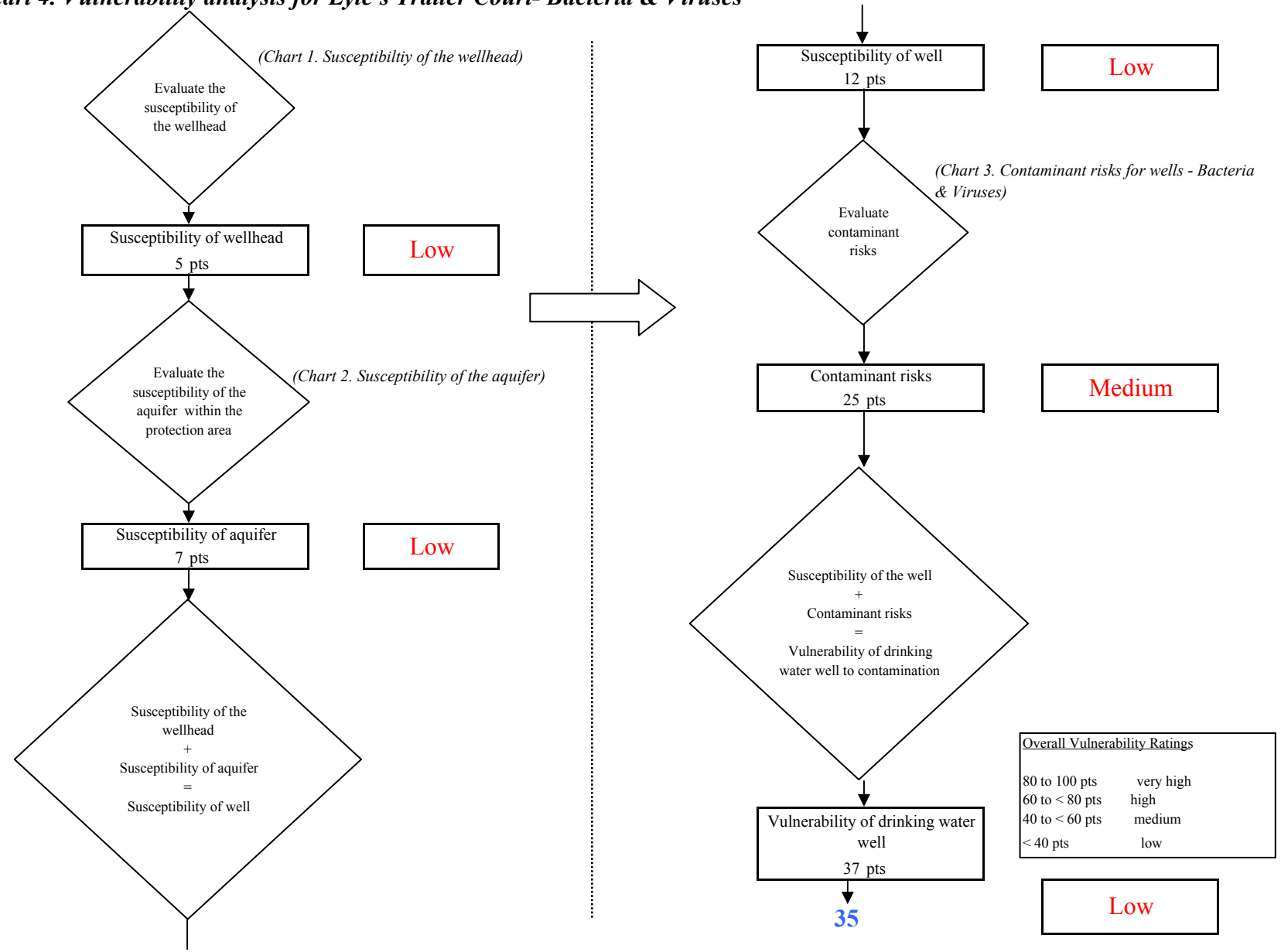


Chart 5. Contaminant risks for Lyle's Trailer Court- Nitrates and Nitrites

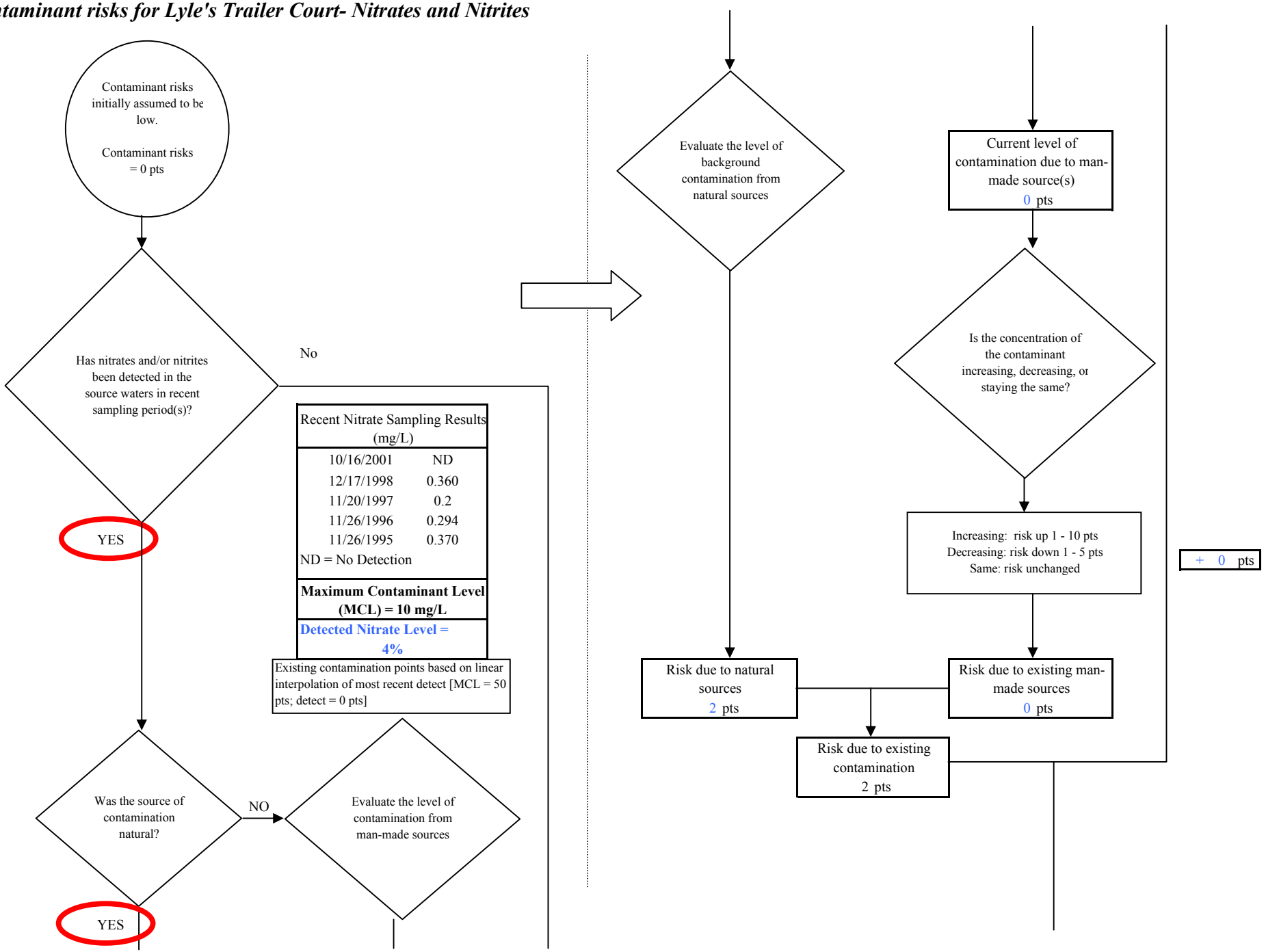


Chart 5. Contaminant risks for Lyle's Trailer Court- Nitrates and Nitrites

+ 25 pts

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

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

	Zone A	Zones B&C	Total
Very Highs(s)	0	0	0
High(s)	0	0	0
Medium(s)	2	1	3
Low(s)	3	6	9

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

Matrix Score 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.

