CITY OF SPIRIT LAKE (PWSNO 1280177)
SOURCE WATER ASSESSMENT REPORT

January 23, 2002

State of Idaho
Department of Environmental Quality

Executive Summary

Under the Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the act. This risk assessment is based on a land use inventory in the well recharge zone, sensitivity factors associated with how the well was constructed, and aquifer characteristics.

This report, *Source Water Assessment for the City of Spirit Lake, Idaho*, describes the public drinking water wells; the well recharge zone and potential contaminant sites located inside the recharge zone boundaries. This assessment, taken into account with local knowledge and concerns, should be used as a planning tool to develop and implement appropriate protection measures for this public water system. **The results should not be used as an absolute measure of risk and they should not be used to undermine public confidence in the water system.**

Drinking water for the City of Spirit Lake is supplied by four wells pumping from the Rathdrum Prairie Aquifer. The three wells located in the Spirit Shores neighborhood have corrosive water, which leaches lead and copper from plumbing, and are used as backups. Well #4, on the east end of Maine Street, has been the primary source since it came on line in 1999. Use of Well #4 has brought the city into compliance with the Lead/Copper Rule. Both Well #4 and the Spirit Shores well field ranked moderately susceptible to all classes on regulated contaminants, mostly because of risk factors associated with the geology of the Rathdrum Prairie Aquifer.

This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a "pristine" area or an area with numerous industrial and/or agricultural land uses that require education and surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

Because 186 public water systems in Idaho draw water from the Rathdrum Prairie Aquifer, they should consider forming a regional group to represent their interests before state, county and municipal governing bodies when regulatory tools like zoning overlays, or enactment of building codes are the most appropriate ground water protection measures. Partnerships with state and local agencies and industry groups should also be established.

For source water protection in its own jurisdiction, City of Spirit Lake should continue its commendable maintenance and operation program. This should include annual inspections of cross connection control devises to protect the wells and distribution system from back siphonage during periods of low pressure.

Due to the time involved with the movement of ground water, source water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. For assistance in developing protection strategies, please contact your regional Department of Environmental Quality office or the Idaho Rural Water Association.

