

**THE TOWN OF SAWPIT  
PO Box 248  
Placerville, Colorado 81430**

April 30, 2002

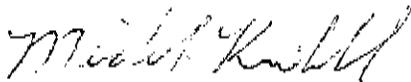
Mr. Dick Parachini, Unit Manager  
Outreach and Assistance Unit  
Water Quality Control Division  
Colorado Department of Public Health and Environment  
Mail Code: WZCD-OA-B2  
4300 Cherry Creek Drive South  
Denver, CO 80246

Dear Mr. Parachini:

The purpose of this letter is to formally submit the Source Water Assessment (SWA) Report for the Town of Sawpit to the Colorado Department of Public Health and Environment. We are pleased to have had the opportunity to participate in the Source Water Protection Assessment pilot program. Under this pilot program, we have worked with CDPHE and the USEPA to complete our Source Water Assessment. We have coordinated the completion of the SWA report with Gary Karst. Please review the Assessment and let us know if we have satisfied all of the requirements for a Source Water Assessment under the State of Colorado Source Water Assessment and Protection Program.

Thank you for your efforts in assisting our community in source water protection. We look forward to hearing from you, as we are anxious to utilize the results of the SWA to protect our public drinking water supplies.

Sincerely,



Mike Kimball, Mayor

cc: Mike Wireman, U.S. Environmental Protection Agency  
Linda Luther, San Miguel County Open Space & Recreation Coordinator

**TOWN OF SAWPIT**  
**SOURCE WATER ASSESSMENT AND PROTECTION**  
**REPORT**

**Town of Sawpit**  
**P.O. Box 248**  
**Placerville, Colorado 81430**

**April 5, 2002**

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## **I. EXECUTIVE SUMMARY**

The 1996 reauthorization of the Safe Drinking Water Act included changes designed to improve the protection of drinking water supplies including a requirement that states establish Source Water Assessment and Protection (SWAP) Programs. The intent of this change is to identify potential water quality impacts and incorporate management options to protect water supplies that go beyond treatment and the development of new supplies. The Colorado SWAP Program has been approved by the U.S. Environmental Protection Agency.

The Town of Sawpit Source Water Assessment follows the recommended Colorado SWAP Program format and consists of the delineation of the two source water protection areas, a contaminant inventory, and a susceptibility analysis.

The Town of Sawpit has a year round population of about 50 people. The Town is incorporated and obtains its municipal drinking water supply from a spring; this spring is Sawpit's only source of drinking water. However, Sawpit owns surface water rights on Sawpit Creek and intends to develop those rights in the near future.

Source Water Assessment Areas (SWAA) were delineated for both the spring head and Sawpit Creek. The SWAA, based on the spring recharge zone, was delineated using hydrogeologic mapping techniques. Hydrogeologic mapping involves using geologic contacts (i.e. contact between bedrock and alluvium) and ground water divides (i.e. elevation highs). Information from topographic and geologic maps were used to map the springhead SWAA. The Sawpit Creek SWAA was delineated based on watershed boundaries.

In the fall of 1999, an independent contractor was hired to inventory potential sources of contamination in the Sawpit SWAAs. The contractor performed extensive database searches and historical research followed by extensive fieldwork during which potential sources of contamination were located in the field and noted on topographic maps. The contractor cross-referenced her findings with mine sites documented on the USGS Telluride quadrangle, topographical map and with USFS Abandoned Mine Land Inventory field data. Inactive and abandoned mine sites were inventoried and are listed as a potential source of contamination in Sawpit's springhead and surface water SWAAs. Wildlife is generally abundant in both of Sawpit's SWAAs. Rural homesteads with septic systems are identified as a potential source of contamination in the Spring SWAA and buffer zones. Dispersed grazing is considered a potential source of contamination in both of Sawpit's SWAAs.

The Town of Sawpit Susceptibility Analysis consisted of qualitatively evaluating the vulnerability of the public water supply to the potential sources of contamination by reviewing the threat and risk posed by each potential source of contamination of the SWAAs following strict adherence to Colorado Source Water Assessment and Protection Program guidance.

Results of the Susceptibility Analysis indicated that Town of Sawpits water supply is Highly susceptible to several potential sources of contamination. The sources and contaminants that have the greatest potential to impact the water supply include microorganisms and nitrates associated with wildlife and cattle/sheep grazing present in the watersheds; contaminants resulting from inactive or abandoned mining sites; microorganisms and hazardous household materials that could enter the septic systems within the springhead SWAA; and hazardous chemicals, such as herbicides, fertilizers, solvents and fuels used by homeowners in the residential development within the springhead SWAA.