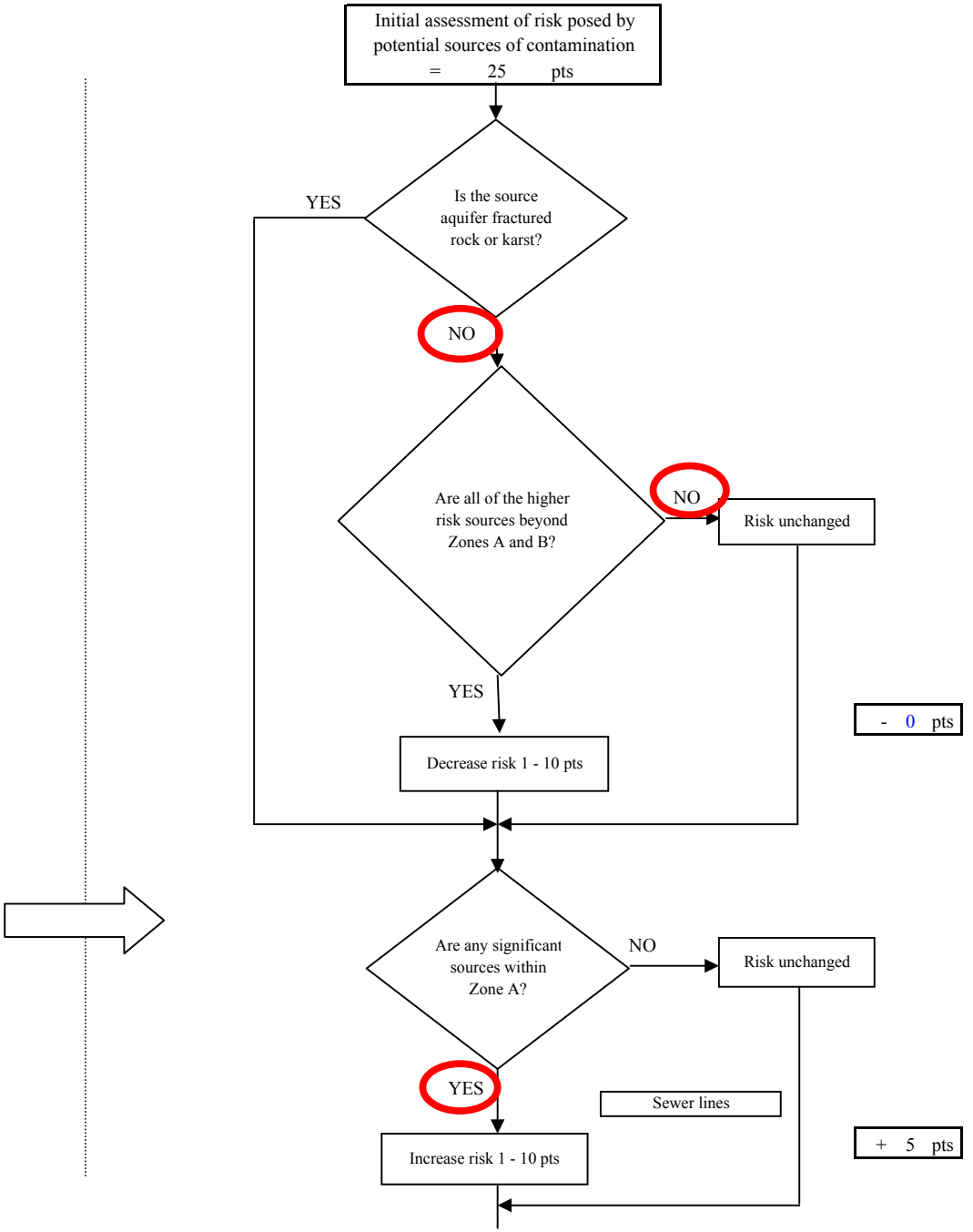


Chart 5. Contaminant risks for Lyle's Trailer Court- Nitrates and Nitrites

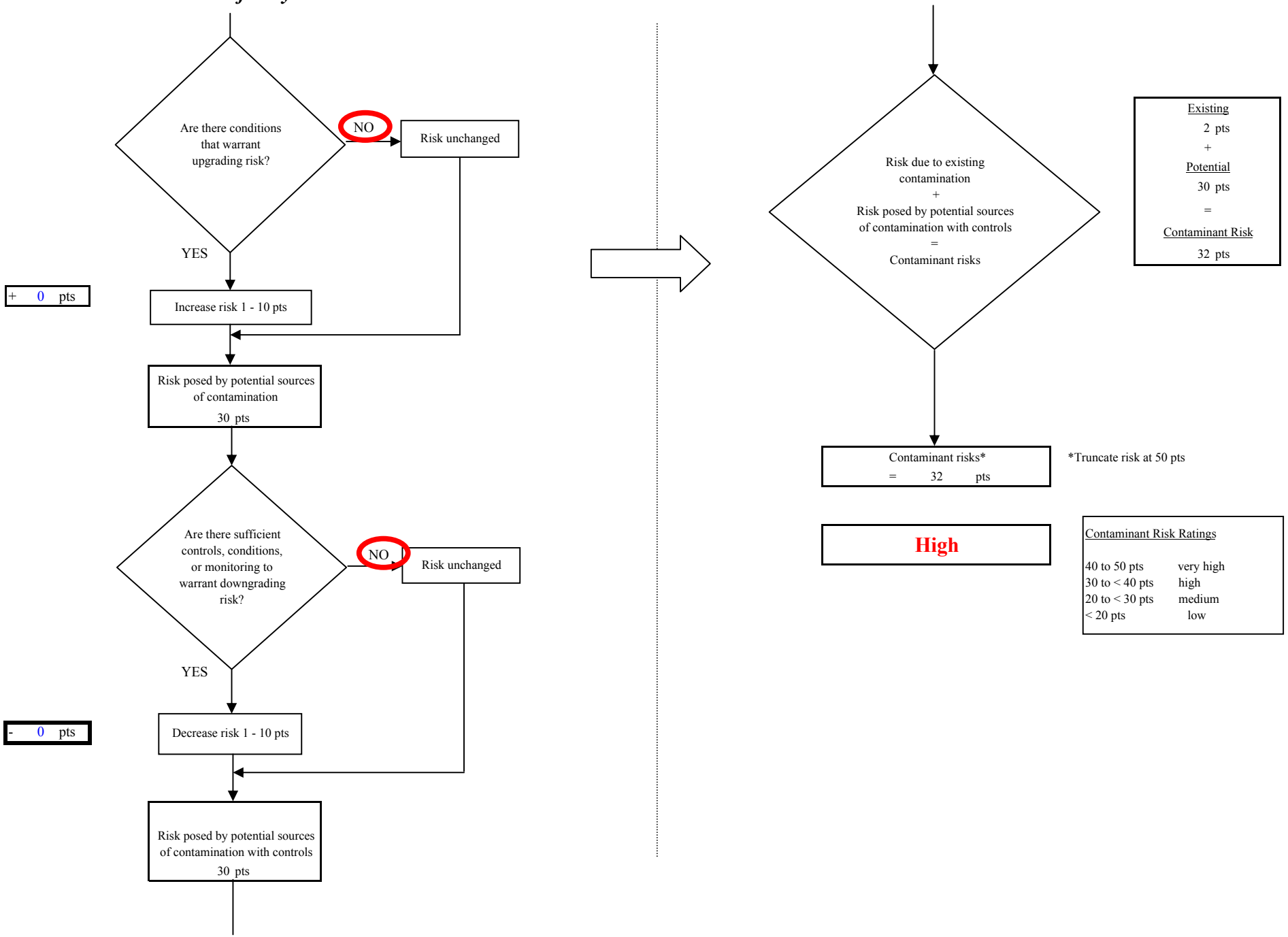


Chart 6. Vulnerability analysis for Lyle's Trailer Court- Nitrates and Nitrites

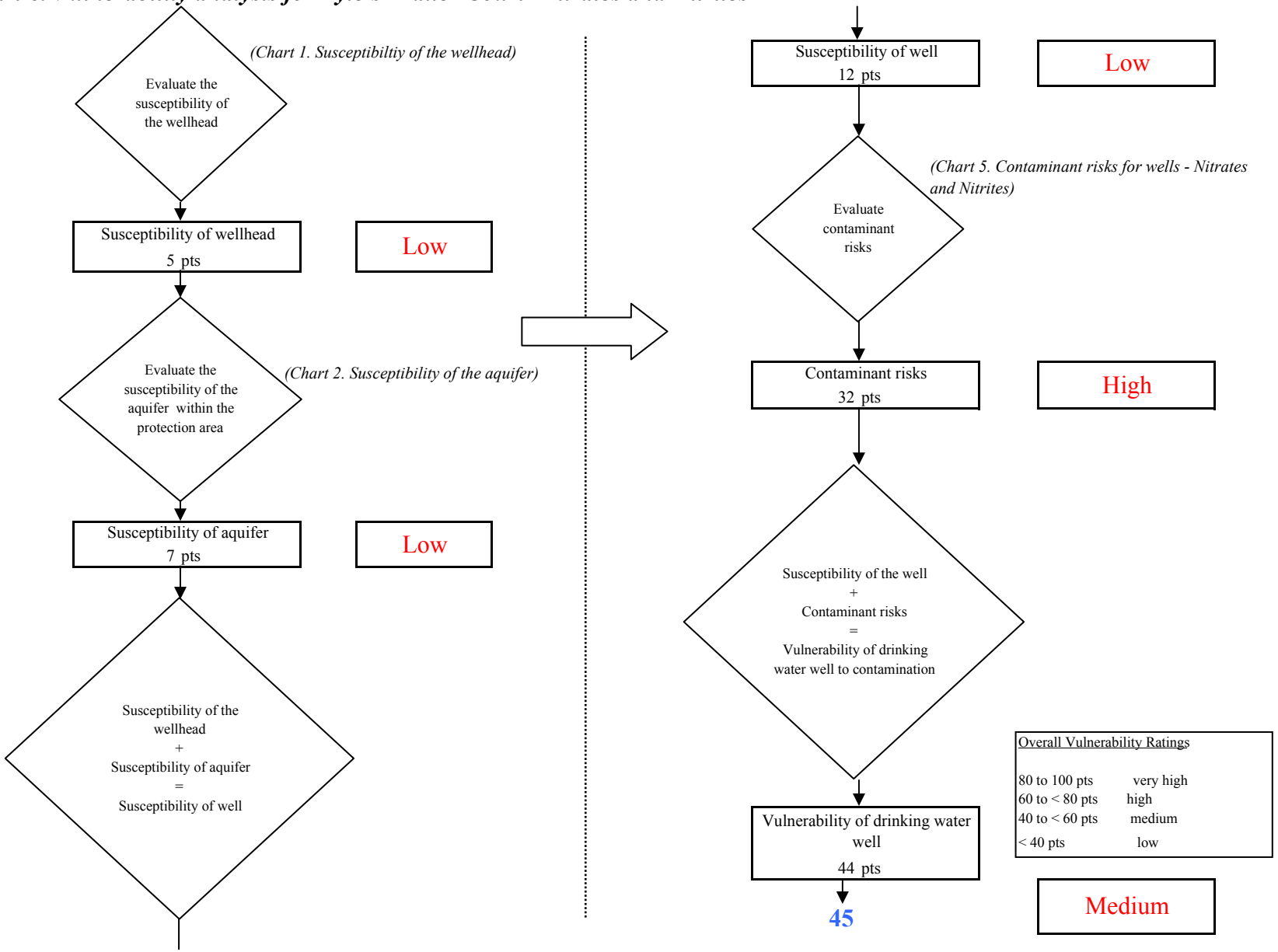


Chart 7. Contaminant risks for Lyle's Trailer Court- Volatile Organic Chemicals

