

City of Mountain Home
PWS: # ID4200032
Source Water Protection Plan



Image taken from <http://www.mountain-home.us/cityhall/>

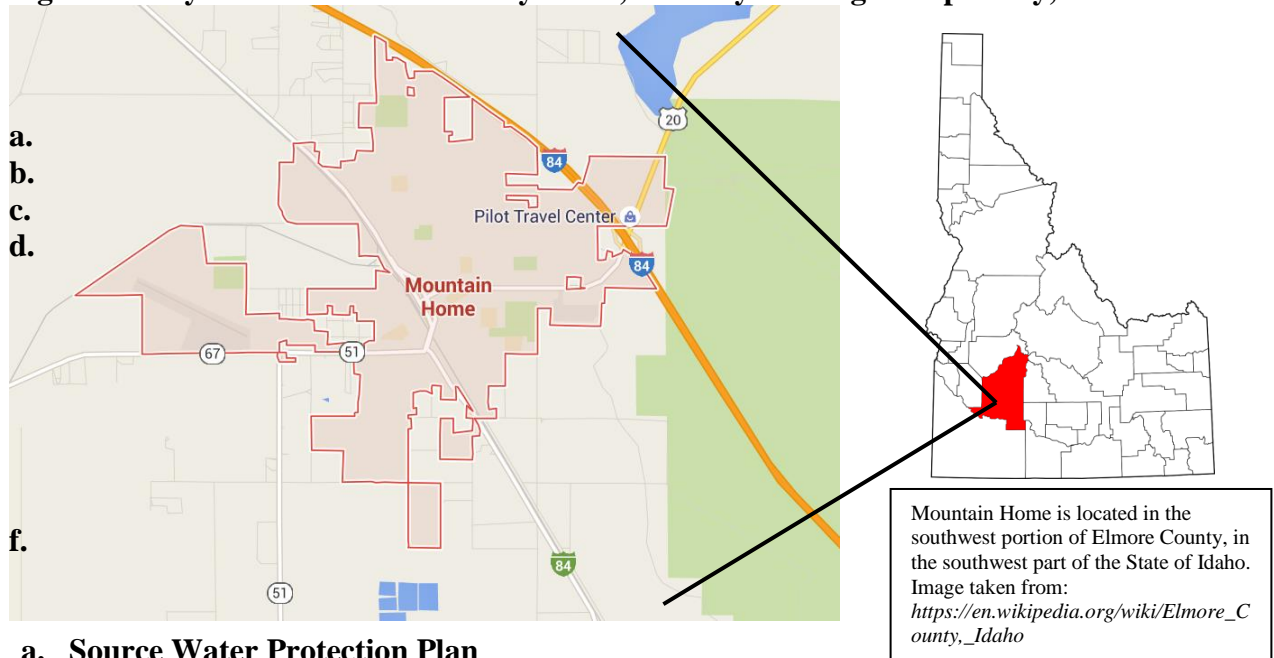
Elmore County, Idaho
Adopted in November, 2016

Written by the City of Mountain Home Water Department
With assistance from Adrianna Hummer of the Idaho Rural Water Association

I. Introduction

The City of Mountain Home¹ operates a public water system that delivers drinking water to approximately 14,000 residents through approximately 5,680 connections (DEQ, 2012). Mountain Home is located in Elmore County, Idaho. Members of the community recognize the possibility of potential threats to the town's water supply and in order to prevent possible contamination of their drinking water they have developed this Source Water Protection Plan. Proactive planning and prevention are essential to both the long-term integrity of the water system and in limiting costs and liabilities to the community.

Figure 1: City of Mountain Home City limits, courtesy of Google Maps. July, 2016.



a. Source Water Protection Plan

This Source Water Protection Plan (SWPP) is a tool for the City of Mountain Home to ensure clean and high quality drinking water for current and future generations. This SWPP is designed to:

- Create an awareness of the community's drinking water sources and the potential risks to water quality within the watershed/aquifer;
- Encourage education and voluntary solutions to alleviate pollution risks;
- Promote best management practices to protect and enhance Mountain Home's drinking water supply;
- Provide for a comprehensive action plan in case of an emergency that threatens or disrupts the community water supply.

Developing and implementing drinking water protection measures at the local level (i.e. county and municipal) will complement existing regulatory protection measures implemented by the

¹The City of Mountain Home shall also be referred to simply as "Mountain Home" throughout this report.

state and federal government. Mountain Home’s source water protection program can achieve a finer level of detail by filling gaps left by large regulatory measures.

II. Steps to Developing the Protection Plan

The City of Mountain Home Water Department prepared this Source Water Protection Plan in accordance with the guidelines identified in *Protecting Drinking Water Sources in Idaho* (DEQ, 2000). The City of Mountain Home followed these steps to complete this SWPP:

- Step 1:* Formed a Community Planning Team;
- Step 2:* Formed a list of goals for this Source Water Protection Plan and created a vision statement to express those goals;
- Step 3:* Gathered all delineations, potential contaminant inventories, and source water assessments for the public drinking water sources in the protection area;
- Step 4:* Studied the source water protection area and identified possible potential threats to the drinking water sources;
- Step 5:* Created a 5-year plan of goals and actions to manage source water protection;
- Step 6:* Ensured they were prepared for the future by creating a Contingency Plan for drinking water emergencies.
- Step 7:* Applied for state certification through the Idaho Department of Environmental Quality.

III. Planning Team

The Planning Team is considered a representation of the community as a whole; the members took consideration of the wellbeing of Mountain Home and all its residents during the creation of this Plan. Table 1 lists the Planning Team members and their contact information.

Table 1: Planning Team Members.

Name	Title or Organization	Contact Information
David Sonnentag	Water Department Supervisor	208- 587-2108 dsonnentag@mountain-home.us
Ryan Day	Water Operator	208-906-9926 rday@mountain-home.us
Sandy Sessions	Water Department Clerk	208-587-2108

a. Duties of the Planning Team

David Sonnentag was selected by the Planning Team to be the Team Coordinator, and as such he has the following responsibilities:

- Planning any future meetings;

- Leading coordination efforts for the implementation schedule of source water protection measures and activities.

The Team Coordinator will also be the lead contact for any outside references to this Plan and will be the designated contact in case of a water system emergency. DEQ and Idaho Rural Water Association (IRWA) will continue to provide support and technical assistance to the Planning Team regarding any of the plan's strategic components.

The Planning Team responsibilities are to:

- Hold annual meetings to review and update this Plan and any of its components. Meeting dates may coincide with City Council meetings if appropriate.
- Review and update the potential contaminant source inventories annually by adding any new potential point and nonpoint sources of contamination identified in the delineated source water areas.
- Coordinate implementation of the strategies identified in this plan to protect Mountain Home's drinking water sources.
- Use informational materials to implement public education and outreach activities in accordance with the management plan.

IV. Goals and Vision Statement

Creating formal goals and a vision statement will guide the development of this SWPP. It will also help focus efforts of the Planning Team and community throughout the implementation phase.

a. Formation of Goals

The Planning Team for Mountain Home has identified a set of goals they wish to accomplish with this Source Water Protection Plan. These goals were formed by taking into consideration the needs of the community, long term sustainability of the drinking water system and infrastructure, immediate threats in the area, public health and safety, and any other issues discussed at the Planning Team meetings. The goals for Mountain Home's Source Water Protection Plan are as follows:

Goal 1: *To increase the community's awareness of Mountain Home's water source.*

Goal 2: *To educate the community about water conservation.*

b. Formation of a Vision Statement

The vision statement is an expression of the Planning Team's dedication to protecting their source of drinking water. It is a formalized statement that represents the vision of the community as a whole and their mission to preserve and protect drinking water sources for current and future generations. The vision of Mountain Home's Planning Team is:

To maintain an abundant supply of high quality drinking water for present and future needs.

V. Source Water Protection Area

The City of Mountain Home is located in the southwest region of Idaho, in the southwest region of Elmore County. The City limits cover approximately 6.36 square miles, and the City sits at an elevation of 3,146 feet (Wikipedia, 2016). The City uses 9 groundwater wells to supply its residents with drinking water. Table 2 gives a summary of the drinking water system for the City of Mountain Home.

Table 2. The City of Mountain Home’s Drinking Water Wells.

Well #	Status and Use	Year Drilled	Well Depth (ft)	Water Table Depth (ft)
1	Active - Primary	1956	917	488
6	Active	1960	940	462
8	Inactive - Emergencies only	1963	990	488
9	Active - Least used	1973	600	73
11	Active - High Summer use	1977	815	815
12	Active	1966	585	535
13	Active - Backup in Winter	1992	850	445
14	Active - Summer use	2005	692	198
15	Active - Summer use	2009	695	489

a. Source Water Delineations

The source water delineation is the physical area around a well that will become the focal point of quality and protection measures. This area can be thought of as a “zone of contribution” where any water contributing to the groundwater sources within the delineated area is contributing to the drinking water sources for Mountain Home. The delineation is completed by the Idaho Department of Environmental Quality for every public drinking water system in Idaho as part of the Source Water Assessment Report.

DEQ uses a computer model that assimilates a variety of data, including the City of Mountain Home’s well logs, other local area well logs, and various hydrogeological reports, to map the boundaries of the zone of contribution into groundwater time-of-travel (TOT) zones. These zones indicate the number of years necessary for a particle of water to reach a well. DEQ used a refined computer model approved by the EPA in determining the 3-year, 6-year, and 10-year TOT zones. A complete description of Mountain Home’s hydrogeology can be found in *City of Mountain Home (PWS 4200032) Source Water Assessment Final Report* (DEQ, 2002).

Delineations for the City of Mountain Home’s wells 1, 6, 8, 9, 11, 12, 13, 14 and 15 were performed as part of the most recent Source Water Assessment. The current delineations and Source Water Assessment can be viewed online at <http://www2.deq.idaho.gov/water/swaonline> or by contacting your regional DEQ office. An explanation of the abbreviations used in the delineation maps below can be found in Appendix A.

Figure 2. The City of Mountain Home's Source Water Protection Area.

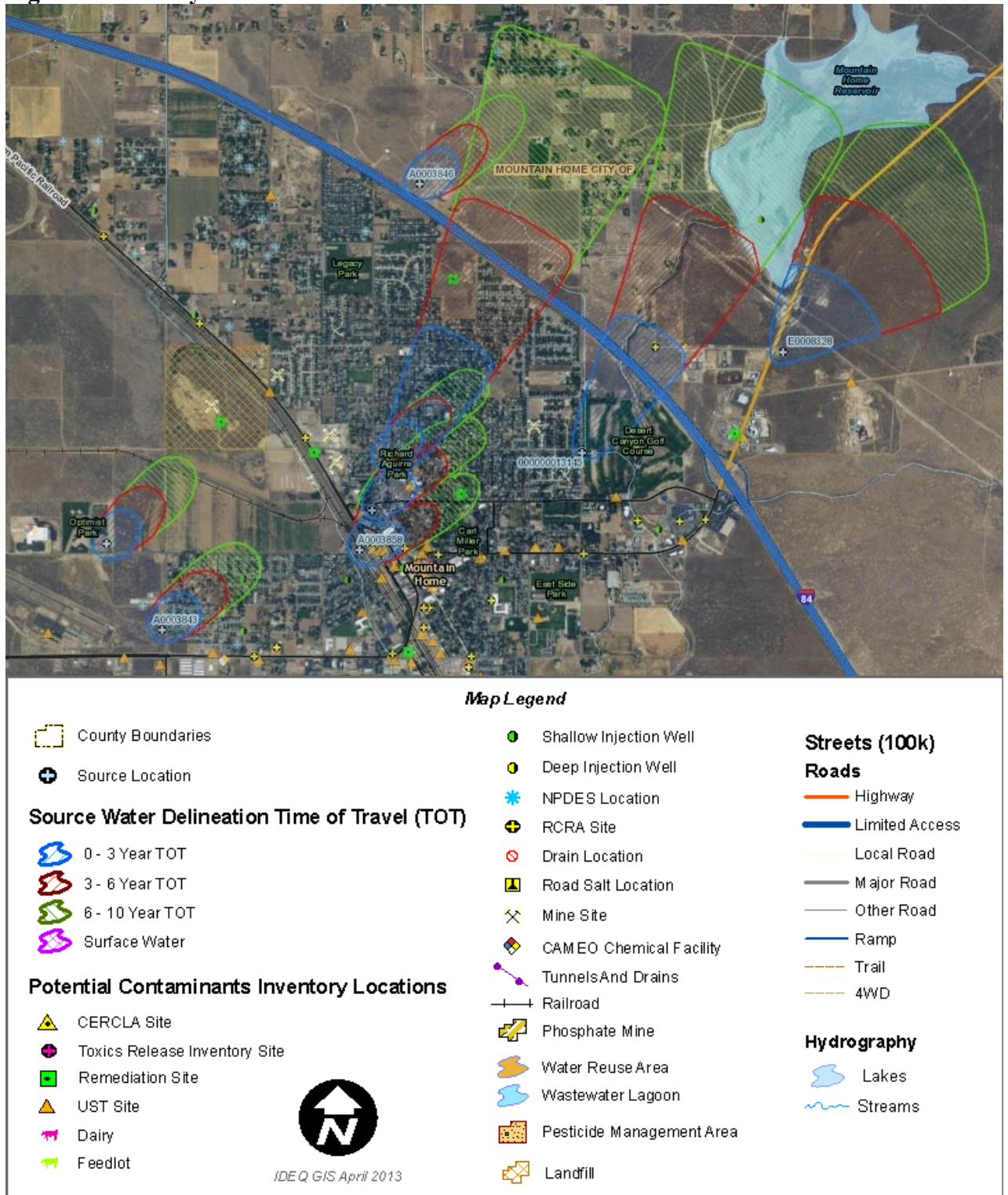


Figure 3. Delineation map for Mountain Home's drinking water well #1.