SOURCE WATER ASSESSMENT FOR THE CITY OF SPIRIT LAKE

Section 1. Introduction - Basis for Assessment

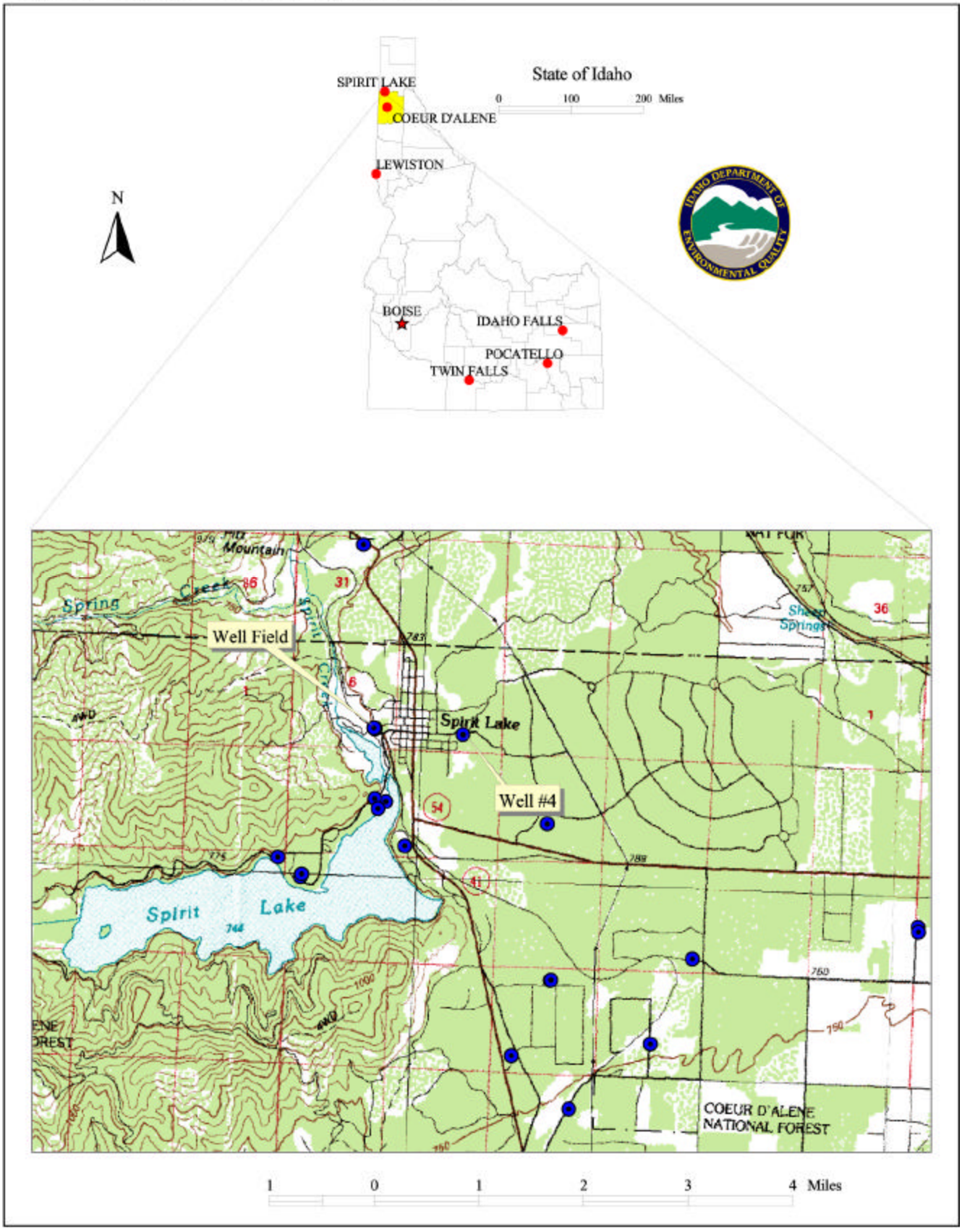
The following sections contain information necessary for understanding how and why this assessment was conducted. **It is important to review this information to understand what the ranking of this source means.** A map showing the delineated source water assessment area and an inventory of significant potential sources of contamination identified within that area are included. The ground water susceptibility analysis worksheets used to develop this assessment are attached.

Level of Accuracy and Purpose of the Assessment

The Idaho Department of Environmental Quality (DEQ) is required by the U.S. Environmental Protection Agency (EPA) to assess every public drinking water source in Idaho for its relative susceptibility to contaminants regulated by the Safe Drinking Water Act. These assessments are based on a land use inventory inside the delineated recharge zones, sensitivity factors associated with how the well is constructed, and aquifer characteristics. The state must complete more than 2900 assessments by May of 2003. Because resources and the time available to accomplish assessments are limited, an in-depth, site-specific investigation for every public water system is not possible.

The results of the source water assessment should <u>not be</u> used as an absolute measure of risk and they should <u>not be</u> used to undermine public confidence in the water system. The ultimate goal of this assessment is to provide data to local communities for developing a protection strategy for their drinking water supply. The Idaho Department of Environmental Quality recognizes that pollution prevention activities generally require less time and money to implement than treating a public water supply system once it has been contaminated. DEQ encourages communities to balance resource protection with economic growth and development. The decision as to the amount and types of information necessary to develop a source water protection program should be determined by the local community based on its own needs and limitations. Wellhead or source water protection is one facet of a comprehensive growth plan, and it can complement ongoing local planning efforts.

Figure 1. Geographic Location of City of Spirit Lake



Section 2. Preparing for the Assessment

Defining the Zones of Contribution - 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 well recharge area into time of travel (TOT) zones indicating the number of years necessary for a particle of water to reach a well. DEQ used a refined computer model approved by the EPA to determine the time of travel for water pumped from the Rathdrum Prairie Aquifer. The computer model used data DEQ assimilated from a variety of sources including local well logs. City staff prepared volume estimates used for modeling the ground water flow to the Spirit Lake wells.

The City of Spirit Lake community water system has 604 connections serving a population of about 1600. The city is located on State Highway 41 in Kootenai County, Idaho (Figure 1). The city is served by four wells. Wells #1 and #2 were drilled in 1963 to replace the city's use of the surface waters of Spirit Lake. Well #3 was drilled sometime between 1966 and 1981. The three wells are within 100 feet of each other and are considered a well field. Well #4, located at the east end of Maine Street, was developed to replace the wellfield as the main source of supply.