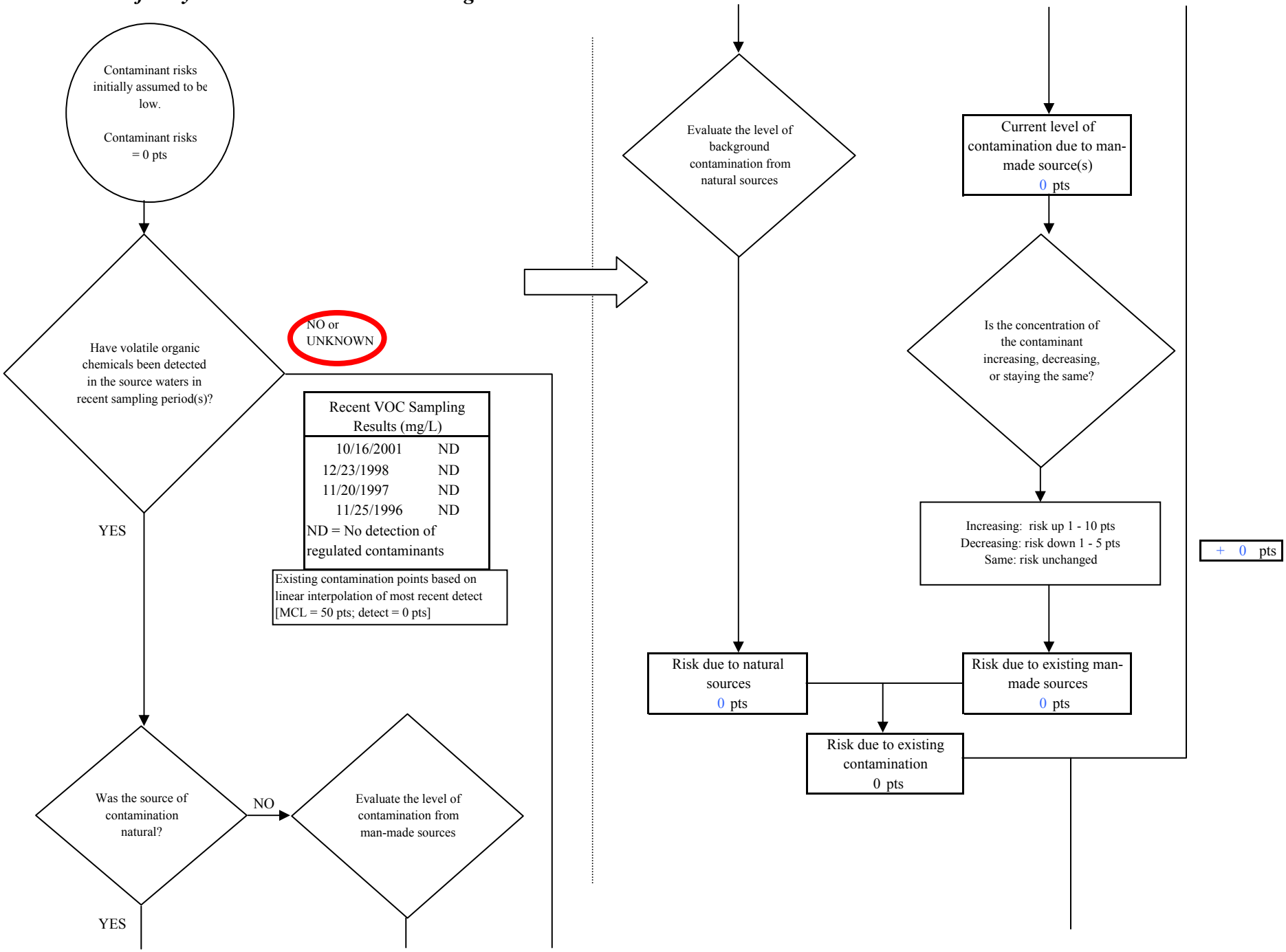


Chart 7. Contaminant risks for Lyle's Trailer Court- Volatile Organic Chemicals

+ 50 pts

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

Risk Levels for Contaminant Sources identified in Zones A, B and C			
	Zone A	Zones B&C	Total
Very Highs(s)	0	1	1
High(s)	0	2	2
Medium(s)	1	5	6
Low(s)	2	4	6