## **II. INTRODUCTION**

### **A. Purpose of Source Water Assessment and Protection Programs**

#### **1. Federal Safe Drinking Water Act**

In 1996, the federal Safe Drinking Water Act was reauthorized by Congress and signed into law. Key among the amendments to the Act was the requirement for every state with primacy to develop a Source Water Assessment and Protection (SWAP) Program as a means of protecting water used for public drinking water supplies. SWAP calls for the states to conduct an assessment, coordinated with existing information and programs, to determine the vulnerability of drinking water sources within their boundaries.

Up to the point where wellhead and source water protection were introduced into the Safe Drinking Water Act, the principal options to community water systems with contaminants in the water supply were treatment or the development of a new water supply. Both are often costly. Source water protection provides public water systems (PWSs) an opportunity to use preventive approaches that are simple and have the potential for containing costs.

#### **2. The Watershed Approach**

Source water assessment and protection (SWAP) in Colorado will be organized by watersheds. Colorado's four principal watersheds – South Platte River Basin, Arkansas/Rio Grande River Basin, Upper Colorado River Basin, and Lower Colorado River Basin – will be subdivided into hydrologic units and sub-units within which source water assessment areas (SWAAs) will be defined. Organization of SWAP by watershed coincides with federal and state policies to manage water quality within this context. In recent years, the broad vision of the Clean Water Act and the Safe Drinking Water Act have focused on integrating traditional clean water activities and human health objectives within watersheds.

The watershed approach looks not only at an individual body of water, but at the entire basin in which it is located and at all contributing water sources. SWAP is a natural complement to the watershed approach because it advocates the integration of water quality management and drinking water protection measures. SWAP assesses the area surrounding the public wells, or the watershed above the surface intakes, and involves stakeholders in deciding how best to protect the source.

## **B. Components of a Source Water Assessment and Protection Program**

The Safe Drinking Water Act specifies that the following tasks must be undertaken to adequately assess the source water of a public water system (PWSs). Public involvement is advocated in each of these steps.

1. Delineate the source water assessment area (SWAA).

The SWAA is the area or zone providing water to the surface water intake and/or the ground water well. This is also the area or zone through or over which contaminants, if present, are likely to migrate and reach the drinking water well or surface water intake.

2. Inventory potential sources of contamination (PSOCs).

Assemble data on regulated and unregulated PSOCs along with information about the structure of the wells and intakes, and the hydrogeology within the delineated SWAA.

3. Analyze the susceptibility of the drinking water source to the contaminants identified.

Rate the PWS as having High, Moderate, or Low susceptibility to the type of contaminants or contaminant sources identified.

## **III. SAWPIT WATER ASSESSMENT RESULTS**

### **A. Delineation Results**

The Town of Sawpit, with a population of 50 persons, is located along the upper reaches of the San Miguel River, at about 8,000 feet in elevation. The incorporated Town obtains its drinking water from a springhead. The SWAA, based on the spring recharge zone, was delineated using hydrogeologic mapping methods. Hydrogeologic mapping involves using geologic contacts (i.e. contact between bedrock and alluvium) and ground water divides (i.e. elevation highs). Information from topographic and geologic maps was used to map the spring SWAA. Where there was a lack of geologic information (i.e. 24K geologic maps do not exist), it was assumed that ground water flowed in the same

direction as surface water. The recharge zone lies primarily to the north east of the springhead within an unnamed small drainage basin adjacent to the Sawpit Creek watershed. To include outcropping rocks of the Salt Wash Formation, the SWAA was extended into the Sawpit Creek watershed. The Salt Wash Formation in this area dips toward the west-southwest suggesting that groundwater would flow in that direction.

Barriers to ground water flow were identified. The Sawpit Spring SWAA encompasses the area between Sawpit Creek and the unnamed tributary. The two streams probably act as hydraulic barriers to ground flow. It is assumed that both streams surrounding the spring are continually gaining streams and that they are barriers to ground water flow. The flow direction was based on topography and is from the northeast or the southwest. A buffer zone was added to incorporate a larger area to the north of the SWAA

The Town owns water rights on Sawpit Creek and is considering developing these water rights for drinking water in the near future. The Sawpit Creek was delineated based on watershed boundaries.

SWAA delineations were completed for the Sawpit Springhead and Sawpit Creek and are depicted on the attached Source Water Assessment Area Map (Exhibit 1).

