Source Water Assessment -
Municipality of Anchorage (MOA)
Well #13, Anchorage, Alaska

A Hydrogeologic Susceptibility and Vulnerability Analysis

DRINKING WATER PROTECTION PROGRAM REPORT 395
PWSID 210906.004

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By MICHAEL J. CROTTEAU

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ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION: 2002

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By Michael J. Crotteau

Drinking Water Protection Program
Alaska Department of Environmental Conservation

EXECUTIVE SUMMARY

Municipality of Anchorage (MOA) Well #13 is a Class A (community) drinking water source consisting of one well. Identified potential and current sources of contaminants for MOA Well #13 include domestic wastewater sewerlines, residential septic systems, gasoline stations, a lubrication shop, motor vehicle supply stores, a motor vehicle repair shop, open and closed leaking underground storage tank (LUST) sites, a Class V shallow injection well – motor vehicle waste disposal well, underground fuel storage tanks, a motor vehicle/general storage yard, paved roads, a municipal park, a commercial greenhouse, a heavy equipment rental/storage area, a construction trade area, and approximately 232 acres of residential area. 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 synthetic organic chemicals. Overall, MOA Well #13 public water source received a vulnerability rating of **Medium** for bacteria and viruses, nitrates and/or nitrites, volatile organic chemicals, and heavy metals, and **Low** for synthetic organic chemicals, and other for synthetic organic chemicals.

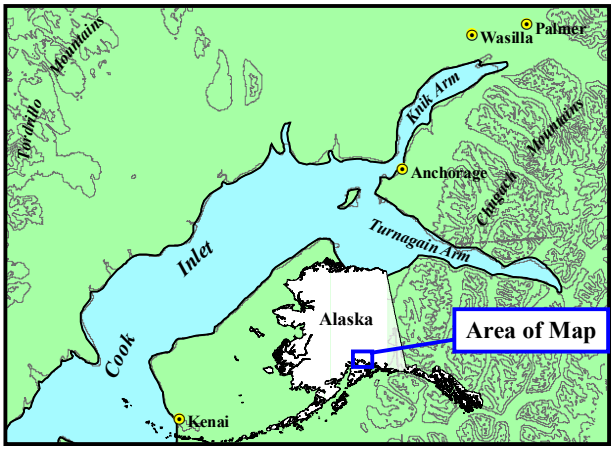

Figure 1. Index map showing the location of Anchorage, Alaska

INTRODUCTION

The purpose of this environmental assessment is to provide public water system owners/operators, communities, and local governments with information they can use to preserve the quality of Alaska's public drinking water supplies. This assessment was completed for the MOA Well #13's source of public drinking water. This source consists of one well in the Anchorage-area (see Figure 1). This assessment, known under the Alaska Drinking Water Protection Program as the *Source Water Assessment*, has combined a review of the natural hydrogeologic sensitivity with potential and existing contaminant risks to arrive at an overall vulnerability of the drinking water source to contamination. This assessment has been completed as a basis for local voluntary protection efforts and to assist agencies in their efforts to reduce risk to this public drinking water supply.

DESCRIPTION OF THE ANCHORAGE-AREA, ALASKA

Location

Anchorage, located in southcentral 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 Arms 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 3700 feet in elevation above sea level.

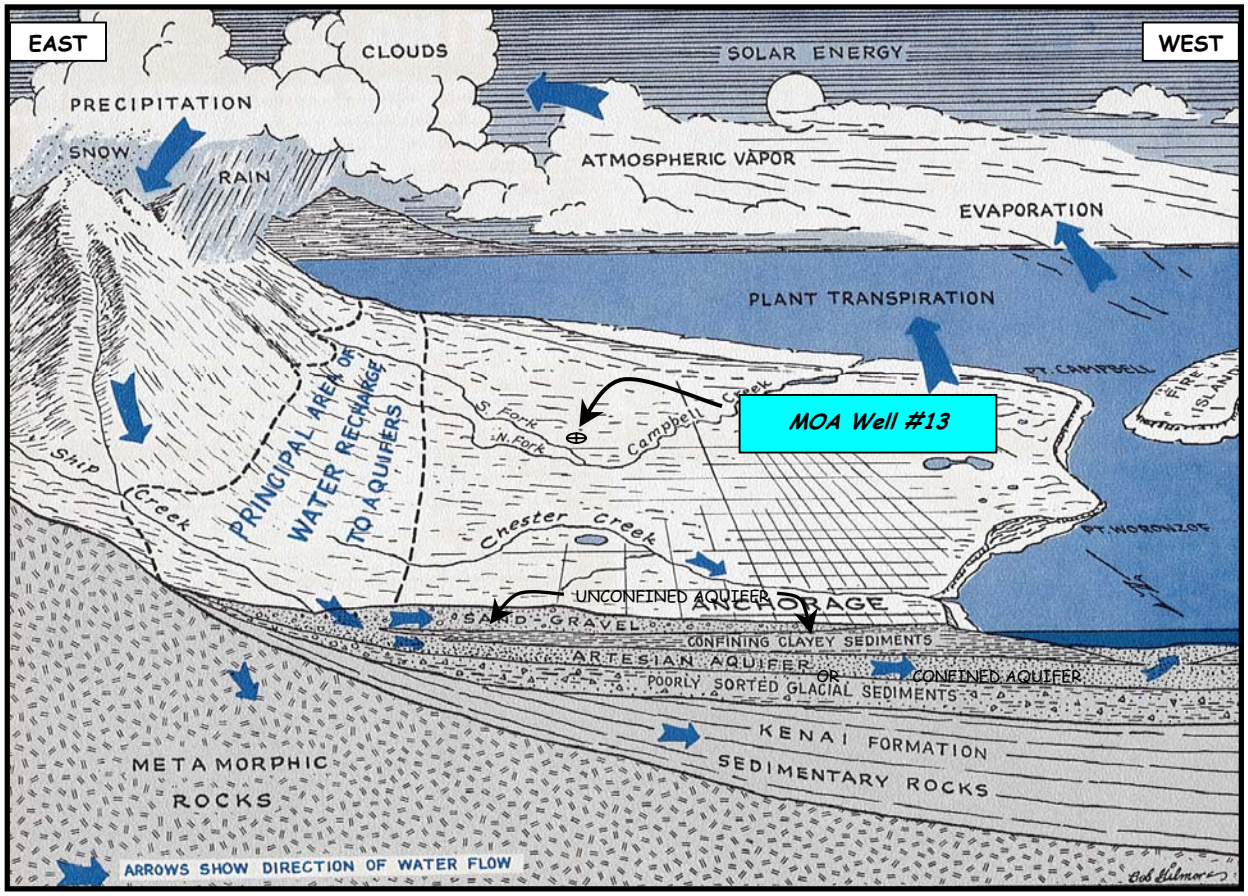

Figure 2. Generalized hydrologic cycle in the Anchorage-area [*Barnwell, George, Dearborn,Weeks, and Zenone*, 1972].

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 mounts of precipitation typified by gulf coast regions. Mean annual precipitation at the Anchorage International Airport is approximately 16 inches per year. On the average, Anchorage receives a total snow accumulation of 69 inches per year. Precipitation generally increased 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° F during July to 8° F in January [*Western Regional Climate Center, 2000*].

Physiography and Groundwater Conditions

Surface elevations in the Anchorage-area range from sea level at the Knik and Turnagain Arms to well over 5000 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, 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.

MOA WELL #13 PUBLIC WATER SOURCE

MOA Well #13 public water source is a Class A (community) water source, which is owned by and operated by the Municipality of Anchorage – Anchorage Water & Wastewater Utility (AWWU). The source consists of one well near the base of the Chugach Mountains and is at an elevation of 180 feet above sea level. The well is located approximately 150 feet north of East 64th Avenue near the intersection of Spruce Street (see Figure 3 and Map 2 in Appendix B). According to the well log, MOA Well #13 does not appear to be grouted and penetrates gravelly hardpan, sand and gravel, and clay to a total depth of 360 feet below land surface. The well is screened in the sand and gravel from 193 to 223 feet below land surface and again between 320 and 350 feet below land surface. The two confined water bearing layers (confined aquifers) are separated with layers of silt and clay with intermittent layers of sand and gravel. MOA Well #13 had a static water level of approximately 39 feet below land surface in the upper confined aquifer and 53 feet below land surface in the lower confined aquifer at the time of drilling (1982).

In 2001, MOA Well #13 production ranged from 39,100 gallons in March to over 42,097,500 gallons in June. During these periods of operation, the water from MOA Well #13 is pumped directly into the distribution system for the Anchorage area. AWWU's drinking water sources collectively serve approximately 212,000 residents and non-residents through multiple service connections. More information on AWWU can be obtained from their website at http://www.awwu.ci.anchorage.ak.us/website/default.htm.

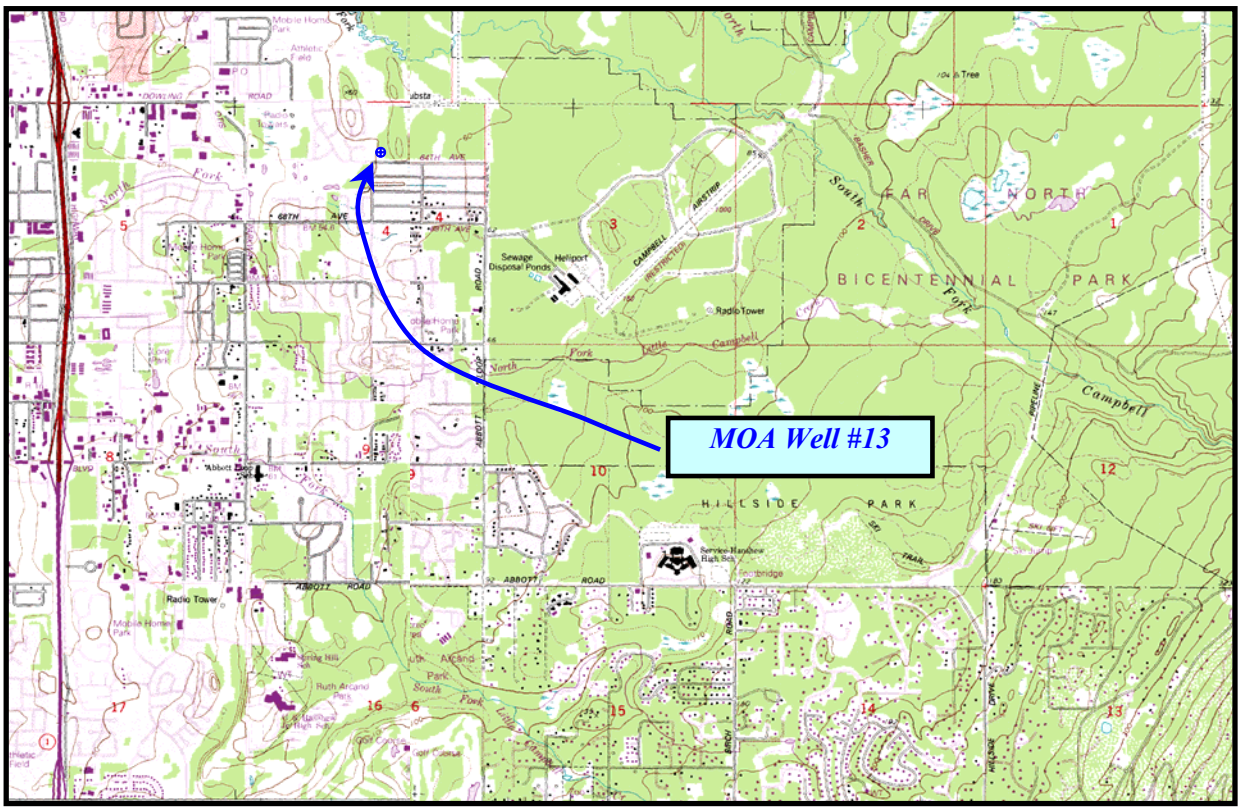

Figure 3. Map showing the location of the drinking water source for MOA Well #13 [Basemaps: USGS Anchorage A8 NE and USGS Anchorage A8 NW].

ASSESSMENT AND PROTECTION AREA FOR MOA WELL #13 DRINKING WATER SOURCE

The Drinking Water Protection and Assessment Area that has been established for MOA Well #13's well is the area that is most sensitive to contamination. This area has served as a basis for assessing the risk of the drinking water source to contamination. This zone around the drinking water source is the most critical area for the preservation of the quality of the drinking water for this source. For simplicity, this area will be known as your Drinking Water Protection Area and will serve as the area of focus for voluntary protection efforts.

Conceptually, groundwater enters the aquifer systems along the front range of the Chugach Mountains (Figure 2) and flows toward Cook Inlet. An analytical calculation was used to calculate the size and shape of the area that contributes water to the well. 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*). This analytical calculation was used as a guide as the first step in establishing the protection area for MOA Well #13. Additional methods were further employed to take into account any uncertainties in groundwater flow and aquifer characteristics to arrive at a meaningful and conservative protection area with respect to public health (Please refer to the Guidance Manual for Class A Public Water Systems for additional information).

The Drinking Water Protection Areas established for wells by the Alaska Department of Environmental Conservation are separated into zones. These zones correspond to a time-of-travel. Time-of-travel is the time required for water to move in the saturated zone of the ground from a specific point to the well. The Drinking Water Protection Area for MOA Well #13 contain four zones, Zone A through Zone D (See Map 1 in Appendix B). Zone A corresponds to the area between the well and the distance equal to ¼ of the distance of the 2-year time-of-travel. Depending on where a contaminant source is located within Zone A, travel time for a contaminant to the well may be on the order of several days to several hours. Zone A also extends downgradient from the well to take into account the area of the aquifer that is influenced by pumping of the well (zone of contribution).

The Zone B protection area for MOA Well #13 corresponds to a time-of-travel of less than two years and extends 4758 feet from the well toward the Chugach Mountains. Lastly, the Zone C and Zone D protection areas correspond to less than 5-years and 10-years time-of-travel, respectively. The 10-year time-of-travel isochrone (line of equal time) extends approximately 2.5 miles from the well toward the base of the Chugach Mountains.

INVENTORY OF POTENTIAL AND EXISTING CONTAMINANT SOURCES

The Drinking Water Protection Program has completed an inventory of potential and existing sources of contamination within MOA Well #13 Drinking Water Protection Area. This survey was completed through a search of agency records and other publicly available information, and verified by AWWU.

Potential sources of contamination to drinking water supplies cover 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 this assessment and 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 synthetic organic chemicals.

Maps 3 through Map 6 in Appendix C depict the Contaminant Source Inventory for MOA Well #13. Inventoried potential sources of contamination within Zones A through Zone C were associated with residential, commercial, transportation, and light industrial type activities (see Table 1 in Appendix A). Only high and very high potential and existing sources of contamination are inventoried within the Zone D protection area, as well as identified sites that are administered by ADEC or the U.S. EPA. No contaminant sources within the high or very high-risk class were identified in the Zone D protection area for MOA Well #13. Below is a summary of the contaminant sources inventoried within the MOA Well #13 protection area (Zones A – C):

- domestic wastewater sewer lines;
- activities associated with paved roads;
- residential septic systems;
- machine and metal work shops;
- an appliance repair shop;
- gasoline stations;
- a closed ADEC-recognized Contaminated Site;
- livestock stables/corrals;

- asphalt tar processing/storage;
- a motor vehicle repair shop;
- open leaking underground storage tank (LUST) sites;
- four potential Class V shallow injection wells – motor vehicle waste disposal wells;
- a landing strip;
- domestic wastewater sewage lagoons;
- laundromats;
- underground fuel storage tanks;
- scrap, salvage, or junk yards;
- a automotive body shop;
- a petroleum bulk station/terminal; and
- approximately 354 acres of residential area.

These potential contaminant sources present risk for all six categories of drinking water contaminants for MOA Well #13 drinking water source.

RANKING OF CONTAMINANT RISKS

Potential and existing sources of contamination have been identified, sorted, and ranked 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. Contaminant risks are further a function of the number and density of those types of contaminant sources as well as the proximity of those sources to the well.

VULNERABILITY OF MOA WELL #13 DRINKING 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)

MOA Well #13 is completed in a confined aquifer setting. The well casing is screened between 193 and 223 feet below land surface and again between 320 and 350 feet below land surface. The well penetrates 47 feet of gravelly "hardpan" above the first of two screened water bearing intervals for the well. Hardpan is a popular term used loosely for any hard layer that is difficult to drill through. These hardpan layers typically are composed of clay-cemented sand and gravel and are variable in amount of protectiveness they provide. Above the first screened interval, the well also penetrates twelve feet of clay. However, near the base of the Chugach Mountains, the clay layers tend to be discontinuous and thin toward the mountains. Therefore, contaminants that enter the subsurface near the base of the mountains may enter the confined aquifer uninhibited by the absence of any protective layer. The well does not appear to be properly grouted as indicated previously from information obtained from Department records. The absence of grouting can promote the transport of contaminants along the well casing. Combining the susceptibility of the wellhead and the aquifer to contamination leads to a score (0 – 50 points) and rating of overall Susceptibility (See Appendix D). Table 1 shows the overall Susceptibility score and rating for MOA Well #13.

Table 1. Natural Susceptibility - Susceptibility of the Wellhead and Aquifer to Contamination

	Score	Rating
Susceptibility of the Wellhead	5	Low
Susceptibility of the Aquifer	12	Medium
Natural Susceptibility	17	Low

Contaminant risks to a drinking water source depend on the type, number or density, and distribution of contaminant sources.

A score (0 – 50 points) and rating of Contaminant Risks (See Appendix D) is assigned based on the findings of the

Contaminant Source Inventory (Appendix B - Table 1 – Table 7). This portion of the analysis examines any existing or historical contamination that has been detectedA score for the Natural Susceptibility is achieved by analyzing the properties of the well and the aquifer. at the drinking water source through routine sampling. It also reviews contamination that has or may have occurred but has not arrived or been detected at the well. Table 2 summarizes the Contaminant Risks for each category of drinking water contaminants.

Table 2. Contaminant Risks

Contaminant Risks	Score	Rating
Bacteria and Viruses	27	Medium
Nitrates and/or Nitrites	29	Medium
Volatile Organic Chemicals	32	High
Heavy Metals, Cyanide, and other Inorganic Chemicals	32	High
Synthetic Organic Chemicals	12	Low
Other Synthetic Organic Chemicals	16	Low

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 Analysis for nitrates and nitrites, volatile organic chemicals, heavy metals, synthetic organic chemicals, and other synthetic organic chemicals, respectively.

Vulnerability of the drinking water source to contamination is the combination of susceptibility of the aquifer and the well with contaminant risks. Table 3 contains the overall vulnerability scores (0 – 100) and ratings for each of the six categories of drinking water contaminants (See Appendix D). Note: scores are rounded off to the nearest five.

Table 3. Overall Vulnerability of MOA Well #13's Public Drinking Water Source to Contamination by Category

Category	Score	Rating
Bacteria and Viruses	45	Medium
Nitrates and Nitrites	45	Medium
Volatile Organic Chemicals	50	Medium
Heavy Metals, Cyanide, and other Inorganic Chemicals	45	Medium
Synthetic Organic Chemicals	30	Low
Other Synthetic Organic Chemicals	35	Low

Tables 2 through 7 in Appendix A contain the ranking of potential and existing sources of contamination with respect to bacteria and viruses, nitrates and/or nitrites, and volatile organic chemicals, heavy metals, synthetic organic chemicals, and other synthetic organic chemicals.

Nitrates and/or nitrites are found in natural background concentrations at the site, as elsewhere in the Alaska. Sampling history of MOA Well #13's source waters indicate low concentrations of nitrate (See Chart 5 – Contaminant Risks for Nitrates/Nitrites in Appendix D). Existing nitrate contamination is approximately 9% of the allowable limit (MCL) for this contaminant. The Maximum Contaminant Level or 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. Due to the high solubility and weak retention by soil, nitrates are very mobile in soil, moving at approximately the same rate as water. Nevertheless, the current nitrate concentration in MOA Well #13's source waters remains at safe levels with respect to human health.

Domestic wastewater sewerlines run within 180 feet of MOA Well #13. The risk associated with a catastrophic failure of the sewerlines as well as their close proximity to this drinking water source contributes to a medium bacteria and virus as well as nitrate and nitrite

contaminant risk for MOA Well #13. Heavy metals are also found in natural background concentrations at the site. Sampling history of MOA Well #13 source waters indicate low concentrations of barium and chromium in past sampling periods (See Chart 9 – Contaminant Risks for Heavy Metals, Cyanide, and Other Inorganic Chemicals in Appendix D). Barium and chromium levels during past sampling periods have ranged between 1 – 2.5% of the allowable limit (MCL) for these contaminants. Regardless of the quantity of chromium and barium in the source waters of MOA Well #13, the current concentration remains at safe levels with respect to human health

In June 1989, the residence at 3990 East 64th Avenue was inspected. This evaluation and subsequent investigations found soil and groundwater contamination resulting from an aircraft maintenance operation. Petroleum hydrocarbon, chlorinated hydrocarbon, and heavy metal contamination was encountered beside 55-gallon drums of used lubricants and solvents, throughout the yard from numerous spills, and beneath a septic system drainfield that was connected to a floor drain within the garage of the residence. Seven tons of contaminated soils were removed from the site and groundwater monitoring wells were installed to determine the magnitude and extent of contamination.

In June 1992, a "No Further Action" order was granted by ADEC and site cleanup and closure was complete. A site assessment report dated February 1992 indicated that "most, but not all of the contamination has been removed from the soils and some low levels of petroleum hydrocarbons remain in the groundwater". The report also indicated low levels of tetrachloroethylene in the soil. Tetrachloroethylene, or PCE, is a manufactured chemical that is widely used for dry cleaning of fabrics and for metal-degreasing. PCE, if leached from soil, has a moderate mobility in groundwater (*Fetter*, 1994). PCE is also considered a dense non-aqueous phase liquid meaning that this chemical, because of its density, will sink in groundwater. Sludge retrieved from the wastewater effluent pipe leading to the septic system drainfield had elevated levels of diesel, total petroleum hydrocarbons, and chlorinated hydrocarbons, such as PCE. Based on information obtained from Department files, the drainfield and effluent pipe remained intact at the site upon issuance of the "No Further Action" order.

This site (ADEC Contaminated Site file number CS100.25) is approximately 1700 feet upgradient of MOA Well #13. Water quality was tested at the well on February 26, 1990 and yielded no detection for volatile organic chemicals and only background levels of heavy metals. Yearly samples since 1990 have generated the similar results. The greatest contaminant risks associated with this contaminated site reside in the existing chlorinated hydrocarbon contamination within the soils and septic system effluent pipe and drainfield. However, the volume of contaminants that remain within the soil and groundwater are more than likely not sufficient to reach the well. Moreover, the soil and deeper subsurface geological characteristics (clay and silt content of the layers) are likely adequate enough to naturally attenuate existing contamination. The characteristics of the chlorinated hydrocarbons are such that they could sink through the water column and penetrate to the lower confined aquifer through gaps in the confining unit. Nevertheless, the distance from this site to MOA Well #13 is likely sufficient enough to dilute contaminants prior to reaching the well. Due to its more distant proximity to MOA Well #13, this site ranks behind the closer, much larger residential area and domestic wastewater sewerlines within the Zone A Protection Area (See Overall Rank after Analysis in Table 4 and Table 5 in Appendix B). Based on this information, the contaminated site at 3990 East 64th Avenue poses low volatile organic chemical and heavy metal contaminant risk to this source of drinking water.

In July 1987, soil and groundwater contamination was encountered during the removal of three underground fuel storage tanks (UST's) located at 6401 Lake Otis Parkway (LUST File # L20.03) (CS ID Tag U7-1, see Map 5 in Appendix C). This LUST site contains two identified contaminant releases. The facility was operated as a retail fueling facility containing both a gas station as well as a home heating oil delivery business. Contamination of the unconfined aquifer at this site, which is encountered at six to ten feet below land surface, resulted in the contamination of Little Campbell Creek adjacent to the property. Contaminated soils were removed from the site and an in-situ vapor extraction system was installed to vent fuel fumes in the subsurface. Groundwater contamination exists at this site and extends off the property, however, the areal extent of the contaminant plume has not yet been fully characterized.

Although existing contamination exists at this site, contamination of MOA Well #13 is not likely. Gasoline and diesel fuel, when leached to groundwater, floats on the surface as free product. Some of the components of these fuels (e.g. benzene) are more soluble than others, yielding a greater capacity to dissolve in water. The dissolved components will travel more quickly than the free product and will sink slightly within the aquifer. This site is 2500 feet from MOA Well #13 and is on the fringe of its zone of contribution, which is created

through pumping of the well. In order for contamination to occur in MOA Well #13 from this site or other sites that are on the fringe of the Drinking Water Protection Area, water and contaminants would have to be pulled from the unconfined aquifer into the confined aquifer through pumping of the well. Unarguably, MOA Well #13 may be pulling water from both the confined and unconfined aquifer. This is mostly due to the leaky and discontinuous characteristics of the confining units (hardpan and clay layers). However, the drawdown effects of pulling water from the unconfined aquifer is greatly reduced as you move away from the well. Given this site's proximity to MOA Well #13 and the underlying characteristics of the subsurface, this site represents very low risk for volatile organic chemicals.

In September 1994, petroleum contamination was discovered during a site assessment of the property located at 6740 Lake Otis Parkway (LUST File # 20.03A) (CS ID Tag U7-2). The magnitude and extent of the contamination is unknown at this time with groundwater contamination a possibility. As with the above site at 6401 Lake Otis Parkway, this site is also on the lower fringe of the zone of contribution for the well. Given the characteristics of this site and its proximity to MOA Well #13, this LUST site poses very low risk to this drinking water source.

The current gasoline station at 6740 Lake Otis Parkway (CS ID Tag C15-1) contains two 10,000-gallon underground gasoline tanks and one 8,000-gallon underground diesel tank. The tanks are single-walled, contain a release detection system, and are cathodically protected against corrosion.

Four (4) properties within the Drinking Water Protection Area for MOA Well #13 have been identified as potentially having a Class V Injection Well – Motor Vehicle Waste Disposal Well. Two of the sites (CS ID Tag D42-1 and D42-2) were identified by the U.S. Environmental Protection Agency (EPA). The EPA has banned this type of injection well since April 2000 because of their extreme threat to groundwater quality. This ban requires all existing injection wells of this type be phased out and closed. The Drinking Water Protection Program has identified two other properties (CS ID Tag D42-3 and D42-4) that have a strong potential for harboring these types of shallow disposal systems. No information is available at this time regarding the status of these properties and their potential for having Class V Injection Wells – Motor Vehicle Waste Disposal Wells.

All of the properties contain motor vehicle repair operations with one of them also containing a scrap metal/junk yard. Typical contaminants associated with these types of activities include petroleum hydrocarbons, heavy metals, small amounts of other synthetic organic chemicals (OOCs), and in some cases, chlorinated hydrocarbons. All of these sites are located near the outside fringe of the Drinking Water Protection Area for MOA Well #13 and range in distance from approximately 2600 feet to 3050 feet from the well. As with other sites that are within the lower and outer fringe of the protection area for this drinking water source, contamination could occur through the pulling of contaminants through the confining unit(s) and back toward the well through pumping. Moreover, contamination of the lower confined aquifer could also occur if other pumping wells in the proximity of these sites pull contaminants from the unconfined aquifer along the well casing, therefore, short circuiting the confining unit. Regardless of the current status of the above properties and their potential for having Class V Injection Wells – Motor Vehicle Waste Disposal Wells, these site pose little threat to the integrity of the source waters for MOA Well #13.

SUMMARY

A *Source Water Assessment* has been completed for the MOA Well #13 source of public drinking water. The overall vulnerability of this source to contamination is **Medium** for bacteria and viruses, nitrates and/or nitrites, volatile organic chemicals, and heavy metals, and **Low** for synthetic organic chemicals, and other for 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 the AWWU to protect public health. It is anticipated that *Source Water Assessments* will be updated every five years to reflect any changes in the vulnerability and/or susceptibility of the public drinking water source.