Figure 4. Delineation map for Mountain Home's drinking water well #6.

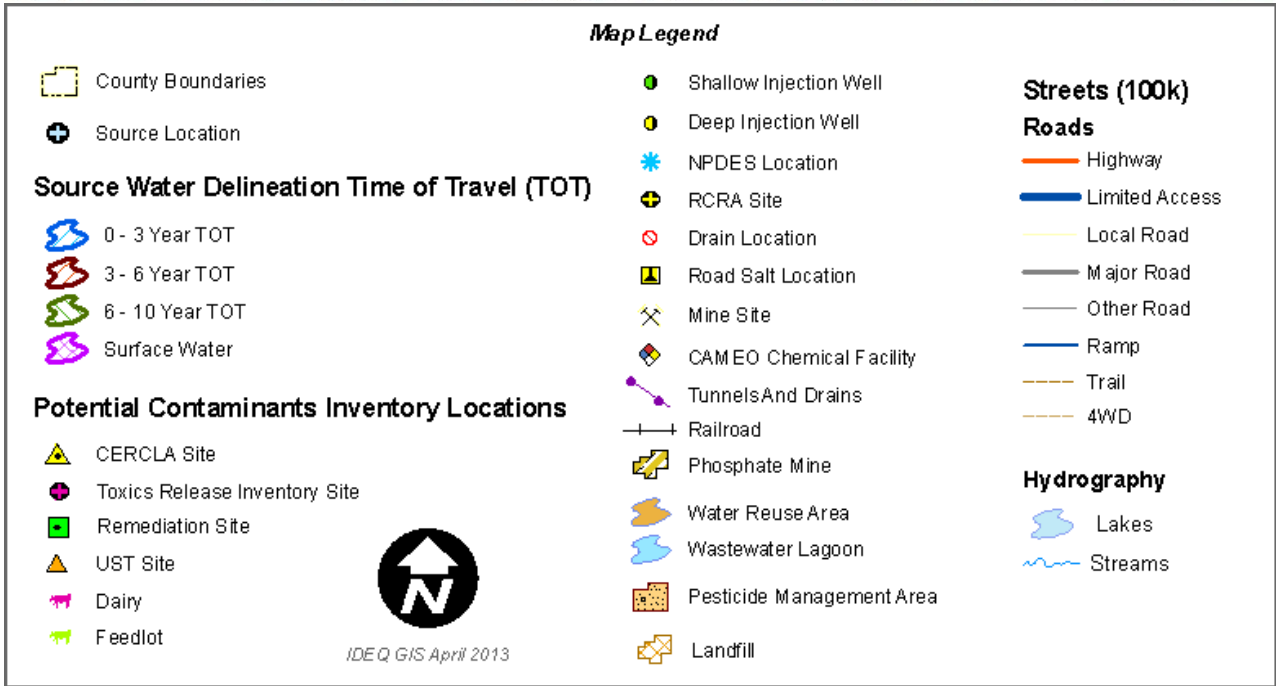
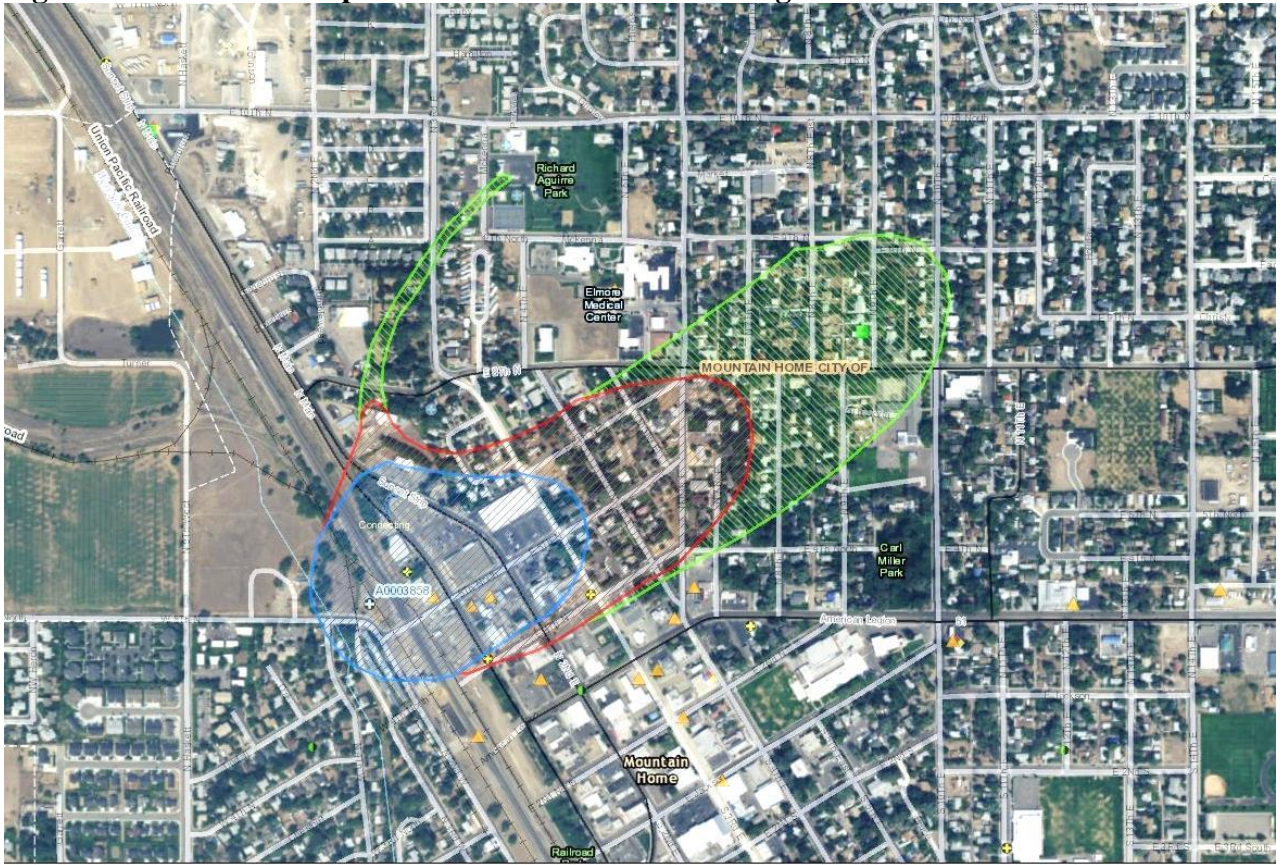
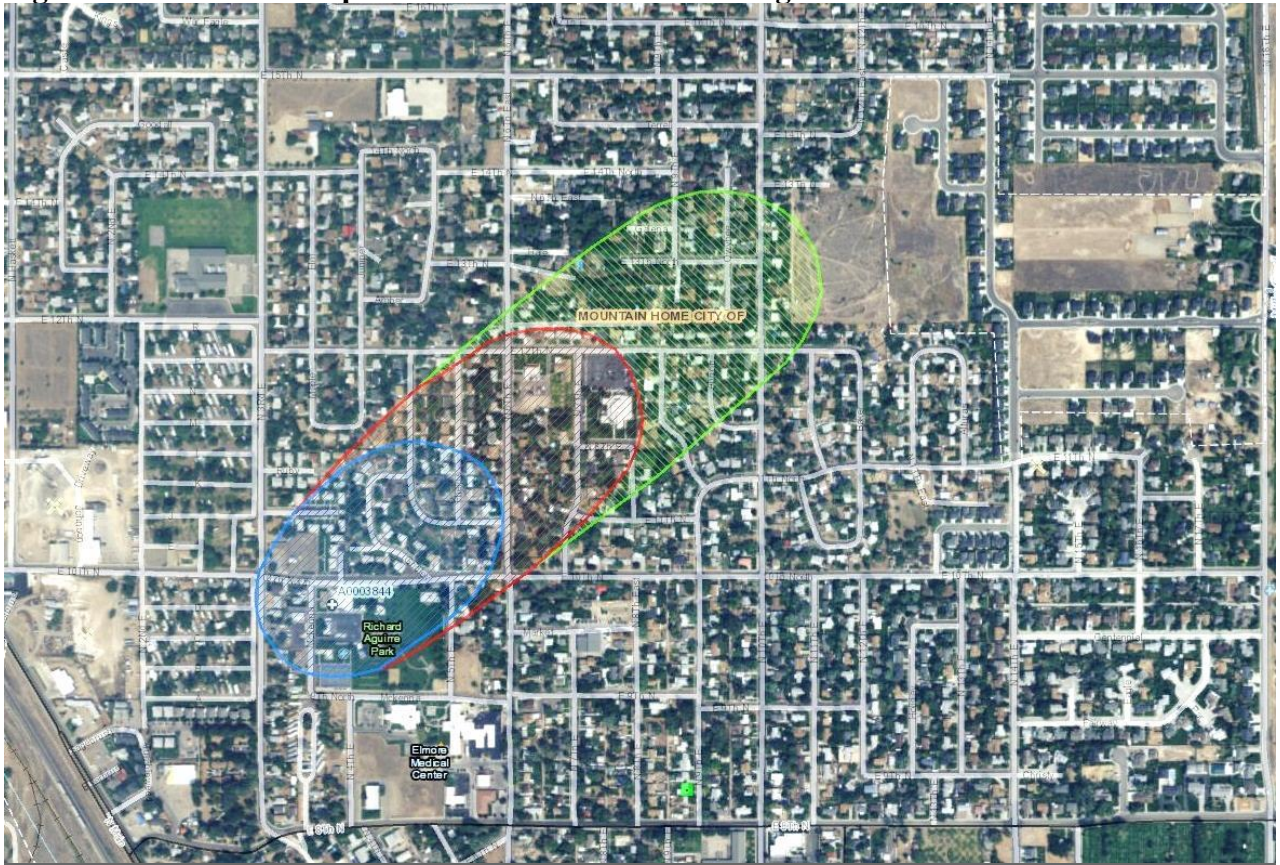


Figure 5. Delineation map for Mountain Home's drinking water well #8.



