RUSSELL SUBDIVISION (PWS 3230029)
SOURCE WATER ASSESSMENT REPORT

September 19, 2000

State of Idaho
Department of Environmental Quality

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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 assessment is based on a land use inventory of the designated assessment area and sensitivity factors associated with the wells and aquifer characteristics.

This report, *Source Water Assessment for Russell Subdivision, Emmett, Idaho*, describes the public drinking water system, the boundaries of the zones of water contribution, and the associated potential contaminant sources located within these boundaries. This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. **The results 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 Russell Subdivision drinking water system consists of two wells. In October 1992, December 1996, and March 1997, total coliform detections were recorded in the water sampling effort. The October 1992 sample also recorded the presence of fecal coliform. The delineation capture zone crosses an organics priority area for the pesticides Atrazine and Alachlor, though these chemicals have not been detected in any water samples of the Russell Subdivision wells.

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.

For Russell Subdivision, source water protection activities should focus on implementation of practices aimed at reducing the leaching of agricultural chemicals from agricultural land within the designated source water areas. Most of the designated areas are outside the direct jurisdiction of the Russell Subdivision. Partnerships with state and local agencies and industry groups should be established and are critical to success. Due to the time involved with the movement of groundwater, source water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. Source water protection activities for agriculture should be coordinated with the Idaho State Department of Agriculture, the Soil Conservation Commission and Gem Soil and Water Conservation District, and the Natural Resources Conservation Service.

A community with a fully developed source water protection program will incorporate many strategies. For assistance in developing protection strategies please contact your regional Idaho Department of Environmental Quality office or the Idaho Rural Water Association.

SOURCE WATER ASSESSMENT FOR RUSSELL SUBDIVISION, EMMETT, IDAHO

Section 1. Introduction - Basis for Assessment

The following sections contain information necessary to understand 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 the inventory of significant potential sources of contamination identified within that area are attached. The list of significant potential contaminant source categories and their rankings used to develop the assessment also is attached.

Background

Under the Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative susceptibility to contaminants regulated by the Safe Drinking Water Act. This assessment is based on a land use inventory of the delineated assessment area and sensitivity factors associated with the wells and aquifer characteristics.

Level of Accuracy and Purpose of the Assessment

Since there are over 2,900 public water sources in Idaho, there is limited time and resources to accomplish the assessments. All assessments must be completed by May of 2003. An in-depth, site-specific investigation of each significant potential source of contamination is not possible. **Therefore, this assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. The results 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 the assessment is to provide data to local communities to develop a protection strategy for their drinking water supply system. The Idaho Department of Environmental Quality (IDEQ) recognizes that pollution prevention activities generally require less time and money to implement than treatment of a public water supply system once it has been contaminated. IDEQ 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.

Section 2. Conducting the Assessment

General Description of the Source Water Quality

Russell Subdivision is a community of approximately 29 people with 12 connections, located in Gem County, north of the City of Emmett, on the Emmett Bench ½ mile east of the intersection of North Washington and West Idaho (Figure 1). The public drinking water system for Russell Subdivision is comprised of two wells.

The primary water quality issue currently facing Russell Subdivision is that of microbial contamination and possible synthetic organic chemical (SOC) contamination from the pesticides Atrazine and Alachlor and the problems associated with managing this contamination. In recent years, wells have recorded the presence of total coliform and fecal coliform.

