FIGHTING CREEK TRADING POST (PWSNO 1280282)
SOURCE WATER ASSESSMENT REPORT

December 20, 2002

State of Idaho
Department of Environmental Quality

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SOURCE WATER ASSESSMENT FOR FIGHTING CREEK TRADING POST

Under the Federal 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 sensitivity to contaminants regulated by the Act. The Department of Environmental Quality is completing the assessments for all Idaho public drinking water systems. The assessment for your drinking water source is based on well construction characteristics; site specific sensitivity factors associated with the aquifer the water is drawn from; a land use inventory inside the well recharge zone; and water quality history. For non-community transient water systems like Fighting Creek Trading Post, recharge zones were generally delineated as a 1000-foot fixed radius around the wells.

This report, *Source Water Assessment for Fighting Creek Trading Post* describes factors used to assess the susceptibility to contamination. The analysis relies on information from the well log; an inventory of land use inside the delineation boundaries, well site characteristics, potential contaminant sites identified through a Geographic Information System database search; and information from the public water system file. The ground water susceptibility analysis worksheet for Fighting Creek Trading Post is attached.

Taken into account with local knowledge and concerns, this assessment should be used as a planning tool to develop and implement appropriate protection measures for this system. **The results should <u>not</u> be used as an absolute measure of risk and are not intended to undermine the confidence in your water system.**

Well Construction. The Fighting Creek Trading Post water system serves a convenience store and tavern located adjacent to Highway 95 about 15 miles south of Coeur d'Alene, Idaho. Drinking water for the system comes from a 6-inch cased well that is reportedly 200 feet deep. The well log for Fighting Creek Trading Post is not on file with DEQ and was not found in a search of Idaho Department of Water Resources records, so several risk factors relating to well construction and well site geology are unknown.

The well was not in compliance with the *Idaho Rules for Public Drinking Water Systems* when it was inspected in February 1998 because septic system components, fuel storage tanks and the fuel service island for the store fall within the sanitary setback zone for the well. A new well site was approved in January 2002, but to date, the well has not been drilled.

Well Site Characteristics. Hydrologic sensitivity scores are derived from information on the well log and from the soil drainage classification inside the recharge zone delineated for your well. Soils in the recharge zone delineated for Fighting Creek Trading Post are mostly classified as poorly drained to moderately well drained. Driller's reports for other wells in the vicinity show basalt with water bearing fracture zones and clay interbeds.

Potential Contaminant Inventory. The 1000-foot radius recharge zone delineated for the Fighting Creek Trading Post well covers a partially wooded agricultural area. Lying on either side of Highway 95. As a trucking route, the highway is a potential source of every class of regulated contaminants. A fuel storage tank is located 35 feet from the well and the pump island is 43 feet from the well. The minimum separation distance between a well and sources of synthetic and volatile organic contaminants such as are found in petroleum produces is 50 feet (IDAPA 16.01.08). The septic tank for the store is 85 feet from the well and a sewer line passes within 40 feet of the well. The minimum setback between septic tank and well is 100 feet. Sewer lines should be no closer than 50 feet.

Water Quality History. In the period from February 1998 through April 2002 three quarterly distribution system samples tested positive for total coliform bacteria. Follow up testing was negative. The system failed to monitor as required during several reporting periods. Annual nitrate tests show concentrations ranging from undetectable levels to 0.018 mg/l. The Maximum Contaminant Level for nitrate is 10 mg/l.

Susceptibility to Contamination. An analysis of the Fighting Creek Trading Post well, incorporating information from the public water system file and the potential contaminant inventory, ranked the well highly susceptible to all classes of regulated contaminants. The presence of petroleum products and septic system components inside the sanitary setback for the well automatically trigger a high susceptibility ranking. The complete analysis worksheet for your well is on page 6 of this report. Formulas used to compute final scores and susceptibility rankings are at the bottom of the worksheet.

Source Water Protection. 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, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

Drilling a new well appears to be the best option for bringing the Fighting Creek Trading Post water system into compliance with *Idaho Rules for Public Drinking Water Systems*. A new site was inspected and approved in January 2002. When the new well is constructed, it will be important to abandon the present well in accordance with Idaho Department of Water Resources regulations. Improperly abandoned wells are a threat to ground water quality since they provide a direct conduit between the surface and the water table. Data from regular water quality testing is another key drinking water protection tool.

There are a number of other voluntary measures the Fighting Creek Trading Post can implement as well. Every system should develop an emergency response plan. There is a simple fill-in-the-blanks form available on the DEQ website (http://www.deq.state.id.us/water/water1.htm) to guide systems through the emergency planning process.

Drinking water protection partnerships with landowners and other businesses in the recharge zone should also be established. Some of them may not be aware that their property is in a sensitive area where household, business or agricultural practices could have a negative impact on public drinking water supplies. The Fighting Creek Trading Post should investigate ground water stewardship programs like Home*A*Syst or Farm*A*Syst. These programs are designed to help well owners assess everyday activities for their potential impact on drinking water quality. Topics include petroleum product storage, septic system maintenance, handling and storing lawn and household chemicals and similar activities. Due to the time involved with the movement of ground water, drinking water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term.