Map Legend

County Boundaries

Source Location

Source Water Delineation Time of Travel (TOT)

0 - 3 Year TOT

3 - 6 Year TOT

6 - 10 Year TOT

Surface Water

Potential Contaminants Inventory Locations

CERCLA Site

Toxics Release Inventory Site

Remediation Site

UST Site

Dairy

Feedlot

Shallow Injection Well

Deep Injection Well

NPDES Location

RCRA Site

Drain Location

Road Salt Location

Mine Site

CAMEO Chemical Facility

Tunnels And Drains

Railroad

Phosphate Mine

Water Reuse Area

Wastewater Lagoon

Pesticide Management Area

Landfill

Streets (100k)

Roads

Highway

Limited Access

Local Road

Major Road

Other Road

Ramp

Trail

4WD

Hydrography

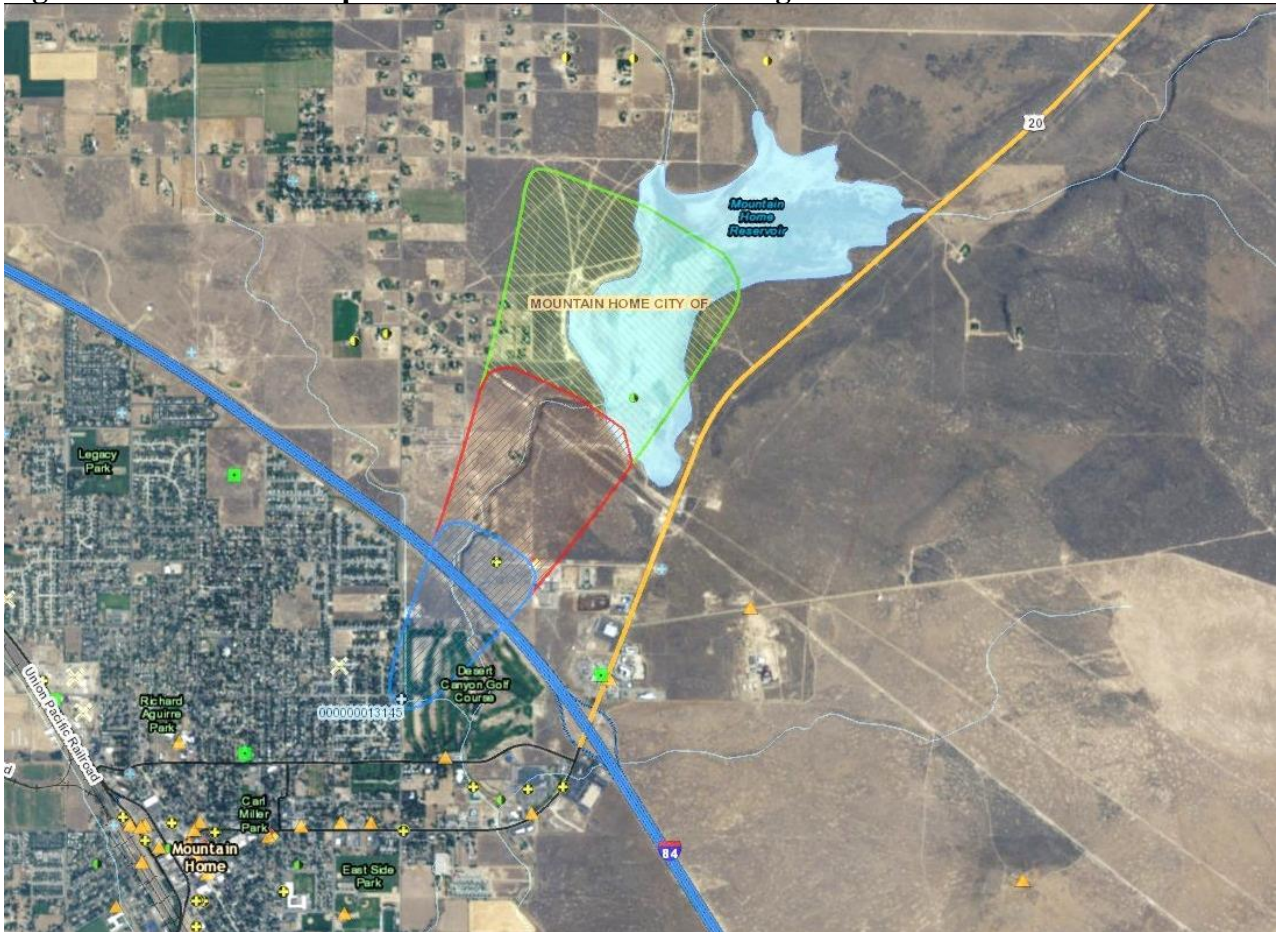
Lakes

Streams



IDEQ GIS April 2013

Figure 6. Delineation map for Mountain Home's drinking water well #9.



Map Legend

County Boundaries

Source Location

Source Water Delineation Time of Travel (TOT)

0 - 3 Year TOT

3 - 6 Year TOT

6 - 10 Year TOT

Surface Water

Potential Contaminants Inventory Locations

CERCLA Site

Toxics Release Inventory Site

Remediation Site

UST Site

Dairy

Feedlot

Shallow Injection Well

Deep Injection Well

NPDES Location

RCRA Site

Drain Location

Road Salt Location

Mine Site

CAMEO Chemical Facility

Tunnels And Drains

Railroad

Phosphate Mine

Water Reuse Area

Wastewater Lagoon

Pesticide Management Area

Landfill

Streets (100k)

Roads

Highway

Limited Access

Local Road

Major Road

Other Road

Ramp

Trail

4WD

Hydrography

Lakes

Streams



IDEQ GIS April 2013

Figure 7. Delineation map for Mountain Home's drinking water well #11.

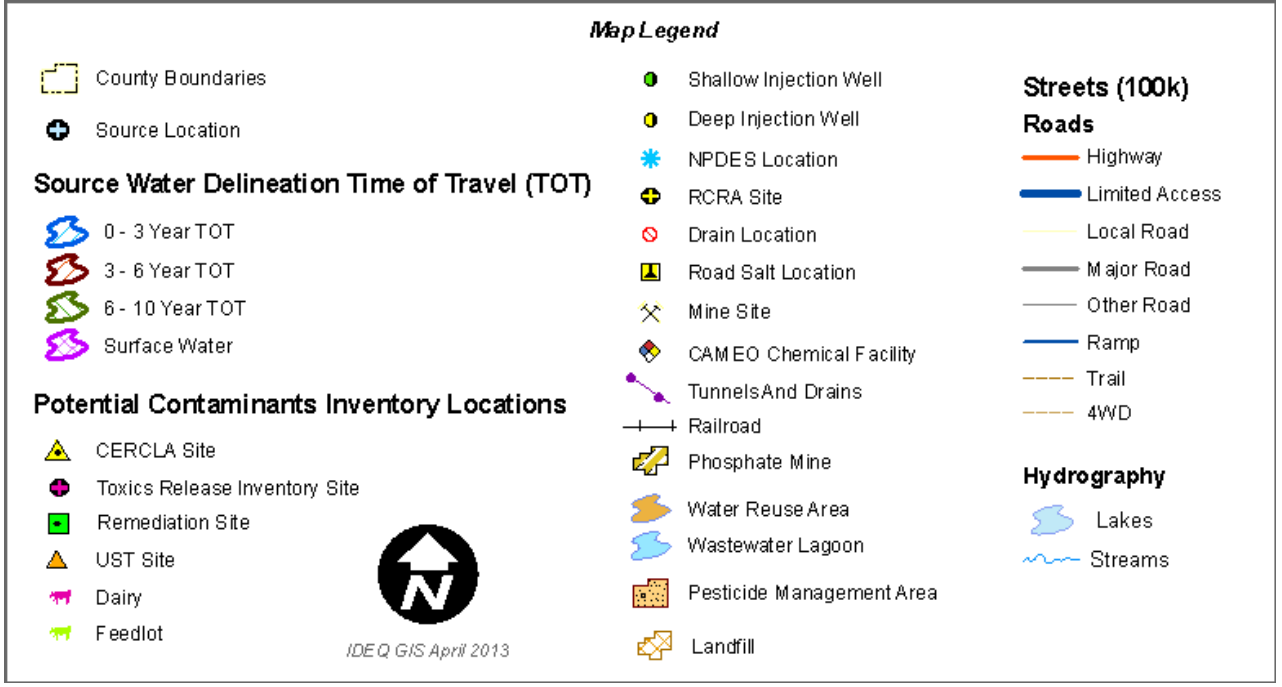


Figure 8. Delineation map for Mountain Home's drinking water well #12.

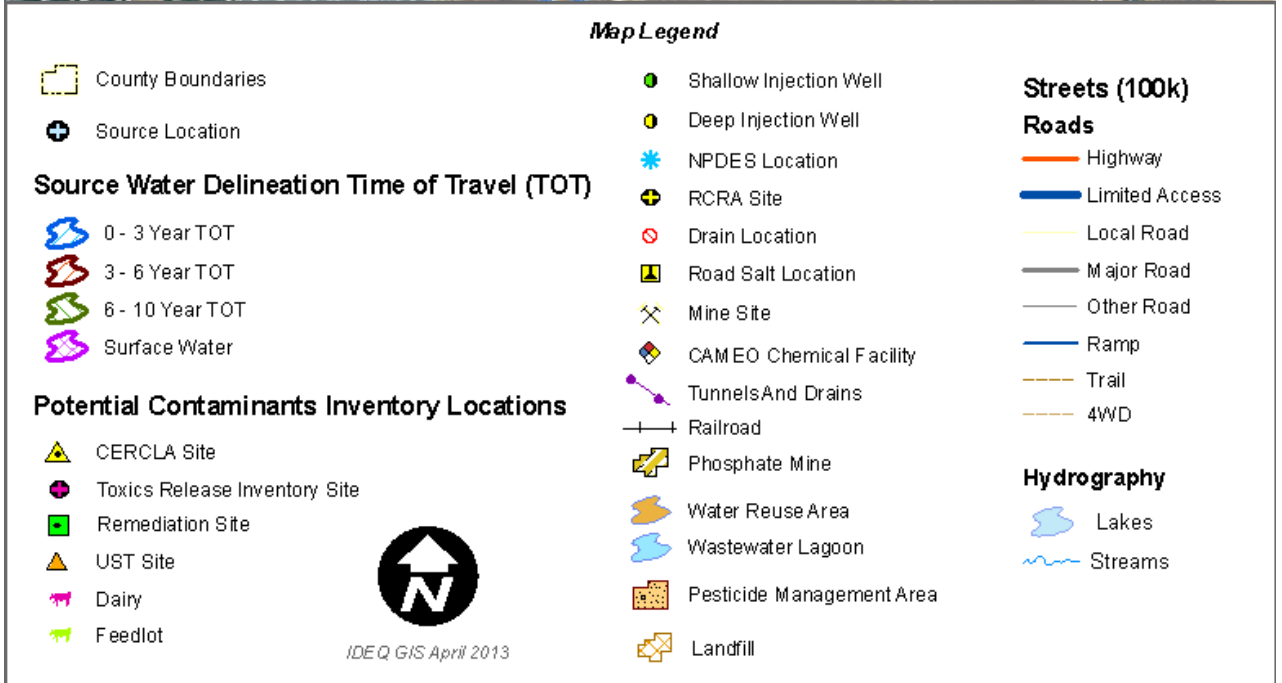


Figure 9. Delineation map for Mountain Home's drinking water well #13.

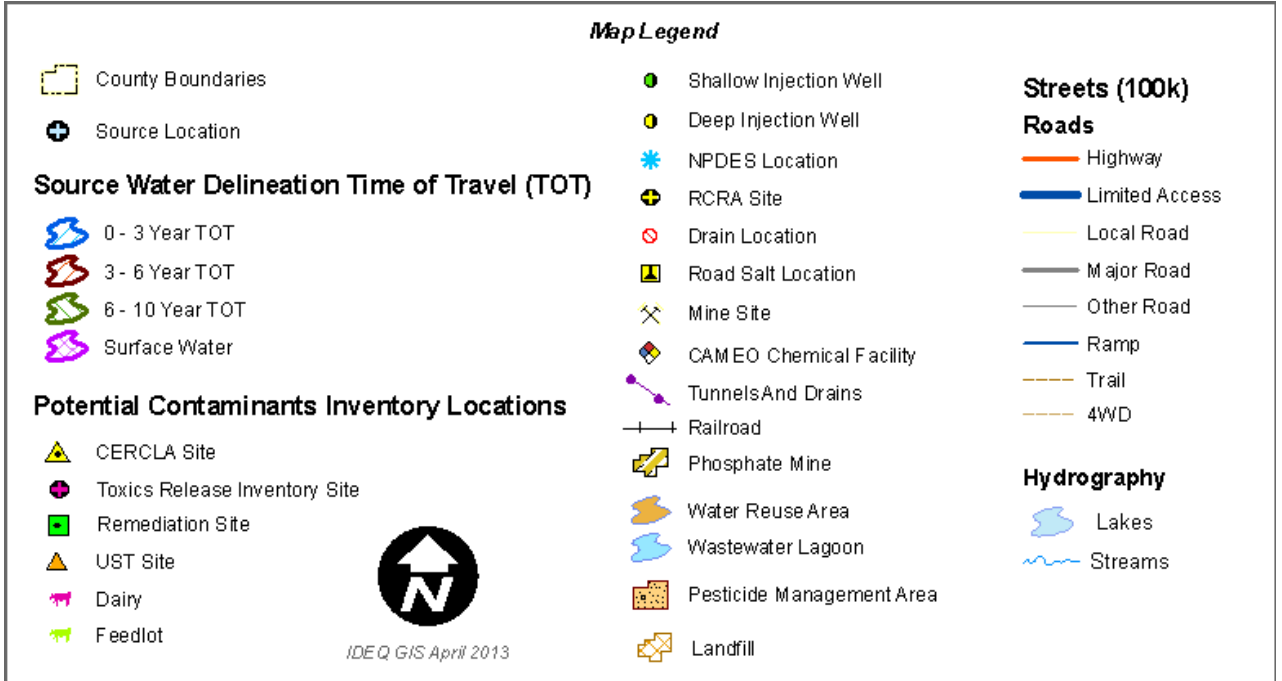
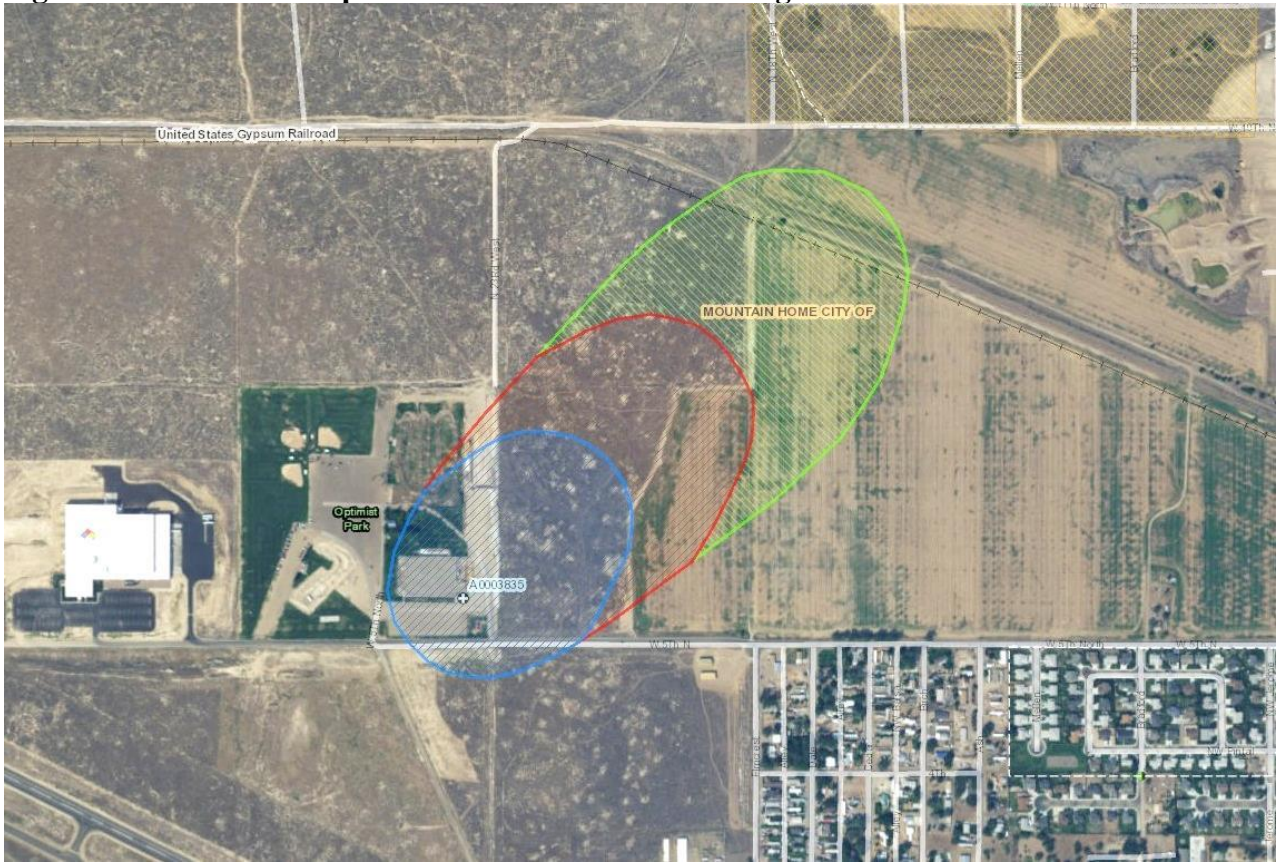


