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## **1.0 INTRODUCTION**

Wellhead Protection, which is basically the same as Source Water Protection for ground water systems, is a voluntary program implemented at the local level. The City of Hailey has developed this Wellhead Protection Plan to outline the process that will be used to help prevent contamination of ground water that supplies the City's drinking water. Because the City of Hailey uses ground water for 100 percent of its drinking water supply, protection of this resource is critical to the health and welfare of the community. Wellhead Protection will help protect this resource from ground water contamination by monitoring land use that occurs within the area overlying the aquifer from which the wells draw their water.

Ground water can become contaminated by many materials such as pesticides, fertilizers, organic chemicals, and human and animal wastes. The degree of contamination depends on soil characteristics, volume of contaminant, contaminant properties, climate, ground water flow, and other factors. Once ground water becomes contaminated it is difficult and expensive to clean up. A public water system that is supplied by an aquifer that is contaminated will probably be required to do additional monitoring and may need to install water treatment equipment or find a new source of water. The most cost-effective approach is to prevent contamination before it occurs, rather than attempting to remedy contamination problems after they have occurred.

### **1.1 Wellhead Protection Steps**

The City of Hailey prepared this Wellhead Protection Plan in accordance with the Idaho Wellhead Protection Plan, and followed the 5-step process for Wellhead Protection. These five steps are:

- Step 1: Form a community planning team
- Step 2: Delineate the land area to be protected
- Step 3: Identify potential sources of contamination
- Step 4: Manage the wellhead protection area
- Step 5: Plan for the future

This plan was developed during 2000 and 2001 with the cooperation of The City of Hailey Wellhead Protection Planning Team, Idaho Rural Water Association and the Idaho Department of Environmental Quality.

### **1.2 Wellhead Protection And Source Water Assessment**

Source Water Assessment involves two of the five Wellhead Protection steps discussed above. These two steps are delineation (Step 2 above) and contaminant inventory (Step 3 above). An additional Source Water Assessment step includes a susceptibility analysis, which helps identify contaminant threats to the system by evaluating land use, contaminant sources, well construction, and hydrologic conditions such as geology and soil type. Once the final step of

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susceptibility analysis is completed by the State, it will provide an additional tool to help guide City of Hailey wellhead protection efforts.

By pursuing Wellhead Protection, which can also be referred to as Source Water Protection, the City of Hailey is addressing the primary goal of the Source Water Assessment process.

## **2.0 COMMUNITY TEAM (PLANNING TEAM)**

The City of Hailey wellhead protection planning team shall be formed by resolution of the City Council and include the following:

Mayor, City of Hailey  
Council President, City of Hailey  
City Engineer, City of Hailey  
Water and Wastewater Supt., City of Hailey  
Water Department Foreman, City of Hailey  
City Planner, City of Hailey  
Ground Water Technician, Idaho Rural Water Association  
A citizen at large

It shall be a goal of the City of Hailey that this committee make-up shall consist mainly of citizens at large in the future.

## **3.0 WELLHEAD PROTECTION AREA DELINEATION**

The Idaho Wellhead Protection Plan divides the wellhead protection area (WHPA) into four zones (1A, 1B, 2, and 3). All zones are designed to prevent microbial or chemical contamination of the water supply well. Zone 1A is the sanitary set back zone. The 3-year time of travel corresponds to WHPA Zone 1B; 6-year time of travel corresponds to WHPA Zone 2, and the 10-year time of travel corresponds to WHPA Zone 3. Figure #1 gives the geographical location of the water sources for the City of Hailey. Time related capture zones for the City of Hailey wells are presented on Figure #2 and Figure #3 and shows delineation and potential contamination sources. Figure #4 indicates the delineation and potential contaminants locations for Indian Springs Source. The City shall record with the County Recorder's Office an overlay map delineating the Wellhead Protection Overlay Zones.

### **3.1 Hydrogeology**

Hydrologic sensitivity is high for the six wells in the City of Hailey drinking water system. Multiple factors increase the likelihood of movement of contaminants from the surface to the aquifer and lead to this high score. The soils within the delineation are classified as moderate to well drained. In all but the Woodside Well, the vadose zone (zone from land surface to the water table) is made of gravel. The depth to ground water is generally less than 20 feet below ground

surface (bgs) and there is not at least 50 cumulative feet of low permeability layers to reduce the downward movement of contaminants.

The hydrologic sensitivity for the Indian Springs source is moderate because the soils are in the poor to moderate drainage class.

### **3.2 Delineation**

The delineation process establishes the physical area around a well that will become the focal point of the assessment. The process includes mapping the boundaries of the zone of contribution into time of travel zones (zones indicating the number of years necessary for a particle of water to reach a well) for water in the aquifer. DEQ used a refined computer model approved by the EPA in determining the 3-year (Zone 1B), 6-year (Zone 2), and 10-year (Zone 3) time of travel for water associated with the Big Wood River aquifer in the vicinity of the City of Hailey. The computer model used site specific data, assimilated by DEQ from a variety of sources including the City of Hailey well logs, local area well logs, and various reports (Castelin and Winner, 1975; Frenzel, 1989). The delineations for the ground water wells can best be described as corridors traveling up (northwest) the Big Wood River valley about 3 ½ miles and into the adjoining creek valleys. The Indian Springs delineation covers the entire watershed of the area. The actual data used by DEQ in determining the source water assessment delineation area is available upon request

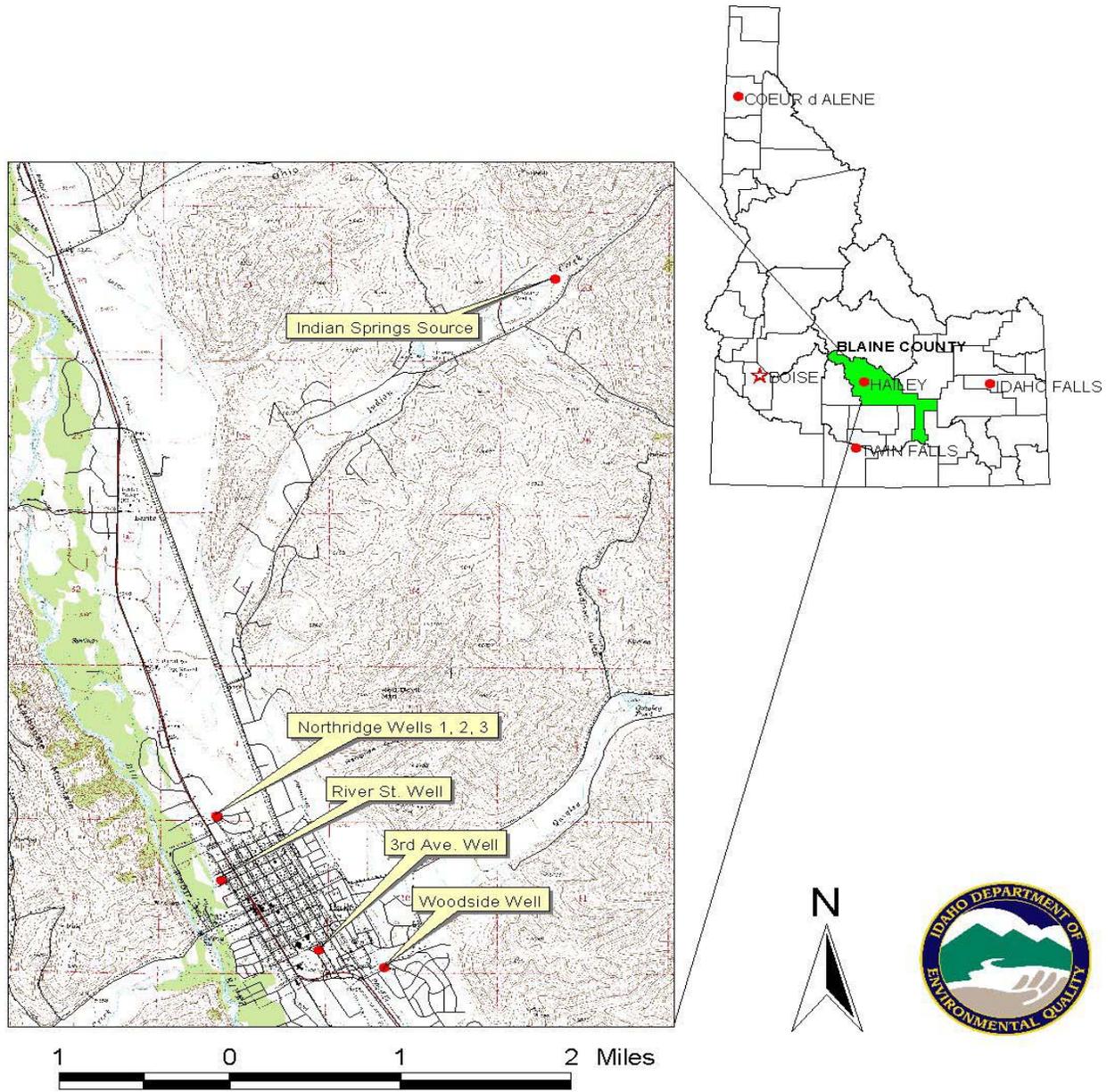
## **4.0 POTENTIAL SOURCES OF GROUND WATER CONTAMINATION**