Defining the Zones of Contribution--Delineation

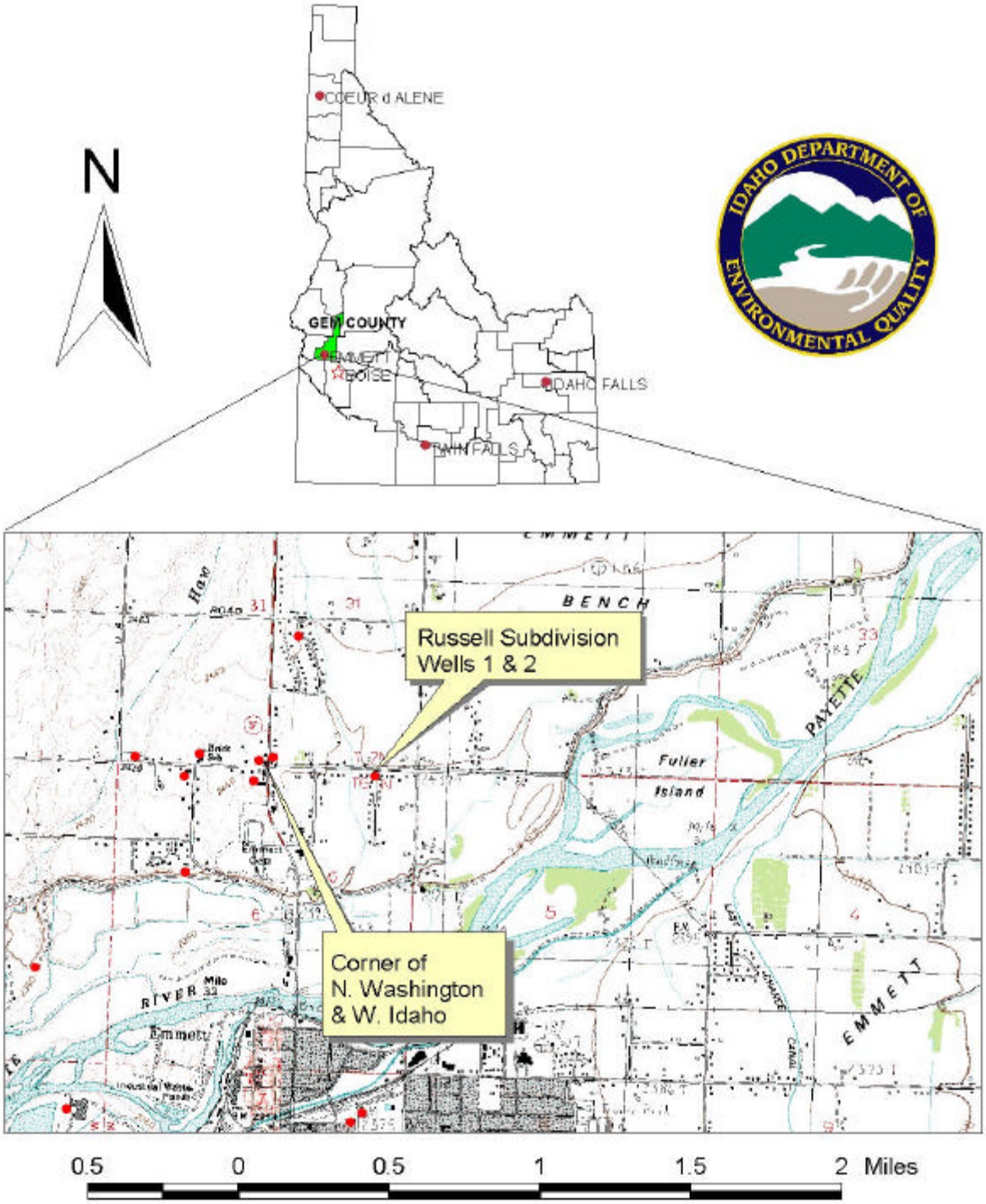
The delineation process establishes the physical area around a well that will become the focal point of the assessment. The process includes mapping the boundaries of the zone of contribution into time of travel zones (zones indicating the number of years necessary for a particle of water to reach a well) for water in the aquifer. IDEQ 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 Payette Valley aquifer in the vicinity of the Russell Subdivision. The computer model used site specific data, assimilated by IDEQ from a variety of sources including the City of Emmett and other local well logs. Well logs for the Russell Subdivision were not available. The delineated source water assessment area for Russell Subdivision can best be described as a corridor ¼ mile wide and 1 ½ miles long extending north-northeast to the North Side Main Canyon Canal. The actual data used by IDEQ in determining the source water assessment delineation area is available upon request.

Identifying Potential Sources of Contamination

A potential source of contamination is defined as any facility or activity that stores, uses, or produces, as a product or by-product, the contaminants regulated under the Safe Drinking Water Act and has a sufficient likelihood of releasing such contaminants at levels that could pose a concern relative to drinking water sources. The goal of the inventory process is to locate and describe those facilities, land uses, and environmental conditions that are potential sources of groundwater contamination. The locations of potential sources of contamination within the delineation areas were obtained by field surveys conducted by IDEQ and from available databases.