Figure 10. Delineation map for Mountain Home's drinking water well #14.

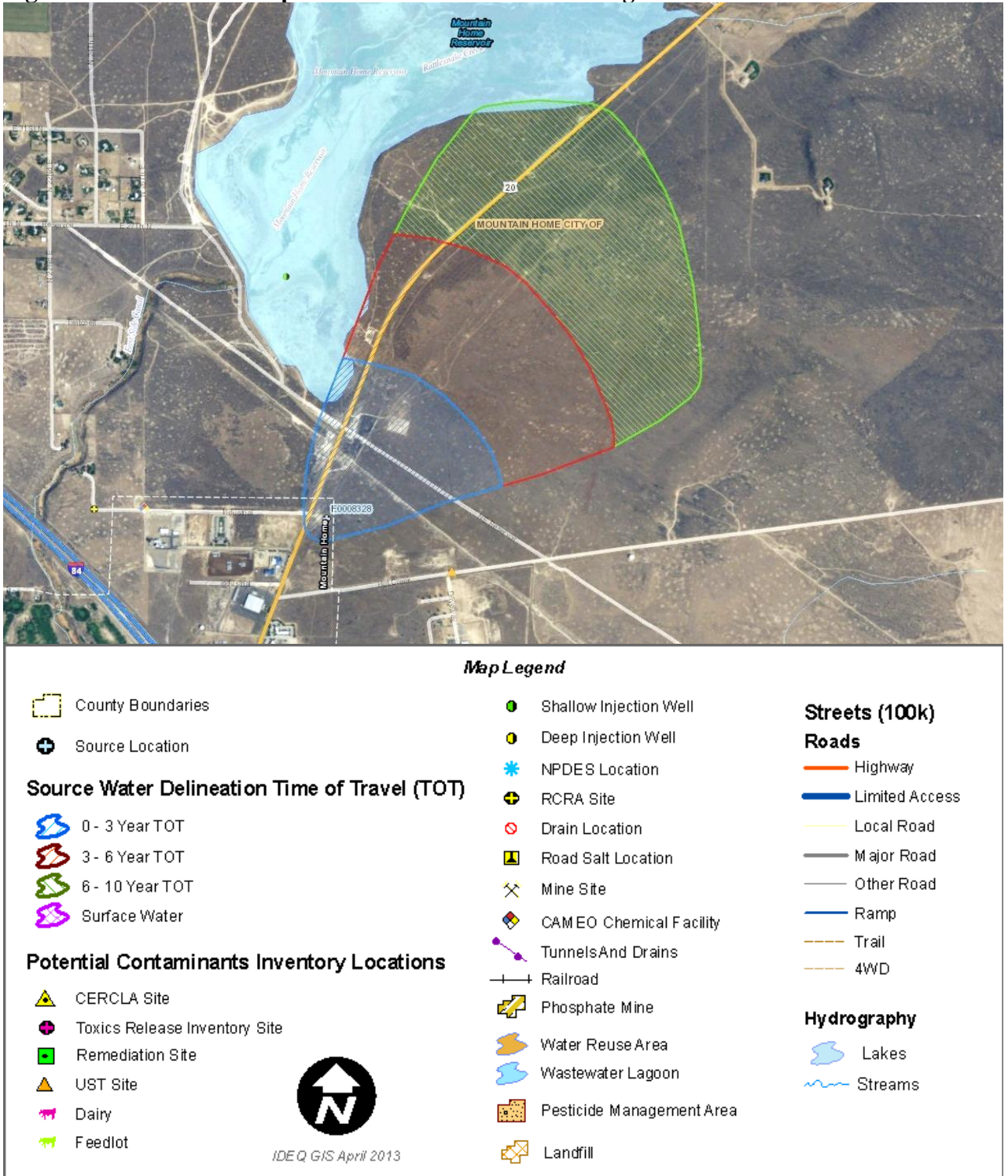
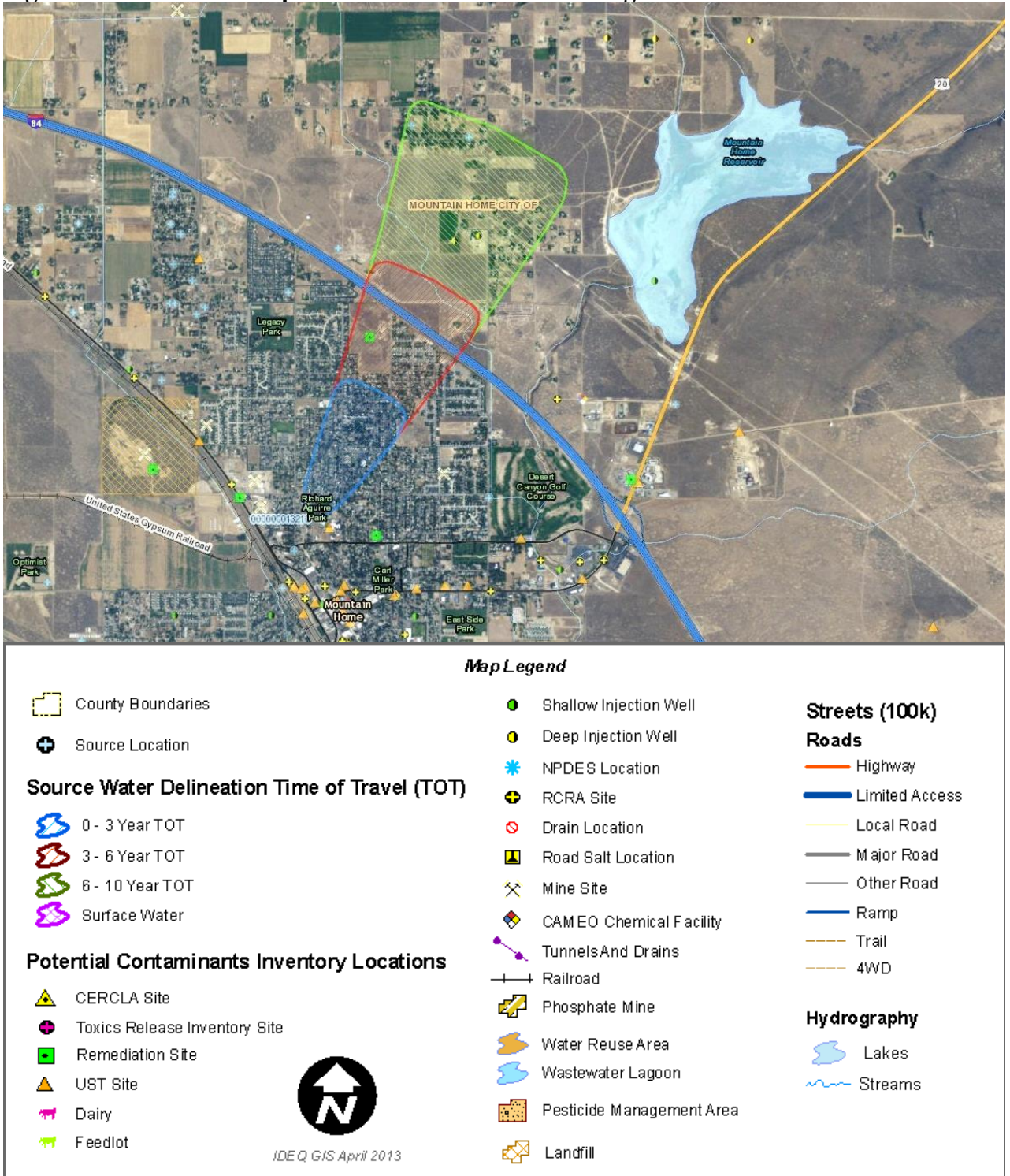


Figure 11. Delineation map for Mountain Home's drinking water well #15.



b. Land Use

The City of Mountain Home Water Department has the authority to protect and promote the health, welfare, and safety of the people of Mountain Home, and the authority to regulate land use planning and protection of the environment within its boundaries.

Land use within the City of Mountain Home includes a mixture of residential areas, businesses, transportation corridors, irrigated agriculture, and surface water canals (DEQ, 2002). The City's wells are interspersed throughout these varied land use regions. The City of Mountain Home sits on a plateau that drains to the southwest, towards the Snake River (DEQ, 2002). The land up-gradient from the City is primarily undeveloped rangeland and thus poses little threat to the City's water supply. The Mountain Home Nitrate Priority Area (NPA) is located southeast of Mountain Home and is also not a concern for the City's water source (refer to direction of groundwater travel in Figure 2).

The Mountain Home NPA, as designated by the 2014 DEQ rankings, is located in an area of dense irrigated agriculture. After reviewing land use within the delineated source water areas and within the City limits, the Planning Team for the City of Mountain Home does not anticipate any future nitrate issues for their water source. Within Mountain Home, irrigated agriculture near the City's wells is limited to relatively small patches. Industrial threats are minimal, and large livestock operations are nonexistent within the City limits and delineation areas.

c. Susceptibility

Seven out of eight active wells for the City of Mountain Home have a high susceptibility ranking for hydrologic sensitivity. All eight of Mountain Home's wells are drilled through fractured volcanic rocks with a high degree of drainage. Despite the water table being very deep in this area (greater than 300 feet in six out of eight cases), there is no aquitard present for seven of Mountain Home's wells (DEQ, 2002). Well #11 is the only active well with a medium susceptibility ranking for hydrologic sensitivity; Well #11 is also the only well drilled through a confining layer over 50 feet in thickness (DEQ, 2002).