#### **B. Contaminant Inventory Results**

During the spring of 2000, an independent contractor performed extensive database and historical research followed by extensive fieldwork during which potential sources of contamination were identified and located on topographic maps. The contractor cross referenced mine sites documented on the USFS maps and BLM Abandoned Mine Land Inventory maps with her findings in the field.

The inventories conducted within each source water area identified the following potential sources of contamination identified in Table 1. These potential sources of contamination are categorized according to the State of Colorado's three general source classifications: Commercial/Industrial, Residential/Municipal and Agricultural/Rural. Contaminant classes (A, B, C) were assigned based on the prevalence of Class A, B, or C contaminants which are confirmed or suspected to be present. The location of the potential contaminants within their respective SWAA is identified on the contaminant inventory maps at Exhibit 1.

**Table 1: Location of Potential Sources of Contaminants**

Potential Sources Of Contamination	Sawpit Springhead SWAA	Sawpit Creek SWAA	Contaminant Class Concern
<b>Commercial/Industrial Sources:</b>			
Abandoned Mines	X	X	B
<b>Residential/Municipal Sources:</b>			
Septic Systems	X	X	A
<b>Agricultural/Rural Sources</b>			
Grazing	X	X	A
Rural Homesteads	X	X	A
Naturally Occurring/Wildlife	X	X	B

**C. Susceptibility Analysis Results**

The susceptibility analysis consists of determining the vulnerability of the public water supply to various potential sources of contaminants (PSOC) within the SWAA by working through a combination matrix developed by the state of Colorado. The vulnerability is determined by knowing both the threat and risk posed by the potential sources of contamination. Threat is determined by defining the contaminant hazard present and the likelihood of release posed by the PSOC. Risk is determined by assessing the structural integrity of the PWS and defining the setting sensitivity of the SWAA. In identifying the threat and risk factors for the PSOCs and public water supplies, if information is lacking and/or unavailable, a default rating will be given assuming the worst case scenario. This worst case scenario can be reduced to a lesser degree if credible information pertaining to these sources is available. The eight steps involved to evaluate the threat, risk, vulnerability and susceptibility are discussed below.

**1. Threat Identification (Steps 1,2,3)**

The threat a PSOC has on a PWS will be evaluated through: (1) identifying the overall contaminant hazard; and (2) determining the likelihood of release. By comparing the ratings for these two factors for each PSOC, the overall threat rating will be assigned to that source.

**Step 1: Contaminant Hazard**

The PSOCs identified during the contaminant inventory will be given an overall hazard class rating based on their known or suspected impacts to human health. Specific contaminants that are historically associated with each source identified will be given a hazard class rating of Class A, Class B, or Class C. Contaminants determined to cause the most serious threat to human health have been classified as Class A and Class B contaminants and are regulated by either state or federal

agencies. Class A contaminants include those that have established acute health care concerns, e.g., carcinogenic). Class B contaminants have been determined to cause chronic health care concerns. Those contaminants that fall into the Class C category will include regulated and unregulated contaminants that can affect the overall quality of the drinking water but pose no serious threat to human health.

Initially, each contaminant historically associated with the PSOCs identified during the inventory will be given a hazard class rating of Class A, Class B, or Class C. The overall hazard class rating will then be determined by comparing the percentages of Class A, Class B, and Class C contaminants with respect to one another for that PSOC as follows:

- **Class A:** 25% or more of the contaminants identified for that PSOC rated as Class A contaminant hazards.
- **Class B:** 50% or more of the contaminants identified for that PSOC rated as Class B contaminant hazards and less than 25% rated as Class A.
- **Class C:** 50% or more of the contaminants identified for that PSOC rated as Class C contaminant hazards and less than 25% rated as Class A.

For the Sawpit Source Water Assessment, information on the types of potential contaminants for a given PSOC were not available from searches of the state and federal databases and were not collected through community-based surveys. Therefore, a default position was needed to classify the PSOC. The Sawpit Assessment relied on a default contaminant hazard ranking for each PSOC listed in Table E.1 of Appendix E provided in the State of Colorado Source Water Assessment and Protection Program Plan, dated May 2000.

The ratings assigned to each PSOC are shown in Table 1 as well in Tables 2 and 3.

### **Step 2: Determine the Likelihood of Release**

The possibility of contaminants being released from a PSOC will be evaluated by determining the likelihood of release. The evaluation is based on compliance history, preventive/protective measures, and/or best management practices (BMPs) in place, if this information is available. PSOCs identified during the contaminant inventory will be rated as **Known Release** or **Likely Release** if there has been a previous release from that facility or if there are conditions, that if left unchanged, suggest that a release is likely. PSOCs where information is unavailable will be rated **Unknown** and treated as a PSOC that has a strong likelihood of release, unless credible information proves otherwise. A PSOC that has a strong compliance history and BMPs/preventive measures in place will be rated **Unlikely**.