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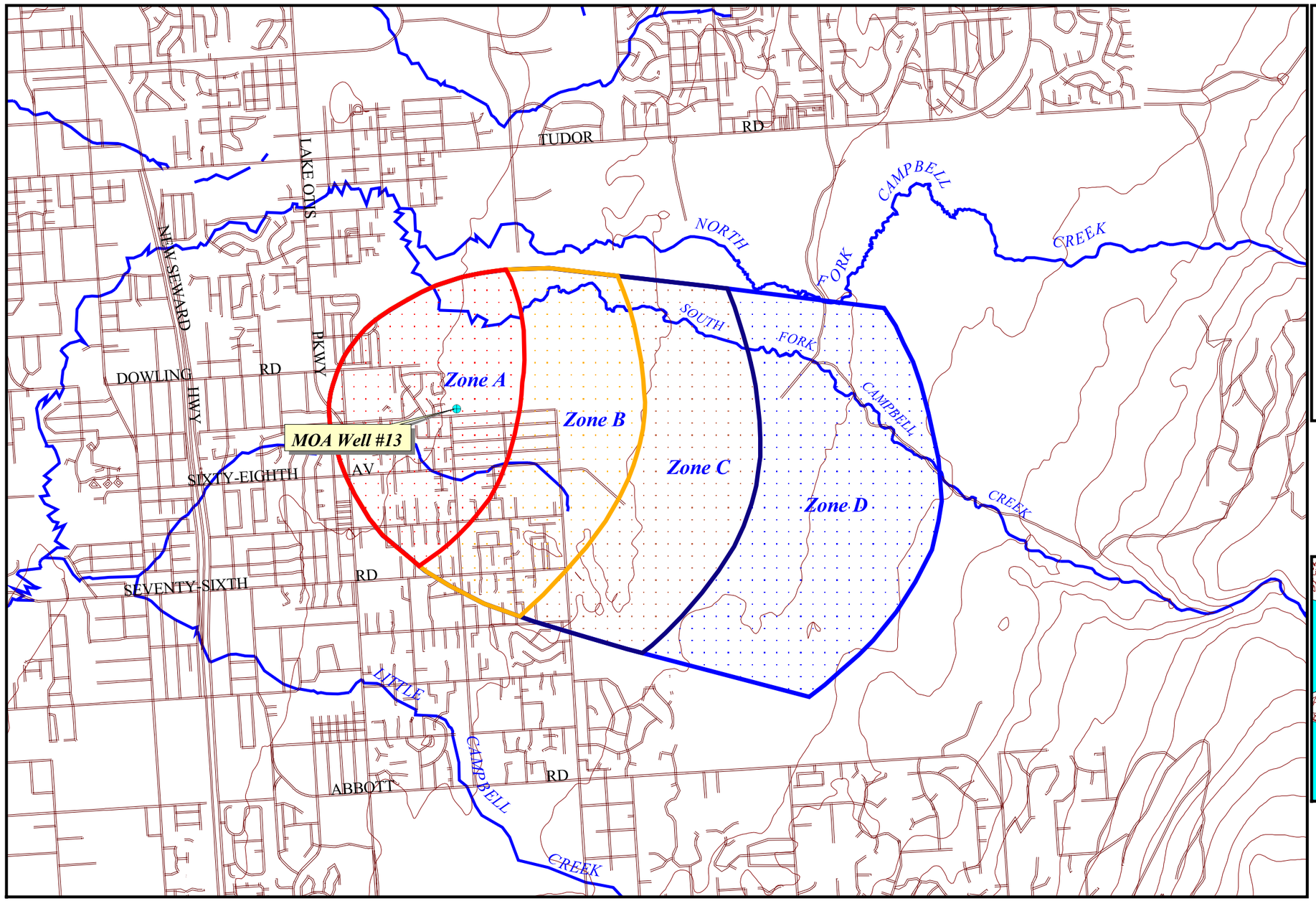
APPENDIX A

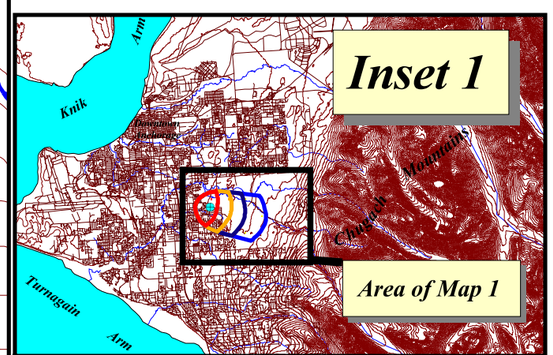
MOA Well #13
Drinking Water Protection Area

Drinking Water Protection Area for MOA Well #13



Legend

- MOA Well #13
- 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
- Elevation Contours
- Streams



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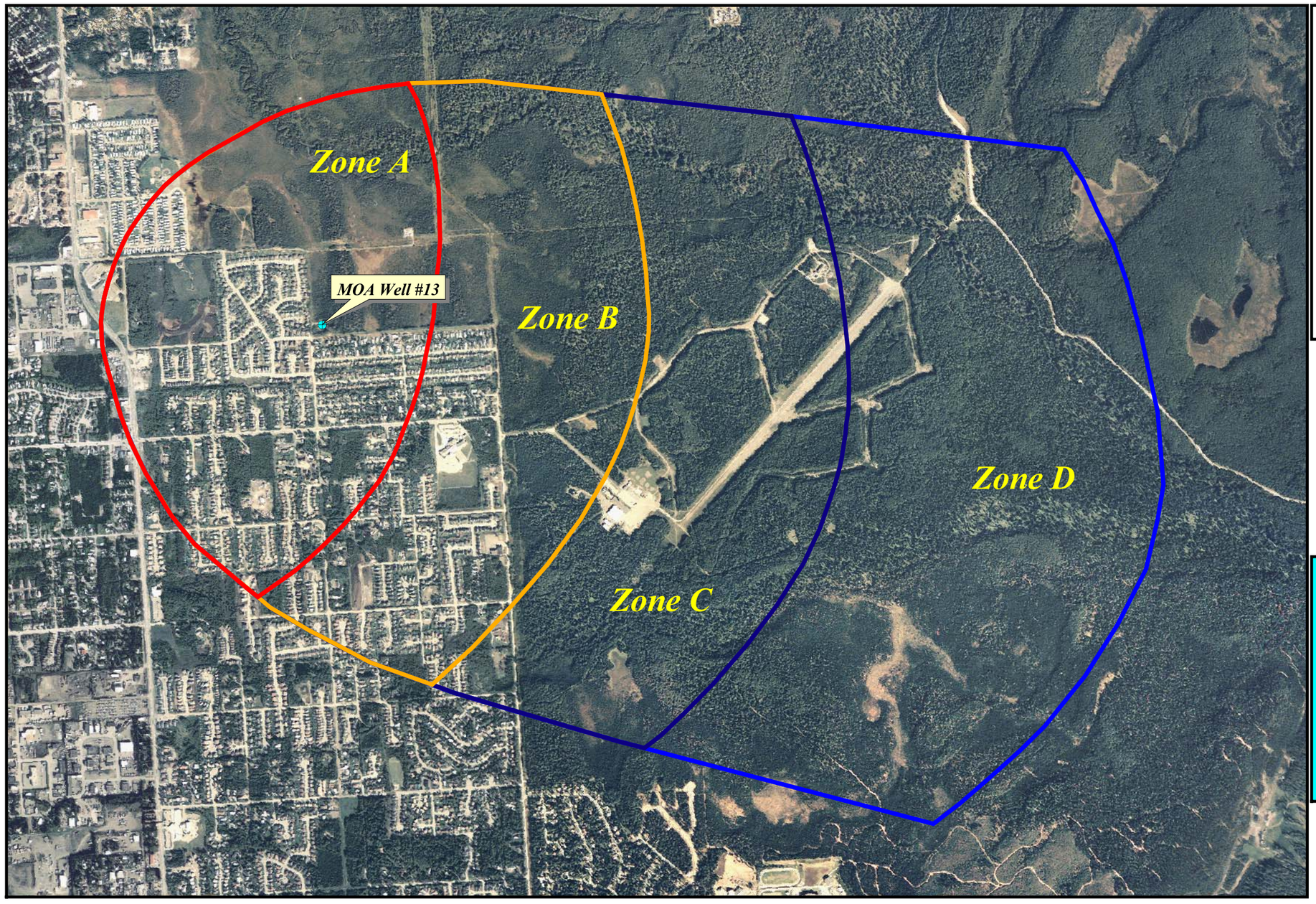
Map 1

Drinking Water Protection Area for MOA Well #13



Legend

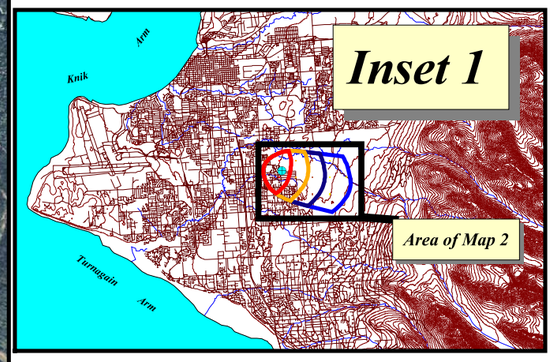
- MOA Well #13

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



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PWSID 210906.004

Map 2

APPENDIX B

Contaminant Source Inventory and Risk Ranking for MOA Well #13

Table 1

Contaminant Source Inventory for MOA Well #13

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Location	Map	Comments
Appliance repair shops	C03	C03-01	A	6634 LAKE OTIS PKWY #D	5	
Body shops (automotive)	C05	C05-01	A	6614 LAKE OTIS PKWY	5	
Construction trade areas and materials	C09	C09-01	A	7232 SPRUCE ST	5	
Gasoline stations (without repair shop)	C15	C15-01	A	6740 LAKE OTIS PKWY	5	
Laundromats without dry cleaning	C22	C22-01	A	6640 LAKE OTIS PKWY	5	
Laundromats without dry cleaning	C22	C22-02	A	6634 LAKE OTIS PARKWAY	5	
Motor /motor vehicle repair shops	C31	C31-01	A	6614 LAKE OTIS PKWY	5	
Motor /motor vehicle repair shops	C31	C31-03	A	6424 LAKE OTIS PKWY	5	Site is served by private septic system
Printers, publishers, copiers	C37	C37-01	A	6634 LAKE OTIS PKWY #E	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-01	A	SIXTY-FOURTH	6	Within 180 feet of MOA Well #13
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-02	A	SIXTY-FIFTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-03	A	SIXTY-SIXTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-04	A	SIXTY-FOURTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-05	A	LEONARD	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-06	A	DOIL	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-07	A	SPRUCE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-08	A	GROSS	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-09	A	COACHMAN	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-10	A	CARRIAGE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-11	A	NORM	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-12	A	COACH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-13	A	DOIL	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-14	A	SIXTY-FOURTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-15	A	SIXTY-FOURTH, COBBLE CREEK	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-17	A	NEWT	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-18	A	BABY BEAR	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-19	A	DESIREE, PEQUOD	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-20	A	EILEEN	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-21	A	LAKE OTIS, LAUREL	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-22	A	LAKE OTIS	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-23	A	BETWEEN SIXTY-SIXTH AND SEVENTY-FOURTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-24	A	TESHLAR, TONDI	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-25	A	SHANE, TONDI	6	

Table 1

Contaminant Source Inventory for MOA Well #13

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Location	Map	Comments
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-26	A	TIFFANY	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-27	A	PEBBLEBROOK	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-28	A	FERGY, SCALERO	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-29	A	SPAULDING, RAQUET	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-30	A	GENNY	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-31	A	BASS	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-32	A	CANTONMENT	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-33	A	BIGLERVILLE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-34	A	BETWEEN SEVENTY-SECOND AND LORE	6	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-01	A	6714 LAKE OTIS PKWY	5	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-02	A	6614 LAKE OTIS PKWY	5	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-03	A	3125 72ND AVE	5	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-04	B	7327 SPRUCE ST	5	
Scrap, salvage, or junk yards	D59	D59-01	A	3125 72ND AVE	5	Property served by a private septic system
Asphalt and tar processing/storage	I03	I03-01	A	6414 LAKE OTIS PKWY	5	Site is served by a private septic system
Residential Areas	R01	R01-01	A	Zone A Protection Area	3	220 acres
Septic systems (serves one single-family home)	R02	R02-01	A	SIXTY-SIXTH	6	
Septic systems (serves one single-family home)	R02	R02-02	A	SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-03	A	SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-04	A	LAUREL	6	
Septic systems (serves one single-family home)	R02	R02-05	A	LAKE OTIS	6	
Septic systems (serves one single-family home)	R02	R02-06	A	LAKE OTIS	6	
Septic systems (serves one single-family home)	R02	R02-07	A	SIXTY-EIGHTH	6	
Septic systems (serves one single-family home)	R02	R02-08	A	SIXTY-EIGHTH	6	
Septic systems (serves one single-family home)	R02	R02-09	A	SIXTY-EIGHTH	6	
Septic systems (serves one single-family home)	R02	R02-10	A	SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-11	A	SEVENTY-SECOND	6	
Septic systems (serves one single-family home)	R02	R02-12	A	SPRUCE AND SEVENTY-SECOND	6	
Septic systems (serves one single-family home)	R02	R02-13	A	LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-14	A	LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-15	A	LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-16	A	LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-17	A	SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-18	A	SPRUCE	6	

Table 1

Contaminant Source Inventory for MOA Well #13

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Location	Map	Comments
Septic systems (serves one single-family home)	R02	R02-19	A	SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-20	A	LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-53	A	SEVENTY-SECOND	6	
Tanks, gasoline (underground)	T12	T12-01	A	6740 LAKE OTIS PKWY	5	10,000 gallon gasoline tank
Tanks, gasoline (underground)	T12	T12-02	A	6740 LAKE OTIS PKWY	5	10,000 gallon gasoline tank
Tanks, gasoline (underground)	T12	T12-03	A	6740 LAKE OTIS PKWY	5	8,000 gallon gasoline tank
Closed tanks, gasoline (underground)	T13	T13-01	A	6414 LAKE OTIS PKWY	5	
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-01	A	6401LAKE OTIS PKWY	5	Soil, groundwater, and surface water contamination identified in July 1987 associated with three underground fuel storage tanks. Site is still open. ADEC LUST File # L20.03.
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-02	A	6740 LAKE OTIS PKWY	5	Petroleum release discovered during a site assessment in September 1994. Site staus is open. ADEC LUST File #L20.09.
Petroleum product bulk station/terminals	X11	X11-01	A	6401 LAKE OTIS PKWY	5	See U07-1
Highways and roads, paved (cement or asphalt)	X20	X20-01	A	SIXTY-FOURTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-02	A	DOIL	4	
Highways and roads, paved (cement or asphalt)	X20	X20-03	A	SPRUCE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-04	A	LEONARD	4	
Highways and roads, paved (cement or asphalt)	X20	X20-05	A	SIXTY-FIFTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-06	A	WINCHESTER	4	
Highways and roads, paved (cement or asphalt)	X20	X20-07	A	GROSS	4	
Highways and roads, paved (cement or asphalt)	X20	X20-08	A	SIXTY-SIXTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-09	A	NORM	4	
Highways and roads, paved (cement or asphalt)	X20	X20-10	A	DOIL	4	
Highways and roads, paved (cement or asphalt)	X20	X20-11	A	NEWT	4	
Highways and roads, paved (cement or asphalt)	X20	X20-12	A	SIXTY-FOURTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-13	A	LAUREL	4	
Highways and roads, paved (cement or asphalt)	X20	X20-14	A	LAUREL	4	
Highways and roads, paved (cement or asphalt)	X20	X20-15	A	NORM	4	
Highways and roads, paved (cement or asphalt)	X20	X20-16	A	CARRIAGE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-17	A	SIXTY-EIGHTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-20	A	COBBLE CREEK, DESIREE, PEQUOD	4	

Table 1

Contaminant Source Inventory for MOA Well #13

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Location	Map	Comments
Highways and roads, paved (cement or asphalt)	X20	X20-21	A	TESHLER, TONDI	4	
Highways and roads, paved (cement or asphalt)	X20	X20-22	A	SHANE, TONDI	4	
Highways and roads, paved (cement or asphalt)	X20	X20-23	A	SPAULDING	4	
Highways and roads, paved (cement or asphalt)	X20	X20-24	A	SEVENTY-SECOND	4	
Highways and roads, paved (cement or asphalt)	X20	X20-25	A	LEWIS, RAQUET	4	
Highways and roads, paved (cement or asphalt)	X20	X20-26	A	SCALERO, FERGY	4	
Highways and roads, paved (cement or asphalt)	X20	X20-27	A	KOVEY, CLOGIA, CLAIMONT	4	
Highways and roads, paved (cement or asphalt)	X20	X20-28	A	GENNY	4	
Highways and roads, paved (cement or asphalt)	X20	X20-29	A	DOWLING	4	
Highways and roads, paved (cement or asphalt)	X20	X20-30	A	MEGO	4	
Highways and roads, paved (cement or asphalt)	X20	X20-31	A	RAYMOND	4	
Highways and roads, paved (cement or asphalt)	X20	X20-32	A	TINIAN	4	
Highways and roads, paved (cement or asphalt)	X20	X20-33	A	TONG	4	
Highways and roads, paved (cement or asphalt)	X20	X20-34	A	TAHITI	4	
Highways and roads, paved (cement or asphalt)	X20	X20-35	A	PAGO PAGO	4	
Highways and roads, paved (cement or asphalt)	X20	X20-36	A	BASS	4	
Highways and roads, paved (cement or asphalt)	X20	X20-37	A	CANTONMENT	4	
Highways and roads, paved (cement or asphalt)	X20	X20-38	A	BIGLERVILLE, BULEN	4	
Highways and roads, paved (cement or asphalt)	X20	X20-39	A	LEWIS	4	
Highways and roads, paved (cement or asphalt)	X20	X20-56	A	TIFFANY, BABY BEAR	4	
Highways and roads, paved (cement or asphalt)	X20	X20-57	A	NADINE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-58	A	ROSE HIP	4	
Highways and roads, paved (cement or asphalt)	X20	X20-60	A	EILEEN	4	
Highways and roads, paved (cement or asphalt)	X20	X20-61	A	COACH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-62	A	DOIL	4	
Highways and roads, paved (cement or asphalt)	X20	X20-63	A	US BLM	4	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-16	A,B	SIXTY-SIXTH, WINCHESTER, ABBOTT LOOP	6	
Highways and roads, paved (cement or asphalt)	X20	X20-19	A,B	SIXTY-SEVENTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-40	A,B	CLOUDBERRY, DRUM, BUGLE, CROWBERRY	4	
Highways and roads, paved (cement or asphalt)	X20	X20-65	A,B	MIRANDA	4	
Domestic wastewater treatment plant disposal ponds/lagoons	D02	D02-1	B	US BLM	6	
Livestock stables/corrals	A09	A09-01	B	3551 TRANQUILITY LOOP	5	
Motor /motor vehicle repair shops	C31	C31-02	A	6714 LAKE OTIS PKWY	5	Site is served by private septic system

Table 1

Contaminant Source Inventory for MOA Well #13

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Location	Map	Comments
Motor /motor vehicle repair shops	C31	C31-04	B	7327 SPRUCE ST	5	Property served by a private septic system
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-35	B	BUGLE, CROWBERRY, CLOUDBERRY, DRUM	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-36	B	TRAVIS, SEVENTY-SECOND,, REDHAWK, HENDERSON	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-37	B	SOLALSET, FLORENCE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-38	B	PLEASURE VIEW, VIRDALEE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-39	B	LADASA TO BETHANY AND RANDAMAR	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-40	B	ENCORE, WINCHESTER, BRAVO, SEVENTY-FOURTH,CHRISTOPHER	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-41	B	RED TALON, FEATHER, WHITE HAWK	6	
Scrap, salvage, or junk yards	D59	D59-02	B	3529 TRANQUILITY	5	
Machine and metal work shops	I23	I23-01	B	7327 SPRUCE ST	5	Site is served by a private septic system
Residential Areas	R01	R01-02	B	Zone B Protection Area	3	129 acres
Septic systems (serves one single-family home)	R02	R02-21	B	SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-22	B	SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-23	B	SIXTY-EIGHTH	6	
Septic systems (serves one single-family home)	R02	R02-24	B	SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-25	B	HENDERSON	6	
Septic systems (serves one single-family home)	R02	R02-26	B	SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-27	B	TRANQUILITY	6	
Septic systems (serves one single-family home)	R02	R02-28	B	TRANQUILITY	6	
Septic systems (serves one single-family home)	R02	R02-29	B	SEVENTY-SECOND	6	
Septic systems (serves one single-family home)	R02	R02-30	B	SEVENTY-SECOND	6	
Septic systems (serves one single-family home)	R02	R02-31	B	ABBOTT LOOP	6	
Septic systems (serves one single-family home)	R02	R02-32-52	B	GREEN ACRES TRAILER PARK; LORE ROAD	6	Twenty single-family septic systems on a 4.76 acre parcel
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-01	B	3990 E. 64TH AVE	5	Chlorinated hydrocarbon and petroleum hydrocarbon soil and groundwater contamination. Contaminated Sites File CS100.25. Status closed.
Highways and roads, paved (cement or asphalt)	X20	X20-18	B	ABBOTT LOOP	4	
Highways and roads, paved (cement or asphalt)	X20	X20-41	B	HENDERSON	4	
Highways and roads, paved (cement or asphalt)	X20	X20-42	B	TRAVIS	4	
Highways and roads, paved (cement or asphalt)	X20	X20-43	B	TRANQUILITY	4	

Table 1

Contaminant Source Inventory for MOA Well #13

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Location	Map	Comments
Highways and roads, paved (cement or asphalt)	X20	X20-44	B	RANDAMAR	4	
Highways and roads, paved (cement or asphalt)	X20	X20-45	B	SEVENTY-FOURTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-46	B	BRAVO	4	
Highways and roads, paved (cement or asphalt)	X20	X20-47	B	WINCHESTER	4	
Highways and roads, paved (cement or asphalt)	X20	X20-48	B	LORE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-49	B	RANDAMAR, BETHANY	4	
Highways and roads, paved (cement or asphalt)	X20	X20-50	B	CANDYWINE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-51	B	KIANA	4	
Highways and roads, paved (cement or asphalt)	X20	X20-52	B	WHITE HAWK	4	
Highways and roads, paved (cement or asphalt)	X20	X20-53	B	RED TALON	4	
Highways and roads, paved (cement or asphalt)	X20	X20-54	B	GREEN ACRES, DAYTON	4	
Highways and roads, paved (cement or asphalt)	X20	X20-55	B	FEATHER	4	
Highways and roads, paved (cement or asphalt)	X20	X20-59	B	LAVERNE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-64	B	FLORENCE, SOLALSET	4	
Livestock stables/corrals	A09	A09-02	B,C	4140 LORE ROAD	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-42	B,C	CASEY, CANDYWINE, KIANA, WINCHESTER, RINNER, BOEK	6	
Residential Areas	R01	R01-03	C	Zone C Protection Area	3	5 acres
Septic systems (serves one single-family home)	R02	R02-54	C	US BLM CAMBELL CREEK SCIENCE CENTER	6	
Airports	X14	X14-1	C,D	Cambell Airstrip	4	Landing strip only utilized during the summer months. Onsite storage of aviation fuel during use.

Table 2

Potential and Existing Sources of Contamination for MOA Well #13
Sources of Bacteria and Viruses

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-01	A	Medium	1	SIXTY-FOURTH	6	Within 180 feet of MOA Well #13
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-02	A	Medium	2	SIXTY-FIFTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-04	A	Medium	3	SIXTY-FOURTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-05	A	Medium	4	LEONARD	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-06	A	Medium	5	DOIL	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-07	A	Medium	6	SPRUCE	6	
Residential Areas	R01	R01-01	A	Low	7	Zone A Protection Area	3	220 acres
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-03	A	Medium	8	SIXTY-SIXTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-13	A	Medium	9	DOIL	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-08	A	Medium	10	GROSS	6	
Laundromats without dry cleaning	C22	C22-01	A	Low		6640 LAKE OTIS PKWY	5	
Laundromats without dry cleaning	C22	C22-02	A	Low		6634 LAKE OTIS PARKWAY	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-09	A	Medium		COACHMAN	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-10	A	Medium		CARRIAGE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-11	A	Medium		NORM	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-12	A	Medium		COACH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-14	A	Medium		SIXTY-FOURTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-15	A	Medium		SIXTY-FOURTH, COBBLE CREEK	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-17	A	Medium		NEWT	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-18	A	Medium		BABY BEAR	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-19	A	Medium		DESIREE, PEQUOD	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-20	A	Medium		EILEEN	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-21	A	Medium		LAKE OTIS, LAUREL	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-22	A	Medium		LAKE OTIS	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-23	A	Medium		BETWEEN SIXTY-SIXTH AND SEVENTY-FOURTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-24	A	Medium		TESHLAR, TONDI	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-25	A	Medium		SHANE, TONDI	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-26	A	Medium		TIFFANY	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-27	A	Medium		PEBBLEBROOK	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-28	A	Medium		FERGY, SCALERO	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-29	A	Medium		SPAULDING, RAQUET	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-30	A	Medium		GENNY	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-31	A	Medium		BASS	6	

Table 2

Potential and Existing Sources of Contamination for MOA Well #13
Sources of Bacteria and Viruses

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-32	A	Medium		CANTONMENT	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-33	A	Medium		BIGLERVILLE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-34	A	Medium		BETWEEN SEVENTY-SECOND AND LORE	6	
Septic systems (serves one single-family home)	R02	R02-01	A	Low		SIXTY-SIXTH	6	
Septic systems (serves one single-family home)	R02	R02-02	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-03	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-04	A	Low		LAUREL	6	
Septic systems (serves one single-family home)	R02	R02-05	A	Low		LAKE OTIS	6	
Septic systems (serves one single-family home)	R02	R02-06	A	Low		LAKE OTIS	6	
Septic systems (serves one single-family home)	R02	R02-07	A	Low		SIXTY-EIGHTH	6	
Septic systems (serves one single-family home)	R02	R02-08	A	Low		SIXTY-EIGHTH	6	
Septic systems (serves one single-family home)	R02	R02-09	A	Low		SIXTY-EIGHTH	6	
Septic systems (serves one single-family home)	R02	R02-10	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-11	A	Low		SEVENTY-SECOND	6	
Septic systems (serves one single-family home)	R02	R02-12	A	Low		SPRUCE AND SEVENTY-SECOND	6	
Septic systems (serves one single-family home)	R02	R02-13	A	Low		LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-14	A	Low		LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-15	A	Low		LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-16	A	Low		LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-17	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-18	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-19	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-20	A	Low		LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-53	A	Low		SEVENTY-SECOND	6	
Highways and roads, paved (cement or asphalt)	X20	X20-01	A	Low		SIXTY-FOURTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-02	A	Low		DOIL	4	
Highways and roads, paved (cement or asphalt)	X20	X20-03	A	Low		SPRUCE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-04	A	Low		LEONARD	4	
Highways and roads, paved (cement or asphalt)	X20	X20-05	A	Low		SIXTY-FIFTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-06	A	Low		WINCHESTER	4	
Highways and roads, paved (cement or asphalt)	X20	X20-07	A	Low		GROSS	4	
Highways and roads, paved (cement or asphalt)	X20	X20-08	A	Low		SIXTY-SIXTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-09	A	Low		NORM	4	
Highways and roads, paved (cement or asphalt)	X20	X20-10	A	Low		DOIL	4	
Highways and roads, paved (cement or asphalt)	X20	X20-11	A	Low		NEWT	4	

Table 2

Potential and Existing Sources of Contamination for MOA Well #13
Sources of Bacteria and Viruses

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Highways and roads, paved (cement or asphalt)	X20	X20-12	A	Low		SIXTY-FOURTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-13	A	Low		LAUREL	4	
Highways and roads, paved (cement or asphalt)	X20	X20-14	A	Low		LAUREL	4	
Highways and roads, paved (cement or asphalt)	X20	X20-15	A	Low		NORM	4	
Highways and roads, paved (cement or asphalt)	X20	X20-16	A	Low		CARRIAGE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-17	A	Low		SIXTY-EIGHTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-20	A	Low		COBBLE CREEK, DESIREE, PEQUOD	4	
Highways and roads, paved (cement or asphalt)	X20	X20-21	A	Low		TESHLER, TONDI	4	
Highways and roads, paved (cement or asphalt)	X20	X20-22	A	Low		SHANE, TONDI	4	
Highways and roads, paved (cement or asphalt)	X20	X20-23	A	Low		SPAULDING	4	
Highways and roads, paved (cement or asphalt)	X20	X20-24	A	Low		SEVENTY-SECOND	4	
Highways and roads, paved (cement or asphalt)	X20	X20-25	A	Low		LEWIS, RAQUET	4	
Highways and roads, paved (cement or asphalt)	X20	X20-26	A	Low		SCALERO, FERGY	4	
Highways and roads, paved (cement or asphalt)	X20	X20-27	A	Low		KOVEY, CLOGIA, CLAIMONT	4	
Highways and roads, paved (cement or asphalt)	X20	X20-28	A	Low		GENNY	4	
Highways and roads, paved (cement or asphalt)	X20	X20-29	A	Low		DOWLING	4	
Highways and roads, paved (cement or asphalt)	X20	X20-30	A	Low		MEGO	4	
Highways and roads, paved (cement or asphalt)	X20	X20-31	A	Low		RAYMOND	4	
Highways and roads, paved (cement or asphalt)	X20	X20-32	A	Low		TINIAN	4	
Highways and roads, paved (cement or asphalt)	X20	X20-33	A	Low		TONG	4	
Highways and roads, paved (cement or asphalt)	X20	X20-34	A	Low		TAHITI	4	
Highways and roads, paved (cement or asphalt)	X20	X20-35	A	Low		PAGO PAGO	4	
Highways and roads, paved (cement or asphalt)	X20	X20-36	A	Low		BASS	4	
Highways and roads, paved (cement or asphalt)	X20	X20-37	A	Low		CANTONMENT	4	
Highways and roads, paved (cement or asphalt)	X20	X20-38	A	Low		BIGLERVILLE, BULEN	4	
Highways and roads, paved (cement or asphalt)	X20	X20-39	A	Low		LEWIS	4	
Highways and roads, paved (cement or asphalt)	X20	X20-56	A	Low		TIFFANY, BABY BEAR	4	
Highways and roads, paved (cement or asphalt)	X20	X20-57	A	Low		NADINE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-58	A	Low		ROSE HIP	4	
Highways and roads, paved (cement or asphalt)	X20	X20-60	A	Low		EILEEN	4	
Highways and roads, paved (cement or asphalt)	X20	X20-61	A	Low		COACH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-62	A	Low		DOIL	4	
Highways and roads, paved (cement or asphalt)	X20	X20-63	A	Low		US BLM	4	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-16	A,B	Medium		SIXTY-SIXTH, WINCHESTER, ABBOTT LOOP	6	
Highways and roads, paved (cement or asphalt)	X20	X20-19	A,B	Low		SIXTY-SEVENTH	4	

Table 2

Potential and Existing Sources of Contamination for MOA Well #13
Sources of Bacteria and Viruses