Some high susceptibility rankings are due to aged wells or unknown attributes. Five out of eight of Mountain Home's wells are over 30 years in age. To view the full susceptibility scores, see Appendix B.

d. Zoning

Within the City limits of Mountain Home there are various types of land use zoning districts. The Planning Team will encourage the Mountain Home and Elmore County Planning and Zoning Committees to reference this Source Water Protection Plan when making future zoning decisions. By keeping the source water delineations and time of travel zones in mind during land use planning, the threat of contamination to drinking water sources for the City may be reduced.

e. Planning for Growth

If new drinking water sources become necessary, this SWPP will be used to assist in selecting a well location that is protected from potential sources of contamination. The City of Mountain

Home will request that DEQ review the delineations if there are major changes to an existing well's construction, discharge rate, or pumping rate. DEQ will update or modify the delineations if significant new information becomes available. The delineation for any new or modified drinking water source will be inventoried for any potential contaminant sources, and the risk evaluated. Mountain Home can then take appropriate actions to reduce risks that may pose a threat to its drinking water source.

VI. Potential Contaminant Sources

Potential Contaminant Sources are facilities or locations that store, use, or produce potential contaminants as regulated by the Safe Drinking Water Act (DEQ, 2000). If a business or location is designated as a potential contaminant source, there exists a contaminant in great enough quantities to pose a threat to local drinking water sources. However, it is important to understand that the designation of a potential contaminant source does not mean that a business, facility, or property is in any sort of violation of safety standards, or that a leak or release of contaminants will occur. It does mean that the potential for contamination exists due to the nature of the business, facility, or property, and the community and system need to be aware of it.

Management of the drinking water sources for Mountain Home included a review phase of the list of potential contaminants compiled from a DEQ database, and then an enhanced inventory phase. The enhanced inventory required members of the Planning Team to tour the area and add any other potential contaminants possibly overlooked.

a. Enhanced Potential Contaminant Source Inventory

The Planning Team reviewed the potential contaminant source inventory provided by DEQ's online Source Water Assessment database. This database was last updated on August 11, 2016. The Planning Team also went through an inventory of the community to search for and identify potential contaminants not recognized in the DEQ database. Sources in the DEQ database were also confirmed or disconfirmed in the field.

The results of the inventory are shown in Table 3. For an explanation of terms and abbreviations used, refer to Appendix A. The most current version of DEQ's Potential Contaminant Source Inventory is available online at <http://www2.deq.idaho.gov/water/swaOnline/Search>.

b. Prioritization of Potential Contaminant Sources

The Planning Team members accomplished an additional step by prioritizing and ranking the potential contaminant sources according to their known or perceived threat to Mountain Home's aquifer. The potential contaminants were ranked as *high*, *medium*, or *low* threats to the water system. The rankings were decided upon by taking into consideration the proximity of the site to the drinking water source, detection of any known contaminants or past spills at the site, and the type of risk the potential contaminant poses to the source. This priority ranking is presented as the fifth column added to the potential contaminant source inventories on Table 3.

Table 3: Enhanced Potential Contaminant Source Inventory

Name	Description	Location	Potential Contaminants or Concern	Rank
Bermensolo Property	Remediation Site, still open	N 10th E & E 19th N Well #15 3-6 TOT	Site Specific	High
Irrigation canal	Non-potable surface water, unlined canal	Well #9 0-3 TOT	Microbes	Low
La Mode Cleaners	RCRA	290 E 4th N Well #6 3-6 TOT	Site specific	Low
Mountain Home Oil Inc	RCRA No longer here; location now used for Church	405 N Main St Well #6 3-6 TOT	Site Specific	Low
Steve's Auto Repair	LUST: 5 tanks. 4 installed in 1971, one installed in 1991. Leak in 1992. Cleanup completed in 2010. All 5 tanks have been removed from ground.	470 N Main St Well #6 0-3 TOT	VOC, SOC	Med
Hiler Bros Shell	LUST: 4 tanks currently in use, installed in 1989. Leaks in 2009 and 2010. Cleanup listed as complete.	495 N 2 nd E Well #6 0-3 TOT	VOC, SOC	Med
Withrow Court Subdivision	Shallow Injection Well 61X0010001	Well #11 6-10 TOT	IOC, VOC, SOC, Microbes	Low
Desert Canyon Golf Course	Irrigated land, fertilizer	Well #9 0-3 TOT	IOC, SOC	Low

VII. Source Water Management Tools

Implementation of this Source Water Protection Plan is the most important component of the program. Without the continued efforts and support of the Planning Team and the community as a whole, the protection of Mountain Home's drinking water source may not be accomplished. Ongoing efforts to promote source water protection are vital to ensuring safe drinking water for future generations.

Table 4 contains the five-year outline of source water protection measures developed by the Planning Team. These measures are meant to create an ongoing source water protection program that addresses the potential contaminant sources identified in both the Source Water Assessment and the Potential Contaminant Inventory.

Table 4: Five-Year Implementation Schedule for Drinking Water Protection.

Protection Activity	Responsible Party	Task(s)	Public Component (Y/N)	Date to be Completed
Year 1: 2017				
Raise awareness about sensitive ground water protection areas within the City of Mountain Home.	David Sonnentag and Ryan Day	Post “drinking water protection area” signs in pertinent areas.	Yes	Spring
Educate the City of Mountain Home about the source of their drinking water.	Sandy Sessions	Post SWA delineation maps for the City of Mountain Home on the Water Department’s webpage. Include explanation of maps and SWP. IRWA can help with material.	Yes	Spring
Year 2: 2018				
Protect Mountain Home’s source of drinking water from spills.	Planning Team	Investigate the high priority item in Table 3 to see what possible affect it may have on Mountain Home’s drinking water source. Work with the property owner and any pertinent agencies if necessary. IRWA can help with finding information on the spill site and cleanup.	No	Throughout the year
Educate residents of Mountain Home about source water protection.	Sandy Sessions	Provide a link of the Water Department’s website to educational videos about source water protection, including IRWA’s PSAs on household waste.	Yes	Spring
Year 3: 2019				
Encourage the community to use their water wisely.	Planning Team	Encourage water conservation through the use of brochures and website postings. Focus on residents within delineated areas and close to City wells.	Yes	Spring and Summer
Improve the Mountain Home Water Department’s ability to respond to emergencies that	David Sonnentag	Investigate the benefits of joining Idaho’s no-obligation emergency response network, IdWARN. Ensure drinking water emergency plans are in	No	Throughout the year

may threaten their drinking water supply.		place with Elmore County Emergency Management.		
Year 4: 2020				
Raise awareness about sensitive ground water protection areas within the City of Mountain Home.	David Sonnentag and Ryan Day	Alert businesses operating within 0–3 TOT zones that they are working within a sensitive groundwater area. Focus on facilities with chemicals, oils, USTs, etc. Ensure best practices are being used.	Yes	Spring
Year 5: 2021				
Plan for future source water protection.	Planning Team	Review and update the Source Water Protection Plan for the City of Mountain Home. Address any new potential contaminants and update emergency information. Invite the public to become involved in the process by joining the Planning Team.	Yes	Spring

VIII. Emergency Response Planning

The City of Mountain Home completed a Contingency Plan as part of this SWPP. Copies of the Contingency Plan will be located in the Water Department offices and in each Public Works Employee’s vehicle. Copies of the Contingency Plan will also be provided to City Administrators and local disaster services. The City of Mountain Home has included emergency planning as part of their implementation efforts. To view the full Contingency Plan, see Appendix D.

IX. Public Participation

Public participation during the implementation of this Source Water Protection Plan will include the addition of educational materials to the Mountain Home website, the distribution of conservation and protection materials throughout the community, and direct contact with local business owners and residents.

Members of the public that are interested in learning more about this SWPP or how they can become involved in protection activities may contact the Mountain Home Water Department or the Idaho Rural Water Association. The City of Mountain Home will pursue additional advertisements for public events as they occur. The Idaho Rural Water Association may assist with advertisement and outreach as needed.

IX. References

1. DEQ (Idaho Department of Environmental Quality). 2000. *Protecting Drinking Water Sources in Idaho*.
2. DEQ (Idaho Department of Environmental Quality). August 26, 2002. *City of Mountain Home (PWS 4200032) Source Water Assessment Final Report*.
3. DEQ (Idaho Department of Environmental Quality). July, 2014. *2014 Nitrate Priority Area Delineation and Ranking Process*.
4. DEQ (Idaho Department of Environmental Quality). August 26, 2002. *Source Water Assessment Summary Report: Mountain Home, City of (PWS 4200032) Wells 1, 6, 8, 11, 12, and 13*.
5. DEQ (Idaho Department of Environmental Quality). August 14, 2007. *Source Water Assessment Summary Report: Mountain Home, City of (PWS 4200032) Well 14*.
6. DEQ (Idaho Department of Environmental Quality). June 28, 2012. *Source Water Assessment Summary Report: Mountain Home, City of (PWS 4200032) Wells 9 and 15*.
7. Wikipedia. Accessed July 25, 2016. https://en.wikipedia.org/wiki/Mountain_Home,_Idaho

XI. Appendixes

Appendix A: Glossary of Abbreviations and Terms

Appendix B: Groundwater Susceptibility Reports

Appendix C: Available Well Logs for the City of Mountain Home

Appendix D: Contingency Plan

Appendix A

Glossary of Terms and Abbreviations

Taken from Idaho DEQ's SWA Online:

<http://www.deq.idaho.gov/water/swaOnline/AcyronymsAndGlossary.aspx>

Abbreviations and Acronyms

AST - aboveground storage tank
bgs - below ground surface
CAFO – Confined Animal Feeding Operations
CAMEO – Computer Aided Management of Emergency Operations
CERCLIS - Comprehensive Environmental Response Compensation and Liability Information System
EPA - U.S. Environmental Protection Agency
DEQ - Idaho Department of Environmental Quality
GIS - geographic information system
GWUDI – Ground water under direction influence of surface water
IDAPA - A numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures act
IOC - inorganic chemical
LUST - leaking underground storage tank
MCL - maximum contaminant level
µg/L - micrograms per liter
mg/L - milligrams per liter
NPDES - National Pollutant Discharge Elimination System
PCI – Potential Contaminant Inventory
PWS - public water system
RCRA – Resource Conservation Recovery Act
RCRIS - Resource Conservation Recovery Information System
SARA Tier II - Superfund Amendments and Reauthorization Act Tier II facilities
SWPP – Source Water Protection Plan
SDWISS - Safe Drinking Water Information System, state version
SOC - synthetic organic chemical
SWA – Source Water Assessment
TOT - time of travel
TRI - toxic release inventory
UST - underground storage tank
VOC - volatile organic chemical

Glossary of Terms

Aquifer – A geologic formation of permeable saturated material, such as rock, sand, gravel, etc., capable of yielding economically significant quantities of water to wells and springs.

Low Permeable Unit – A layer of rock or sediment that does not transmit water easily (i.e., clay), thus helping protect the aquifer below from contamination.

Analytical Model – A model that provides approximate or exact solutions to simplified forms of the differential equations for water movement and solute transport. Analytical models can generally be solved with calculators or computers.

Computer-Aided Management of Emergency Operations (CAMEO) Chemical Facility – A facility that stores or uses hazardous material and is included in the CAMEO Database, which is maintained by the Environmental Protection Agency and National Oceanic and Atmospheric Administration.

Community Water System – A public water system that supplies water to at least 15 service connections used by year-round residents or which regularly serves at least 25 year-round residents.

Comprehensive Environmental Response Compensation and Liability Act (CERCLA) Site – More commonly known as “Superfund,” CERCLA is federal legislation passed in 1980 designed to clean up hazardous waste sites that are on the U.S. Environmental Protection Agency’s National Priorities List. See <http://www.epa.gov/superfund/policy/cercla.htm> for more information on CERCLA.

Confined Animal Feeding Operation (CAFO) – CAFOs are agricultural operations where animals are kept and raised in confined situations. CAFOs congregate animals, feed, manure and urine, dead animals, and production operations on a small land area. Feed is brought to the animals rather than the animals grazing or otherwise seeking feed in pastures, fields, or on rangeland. See dairy and feedlot definitions.

Dairy– A place or premise where one or more milking cows, sheep, or goats are kept, and from which all or a portion of the milk produced is sold for human consumption. Dairies are regulated by the Idaho State Department of Agriculture.

Deep Injection Well – These sites may be indicated on the delineation and potential contaminant sources maps. An injection well is a well used as a means to dispose of or store fluids in the subsurface. Deep injection wells, generally used for disposing of storm water runoff or agricultural field drainage, are deeper than 18 feet below ground surface and are regulated by the Idaho Department of Water Resources.

Delineation (delineate) – The process of defining or mapping the boundary of the area that contributes water to a particular water source used as a public water supply.

Drain Location – Historical method of draining excess water resulting from flood irrigation on agricultural fields by digging a hole from the land surface to an underlying tunnel.

Enhanced Contaminant Inventory – See Potential contaminant inventory (PCI) for a definition.

Feedlot – A lot or facility where slaughter and feeder cattle or dairy heifers are confined and fed for a total of forty-five days or more during any twelve month period and crops, vegetation forage growth, or post harvest residues are not sustained in the normal growing season over any portion of the lot or facility.