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

Matrix Score 50

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

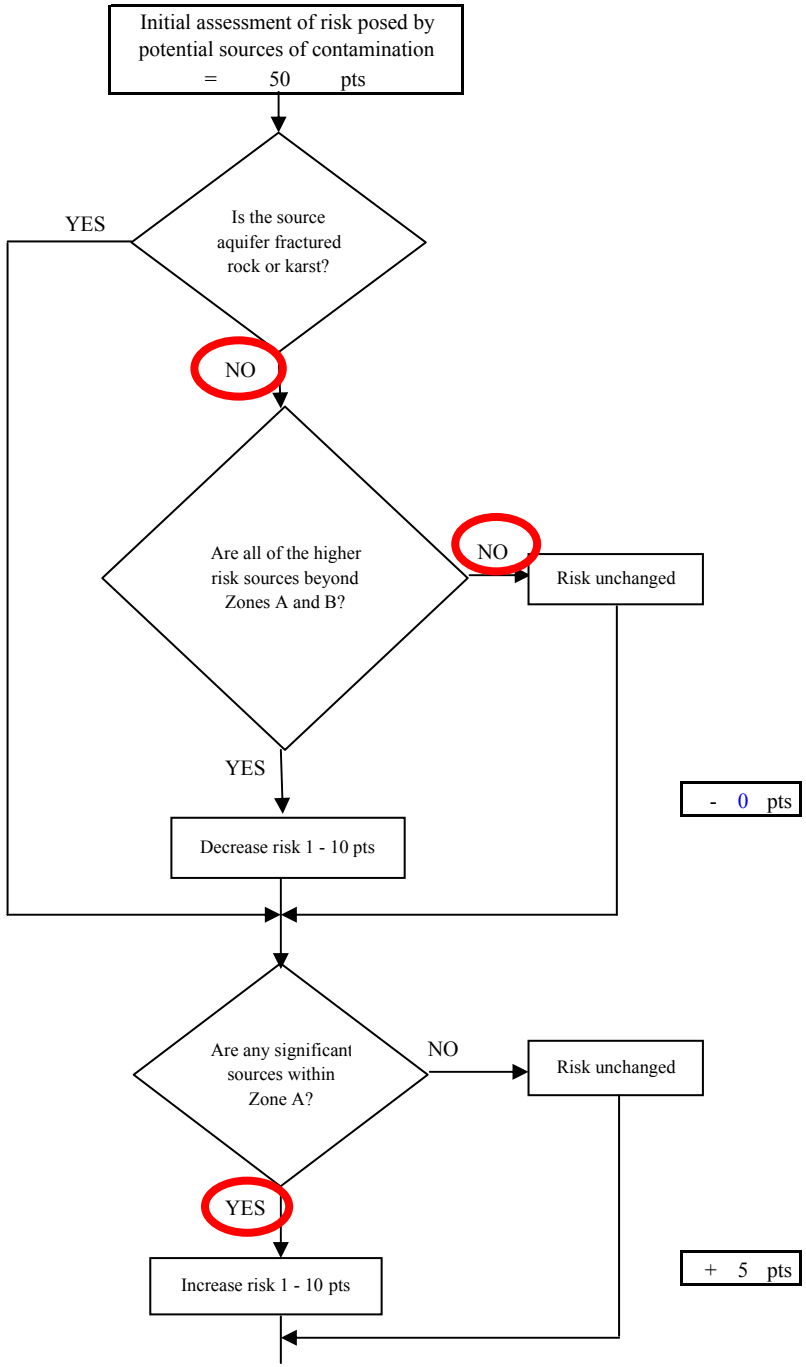


Chart 7. Contaminant risks for Lyle's Trailer Court- Volatile Organic Chemicals

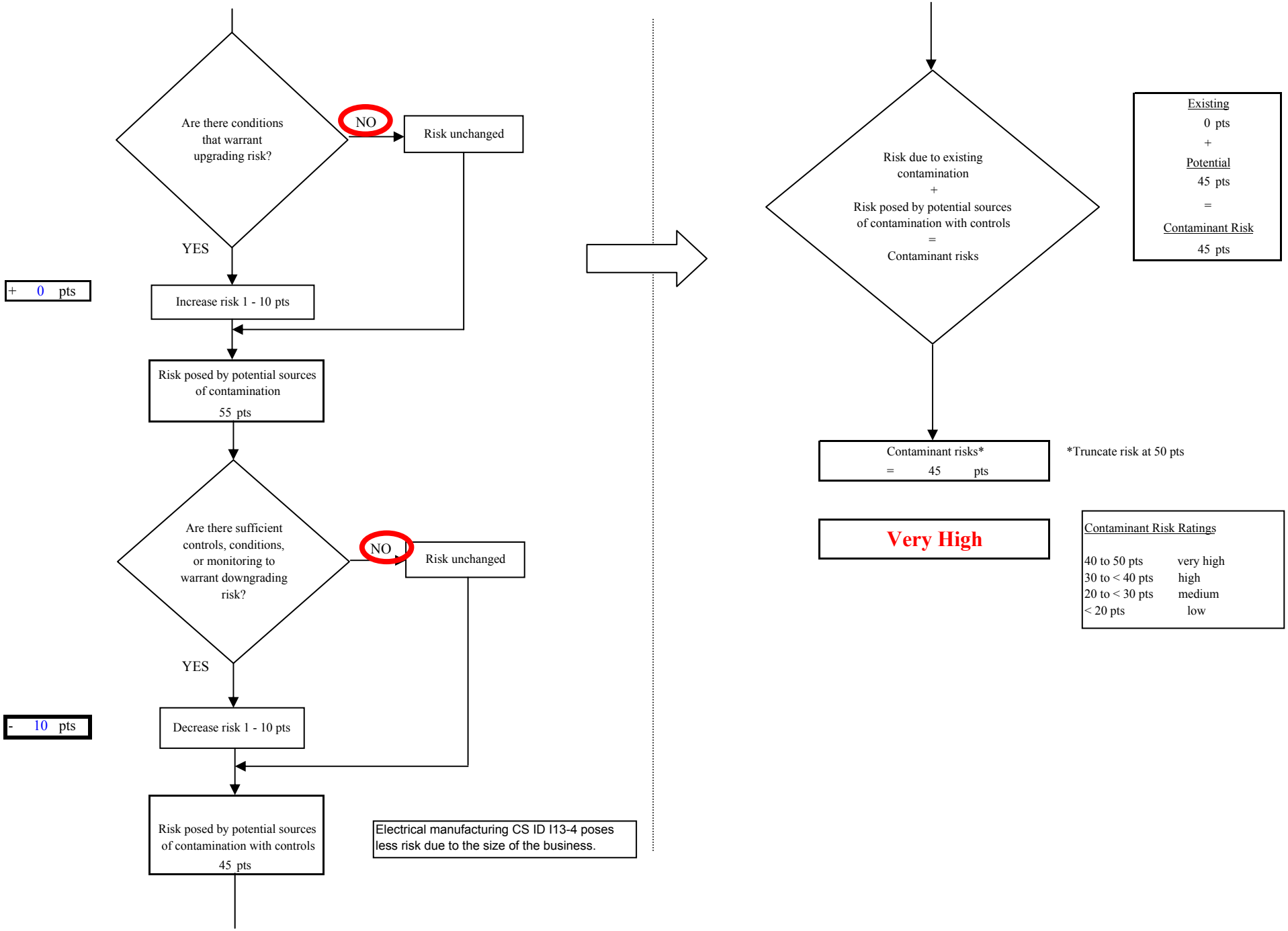


Chart 8. Vulnerability analysis for Lyle's Trailer Court- Volatile Organic Chemicals

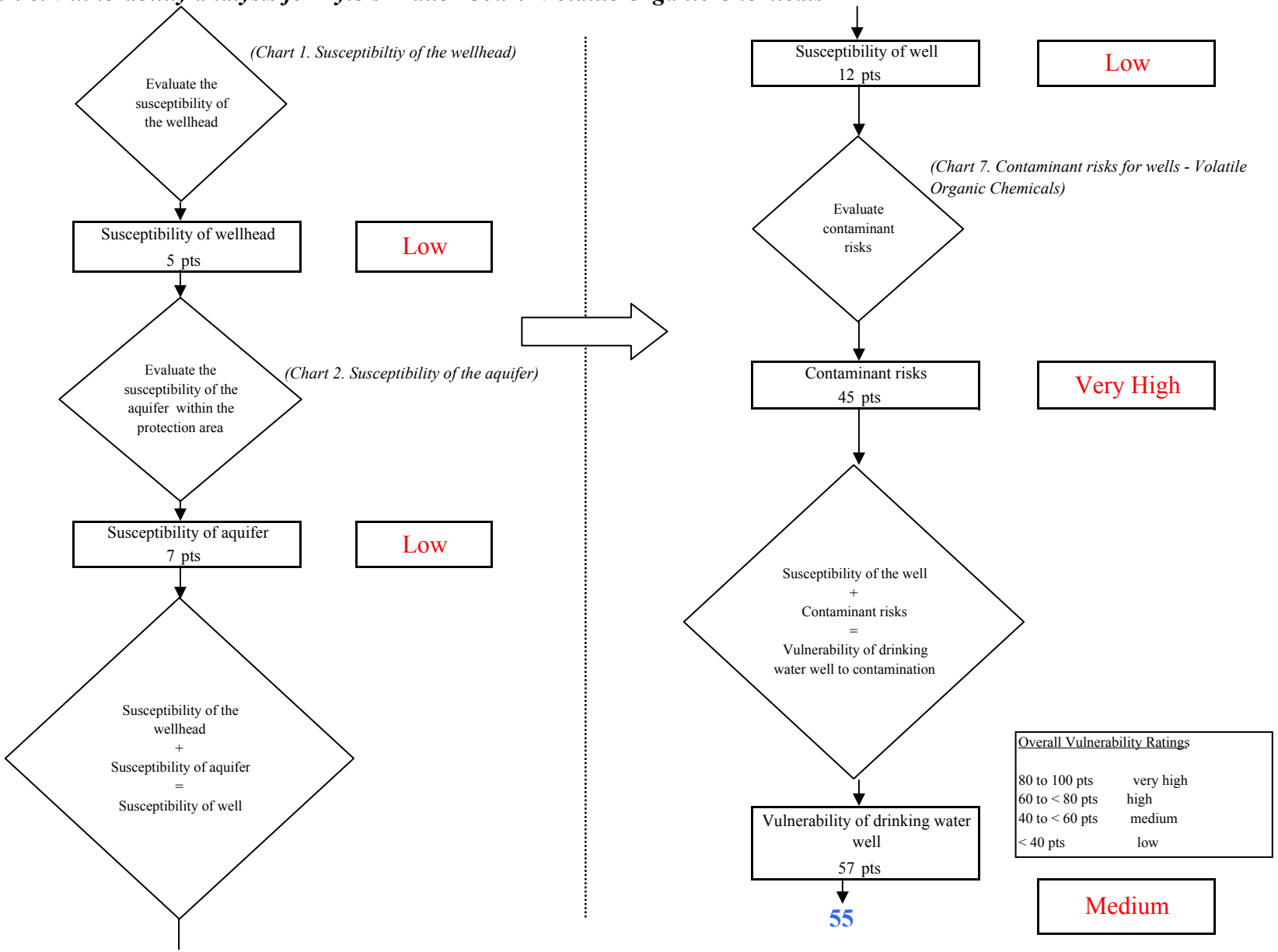


Chart 9. Contaminant risks for Lyle's Trailer Court- Heavy Metals, Cyanide and Other Inorganic Chemicals