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Highways and roads, paved (cement or asphalt)	X20	X20-40	A,B	Low		CLOUDBERRY, DRUM, BUGLE, CROWBERRY	4	
Highways and roads, paved (cement or asphalt)	X20	X20-65	A,B	Low		MIRANDA	4	
Domestic wastewater treatment plant disposal ponds/lagoons	D02	D02-1	B	Medium		US BLM	6	
Livestock stables/corrals	A09	A09-01	B	Low		3551 TRANQUILITY LOOP	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-35	B	Medium		BUGLE, CROWBERRY, CLOUDBERRY, DRUM	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-36	B	Medium		TRAVIS, SEVENTY-SECOND,, REDHAWK, HENDERSON	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-37	B	Medium		SOLALSET, FLORENCE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-38	B	Medium		PLEASURE VIEW, VIRDALEE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-39	B	Medium		LADASA TO BETHANY AND RANDAMAR	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-40	B	Medium		ENCORE, WINCHESTER, BRAVO, SEVENTY-FOURTH,CHRISTOPHER	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-41	B	Medium		RED TALON, FEATHER, WHITE HAWK	6	
Residential Areas	R01	R01-02	B	Low		Zone B Protection Area	3	129 acres
Septic systems (serves one single-family home)	R02	R02-21	B	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-22	B	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-23	B	Low		SIXTY-EIGHTH	6	
Septic systems (serves one single-family home)	R02	R02-24	B	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-25	B	Low		HENDERSON	6	
Septic systems (serves one single-family home)	R02	R02-26	B	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-27	B	Low		TRANQUILITY	6	
Septic systems (serves one single-family home)	R02	R02-28	B	Low		TRANQUILITY	6	
Septic systems (serves one single-family home)	R02	R02-29	B	Low		SEVENTY-SECOND	6	
Septic systems (serves one single-family home)	R02	R02-30	B	Low		SEVENTY-SECOND	6	
Septic systems (serves one single-family home)	R02	R02-31	B	Low		ABBOTT LOOP	6	
Septic systems (serves one single-family home)	R02	R02-32-52	B	Low		GREEN ACRES TRAILER PARK; LORE ROAD	6	Twenty single-family septic systems on a 4.76 acre parcel
Highways and roads, paved (cement or asphalt)	X20	X20-18	B	Low		ABBOTT LOOP	4	
Highways and roads, paved (cement or asphalt)	X20	X20-41	B	Low		HENDERSON	4	
Highways and roads, paved (cement or asphalt)	X20	X20-42	B	Low		TRAVIS	4	
Highways and roads, paved (cement or asphalt)	X20	X20-43	B	Low		TRANQUILITY	4	
Highways and roads, paved (cement or asphalt)	X20	X20-44	B	Low		RANDAMAR	4	

Table 2

Potential and Existing Sources of Contamination for MOA Well #13
Sources of Bacteria and Viruses

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Highways and roads, paved (cement or asphalt)	X20	X20-45	B	Low		SEVENTY-FOURTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-46	B	Low		BRAVO	4	
Highways and roads, paved (cement or asphalt)	X20	X20-47	B	Low		WINCHESTER	4	
Highways and roads, paved (cement or asphalt)	X20	X20-48	B	Low		LORE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-49	B	Low		RANDAMAR, BETHANY	4	
Highways and roads, paved (cement or asphalt)	X20	X20-50	B	Low		CANDYWINE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-51	B	Low		KIANA	4	
Highways and roads, paved (cement or asphalt)	X20	X20-52	B	Low		WHITE HAWK	4	
Highways and roads, paved (cement or asphalt)	X20	X20-53	B	Low		RED TALON	4	
Highways and roads, paved (cement or asphalt)	X20	X20-54	B	Low		GREEN ACRES, DAYTON	4	
Highways and roads, paved (cement or asphalt)	X20	X20-55	B	Low		FEATHER	4	
Highways and roads, paved (cement or asphalt)	X20	X20-59	B	Low		LAVERNE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-64	B	Low		FLORENCE, SOLALSET	4	
Livestock stables/corrals	A09	A09-02	B,C	Low		4140 LORE ROAD	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-42	B,C	Medium		CASEY, CANDYWINE, KIANA, WINCHESTER, RINNER, BOEK	6	

Table 3

Potential and Existing Sources of Contamination for MOA Well #13 Sources of Nitrates and Nitrites

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-01	A	Medium	1	SIXTY-FOURTH	6	Within 180 feet of MOA Well #13
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-02	A	Medium	2	SIXTY-FIFTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-04	A	Medium	3	SIXTY-FOURTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-05	A	Medium	4	LEONARD	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-06	A	Medium	5	DOIL	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-07	A	Medium	6	SPRUCE	6	
Residential Areas	R01	R01-01	A	Low	7	Zone A Protection Area	3	220 acres
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-03	A	Medium	8	SIXTY-SIXTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-13	A	Medium	9	DOIL	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-08	A	Medium	10	GROSS	6	
Laundromats without dry cleaning	C22	C22-01	A	Low		6640 LAKE OTIS PKWY	5	
Laundromats without dry cleaning	C22	C22-02	A	Low		6634 LAKE OTIS PARKWAY	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-09	A	Medium		COACHMAN	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-10	A	Medium		CARRIAGE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-11	A	Medium		NORM	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-12	A	Medium		COACH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-14	A	Medium		SIXTY-FOURTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-15	A	Medium		SIXTY-FOURTH, COBBLE CREEK	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-17	A	Medium		NEWT	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-18	A	Medium		BABY BEAR	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-19	A	Medium		DESIREE, PEQUOD	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-20	A	Medium		EILEEN	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-21	A	Medium		LAKE OTIS, LAUREL	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-22	A	Medium		LAKE OTIS	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-23	A	Medium		BETWEEN SIXTY-SIXTH AND SEVENTY-FOURTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-24	A	Medium		TESHLAR, TONDI	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-25	A	Medium		SHANE, TONDI	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-26	A	Medium		TIFFANY	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-27	A	Medium		PEBBLEBROOK	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-28	A	Medium		FERGY, SCALERO	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-29	A	Medium		SPAULDING, RAQUET	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-30	A	Medium		GENNY	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-31	A	Medium		BASS	6	

Table 3

Potential and Existing Sources of Contamination for MOA Well #13 Sources of Nitrates and Nitrites

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-32	A	Medium		CANTONMENT	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-33	A	Medium		BIGLERVILLE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-34	A	Medium		BETWEEN SEVENTY-SECOND AND LORE	6	
Septic systems (serves one single-family home)	R02	R02-01	A	Low		SIXTY-SIXTH	6	
Septic systems (serves one single-family home)	R02	R02-02	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-03	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-04	A	Low		LAUREL	6	
Septic systems (serves one single-family home)	R02	R02-05	A	Low		LAKE OTIS	6	
Septic systems (serves one single-family home)	R02	R02-06	A	Low		LAKE OTIS	6	
Septic systems (serves one single-family home)	R02	R02-07	A	Low		SIXTY-EIGHTH	6	
Septic systems (serves one single-family home)	R02	R02-08	A	Low		SIXTY-EIGHTH	6	
Septic systems (serves one single-family home)	R02	R02-09	A	Low		SIXTY-EIGHTH	6	
Septic systems (serves one single-family home)	R02	R02-10	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-11	A	Low		SEVENTY-SECOND	6	
Septic systems (serves one single-family home)	R02	R02-12	A	Low		SPRUCE AND SEVENTY-SECOND	6	
Septic systems (serves one single-family home)	R02	R02-13	A	Low		LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-14	A	Low		LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-15	A	Low		LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-16	A	Low		LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-17	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-18	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-19	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-20	A	Low		LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-53	A	Low		SEVENTY-SECOND	6	
Highways and roads, paved (cement or asphalt)	X20	X20-01	A	Low		SIXTY-FOURTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-02	A	Low		DOIL	4	
Highways and roads, paved (cement or asphalt)	X20	X20-03	A	Low		SPRUCE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-04	A	Low		LEONARD	4	
Highways and roads, paved (cement or asphalt)	X20	X20-05	A	Low		SIXTY-FIFTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-06	A	Low		WINCHESTER	4	
Highways and roads, paved (cement or asphalt)	X20	X20-07	A	Low		GROSS	4	
Highways and roads, paved (cement or asphalt)	X20	X20-08	A	Low		SIXTY-SIXTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-09	A	Low		NORM	4	
Highways and roads, paved (cement or asphalt)	X20	X20-10	A	Low		DOIL	4	
Highways and roads, paved (cement or asphalt)	X20	X20-11	A	Low		NEWT	4	

Table 3

Potential and Existing Sources of Contamination for MOA Well #13 Sources of Nitrates and Nitrites

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Highways and roads, paved (cement or asphalt)	X20	X20-12	A	Low		SIXTY-FOURTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-13	A	Low		LAUREL	4	
Highways and roads, paved (cement or asphalt)	X20	X20-14	A	Low		LAUREL	4	
Highways and roads, paved (cement or asphalt)	X20	X20-15	A	Low		NORM	4	
Highways and roads, paved (cement or asphalt)	X20	X20-16	A	Low		CARRIAGE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-17	A	Low		SIXTY-EIGHTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-20	A	Low		COBBLE CREEK, DESIREE, PEQUOD	4	
Highways and roads, paved (cement or asphalt)	X20	X20-21	A	Low		TESHLER, TONDI	4	
Highways and roads, paved (cement or asphalt)	X20	X20-22	A	Low		SHANE, TONDI	4	
Highways and roads, paved (cement or asphalt)	X20	X20-23	A	Low		SPAULDING	4	
Highways and roads, paved (cement or asphalt)	X20	X20-24	A	Low		SEVENTY-SECOND	4	
Highways and roads, paved (cement or asphalt)	X20	X20-25	A	Low		LEWIS, RAQUET	4	
Highways and roads, paved (cement or asphalt)	X20	X20-26	A	Low		SCALERO, FERGY	4	
Highways and roads, paved (cement or asphalt)	X20	X20-27	A	Low		KOVEY, CLOGIA, CLAIMONT	4	
Highways and roads, paved (cement or asphalt)	X20	X20-28	A	Low		GENNY	4	
Highways and roads, paved (cement or asphalt)	X20	X20-29	A	Low		DOWLING	4	
Highways and roads, paved (cement or asphalt)	X20	X20-30	A	Low		MEGO	4	
Highways and roads, paved (cement or asphalt)	X20	X20-31	A	Low		RAYMOND	4	
Highways and roads, paved (cement or asphalt)	X20	X20-32	A	Low		TINIAN	4	
Highways and roads, paved (cement or asphalt)	X20	X20-33	A	Low		TONG	4	
Highways and roads, paved (cement or asphalt)	X20	X20-34	A	Low		TAHITI	4	
Highways and roads, paved (cement or asphalt)	X20	X20-35	A	Low		PAGO PAGO	4	
Highways and roads, paved (cement or asphalt)	X20	X20-36	A	Low		BASS	4	
Highways and roads, paved (cement or asphalt)	X20	X20-37	A	Low		CANTONMENT	4	
Highways and roads, paved (cement or asphalt)	X20	X20-38	A	Low		BIGLERVILLE, BULEN	4	
Highways and roads, paved (cement or asphalt)	X20	X20-39	A	Low		LEWIS	4	
Highways and roads, paved (cement or asphalt)	X20	X20-56	A	Low		TIFFANY, BABY BEAR	4	
Highways and roads, paved (cement or asphalt)	X20	X20-57	A	Low		NADINE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-58	A	Low		ROSE HIP	4	
Highways and roads, paved (cement or asphalt)	X20	X20-60	A	Low		EILEEN	4	
Highways and roads, paved (cement or asphalt)	X20	X20-61	A	Low		COACH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-62	A	Low		DOIL	4	
Highways and roads, paved (cement or asphalt)	X20	X20-63	A	Low		US BLM	4	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-16	A,B	Low		SIXTY-SIXTH, WINCHESTER, ABBOTT LOOP	6	
Highways and roads, paved (cement or asphalt)	X20	X20-19	A,B	Low		SIXTY-SEVENTH	4	

Table 3

Potential and Existing Sources of Contamination for MOA Well #13 Sources of Nitrates and Nitrites

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Highways and roads, paved (cement or asphalt)	X20	X20-40	A,B	Low		CLOUDBERRY, DRUM, BUGLE, CROWBERRY	4	
Highways and roads, paved (cement or asphalt)	X20	X20-65	A,B	Low		MIRANDA	4	
Domestic wastewater treatment plant disposal ponds/lagoons	D02	D02-1	B	Medium		US BLM DISTRICT OFFICE	6	
Livestock stables/corrals	A09	A09-01	B	Low		3551 TRANQUILITY LOOP	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-35	B	Medium		BUGLE, CROWBERRY, CLOUDBERRY, DRUM	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-36	B	Medium		TRAVIS, SEVENTY-SECOND,, REDHAWK, HENDERSON	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-37	B	Medium		SOLALSET, FLORENCE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-38	B	Medium		PLEASURE VIEW, VIRDALEE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-39	B	Medium		LADASA TO BETHANY AND RANDAMAR	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-40	B	Medium		ENCORE, WINCHESTER, BRAVO, SEVENTY-FOURTH,CHRISTOPHER	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-41	B	Medium		RED TALON, FEATHER, WHITE HAWK	6	
Residential Areas	R01	R01-02	B	Low		Zone B Protection Area	3	129 acres
Septic systems (serves one single-family home)	R02	R02-21	B	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-22	B	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-23	B	Low		SIXTY-EIGHTH	6	
Septic systems (serves one single-family home)	R02	R02-24	B	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-25	B	Low		HENDERSON	6	
Septic systems (serves one single-family home)	R02	R02-26	B	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-27	B	Low		TRANQUILITY	6	
Septic systems (serves one single-family home)	R02	R02-28	B	Low		TRANQUILITY	6	
Septic systems (serves one single-family home)	R02	R02-29	B	Low		SEVENTY-SECOND	6	
Septic systems (serves one single-family home)	R02	R02-30	B	Low		SEVENTY-SECOND	6	
Septic systems (serves one single-family home)	R02	R02-31	B	Low		ABBOTT LOOP	6	
Septic systems (serves one single-family home)	R02	R02-32-52	B	Low		GREEN ACRES TRAILER PARK; LORE ROAD	6	Twenty single-family septic systems on a 4.76 acre parcel
Highways and roads, paved (cement or asphalt)	X20	X20-18	B	Low		ABBOTT LOOP	4	
Highways and roads, paved (cement or asphalt)	X20	X20-41	B	Low		HENDERSON	4	
Highways and roads, paved (cement or asphalt)	X20	X20-42	B	Low		TRAVIS	4	
Highways and roads, paved (cement or asphalt)	X20	X20-43	B	Low		TRANQUILITY	4	
Highways and roads, paved (cement or asphalt)	X20	X20-44	B	Low		RANDAMAR	4	
Highways and roads, paved (cement or asphalt)	X20	X20-45	B	Low		SEVENTY-FOURTH	4	

Table 3

Potential and Existing Sources of Contamination for MOA Well #13 Sources of Nitrates and Nitrites

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Highways and roads, paved (cement or asphalt)	X20	X20-46	B	Low		BRAVO	4	
Highways and roads, paved (cement or asphalt)	X20	X20-47	B	Low		WINCHESTER	4	
Highways and roads, paved (cement or asphalt)	X20	X20-48	B	Low		LORE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-49	B	Low		RANDAMAR, BETHANY	4	
Highways and roads, paved (cement or asphalt)	X20	X20-50	B	Low		CANDYWINE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-51	B	Low		KIANA	4	
Highways and roads, paved (cement or asphalt)	X20	X20-52	B	Low		WHITE HAWK	4	
Highways and roads, paved (cement or asphalt)	X20	X20-53	B	Low		RED TALON	4	
Highways and roads, paved (cement or asphalt)	X20	X20-54	B	Low		GREEN ACRES, DAYTON	4	
Highways and roads, paved (cement or asphalt)	X20	X20-55	B	Low		FEATHER	4	
Highways and roads, paved (cement or asphalt)	X20	X20-59	B	Low		LAVERNE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-64	B	Low		FLORENCE, SOLALSET	4	
Livestock stables/corrals	A09	A09-02	B,C	Low		4140 LORE ROAD	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-42	B,C	Low		CASEY, CANDYWINE, KIANA, WINCHESTER, RINNER, BOEK	6	
Residential Areas	R01	R01-03	C	Low		Zone C Protection Area	3	5 acres
Septic systems (serves one single-family home)	R02	R02-54	C	Low		US BLM CAMBELL CREEK SCIENCE CENTER	6	

Table 4

Potential and Existing Sources of Contamination for MOA Well #13
Sources of Volatile Organic Chemicals (VOCs)

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Residential Areas	R01	R01-01	A	Low	1	Zone A Protection Area	3	220 acres
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-01	A	Low	2	SIXTY-FOURTH	6	Within 180 feet of MOA Well #13
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-02	A	Low	3	SIXTY-FIFTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-04	A	Low	4	SIXTY-FOURTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-05	A	Low	5	LEONARD	6	
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-01	B	Low	6	3990 E. 64TH AVE	5	Chlorinated hydrocarbon, petroleum hydrocarbon, and heavy metal soil and groundwater contamination. Site remediation has been completed, however, soils and groundwater maintain low levels of contamination. Contaminated Sites File CS100.25. Status closed.
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-06	A	Low	7	DOIL	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-07	A	Low	8	SPRUCE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-03	A	Low	9	SIXTY-SIXTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-13	A	Low	10	DOIL	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-08	A	Low		GROSS	6	
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-01	A	Medium		6401LAKE OTIS PKWY	5	Soil, groundwater, and surface water contamination identified in July 1987 associated with three underground fuel storage tanks. Site is still open. ADEC LUST File # L20.03.
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-03	A	High		3125 72ND AVE	5	
Scrap, salvage, or junk yards	D59	D59-01	A	High		3125 72ND AVE	5	Property served by a private septic system
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-04	B	High		7327 SPRUCE ST	5	Site is served by a private septic system
Scrap, salvage, or junk yards	D59	D59-02	B	High		3529 TRANQUILITY	5	
Asphalt and tar processing/storage	I03	I03-01	A	Medium		6414 LAKE OTIS PKWY	5	Site is served by a private septic system
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-02	A	High		6614 LAKE OTIS PKWY	5	

Table 4

Potential and Existing Sources of Contamination for MOA Well #13
Sources of Volatile Organic Chemicals (VOCs)

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-01	A	High		6714 LAKE OTIS PKWY	5	
Petroleum product bulk station/terminals	X11	X11-01	A	High		6401 LAKE OTIS PKWY	5	See U07-1
Tanks, gasoline (underground)	T12	T12-02	A	Medium		6740 LAKE OTIS PKWY	5	10,000 gallon gasoline tank
Tanks, gasoline (underground)	T12	T12-01	A	Medium		6740 LAKE OTIS PKWY	5	10,000 gallon gasoline tank
Appliance repair shops	C03	C03-01	A	Low		6634 LAKE OTIS PKWY #D	5	
Body shops (automotive)	C05	C05-01	A	Medium		6614 LAKE OTIS PKWY	5	
Construction trade areas and materials	C09	C09-01	A	Low		7232 SPRUCE ST	5	
Gasoline stations (without repair shop)	C15	C15-01	A	Medium		6740 LAKE OTIS PKWY	5	
Laundromats without dry cleaning	C22	C22-01	A	Low		6640 LAKE OTIS PKWY	5	
Laundromats without dry cleaning	C22	C22-02	A	Low		6634 LAKE OTIS PARKWAY	5	
Motor /motor vehicle repair shops	C31	C31-01	A	Medium		6614 LAKE OTIS PKWY	5	
Motor /motor vehicle repair shops	C31	C31-02	A	Medium		6714 LAKE OTIS PKWY	5	Site is served by private septic system
Motor /motor vehicle repair shops	C31	C31-03	A	Medium		6424 LAKE OTIS PKWY	5	Site is served by private septic system
Printers, publishers, copiers	C37	C37-01	A	Low		6634 LAKE OTIS PKWY #E	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-09	A	Low		COACHMAN	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-10	A	Low		CARRIAGE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-11	A	Low		NORM	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-12	A	Low		COACH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-14	A	Low		SIXTY-FOURTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-15	A	Low		SIXTY-FOURTH, COBBLE CREEK	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-17	A	Low		NEWT	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-18	A	Low		BABY BEAR	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-19	A	Low		DESIREE, PEQUOD	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-20	A	Low		EILEEN	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-21	A	Low		LAKE OTIS, LAUREL	6	

Table 4

Potential and Existing Sources of Contamination for MOA Well #13
Sources of Volatile Organic Chemicals (VOCs)

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-22	A	Low		LAKE OTIS	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-23	A	Low		BETWEEN SIXTY-SIXTH AND SEVENTY-FOURTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-24	A	Low		TESHLAR, TONDI	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-25	A	Low		SHANE, TONDI	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-26	A	Low		TIFFANY	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-27	A	Low		PEBBLEBROOK	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-28	A	Low		FERGY, SCALERO	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-29	A	Low		SPAULDING, RAQUET	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-30	A	Low		GENNY	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-31	A	Low		BASS	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-32	A	Low		CANTONMENT	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-33	A	Low		BIGLERVILLE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-34	A	Low		BETWEEN SEVENTY-SECOND AND LORE	6	
Septic systems (serves one single-family home)	R02	R02-01	A	Low		SIXTY-SIXTH	6	
Septic systems (serves one single-family home)	R02	R02-02	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-03	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-04	A	Low		LAUREL	6	
Septic systems (serves one single-family home)	R02	R02-05	A	Low		LAKE OTIS	6	
Septic systems (serves one single-family home)	R02	R02-06	A	Low		LAKE OTIS	6	
Septic systems (serves one single-family home)	R02	R02-07	A	Low		SIXTY-EIGHTH	6	
Septic systems (serves one single-family home)	R02	R02-08	A	Low		SIXTY-EIGHTH	6	
Septic systems (serves one single-family home)	R02	R02-09	A	Low		SIXTY-EIGHTH	6	
Septic systems (serves one single-family home)	R02	R02-10	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-11	A	Low		SEVENTY-SECOND	6	
Septic systems (serves one single-family home)	R02	R02-12	A	Low		SPRUCE AND SEVENTY-SECOND	6	
Septic systems (serves one single-family home)	R02	R02-13	A	Low		LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-14	A	Low		LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-15	A	Low		LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-16	A	Low		LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-17	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-18	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-19	A	Low		SPRUCE	6	

Table 4

Potential and Existing Sources of Contamination for MOA Well #13
Sources of Volatile Organic Chemicals (VOCs)

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Septic systems (serves one single-family home)	R02	R02-20	A	Low		LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-53	A	Low		SEVENTY-SECOND	6	
Tanks, gasoline (underground)	T12	T12-03	A	Medium		6740 LAKE OTIS PKWY	5	8,000 gallon gasoline tank
Closed tanks, gasoline (underground)	T13	T13-01	A	Low		6414 LAKE OTIS PKWY	5	
Open Leaking Underground Fuel Storage Tank (LUST) Sites	U07	U07-02	A	Medium		6740 LAKE OTIS PKWY	5	Petroleum release discovered during a site assessment in September 1994. Site staus is open. ADEC LUST File #L20.09.
Highways and roads, paved (cement or asphalt)	X20	X20-01	A	Low		SIXTY-FOURTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-02	A	Low		DOIL	4	
Highways and roads, paved (cement or asphalt)	X20	X20-03	A	Low		SPRUCE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-04	A	Low		LEONARD	4	
Highways and roads, paved (cement or asphalt)	X20	X20-05	A	Low		SIXTY-FIFTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-06	A	Low		WINCHESTER	4	
Highways and roads, paved (cement or asphalt)	X20	X20-07	A	Low		GROSS	4	
Highways and roads, paved (cement or asphalt)	X20	X20-08	A	Low		SIXTY-SIXTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-09	A	Low		NORM	4	
Highways and roads, paved (cement or asphalt)	X20	X20-10	A	Low		DOIL	4	
Highways and roads, paved (cement or asphalt)	X20	X20-11	A	Low		NEWT	4	
Highways and roads, paved (cement or asphalt)	X20	X20-12	A	Low		SIXTY-FOURTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-13	A	Low		LAUREL	4	
Highways and roads, paved (cement or asphalt)	X20	X20-14	A	Low		LAUREL	4	
Highways and roads, paved (cement or asphalt)	X20	X20-15	A	Low		NORM	4	
Highways and roads, paved (cement or asphalt)	X20	X20-16	A	Low		CARRIAGE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-17	A	Low		SIXTY-EIGHTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-20	A	Low		COBBLE CREEK, DESIREE, PEQUOD	4	
Highways and roads, paved (cement or asphalt)	X20	X20-21	A	Low		TESHLER, TONDI	4	
Highways and roads, paved (cement or asphalt)	X20	X20-22	A	Low		SHANE, TONDI	4	
Highways and roads, paved (cement or asphalt)	X20	X20-23	A	Low		SPAULDING	4	
Highways and roads, paved (cement or asphalt)	X20	X20-24	A	Low		SEVENTY-SECOND	4	
Highways and roads, paved (cement or asphalt)	X20	X20-25	A	Low		LEWIS, RAQUET	4	
Highways and roads, paved (cement or asphalt)	X20	X20-26	A	Low		SCALERO, FERGY	4	

Table 4

Potential and Existing Sources of Contamination for MOA Well #13
Sources of Volatile Organic Chemicals (VOCs)

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Highways and roads, paved (cement or asphalt)	X20	X20-27	A	Low		KOVEY, CLOGIA, CLAIMONT	4	
Highways and roads, paved (cement or asphalt)	X20	X20-28	A	Low		GENNY	4	
Highways and roads, paved (cement or asphalt)	X20	X20-29	A	Low		DOWLING	4	
Highways and roads, paved (cement or asphalt)	X20	X20-30	A	Low		MEGO	4	
Highways and roads, paved (cement or asphalt)	X20	X20-31	A	Low		RAYMOND	4	
Highways and roads, paved (cement or asphalt)	X20	X20-32	A	Low		TINIAN	4	
Highways and roads, paved (cement or asphalt)	X20	X20-33	A	Low		TONG	4	
Highways and roads, paved (cement or asphalt)	X20	X20-34	A	Low		TAHITI	4	
Highways and roads, paved (cement or asphalt)	X20	X20-35	A	Low		PAGO PAGO	4	
Highways and roads, paved (cement or asphalt)	X20	X20-36	A	Low		BASS	4	
Highways and roads, paved (cement or asphalt)	X20	X20-37	A	Low		CANTONMENT	4	
Highways and roads, paved (cement or asphalt)	X20	X20-38	A	Low		BIGLERVILLE, BULEN	4	
Highways and roads, paved (cement or asphalt)	X20	X20-39	A	Low		LEWIS	4	
Highways and roads, paved (cement or asphalt)	X20	X20-56	A	Low		TIFFANY, BABY BEAR	4	
Highways and roads, paved (cement or asphalt)	X20	X20-57	A	Low		NADINE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-58	A	Low		ROSE HIP	4	
Highways and roads, paved (cement or asphalt)	X20	X20-60	A	Low		EILEEN	4	
Highways and roads, paved (cement or asphalt)	X20	X20-61	A	Low		COACH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-62	A	Low		DOIL	4	
Highways and roads, paved (cement or asphalt)	X20	X20-63	A	Low		US BLM	4	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-16	A,B	Low		SIXTY-SIXTH, WINCHESTER, ABBOTT LOOP	6	
Highways and roads, paved (cement or asphalt)	X20	X20-19	A,B	Low		SIXTY-SEVENTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-40	A,B	Low		CLOUDBERRY, DRUM, BUGLE, CROWBERRY	4	
Highways and roads, paved (cement or asphalt)	X20	X20-65	A,B	Low		MIRANDA	4	
Domestic wastewater treatment plant disposal ponds/lagoons	D02	D02-1	B	Low		US BLM	6	
Motor /motor vehicle repair shops	C31	C31-04	B	Medium		7327 SPRUCE ST	5	Property served by a private septic system
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-35	B	Low		BUGLE, CROWBERRY, CLOUDBERRY, DRUM	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-36	B	Low		TRAVIS, SEVENTY-SECOND,, REDHAWK, HENDERSON	6	

Table 4

Potential and Existing Sources of Contamination for MOA Well #13
Sources of Volatile Organic Chemicals (VOCs)

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-37	B	Low		SOLALSET, FLORENCE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-38	B	Low		PLEASURE VIEW, VIRDALEE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-39	B	Low		LADASA TO BETHANY AND RANDAMAR	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-40	B	Low		ENCORE, WINCHESTER, BRAVO, SEVENTY-FOURTH,CHRISTOPHER	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-41	B	Low		RED TALON, FEATHER, WHITE HAWK	6	
Machine and metal work shops	I23	I23-01	B	Medium		7327 SPRUCE ST	5	Site is served by a private septic system
Residential Areas	R01	R01-02	B	Low		Zone B Protection Area	3	
Septic systems (serves one single-family home)	R02	R02-21	B	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-22	B	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-23	B	Low		SIXTY-EIGHTH	6	
Septic systems (serves one single-family home)	R02	R02-24	B	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-25	B	Low		HENDERSON	6	
Septic systems (serves one single-family home)	R02	R02-26	B	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-27	B	Low		TRANQUILITY	6	
Septic systems (serves one single-family home)	R02	R02-28	B	Low		TRANQUILITY	6	
Septic systems (serves one single-family home)	R02	R02-29	B	Low		SEVENTY-SECOND	6	
Septic systems (serves one single-family home)	R02	R02-30	B	Low		SEVENTY-SECOND	6	
Septic systems (serves one single-family home)	R02	R02-31	B	Low		ABBOTT LOOP	6	
Septic systems (serves one single-family home)	R02	R02-32-52	B	Low		GREEN ACRES TRAILER PARK; LORE ROAD	6	Twenty single-family septic systems on a 4.76 acre parcel
Highways and roads, paved (cement or asphalt)	X20	X20-18	B	Low		ABBOTT LOOP	4	
Highways and roads, paved (cement or asphalt)	X20	X20-41	B	Low		HENDERSON	4	
Highways and roads, paved (cement or asphalt)	X20	X20-42	B	Low		TRAVIS	4	
Highways and roads, paved (cement or asphalt)	X20	X20-43	B	Low		TRANQUILITY	4	
Highways and roads, paved (cement or asphalt)	X20	X20-44	B	Low		RANDAMAR	4	
Highways and roads, paved (cement or asphalt)	X20	X20-45	B	Low		SEVENTY-FOURTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-46	B	Low		BRAVO	4	

Table 4

Potential and Existing Sources of Contamination for MOA Well #13
Sources of Volatile Organic Chemicals (VOCs)

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Highways and roads, paved (cement or asphalt)	X20	X20-47	B	Low		WINCHESTER	4	
Highways and roads, paved (cement or asphalt)	X20	X20-48	B	Low		LORE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-49	B	Low		RANDAMAR, BETHANY	4	
Highways and roads, paved (cement or asphalt)	X20	X20-50	B	Low		CANDYWINE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-51	B	Low		KIANA	4	
Highways and roads, paved (cement or asphalt)	X20	X20-52	B	Low		WHITE HAWK	4	
Highways and roads, paved (cement or asphalt)	X20	X20-53	B	Low		RED TALON	4	
Highways and roads, paved (cement or asphalt)	X20	X20-54	B	Low		GREEN ACRES, DAYTON	4	
Highways and roads, paved (cement or asphalt)	X20	X20-55	B	Low		FEATHER	4	
Highways and roads, paved (cement or asphalt)	X20	X20-59	B	Low		LAVERNE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-64	B	Low		FLORENCE, SOLALSET	4	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-42	B,C	Low		CASEY, CANDYWINE, KIANA, WINCHESTER, RINNER, BOEK	6	
Residential Areas	R01	R01-03	C	Low		Zone C Protection Area	3	5 acres
Septic systems (serves one single-family home)	R02	R02-54	C	Low		US BLM CAMBELL CREEK SCIENCE CENTER	6	
Airports	X14	X14-1	C,D	Low		Cambell Airstrip	4	Landing strip only utilized during the summer months. Onsite storage of aviation fuel during use.