The recharge zone for the well field encompasses 4.5 acres and lies partially beneath the northern part of Spirit Lake. The recharge area delineated for Well #4 is a narrow corridor stretching about a mile westward from the well to the lakeshore. It encloses about 29 acres and is divided into 0-3, 3-6 and 6-10 year time of travel zones. The recharge zones for the well field and Well #4 overlap in the vicinity of Salishan Way (Figure 2).

Identifying Potential Sources of Contamination

The goal of the inventory process is to locate and describe those facilities, land uses, and environmental conditions that are potential sources of ground water contamination. Inventories for City of Spirit Lake and all other public water systems in Idaho were conducted in two-phases. The first phase involved identifying and documenting potential contaminant sources within a system's source water assessment area through the use of computer databases and Geographic Information System maps developed by DEQ. A map showing the delineations and a table summarizing the results of the database search were then sent to system operators for review and correction during the second or enhanced phase of the inventory process.

Figure 2, *City of Spirit Lake Delineation and Potential Contaminant Inventory* on page 7 of this report shows the locations of the City of Spirit Lake wells, the zones of contribution DEQ delineated for the wells, and approximate locations of potential contaminant sites in the area.

Many potential sources of contamination are regulated at the federal level, state level, or both to reduce the risk of release. When a business, facility, or property is identified as a potential contaminant source, this should not be interpreted to mean that this business, facility, or property is in violation of any local, state, or federal environmental law or regulation. What it does mean is that the potential for contamination exists due to the nature of the business, industry, or operation.

Section 3. Susceptibility Analysis

DEQ weighed the following factors to assess a well's susceptibility to contamination:

- physical integrity of the well,
- hydrologic characteristics,
- land use characteristics, and potentially significant contaminant sources
- historic water quality

Susceptibility rankings are specific to a particular potential contaminant or category of contaminants. A high susceptibility rating relative to one potential contaminant does not mean that the water system is at the same risk for all other potential contaminants. The relative ranking that is derived for each well is a qualitative, screening-level step that, in many cases, uses generalized assumptions and best professional judgement. The following summaries describe the rationale for the susceptibility ranking. The Susceptibility Analysis Worksheets, Attachment A, show in detail how the City of Spirit Lake well field and Well #4 scored.

Well Construction

Well construction directly affects the ability of a well to protect the aquifer from contaminants. Lower scores imply a well that can better protect the ground water. This portion of the susceptibility analysis relies on information from individual well logs and from the most recent Sanitary Survey of the public water system. Well logs for the City of Spirit Lake Wells #1through #3 were not available when the susceptibility analysis was run. The Sanitary Survey conducted May 14, 2000 found the system to be well run and in compliance with *Idaho Rules for Public Drinking Water Systems*. Other than a loose seal around a power cable on Well #2, no deficiencies were noted in wellhead and surface seal maintenance.