An inventory of potential sources of contamination is the third step of a wellhead protection plan. Identifying those activities that may pose a threat to ground water quality serves two purposes for wellhead protection:

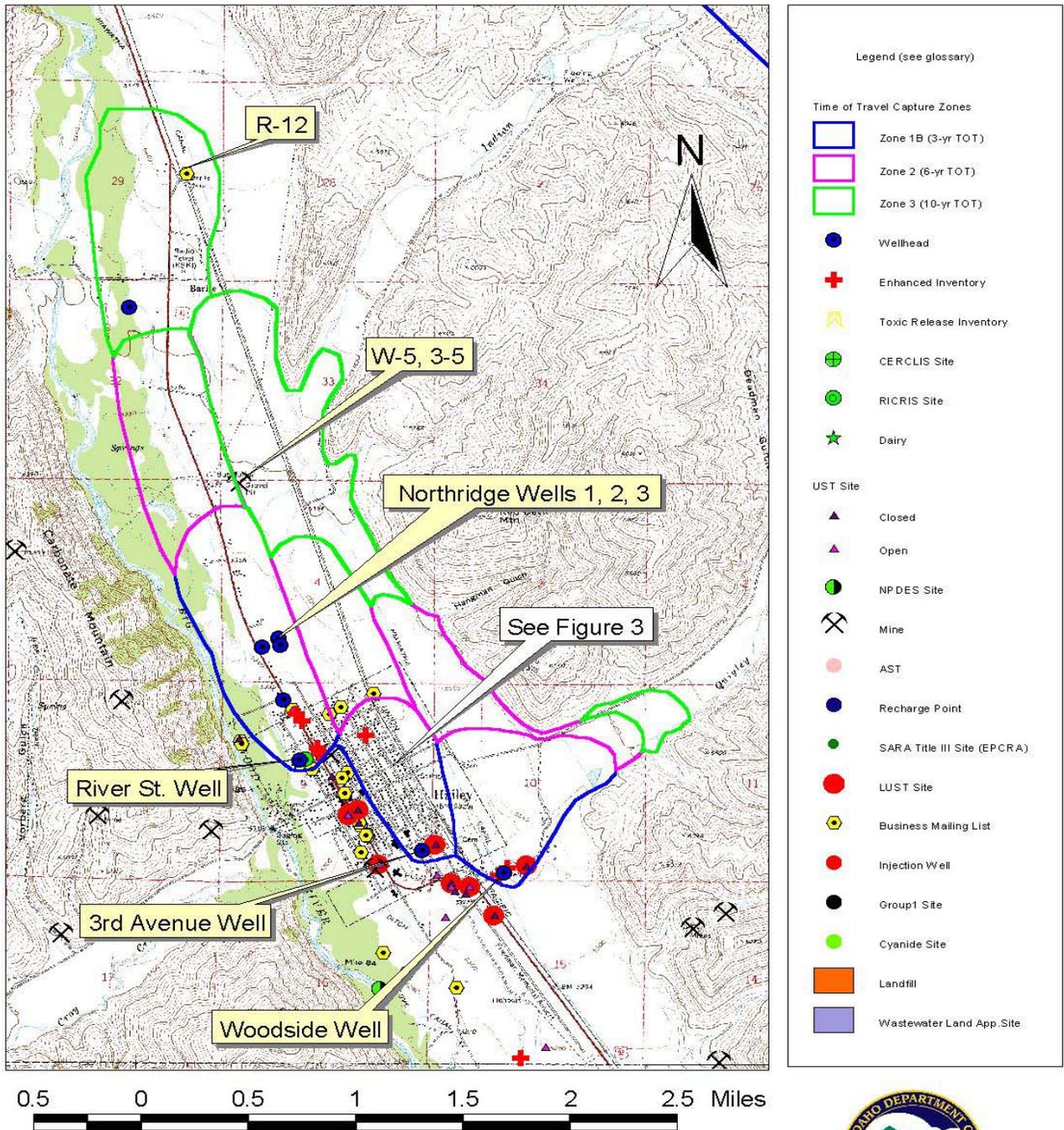
- 1) It provides local officials with an understanding of the potential for contamination
- 2) It provides basic information that can be useful for designing different controls and determining the areas in which they should be applied.

Sources that could potentially contaminate the drinking water supply for the City of Hailey include both point and nonpoint sources of contamination. Point sources of contamination occur at distinct locations. They are often regulated and require permits or registration for facilities that use, store or sell those materials (such as gas stations with leaking underground storage tanks). Nonpoint sources of contamination often occur over large areas and can result from normal every day activities such as lawn chemical usage or agricultural activities.