The dominant land use outside the Russell Subdivision is irrigated grazing land. Land use within the immediate area of the wellhead consists of residential homes and other urban uses.

Figure 1. Geographic Location of Russell Subdivision Wells 1 & 2



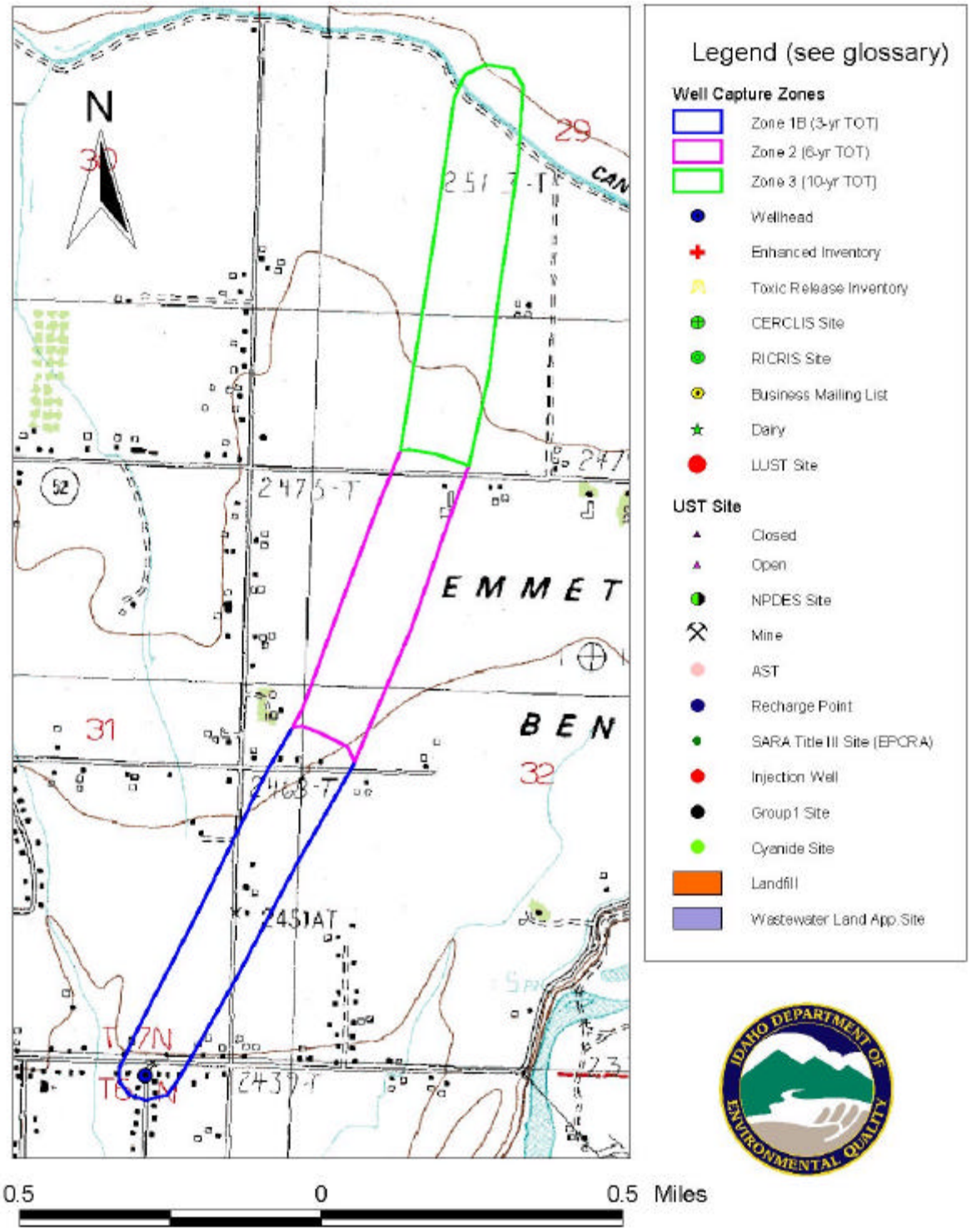
It is important to understand that a release may never occur from a potential source of contamination provided they are using best management practices. Many potential sources of contamination are regulated at the federal level, state level, or both to reduce the risk of release. Therefore, when a business, 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. There are a number of methods that water systems can use to work cooperatively with potential sources of contamination. These involve educational visits and inspections of stored materials. Many owners of such facilities may not even be aware that they are located near a public water supply well.