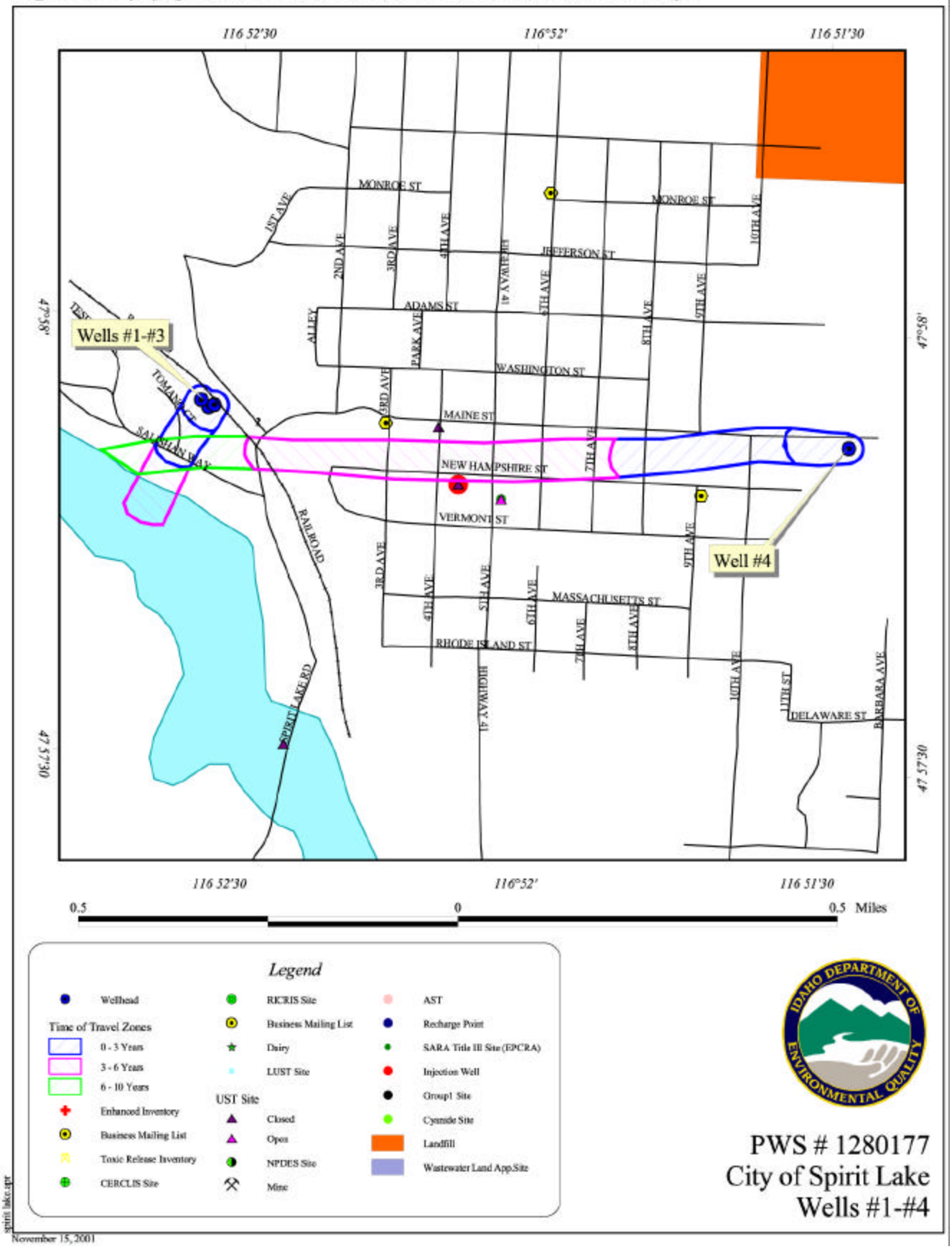
The well field was assessed as a single source because the wells are close together and share the same recharge area. Without the well logs there is no way to determine whether the wells were constructed to current Idaho Department of Water Resources (IDWR) standards.

Well #4 was drilled in 1995 to a total depth of 632 feet. Except for a minor variation in the steel casing wall thickness, the well meets current IDWR construction standards. The bentonite clay surface seal is 20 feet deep, as required for drinking water wells in unconsolidated formations like the Rathdrum Prairie Aquifer. The well screen is set between 606 and 626 feet below the surface. Both the casing and surface seal terminate in permeable soil strata.

Table 1. Selected Characteristics of the City of Spirit Lake Wells

Well	Casing Diameter (in)	Total Depth (ft)	Screen Depth (ft)	Static Water Level (ft)
Well #1	8	359	332	310
Well #2	8	331	321	303
Well #3	16	410	340	298
Well #4	10	632	606	547

Figure 2. City of Spirit Lake Delineation and Potential Contaminant Inventory.



Hydrologic Sensitivity

Hydrologic sensitivity scores reflect natural geologic conditions at the well site and in the recharge zone. Information for this part of the analysis is derived from individual well logs and from the soil drainage classification inside the delineation boundaries. Well logs include lithologic data that describe the soil profile at the well site in addition to well construction details.

The City of Spirit Lake well field and Well #4 scored 5 points out of 6 points possible in the hydrologic sensitivity portion of the susceptibility analysis. Soils in both recharge zones are classed as moderately well to well drained. Soils that drain rapidly are deemed less protective of ground water than finer grained, slow draining soils.

The composition of the soil above the water table at the well field site is not known since the well logs are unavailable. The log for Well #4 reports layers of cobbles, sand and gravel, and boulders above the water table, with no thick layers of clay to retard the vertical transport of contaminants.