Table 5

Potential and Existing Sources of Contamination for MOA Well #13

PWSID 210906.004

Sources of Heavy Metals, Cyanide, and other Inorganic Chemicals

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Septic systems (serves one single-family home)	R02	R02-01	A	Low	1	SIXTY-SIXTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-01	A	Low	2	SIXTY-FOURTH	6	Within 180 feet of MOA Well #13
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-02	A	Low	3	SIXTY-FIFTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-04	A	Low	4	SIXTY-FOURTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-05	A	Low	5	LEONARD	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-06	A	Low	6	DOIL	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-07	A	Low	7	SPRUCE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-03	A	Low	8	SIXTY-SIXTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-13	A	Low	9	DOIL	6	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-03	A	High	10	3125 72ND AVE	5	
Residential Areas	R01	R01-01	A	Low		Zone A Protection Area	3	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-01	A	High		6714 LAKE OTIS PKWY	5	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-02	A	High		6614 LAKE OTIS PKWY	5	
Scrap, salvage, or junk yards	D59	D59-01	A	High		3125 72ND AVE	5	Property served by a private septic system
Petroleum product bulk station/terminals	X11	X11-01	A	Medium		6401 LAKE OTIS PKWY	5	See U07-1
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-04	B	High		7327 SPRUCE ST	5	Site is served by a private septic system
Scrap, salvage, or junk yards	D59	D59-02	B	High		3529 TRANQUILITY	5	
Motor /motor vehicle repair shops	C31	C31-01	A	Medium		6614 LAKE OTIS PKWY	5	
Motor /motor vehicle repair shops	C31	C31-03	A	Medium		6424 LAKE OTIS PKWY	5	Site is served by private septic system
Asphalt and tar processing/storage	I03	I03-01	A	Medium		6414 LAKE OTIS PKWY	5	Site is served by a private septic system
Appliance repair shops	C03	C03-01	A	Low		6634 LAKE OTIS PKWY #D	5	
Body shops (automotive)	C05	C05-01	A	Medium		6614 LAKE OTIS PKWY	5	
Construction trade areas and materials	C09	C09-01	A	Low		7232 SPRUCE ST	5	
Gasoline stations (without repair shop)	C15	C15-01	A	Low		6740 LAKE OTIS PKWY	5	
Laundromats without dry cleaning	C22	C22-01	A	Low		6640 LAKE OTIS PKWY	5	
Laundromats without dry cleaning	C22	C22-02	A	Low		6634 LAKE OTIS PARKWAY	5	
Printers, publishers, copiers	C37	C37-01	A	Low		6634 LAKE OTIS PKWY #E	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-08	A	Low		GROSS	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-09	A	Low		COACHMAN	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-10	A	Low		CARRIAGE	6	

Table 5 **PWSID 210906.004**

Potential and Existing Sources of Contamination for MOA Well #13

Sources of Heavy Metals, Cyanide, and other Inorganic Chemicals

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-11	A	Low		NORM	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-12	A	Low		COACH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-14	A	Low		SIXTY-FOURTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-15	A	Low		SIXTY-FOURTH, COBBLE CREEK	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-17	A	Low		NEWT	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-18	A	Low		BABY BEAR	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-19	A	Low		DESIREE, PEQUOD	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-20	A	Low		EILEEN	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-21	A	Low		LAKE OTIS, LAUREL	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-22	A	Low		LAKE OTIS	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-23	A	Low		BETWEEN SIXTY-SIXTH AND SEVENTY-FOURTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-24	A	Low		TESHLAR, TONDI	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-25	A	Low		SHANE, TONDI	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-26	A	Low		TIFFANY	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-27	A	Low		PEBBLEBROOK	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-28	A	Low		FERGY, SCALERO	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-29	A	Low		SPAULDING, RAQUET	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-30	A	Low		GENNY	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-31	A	Low		BASS	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-32	A	Low		CANTONMENT	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-33	A	Low		BIGLERVILLE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-34	A	Low		BETWEEN SEVENTY-SECOND AND LORE	6	
Septic systems (serves one single-family home)	R02	R02-02	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-03	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-04	A	Low		LAUREL	6	
Septic systems (serves one single-family home)	R02	R02-05	A	Low		LAKE OTIS	6	
Septic systems (serves one single-family home)	R02	R02-06	A	Low		LAKE OTIS	6	
Septic systems (serves one single-family home)	R02	R02-07	A	Low		SIXTY-EIGHTH	6	
Septic systems (serves one single-family home)	R02	R02-08	A	Low		SIXTY-EIGHTH	6	
Septic systems (serves one single-family home)	R02	R02-09	A	Low		SIXTY-EIGHTH	6	
Septic systems (serves one single-family home)	R02	R02-10	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-11	A	Low		SEVENTY-SECOND	6	
Septic systems (serves one single-family home)	R02	R02-12	A	Low		SPRUCE AND SEVENTY-SECOND	6	

Table 5 **PWSID 210906.004**

Potential and Existing Sources of Contamination for MOA Well #13

Sources of Heavy Metals, Cyanide, and other Inorganic Chemicals

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Septic systems (serves one single-family home)	R02	R02-13	A	Low		LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-14	A	Low		LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-15	A	Low		LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-16	A	Low		LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-17	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-18	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-19	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-20	A	Low		LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-53	A	Low		SEVENTY-SECOND	6	
Highways and roads, paved (cement or asphalt)	X20	X20-01	A	Low		SIXTY-FOURTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-02	A	Low		DOIL	4	
Highways and roads, paved (cement or asphalt)	X20	X20-03	A	Low		SPRUCE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-04	A	Low		LEONARD	4	
Highways and roads, paved (cement or asphalt)	X20	X20-05	A	Low		SIXTY-FIFTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-06	A	Low		WINCHESTER	4	
Highways and roads, paved (cement or asphalt)	X20	X20-07	A	Low		GROSS	4	
Highways and roads, paved (cement or asphalt)	X20	X20-08	A	Low		SIXTY-SIXTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-09	A	Low		NORM	4	
Highways and roads, paved (cement or asphalt)	X20	X20-10	A	Low		DOIL	4	
Highways and roads, paved (cement or asphalt)	X20	X20-11	A	Low		NEWT	4	
Highways and roads, paved (cement or asphalt)	X20	X20-12	A	Low		SIXTY-FOURTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-13	A	Low		LAUREL	4	
Highways and roads, paved (cement or asphalt)	X20	X20-14	A	Low		LAUREL	4	
Highways and roads, paved (cement or asphalt)	X20	X20-15	A	Low		NORM	4	
Highways and roads, paved (cement or asphalt)	X20	X20-16	A	Low		CARRIAGE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-17	A	Low		SIXTY-EIGHTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-20	A	Low		COBBLE CREEK, DESIREE, PEQUOD	4	
Highways and roads, paved (cement or asphalt)	X20	X20-21	A	Low		TESHLER, TONDI	4	
Highways and roads, paved (cement or asphalt)	X20	X20-22	A	Low		SHANE, TONDI	4	
Highways and roads, paved (cement or asphalt)	X20	X20-23	A	Low		SPAULDING	4	
Highways and roads, paved (cement or asphalt)	X20	X20-24	A	Low		SEVENTY-SECOND	4	
Highways and roads, paved (cement or asphalt)	X20	X20-25	A	Low		LEWIS, RAQUET	4	
Highways and roads, paved (cement or asphalt)	X20	X20-26	A	Low		SCALERO, FERGY	4	
Highways and roads, paved (cement or asphalt)	X20	X20-27	A	Low		KOVEY, CLOGIA, CLAIMONT	4	
Highways and roads, paved (cement or asphalt)	X20	X20-28	A	Low		GENNY	4	

Table 5 **PWSID 210906.004**

Potential and Existing Sources of Contamination for MOA Well #13

Sources of Heavy Metals, Cyanide, and other Inorganic Chemicals

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Highways and roads, paved (cement or asphalt)	X20	X20-29	A	Low		DOWLING	4	
Highways and roads, paved (cement or asphalt)	X20	X20-30	A	Low		MEGO	4	
Highways and roads, paved (cement or asphalt)	X20	X20-31	A	Low		RAYMOND	4	
Highways and roads, paved (cement or asphalt)	X20	X20-32	A	Low		TINIAN	4	
Highways and roads, paved (cement or asphalt)	X20	X20-33	A	Low		TONG	4	
Highways and roads, paved (cement or asphalt)	X20	X20-34	A	Low		TAHITI	4	
Highways and roads, paved (cement or asphalt)	X20	X20-35	A	Low		PAGO PAGO	4	
Highways and roads, paved (cement or asphalt)	X20	X20-36	A	Low		BASS	4	
Highways and roads, paved (cement or asphalt)	X20	X20-37	A	Low		CANTONMENT	4	
Highways and roads, paved (cement or asphalt)	X20	X20-38	A	Low		BIGLERVILLE, BULEN	4	
Highways and roads, paved (cement or asphalt)	X20	X20-39	A	Low		LEWIS	4	
Highways and roads, paved (cement or asphalt)	X20	X20-56	A	Low		TIFFANY, BABY BEAR	4	
Highways and roads, paved (cement or asphalt)	X20	X20-57	A	Low		NADINE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-58	A	Low		ROSE HIP	4	
Highways and roads, paved (cement or asphalt)	X20	X20-60	A	Low		EILEEN	4	
Highways and roads, paved (cement or asphalt)	X20	X20-61	A	Low		COACH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-62	A	Low		DOIL	4	
Highways and roads, paved (cement or asphalt)	X20	X20-63	A	Low		US BLM	4	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-16	A,B	Low		SIXTY-SIXTH, WINCHESTER, ABBOTT LOOP	6	
Highways and roads, paved (cement or asphalt)	X20	X20-19	A,B	Low		SIXTY-SEVENTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-40	A,B	Low		CLOUDBERRY, DRUM, BUGLE, CROWBERRY	4	
Highways and roads, paved (cement or asphalt)	X20	X20-65	A,B	Low		MIRANDA	4	
Domestic wastewater treatment plant disposal ponds/lagoons	D02	D02-1	B	Low		US BLM	6	
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-01	B	Low		3990 E. 64TH AVE	5	Chlorinated hydrocarbon and petroleum hydrocarbon soil and groundwater contamination. Site remediation complete. Contaminated Sites File CS100.25. Status closed.
Motor /motor vehicle repair shops	C31	C31-02	A	Medium		6714 LAKE OTIS PKWY	5	Site is served by private septic system
Motor /motor vehicle repair shops	C31	C31-04	B	Medium		7327 SPRUCE ST	5	Property served by a private septic system

Table 5 **PWSID 210906.004**

Potential and Existing Sources of Contamination for MOA Well #13

Sources of Heavy Metals, Cyanide, and other Inorganic Chemicals

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-35	B	Low		BUGLE, CROWBERRY, CLOUDBERRY, DRUM	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-36	B	Low		TRAVIS, SEVENTY-SECOND,, REDHAWK, HENDERSON	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-37	B	Low		SOLALSET, FLORENCE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-38	B	Low		PLEASURE VIEW, VIRDALEE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-39	B	Low		LADASA TO BETHANY AND RANDAMAR	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-40	B	Low		ENCORE, WINCHESTER, BRAVO, SEVENTY-FOURTH,CHRISTOPHER	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-41	B	Low		RED TALON, FEATHER, WHITE HAWK	6	
Machine and metal work shops	I23	I23-01	B	Medium		7327 SPRUCE ST	5	Site is served by a private septic system
Residential Areas	R01	R01-02	B	Low		Zone B Protection Area	3	
Septic systems (serves one single-family home)	R02	R02-21	B	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-22	B	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-23	B	Low		SIXTY-EIGHTH	6	
Septic systems (serves one single-family home)	R02	R02-24	B	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-25	B	Low		HENDERSON	6	
Septic systems (serves one single-family home)	R02	R02-26	B	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-27	B	Low		TRANQUILITY	6	
Septic systems (serves one single-family home)	R02	R02-28	B	Low		TRANQUILITY	6	
Septic systems (serves one single-family home)	R02	R02-29	B	Low		SEVENTY-SECOND	6	
Septic systems (serves one single-family home)	R02	R02-30	B	Low		SEVENTY-SECOND	6	
Septic systems (serves one single-family home)	R02	R02-31	B	Low		ABBOTT LOOP	6	
Septic systems (serves one single-family home)	R02	R02-32-52	B	Low		GREEN ACRES TRAILER PARK; LORE ROAD	6	Twenty single-family septic systems on a 4.76 acre parcel
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-01	B	Low		3990 E. 64TH AVE	5	Chlorinated hydrocarbon and petroleum hydrocarbon soil and groundwater contamination. Site remediation complete. Contaminated Sites File CS100.25. Status closed.
Highways and roads, paved (cement or asphalt)	X20	X20-18	B	Low		ABBOTT LOOP	4	

Table 5 **PWSID 210906.004**

Potential and Existing Sources of Contamination for MOA Well #13

Sources of Heavy Metals, Cyanide, and other Inorganic Chemicals

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Highways and roads, paved (cement or asphalt)	X20	X20-41	B	Low		HENDERSON	4	
Highways and roads, paved (cement or asphalt)	X20	X20-42	B	Low		TRAVIS	4	
Highways and roads, paved (cement or asphalt)	X20	X20-43	B	Low		TRANQUILITY	4	
Highways and roads, paved (cement or asphalt)	X20	X20-44	B	Low		RANDAMAR	4	
Highways and roads, paved (cement or asphalt)	X20	X20-45	B	Low		SEVENTY-FOURTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-46	B	Low		BRAVO	4	
Highways and roads, paved (cement or asphalt)	X20	X20-47	B	Low		WINCHESTER	4	
Highways and roads, paved (cement or asphalt)	X20	X20-48	B	Low		LORE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-49	B	Low		RANDAMAR, BETHANY	4	
Highways and roads, paved (cement or asphalt)	X20	X20-50	B	Low		CANDYWINE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-51	B	Low		KIANA	4	
Highways and roads, paved (cement or asphalt)	X20	X20-52	B	Low		WHITE HAWK	4	
Highways and roads, paved (cement or asphalt)	X20	X20-53	B	Low		RED TALON	4	
Highways and roads, paved (cement or asphalt)	X20	X20-54	B	Low		GREEN ACRES, DAYTON	4	
Highways and roads, paved (cement or asphalt)	X20	X20-55	B	Low		FEATHER	4	
Highways and roads, paved (cement or asphalt)	X20	X20-59	B	Low		LAVERNE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-64	B	Low		FLORENCE, SOLALSET	4	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-42	B,C	Low		CASEY, CANDYWINE, KIANA, WINCHESTER, RINNER, BOEK	6	
Residential Areas	R01	R01-03	C	Low		Zone C Protection Area	3	
Septic systems (serves one single-family home)	R02	R02-54	C	Low		US BLM CAMBELL CREEK SCIENCE CENTER	6	
Airports	X14	X14-1	C,D	Low		Cambell Airstrip	4	Landing strip only utilized during the summer months.

Table 6

Potential and Existing Sources of Contamination for MOA Well #13
Sources of Synthetic Organic Chemicals (SOCs)

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Residential Areas	R01	R01-01	A	Low	1	Zone A Protection Area	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-01	A	Low	2	SIXTY-FOURTH	6	Within 180 feet of MOA Well #13
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-02	A	Low	3	SIXTY-FIFTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-04	A	Low	4	SIXTY-FOURTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-05	A	Low	5	LEONARD	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-06	A	Low	6	DOIL	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-07	A	Low	7	SPRUCE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-03	A	Low	8	SIXTY-SIXTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-13	A	Low	9	DOIL	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-08	A	Low	10	GROSS	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-09	A	Low		COACHMAN	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-10	A	Low		CARRIAGE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-11	A	Low		NORM	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-12	A	Low		COACH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-14	A	Low		SIXTY-FOURTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-15	A	Low		SIXTY-FOURTH, COBBLE CREEK	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-17	A	Low		NEWT	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-18	A	Low		BABY BEAR	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-19	A	Low		DESIREE, PEQUOD	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-20	A	Low		EILEEN	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-21	A	Low		LAKE OTIS, LAUREL	6	

Table 6

Potential and Existing Sources of Contamination for MOA Well #13
Sources of Synthetic Organic Chemicals (SOCs)

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-22	A	Low		LAKE OTIS	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-23	A	Low		BETWEEN SIXTY-SIXTH AND SEVENTY-FOURTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-24	A	Low		TESHLAR, TONDI	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-25	A	Low		SHANE, TONDI	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-26	A	Low		TIFFANY	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-27	A	Low		PEBBLEBROOK	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-28	A	Low		FERGY, SCALERO	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-29	A	Low		SPAULDING, RAQUET	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-30	A	Low		GENNY	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-31	A	Low		BASS	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-32	A	Low		CANTONMENT	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-33	A	Low		BIGLERVILLE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-34	A	Low		BETWEEN SEVENTY-SECOND AND LORE	6	
Scrap, salvage, or junk yards	D59	D59-01	A	Low		3125 72ND AVE	5	Property served by a private septic system
Septic systems (serves one single-family home)	R02	R02-01	A	Low		SIXTY-SIXTH	6	
Septic systems (serves one single-family home)	R02	R02-02	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-03	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-04	A	Low		LAUREL	6	
Septic systems (serves one single-family home)	R02	R02-05	A	Low		LAKE OTIS	6	
Septic systems (serves one single-family home)	R02	R02-06	A	Low		LAKE OTIS	6	
Septic systems (serves one single-family home)	R02	R02-07	A	Low		SIXTY-EIGHTH	6	
Septic systems (serves one single-family home)	R02	R02-08	A	Low		SIXTY-EIGHTH	6	
Septic systems (serves one single-family home)	R02	R02-09	A	Low		SIXTY-EIGHTH	6	
Septic systems (serves one single-family home)	R02	R02-10	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-11	A	Low		SEVENTY-SECOND	6	

Table 6

Potential and Existing Sources of Contamination for MOA Well #13
Sources of Synthetic Organic Chemicals (SOCs)

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Septic systems (serves one single-family home)	R02	R02-12	A	Low		SPRUCE AND SEVENTY-SECOND	6	
Septic systems (serves one single-family home)	R02	R02-13	A	Low		LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-14	A	Low		LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-15	A	Low		LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-16	A	Low		LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-17	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-18	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-19	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-20	A	Low		LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-53	A	Low		SEVENTY-SECOND	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-16	A,B	Low		SIXTY-SIXTH, WINCHESTER, ABBOTT LOOP	6	
Domestic wastewater treatment plant disposal ponds/lagoons	D02	D02-1	B	Low		US BLM	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-35	B	Low		BUGLE, CROWBERRY, CLOUDBERRY, DRUM	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-36	B	Low		TRAVIS, SEVENTY-SECOND,, REDHAWK, HENDERSON	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-37	B	Low		SOLALSET, FLORENCE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-38	B	Low		PLEASURE VIEW, VIRDALEE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-39	B	Low		LADASA TO BETHANY AND RANDAMAR	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-40	B	Low		ENCORE, WINCHESTER, BRAVO, SEVENTY-FOURTH,CHRISTOPHER	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-41	B	Low		RED TALON, FEATHER, WHITE HAWK	6	
Scrap, salvage, or junk yards	D59	D59-02	B	Low		3529 TRANQUILITY	5	
Residential Areas	R01	R01-02	B	Low		Zone B Protection Area	3	
Septic systems (serves one single-family home)	R02	R02-21	B	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-22	B	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-23	B	Low		SIXTY-EIGHTH	6	
Septic systems (serves one single-family home)	R02	R02-24	B	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-25	B	Low		HENDERSON	6	
Septic systems (serves one single-family home)	R02	R02-26	B	Low		SPRUCE	6	

Table 6

Potential and Existing Sources of Contamination for MOA Well #13
Sources of Synthetic Organic Chemicals (SOCs)

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Septic systems (serves one single-family home)	R02	R02-27	B	Low		TRANQUILITY	6	
Septic systems (serves one single-family home)	R02	R02-28	B	Low		TRANQUILITY	6	
Septic systems (serves one single-family home)	R02	R02-29	B	Low		SEVENTY-SECOND	6	
Septic systems (serves one single-family home)	R02	R02-30	B	Low		SEVENTY-SECOND	6	
Septic systems (serves one single-family home)	R02	R02-31	B	Low		ABBOTT LOOP	6	
Septic systems (serves one single-family home)	R02	R02-32-52	B	Low		GREEN ACRES TRAILER PARK; LORE ROAD	6	Twenty single-family septic systems on a 4.76 acre parcel
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-42	B,C	Low		CASEY, CANDYWINE, KIANA, WINCHESTER, RINNER, BOEK	6	
Residential Areas	R01	R01-03	C	Low		Zone C Protection Area	3	
Septic systems (serves one single-family home)	R02	R02-54	C	Low		US BLM CAMBELL CREEK SCIENCE CENTER	6	

Table 7

Potential and Existing Sources of Contamination for MOA Well #13
Sources of Other Synthetic Organic Chemicals (OOCs)

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Residential Areas	R01	R01-01	A	Low	1	Zone A Protection Area	3	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-01	A	Low	2	SIXTY-FOURTH	6	Within 180 feet of MOA Well #13
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-02	A	Low	3	SIXTY-FIFTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-04	A	Low	4	SIXTY-FOURTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-05	A	Low	5	LEONARD	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-06	A	Low	6	DOIL	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-07	A	Low	7	SPRUCE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-03	A	Low	8	SIXTY-SIXTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-13	A	Low	9	DOIL	6	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-03	A	Medium	10	3125 72ND AVE	5	
Asphalt and tar processing/storage	I03	I03-01	A	Medium		6414 LAKE OTIS PKWY	5	Site is served by a private septic system
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-01	A	Medium		6714 LAKE OTIS PKWY	5	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-02	A	Medium		6614 LAKE OTIS PKWY	5	
Scrap, salvage, or junk yards	D59	D59-01	A	Medium		3125 72ND AVE	5	Property served by a private septic system
Petroleum product bulk station/terminals	X11	X11-01	A	Medium		6401 LAKE OTIS PKWY	5	See U07-1
Scrap, salvage, or junk yards	D59	D59-02	B	Medium		3529 TRANQUILITY	5	
Injection wells (Class V) Motor Vehicle Waste Disposal Well	D42	D42-04	B	Medium		7327 SPRUCE ST	5	Site is served by a private septic system
Motor /motor vehicle repair shops	C31	C31-01	A	Medium		6614 LAKE OTIS PKWY	5	
Motor /motor vehicle repair shops	C31	C31-03	A	Medium		6424 LAKE OTIS PKWY	5	Site is served by private septic system
Motor /motor vehicle repair shops	C31	C31-02	A	Medium		6714 LAKE OTIS PKWY	5	Site is served by private septic system
Appliance repair shops	C03	C03-01	A	Low		6634 LAKE OTIS PKWY #D	5	
Body shops (automotive)	C05	C05-01	A	Medium		6614 LAKE OTIS PKWY	5	
Construction trade areas and materials	C09	C09-01	A	Low		7232 SPRUCE ST	5	
Gasoline stations (without repair shop)	C15	C15-01	A	Low		6740 LAKE OTIS PKWY	5	
Laundromats without dry cleaning	C22	C22-01	A	Low		6640 LAKE OTIS PKWY	5	

Table 7

Potential and Existing Sources of Contamination for MOA Well #13
Sources of Other Synthetic Organic Chemicals (OOCs)

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Laundromats without dry cleaning	C22	C22-02	A	Low		6634 LAKE OTIS PARKWAY	5	
Printers, publishers, copiers	C37	C37-01	A	Low		6634 LAKE OTIS PKWY #E	5	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-08	A	Low		GROSS	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-09	A	Low		COACHMAN	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-10	A	Low		CARRIAGE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-11	A	Low		NORM	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-12	A	Low		COACH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-14	A	Low		SIXTY-FOURTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-15	A	Low		SIXTY-FOURTH, COBBLE CREEK	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-17	A	Low		NEWT	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-18	A	Low		BABY BEAR	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-19	A	Low		DESIREE, PEQUOD	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-20	A	Low		EILEEN	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-21	A	Low		LAKE OTIS, LAUREL	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-22	A	Low		LAKE OTIS	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-23	A	Low		BETWEEN SIXTY-SIXTH AND SEVENTY-FOURTH	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-24	A	Low		TESHLAR, TONDI	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-25	A	Low		SHANE, TONDI	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-26	A	Low		TIFFANY	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-27	A	Low		PEBBLEBROOK	6	

Table 7

Potential and Existing Sources of Contamination for MOA Well #13
Sources of Other Synthetic Organic Chemicals (OOCs)

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-28	A	Low		FERGY, SCALERO	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-29	A	Low		SPAULDING, RAQUET	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-30	A	Low		GENNY	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-31	A	Low		BASS	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-32	A	Low		CANTONMENT	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-33	A	Low		BIGLERVILLE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-34	A	Low		BETWEEN SEVENTY-SECOND AND LORE	6	
Septic systems (serves one single-family home)	R02	R02-01	A	Low		SIXTY-SIXTH	6	
Septic systems (serves one single-family home)	R02	R02-02	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-03	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-04	A	Low		LAUREL	6	
Septic systems (serves one single-family home)	R02	R02-05	A	Low		LAKE OTIS	6	
Septic systems (serves one single-family home)	R02	R02-06	A	Low		LAKE OTIS	6	
Septic systems (serves one single-family home)	R02	R02-07	A	Low		SIXTY-EIGHTH	6	
Septic systems (serves one single-family home)	R02	R02-08	A	Low		SIXTY-EIGHTH	6	
Septic systems (serves one single-family home)	R02	R02-09	A	Low		SIXTY-EIGHTH	6	
Septic systems (serves one single-family home)	R02	R02-10	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-11	A	Low		SEVENTY-SECOND	6	
Septic systems (serves one single-family home)	R02	R02-12	A	Low		SPRUCE AND SEVENTY-SECOND	6	
Septic systems (serves one single-family home)	R02	R02-13	A	Low		LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-14	A	Low		LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-15	A	Low		LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-16	A	Low		LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-17	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-18	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-19	A	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-20	A	Low		LEWIS	6	
Septic systems (serves one single-family home)	R02	R02-53	A	Low		SEVENTY-SECOND	6	
Highways and roads, paved (cement or asphalt)	X20	X20-01	A	Low		SIXTY-FOURTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-02	A	Low		DOIL	4	

Table 7

Potential and Existing Sources of Contamination for MOA Well #13
Sources of Other Synthetic Organic Chemicals (OOCs)

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Highways and roads, paved (cement or asphalt)	X20	X20-03	A	Low		SPRUCE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-04	A	Low		LEONARD	4	
Highways and roads, paved (cement or asphalt)	X20	X20-05	A	Low		SIXTY-FIFTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-06	A	Low		WINCHESTER	4	
Highways and roads, paved (cement or asphalt)	X20	X20-07	A	Low		GROSS	4	
Highways and roads, paved (cement or asphalt)	X20	X20-08	A	Low		SIXTY-SIXTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-09	A	Low		NORM	4	
Highways and roads, paved (cement or asphalt)	X20	X20-10	A	Low		DOIL	4	
Highways and roads, paved (cement or asphalt)	X20	X20-11	A	Low		NEWT	4	
Highways and roads, paved (cement or asphalt)	X20	X20-12	A	Low		SIXTY-FOURTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-13	A	Low		LAUREL	4	
Highways and roads, paved (cement or asphalt)	X20	X20-14	A	Low		LAUREL	4	
Highways and roads, paved (cement or asphalt)	X20	X20-15	A	Low		NORM	4	
Highways and roads, paved (cement or asphalt)	X20	X20-16	A	Low		CARRIAGE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-17	A	Low		SIXTY-EIGHTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-20	A	Low		COBBLE CREEK, DESIREE, PEQUOD	4	
Highways and roads, paved (cement or asphalt)	X20	X20-21	A	Low		TESHLER, TONDI	4	
Highways and roads, paved (cement or asphalt)	X20	X20-22	A	Low		SHANE, TONDI	4	
Highways and roads, paved (cement or asphalt)	X20	X20-23	A	Low		SPAULDING	4	
Highways and roads, paved (cement or asphalt)	X20	X20-24	A	Low		SEVENTY-SECOND	4	
Highways and roads, paved (cement or asphalt)	X20	X20-25	A	Low		LEWIS, RAQUET	4	
Highways and roads, paved (cement or asphalt)	X20	X20-26	A	Low		SCALERO, FERGY	4	
Highways and roads, paved (cement or asphalt)	X20	X20-27	A	Low		KOVEY, CLOGIA, CLAIMONT	4	
Highways and roads, paved (cement or asphalt)	X20	X20-28	A	Low		GENNY	4	
Highways and roads, paved (cement or asphalt)	X20	X20-29	A	Low		DOWLING	4	
Highways and roads, paved (cement or asphalt)	X20	X20-30	A	Low		MEGO	4	
Highways and roads, paved (cement or asphalt)	X20	X20-31	A	Low		RAYMOND	4	
Highways and roads, paved (cement or asphalt)	X20	X20-32	A	Low		TINIAN	4	
Highways and roads, paved (cement or asphalt)	X20	X20-33	A	Low		TONG	4	
Highways and roads, paved (cement or asphalt)	X20	X20-34	A	Low		TAHITI	4	
Highways and roads, paved (cement or asphalt)	X20	X20-35	A	Low		PAGO PAGO	4	
Highways and roads, paved (cement or asphalt)	X20	X20-36	A	Low		BASS	4	
Highways and roads, paved (cement or asphalt)	X20	X20-37	A	Low		CANTONMENT	4	
Highways and roads, paved (cement or asphalt)	X20	X20-38	A	Low		BIGLERVILLE, BULEN	4	
Highways and roads, paved (cement or asphalt)	X20	X20-39	A	Low		LEWIS	4	