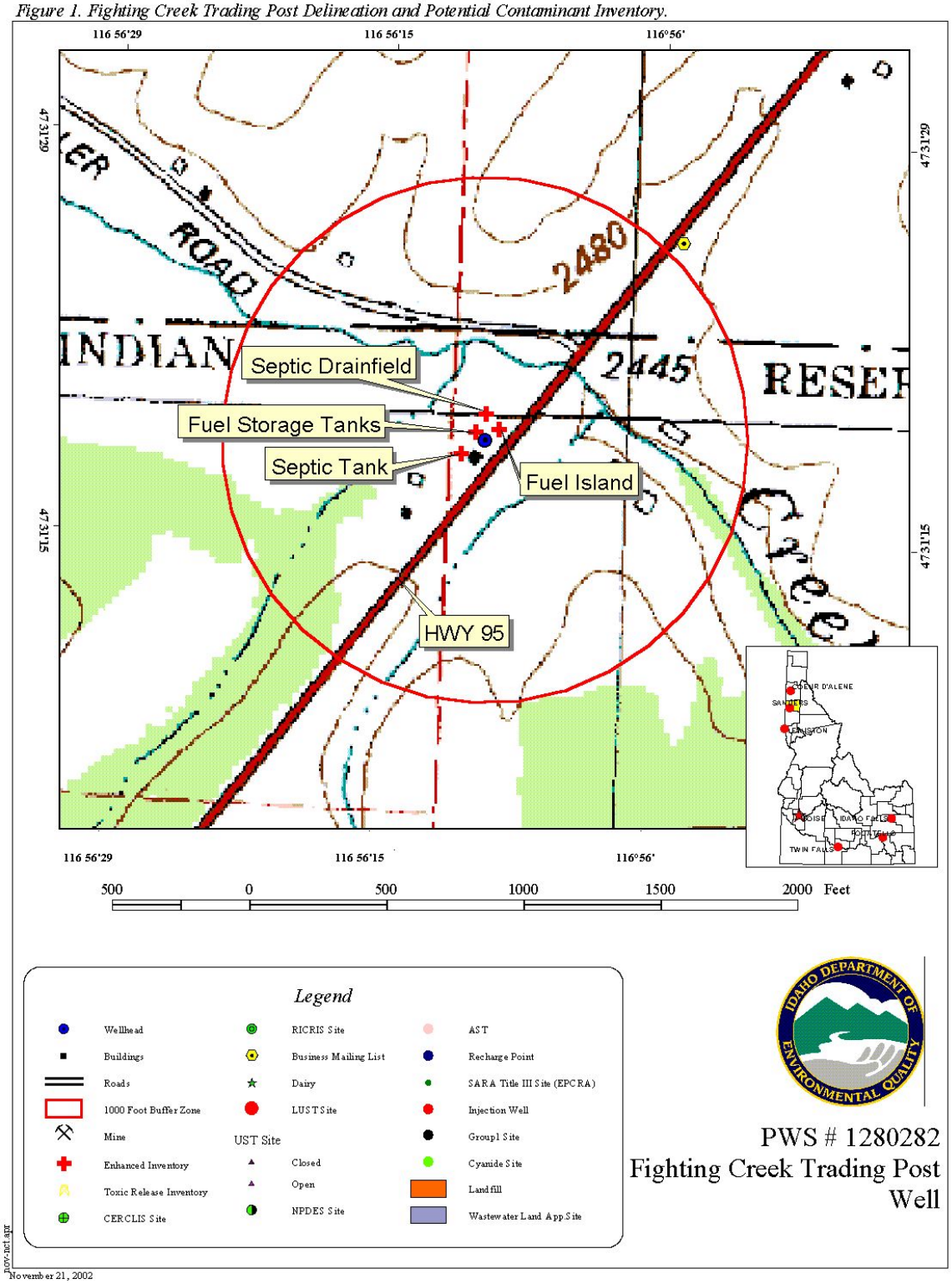
Assistance. Public water suppliers and users may call the following IDEQ offices with questions about this assessment and to request help with drinking water protection planning.

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

State IDEQ Office (208) 373-0502

Website: http:// www.deq.state.id.us/water/water1.htm

Figure 1. Fighting Creek Trading Post Delineation and Potential Contaminant Inventory.



Ground Water Susceptibility

Public Water System Name :	**FIGHTING CREEK TRADING POST**	Well :	**WELL**
Public Water System Number :	**1280282**	11/21/02 8:38:12 AM	

1. System Construction		SCORE			
Drill Date	UNKNOWN				
Driller Log Available	NO				
Sanitary Survey (if yes, indicate date of last survey)	YES 1998				
Well meets IDWR construction standards	UNKNOWN	1			
Wellhead and surface seal maintained	NO	1			
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		**5**			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	YES	0			
Vadose zone composed of gravel, fractured rock or unknown	UNKNOWN	1			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	UNKNOWN	2			
Total Hydrologic Score		**4**			
		IOC	VOC	SOC	Microbial
3. Potential Contaminant / Land Use -		Score	Score	Score	Score
Land Use	DRYLAND AGRICULTURE	1	1	1	1
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Sanitary Setback	YES. Fuel Storage & Island, Septic System	YES	YES	YES	YES
Total Potential Contaminant Source/Land Use Score -		**1**	**1**	**1**	**1**
Potential Contaminant / Land Use - 1000-Foot Radius					
Contaminant sources present (Number of Sources)	YES	1	1	1	1
(Score = # Sources X 2) 8 Points Maximum		2	2	2	2
Sources of Class II or III leacheable contaminants or Microbials	YES	1	1	1	
4 Points Maximum		1	1	1	
1000-Foot Radius contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use 1000-Foot Radius	25 to 50% Non-Irrigated Agricultural Land	1	1	1	1
Total Potential Contaminant Source / Land Use Score - 1000-Foot Radius		**4**	**4**	**4**	**3**
Cumulative Potential Contaminant / Land Use Score		**5**	**5**	**5**	**4**
4. Final Susceptibility Source Score		**10**	**10**	**10**	**11**
5. Final Well Ranking		***High**	***High**	***High**	***High**

*High due to presence of significant potential contaminant sources in sanitary setback zone.

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 0.27)

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

Final Susceptibility Ranking:

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

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.