Contaminant Source Inventory Process

A two-phased contaminant inventory of the study area was conducted during May of 2000. The first phase involved identifying and documenting potential contaminant sources within the Russell Subdivision Source Water Assessment Area through the use of computer databases and Geographic Information System (GIS) maps developed by IDEQ. The second or enhanced phase of the contaminant inventory involved contacting the 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 Clara Mae Brinkerhoff.

No potential contaminant sites are located within the delineated source water area (Figure 2). Contaminants of concern are primarily related to microbial contamination and to the organic priority area for the pesticides Atrazine and Alachlor associated with the irrigated agriculture land use of the area.

Figure 2. Russell Subdivision Wells 1 & 2
Delineation and Potential Contaminant Locations



Section 3. Susceptibility Analyses

The water system's susceptibility to contamination was ranked as high, moderate, or low risk according to the following considerations: hydrologic characteristics, physical integrity of the well, land use characteristics, and potentially significant contaminant sources. The susceptibility rankings are specific to a particular potential contaminant or category of contaminants. Therefore, 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.

Hydrologic Sensitivity

Hydrologic sensitivity was moderate for wells 1(4 inch) and well 2(8 inch) (see Table 1). That the soils were rated in the poor to moderate drainage class lowered the score because the soil can retard the movement of contamination. The lack of information regarding the make up of the vadose zone (zone from land surface to the water table) or the presence of low permeability formations at the well site increased the score.

Well Construction

Well construction directly affects the ability of the wells to protect the aquifer from contaminants. The Russell Subdivision drinking water system consists of two wells that extract groundwater for domestic uses. Well system construction scores were moderate for wells 1 and 2, based on a 1995 sanitary survey showing compliance with well seal and flood protection standards. Lack of well logs prevented a determination of whether current Idaho Department of Water Resources standards were being met. Specifically, current regulations require all public water system (PWS) wells to follow the Recommended Standards for Water Works (1997). Important protection aspects of the current standards include casing thickness and whether the casing and annular seal had been extended into a low permeability unit.

The 8-inch well (#2) in the Russell Subdivision system has a total depth of 210 feet below ground surface. Based on nearby well logs, this depth would probably put the well in contact with the deeper, semi-confined lacustrine (lakebed deposited) aquifer beneath the blue clay layer. Shallower wells show that the blue clay layer may not be laterally extensive providing for flow of water between layers.

Potential Contaminant Source and Land Use

Both wells rated moderate for inorganic chemicals (IOCs) (i.e. nitrate) and synthetic organic chemicals (SOCs) (i.e. pesticides). They both rated low for volatile organic chemicals (VOCs) (i.e. petroleum products) and microbial contaminants. Agricultural chemical sources and irrigated agricultural land use in the delineated source area for both wells contributed the largest number of points to the contaminant inventory rating.

In October 1992, water tests detected the presence of total coliform and fecal coliform. Total coliform was also detected in December 1996 and March 1997. The delineations for both wells cross a Group 1 priority area for the SOC pesticides Atrazine and Alachlor. The Group 1 organic priority area was identified because at least 25% of the local area wells show levels of these pesticides greater than 1% of the primary standard or other health standard.

A detection above a drinking water standard Maximum Contaminant Level (MCL) or a detection of total coliform or fecal coliform will automatically give a high susceptibility rating to a well despite the land use of the area because a pathway for contamination already exists. In this case, both wells rate high for

microbial contamination. In terms of total susceptibility rating, both wells rated moderate for all other types of contaminants.

Table 1. Summary of Russell Subdivision Susceptibility Evaluation

Well	Susceptibility Scores									
	Hydrologic Sensitivity	Contaminant Inventory				System Construction	**Final Susceptibility Ranking**			
		IOC	VOC	SOC	Microbials		IOC	VOC	SOC	Microbials
1(4 inch)	M	M	L	M	L	M	M	M	M	H*
2(8 inch)	M	M	L	M	L	M	M	M	M	H*

H = High Susceptibility, M = Moderate Susceptibility, Low Susceptibility
IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical
H* = Indicates source automatically scored as high susceptibility due to presence of total coliform or fecal coliform in the finished drinking water.