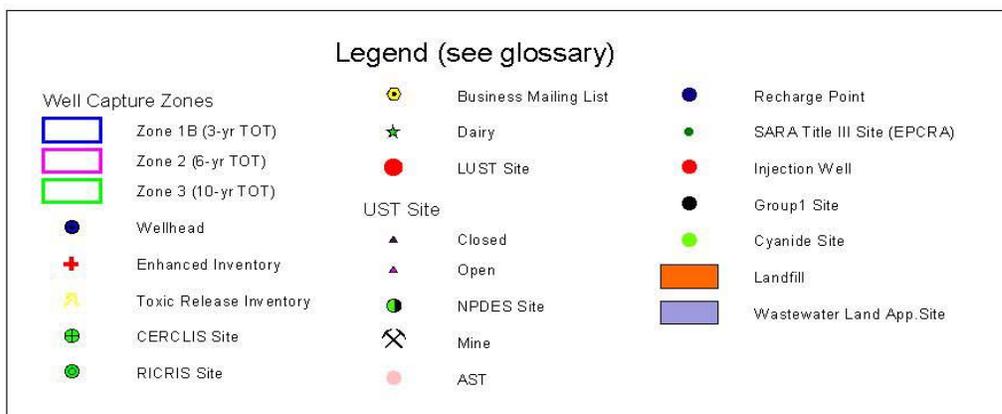
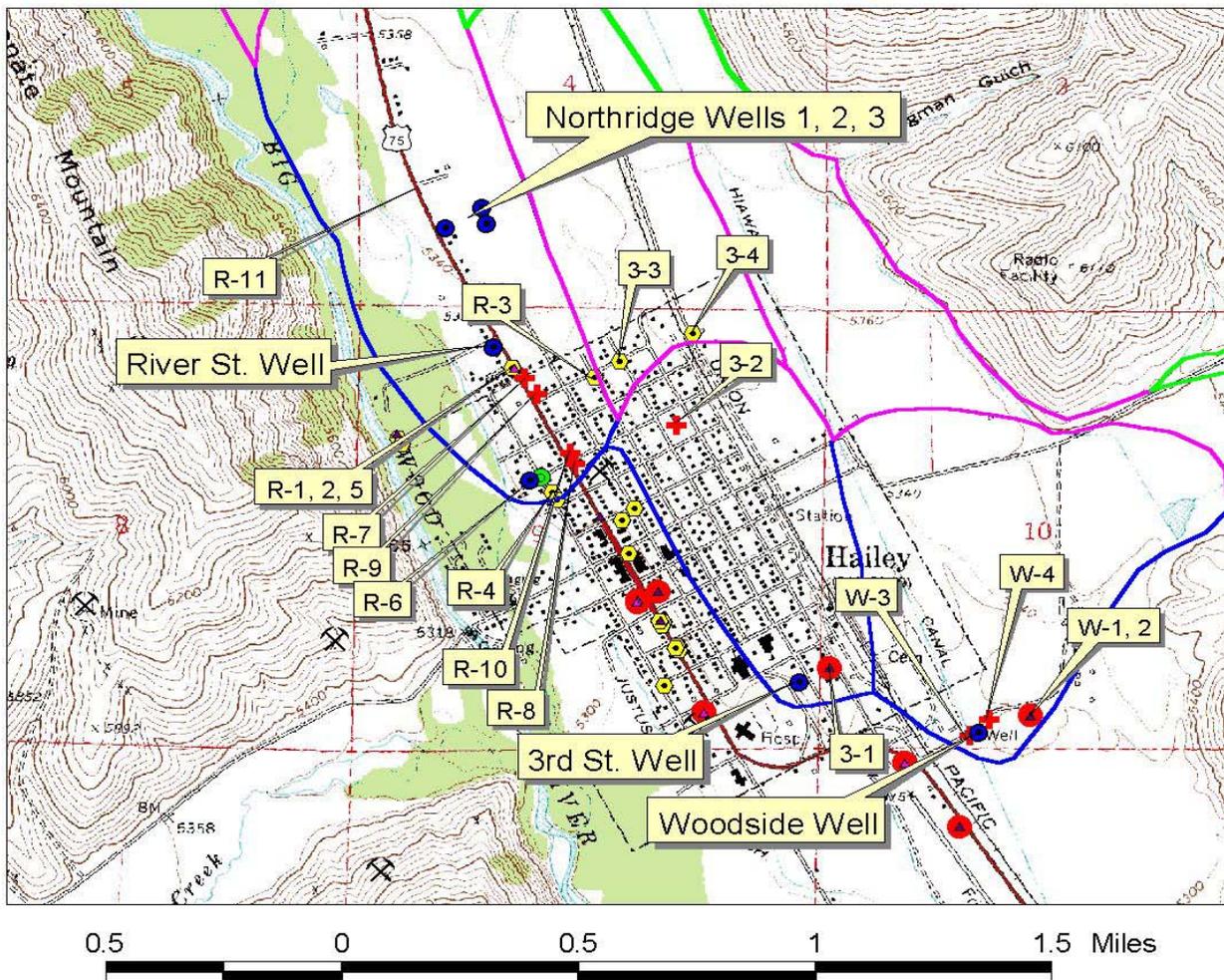
**Figure 1. Geographic Location of the City of Hailey Wells**



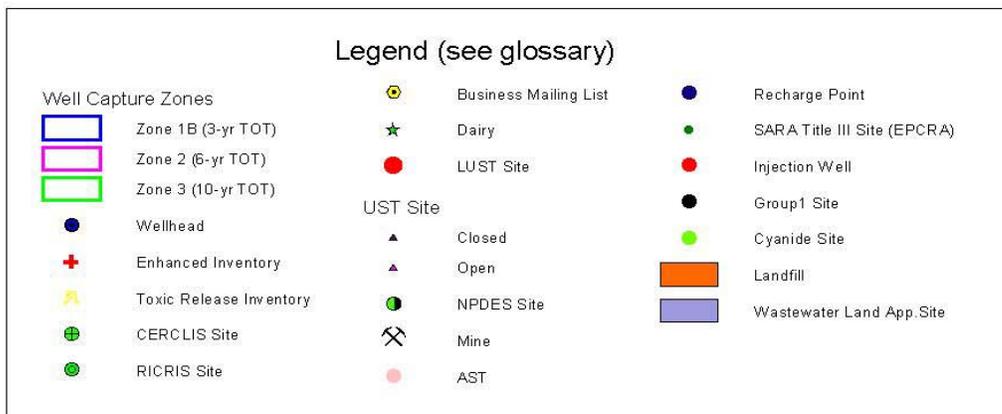
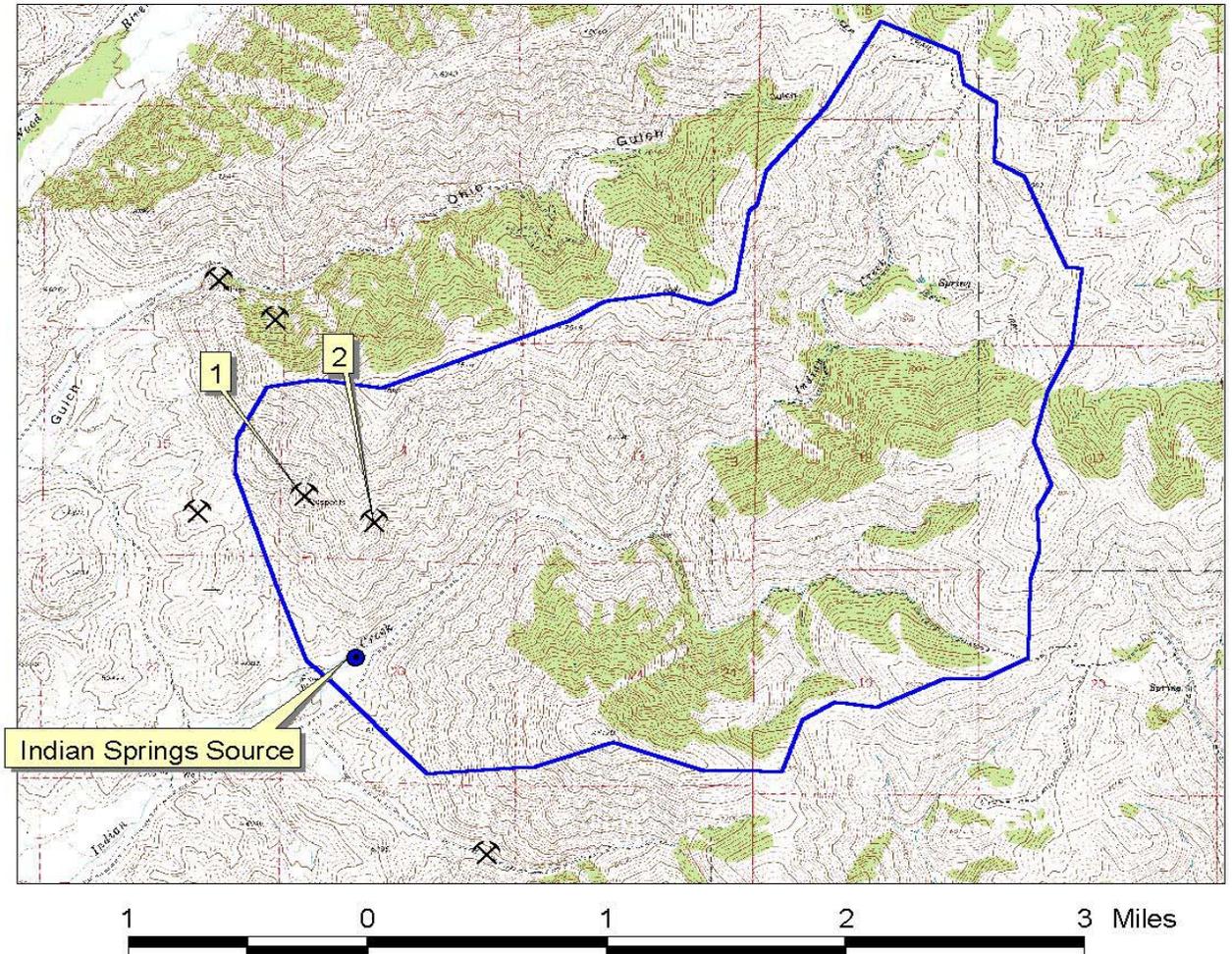
**Figure 2. City of Hailey Delineations for Woodside Well, River St. Well, 3rd Ave. Well, and Northridge Wells 1, 2, 3**