Table 7 **PWSID 210906.004**

Potential and Existing Sources of Contamination for MOA Well #13
Sources of Other Synthetic Organic Chemicals (OOCs)

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Highways and roads, paved (cement or asphalt)	X20	X20-56	A	Low		TIFFANY, BABY BEAR	4	
Highways and roads, paved (cement or asphalt)	X20	X20-57	A	Low		NADINE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-58	A	Low		ROSE HIP	4	
Highways and roads, paved (cement or asphalt)	X20	X20-60	A	Low		EILEEN	4	
Highways and roads, paved (cement or asphalt)	X20	X20-61	A	Low		COACH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-62	A	Low		DOIL	4	
Highways and roads, paved (cement or asphalt)	X20	X20-63	A	Low		US BLM	4	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-16	A,B	Low		SIXTY-SIXTH, WINCHESTER, ABBOTT LOOP	6	
Highways and roads, paved (cement or asphalt)	X20	X20-19	A,B	Low		SIXTY-SEVENTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-40	A,B	Low		CLOUDBERRY, DRUM, BUGLE, CROWBERRY	4	
Highways and roads, paved (cement or asphalt)	X20	X20-65	A,B	Low		MIRANDA	4	
Domestic wastewater treatment plant disposal ponds/lagoons	D02	D02-1	B	Low		US BLM	6	
Motor /motor vehicle repair shops	C31	C31-04	B	Medium		7327 SPRUCE ST	5	Property served by a private septic system
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-35	B	Low		BUGLE, CROWBERRY, CLOUDBERRY, DRUM	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-36	B	Low		TRAVIS, SEVENTY-SECOND,, REDHAWK, HENDERSON	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-37	B	Low		SOLALSET, FLORENCE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-38	B	Low		PLEASURE VIEW, VIRDALEE	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-39	B	Low		LADASA TO BETHANY AND RANDAMAR	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-40	B	Low		ENCORE, WINCHESTER, BRAVO, SEVENTY-FOURTH,CHRISTOPHER	6	
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-41	B	Low		RED TALON, FEATHER, WHITE HAWK	6	
Machine and metal work shops	I23	I23-01	B	Medium		7327 SPRUCE ST	5	Site is served by a private septic system
Residential Areas	R01	R01-02	B	Low		Zone B Protection Area	3	
Septic systems (serves one single-family home)	R02	R02-21	B	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-22	B	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-23	B	Low		SIXTY-EIGHTH	6	

Table 7

Potential and Existing Sources of Contamination for MOA Well #13
Sources of Other Synthetic Organic Chemicals (OOCs)

PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Septic systems (serves one single-family home)	R02	R02-24	B	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-25	B	Low		HENDERSON	6	
Septic systems (serves one single-family home)	R02	R02-26	B	Low		SPRUCE	6	
Septic systems (serves one single-family home)	R02	R02-27	B	Low		TRANQUILITY	6	
Septic systems (serves one single-family home)	R02	R02-28	B	Low		TRANQUILITY	6	
Septic systems (serves one single-family home)	R02	R02-29	B	Low		SEVENTY-SECOND	6	
Septic systems (serves one single-family home)	R02	R02-30	B	Low		SEVENTY-SECOND	6	
Septic systems (serves one single-family home)	R02	R02-31	B	Low		ABBOTT LOOP	6	
Septic systems (serves one single-family home)	R02	R02-32-52	B	Low		GREEN ACRES TRAILER PARK; LORE ROAD	6	Twenty single-family septic systems on a 4.76 acre parcel
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-01	B	Low		3990 E. 64TH AVE	5	Chlorinated hydrocarbon and petroleum hydrocarbon soil and groundwater contamination. Site remediation complete. Contaminated Sites File CS100.25. Status closed.
Highways and roads, paved (cement or asphalt)	X20	X20-18	B	Low		ABBOTT LOOP	4	
Highways and roads, paved (cement or asphalt)	X20	X20-41	B	Low		HENDERSON	4	
Highways and roads, paved (cement or asphalt)	X20	X20-42	B	Low		TRAVIS	4	
Highways and roads, paved (cement or asphalt)	X20	X20-43	B	Low		TRANQUILITY	4	
Highways and roads, paved (cement or asphalt)	X20	X20-44	B	Low		RANDAMAR	4	
Highways and roads, paved (cement or asphalt)	X20	X20-45	B	Low		SEVENTY-FOURTH	4	
Highways and roads, paved (cement or asphalt)	X20	X20-46	B	Low		BRAVO	4	
Highways and roads, paved (cement or asphalt)	X20	X20-47	B	Low		WINCHESTER	4	
Highways and roads, paved (cement or asphalt)	X20	X20-48	B	Low		LORE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-49	B	Low		RANDAMAR, BETHANY	4	
Highways and roads, paved (cement or asphalt)	X20	X20-50	B	Low		CANDYWINE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-51	B	Low		KIANA	4	
Highways and roads, paved (cement or asphalt)	X20	X20-52	B	Low		WHITE HAWK	4	
Highways and roads, paved (cement or asphalt)	X20	X20-53	B	Low		RED TALON	4	
Highways and roads, paved (cement or asphalt)	X20	X20-54	B	Low		GREEN ACRES, DAYTON	4	
Highways and roads, paved (cement or asphalt)	X20	X20-55	B	Low		FEATHER	4	
Highways and roads, paved (cement or asphalt)	X20	X20-59	B	Low		LAVERNE	4	
Highways and roads, paved (cement or asphalt)	X20	X20-64	B	Low		FLORENCE, SOLALSET	4	

Table 7

Potential and Existing Sources of Contamination for MOA Well #13
Sources of Other Synthetic Organic Chemicals (OOCs)

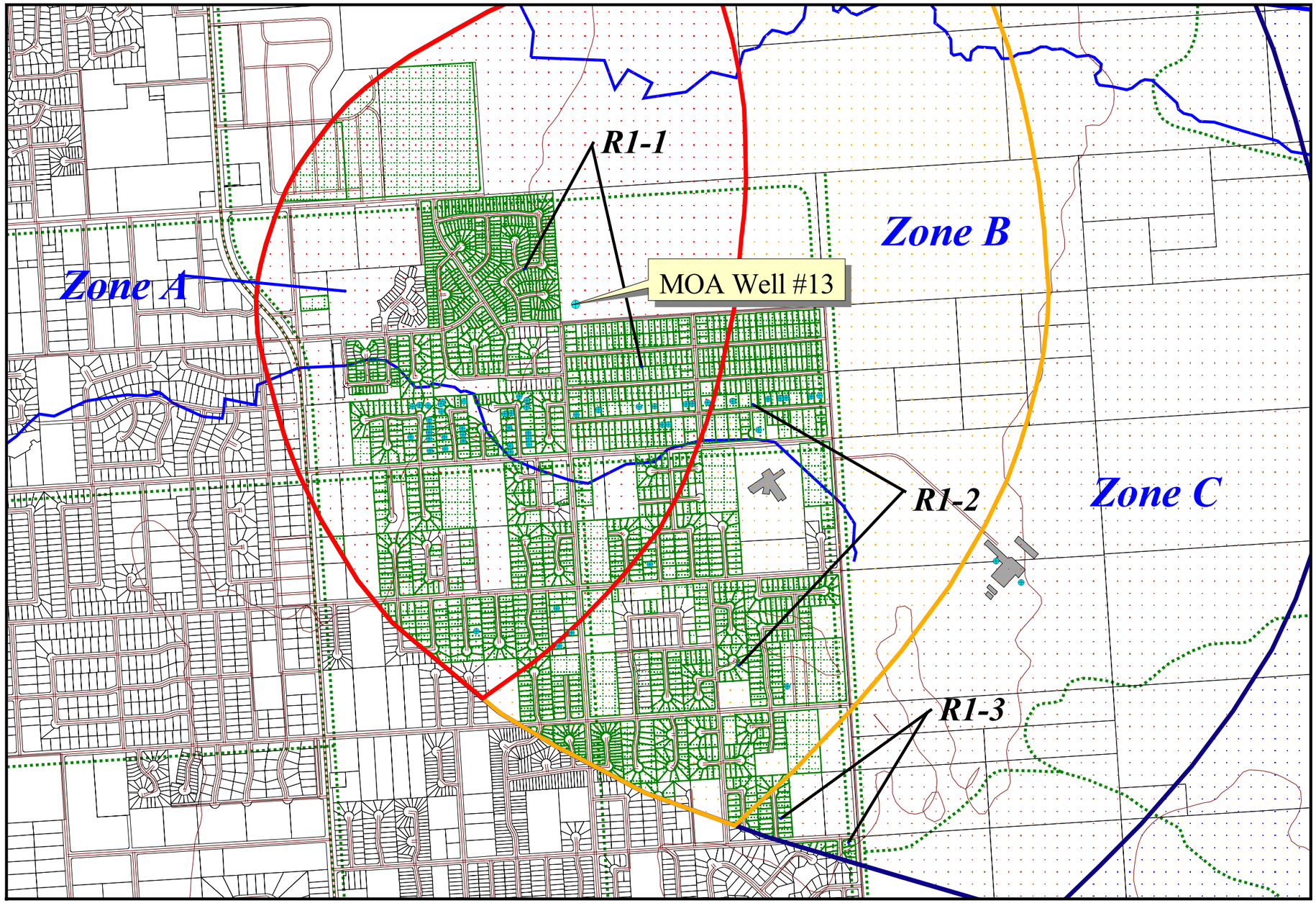
PWSID 210906.004

Contaminant Source Category	Contaminant Source ID	CS ID tag	Zone	Risk Ranking for Analysis	Overall Rank after Analysis	Location	Map	Comments
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-42	B,C	Low		CASEY, CANDYWINE, KIANA, WINCHESTER, RINNER, BOEK	6	
Residential Areas	R01	R01-03	C	Low		Zone C Protection Area	3	
Septic systems (serves one single-family home)	R02	R02-54	C	Low		US BLM CAMBELL CREEK SCIENCE CENTER	6	

APPENDIX C

MOA Well #13
Drinking Water Protection Area
and Potential & Existing Contaminant Sources

Drinking Water Protection Area for MOA Well #13 and Potential & Existing Sources of Contamination



Legend

- MOA Well #13
- Public & Private Drinking Water Wells

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
- Residential Areas (R1)
- Buildings
- Roads (X20)
- Elevation Contours
- Streams
- MOA Land Parcels
- Trails

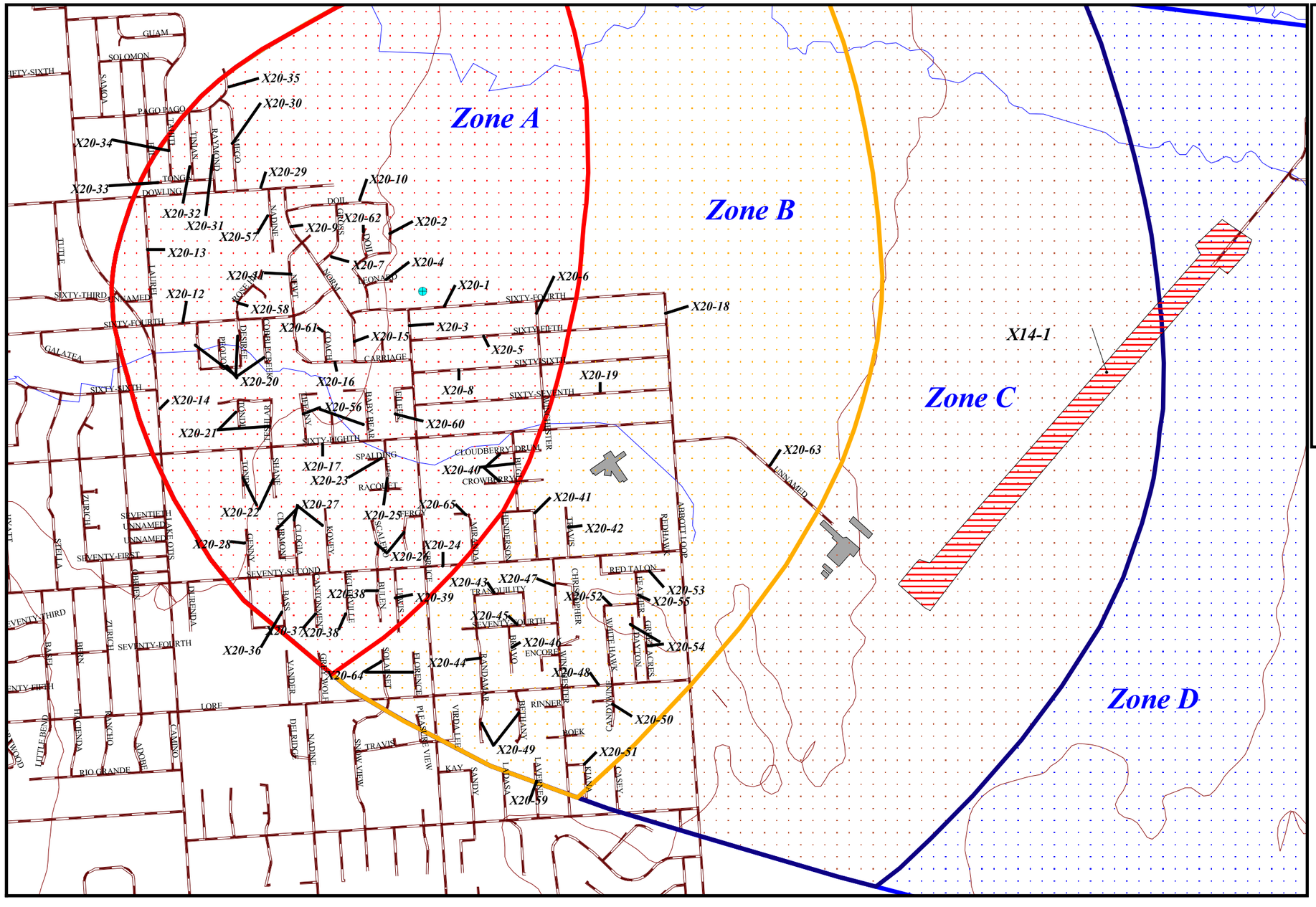
N W E S

1000 0 1000 2000 Feet

PWSID 210906.004

Map 3

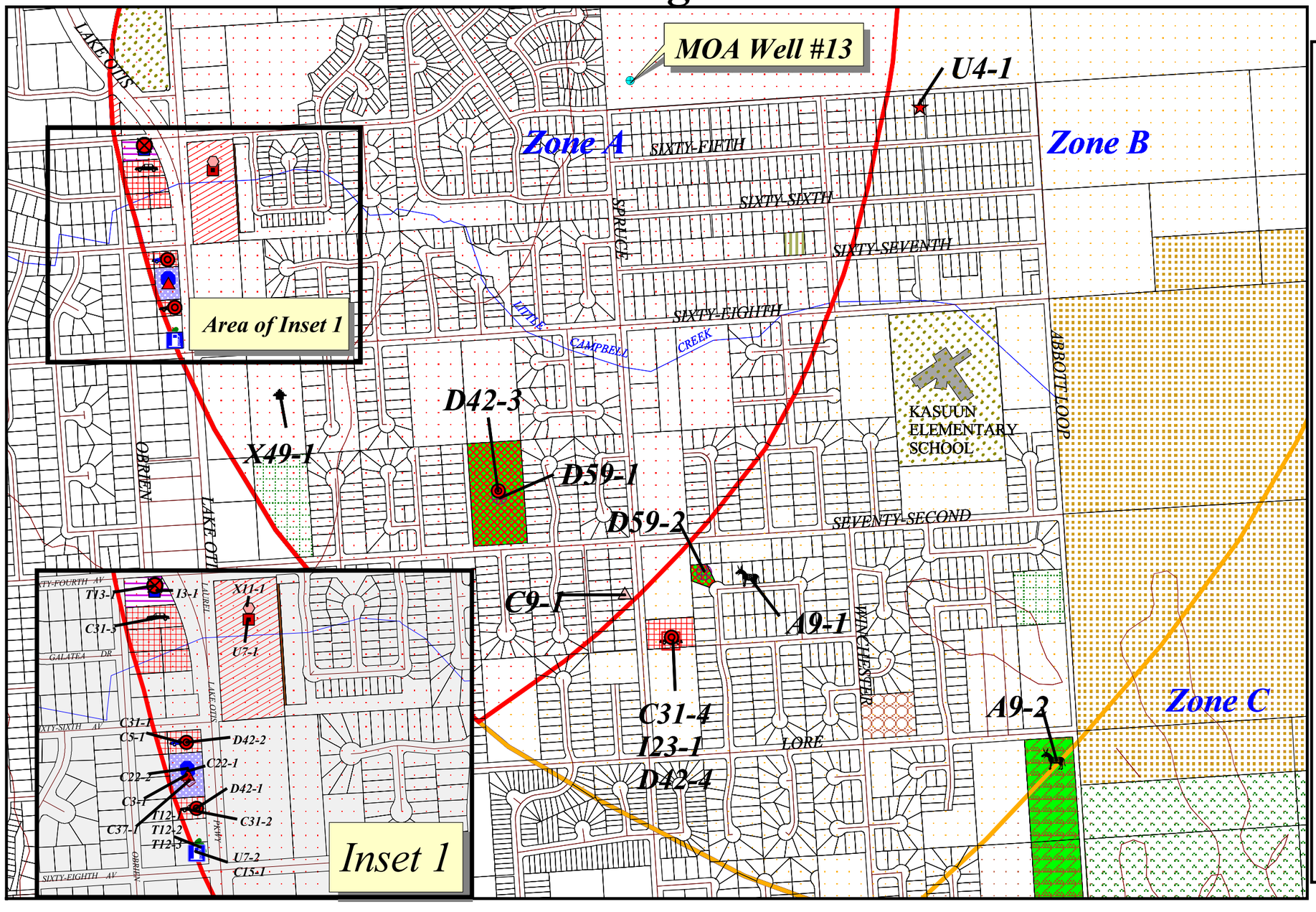
Drinking Water Protection Area for MOA Well #13 and Potential & Existing Sources of Contamination



PWSID 210906.004

Map 4

Drinking Water Protection Area for MOA Well #13 and Potential & Existing Sources of Contamination



Legend

- MOA Well #13
- MOA Land Parcels
- Elevation Contours

Contaminant Source Inventory

- Appliance repair shops (C3)
- Asphalt and tar processing/storage (I3)
- Body shops (automotive) (C5)
- Closed tanks, gasoline (underground) (T13)
- Construction trade areas and materials (C9)
- Contaminated sites, ADEC recognized (U4)
- Gasoline stations (without repair shop) (C15)
- Injection wells (Class V) Motor Vehicle Waste Disposal Well (D42)
- Kennels (X48)
- Laundromats without dry cleaning (C22)
- Livestock stables/corrals (A9)
- Machine and metal work shops (I23)
- Motor / motor vehicle repair shops (C31)
- Open Leaking Underground Fuel Storage Tank (LUST) Sites (U7)
- Petroleum product bulk station/terminals (X11)
- Printers, publishers, copiers (C37)
- Scrap, salvage, or junk yards (D59)
- Tanks, gasoline (underground) (T12)

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

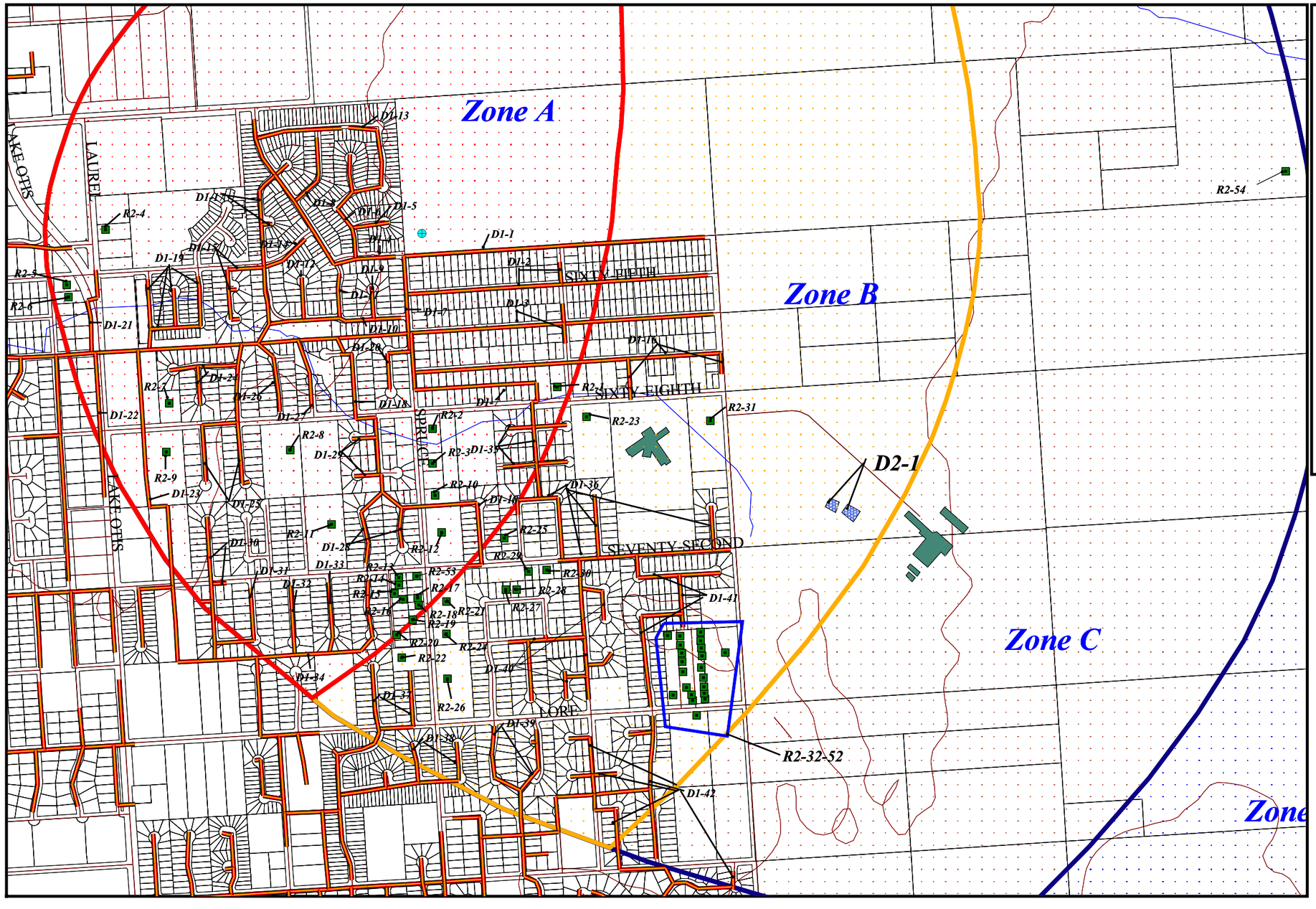
Land Use
- Bulk Products and Outdoor Storage
- Other Lawns and Gardens (non-residential)
- Commercial Areas
- Construction trade areas and materials
- Electric Utility Related
- Federal Government
- Gasoline stations (without repair shop)
- General Manufacturing and Processing
- Mixed Industria/Residential
- Motor /motor vehicle repair shops
- Municipal or city parks (with green areas)
- Outdoor Commercial Recreation
- Public Elementary School
- Scrap, salvage, or junk yards
- Warehousing, Wholesale Distribution
- Roads (X20)
- Buildings
- Streams

N W E S

PWSID 210906.004

Map 5

Drinking Water Protection Area for MOA Well #13 and Potential & Existing Sources of Contamination



Legend

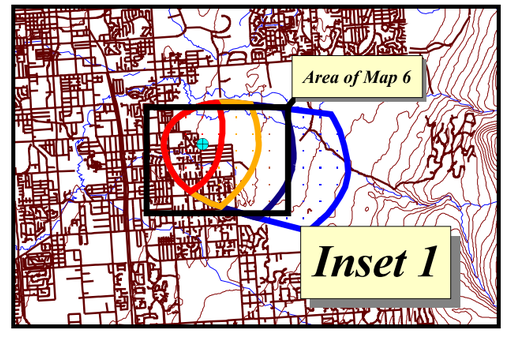
- MOA Well #13
- Residential Septic Systems (R2)
- Sewers (D1)

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
- Domestic Wastewater Disposal Ponds
- Roads (X20)
- Moa buildings.shp
- MOA Land Parcels
- Streams
- Elevation Contours



N
W E
S

Map 6

PWSID 210906.004

APPENDIX D

Vulnerability Analysis for MOA Well #13
Public Drinking Water Source

Chart 1. Susceptibility of the wellhead – MOA Well #13

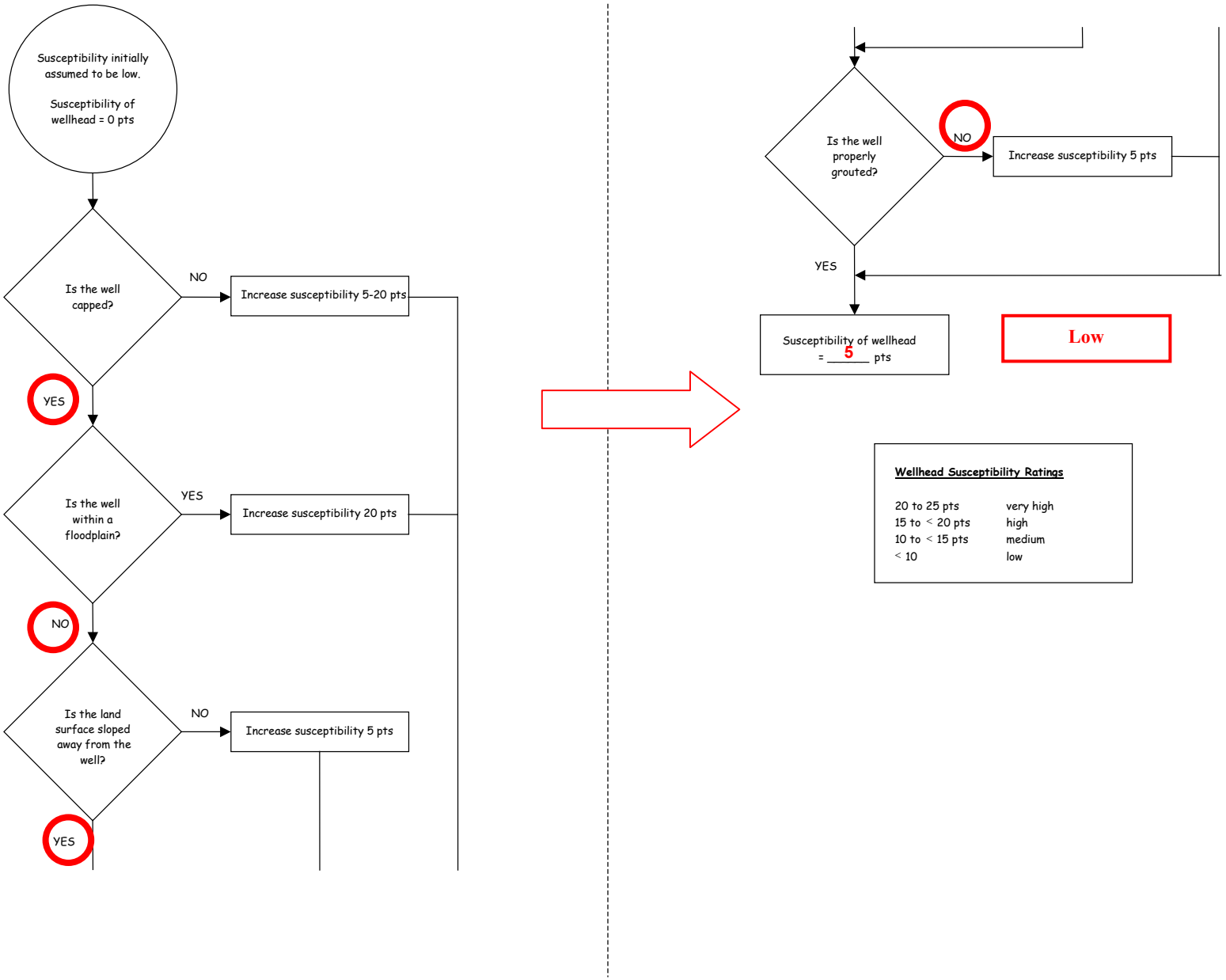
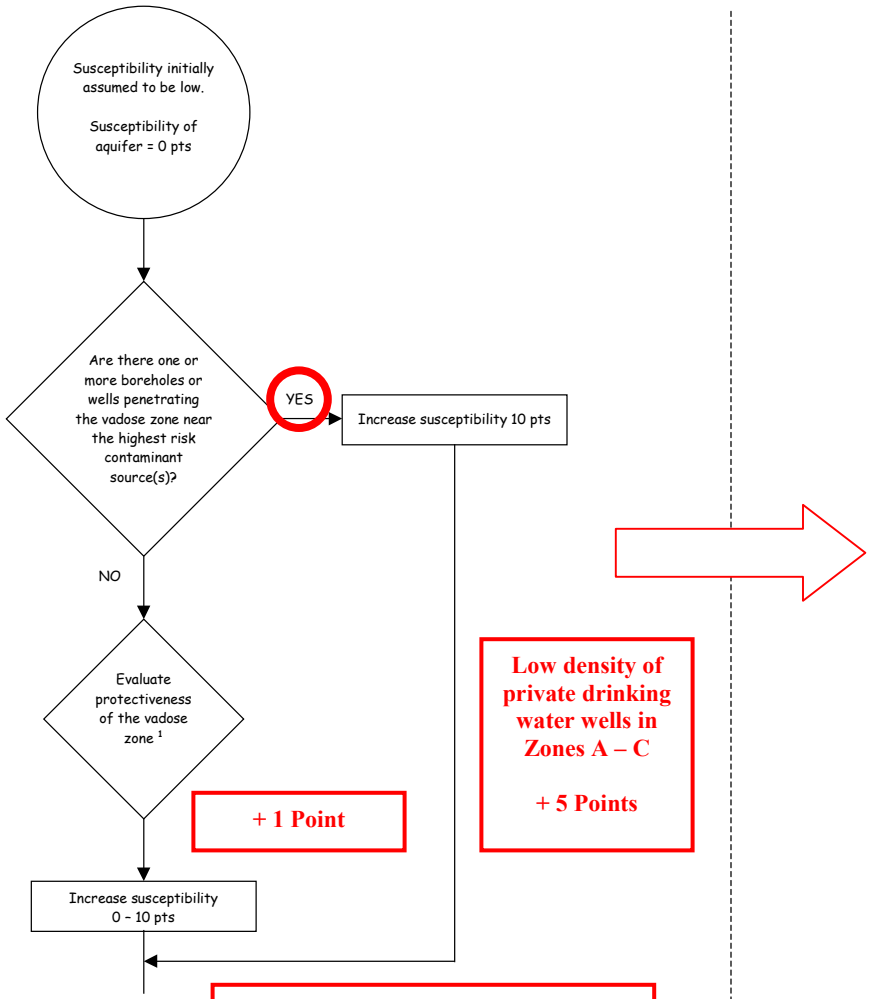
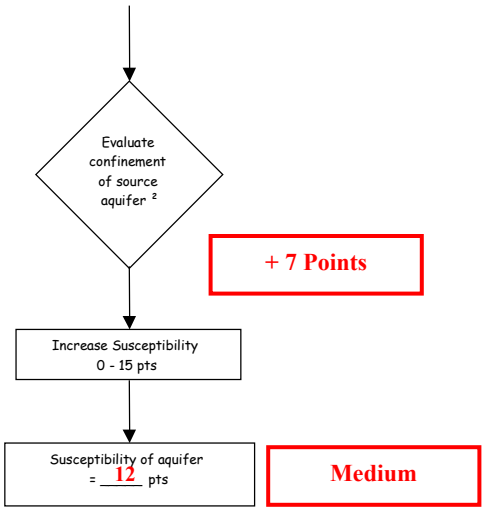