In the Sawpit Source Water Assessment, there is no compliance history, no protective/preventative measures and no BMPS in place for any of the listed PSOCs. Therefore, the Sawpit Assessment rated all PSOCs, using the State default system, and having an *Unknown* possibility of release.

**Step 3: Threat Determination for Sawpit**

Once the contaminant hazard and the likelihood of release were identified, the threat rating was decided using the following decision matrix:

Likelihood of Release	Contaminant Hazard Rating		
	A	B	C
Unlikely	Moderate	Low	Low
Unknown/Known Release or Likely	High	High	Moderate

In the Sawpit Water Assessment, the threat for all PSOCs was determined to be High. This High threat rating was a result of all the PSOCs having an Unknown rating for likelihood of releases combined with a Hazard Class of A or B.

**2. Risk Identification (Steps 4,5,6)**

Risk identification assesses the possibility of contaminants entering the water systems by: (1) evaluating the structural integrity of the water system; and (2) determining the contaminant transport differences within the SWAA with respect to one another.

**Step 4: Determine the Structural Integrity of the Water System**

Integrity of the system refers to the structural soundness and maintenance of the surface water intake, diversion and conveyance system or the soundness of the ground water well(s). The theory is that a structurally sound and properly maintained surface water intake, diversion and conveyance system or ground water well is less vulnerable to exposing the water supply to potential contamination.

The structural integrity of surface water systems will be evaluated by determining the structural soundness and maintenance of the actual intake as well as exposure to the environment from the point of intake to treatment. Factors to be evaluated include the age and design of the intake as well as maintenance records. Ground water systems will be evaluated based on the age, design, and maintenance of their wells. Water systems that have been determined to be structurally sound and perform regular maintenance on their systems will be rated as having *No Problems*. Those water systems with structural and/or maintenance problems will be determined to have *Known Problems*, while systems lacking information pertaining to the age and design of the system and/or maintenance records will be determined to have *Unknown Problems*. As in determining the likelihood of

release, the *Unknown* rating will be treated as a system rated *Known problems*, unless otherwise indicated.

In the Sawpit Source Water Assessment, the Sawpit Springhead was treated as a ground water system under the influence of surface water. A site visit determined that the system appears to be well maintained and in good condition. However, system integrity is listed as having *Known Problems* because the springhead is not fenced and drainage is not diverted away from the spring head. Sawpit Creek is an open conveyance directly adjacent to a county road, which is subject to wash outs. Therefore, Sawpit Creek conveyance is listed as having *Known Problems* too.

**Step 5: Determine the Setting Sensitivity**

The setting sensitivity attempts to assess, in very general terms, the risk factor posed by various contaminant transport differences within the SWAA. For both surface water and ground water systems, the risk will be evaluated by determining the relative proximity of a PSOC to the PWSs intake or well. Where specific hydrogeologic conditions are known for a SWAA, they will be taken into account in assessing contaminant movement within that aquifer toward the well.

Sensitivity zones have been designated for both ground water and surface water systems as indicated in the Sensitivity Zones Matrix below. PSOCs that are located in Zone 1 pose the greatest risk to the PWS while those located in Zone 3 pose the least risk. Similarly, PSOCs located in the near zone for surface water systems pose a greater risk than those located in the far zone.

**Sensitivity Zones Matrix**

	Surface Water Systems	Ground Water Systems
<b>Zone 1</b>	1000 ft. band on each side of the stream, lake, river, reservoir, etc.	500 ft. radius from wellhead
<b>Zone 2</b>	½ mile beyond each side of the Zone 1 boundary	Zone 1 outer boundary to 2 year time of travel (TOT); or 1.5 miles from wellhead
<b>Zone 3</b>	Zone 2 boundary to the watershed boundary	Zone 2 outer boundary to 5 year TOT; or 2.5 miles from wellhead
<b>Near Zone</b>	Radial distance of 15 valley miles upstream from intake	n/a
<b>Far Zone</b>	More than 15 valley miles upstream from intake	n/a

In general, contaminants released from PSOCs that reside closer to the PWS intake and/or well have a shorter distance to travel and will likely occur in greater concentrations than contaminants released from PSOCs at a greater distance from the PWS intake and/or well.