**Figure 3. City of Hailey Well Delineations and Potential Contaminant Locations**



**Figure 4. Indian Springs Delineation and Potential Contaminant Locations**



#### 4.1 Point sources

A two-phased contaminant inventory of the study area was conducted during the spring and summer of 2000. The first phase involved identifying and documenting potential contaminant sources within the City of Hailey Source Water Assessment Area through the use of computer databases and Geographic Information System maps developed by DEQ. The second or enhanced phase of the contaminant inventory involved contacting the city operator to validate the sources identified in phase one and to add any additional potential sources in the area. This task was undertaken with the assistance of Bob Schulz of the City of Hailey and John Bokor of Idaho Rural Water Association.

Since the delineated source water areas encompass various portions of the Hailey area, the different wells have different numbers and types of potential contaminant sources. The River St. Well and the Northridge Wells have 12 potential contaminant sources (see Table 1). The Woodside Well has 5 potential contaminant sources (see Table 2). The 3<sup>rd</sup> Avenue Well has 5 potential contaminant sources (see Table 3). The Indian Springs source has 2 potential contaminant sites (see Table 4). The sources include a number of mines, government facilities, hair salons, general businesses, a hospital, businesses having underground storage tanks (USTs), and sites with completed and uncompleted leaking underground storage tank (LUST) cleanups. Additionally, there is a site regulated under the Resource Conservation Recovery Act (RCRA). Finally, the Big Wood River and Highway 75 could be potential sources of contamination from an accidental spill. The locations of these various potential contaminant sites relative to the wells are shown (Figures 2, 3, 4).

**Table 1. City of Hailey River St. and Northridge Wells, Potential Contaminant Inventory**

SITE #	Source Description <sup>1</sup>	TOT Zone <sup>2</sup> (years)	Source of Information	Potential Contaminants <sup>3</sup>
R-1	UST	0-3	Database Search	VOC, SOC
R-2	Manufacturer	0-3	Database Search	VOC
R-3	General Contractor	0-3	Database Search	VOC, SOC
R-4	Boat Dealer	0-3	Database Search	VOC, SOC
R-5	Hospital	0-3	Database Search	IOC
R-6	RCRIS	0-3	Database Search	IOC
R-7	UST	0-3	Enhanced Inventory	VOC, SOC
R-8	UST	0-3	Enhanced Inventory	VOC, SOC
R-9	Hair Treatment	0-3	Enhanced Inventory	IOC, VOC
R-10	Hair Treatment	0-3	Enhanced Inventory	IOC, VOC
R-11	Highway 75	0-10	Database Search	IOC, VOC, SOC, Microbes
R-12	Photographer-Commercial	6-10	Database Search	IOC, VOC

<sup>1</sup> UST = underground storage tank

<sup>2</sup> TOT = time-of-travel (in years) for a potential contaminant to reach the wellhead

<sup>3</sup> IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

**Table 2. City of Hailey Woodside Well, Potential Contaminant Inventory**

SITE #	Source Description <sup>1</sup>	TOT Zone <sup>2</sup> (years)	Source of Information	Potential Contaminants <sup>3</sup>
W-1	LUST-complete	0-3	Database Search	VOC, SOC
W-2	LUST-incomplete	0-3	Database Search	VOC, SOC
W-3	Irrigation Well	0-3	Enhanced Inventory	IOC
W-4	City swimming pool	0-3	Enhanced Inventory	IOC
W-5	Gravel Pit	6-10	Database Search	IOC

<sup>1</sup> LUST = leaking underground storage tank

<sup>2</sup> TOT = time-of-travel (in years) for a potential contaminant to reach the wellhead

<sup>3</sup> IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

**Table 3. City of Hailey 3<sup>rd</sup> Avenue Well, Potential Contaminant Inventory**

SITE #	Source Description <sup>1</sup>	TOT Zone <sup>2</sup> (years)	Source of Information	Potential Contaminants <sup>3</sup>
3-1	LUST-complete	0-3	Database Search	VOC, SOC
3-2	School Science Lab	0-3	Enhanced Inventory	IOC, VOC
3-3	Fire Department	3-6	Database Search	VOC, SOC
3-4	Woodworkers	3-6	Database Search	IOC, SOC
3-5	Gravel Pit	6-10	Database Search	IOC

<sup>1</sup> LUST = leaking underground storage tank

<sup>2</sup> TOT = time-of-travel (in years) for a potential contaminant to reach the wellhead

<sup>3</sup> IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

**Table 4. City of Hailey Indian Springs Source, Potential Contaminant Inventory**

SITE #	Source Description	TOT Zone <sup>1</sup> (years)	Source of Information	Potential Contaminants <sup>2</sup>
1	Mine-Lead	0-3	Database Search	IOC, VOC, SOC
2	Mine-Lead	0-3	Database Search	IOC, VOC, SOC

<sup>1</sup> TOT = time-of-travel (in years) for a potential contaminant to reach the wellhead

<sup>2</sup> IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

## 4.2 Nonpoint Sources

The dominant land use outside the City of Hailey is undeveloped land, agricultural land, and residential land uses. Land use within the immediate area of the ground water wells consists of urban, industrial, business, residential, and governmental uses. The land use in the area of Indian Springs is woodlands, rangeland grazing, and inactive mining operations. Nonpoint sources of contamination associated with this land use are primarily agricultural chemicals including pesticides (insecticides and herbicides) and fertilizers. Another potential source of contamination comes from the nearby location of the Big Wood River and Highway 75. Additional potential nonpoint sources within the

wellhead protection area, especially within the City, include incorrect usage and disposal of hazardous household chemicals such as cleaning solvents, used motor oil, and degreasers. Throughout the wellhead protection area, pesticides used around the house and home fuel storage can also pose threats to ground water quality.