Chart 2. Susceptibility of the aquifer – MOA Well #13





1. **Protectiveness of the Vadose Zone**

- net recharge (function of precipitation, slope of land surface, & permeability of soils)
  [0 – 10 pts; 50% weight]
- depth to water table (unconfined aquifer) or top of confining layer (confined aquifer)
  [interpolate linearly: 100' – 20', 0 – 5 pts; 20' – 0', 5 – 10 pts; 50% weight]

Recharge (20-30 inches per year, base of Chugach Mountains, and silty sandy gravel)
3/10 = 2 Points
Depth to top of confining unit (112 feet) = 0 Points

Protectiveness of the Vadose Zone Total = **1/10 Points**

2. **Degree of Confinement**

- confined verses unconfined aquifer
  [confined: K ≤ 10^{-6} cm/s, minimum thickness of at least one layer = 20 ft, interpolate linearly 100' – 20', 0 – 10 pts; unconfined = 15 pts; 65% weight]
- density of boreholes and wells penetrating the confining layer (confined aquifer) or the water table (unconfined aquifer)
  [confined: 0 – 15 pts; unconfined = 15 pts; 35% weight]

Confinement (11 feet of clay with gravel from 112 to 123 feet below land surface and 12 feet of clay with sand and gravel from 142 to 154 feet below land surface; various layers of "hardpan that may provide some protection as well")
7/15 = **5 Points**

Density of boreholes/wells (low density of domestic drinking water wells in Zones A – C, which penetrate to upper confined aquifer) 5/15 = **2 Points**

Degree of Confinement Total = **7/15 Points**

Aquifer Susceptibility Ratings

20 to 25 pts	very high
15 to < 20 pts	high
10 to < 15 pts	medium
< 10	low

Medium

Chart 3. Contaminant risks for MOA Well #13 – Bacteria & Viruses

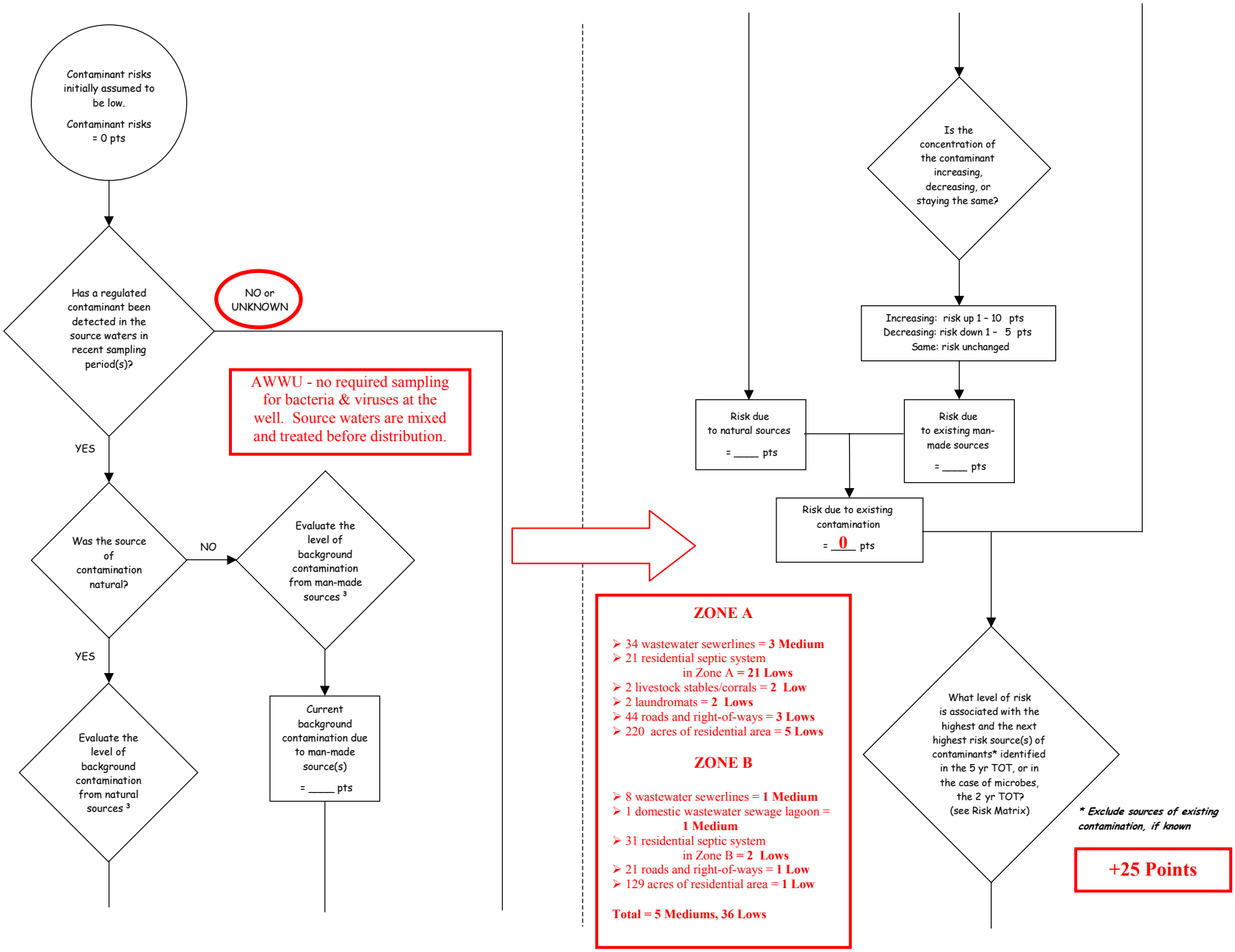


Chart 3. Contaminant risks for MOA Well #13– Bacteria & Viruses (Continued)

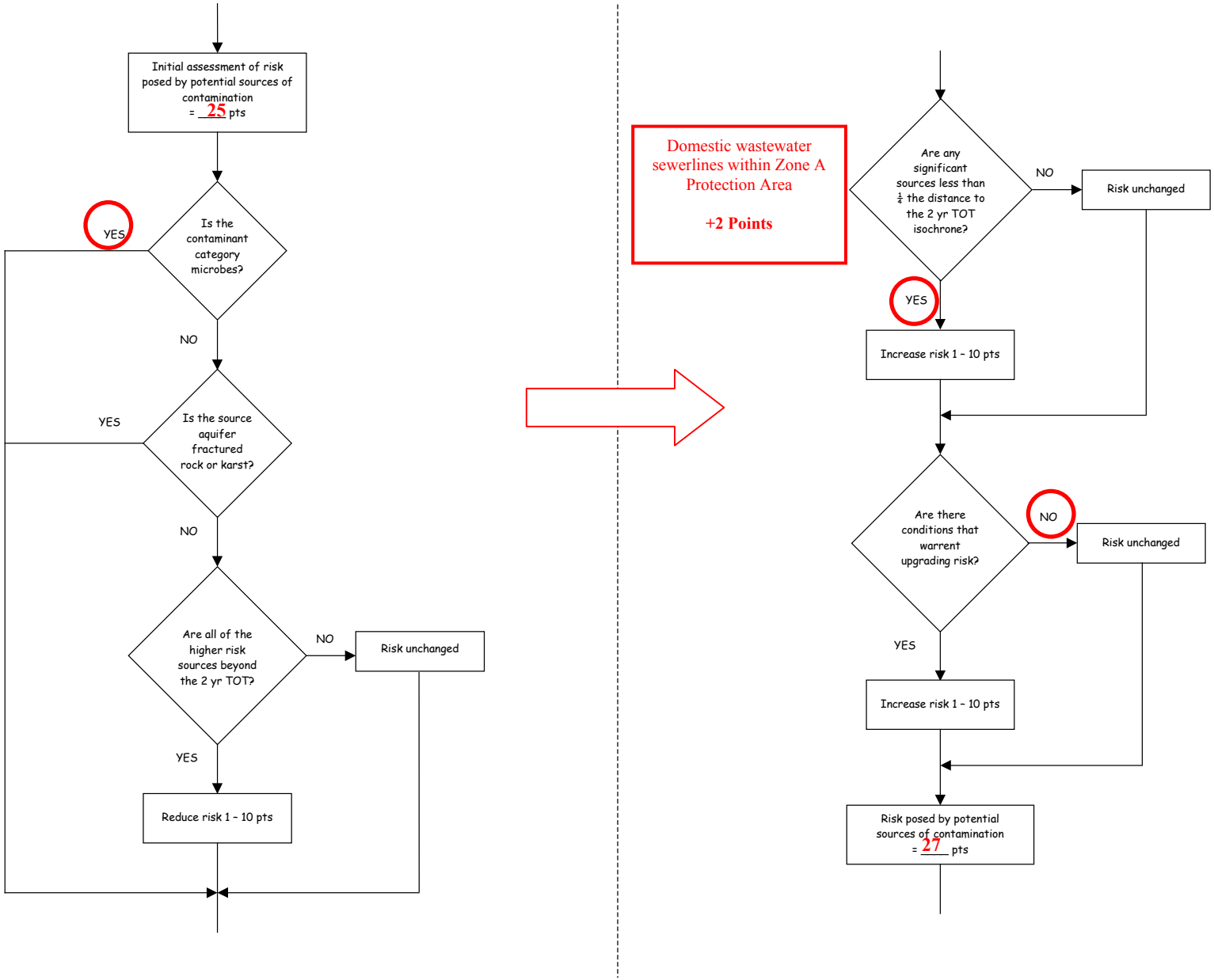
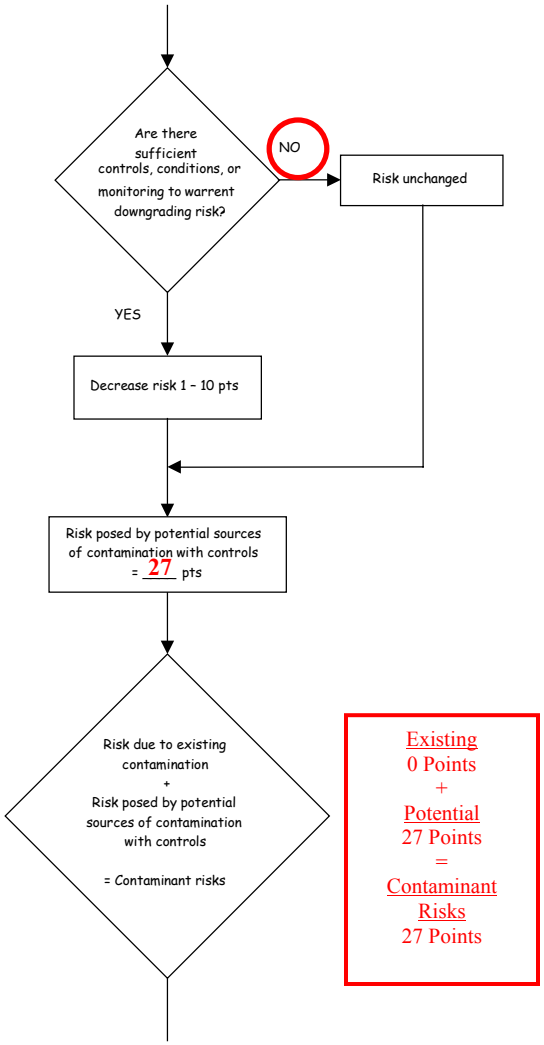
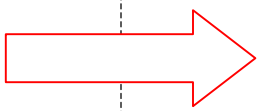
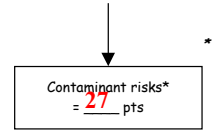


Chart 3. Contaminant risks for MOA Well #13– Bacteria & Viruses (Continued)



Existing
0 Points
+
Potential
27 Points
=
Contaminant Risks
27 Points





** Truncate risk at 50 pts*

Medium

3. Level of Background Contamination

> MCL	50 pts
0.5 MCL to < MCL	20 pts
0.2 MCL to < 0.5 MCL	10 pts
'detect' to < 0.2 MCL	5 pts

Contaminant Risk Ratings

40 to 50 pts	very high
30 to < 40 pts	high
20 to < 30 pts	medium
< 20	low

Table 1. Risk Matrix for Contaminant Sources for MOA Well #13– Bacteria & Viruses

Level of Risk Associated with the Highest Risk Sources

Next Highest Risk Sources(s)	5 Mediums, 36 Lows	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

Chart 4. Vulnerability analysis for MOA Well #13 – Bacteria & Viruses

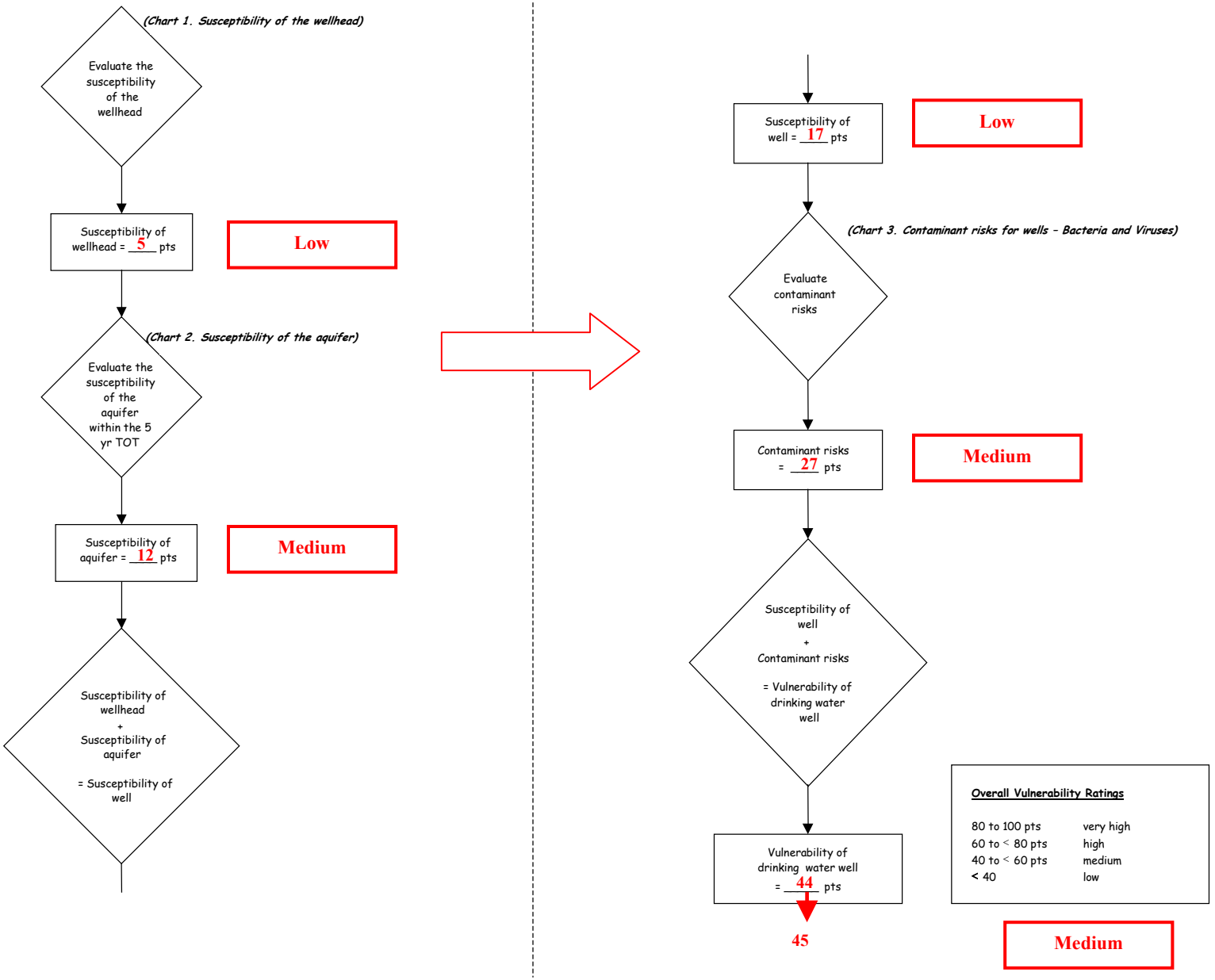


Chart 5. Contaminant risks for MOA Well #13 – Nitrates & Nitrites

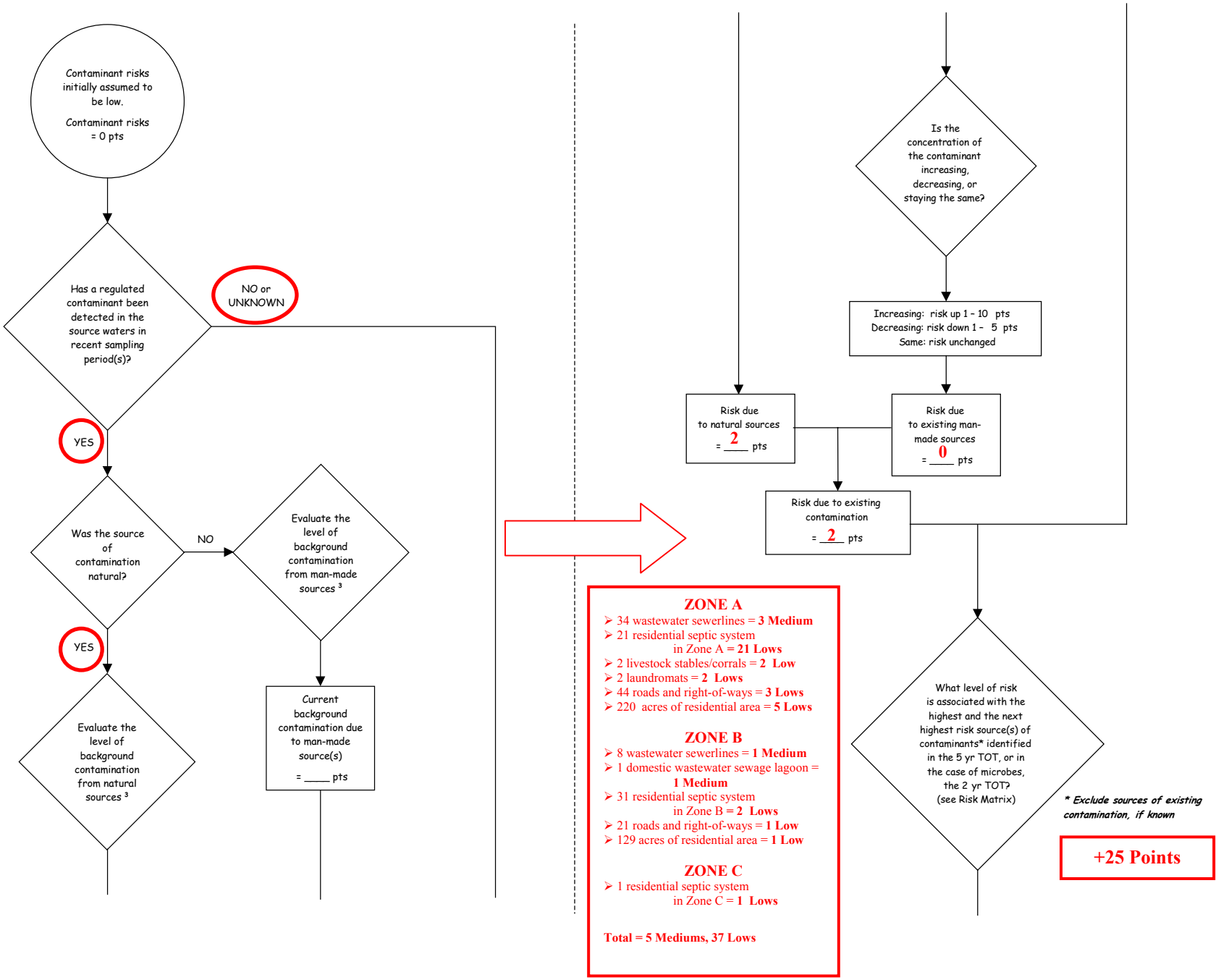


Chart 5. Contaminant risks for MOA Well #13– Nitrates & Nitrites (Continued)

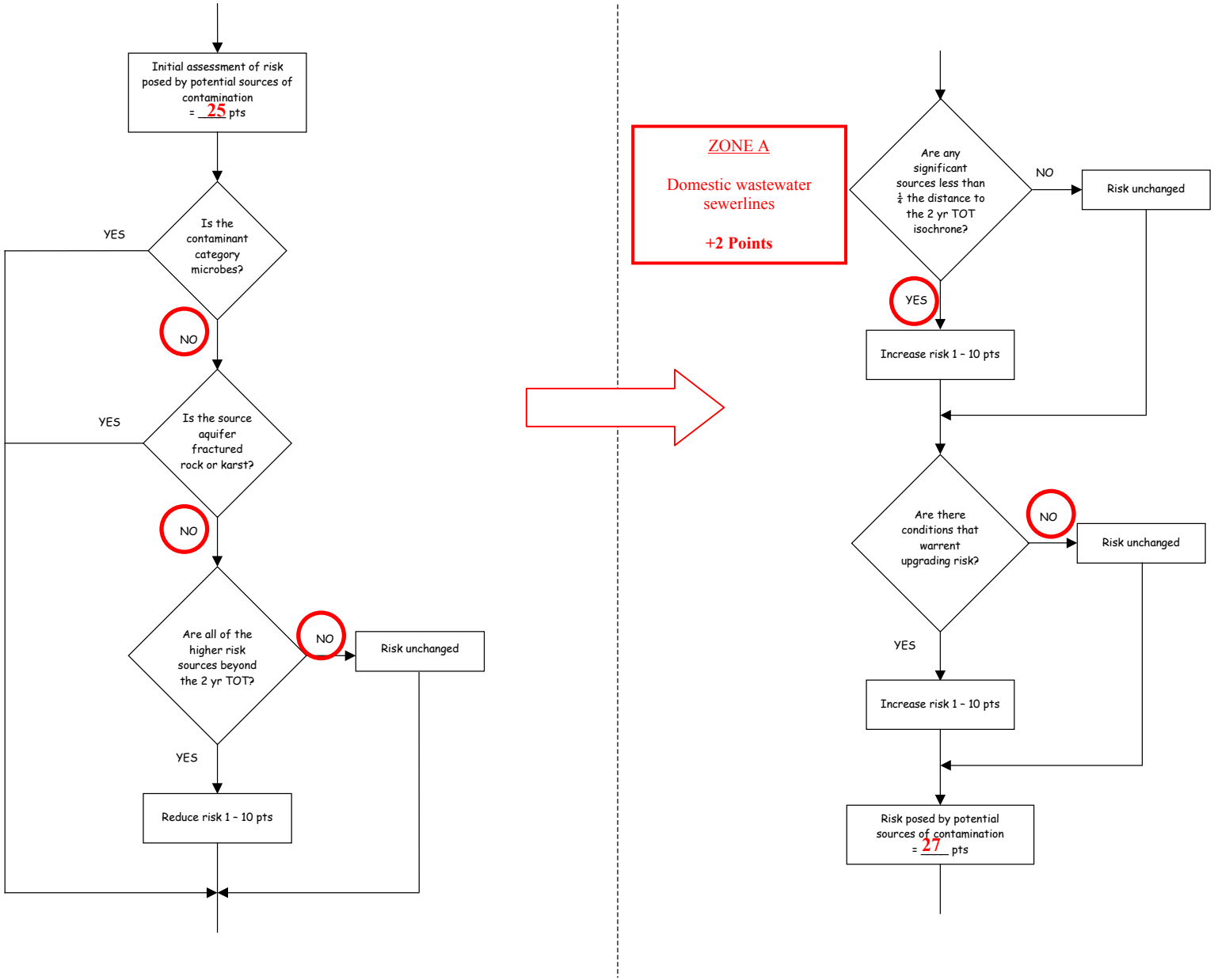
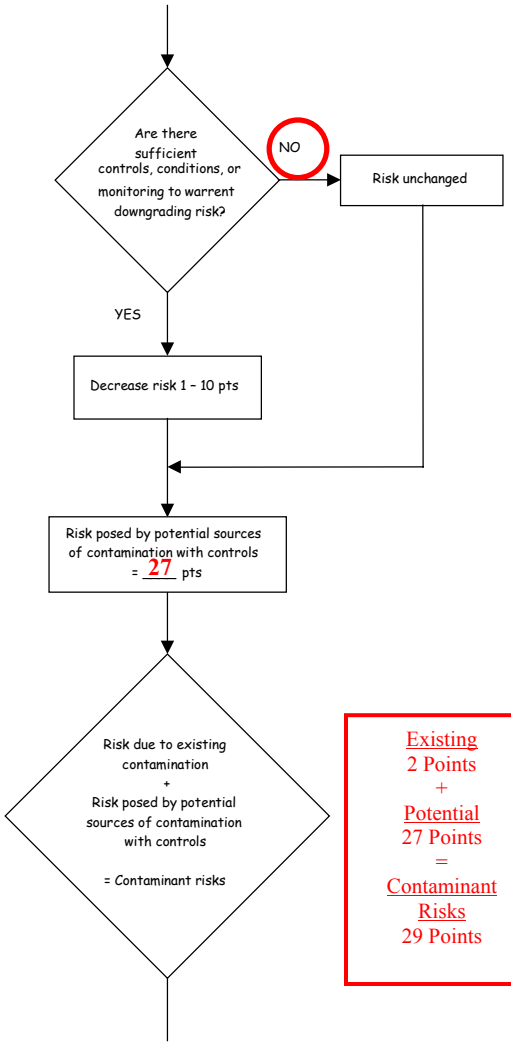


Chart 5. Contaminant risks for MOA Well #13 – Nitrates & Nitrites (Continued)



Existing
2 Points
+
Potential
27 Points
=
Contaminant Risks
29 Points

* *Truncate risk at 50 pts*

Contaminant risks* = 29 pts

Medium

3. Level of Background Contamination

> MCL	50 pts
0.5 MCL to < MCL	20 pts
0.2 MCL to < 0.5 MCL	10 pts
'detect' to < 0.2 MCL	5 pts

Contaminant Risk Ratings

40 to 50 pts	very high
30 to < 40 pts	high
20 to < 30 pts	medium
< 20	low

Nitrate

No detect on 4/3/01
0.899 mg/L on 5/1/00
➢ 0.942 mg/L on 7/14/99
0.464 mg/L on 11/10/98
0.340 mg/L on 12/10/97
0.140 mg/L 11/18/96
0.340 mg/L on 6/28/95
0.300 mg/L on 6/1/94
0.380 mg/L on 12/9/93
0.400 mg/L on 6/22/92

Maximum Contaminant Level (MCL)
= 10mg/L
0.942/10
= 0.0942 or 9% of MCL

+2 Points

Table 2. Risk Matrix for Contaminant Sources for MOA Well #13– Nitrates & Nitrites

Level of Risk Associated with the Highest Risk Sources

Next Highest Risk Sources(s)	5 Mediums, 37 Lows	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