Susceptibility Summary

Total coliform or fecal coliform currently threatens the Russell Subdivision drinking water system. The wells in the Russell Subdivision system take their water in part from the shallow, unconfined to semi-confined alluvial (river deposited) aquifer as well as the deeper semi-confined lacustrine (lakebed deposited) aquifer. The shallow aquifer has been demonstrated to be a distinct water-bearing unit in terms of water quality, water yield, and the sources of recharge (IDEQ, 2000). The shallow aquifer contains much higher levels of nitrate, lower levels of iron, and higher levels of arsenic than the deeper aquifer. Water yields from the shallow aquifer are significantly higher than from the deeper aquifer. Groundwater in the shallow aquifer is recharged primarily from surface water irrigation, direct precipitation, and canal leakage. The sources of recharge to the deeper groundwater aquifer are indeterminate but are very likely much older than the groundwater in the shallow aquifer.

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. A community with a fully developed source water protection program will incorporate many strategies. For Russell Subdivision, source water protection activities should focus on identification and reduction of the local microbial threat, which could be from local septic systems. Other activities revolve around implementation of practices aimed at reducing the leaching of agricultural chemicals from agricultural land within the delineated source water areas. Most of the delineated areas are outside the direct jurisdiction of Russell Subdivision. Partnerships with state and local agricultural agencies and industry groups should be established and are critical to success. Due to the time involved with the movement of groundwater, wellhead protection activities should be aimed at long-term management strategies even

though these strategies may not yield results in the near term. Source water protection activities for agriculture should be coordinated with the Idaho State Department of Agriculture, the Soil Conservation Commission and Gem Soil and Water Conservation District, and the Natural Resources Conservation Service.

Since the aquifers appear to have alternating layers of clays and sands, the deeper 8-inch well should become the primary source of water, or if it cannot produce sufficient water, a second deep well could be installed to offer better protection from microbial contamination in the Russell Subdivision. Any new PWS well should meet the Recommended Standards for Water Works (1997) as outlined in IDAPA 37.03.09 and IDAPA 58.01.08.550. Water should be taken from beneath the blue clay layer since the upper aquifer has a higher potential for becoming contaminated.

Assistance

Public water supplies and others 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.

Boise Regional IDEQ Office	(208) 373-0550
State IDEQ Office	(208) 373-0502

Website: http://www2.state.id.us/deq

Water suppliers serving fewer than 10,000 persons may contact John Bokor, Idaho Rural Water Association, at (208) 743-6142 for assistance with wellhead protection strategies.

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 (IDEQ) 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 IDEQ.

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.

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.

Idaho Division of Environmental Quality, 1994. Ground Water and Soils Reconnaissance of the Lower Payette Area, Payette County, Idaho. Ground Water Quality Technical Report No. 5. Idaho Division of Environmental Quality. December 1994.

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.

Idaho Department of Environmental Quality, 1997. Design Standards for Public Drinking Water Systems. IDAPA 58.01.08.550.01.

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

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

Russell Subdivision Susceptibility Analysis Worksheet

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) 2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.35)

Final Susceptibility Scoring:

0 - 5 Low Susceptibility

6 - 12 Moderate Susceptibility

≥ 13 High Susceptibility

Ground Water Susceptibility Report Public Water System Name : RUSSELL SUBD Well# : WELL 1(4" WELL)

Public Water System Number 3230029 09/19/2000 10:54:29 AM

1. System Construction		SCORE
Drill Date		
Driller Log Available	NO	
Sanitary Survey (if yes, indicate date of last survey)	YES	0
Well meets IDWR construction standards	NO	1
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	4

2. Hydrologic Sensitivity		
Soils are poorly to moderately drained	YES	0
Vadose zone composed of gravel, fractured rock or unknown	YES	1
Depth to first water > 300 feet	NO	1
Aquitard present with > 50 feet cumulative thickness	NO	2
	Total Hydrologic Score	4