## **5.0 CONTAMINANT MANAGEMENT PRACTICES**

A combination of regulatory and nonregulatory methods will be utilized to manage contaminant sources located within the Wellhead Protection Area. Regulatory methods will include zoning ordinances that address land uses, design standards on new or existing facilities, and mandatory use of certain practices to reduce or prevent pollution.

Nonregulatory approaches rely on voluntary implementation to be effective. At the core of any nonregulatory method is education and information. The ultimate goal of public education is to inform the public so they can support wellhead protection efforts.

### **5.1 Regulatory Approaches**

The proposed Blaine County Wellhead Protection Plan that is still being developed will be used to help protect the portion of the wellhead protection area located outside the jurisdiction of the City of Hailey. The Blaine County Wellhead Plan shall establishment a procedure for notification to the proper public water system authority of certain activities within a wellhead protection area that could potentially contaminate the ground water.

A City Ordinance (Appendix C) may be adopted to help protect that portion of the wellhead protection area located within the City of Hailey limits and its Area of Impact. Other regulatory options the City may pursue include overlay district development, zoning, and comprehensive plan modifications. All of these approaches can be used to help reduce ground water contamination risks from specific contaminant. The Wastewater Pretreatment Ordinance will be used to track and monitor wastewater practices within the wellhead areas.

### **5.2 Nonregulatory Approaches**

These management approaches are intended to reach as broad a spectrum of the community as possible. Protection of the community's drinking water is really possible only if the whole community cooperates to achieve protection. Public education is an essential tool for wellhead protection, and the majority of the nonregulatory approaches discussed below rely on public educational for effective implementation. The implementation strategy is also discussed in many of the following approaches.

### **5.2.1 Groundwater Guardian Community**

The City of Hailey is currently a member of the Ground Water Guardian Community Program. This program supports, recognizes, and connects communities protecting ground water. It is designed to empower local citizens and communities to take voluntary steps toward protecting their ground water resources and can be a catalyst for programs such as wellhead protection. To achieve Groundwater Guardian status, a community must submit annual entry forms and develop and implement Result Oriented Activities (ROAs). The City of Hailey ROAs currently focuses on development and implementation of this wellhead protection plan.

### **5.2.2 Public Education**

Ongoing public education will be provided to the general public, the business community, and municipal officials on the necessity of protecting the water supply. This education includes many of the Public Participation activities and events described below within Section 7.0. These public participation activities and events include public hearings, City Council meetings and school district activities. An example of school activities implemented to date includes educational tours of the City's wastewater treatment plant.

### **5.2.3 Pollution Prevention**

The City will provide information on pollution prevention practices relevant to each business identified as potential sources of contamination. Waste minimization information tailored to the specific activity at each site will be distributed by the City of Hailey to every potential contaminant source locations/owners listed in Table 1 at a minimum. The Idaho Department of Environmental Quality will provide this information to the City of Hailey. In addition, the owners of each potential contaminant source will be made aware of Idaho's "Voluntary Pollution Prevention Program" and the City of Hailey Pretreatment Ordinance. Additional assistance is available through these programs.

### **5.2.4 Home\*A\*Syst**

Informational materials from the Idaho Homestead Assessment System (Home\*A\*Syst) Project will be distributed to many of the homeowners residing within the wellhead protection area. The Home\*A\*Syst Project is designed to make homeowners aware of conditions or practices on their property that increase the risk of drinking water contamination. The project is coordinated by the Idaho Association of Soil Conservation Districts and is available at no cost to interested parties.

### **5.2.5 Best Management Practices**

Best Management Practices (BMPs) applicable to many potential contaminant sources will either be distributed to potential contaminant sources or made available at City Hall. These BMPs can be applicable to both point and nonpoint sources of contamination such as abandoned wells, agricultural and homeowner usage of fertilizers and pesticides, spill prevention within businesses where chemicals are handled, USTs, and agrichemical mixing and storage. Information on how to obtain technical and financial implementation assistance for BMP implementation will also be provided where available. The DEQ will assist the City in locating appropriate BMPs or identifying agencies or entities that can help provide BMPs and implementation assistance.

### **5.2.6 Household Hazardous Waste Collection**

City officials will encourage development of a local household hazardous waste collection day and at a minimum will inform residents of household hazardous waste collection events within Blaine County.

### **5.2.7 Water Conservation**

Another nonregulatory management approach that will be pursued by the City will be to encourage water conservation. Water conservation can help a community in two ways: 1) by reducing the total quantity of water withdrawn from ground water aquifers thus slowing down the movement of contaminants in the aquifer and allowing a longer period of time for natural processes to degrade them; and 2) more efficient use of water may allow the City of Hailey to defer capital expenditures to increase water system capacity.

### **5.2.8 Water Quality Data Reviews**

Water quality data from the Hailey City wells and any ground water quality monitoring results in the vicinity of the Hailey Wellhead Protection Area will be reviewed by the City Wellhead Protection Coordinator and DEQ at least once every three years prior to recertification (certification is for a period of three years) or more often if significant new data is made available or water quality problems are identified in the vicinity. This will help evaluate trends or identify threats to the City's drinking water. The Department of Environmental Quality, the Idaho State Department of Agriculture, or the U.S. Geological Survey can provide ground water quality monitoring results from private wells in the Hailey area. Relevant information will be made available to the community via the City Wellhead Protection Coordinator or the appropriate State or Federal Agency.

## **6.0 PLAN FOR THE FUTURE**

To assure a safe water supply, the City of Hailey will develop a long-term strategy for wellhead protection. The strategy will be reviewed and updated as necessary to accommodate changes due to population growth, economic development or changes in land use. Results of the Idaho Source Water Assessment Program will be utilized as a tool to help assess potential hazards to drinking water quality. Additionally, the inventory of contaminant sources should be updated annually.

### **6.1 Emergency Spill Response**

The primary concern during any hazardous materials spill is immediate public safety. In the event of a release of hazardous materials the appropriate local emergency response authority will be notified.

Due to the proximity of Highway 75 and the Big Wood River to the wells, an accidental spill that could potentially contaminate a City water source is a real threat. Activity in these areas needs to be monitored closely. The City of Hailey's "Emergency Operations Plan" should be referred to for proper incident response. Potential ground water impacts from individual spills in the wellhead protection area will have to be evaluated on a case-by-case basis.

The appropriate first response, once a potential spill is noticed, is to dial **911**.