Potential Contaminant Sources and Land Use

Figure 2, *City of Spirit Lake Delineation and Potential Contaminant Inventory* on page 7 shows the locations of the City of Spirit Lake wells, the zones of contribution DEQ delineated for the wells, and approximate locations of potential contaminant sites.

The recharge zone for the City of Spirit Lake well field includes residential areas and undeveloped open space. Homes in the area served by the municipal sewer system.

Residential areas are the predominant land use in the recharge zone for Well #4. Highway 41 and a commercial district cross the 3-6 year time of travel zone about half a mile from the well. The petroleum storage tanks shown on the map on New Hampshire Street fall just outside of the delineation boundaries. Because it is a major transportation corridor, Highway 41 is counted in this assessment as a significant potential source of contaminants that could affect Well #4.

Historic Water Quality

Corrosivity of water from the well field is the chief water quality issue the City of Spirit Lake has had to contend with. Developing Well #4 as the principal source for the water system solved the problem. The well field has been used a backup source since Well #4 was brought on line in the summer of 1999. Corrosion control devices will have to be installed only if the well field is used more than 60 days per year.

The city tests monthly for bacterial contamination. Only two samples have been positive for total coliform bacteria since 1992. The presence of bacteria was not confirmed in follow up testing.

Nitrate concentrations in the well field water have ranged between 0.074 and 0.376 mg/l. Nitrate concentrations in Well #4 were 0.202 and 0.70 mg/l when the water was tested in 2000. The Maximum Contaminant Level (MCL) for Nitrate is 10 mg/l.

Other regulated inorganic chemical contaminants found in the well field water were Barium (MCL = 2.0 mg/l) at a concentration of 0.2 mg/l (1981 test), and Cadmium (MCL = 0.005 mg/l) at concentrations of 0.0016 and 0.0045 mg/l (1985 distribution system samples). Barium was present at a concentration of 0.02 mg/l in water from Well #4 when it was tested in 1999. Radiological contaminants at levels far below the MCL are present in water from the well field and Well #4.

The volatile organic compound (VOC) toluene (MCL = 1000 µ/l) a solvent found in numerous household products like paint and degreasers, was detected at a concentration of 4.5 µ/l in a sample from Well #4 in April 1999. The presence of a volatile organic compound in tested well water usually results in the well being automatically ranked highly susceptible to VOC contamination. In this case, however, the amount detected was very small in comparison to the MCL, and the timing suggests the source of the toluene was related to construction of the well house or piping connecting the new well to the city water system. The well is due to be tested again for volatile and synthetic organic chemicals before the end of 2004.

Final Susceptibility Ranking

The City of Spirit Lake well field and Well #4 ranked moderately susceptible to all classes of regulated contaminants. Several factors used to assess the well field's vulnerability to contamination are unknown because the well logs are missing. Nevertheless, the hydrologic sensitivity and system construction scores counted against the wells are in line with scores for other wells pumping from the Rathdrum Prairie Aquifer. For Well #4, natural risk factors associated with local geology account for most of the points in the final susceptibility scores. Cumulative scores for each water source are summarized on Table 2. Complete susceptibility analysis worksheets for the City of Spirit Lake wells are in Attachment A.

The final scores for the susceptibility analysis were determined using the following formulas:

1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.2)
2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.35)

The final ranking categories are as follows:

- 0 - 5 Low Susceptibility
- 6 - 12 Moderate Susceptibility
- > 13 High Susceptibility

Table 2. Summary of City of Spirit Lake Susceptibility Evaluation

Susceptibility Scores						
Well	System Construction	Hydrologic Sensitivity	Contaminant Inventory			
			IOC	VOC	SOC	Microbial
Well Field	4	5	2	2	2	2
Well #2	3	5	5	5	5	2
Final Susceptibility Scores/Ranking						
Well	IOC		VOC		SOC	Microbial
Well Field	9/Moderate		9/Moderate		9/Moderate	10/Moderate
Well #4	9/Moderate		9/Moderate		9/Moderate	9/Moderate

IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Section 4. Options for Source Water Protection

The susceptibility assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what the susceptibility ranking a source receives, protection is always important. Whether the source is currently located in a "pristine" area or an area with numerous industrial and/or agricultural land uses that require education and surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

An effective source water protection program is tailored to the particular local source water protection area. The state and local health districts have instituted enhanced protection of the ground water in the Rathdrum Prairie Aquifer because of its high use and uniquely pristine water quality. The protections are generally aquifer wide and are not aimed at zones of contribution to a specific well or water system. *The Spokane Valley-Rathdrum Prairie Atlas*, sent to water systems on the prairie when they were invited to perform an enhanced contaminant inventory, describes some of the regional protection measures.