In the Sawpit Source Water Assessment, the abandoned and inactive mine sites, potential septic systems, and rural homesteads are specifically located on the

Contaminant Inventory Map, Exhibit 1. Dispersed recreation, naturally occurring sources such as wildlife, and grazing occur throughout the springhead and source water protection areas, within Zones 1, 2 and 3. Map distances were checked in the field to ascertain accuracy, although GPS was not used.

In the Sawpit Springhead area, because of the influence of groundwater, Zones were determined using surface water zone measurements: Everything within 1,000 feet of the stream was considered Zone 1; Zone 2 consists of everything within a ½ mile boundary of Zone 1. Therefore, the 8 abandoned mine sites, located in Zones 1 and 2 were given a setting sensitivity of Medium/High. The 12 potential septic systems were located in Zones 1 and 2 and NEAR in relation to the intake, and given a Medium/High rating. The 12 rural homesteads were located in Zones 1 and 2 and NEAR in relation to the intake, and given a Medium/High rating. Grazing was located in Zones 1, 2 and 3 and given a High/Medium/Low rating. Naturally occurring contaminants, including wildlife was located in Zones 1, 2 and 3/NEAR and given a High/Medium/Low rating.

In the Sawpit Creek Source Water Protection Area, the abandoned/inactive mine sites, totaling 13, were located in Zones 1 and 2 and NEAR in relation to the intake and were given a setting sensitivity rating of High/Moderate. The 4 potential septic system and rural homesteads were located in Zones 1 and 2 and NEAR in relation to the intake, and given a Medium/High rating. Naturally occurring sources such as wildlife and grazing occur throughout Sawpit Creek SWAA in Zones 1, 2 and 3. Therefore, these potential sources are rated Zone 1-3/NEAR and received a High, Medium and Low setting sensitivity rating.

#### **Step 6: Risk determination for Sawpit**

The structural integrity and the sensitivity zones will remain constant throughout the assessment of the public water supplies. However, it is where the PSOC falls within the defined sensitivity zones that will ultimately determine how the risk rating will vary. The process of determining the risk is slightly different for surface water and ground water systems. However, the risk will be rated as *High*, *Moderate*, and *Low* for all systems based on the combination of the setting sensitivity and structural integrity ratings.

In the Sawpit Source Water Assessment for the Springhead Protection Area, risk associated with the abandoned mine sites in Zone 1 was determined to be High; those sites located in Zone 2 received a Moderate rating. The risk associated with septic systems and Rural Homesteads was determined to be High. Grazing and Naturally Occurring Contaminants, including wildlife, were given a Moderate/High.

In the Sawpit Creek Area, risk associated with the abandoned mine sites in Zone 1 was determined to be High; those sites located in Zone 2 received a Moderate rating. The risk associated with septic systems and Rural Homesteads was

determined to be High.. Grazing and naturally occurring contaminants, including wildlife, received a High/Moderate rating.

#### **Step 7: Determine the Vulnerability**

The vulnerability of surface or ground water systems to their respective PSOCs is determined by combining the threat ratings (Step 3) with the risk ratings (Step 6) for each PSOC and assigning a vulnerability rating of Low, Moderate, or High as proposed by the State. The process is slightly different for surface and ground water systems.

For the Sawpit Source Water Assessment, the Sawpit surface and springhead water systems were given mostly High and Moderate vulnerability ratings as seen in Table 2. These ratings were determined by working through the combination matrix methodology developed by the state. Please note that the combination of similar threat and risk ratings will not necessarily produce the same vulnerability rating. The variation between vulnerability ratings for these systems with similar threat and risk ratings will most likely be a reflection of the location of the PSOC in relation to the public water system's intake. Please refer to Table 2 for a summary of the vulnerability results determined through the state defined assessment process.

In the surface water protection area of Sawpit, the inactive/abandoned mine sites within Zone 1 received a High vulnerability rating and those within Zone 2 received a Moderate rating. Grazing received a High rating in Zones 1 and 2 and a Moderate rating in Zone 3. Naturally Occurring Contaminants, including Wildlife received a High rating in Zone 1, but a Moderate rating in Zones 2 and 3.

#### **Step 8: Sawpit Susceptibility Analysis Results**

The vulnerability assessment indicates that Sawpit's water supply is Moderately to Highly susceptible to potential contamination. This Moderate to High rating is not to be equated with the overall quality of water in your source water area; it is only meant to identify those sources that could potentially impact your drinking water and evaluate the potential vulnerability posed by these sources. However, the potential vulnerability associated with the PSOCs identified within Sawpit's source water area can be reduced by courses of action available to the Town of Sawpit.