### **6.2 Contingency Plan in the Event of an Emergency**

Appendix B is a contingency plan for the drinking water supply for the City of Hailey. This contingency plan is designed to assist and facilitate in the event of a drinking water emergency. Copies of the contingency plan are located in Hailey City Hall.

### **6.3 Protection Strategies for New Wells**

There does not appear to be a need for any new wells in the next several years for the City of Hailey. When a potential need is identified, wellhead protection areas will be estimated for new wells to determine the safest location for the new well. The delineation for the new well site will be inventoried for any potential contaminant sources and the risk evaluated. The anticipated pumping rate and existing knowledge of the aquifer will be used to determine which proposed location would provide the least risk of contamination. The City could then take actions to prevent unwanted development near the new well.

#### **6.4 Joint Education efforts**

The City of Hailey shall partner with Blaine County and other Public Water systems in an effort to educate citizens outside the City limits to the importance of this plan and the need for cooperation between entities to make this plan successful.

### **7.0 PUBLIC PARTICIPATION**

Public participation during the development this Wellhead Protection Plan has included the listed items below. Additional public participation will be pursued as part of the implementation process.

- Public hearings
- Discussion at City Council meetings
- Articles in local newspapers

Citizens can obtain updated information on the City of Hailey Wellhead Protection Plan, implementation efforts, Source Water Assessments, and drinking water issues at City Hall.

### **8.0 IMPLEMENTATION STRATEGY**

The strategy for implementing this Wellhead Protection Plan is an important component of any local wellhead protection program. Without the continued efforts and support of the community team and the community as a whole, the protection of the City's drinking water may not be accomplished as intended within this plan.

#### **8.1 Community Team**

The City of Hailey wellhead protection planning team will continue to meet and coordinate wellhead protection as needed. At least once per year the planning team will meet to perform an annual review of the community's overall plan. This review will focus on the potential need to update the contaminant inventory, the contingency plan, and other sections as appropriate. Participation from members of the community is welcome and encouraged.

#### **8.2 Delineation**

It is unlikely that there will be a need to modify the existing delineation. If any significant changes in pumping rates or well status should occur, the Department of Environmental Quality will work with the City of Hailey to determine the need for an updated delineation. This determination will also be made should there be any significant new or updated hydrogeologic information pertaining to the city wells and the aquifer that provides the City's drinking water.

### **8.3 Contaminant Inventory**

The contaminant inventory for the wellhead protection area will be formally updated at least once every three years, and as new significant contaminant sources are noted within the wellhead protection area through general observations.

### **8.4 Contaminant Management Practices**

The planning team will coordinate efforts to implement the contaminant management practices within Section 5.0. The implementation strategy for the City of Hailey includes both regulatory and nonregulatory approaches, with the focus on nonregulatory approaches. Public education and community involvement are important implementation components.

#### **8.4.1 Regulatory Approaches**

The planning team will evaluate the need and desirability of additional regulatory approaches as discussed within Section 5.1, and will work with Blaine County personnel regarding implementation of the Blaine County Plan.

#### **8.4.2 Nonregulatory Approaches**

The planning team will coordinate efforts to implement the nonregulatory approaches, with the Hailey Wellhead Protection Coordinator taking a lead role toward implementing many of the Section 5.2 approaches including Groundwater Guardian Community and educational activities discussed under Sections 5.2.1 and 5.2.2. A major component of the implementation strategy is to work with the local community and the various local, State, and Federal programs and personnel available for implementation assistance. This includes obtaining assistance from the Home\*A\*Syst coordinator and DEQ Pollution Prevention Program personnel as discussed under Sections 5.2.3 and 5.2.4.

The Idaho Wellhead Protection Coordinator and other appropriate IDEQ support personnel, as requested by the planning team, can assist in the area of coordinating support among the various local, State, and Federal programs. The Idaho Wellhead Protection Coordinator will also help with water quality data reviews (Section 5.2.8) and can help provide or present public education and best management practices (Sections 5.2.2 and 5.2.5).

The planning team will work with the local community where desirable to help identify and pursue available funding opportunities for implementing different approaches. This can include working with the National Resources Conservation Service to obtain Environmental Quality Improvement Project funds for agricultural BMP implementation or working with the DEQ to obtain Nonpoint Source Section 319 BMP implementation funding.

## **8.5 Additional Implementation Considerations**

The City of Hailey contingency plan and efforts associated with planning new well locations will be updated on an as-needed basis as determined by the planning team. Once Source Water Assessment information is made available, the planning team will evaluate the information, particularly the susceptibility analyses, and decide if there are any needed modifications or additions to this Plan or its implementation. Information from capacity development and the City's water system master plan will also be taken into consideration for wellhead protection planning and implementation purposes, as determined by the planning team.

# **APPENDIX A**

# **GLOSSARY**

## POTENTIAL CONTAMINANT INVENTORY LIST OF ACRONYMS AND DEFINITIONS

**AST (Aboveground Storage Tanks)** – Sites with aboveground storage tanks.

**Business Mailing List** – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

**CERCLIS** – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as ASuperfund, is designed to clean up hazardous waste sites that are on the national priority list (NPL).

**Cyanide Site** – DEQ permitted and known historical sites/facilities using cyanide.

**Dairy** – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

**Deep Injection Well** – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

**Enhanced Inventory** – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

**Floodplain** – This is a coverage of the 100year floodplains.

**Group 1 Sites** – These are sites that show elevated levels of contaminants and are not within the priority one areas.

**Inorganic Priority Area** – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

**Landfill** – Areas of open and closed municipal and non-municipal landfills.

**LUST (Leaking Underground Storage Tank)** – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

**Mines and Quarries** – Mines and quarries permitted through the Idaho Department of Lands.)

**Nitrate Priority Area** – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

**NPDES (National Pollutant Discharge Elimination System)** – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

**Organic Priority Areas** – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

**Recharge Point** – This includes active, proposed, and possible recharge sites on the Snake River Plain.

**RICRIS** – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

**SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities)** – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

**Toxic Release Inventory (TRI)** – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

**UST (Underground Storage Tank)** – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

**Wastewater Land Applications Sites** – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

**Wellheads** – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

**NOTE:** Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.

# APPENDIX B

# CONTINGENCY PLAN

# **DRINKING WATER SUPPLY CONTINGENCY PLAN**

## **CITY OF HAILEY**

### **I. INTRODUCTION**

The purpose of the contingency planning is to establish, provide and keep updated certain emergency response procedures which may become necessary in the event of a partial or total loss of the public water supply service as a result of natural disaster, chemical contamination, mechanical failure, or civil disorders. This Contingency Plan is the procedural guide for responding to such emergencies. This plan is coordinated with the Idaho Department of Environmental Quality (IDEQ).

The City of Hailey water system, made up of six wells and a spring source, provides for some flexibility in the case of contamination of one well. However, because the wells draw from the same aquifer, the potential exists that all wells could become contaminated. If contamination occurs in any one well or the spring, the other wells, and/or spring, will be monitored more frequently (the frequency will be determined by IDEQ) to assure that the water supply is safe.

Public notification of the need for temporary water conservation, or water rationing may be used to help assure the remaining sources can supply the needs of the community.