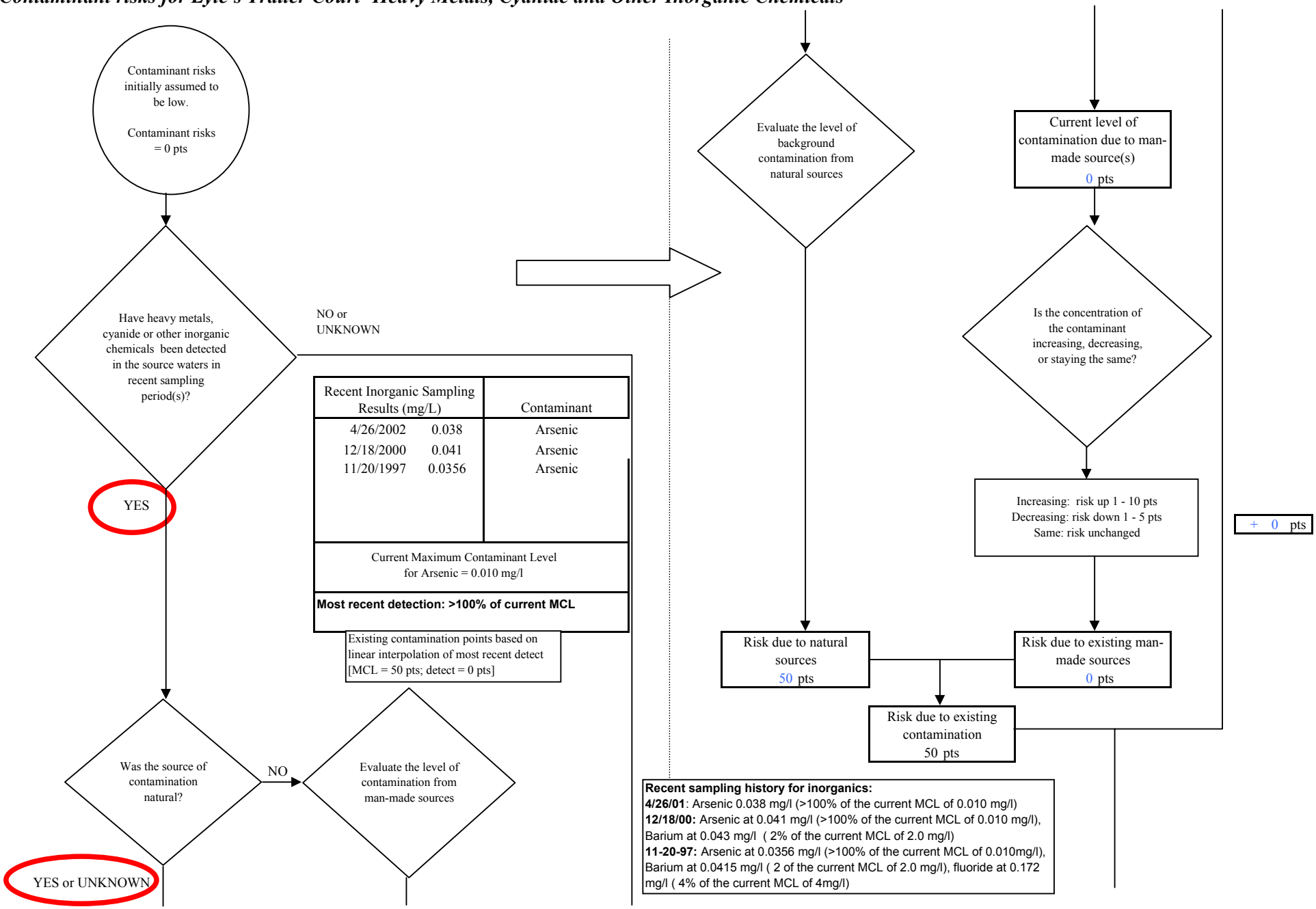


Chart 9. Contaminant risks for Lyle's Trailer Court- Heavy Metals, Cyanide and Other Inorganic Chemicals

+ 30 pts

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

Risk Levels for Contaminant Sources identified in Zones A, B and C			
	Zone A	Zones B&C	Total
Very Highs(s)	0	0	0
High(s)	0	1	1
Medium(s)	0	2	2
Low(s)	3	7	10

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

Matrix Score 30

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

Initial assessment of risk posed by potential sources of contamination = 30 pts

Is the source aquifer fractured rock or karst?

YES

NO

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

NO

Risk unchanged

YES

Decrease risk 1 - 10 pts

- 0 pts

Are any significant sources within Zone A?

NO

Risk unchanged

YES

Sewerlines

Increase risk 1 - 10 pts

+ 2 pts

Chart 9. Contaminant risks for Lyle's Trailer Court- Heavy Metals, Cyanide and Other Inorganic Chemicals

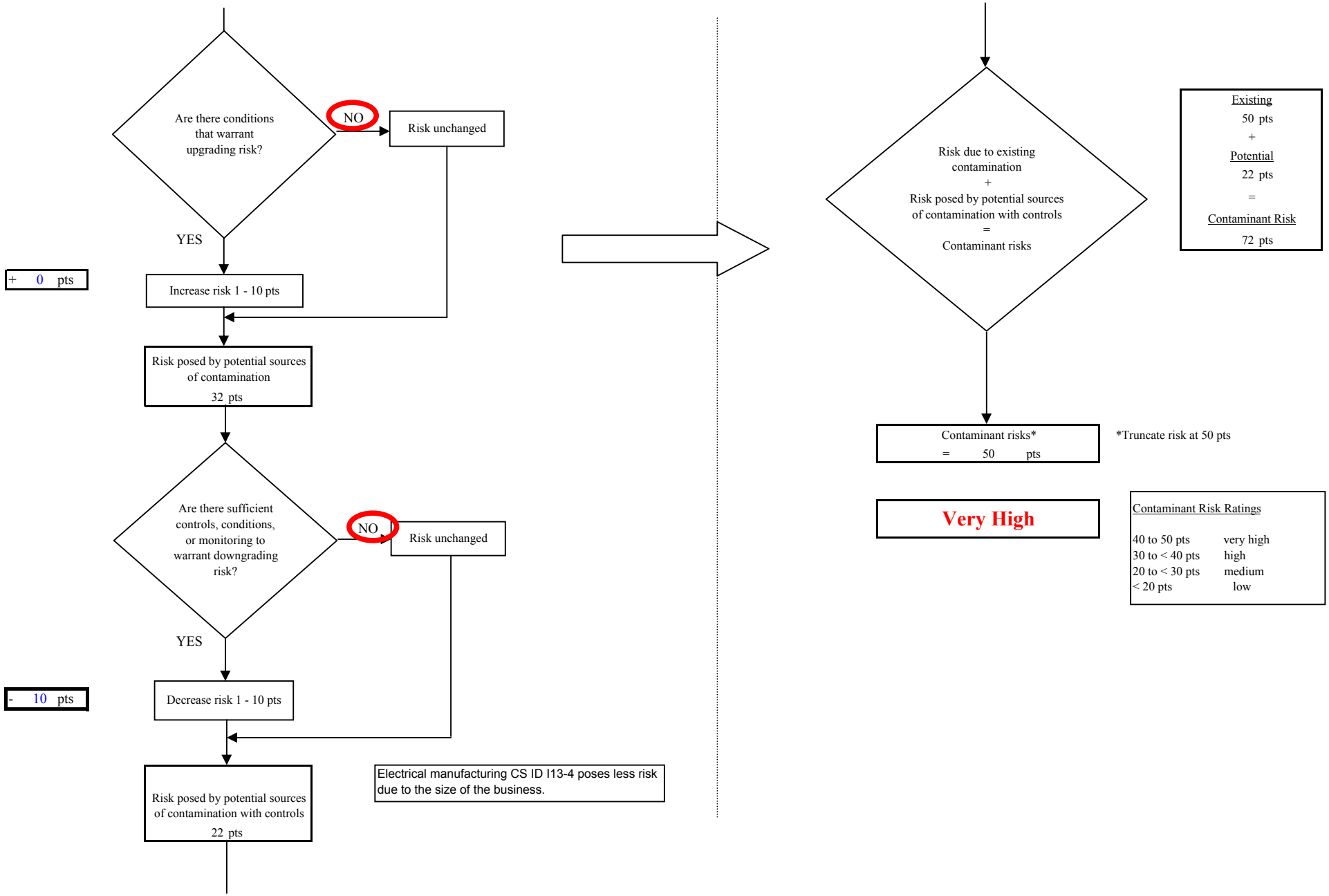


Chart 10. Vulnerability analysis for Lyle's Trailer Court- Heavy Metals, Cyanide and Other Inorganic Chemicals