The 186 public water systems in Idaho that draw water from the Rathdrum Prairie Aquifer should consider forming a regional group to represent their interests before state, county and municipal governing bodies when regulatory tools like zoning overlays, or enactment of building codes are the most appropriate ground water protection measures. These types of measures could be used to protect the capture zones of a specific system or group of wells that could be put at risk from local land use changes. Partnerships with state and local agencies and industry groups should also be established. For instance, source water protection activities for agriculture, should be coordinated with the Idaho State Department of Agriculture, local Soil Conservation District, and the Natural Resources Conservation Service.

For source water protection in its own jurisdiction, the City of Spirit Lake should continue its commendable maintenance and operation program. This should include annual inspections of cross connection control devises to protect the wells and distribution system from back siphonage during periods of low pressure. The City should also promote ground water protection through public education. Some ideas to consider are workshops dealing with the proper application of yard and garden chemicals; elimination of household hazardous waste, ground water friendly vehicle maintenance practices; and backflow prevention. Numerous programs are available to involve school age children and adults in protecting their drinking water.

Due to the time involved with the movement of ground water, wellhead protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term.

Assistance

Public water suppliers and users may call the following IDEQ offices with questions about this assessment and to request assistance with developing and implementing a local protection plan. In addition, draft protection plans may be submitted to the IDEQ office for preliminary review and comments.

Coeur d'Alene Regional DEQ Office (208) 769-1422

State IDEQ Office (208) 373-0502

Website: http://www.deq.state.id.us

Typing in the key word "ground water" on any internet browser will pull up dozens of links to organizations that provide public education materials and ideas for involving the community in ground water protection.

Water suppliers serving fewer than 10,000 persons may contact John Bokor, Idaho Rural Water Association, at (208) 343-7001 for assistance with drinking water protection strategies.

References Cited

Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, 1997. "Recommended Standards for Water Works."

Idaho Department of Agriculture, 1998. Unpublished Data.

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Idaho Division of Environmental Quality, 1996. Lower Payette River Agriculture Irrigation Water Return Study and Ground Water Evaluation, Payette County, Idaho. Water Quality Status Report No. 115.

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Idaho Department of Environmental Quality, 2000. City of Fruitland Wellhead Viability Project 319 Grant Final Report July 2000.

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Idaho Department of Water Resources, 1993. Administrative Rules of the Idaho Water Resource Board: Well Construction Standards Rules. IDAPA 37.03.09.

Natural Resource Conservation Service, 1991. Idaho Snake-Payette Rivers Hydrologic Unit Plan of Work. March 1991.

United States Geological Survey, 1986. Quality of Ground Water in the Payette River Basin, Idaho. United States Geological Survey. Water Resources Investigation Report 86-4013.

University of Idaho. 1986. Ground Water Resources in a Portion of Payette County, Idaho. Idaho Water Resources Research Institute. University of Idaho. Moscow, Idaho. April 1986.