### **II. IDENTIFICATION OF POSSIBLE DISRUPTION THREATS**

The principal threat to the City of Hailey Public Water Supply has been identified as a spill, leak or discharge in the delineated wellhead protection areas that could contaminate the source water by entering through the well bore or perhaps along with shallow groundwater through failed casing. Included are spills from vehicles, spills from mobile liquid holding tanks and leaks from waste carrying pipes. The highly permeable nature of the soils and the rates of the water through the aquifer could make agricultural chemical leaching a concern. Any accidental spills in the Big Wood River or on Highway 75 should be closely monitored.

### **III. PRIORITY OF WATER USERS DURING A WATER SUPPLY EMERGENCY**

Water supply priorities in the event of an emergency will be for domestic usage (non-irrigation) and fire control. Water needs can be estimated based on the maximum 309 gallons per capita per day (gpcd) for non-irrigation season use. Based on an estimated 6000 population this volume equates to 1.85 million gallons per day. Water use during the irrigation season can approach 1472 gpcd or 8.8 million gallons per day. In the event of an emergency, landscape/lawn irrigation will not be a priority and water conservation notifications will be announced. By maintaining a minimum eight (8) foot level in the storage tank, fire flows should be adequate.

#### **IV. SHORT TERM REPLACEMENT ALTERNATIVES**

In the case of complete system contamination an alternative source of drinking water may be needed. Mutual Add Agreements should be made with the City of Ketchum, City of Bellevue, City of Carey and other community water systems throughout the county. Other sources of help are as follows:

- Idaho Milk Transport (available to transport water via tanker truck) phone (208) 678-4565; (208) 436-9310; (208) 436-1236
- Purity Water, Twin Falls; bottled water source phone (208) 733-9299
- Idaho national guard
- Emergency Services in Blaine County (911)
- Idaho Emergency Response, (800) 632-8000

#### **V. INVENTORY OF AVAILABLE EQUIPMENT**

The City of Hailey has the following equipment available for use in case of an emergency. If additional equipment is needed, contact the Hailey Fire Chief, the local disaster coordinator.

##### **Street Department:**

- (2) Frontend loader
- (3) 25 cu/yd End Dumps
- (1) Dump Truck w/pup
- (1) Excavator
- (1) Road Grader
- (2) Street Sweepers
- (1) Tractor Sweep
- (1) Bob Cat Loader
- (1) 3000 gal. Water Truck
- (1) 1000 gal. Water
- (1) Bucket Truck
- (1) GMC Jet/Vac Truck

##### **Water Department:**

- (1) 410 Backhoe
- (1) 12 yd Dump Truck
- (1) 1 ½ ton Flatbed Truck
- (1) 2” portable trash pump
- (1) portable generator

##### **Wastewater Department:**

- (1) Jet/Vac Truck
- (1) 310 Backhoe
- (1) 2 Ton Flatbed
- (1) 6” portable pump
- (1) 2” portable trash pump
- (1) portable generator

## VI. PERSONNEL NOTIFICATION

The following is a list of personnel that can be contacted in case of an emergency:

Contact / Organization	Name	Work Phone	Home Phone
Water Department After-hours Cell		720-7617	
Water Department	Bob Schulz	578-2211	788-9644
Public Works City of Hailey	Raymond Hyde	788-4221 cell 720-8090	788-0929
City of Hailey Engineer	Tom Helen	788-4221	788-2679
Fire Chief	Mike Chapman	788-3147	788-9005
Chief of Police	Brian McNary	788-3531	788-0131
Blaine County Sheriff	Walt Fleming	788-5555	
Idaho Power		1-800-632-0800	
Division of Highways		788-3365	
Idaho DEQ	Greg Misbach	(208)736-2190	

# APPENDIX C

## CITY OF HAILEY WELLHEAD ORDINANCE

**SECTION 1. Short Title and Purpose.**

- A. This ordinance shall be known as the "**The City of Hailey Wellhead Protection Ordinance**".
- B. It is the purpose of this ordinance to promote the public health, safety, and general welfare, and to minimize public and private losses due to contamination of the public water supply, and to formalize ground water protection/pollution abatement and control procedures. Specific goals are to:
  - 1. Protect human life and health;
  - 2. Insure that the public is provided with a sustainable safe potable water supply;
  - 3. Minimize expenditure of public money for pollution remediation projects;
  - 4. Minimize regulations on land use; and,
  - 5. Minimize business interruptions;

**SECTION 2. Definitions.** When used in this ordinance, the following words and phrases shall have the meanings given in this section:

- A. **Agricultural Runoff Waste Water.** Water diverted for irrigation but not applied to crops, or runoff of irrigation tail water from the cropland as a result of irrigation.
- B. **Aquifer Remediation Related Wells.** These wells shall include those used to prevent, control, or remediate aquifer pollution, including but not limited to Superfund sites.
- C. **Community Water System.** A public system that serves at least fifteen (15) service connections used by year-round residents or regularly serves at least twenty-five (25) year-round residents.
- D. **Facility.** Refers to any business or corporation that is built, installed, or established to serve a particular purpose.
- E. **Hazardous Waste Disposal Facility.** A hazardous waste treatment, storage, or disposal facility that receives hazardous material as described in Part 40 Chapter 260.1 of the Code of Federal Regulations.

- F. **Hazardous Waste or Material.** Any waste or material that because of its quantity, concentration, physical, chemical or infectious characteristics may:
1. Cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness; or,
  2. Pose a substantial present or potential hazard to human health or to the environment when improperly treated, stored, transported, disposed of or otherwise managed; or,
  3. Any material or substance designated as a hazardous or toxic substance defined by Title 40 Part 261.3 of the Code of Federal Regulations, or any material or substance designated as a hazardous or toxic substance by the State of Idaho, acting through the Department of Environmental Quality or any successor agency.
- G. **Injection.** The subsurface emplacement of fluids.
- H. **Livestock Confinement Operation.** Any parcel of land having greater than five (5) animal units per acre in a confined area or any parcel of land containing twenty (20) acres or more having more than one hundred (100) animal units total. All livestock shall have the following Animal Unit Equivalents:
- |                            |   |                              |
|----------------------------|---|------------------------------|
| 1. Slaughter or Feeder Cow | = | 1 animal unit                |
| 2. Dairy Heifer            | = | 1 animal unit                |
| 3. Beef cow-calf pair      | = | 1.2 animal units             |
| 4. Mature diary cow        | = | 1.4 animal units             |
| 5. Swine                   | = | 0.5 animal units             |
| 6. Sheep or lamb           | = | 0.2 animal units             |
| 7. Horse                   | = | 1 animal unit                |
| 8. Goat                    | = | 0.3 animal units             |
| 9. All others not listed   | = | 1 animal unit per 750 pounds |
- I. **Non-Community Water System.** A public water system that is not a community water system.
- J. **Public Water System.** A system that provides the public with piped water for human consumption, if such system has at least fifteen (15) service connections or regularly serves an average of at least twenty-five (25) individuals daily at least sixty (60) days out of the year. Such term includes:

1. Any collection, treatment, storage, and distribution facilities under control of the operator of such system, and used primarily in connection with such system; and,
2. Any collection or pretreatment storage facilities not under such control that are used primarily in connection with such system.