#### **Sawpit Springhead Susceptibility Analysis**

##### **Commercial/Industrial**

The overall vulnerability rating was mostly High within the Commercial/Industrial Contaminant Source Class. The rating results from abandoned mine sites and from the lack of preventative measures at the mine sites. Surface water runs through the mine sites and is a potential for contamination. Possible solutions or protective measures include rerouting surface water away from mine sites or developing protective measures at the springhead to avoid mine contamination.

### **Residential/Municipal**

The overall vulnerability rating was High within the Residential/Municipal Contaminant Source Class. The rating results from the potential for septic systems due to residential development on private land, and the lack of preventative measures at the springhead. Possible solutions or protective measures include having septic systems engineered and reviewed on a regular basis, and employing preventative measures at the springhead to avoid contamination.

### **Agricultural/Rural**

Within the Contaminant Source Class, Agricultural/Rural, are rural homesteads, naturally occurring contaminants and dispersed grazing PSOCs. The vulnerability for naturally occurring contaminants is rated Moderate to High. Naturally occurring contamination is due to the abundant wildlife in the general area. The vulnerability to grazing is rated High in Zones 1 and 2. The vulnerability of Rural Homesteads is High. Although not all rural homesteads have been built, there is a potential for them in the future. Possible solutions or protective measures include educating ranchers and animal owners regarding grazing in the source water area and eliminating it in Zones 1 and 2 if possible. Other protective measures include carefully reviewing development plans for rural homesteads and educating homeowners regarding their potential impacts to source water. Finally, the Town could consider employing preventive measures at the springhead to avoid contamination.

### **Sawpit Creek Susceptibility Analysis**

#### **Residential/Municipal**

The overall vulnerability rating was High within the Residential/Municipal Contaminant Source Class. The rating results from the potential for septic systems due to residential development on private land, and the lack of preventative measures for Sawpit Creek. Possible solutions or protective measures include having septic systems engineered and reviewed on a regular basis, and employing preventative measures at the Sawpit Creek intake to avoid contamination.

#### **Commercial/Industrial**

Within the Contaminant Source Class, Commercial/Industrial, are 13 abandoned mine sites, some with draining adits. The vulnerability rating is Moderate to High. Possible solutions or protective measures include rerouting surface water away from mine sites or developing protective measures at the intake to avoid mine contamination.

#### **Agricultural/Rural**

Within the Contaminant Source Class, Agricultural/Rural, are naturally occurring contaminants and with a vulnerability of Moderate to High and grazing with a vulnerability of Moderate to High. Naturally occurring contamination is due to the abundant wildlife in the general area. Possible solutions or protective measures include employing preventive measures at the springhead to avoid contamination and working with the USFS and private property owners regarding grazing leases.

**TABLE 2: DRAFT DETERMINATION OF SUSCEPTIBILITY - SAWPIT SPRINGHEAD PROTECTION AREA, SHORT VERSION USING DEFAULT CLASSIFICATION**

POTENTIAL SOURCE OF CONTAMINATION	HAZARD CLASS	LIKELIHOOD OF RELEASE	THREAT	SYSTEM INTEGRITY	SETTING SENSITIVITY	RISK	VULNERABILITY
Commercial/Industrial							
8 Inactive/Abandoned Mine Sites 1	B	Unknown/Likely	High	Known Problems	Zone 1-2, MH	High/Mod.	High (zone 1) Moderate (zone 2)
Residential/Municipal							
12 Potential Septic Systems 2	A	Unknown/Likely	High	Known Problems	Zone 1-2, MH	High	High (zone 1,2)
Agricultural/Rural							
Approximately 12 Rural Homesteads	A	Unknown/Likely	High	Known Problems	Zone 1-2, MH	High	High (zone 1,2)
Dispersed Grazing 3	A	Unknown/Likely	High	Known Problems	Zone 1-3, LMH	High/Mod.	High (zone 1,2) Moderate (zone 3)
Naturally Occurring Contaminants/Wildlife	B	Unknown/Likely	High	Known Problems	Zone 1-3, LMH	High/Mod.	High (zone 1) Moderate (zone 2,3)

1 Abandoned mine sites with seasonal draining adits  
 2 Currently there are approximately 7 single family residences with septic.  
 3 Agricultural activity includes cattle, horse and sheep grazing

**TABLE 3: DRAFT DETERMINATION OF SUSCEPTIBILITY - SAWPIT CREEK SOURCE WATER PROTECTION AREA, SHORT VERSION USING DEFAULT CLASSIFICATION\***