Floodplain – The flat or nearly flat land along a river or stream or in a tidal area that is covered by water during a flood. DEQ uses data from the Federal Emergency Management Agency to determine the 100 – year floodplain for any given area. The 100-year floodplain is the area likely to be inundated during a flood that has a 1% chance of being equaled or exceeded in any given year.

GIS (geographic information system) – A collection of computer hardware, software, geographic data, and interactive maps used to efficiently capture, store, update, analyze, and display the delineation and potential contaminant sources for source water assessments.

Ground Water – Any water which occurs beneath the surface of the earth in a saturated geologic formation of rock or soil.

Ground Water Flow – The movement of ground water through openings in sediment and rock that occurs in the zone of saturation. This flow is typically under the influence of gravity.

Ground water under the direct influence of surface water (GWUDI) - Any water beneath the surface of the ground with (1) significant occurrence of insects or other macroorganisms, algae, or large diameter pathogens such as *Giardia lamblia*, or (2) significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH which closely correlate to climatological or surface water conditions.

Hydrologic Sensitivity – Hydrologic sensitivity refers to the susceptibility of a public water system to contamination based on the hydrologic conditions at the source. A well's hydrologic sensitivity score depends on four factors: 1) the composition of surface soil, 2) the composition of material in the vadose zone, 3) the depth at which ground water is first encountered, and 4) the presence of a low permeable unit.

IDAPA – A numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act

Infiltration – The penetration of water through the ground surface into subsurface soil.

Inorganic chemical (IOC) – A chemical substance of mineral origin, without carbon in its atomic structure. Examples include nitrate and arsenic. IOCs can be present in drinking water including ground water and surface water.

Landfill – Areas of land or excavations in which wastes are placed for permanent disposal.

Leachable Contaminant – Water can collect contaminants as it migrates through wastes, pesticides, or fertilizers. Leachable contaminants can dissolve into water and filter through the soil

in a process known as leaching. Leaching may occur in farming areas, dairies, feedlots, and landfills, and may result in hazardous substances entering surface water, ground water, or soil.

Maximum Contaminant Level (MCL) – The maximum permissible level of a contaminant in water delivered to any user of a public water system. MCLs are set by the U.S. Environmental Protection Agency and are enforceable standards.

Microbial contaminants – Contaminants that include viruses such as Hepatitis; protozoa such as Giardia; and bacteria such as coliform. Coliform is a bacteria found in the digestive tracts of mammals. Their presence in water can indicate fecal pollution. E. coli is one type of coliform bacteria.

mg/L – A unit of measurement referring to milligrams per liter.

Mine Site – A site where geologic materials are extracted from the earth.

Nitrate (NO₃) – An inorganic compound containing nitrogen and oxygen. Excessive nitrate concentrations in water can cause severe illness in infants, elderly, and pregnant women. Nitrate is typically introduced to the environment by human activities including: septic systems, animal facilities, fertilizers, manure, industrial waste waters, and landfills. The Environmental Protection Agency MCL for nitrate is 10 mg/L.

Nitrate Priority Area – Area where greater than 25% of wells and/or springs that have been sampled have nitrate concentrations greater than or equal to 5 milligrams per liter.

National Pollutant Discharge Elimination System (NPDES) Location – These sites, which represent sites with NPDES permits, may be indicated on the delineation and potential contaminant sources map. The federal 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 Compound – Any substance (produced by animals, plants, or humans) that contains mainly carbon, hydrogen, nitrogen, and oxygen in the cellular structure.

Permeability – Ability of a porous medium to transmit fluids under a hydraulic gradient. The property or capacity of a porous rock, sediment, or soil for transmitting a fluid; it is a measure of the relative ease of fluid flow under unequal pressure.

Pesticide Management Area – An area that is susceptible to pesticide contamination of ground water indicated by elevated pesticide detections in the ground water and requires additional restrictions on pesticide use as determined by the Idaho State Department of Agriculture.

Phosphate Mine – Sites where phosphate ore is extracted from the earth.

Potential Contaminant Source – Any facility or activity that stores, uses, or produces, as a product or by product, the contaminants regulated under the federal Safe Drinking Water Act, and have a sufficient likelihood of releasing the contaminants at levels that could potentially harm

drinking water sources.

Potential Contaminant Inventory (PCI) – DEQ conducts a PCI to locate and describe facilities, land uses, and environmental conditions within the source water assessment delineation that are potential sources of contamination to ground water or surface water. The PCI is one of three factors used in the susceptibility analysis to evaluate the overall potential contamination risk to a drinking water supply. During the first phase of the PCI, known as the primary contaminant inventory, DEQ staff use computer databases and GIS maps created by DEQ to identify and document potential contaminant sources within the water system’s source water assessment delineation. During the second phase of the PCI, known as the enhanced inventory, DEQ contacts the water system to review the list of potential contaminants identified in the first phase and add any additional potential contaminants not already identified.

Public Water System (PWS) – A public water system supplies drinking water to at least 25 people or has at least 15 service connections. Water systems not meeting one or both of these requirements are considered private systems and are not regulated by DEQ.

Recharge – The addition of water to the zone of saturation; also, the amount of water added. Sources of recharge may include, but is not limited to, precipitation, irrigation practices, seepage from creeks, streams and lakes, injection (including stormwater injection wells and agricultural drainage injection wells) and land application of wastewater. Recharge can be expressed as a rate (i.e., in/yr) or a volume.

Remediation Site – A site where the DEQ Waste and Remediation Program have initiated remediation actions, including Brownfields, above ground storage tanks, leaking UST, RCRA, mining, and emergency response sites.

Resource Conservation Recovery Act (RCRA) Site –The Resource Conservation and Recovery Act (RCRA) establishes a federal program to manage hazardous wastes for its entire existence to ensure that hazardous waste is handled in a manner that protects human health and the environment. Facilities that receive hazardous wastes for treatment, storage, or disposal (TSDs) are regulated by the Act, which serves as the basis for developing and issuing permits.

Road Salt Location – A location where the Idaho Department of Transportation stores road salt and sand.

Safe Drinking Water Act – The Safe Drinking Water Act was originally passed by Congress in 1974 to protect public health by regulating the nation's public drinking water supply. The law authorized the U.S Environmental Protection Agency and states to oversee public water systems and set standards for drinking water. The law was amended in 1986 and 1996 and requires many actions to protect drinking water and its sources: rivers, lakes, reservoirs, springs, and ground water wells.

Sanitary Survey –A routine, on-site inspection of a public water system’s water sources, facilities, equipment, operation, and maintenance of a public water system to evaluate the adequacy of those elements for producing and distributing safe drinking water. The purpose of a sanitary survey is to

protect public health by identifying system deficiencies and recommending possible solutions. Sanitary surveys in Idaho are conducted by a DEQ staff member or a representative of the local district health department. (DEQ contracts with Idaho's seven district health departments to assist the state in providing service to small public water systems.)

Shallow Injection Well – A well less than or equal to 18 feet deep in which fluids are injected as a means of disposal or for storage in the subsurface, such as stormwater, agricultural water, and facility heating/cooling water.

Source Water – Any aquifer, surface water body, or watercourse from which water is taken either periodically or continuously by a public water system for drinking or food processing purposes.

Source Water Assessment (SWA) – A source water assessment provides information on the potential contaminant threats to public drinking water sources. Each source water assessment consists of a delineation of the water source area, a contaminant inventory, and a susceptibility analysis.

Surface Water(s) – All water which is open to the atmosphere and subject to surface runoff. Lakes, ponds, streams, rivers, and other water bodies which lie on the surface of the land. Surface waters may be partially or fully supplied by ground water.

Susceptibility Score – The susceptibility to potential contamination for each well, spring, or surface water intake in a public water system. Before analyzing susceptibility, DEQ defines the source water assessment delineation.

Synthetic Organic Chemical (SOC) – Any manmade organic compound. There are many SOC's, including pesticides, herbicides, and many chemicals with industrial uses. SOC's may be present in ground water and drinking water.

Time of Travel (TOT) – The number of years necessary for a particle of water to travel in the aquifer to reach a well.

Toxic Release Inventory (TRI) Site – These sites may be indicated on the delineation and potential contaminant sources maps. TRI sites indicate locations of potential contaminants identified on the federal Toxics Release Inventory, which is a database made available to public by the U.S. Environmental Protection Agency. The TRI contains information on toxic chemical releases and waste management activities reported annually by certain industries and federal facilities. The TRI list was developed as part of the federal Emergency Planning and Community Right to Know Act passed in 1986. This act requires the reporting of any release of a chemical found on the TRI list. Visit www.epa.gov/tri/trichemicals/ for a full list of chemicals on the TRI.

Tunnels – A drainage tunnel historically constructed to drain excess flood irrigation water from agricultural fields. A series of drains in the field empties the excess water into the tunnel.

µg/L – A unit of measurement referring to micrograms per liter.

UST (Underground Storage Tank) Site – While many types of storage tanks may be buried underground, the term “underground storage tank” refers specifically to certain types of tanks that are regulated under the federal Resource Conservation Recovery Act. These tanks are buried at least 10% underground and store either petroleum products (gasoline, diesel, kerosene, jet fuel) or certain hazardous substances. The underground piping connected to the tanks is also considered part of the UST. USTs are most often found at gas stations and other fueling facilities. For more information, see www.deq.idaho.gov/waste/prog_issues/ust_lust/index.cfm#whatisust.

Vadose Zone – In reference to ground water, the vadose zone refers to the zone between the land surface and the water table.

Volatile Organic Chemical (VOC) – Any organic compound that easily evaporates at room temperature. VOCs are emitted by a wide array of products numbering in the thousands. Examples include paints and lacquers, paint strippers, cleaning supplies, pesticides, building materials and furnishings, office equipment such as copiers and printers, correction fluids and carbonless copy paper, graphics and craft materials including glues and adhesives, permanent markers, and photographic solutions. VOCs may be present in ground water and drinking water.

Wastewater Lagoon – Manmade impoundments for the purpose of storing or treating wastewater.

Water Reuse Area – Areas where municipal or industrial wastewater is applied to land for the purpose of land treatment.

Well casing – The tube or pipe placed inside a well to protect the water from contamination and prevent the well from caving in.

Wellhead – The physical structure, facility, or device at the land surface from or through which ground water flows or is pumped from subsurface water-bearing formations.

Appendix B

Ground Water Susceptibility Scores

Ground Water Susceptibility Report	
Report Date: August 26, 2002	PWS Number: ID4200032
Public Water System Name: MOUNTAIN HOME CITY OF	
Source Name: WELL #1	Tag Number: A0003834
Well Attributes	
Well Depth: 917 [feet below ground surface (ft bgs)]	Casing Diameter: 12 (inches)
Casing Thickness: (inches)	Casing Depth: 450 (ft bgs)
Water Table Depth: 488 (ft bgs)	Screened Interval(s): to (ft bgs)
Surface Seal Depth: (ft bgs)	
System Construction	
Drill Date	January 01, 1956
Driller's Log Available	Yes
Sanitary Survey (if yes, date of survey used)	1995
Well meets construction standards	Unknown
Wellhead and surface seal maintained	Yes
Casing and annular seal ends in low permeable unit	No
Highest production 100 ft below static water level	Yes
Well located outside the 100 yr flood plain	Yes
System Construction Ranking	M
Hydrologic Sensitivity	
Soils are poorly to moderately drained	No

Hydrologic Sensitivity				
Vadose zone composed of gravel, fractured rock or unknown	Yes			
Depth to first water >300ft	Yes			
Low permeable unit present with >50ft cumulative thickness	No			
Hydrologic Sensitivity Ranking	H			
Greatest Delineated Time-of-Travel to the Source	10 years			
Delineation Method	Analytical Method			
Potential Contaminant Source / Land Use - Zone 1A (≤ 50ft)	IOC	VOC	SOC	Microbe
Land Use Zone 1A	Urban/Commercial			
Farm chemical use high	No	No	No	
IOC, VOC, SOC, or Microbial source in Zone 1A (< 50ft)	No	No	No	No
Type of source:				
Confirmed detection of VOC, SOC, or Microbe; or IOC detection over MCL	No	No	No	No
Detected contaminants				
Potential Contaminant Source / Land Use Score - Zone 1B (0-3 yr TOT)	IOC	VOC	SOC	Microbe
Contaminant source present (number of sources)	0	0	0	0
Source of Class II or III leachable contaminants	0	0	0	
0-3 yr TOT contains or intercepts an area of defined ground water degradation	No	No	No	No
Land Use Zone 1B	<25% ag			
Potential Contaminant / Land Use - Zone II (3-6 yr TOT)	IOC	VOC	SOC	Microbe
Contaminant source present (number of sources)	Yes	Yes	Yes	