Chart 6. Vulnerability analysis for MOA Well #13– Nitrates and Nitrites

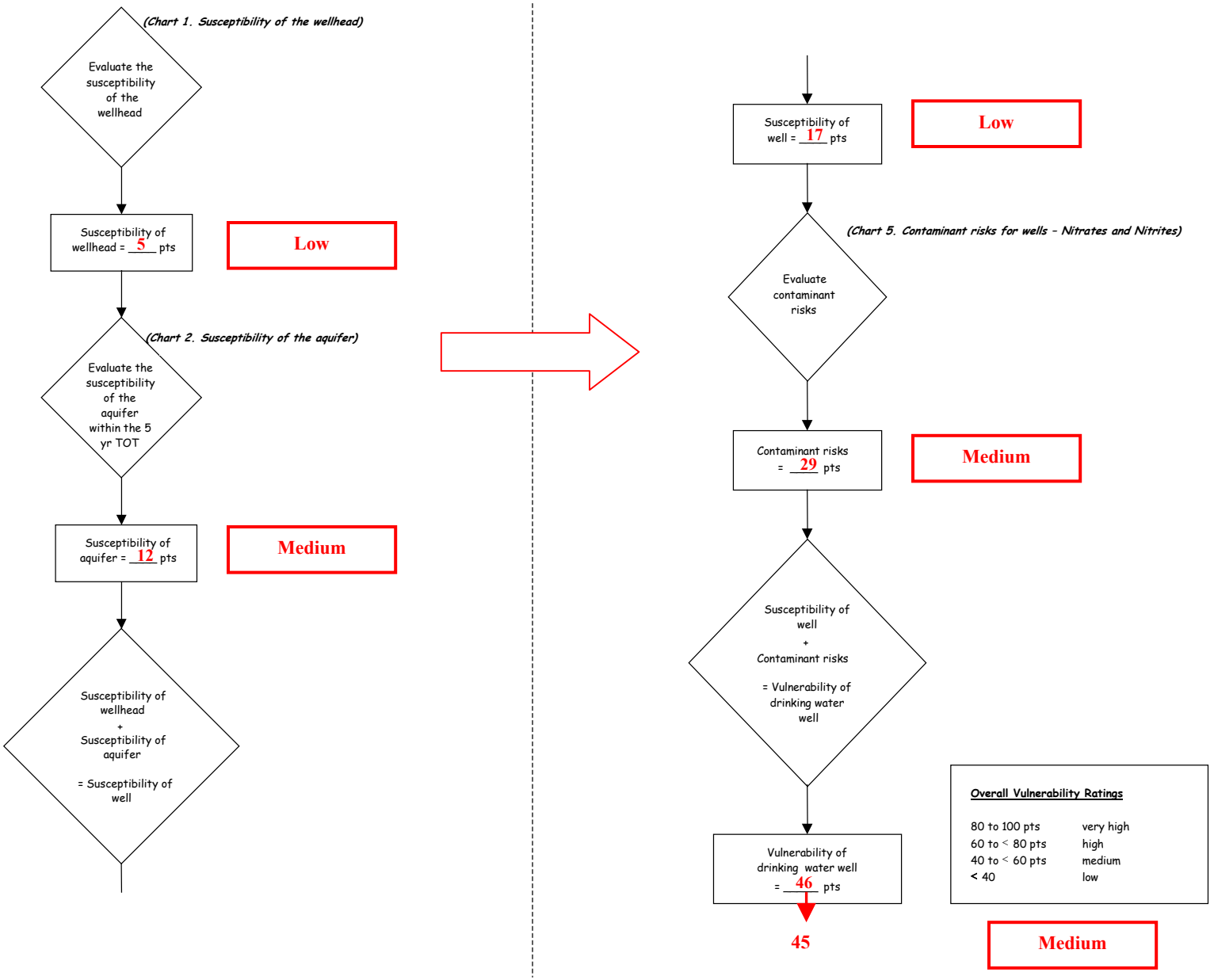


Chart 7. Contaminant risks for MOA Well #13 – Volatile Organic Chemicals

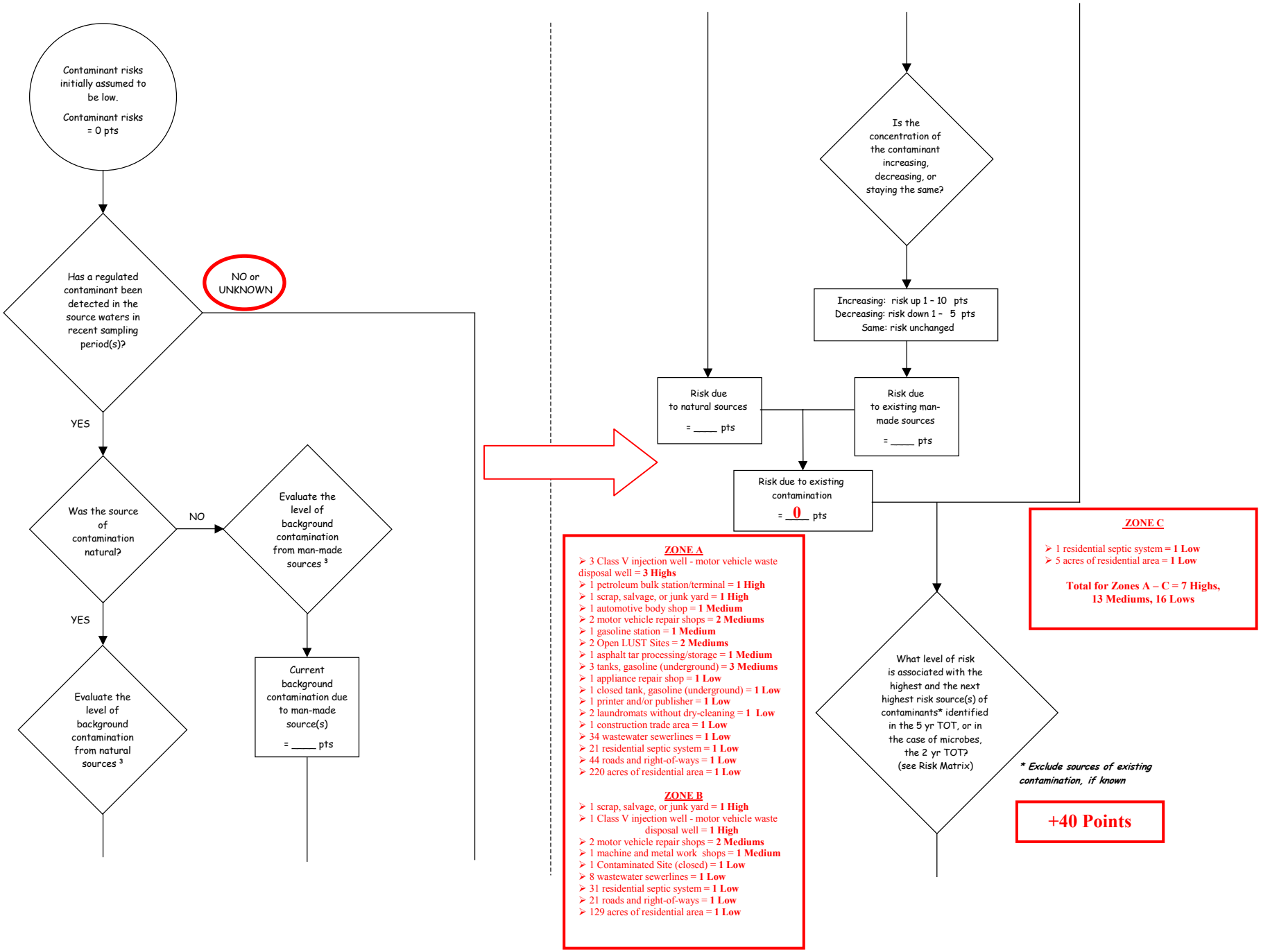


Chart 7. Contaminant risks for MOA Well #13– Volatile Organic Chemicals (Continued)

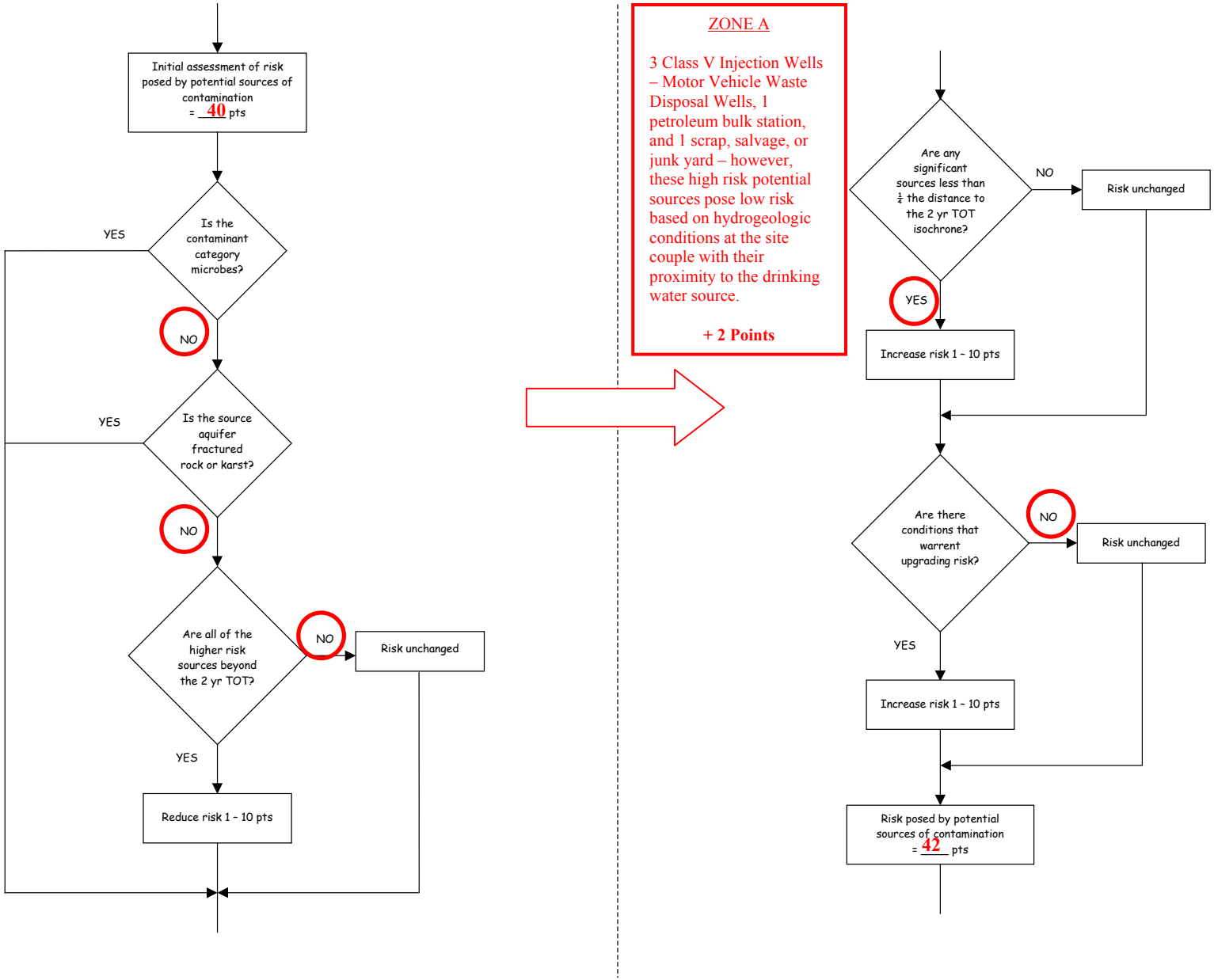
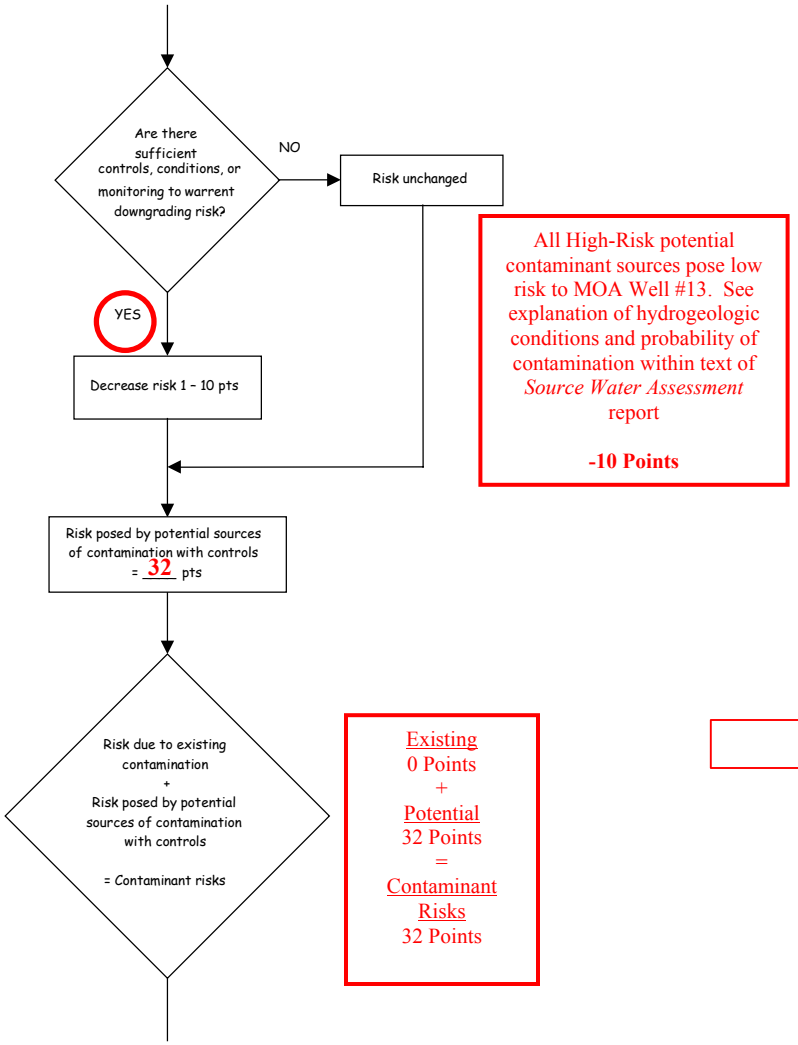


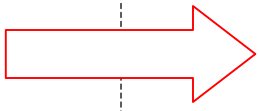
Chart 7. Contaminant risks for MOA Well #13– Volatile Organic Chemicals (Continued)



All High-Risk potential contaminant sources pose low risk to MOA Well #13. See explanation of hydrogeologic conditions and probability of contamination within text of *Source Water Assessment* report

-10 Points

Existing
0 Points
+
Potential
32 Points
=
Contaminant Risks
32 Points



** Truncate risk at 50 pts*

Contaminant risks* = 32 pts

High

3. Level of Background Contamination

> MCL	50 pts
0.5 MCL to < MCL	20 pts
0.2 MCL to < 0.5 MCL	10 pts
'detect' to < 0.2 MCL	5 pts

Contaminant Risk Ratings

40 to 50 pts	very high
30 to < 40 pts	high
20 to < 30 pts	medium
< 20	low

Table 3. Risk Matrix for Contaminant Sources for MOA Well #13– Volatile Organic Chemicals

Level of Risk Associated with the Highest Risk Sources

Next Highest Risk Sources(s)

Total for Zones A – C = 7 High,s 13 Mediums, 16 Lows	**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

Chart 8. Vulnerability analysis for MOA Well #13 – Volatile Organic Chemicals

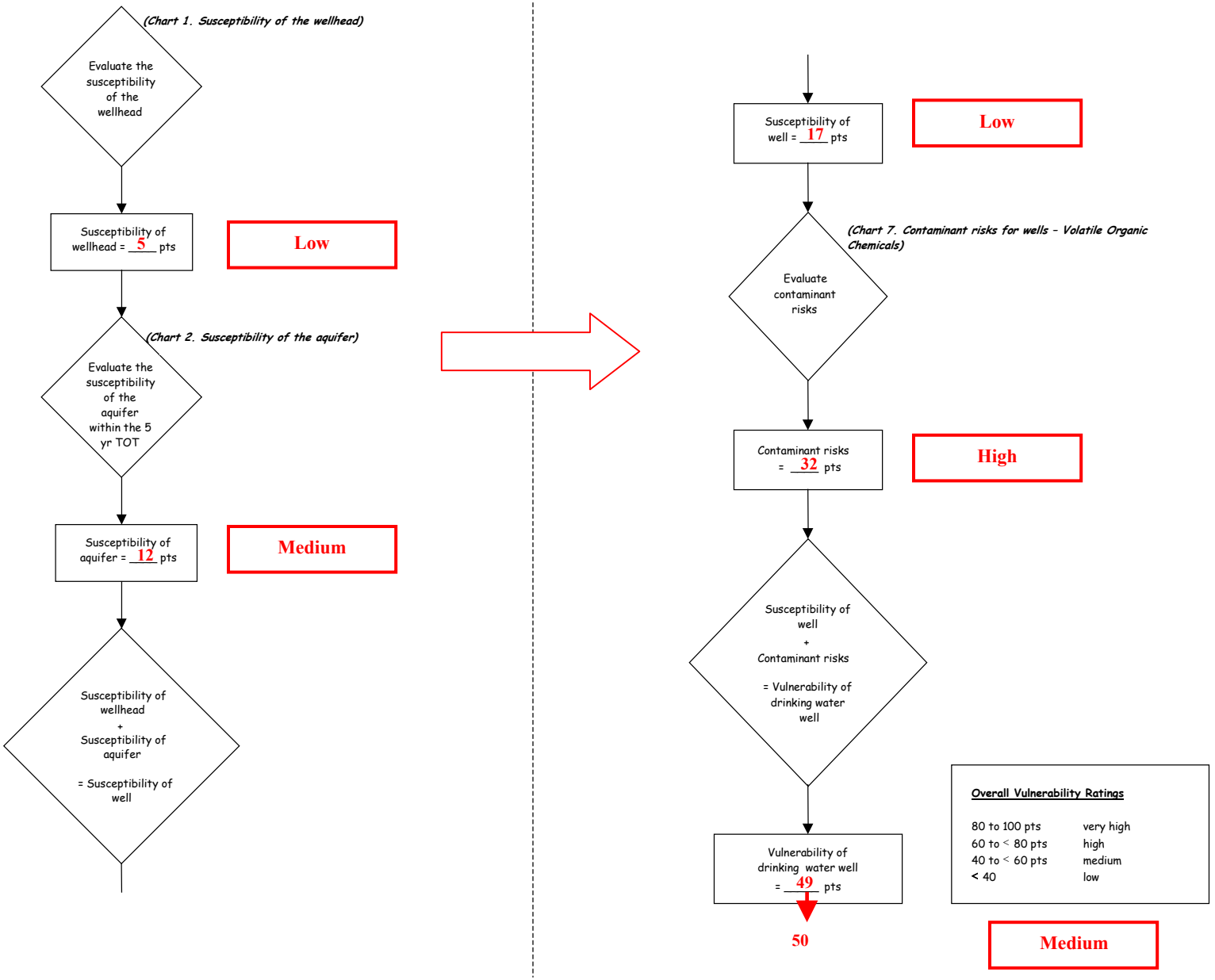


Chart 9. Contaminant risks for MOA Well #13– Heavy Metals, Cyanide, and other Inorganic Chemicals

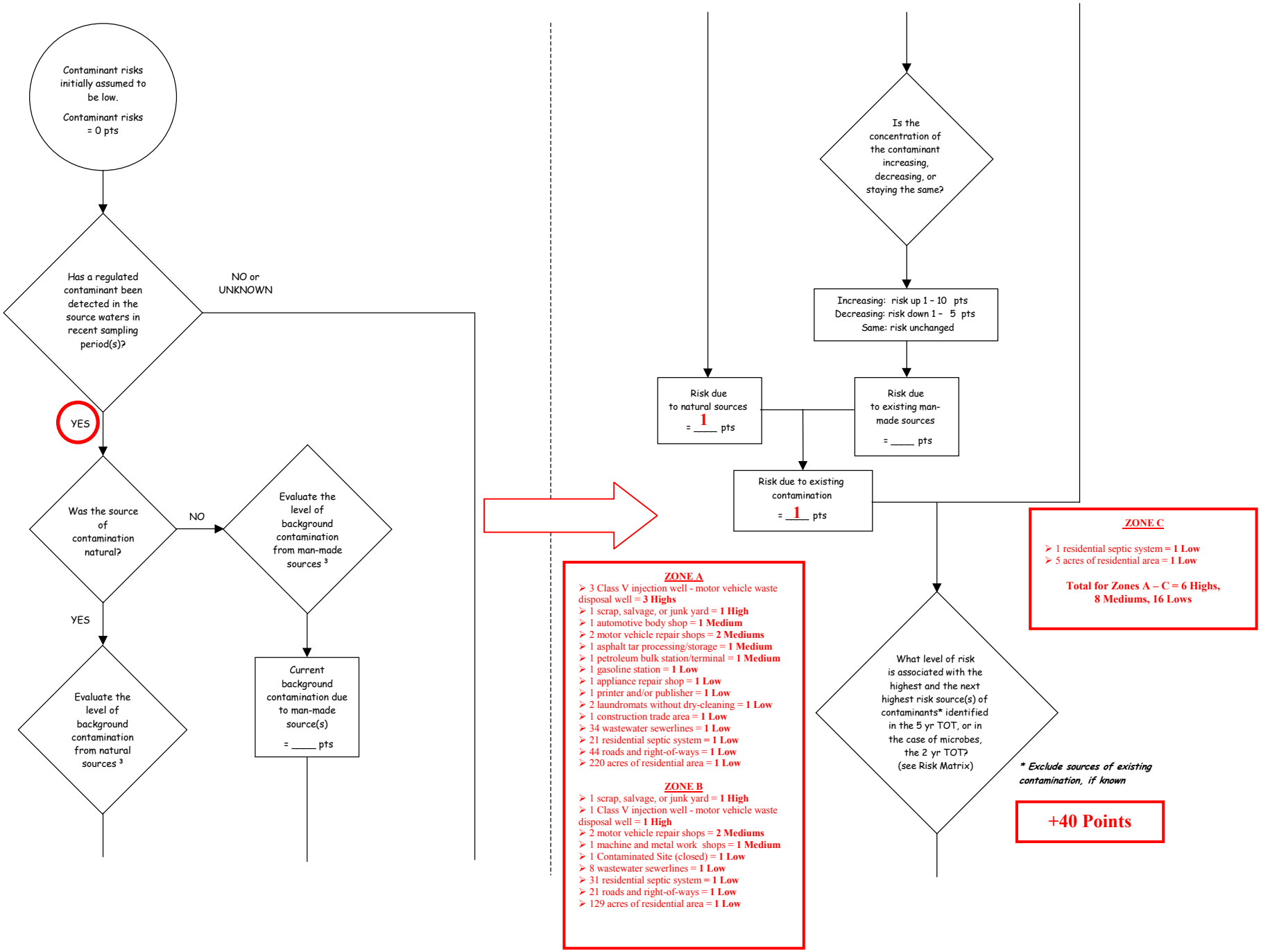


Chart 9. Contaminant risks for MOA Well #13– Heavy Metals, Cyanide, and other Inorganic Chemicals (Continued)

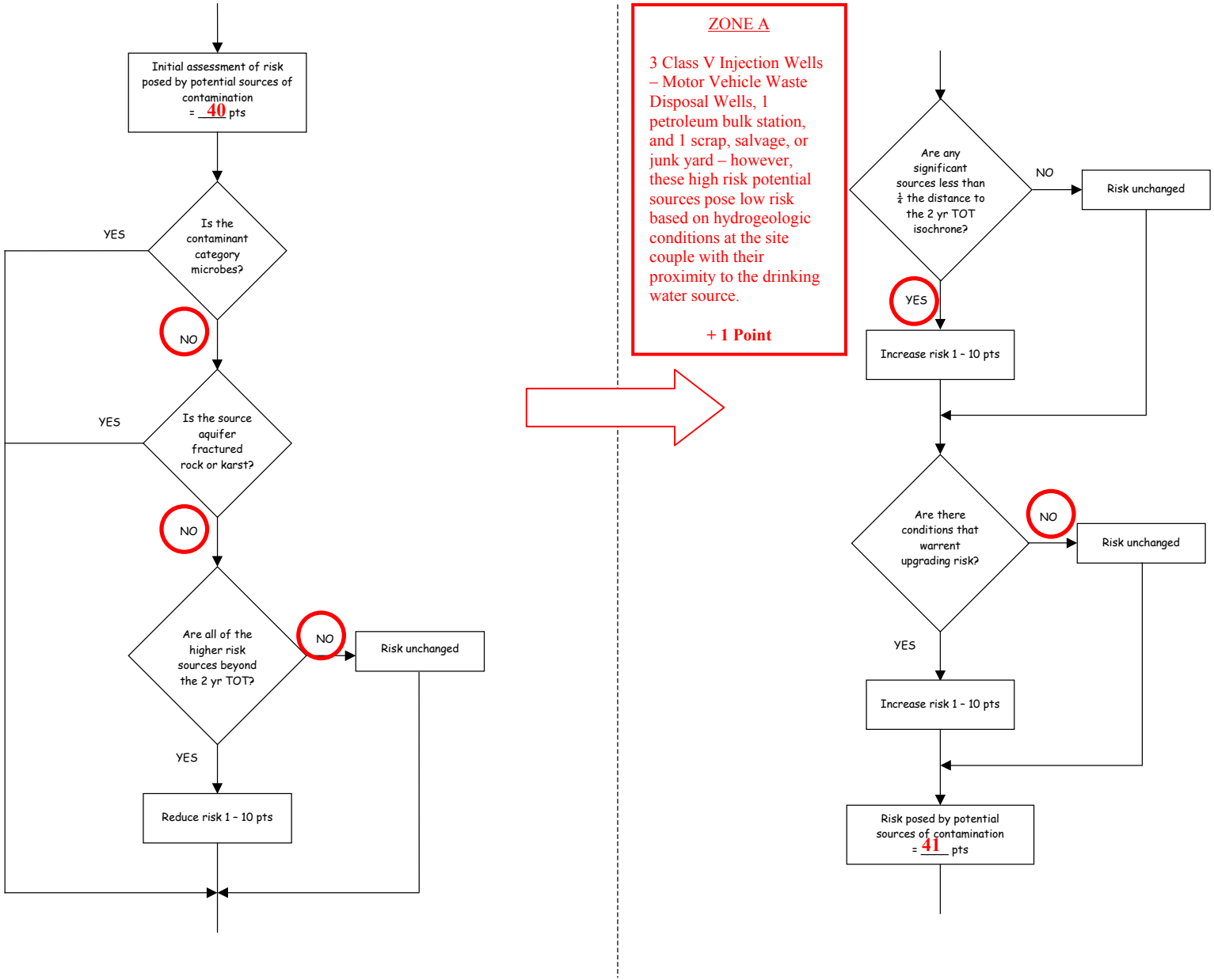
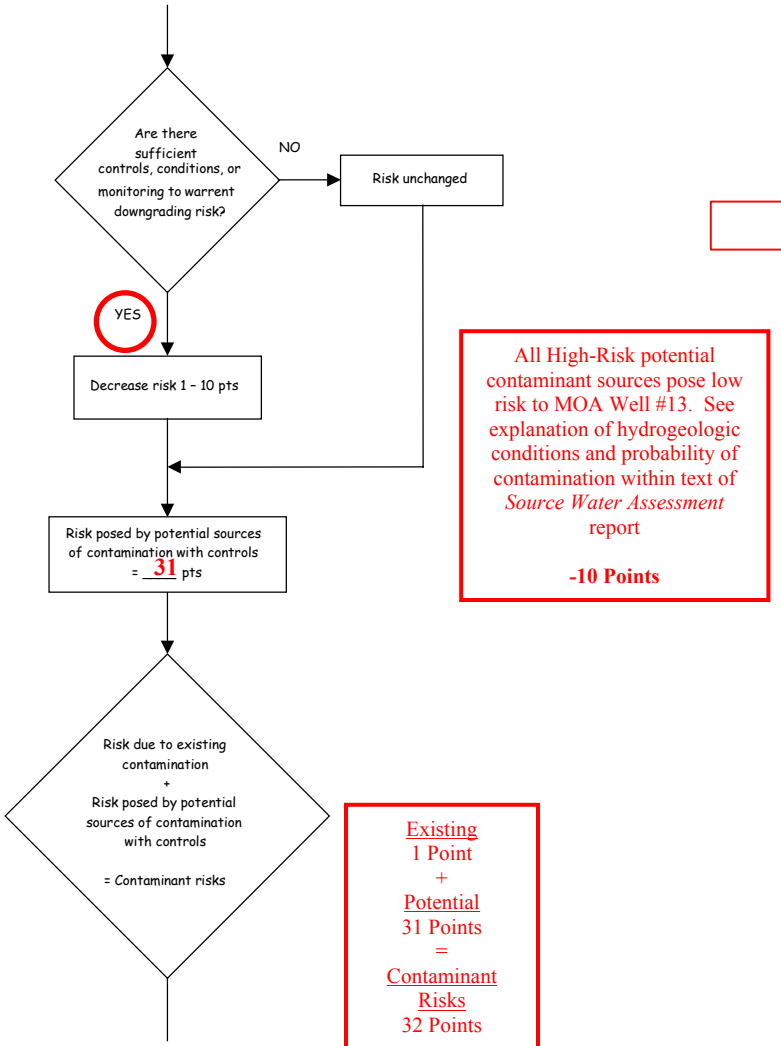


Chart 9. Contaminant risks for MOA Well #13– Heavy Metals, Cyanide, and other Inorganic Chemicals (Continued)



All High-Risk potential contaminant sources pose low risk to MOA Well #13. See explanation of hydrogeologic conditions and probability of contamination within text of *Source Water Assessment* report