Attachment A

City of Spirit Lake
Susceptibility Analysis
Worksheets

Ground Water Susceptibility

Public Water System Name : **SPIRIT LAKE CITY OF** Source: **WELL FIELD**

Public Water System Number : **1280177** 11/14/01 10:04:51 AM

1. System Construction		SCORE			
Drill Date	WELLS #1 &#2, 1963; WELL #3 UNKNOWN				
Driller Log Available	NO				
Sanitary Survey (if yes, indicate date of last survey)	YES 2000				
Well meets IDWR construction standards	UNKNOWN	1			
Wellhead and surface seal maintained	YES	0			
Casing and annular seal extend to low permeability unit	UNKNOWN	2			
Highest production 100 feet below static water level	NO	1			
Well located outside the 100 year flood plain	YES	0			
Total System Construction Score		**4**			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	NO	2			
Vadose zone composed of gravel, fractured rock or unknown	UNKNOWN	1			
Depth to first water > 300 feet	YES	0			
Aquitard present with > 50 feet cumulative thickness	UNKNOWN	2			
Total Hydrologic Score		**5**			
		IOC	VOC	SOC	Microbial
3. Potential Contaminant / Land Use - ZONE 1A (Sanitary Setback)		Score	Score	Score	Score
Land Use Zone 1A	URBAN/RESIDENTIAL	2	2	2	2
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		**2**	**2**	**2**	**2**
Potential Contaminant / Land Use - ZONE 1B (3 YR. TOT)					
Contaminant sources present (Number of Sources)	NO	0	0	0	0
(Score = # Sources X 2) 8 Points Maximum		0	0	0	0
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
4 Points Maximum		0	0	0	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B	Less Than 25% Agricultural Land	0	0	0	0
Total Potential Contaminant Source / Land Use Score - Zone 1B		**0**	**0**	**0**	**0**
Potential Contaminant / Land Use - ZONE II (6 YR. TOT)					
Contaminant Sources Present	NO	0	0	0	
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
Land Use Zone II	Less than 25% Agricultural Land	0	0	0	
Potential Contaminant Source / Land Use Score - Zone II		**0**	**0**	**0**	**0**
Potential Contaminant / Land Use - ZONE III (10 YR. TOT)					
Contaminant Source Present	NO	0	0	0	
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
Is there irrigated agricultural lands that occupy > 50% of Zone	NO	0	0	0	
Total Potential Contaminant Source / Land Use Score - Zone III		**0**	**0**	**0**	**0**
Cumulative Potential Contaminant / Land Use Score		**2**	**2**	**2**	**2**
4. Final Susceptibility Source Score		**9**	**9**	**9**	**10**
5. Final Well Ranking		Moderate	Moderate	Moderate	Moderate

Ground Water Susceptibility

Public Water System Name : **SPIRIT LAKE CITY OF** Source: **WELL 4**

Public Water System Number : **1280177** 11/14/01 10:05:08 AM

1. System Construction		SCORE
Drill Date	8/28/95	
Driller Log Available	YES	
Sanitary Survey (if yes, indicate date of last survey)	YES 2000	
Well meets IDWR construction standards	YES	0
Wellhead and surface seal maintained	YES	0
Casing and annular seal extend to low permeability unit	NO	2
Highest production 100 feet below static water level	NO	1
Well located outside the 100 year flood plain	YES	0
Total System Construction Score		**3**

2. Hydrologic Sensitivity		
Soils are poorly to moderately drained	NO	2
Vadose zone composed of gravel, fractured rock or unknown	YES	1
Depth to first water > 300 feet	YES	0
Aquitard present with > 50 feet cumulative thickness	NO	2
Total Hydrologic Score		**5**

3. Potential Contaminant / Land Use - ZONE 1A (Sanitary Setback)		IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A	URBAN/RESIDENTIAL	2	2	2	2
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	YES TOLUENE	NO	YES	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		**2**	**2**	**2**	**2**
Potential Contaminant / Land Use - ZONE 1B (3 YR. TOT)					
Contaminant sources present (Number of Sources)	NO	0	0	0	0
(Score = # Sources X 2) 8 Points Maximum		0	0	0	0
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
4 Points Maximum		0	0	0	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B	Less Than 25% Agricultural Land	0	0	0	0
Total Potential Contaminant Source / Land Use Score - Zone 1B		**0**	**0**	**0**	**0**
Potential Contaminant / Land Use - ZONE II (6 YR. TOT)					
Contaminant Sources Present	YES HIGHWAY 41	2	2	2	
Sources of Class II or III leacheable contaminants or Microbials	YES	1	1	1	
Land Use Zone II	Less than 25% Agricultural Land	0	0	0	
Potential Contaminant Source / Land Use Score - Zone II		**3**	**3**	**3**	**0**
Potential Contaminant / Land Use - ZONE III (10 YR. TOT)					
Contaminant Source Present	NO	0	0	0	
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
Is there irrigated agricultural lands that occupy > 50% of Zone	NO	0	0	0	
Total Potential Contaminant Source / Land Use Score - Zone III		**0**	**0**	**0**	**0**
Cumulative Potential Contaminant / Land Use Score		**5**	**5**	**5**	**2**
4. Final Susceptibility Source Score		**9**	**9**	**9**	**9**
5. Final Well Ranking		Moderate	Moderate	Moderate	Moderate

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 Superfund 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.