3. Potential Contaminant / Land Use - ZONE 1A		IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A	IRRIGATED PASTURE	1	1	1	1
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	YES	NO	NO	NO	YES
Total Potential Contaminant Source/Land Use Score - Zone 1A		1	1	1	1
Potential Contaminant / Land Use - ZONE 1B					
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	YES	4	0	0	
4 Points Maximum		4	0	0	
Zone 1B contains or intercepts a Group 1 Area	YES	0	0	2	0
Land use Zone 1B	Greater Than 50% Irrigated Agricultural Land	4	4	4	4
Total Potential Contaminant Source / Land Use Score - Zone 1B		8	4	6	4
Potential Contaminant / Land Use - ZONE II					
Contaminant Sources Present	NO	0	0	0	
Sources of Class II or III leacheable contaminants or	YES	1	0	0	
Land Use Zone II	Greater Than 50% Irrigated Agricultural Land	2	2	2	
Potential Contaminant Source / Land Use Score - Zone II		3	2	2	0
Potential Contaminant / Land Use - ZONE III					
Contaminant Source Present	NO	0	0	0	
Sources of Class II or III leacheable contaminants or	YES	1	0	0	
Is there irrigated agricultural lands that occupy > 50% of	YES	1	1	1	

Ground Water Susceptibility Report Public Water System Name : RUSSELL SUBD Well# : WELL 1(4" WELL)

Public Water System Number 3230029 09/19/2000 10:54:29 AM

Total Potential Contaminant Source / Land Use Score - Zone III	2	1	1	0
Cumulative Potential Contaminant / Land Use Score	14	8	10	5
4. Final Susceptibility Source Score	11	10	10	10
5. Final Well Ranking	Moderate	Moderate	Moderate	Moderate

Ground Water Susceptibility Report Public Water System Name : RUSSELL SUBD Well# : WELL 2(8" WELL)

Public Water System Number 3230029 09/19/2000 10:54:43 AM

1. System Construction		SCORE
Drill Date		
Driller Log Available	NO	
Sanitary Survey (if yes, indicate date of last survey)	YES	1995
Well meets IDWR construction standards	NO	1
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	4

2. Hydrologic Sensitivity		
Soils are poorly to moderately drained	YES	0
Vadose zone composed of gravel, fractured rock or unknown	YES	1
Depth to first water > 300 feet	NO	1
Aquitard present with > 50 feet cumulative thickness	NO	2
	Total Hydrologic Score	4

3. Potential Contaminant / Land Use - ZONE 1A		IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A	IRRIGATED PASTURE	1	1	1	1
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	YES	NO	NO	NO	YES
Total Potential Contaminant Source/Land Use Score - Zone 1A		1	1	1	1
Potential Contaminant / Land Use - ZONE 1B					
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	YES	4	0	0	
4 Points Maximum		4	0	0	
Zone 1B contains or intercepts a Group 1 Area	YES	0	0	2	0
Land use Zone 1B	Greater Than 50% Irrigated Agricultural Land	4	4	4	4
Total Potential Contaminant Source / Land Use Score - Zone 1B		8	4	6	4
Potential Contaminant / Land Use - ZONE II					
Contaminant Sources Present	NO	0	0	0	
Sources of Class II or III leacheable contaminants or	YES	1	0	0	
Land Use Zone II	Greater Than 50% Irrigated Agricultural Land	2	2	2	
Potential Contaminant Source / Land Use Score - Zone II		3	2	2	0
Potential Contaminant / Land Use - ZONE III					
Contaminant Source Present	NO	0	0	0	
Sources of Class II or III leacheable contaminants or	YES	1	0	0	
Is there irrigated agricultural lands that occupy > 50% of	YES	1	1	1	

Ground Water Susceptibility Report Public Water System Name : RUSSELL SUBD Well# : WELL 2(8" WELL)

Public Water System Number 3230029 09/19/2000 10:54:43 AM

Total Potential Contaminant Source / Land Use Score - Zone III	2	1	1	0
Cumulative Potential Contaminant / Land Use Score	14	8	10	5
4. Final Susceptibility Source Score	11	10	10	10
5. Final Well Ranking	Moderate	Moderate	Moderate	Moderate