*(A public water system is either a "community water system" or a "non-community water system.")*

- K. **Sanitary Landfill.** A solid waste disposal operation where the wastes are spread on land in thin layers, compacted to the smallest practical volume, and covered with cover material once each day of operation in order to safeguard against environmental pollution, nuisances, and health hazards.
- L. **Special Drainage Wells.** Those wells used for disposing of water from sources other than direct precipitation. Examples of this well type include: landslide control drainage wells, potable water tank overflow drainage wells, swimming pool drainage wells, and lake level control drainage wells.
- M. **Storm Water Runoff.** Water discharged as a result of rain, snow, or other precipitation.
- N. **Time of Travel Zones (TOT).** The time required for a contaminant to move in the ground from a specific point to a well.
- O. **Underground Injection Well.** Any excavation or artificial opening into the ground that meets the following three criteria:
1. A bored, drilled or dug hole, or a driven mine shaft, or a driven well point;
  2. It is deeper than its largest straight-line surface dimension; and,
  3. It is used for or intended to be used for injection.
- P. **Wellhead Protection Overlay Zones (WHP).** A land use designation on the Land Use Map, or a zoning designation on a zoning map, that modifies the basic underlying designation in some specific manner. The Wellhead Protection Overlay Zones will also appear in the Hazardous Area Component of the Comprehensive Plan. A map will define specific zones centering around wells supplying drinking water to a public water system. The map is delineated using one of the following methods:

1. Calculated Fixed Radius;
2. Arbitrary Fixed Radius;
3. Simplified Variable Shapes;
4. Semi-analytical, and Analytical Methods;
5. Hydrogeologic Mapping;
6. Numerical Modeling

and follow the guidelines established in the Idaho Wellhead Protection Plan.

- Q. **Community Wellhead.** The upper terminal of a well, including adapters, ports, seals, valves and other attachments.
- R. **Wellhead Protection Overlay Zone 1a.** A minimum fixed radius extending no less than fifty (50) feet radially from the wellhead supplying potable water to the public water supplies.
- S. **Wellhead Protection Overlay Zone 1b.** A three (3) year time of travel district (TOT) as defined in Section 2.
- T. **Wellhead Protection Overlay Zone 2.** A six (6) year time of travel zone (TOT) as defined in Section 2.
- U. **Wellhead Protection Overlay Zone 3.** A ten (10) year time of travel zone (TOT) as defined in Section 2.

**SECTION 3. Establishment of Wellhead Protection Overlay Zones.** There is hereby established a wellhead protection overlay zone identified and described as all the area within the ten (10) year TOT zone around public water supplies as shown on the official City and County zoning maps. It is further established that these areas be composed of Four (4) zones, Wellhead Protection Overlay Zone 1a, Wellhead Protection Overlay Zone 1b, Wellhead Protection Overlay Zone 2, and Wellhead Protection Overlay Zone 3 as they are defined in this Chapter. The City shall record with the County Recorder's Office an overlay map delineating the Wellhead Protection Overlay Zones.

**SECTION 4. Prohibited uses within Zone 1a of the Wellhead Protection Area.** Uses permitted within Zone 1a shall be limited to necessary public water supply wellhead equipment including the following, wellhead facility buildings, water storage tanks, disinfection equipment, disinfection chemical storage and approved landscaping. All other uses shall be prohibited.

**SECTION 5. Prohibited uses within Zone 1b of the Wellhead Protection**

**Area.** The following uses or conditions shall be and are hereby prohibited within Zone 1b of the Wellhead Protection areas:

- A. Sanitary landfills.
- B. Livestock Confinement Operations.
- C. Hazardous Waste Disposal Facility.
- D. Injection well **except for the following:**
  - 1. Closed systems.
- E. Existing sewer lines shall not be closer than one hundred (100) feet of a wellhead or of new sanitary system and sewer lines shall not be closer than one hundred fifty (150) feet of a wellhead.
- F. Existing septic tanks or drain fields shall not be closer than one hundred (100) feet of a wellhead and new installation of septic tanks or drain fields shall not be closer than two hundred (200) feet away from the wellhead.
- G. Junk or salvage yards.
- H. Disposal of waste oil, oil filters, tires and all other petroleum products.
- I. All manufacturing or industrial businesses involving the collection, handling, manufacture, use, storage, transfer or disposal of any hazardous solid or liquid material or waste having potential impact on groundwater, and any land use activities posing a hazard or threat to existing ground water quality, except upon issuance of a Conditional Use Permit.-The Zoning Administrator may instigate the Conditional Use Permit process during the application review process.

**SECTION 6. Prohibited Uses within Zone 2 of the Wellhead Protection**

**Area.** The following uses or conditions shall be and are prohibited within Zone 2 of the Wellhead Protection Area:

- A. Sanitary landfills;
- B. Hazardous Waste Disposal Facility;
- C. Injection well **except for the following**:
  - 1. Deep well injection (below 18 feet in depth):
    - a. Geothermal Heat;
    - b. Heat Pump Return;
    - c. Cooling Water Return.
  - 2. Shallow well injection only (less than 18 feet in depth), including:
    - a. Storm Runoff;
    - b. Agricultural Runoff Waste Water;
    - c. Special Drainage Water;
    - d. Aquifer Recharge;
    - e. Aquifer Remediation;
    - f. Septic Systems (General).
- D. All manufacturing or industrial businesses involving the collection, handling, manufacture, use, storage, transfer or disposal of any hazardous solid or liquid material or waste having potential impact on groundwater, and any land use activities posing a hazard or threat to existing ground water quality, except upon issuance of a Conditional Use Permit. The Zoning Administrator may instigate the Conditional Use Permit process during the application review process.

**SECTION 7. Prohibited Uses within Zone 3 of the Wellhead Protection**

**Area.** The following uses or conditions shall be and are prohibited within Zone 3 of the Wellhead Protection area:

- A. Injection well **except for the following**:
1. Deep well injection (below 18 feet in depth):
    - a. Geothermal Heat;
    - b. Heat Pump Return;
    - c. Cooling Water Return.
  2. Shallow well injection only ( less than 18 feet in depth):
    - a. Storm Runoff;
    - b. Agricultural Runoff Waste Water;
    - c. Special Drainage Water;
    - d. Aquifer Recharge;
    - e. Aquifer Remediation;
    - f. Septic Systems (General).
- B. All manufacturing or industrial businesses involving the collection, handling, manufacture, use, storage, transfer or disposal of any hazardous solid or liquid material or waste having potential impact on groundwater, and any land use activities posing a hazard or threat to existing ground water quality, except upon issuance of a Conditional Use Permit. The Zoning Administrator may instigate the Conditional Use Permit process during the application review process.

**SECTION 8. Notice of Proposed Action to Operator of Public Water Supply.** Whenever there is a request that requires a Conditional Use Permit from the Planning and Zoning Commission for land lying within a Wellhead Protection Zone, written notice of the hearing shall be given to the entity operating the public water supply within that overlay zone. The Planning and Zoning Commission may require monitoring wells and appropriate easements if the commission deems it appropriate for protection of the public water supply.

**SECTION 9. Non-Conforming Uses.** Any legal use existing at the time of the adoption of this ordinance and listed as a prohibited use herein, shall become a legal non-conforming use and may not be expanded or improved except as otherwise provided in the zoning ordinance.

**SECTION 10. Enforcement.** It shall be unlawful for any person, corporation, government entity or business to occupy or use the land within the area designated in the Wellhead Protection Overlay Zones contrary to, or in violation of, any of the provisions of this Chapter.

**SECTION 11. Amendments.** Proposed amendments will require advance notice to all entities operating public water supplies that this ordinance effects.

# APPENDIX D

## BLAINE COUNTY WELLHEAD Plan