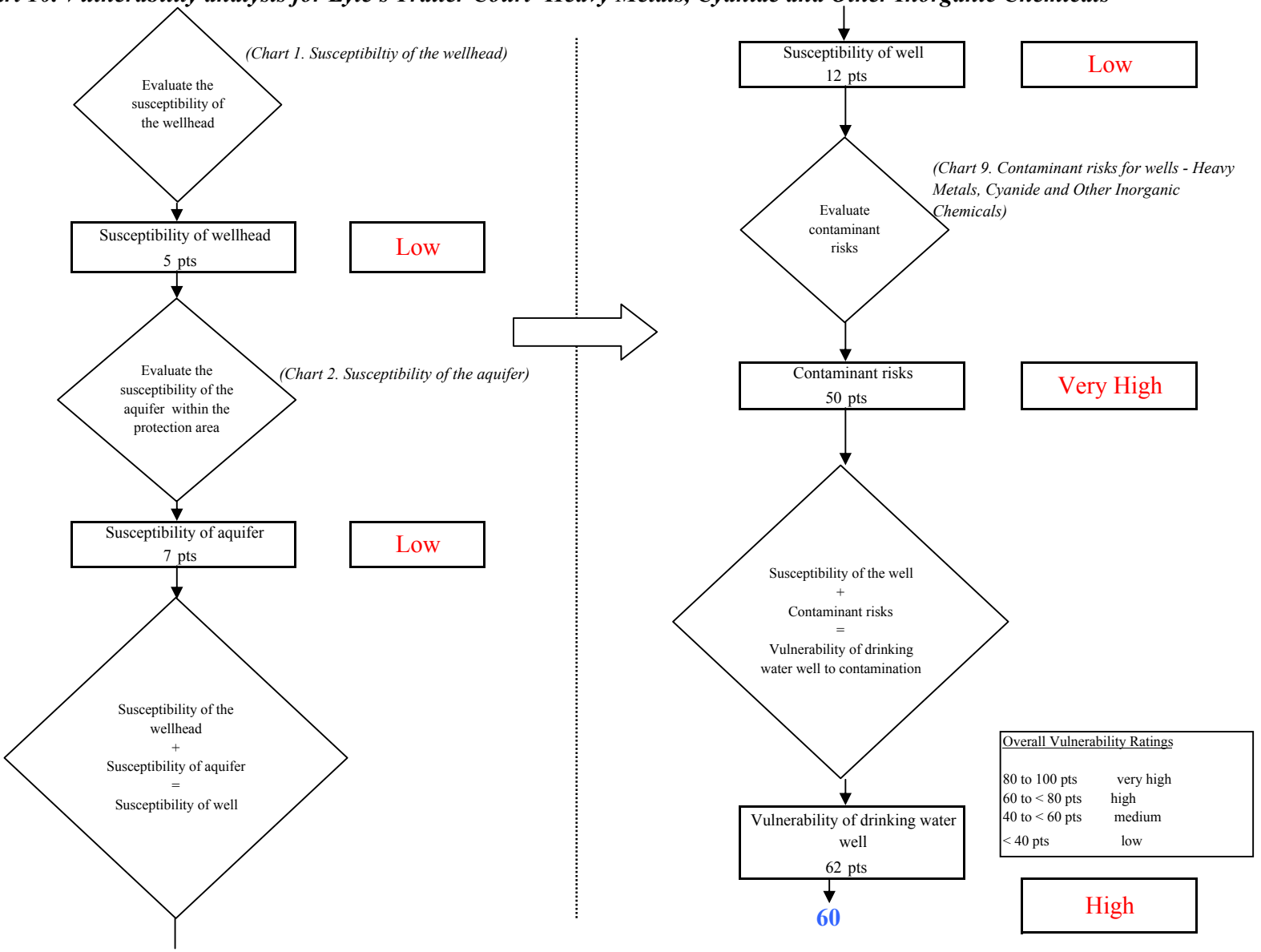


Chart 11. Contaminant risks for Lyle's Trailer Court- Synthetic Organic Chemicals

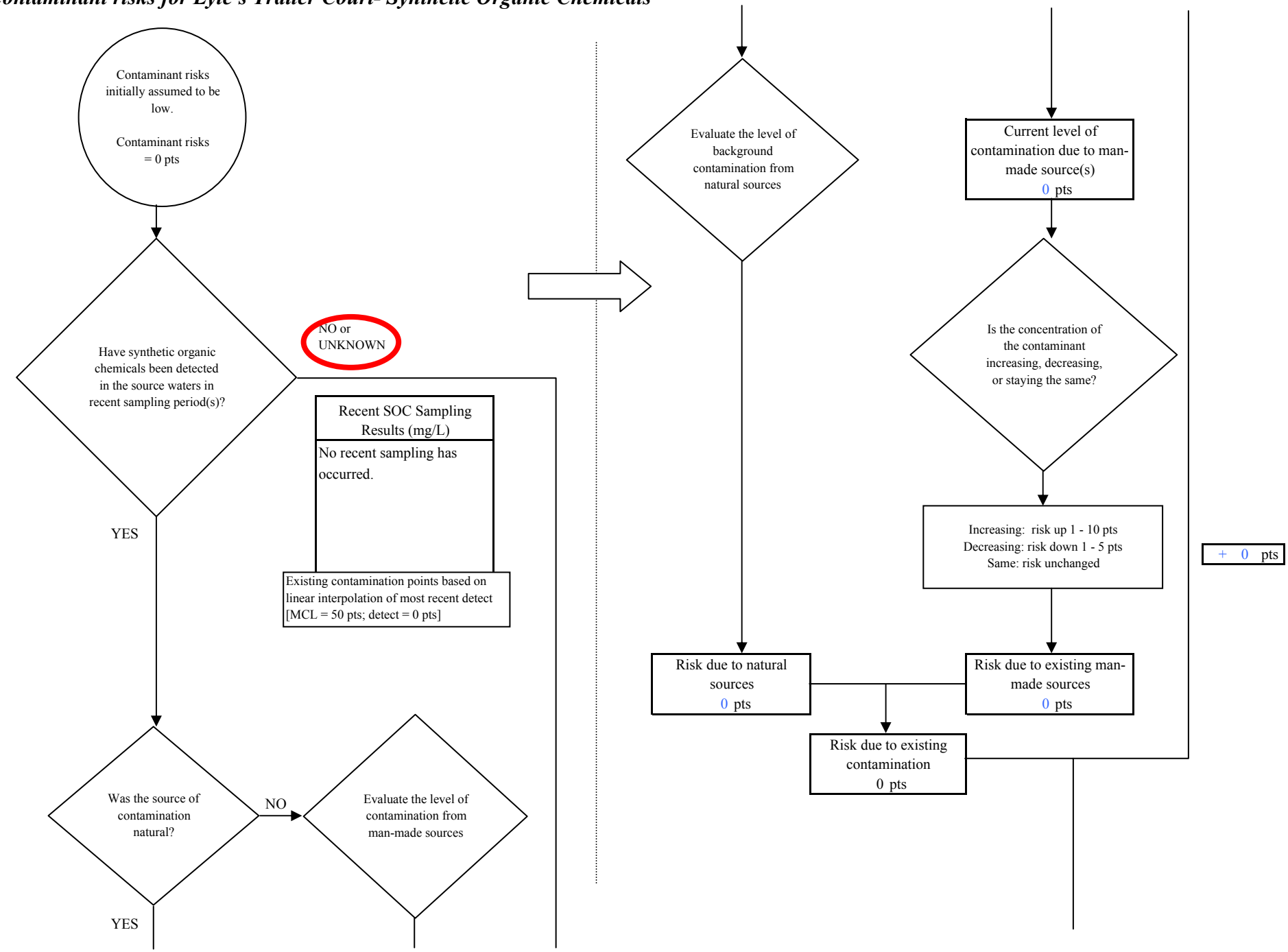


Chart 11. Contaminant risks for Lyle's Trailer Court- Synthetic Organic Chemicals

+ 10 pts

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

Risk Levels for Contaminant Sources identified in Zones A, B and C			
	Zone A	Zones B&C	Total
Very Highs(s)	0	0	0
High(s)	0	0	0
Medium(s)	0	0	0
Low(s)	3	6	9

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

Matrix Score 10

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

Initial assessment of risk posed by potential sources of contamination = 10 pts

Is the source aquifer fractured rock or karst?