Potential Contaminant / Land Use - Zone II (3-6 yr TOT)	IOC	VOC	SOC	Microbe
Source of Class II or III leachable contaminants	No	No	No	
Land Use Zone II	<25% ag			
Potential Contaminant / Land Use - Zone III (6-10 yr TOT)	IOC	VOC	SOC	Microbe
Contaminant source present (number of sources)	Yes	Yes	Yes	
Source of Class II or III leachable contaminants	No	Yes	Yes	
Irrigated ag lands occupy >50% of 6-10yr TOT	No			
Scoring	IOC	VOC	SOC	Microbe
Final PCI / Land Use Ranking	L	L	L	L
Final Susceptibility Ranking	M	M	M	M

Ground Water Susceptibility Report	
Report Date: August 26, 2002	PWS Number: ID4200032
Public Water System Name: MOUNTAIN HOME CITY OF	
Source Name: WELL #6	Tag Number: A0003858
Well Attributes	
Well Depth: 940 [feet below ground surface (ft bgs)]	Casing Diameter: 24 (inches)
Casing Thickness: (inches)	Casing Depth: 70 (ft bgs)
Water Table Depth: 462 (ft bgs)	Screened Interval(s): 70 to 107 (ft bgs)
Surface Seal Depth: (ft bgs)	
System Construction	
Drill Date	May 26, 1960

System Construction				
Driller's Log Available	Yes			
Sanitary Survey (if yes, date of survey used)	1995			
Well meets construction standards	No			
Wellhead and surface seal maintained	No			
Casing and annular seal ends in low permeable unit	No			
Highest production 100 ft below static water level	Yes			
Well located outside the 100 yr flood plain	Yes			
System Construction Ranking	M			
Hydrologic Sensitivity				
Soils are poorly to moderately drained	No			
Vadose zone composed of gravel, fractured rock or unknown	Yes			
Depth to first water >300ft	Yes			
Low permeable unit present with >50ft cumulative thickness	No			
Hydrologic Sensitivity Ranking	H			
Greatest Delineated Time-of-Travel to the Source	10 years			
Delineation Method	Analytical Method			
Potential Contaminant Source / Land Use - Zone 1A (≤ 50ft)	IOC	VOC	SOC	Microbe
Land Use Zone 1A	Urban/Commercial			
Farm chemical use high	No	No	No	
IOC, VOC, SOC, or Microbial source in Zone 1A (< 50ft)	No	No	No	No
Type of source:				
Confirmed detection of VOC, SOC, or Microbe; or	No	No	No	No

Potential Contaminant Source / Land Use - Zone 1A (≤ 50ft)	IOC	VOC	SOC	Microbe
IOC detection over MCL				
Detected contaminants				
Potential Contaminant Source / Land Use Score - Zone 1B (0-3 yr TOT)	IOC	VOC	SOC	Microbe
Contaminant source present (number of sources)	> 4	> 4	> 4	2
Source of Class II or III leachable contaminants	2	4	2	
0-3 yr TOT contains or intercepts an area of defined ground water degradation	No	No	No	No
Land Use Zone 1B	<25% ag			
Potential Contaminant / Land Use - Zone II (3-6 yr TOT)	IOC	VOC	SOC	Microbe
Contaminant source present (number of sources)	Yes	Yes	Yes	
Source of Class II or III leachable contaminants	Yes	Yes	Yes	
Land Use Zone II	<25% ag			
Potential Contaminant / Land Use - Zone III (6-10 yr TOT)	IOC	VOC	SOC	Microbe
Contaminant source present (number of sources)	No	No	No	
Source of Class II or III leachable contaminants	No	No	No	
Irrigated ag lands occupy >50% of 6-10yr TOT	No			
Scoring	IOC	VOC	SOC	Microbe
Final PCI / Land Use Ranking	M	M	M	M
Final Susceptibility Ranking	M	M	M	M

Ground Water Susceptibility Report	
Report Date: June 28, 2012	PWS Number: ID4200032

Ground Water Susceptibility Report	
Public Water System Name: MOUNTAIN HOME CITY OF	
Source Name: WELL #9	Tag Number: 000000013145
Well Attributes	
Well Depth: 600 [feet below ground surface (ft bgs)]	Casing Diameter: 20 (inches)
Casing Thickness: 0.281 (inches)	Casing Depth: 70 (ft bgs)
Water Table Depth: 73 (ft bgs)	Screened Interval(s): to (ft bgs)
Surface Seal Depth: 70 (ft bgs)	
System Construction	
Drill Date	September 07, 1973
Driller's Log Available	Yes
Sanitary Survey (if yes, date of survey used)	2006
Well meets construction standards	No
Wellhead and surface seal maintained	Unknown
Casing and annular seal ends in low permeable unit	No
Highest production 100 ft below static water level	No
Well located outside the 100 yr flood plain	Yes
System Construction Ranking	H
Hydrologic Sensitivity	
Soils are poorly to moderately drained	No
Vadose zone composed of gravel, fractured rock or unknown	Yes
Depth to first water >300ft	No
Low permeable unit present with >50ft cumulative	No

Hydrologic Sensitivity					
thickness					
Hydrologic Sensitivity Ranking		H			
Greatest Delineated Time-of-Travel to the Source		10 years			
Delineation Method		Analytical Method			
Potential Contaminant Source / Land Use - Zone 1A (≤ 50ft)		IOC	VOC	SOC	Microbe
Land Use Zone 1A	Urban/Commercial				
Farm chemical use high		Yes	No	Yes	
IOC, VOC, SOC, or Microbial source in Zone 1A (< 50ft)		Yes	Yes	Yes	Yes
Type of source:	Minor/Residential road, gas line				
Confirmed detection of VOC, SOC, or Microbe; or IOC detection over MCL		No	No	No	No
Detected contaminants					
Potential Contaminant Source / Land Use Score - Zone 1B (0-3 yr TOT)		IOC	VOC	SOC	Microbe
Contaminant source present (number of sources)		2	2	2	2
Source of Class II or III leachable contaminants		2	2	2	
0-3 yr TOT contains or intercepts an area of defined ground water degradation		No	No	No	No
Land Use Zone 1B		25-50% irrigated ag			
Potential Contaminant / Land Use - Zone II (3-6 yr TOT)		IOC	VOC	SOC	Microbe
Contaminant source present (number of sources)		Yes	Yes	Yes	
Source of Class II or III leachable contaminants		Yes	Yes	Yes	
Land Use Zone II		<25% ag			

Potential Contaminant / Land Use - Zone III (6-10 yr TOT)	IOC	VOC	SOC	Microbe
Contaminant source present (number of sources)	Yes	Yes	Yes	
Source of Class II or III leachable contaminants	Yes	Yes	Yes	
Irrigated ag lands occupy >50% of 6-10yr TOT	No			
Scoring	IOC	VOC	SOC	Microbe
Final PCI / Land Use Ranking	M	M	M	M
Final Susceptibility Ranking	Auto High	Auto High	Auto High	Auto High

Technical Notes: The 0-3 TOT land use was classified as 25-50% irrigated agriculture due to golf course.

Ground Water Susceptibility Report	
Report Date: August 26, 2002	PWS Number: ID4200032
Public Water System Name: MOUNTAIN HOME CITY OF	
Source Name: WELL #11	Tag Number: A0003843
Well Attributes	
Well Depth: 815 [feet below ground surface (ft bgs)]	Casing Diameter: 20 (inches)
Casing Thickness: 0.375 (inches)	Casing Depth: 50 (ft bgs)
Water Table Depth: 410 (ft bgs)	Screened Interval(s): to (ft bgs)
Surface Seal Depth: 51 (ft bgs)	
System Construction	
Drill Date	December 20, 1977
Driller's Log Available	Yes
Sanitary Survey (if yes, date of survey used)	1995
Well meets construction standards	No

System Construction				
Wellhead and surface seal maintained	No			
Casing and annular seal ends in low permeable unit	No			
Highest production 100 ft below static water level	Yes			
Well located outside the 100 yr flood plain	Yes			
System Construction Ranking	M			
Hydrologic Sensitivity				
Soils are poorly to moderately drained	No			
Vadose zone composed of gravel, fractured rock or unknown	Yes			
Depth to first water >300ft	Yes			
Low permeable unit present with >50ft cumulative thickness	Yes			
Hydrologic Sensitivity Ranking	M			
Greatest Delineated Time-of-Travel to the Source	10 years			
Delineation Method	Analytical Method			
Potential Contaminant Source / Land Use - Zone 1A (≤ 50ft)	IOC	VOC	SOC	Microbe
Land Use Zone 1A	Irrigated Pasture			
Farm chemical use high	Yes	No	Yes	
IOC, VOC, SOC, or Microbial source in Zone 1A (< 50ft)	No	No	No	No
Type of source:				
Confirmed detection of VOC, SOC, or Microbe; or IOC detection over MCL	No	No	No	No
Detected contaminants				
Potential Contaminant Source / Land Use Score - Zone 1B (0-3 yr TOT)	IOC	VOC	SOC	Microbe

Potential Contaminant Source / Land Use Score - Zone 1B (0-3 yr TOT)		IOC	VOC	SOC	Microbe
Contaminant source present (number of sources)		2	2	2	1
Source of Class II or III leachable contaminants		3	0	0	
0-3 yr TOT contains or intercepts an area of defined ground water degradation		No	No	No	No
Land Use Zone 1B	25-50% irrigated ag				
Potential Contaminant / Land Use - Zone II (3-6 yr TOT)		IOC	VOC	SOC	Microbe
Contaminant source present (number of sources)		Yes	Yes	Yes	
Source of Class II or III leachable contaminants		No	No	No	
Land Use Zone II	25-50% irrigated ag				
Potential Contaminant / Land Use - Zone III (6-10 yr TOT)		IOC	VOC	SOC	Microbe
Contaminant source present (number of sources)		No	No	No	
Source of Class II or III leachable contaminants		No	No	No	
Irrigated ag lands occupy >50% of 6-10yr TOT		No			
Scoring		IOC	VOC	SOC	Microbe
Final PCI / Land Use Ranking		M	M	M	M
Final Susceptibility Ranking		M	M	M	M

Ground Water Susceptibility Report	
Report Date: August 26, 2002	PWS Number: ID4200032
Public Water System Name: MOUNTAIN HOME CITY OF	
Source Name: WELL #12	Tag Number: A0003846

Well Attributes	
Well Depth: 585 [feet below ground surface (ft bgs)]	Casing Diameter: 18 (inches)
Casing Thickness: 0.375 (inches)	Casing Depth: 14 (ft bgs)
Water Table Depth: 535 (ft bgs)	Screened Interval(s): to (ft bgs)
Surface Seal Depth: (ft bgs)	
System Construction	
Drill Date	October 04, 1966
Driller's Log Available	Yes
Sanitary Survey (if yes, date of survey used)	1995
Well meets construction standards	No
Wellhead and surface seal maintained	No
Casing and annular seal ends in low permeable unit	No
Highest production 100 ft below static water level	Yes
Well located outside the 100 yr flood plain	Yes
System Construction Ranking	M
Hydrologic Sensitivity	
Soils are poorly to moderately drained	No
Vadose zone composed of gravel, fractured rock or unknown	Yes
Depth to first water >300ft	Yes
Low permeable unit present with >50ft cumulative thickness	No
Hydrologic Sensitivity Ranking	H
Greatest Delineated Time-of-Travel to the Source	10 years
Delineation Method	Analytical Method

Potential Contaminant Source / Land Use - Zone 1A (≤ 50ft)	IOC	VOC	SOC	Microbe
Land Use Zone 1A	Irrigated Pasture			
Farm chemical use high	Yes	No	Yes	
IOC, VOC, SOC, or Microbial source in Zone 1A (< 50ft)	No	No	No	No
Type of source:				
Confirmed detection of VOC, SOC, or Microbe; or IOC detection over MCL	No	No	No	No
Detected contaminants				
Potential Contaminant Source / Land Use Score - Zone 1B (0-3 yr TOT)	IOC	VOC	SOC	Microbe
Contaminant source present (number of sources)	0	0	0	0
Source of Class II or III leachable contaminants	4	0	0	
0-3 yr TOT contains or intercepts an area of defined ground water degradation	No	No	No	No
Land Use Zone 1B	>50% irrigated ag			
Potential Contaminant / Land Use - Zone II (3-6 yr TOT)	IOC	VOC	SOC	Microbe
Contaminant source present (number of sources)	No	No	No	
Source of Class II or III leachable contaminants	No	No	No	
Land Use Zone II	>50% irrigated ag			
Potential Contaminant / Land Use - Zone III (6-10 yr TOT)	IOC	VOC	SOC	Microbe
Contaminant source present (number of sources)	No	No	No	
Source of Class II or III leachable contaminants	No	No	No	

Potential Contaminant / Land Use - Zone III (6-10 yr TOT)	IOC	VOC	SOC	Microbe
Irrigated ag lands occupy >50% of 6-10yr TOT	Yes			
Scoring	IOC	VOC	SOC	Microbe
Final PCI / Land Use Ranking	M	M	M	M
Final Susceptibility Ranking	M	M	M	M