POTENTIAL SOURCE OF CONTAMINATION	HAZARD CLASS	LIKELIHOOD OF RELEASE	THREAT	SYSTEM INTEGRITY	SETTING SENSITIVITY	RISK	VULNERABILITY
Commercial/Industrial							
13 Inactive/Abandoned Mine Sites <sup>1</sup>	B	Unknown/Likely	High	Known Problems	Zone 1,2, HIM	High/Mod.	High (zone <sup>1</sup> ) Moderate (zone 2)
Residential/Municipal							
4 Potential Septic Systems	A	Unknown/Likely	High	Known Problems	Zone 1-2, MH	High	High (zone 1,2)
Agricultural/Rural							
Approximately 4 Rural Homesteads	A	Unknown/Likely	High	Known Problems	Zone 1-2, MH	High	High (zone 1,2)
Grazing <sup>2</sup>	A	Unknown/Likely	High	Known Problems	Zone 1-3, HML	High/Mod.	High (zone 1,2) Moderate (zone 3)
Contaminants/Wildlife	B	Unknown/Likely	High	Known Problems	Zone 1-3, HML	Mod/High	Moderate (zone 2,3)

\* Sawpit owns surface water rights on Sawpit Creek and intends to develop those rights in the future.

<sup>1</sup> Abandoned mine sites with seasonal draining adits, one adit draining directly into Sawpit Creek (According to past testing, draining adit is acidic).

<sup>2</sup> According to USFS staff Kelly Liston, one grazing allotment in the surface water source land is utilized by 1037 head of

**TABLE 4: SUMMARY OF SAWPIT VULNERABILITIES BY CONTAMINANT SOURCE CLASS**

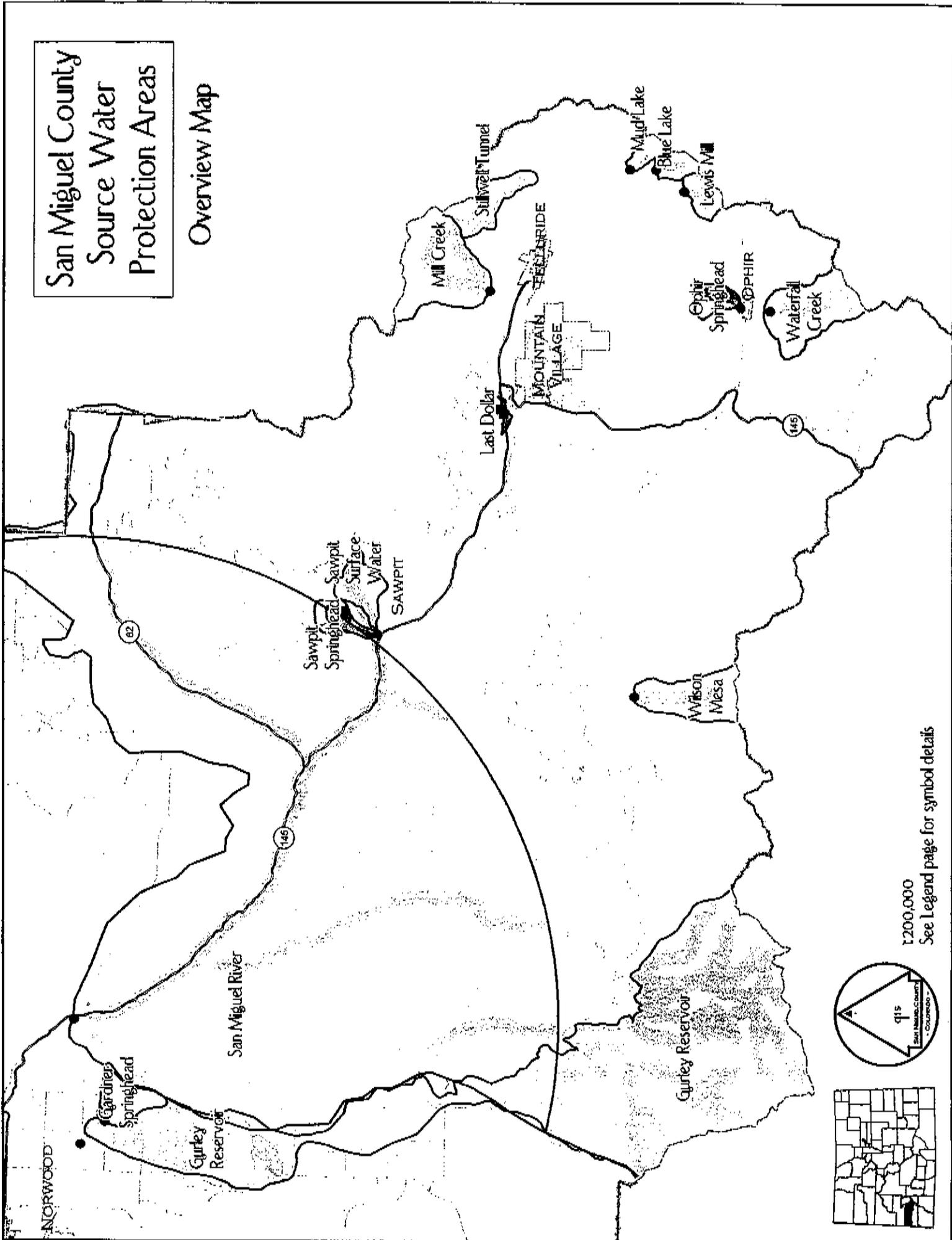
CONTAMINANT CATEGORY / Source	NUMBER OF VULNERABILITY RATINGS			
	Low	Moderate	High	TOTAL
<b>SAWPIT SPRINGHEAD</b>				
<b>Commercial/Industrial</b>				
Inactive/Abandoned Mine Sites		1	7	8
<b>Residential/Municipal</b>				
Potential Septic Systems			12	12
<b>Agricultural/Rural</b>				
Rural Homesteads			12	12
Dispersed Grazing		1	2	3
Naturally Occurring/Wildlife		2	1	3
<b>Total Sawpit Springhead</b>		4	34	38
<b>SAWPIT CREEK</b>				
<b>Commercial/Industrial</b>				
Inactive/Abandoned Mine Sites		1	12	13
<b>Residential/Municipal</b>				
Potential Septic Systems			4	4
<b>Agricultural/Rural</b>				
Rural Homesteads			4	4
Grazing		1	2	3
Naturally Occurring/Wildlife		2	1	3
<b>Total Sawpit Creek</b>		4	23	27
<b>TOTAL</b>	<b>0</b>	<b>8</b>	<b>57</b>	<b>65</b>