YES

NO

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

NO

Risk unchanged

YES

Decrease risk 1 - 10 pts

- 0 pts

Are any significant sources within Zone A?

NO

Risk unchanged

YES

Increase risk 1 - 10 pts

+ 2 pts

Chart 11. Contaminant risks for Lyle's Trailer Court- Synthetic Organic Chemicals

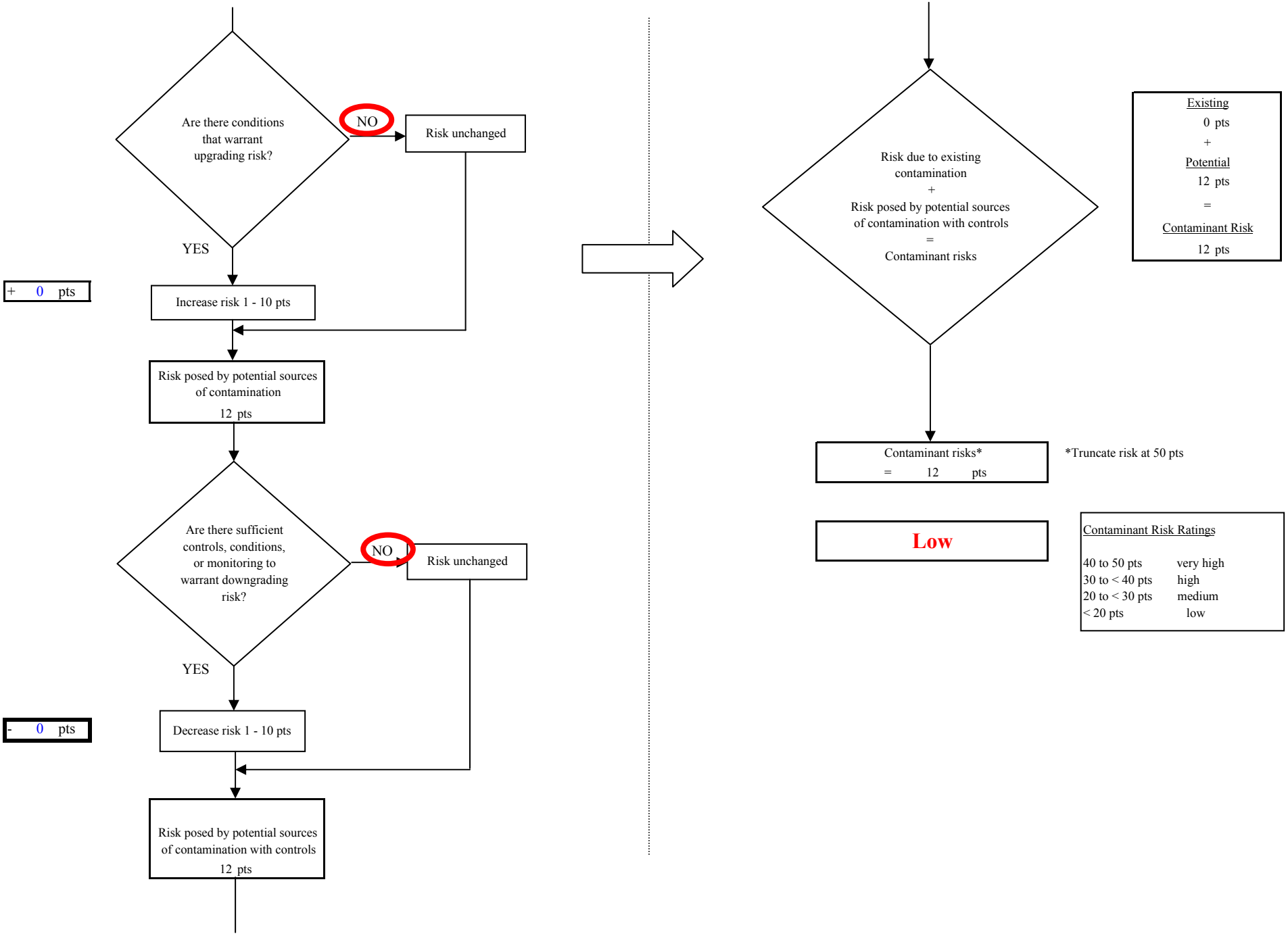


Chart 12. Vulnerability analysis for Lyle's Trailer Court- Synthetic Organic Chemicals