-10 Points

Existing
1 Point
+
Potential
31 Points
=
Contaminant Risks
32 Points

* *Truncate risk at 50 pts*

Contaminant risks*
= 32 pts

High

3. Level of Background Contamination

> MCL	50 pts
0.5 MCL to < MCL	20 pts
0.2 MCL to < 0.5 MCL	10 pts
'detect' to < 0.2 MCL	5 pts

Contaminant Risk Ratings

40 to 50 pts	very high
30 to < 40 pts	high
20 to < 30 pts	medium
< 20	low

Chromium
0.001 mg/L on 11/10/98
Maximum Contaminant Level (MCL)
= 0.0001 mg/L
0.001/0..0001
= 0.01 or 1% of MCL
+0 Points

Barium
0.005 mg/L on 11/4/98
Maximum Contaminant Level (MCL)
= 0.2mg/L
0.005/0.2
= 0.025 or 2.5% of MCL
+1 Point

Existing Contaminant Risks from Barium Drives the Score

Table 4. Risk Matrix for Contaminant Sources for MOA Well #13– Heavy Metals, Cyanide, and other Inorganic Chemicals

Level of Risk Associated with the Highest Risk Sources

Next Highest Risk Sources(s)

6 High, 8 Mediums, 16 Lows	**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

Chart 10. Vulnerability analysis for MOA Well #13 – Heavy Metals, Cyanide, and other Inorganic Chemicals

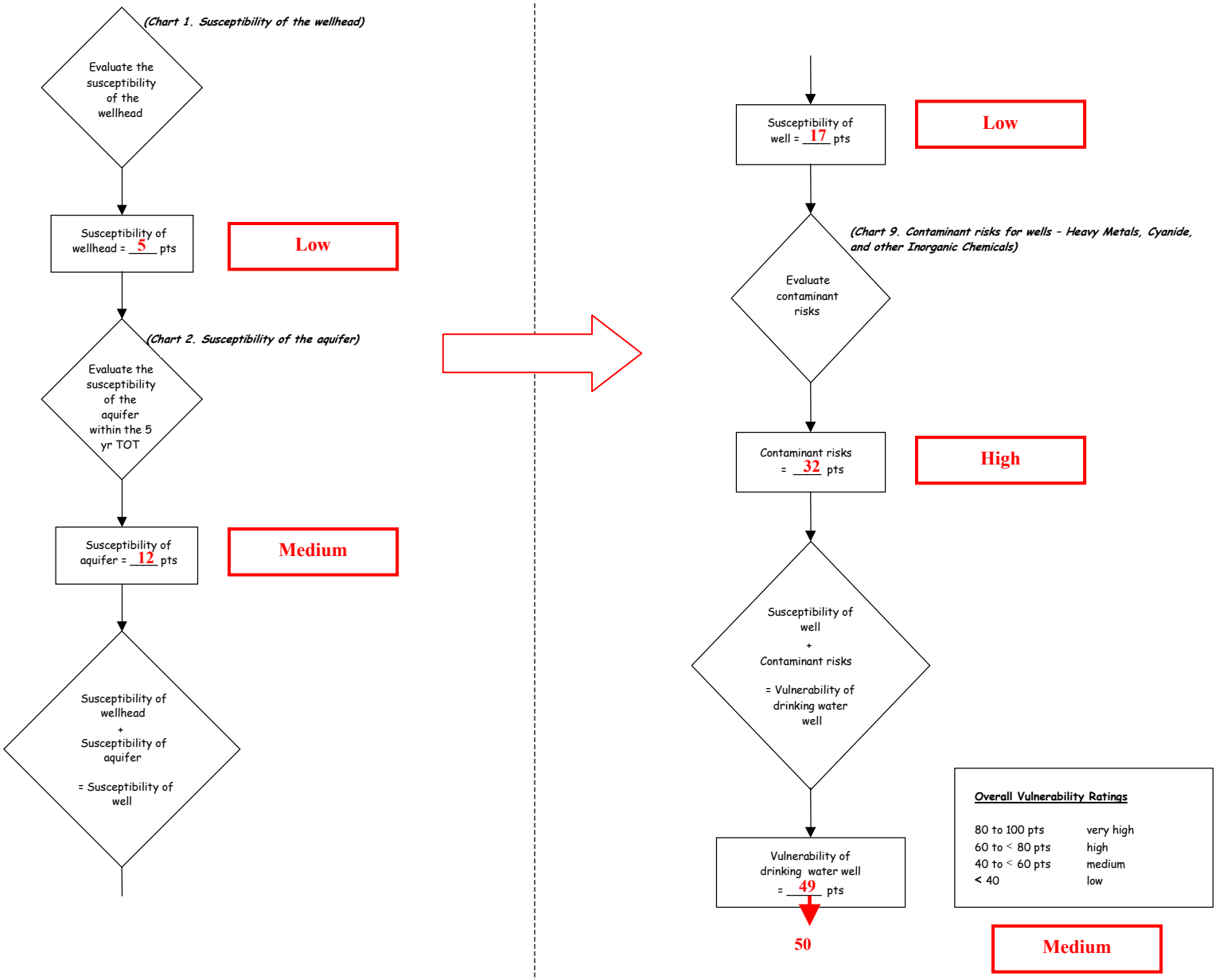


Chart 11. Contaminant risks for MOA Well #13– Synthetic Organic Chemicals

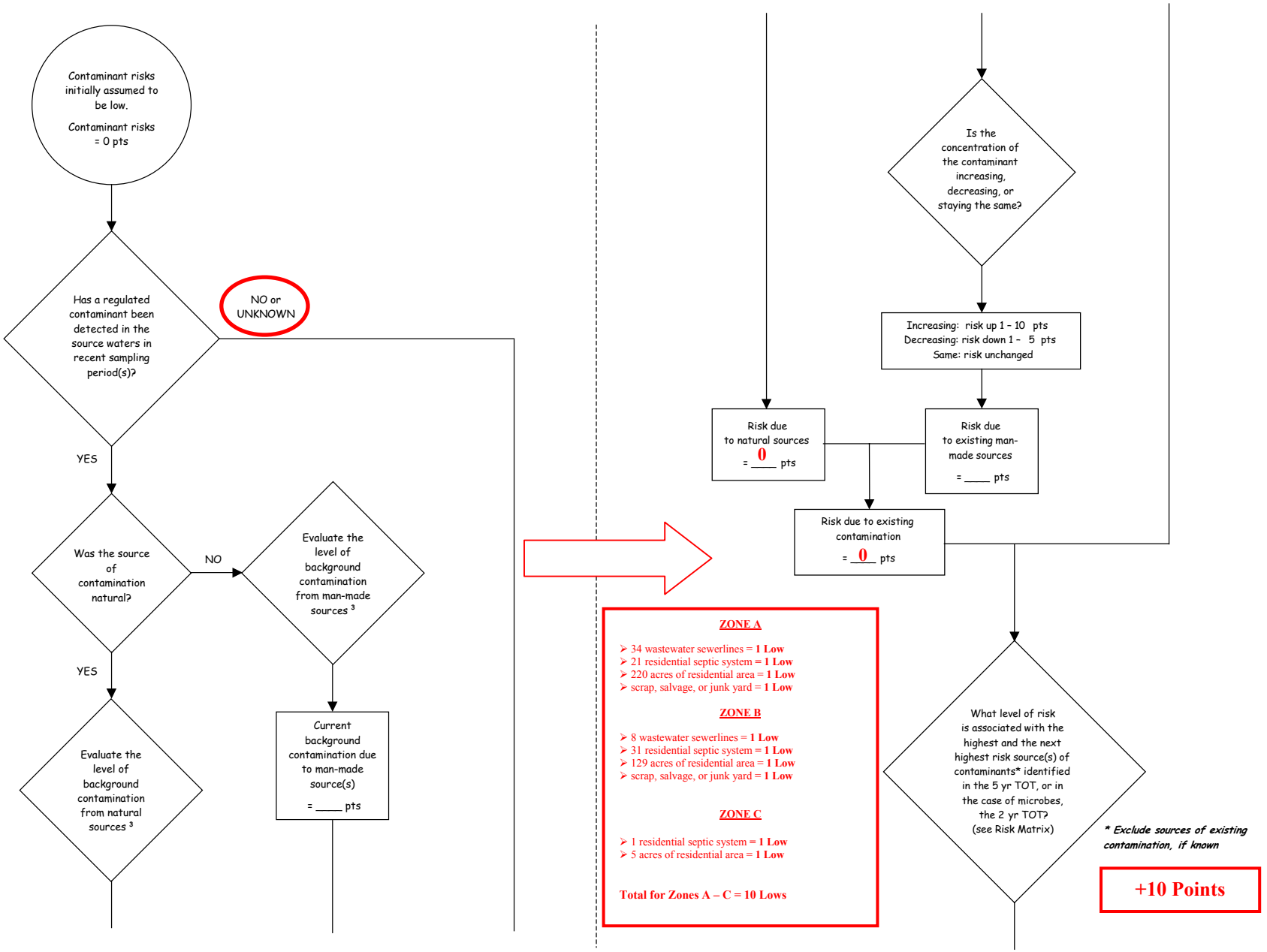


Chart 11. Contaminant risks for MOA Well #13– Synthetic Organic Chemicals (Continued)

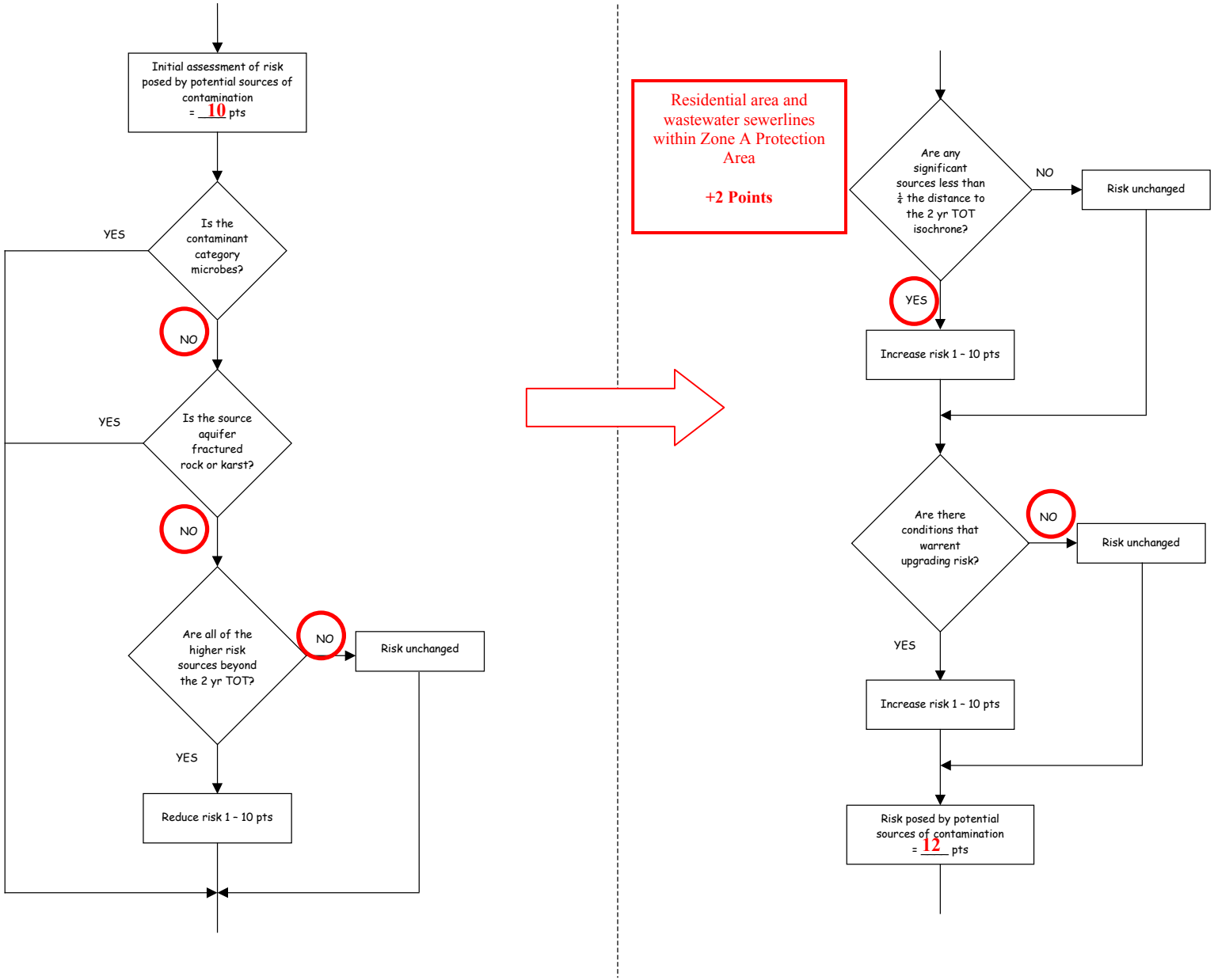
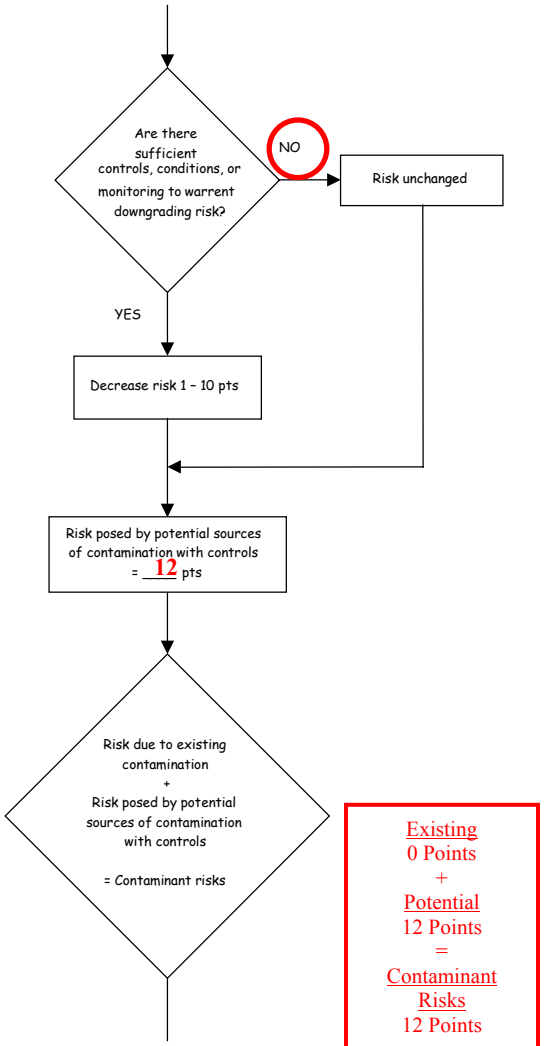
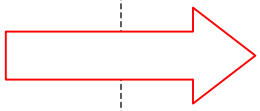


Chart 11. Contaminant risks for MOA Well #13– Synthetic Organic Chemicals (Continued)



Existing
0 Points
+
Potential
12 Points
=
Contaminant Risks
12 Points



* *Truncate risk at 50 pts*

Contaminant risks* = 12 pts

Low

3. Level of Background Contamination

> MCL	50 pts
0.5 MCL to < MCL	20 pts
0.2 MCL to < 0.5 MCL	10 pts
'detect' to < 0.2 MCL	5 pts

Contaminant Risk Ratings

40 to 50 pts	very high
30 to < 40 pts	high
20 to < 30 pts	medium
< 20	low

Table 5. Risk Matrix for Contaminant Sources for MOA Well #13– Synthetic Organic Chemicals

Level of Risk Associated with the Highest Risk Sources

Next Highest Risk Sources(s)	TOTAL FOR ZONES A – C = 1 MEDIUM, 11 LOWS	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

Chart 12. Vulnerability analysis for MOA Well #13– Synthetic Organic Chemicals

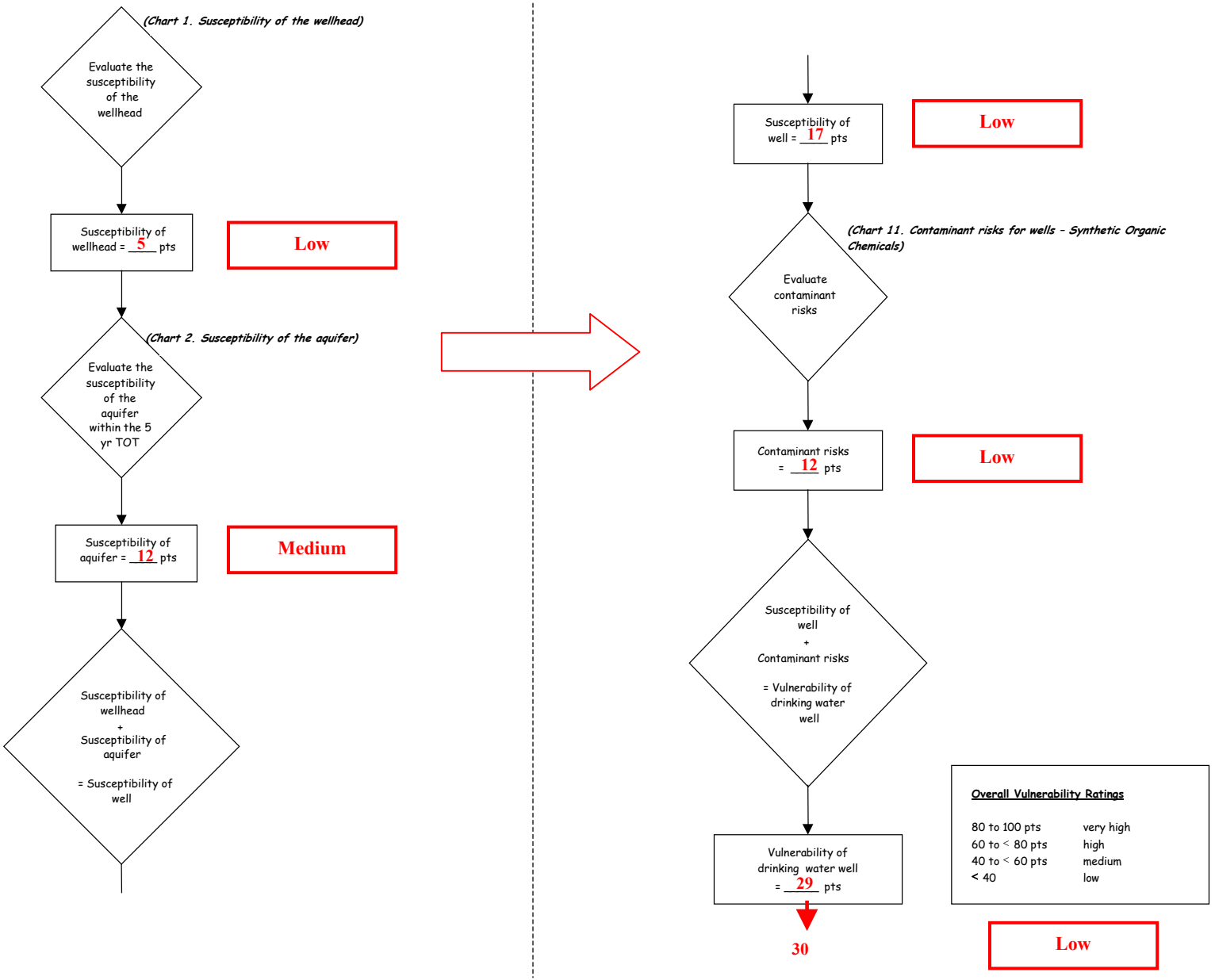


Chart 13. Contaminant risks for MOA Well #13– Other Synthetic Organic Chemicals

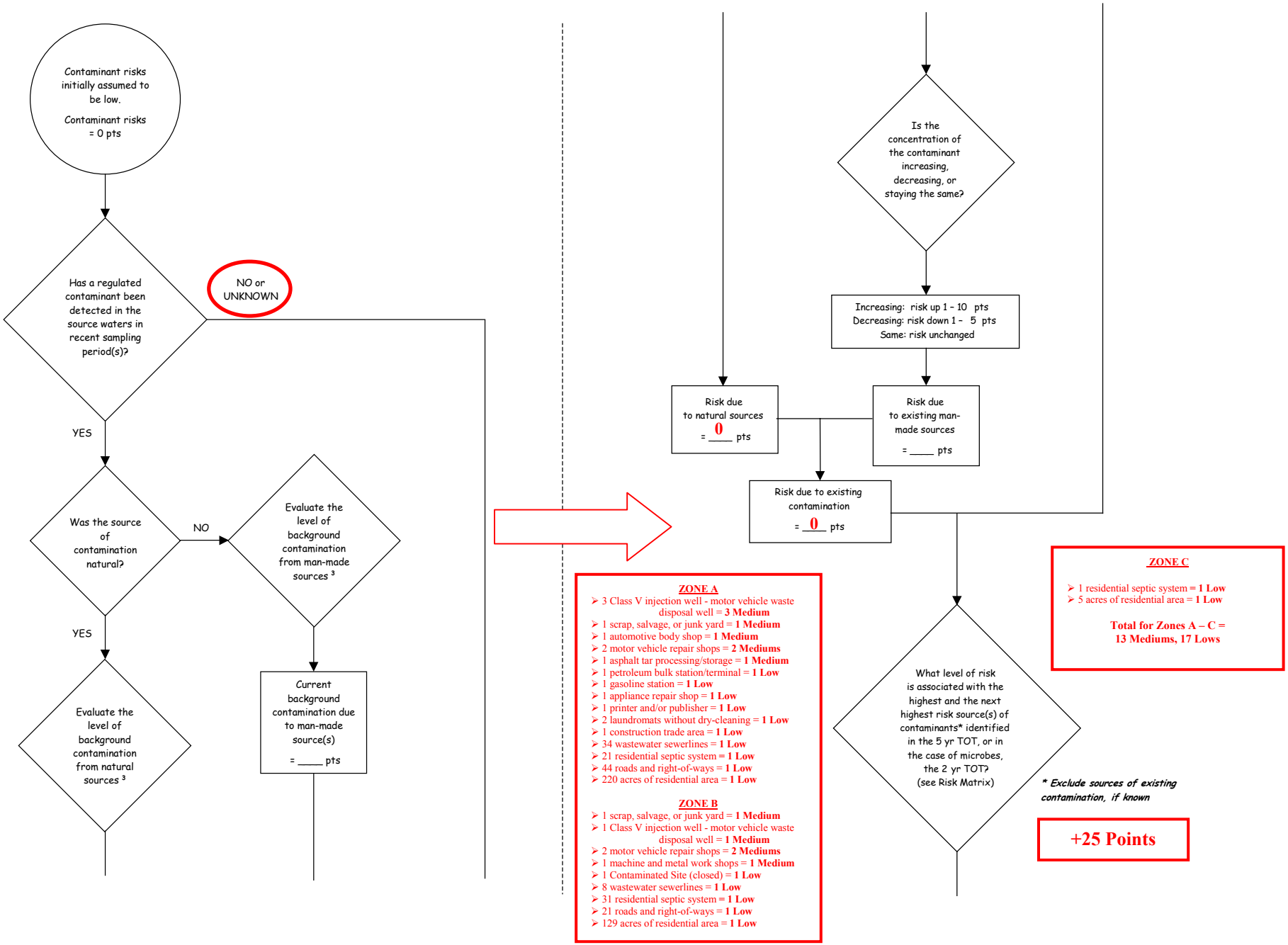


Chart 13. Contaminant risks for MOA Well #13– Other Synthetic Organic Chemicals (Continued)

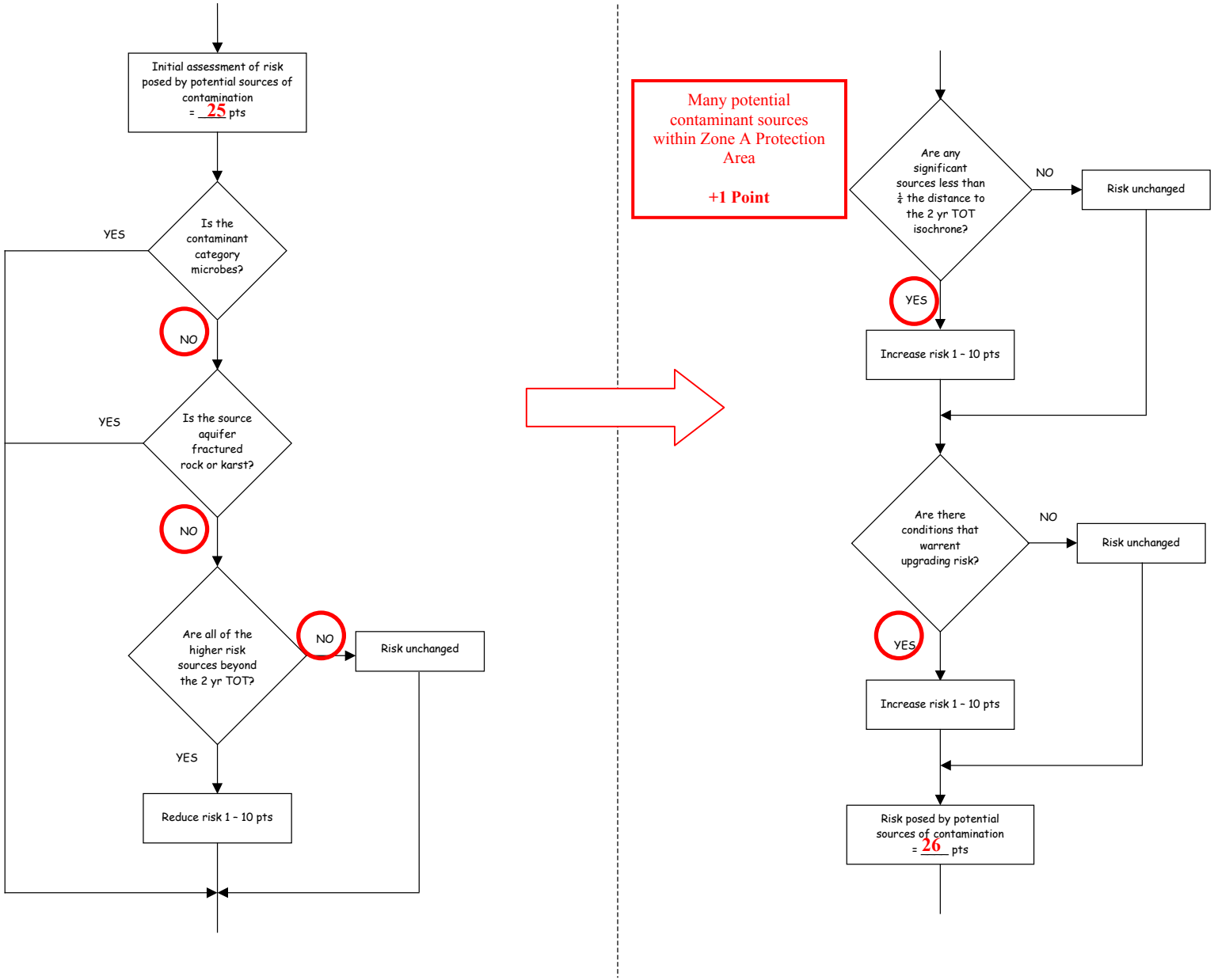
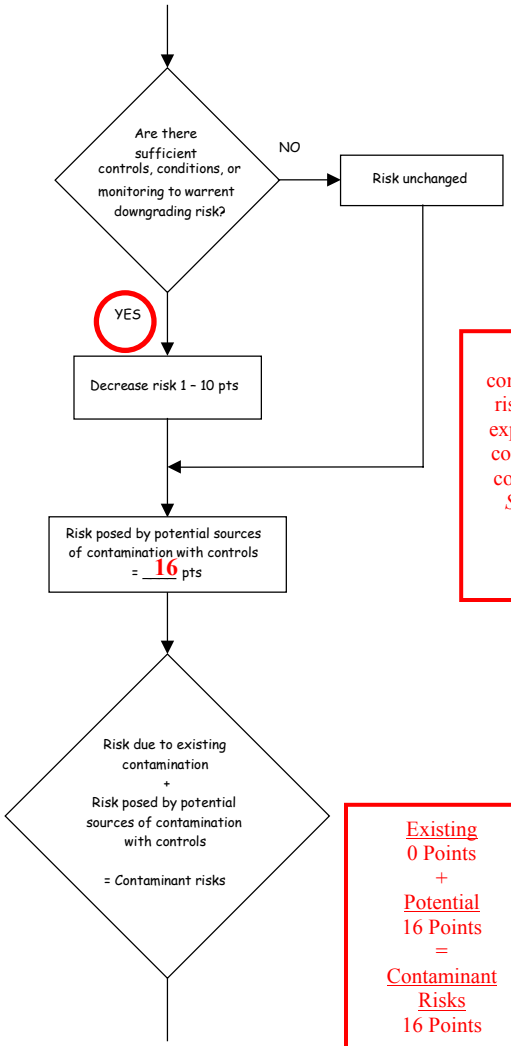


Chart 13. Contaminant risks for MOA Well #13– Other Synthetic Organic Chemicals (Continued)



Existing
0 Points
+
Potential
16 Points
=
Contaminant Risks
16 Points

All High-Risk potential contaminant sources pose low risk to MOA Well #13. See explanation of hydrogeologic conditions and probability of contamination within text of *Source Water Assessment* report

-10 Points

** Truncate risk at 50 pts*

Contaminant risks* = 16 pts

Low

3. Level of Background Contamination

> MCL	50 pts
0.5 MCL to < MCL	20 pts
0.2 MCL to < 0.5 MCL	10 pts
'detect' to < 0.2 MCL	5 pts

Contaminant Risk Ratings

40 to 50 pts	very high
30 to < 40 pts	high
20 to < 30 pts	medium
< 20	low

Table 6. Risk Matrix for Contaminant Sources for MOA Well #13– Other Synthetic Organic Chemicals

Level of Risk Associated with the Highest Risk Sources

Next Highest Risk Sources(s)	**16 Mediums, 17 Lows**	**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

Chart 14. Vulnerability analysis for MOA Well #13 – Other Synthetic Organic Chemicals