**TABLE 5: SUMMARY OF SAWPIT VULNERABILITIES BY CONTAMINANT CLASS**

CONTAMINANT CLASS	NUMBER OF VULNERABILITY RATINGS			
	Low	Moderate	High	TOTAL
<b>Sawpit Springhead</b>				
<b>CLASS A</b>		1	26	27
<b>CLASS B</b>				
<b>With MCLs/MCLGs</b>		2	1	3
<b>Without MCLs/MCLGs</b>				
<b>With &amp; Without MCLs/MCLGs</b>		1	7	8
<b>CLASS C</b>		0	0	0
<b>TOTAL SPRINGHEAD</b>	0	4	34	38
<b>Sawpit Creek/Surface Water</b>				
<b>CLASS A</b>		1	10	11
<b>CLASS B</b>				
<b>With MCLs/MCLGs</b>		2	1	3
<b>Without MCLs/MCLGs</b>				
<b>With &amp; Without MCLs/MCLGs</b>		1	12	13
<b>CLASS C</b>		0	0	0
<b>TOTAL SAWPIT CREEK</b>	0	4	23	27
<b>TOTAL SAWPIT VULNERABILITIES</b>	0	8	57	65

# San Miguel County Source Water Protection Areas

## Overview Map



# San Miguel County Contaminant Inventory

Legend for all maps

## POTENTIAL CONTAMINANTS

### VULNERABILITY RANKING

-  High
-  Moderate

### CONTAMINANT SYMBOLOGY

-  Abandoned / Inactive Mine Site
-  Crops
-  Dispersed Recreation
-  Grazing
-  Housing
-  Managed Forests
-  Naturally Occurring / Wildlife
-  Rural Homestead
-  Potential Septic
-  Transportation Corridor
-  Wastewater Treatment

## SENSITIVITY ZONES

-  Surface Water Protection Area
  -  Zone 1
  -  Zone 2
  -  Zone 3
-  Springhead Protection Area
  -  Zone 1
  -  Zone 2
  -  Zone 3
-  Wellhead Protection Area
  -  Zone 1
  -  Zone 2

## DIVERSION POINTS

-  Spring
-  Intake
-  Well

## OTHER

-  Lakes
-  Streams
-  Roads
-  Town

*NOTE: All data are approximate and are to be used for guidance only!*

Prepared for San Miguel County Open Space  
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(/projects/sourcewaterprojects) 1/14/02  
DATA SOURCES: EPA INSTAAR, USGS

San Miguel County Contaminant Inventory  
- Sawpit Springhead and  
Surface Water Protection Area -

Spring Buffer Zone



SAWPIT

San Miguel River