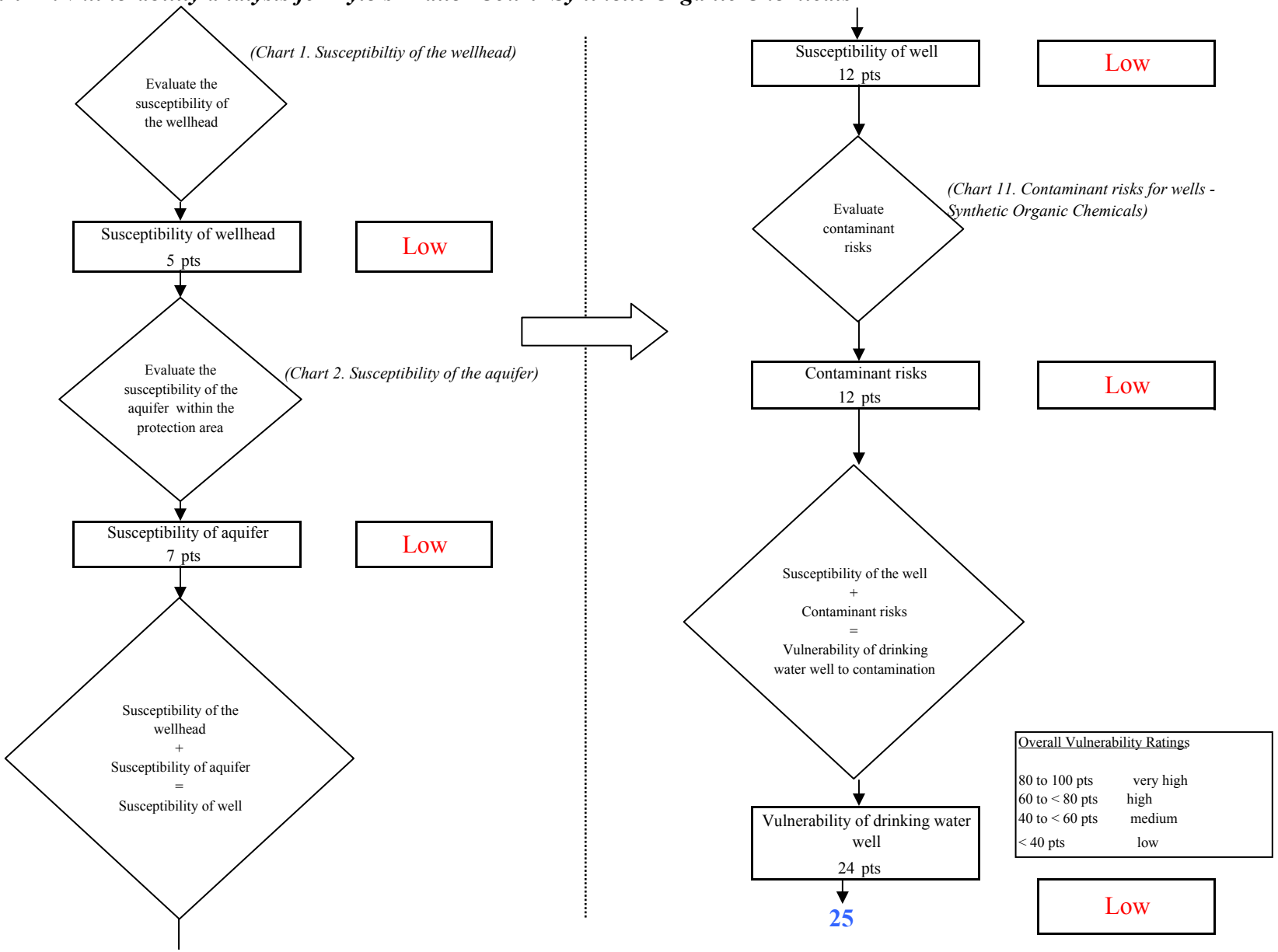


Chart 13. Contaminant risks for Lyle's Trailer Court- Other Organic Chemicals

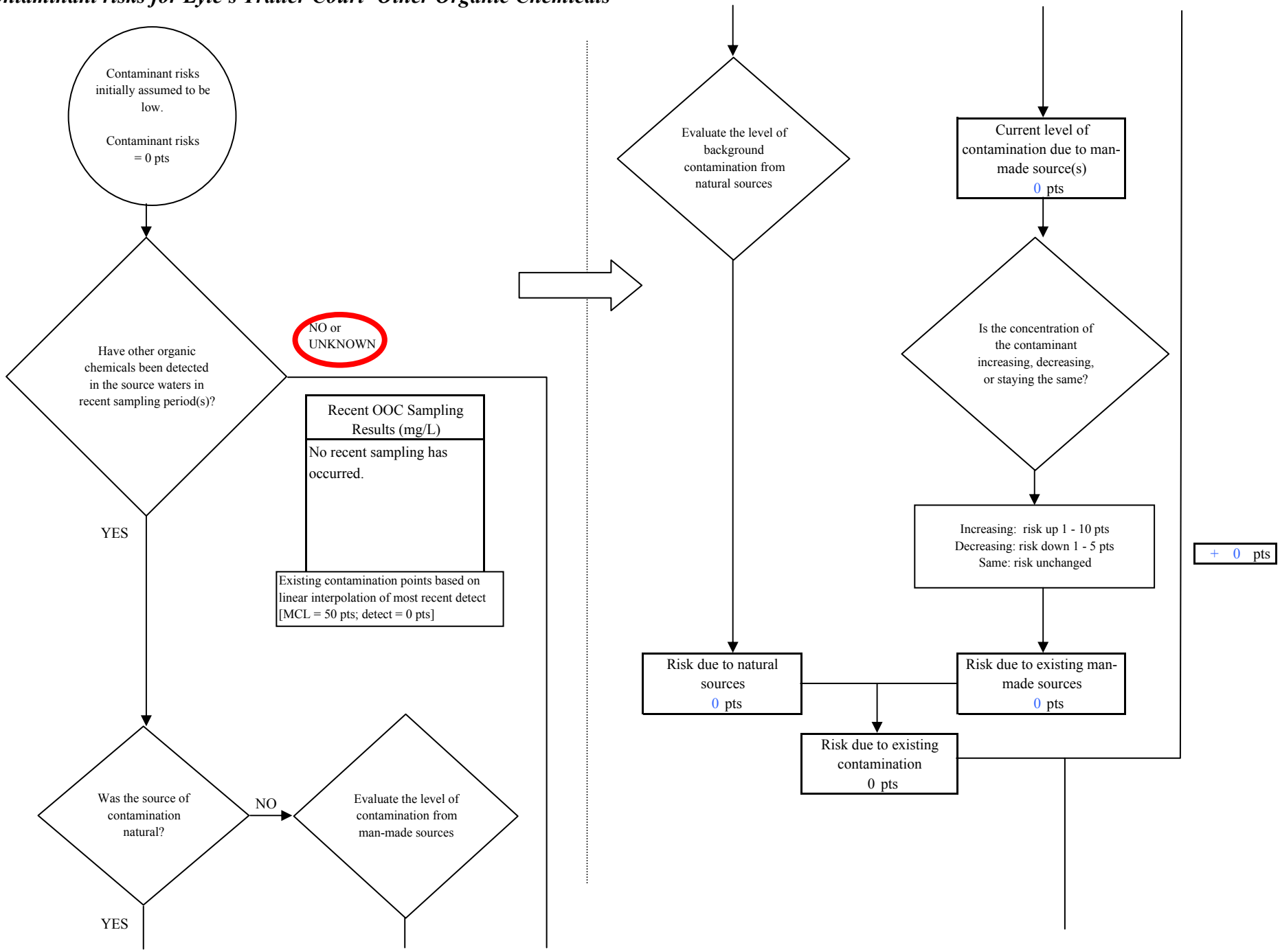


Chart 13. Contaminant risks for Lyle's Trailer Court- Other Organic Chemicals

+ 40 pts

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

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

	Zone A	Zones B&C	Total
Very Highs(s)	0	1	1
High(s)	0	0	0
Medium(s)	0	2	2
Low(s)	3	3	6

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

Matrix Score 40

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

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

Is the source aquifer fractured rock or karst?

YES

NO

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

NO → Risk unchanged

YES → Decrease risk 1 - 10 pts

- 0 pts

Are any significant sources within Zone A?

NO → Risk unchanged

Furniture manufacturing, repair, and finishing shops

YES → Increase risk 1 - 10 pts

+ 2 pts

Chart 13. Contaminant risks for Lyle's Trailer Court- Other Organic Chemicals

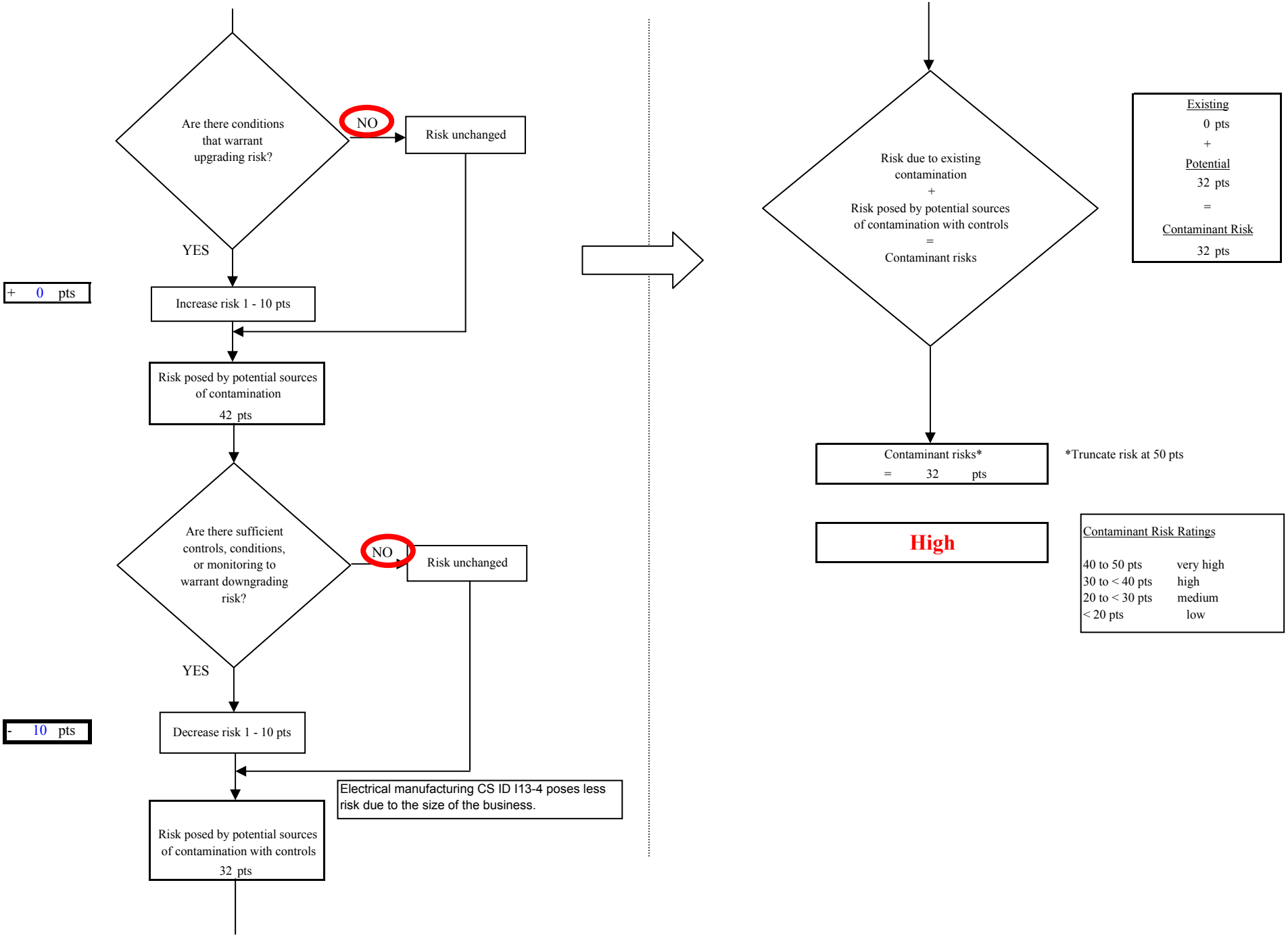


Chart 14. Vulnerability analysis for Lyle's Trailer Court- Other Organic Chemicals