Ground Water Susceptibility Report	
Report Date: August 26, 2002	PWS Number: ID4200032
Public Water System Name: MOUNTAIN HOME CITY OF	
Source Name: WELL #13	Tag Number: A0003835
Well Attributes	
Well Depth: 850 [feet below ground surface (ft bgs)]	Casing Diameter: 16 (inches)
Casing Thickness: 0.25 (inches)	Casing Depth: 370 (ft bgs)
Water Table Depth: 445 (ft bgs)	Screened Interval(s): to (ft bgs)
Surface Seal Depth: 75 (ft bgs)	
System Construction	
Drill Date	November 03, 1992
Driller's Log Available	Yes
Sanitary Survey (if yes, date of survey used)	1995
Well meets construction standards	No
Wellhead and surface seal maintained	Yes
Casing and annular seal ends in low permeable unit	No
Highest production 100 ft below static water level	Yes

System Construction				
Well located outside the 100 yr flood plain	Yes			
System Construction Ranking	M			
Hydrologic Sensitivity				
Soils are poorly to moderately drained	No			
Vadose zone composed of gravel, fractured rock or unknown	Yes			
Depth to first water >300ft	Yes			
Low permeable unit present with >50ft cumulative thickness	No			
Hydrologic Sensitivity Ranking	H			
Greatest Delineated Time-of-Travel to the Source	10 years			
Delineation Method	Analytical Method			
Potential Contaminant Source / Land Use - Zone 1A (≤ 50ft)	IOC	VOC	SOC	Microbe
Land Use Zone 1A	Irrigated Pasture			
Farm chemical use high	Yes	No	Yes	
IOC, VOC, SOC, or Microbial source in Zone 1A (< 50ft)	No	No	No	No
Type of source:				
Confirmed detection of VOC, SOC, or Microbe; or IOC detection over MCL	No	No	Yes	No
Detected contaminants	SOC detection 9/1993			
Potential Contaminant Source / Land Use Score - Zone 1B (0-3 yr TOT)	IOC	VOC	SOC	Microbe
Contaminant source present (number of sources)	0	0	0	0
Source of Class II or III leachable contaminants	4	0	0	

Potential Contaminant Source / Land Use Score - Zone 1B (0-3 yr TOT)		IOC	VOC	SOC	Microbe
0-3 yr TOT contains or intercepts an area of defined ground water degradation		No	No	No	No
Land Use Zone 1B		25-50% irrigated ag			
Potential Contaminant / Land Use - Zone II (3-6 yr TOT)		IOC	VOC	SOC	Microbe
Contaminant source present (number of sources)		No	No	No	
Source of Class II or III leachable contaminants		No	No	No	
Land Use Zone II	25-50% irrigated ag				
Potential Contaminant / Land Use - Zone III (6-10 yr TOT)		IOC	VOC	SOC	Microbe
Contaminant source present (number of sources)		Yes	Yes	Yes	
Source of Class II or III leachable contaminants		No	No	No	
Irrigated ag lands occupy >50% of 6-10yr TOT		Yes			
Scoring		IOC	VOC	SOC	Microbe
Final PCI / Land Use Ranking		M	L	M	L
Final Susceptibility Ranking		M	M	Auto High	M

Ground Water Susceptibility Report	
Report Date: August 14, 2007	PWS Number: ID4200032
Public Water System Name: MOUNTAIN HOME CITY OF	
Source Name: WELL #14	Tag Number: E0008328
Well Attributes	
Well Depth: 692 [feet below ground surface (ft bgs)]	Casing Diameter: 16 (inches)

Well Attributes				
Casing Thickness: 0.375 (inches)		Casing Depth: 200 (ft bgs)		
Water Table Depth: 198 (ft bgs)		Screened Interval(s): 200 to 692 (ft bgs)		
Surface Seal Depth: 200 (ft bgs)				
System Construction				
Drill Date		February 21, 2005		
Driller's Log Available		Yes		
Sanitary Survey (if yes, date of survey used)		2006		
Well meets construction standards		Yes		
Wellhead and surface seal maintained		Yes		
Casing and annular seal ends in low permeable unit		Yes		
Highest production 100 ft below static water level		No		
Well located outside the 100 yr flood plain		Yes		
System Construction Ranking		L		
Hydrologic Sensitivity				
Soils are poorly to moderately drained		No		
Vadose zone composed of gravel, fractured rock or unknown		Yes		
Depth to first water >300ft		No		
Low permeable unit present with >50ft cumulative thickness		No		
Hydrologic Sensitivity Ranking		H		
Greatest Delineated Time-of-Travel to the Source		10 years		
Delineation Method		Analytical Method		
Potential Contaminant Source / Land Use - Zone 1A (≤ 50ft)	IOC	VOC	SOC	Microbe

Potential Contaminant Source / Land Use - Zone 1A (≤ 50ft)	IOC	VOC	SOC	Microbe
Land Use Zone 1A	Undeveloped (Range/Forest)			
Farm chemical use high	Yes	No	Yes	
IOC, VOC, SOC, or Microbial source in Zone 1A (< 50ft)	No	No	No	No
Type of source:				
Confirmed detection of VOC, SOC, or Microbe; or IOC detection over MCL	No	No	No	No
Detected contaminants				
Potential Contaminant Source / Land Use Score - Zone 1B (0-3 yr TOT)	IOC	VOC	SOC	Microbe
Contaminant source present (number of sources)	2	2	2	2
Source of Class II or III leachable contaminants	2	2	2	
0-3 yr TOT contains or intercepts an area of defined ground water degradation	No	No	No	No
Land Use Zone 1B	<25% ag			
Potential Contaminant / Land Use - Zone II (3-6 yr TOT)	IOC	VOC	SOC	Microbe
Contaminant source present (number of sources)	Yes	Yes	Yes	
Source of Class II or III leachable contaminants	Yes	Yes	Yes	
Land Use Zone II	<25% ag			
Potential Contaminant / Land Use - Zone III (6-10 yr TOT)	IOC	VOC	SOC	Microbe
Contaminant source present (number of sources)	Yes	Yes	Yes	
Source of Class II or III leachable contaminants	Yes	Yes	Yes	
Irrigated ag lands occupy >50% of 6-10yr TOT	No			

Scoring	IOC	VOC	SOC	Microbe
Final PCI / Land Use Ranking	M	M	M	M
Final Susceptibility Ranking	M	M	M	M

Ground Water Susceptibility Report	
Report Date: June 28, 2012	PWS Number: ID4200032
Public Water System Name: MOUNTAIN HOME CITY OF	
Source Name: WELL #15	Tag Number: 000000013210
Well Attributes	
Well Depth: 695 [feet below ground surface (ft bgs)]	Casing Diameter: 18 (inches)
Casing Thickness: 0.375 (inches)	Casing Depth: 484 (ft bgs)
Water Table Depth: 489 (ft bgs)	Screened Interval(s): 484 to 693 (ft bgs)
Surface Seal Depth: 150 (ft bgs)	
System Construction	
Drill Date	April 22, 2009
Driller's Log Available	Yes
Sanitary Survey (if yes, date of survey used)	2006
Well meets construction standards	Yes
Wellhead and surface seal maintained	Yes
Casing and annular seal ends in low permeable unit	No
Highest production 100 ft below static water level	No
Well located outside the 100 yr flood plain	Yes
System Construction Ranking	M

Hydrologic Sensitivity				
Soils are poorly to moderately drained	No			
Vadose zone composed of gravel, fractured rock or unknown	Yes			
Depth to first water >300ft	No			
Low permeable unit present with >50ft cumulative thickness	No			
Hydrologic Sensitivity Ranking	H			
Greatest Delineated Time-of-Travel to the Source	10 years			
Delineation Method	Analytical Method			
Potential Contaminant Source / Land Use - Zone 1A (≤ 50ft)	IOC	VOC	SOC	Microbe
Land Use Zone 1A	Urban/Commercial			
Farm chemical use high	Yes	No	Yes	
IOC, VOC, SOC, or Microbial source in Zone 1A (< 50ft)	No	No	No	No
Type of source:				
Confirmed detection of VOC, SOC, or Microbe; or IOC detection over MCL	No	No	No	No
Detected contaminants				
Potential Contaminant Source / Land Use Score - Zone 1B (0-3 yr TOT)	IOC	VOC	SOC	Microbe
Contaminant source present (number of sources)	1	1	1	1
Source of Class II or III leachable contaminants	0	0	0	
0-3 yr TOT contains or intercepts an area of defined ground water degradation	No	No	No	No
Land Use Zone 1B	<25% ag			
Potential Contaminant / Land Use - Zone II (3-6 yr TOT)	IOC	VOC	SOC	Microbe

Potential Contaminant / Land Use - Zone II (3-6 yr TOT)	IOC	VOC	SOC	Microbe
Contaminant source present (number of sources)	Yes	Yes	Yes	
Source of Class II or III leachable contaminants	Yes	Yes	Yes	
Land Use Zone II	<25% ag			
Potential Contaminant / Land Use - Zone III (6-10 yr TOT)	IOC	VOC	SOC	Microbe
Contaminant source present (number of sources)	Yes	Yes	Yes	
Source of Class II or III leachable contaminants	Yes	Yes	Yes	
Irrigated ag lands occupy >50% of 6-10yr TOT	No			
Scoring	IOC	VOC	SOC	Microbe
Final PCI / Land Use Ranking	M	M	M	M
Final Susceptibility Ranking	M	M	M	M

Technical Notes: DEQ Ground Water Program Regional staff conducted a site visit on January 20, 2012. Questions normally answered with information from the Sanitary Survey were answered with information gained from the site visit.

Appendix C

Available Well Logs for the City of Mountain Home

Well #1.

*Location
Signature*

099000

WELL LOG AND REPORT TO THE STATE RECLAMATION ENGINEER OF IDAHO

RECEIVED
MAY 13 1956

RECEIVED
JUL 11 1957
Department of Reclamation
Well No. _____
Permit No. 9-31908-A

Department of Reclamation

(DO NOT FILL IN)

Owner City of Mountain Home Address Mountain Home, Idaho

Driller Russel Cove Address Boise, Idaho Lic. No. 65

Location of Well: SE 1/4 NE 1/4 Sec. 26, T. 35 N., R. 16 E., E. 1/4 Blaine County,
and _____ feet N/S, and _____ feet E/W from _____ Corner of _____ 1/4 _____ 1/4 Sec.

Size of Drilled Hole 16" Total depth of Well 217

Give depth of standing water from surface 360 Water Temp. 56 °Fahrenheit

On pumping test delivery was 1,000 g.p.m. or _____ c.f.s. Drawdown was _____ feet.

Size of pump and motor used to make the test 8" 1,000 gal. per minute

Length of time pumped during check was 6 hours hr., _____ minutes.

If flowing well, give flow in c.f.s. _____ or g.p.m. _____ and shut in pressure _____

If flowing well, describe control works _____
(TYPE AND SIZE OF VALVE, ETC.)

Water will be used for city Weight of casing per linear foot 70 lbs.

Thickness of casing 3/8" Casing material IRON
E.G., PIPE, CONCRETE, WOOD

Diameter, length and location of casing 18" casing
(CASING 12" IN DIAMETER AND UNDER GIVE INSIDE DIAMETER;
CASING OVER 12" IN DIAMETER GIVE OUTSIDE DIAMETER.)

Number and size of perforations _____ located _____ feet to _____ feet
from surface of ground.

Other perforations _____

Date of commencement of well May 13, 1955 Date of completion of well Jan., 1956

Type of well rig _____

CASING RECORD

DIAM. CASING	FROM FEET	TO FEET	LENGTH	"REMARKS" -- SEALS, GROUTING, ETC.

GENERAL INFORMATION—Pumping Test, Quality of Water, Etc.

78 feet of 18 inch casing. 75 1/2 feet to rock.

SENE S. 26 35 4 E

Well #1 Continued.

WELL LOG

From Foot	To Foot	Type of Material	Drilling Time		Water-bearing Formation Att. Yes or No	Casing Performed Att. Yes or No
			Hrs.	Min.		
0-3		Top dirt and gravel				
3	24	Gravel and sandy mud				
24	40	Clay and sand				
40	75	Gravel and sand				
75	173	Rock and broken rock				
173	186	Cinder and broken rock w/water				
186	417	Rock, lava				
417	430	Cinder and broken rock				
430	476	Hard rock				
476	508	Red, rocky mud and cinder				
508	522	Rock, dark gray				
522	526	Cinder				
526	572	Dark gray rock				
572	644	Red honeycomb rock				
644	652	Gray rock, quite firm				
652	677	Gray basalt				
677	680	Cinders				
680	687	Lava, red and blue, broken				
687	697	Dark basalt, very hard				
If more space is required use Sheet No. 2						

WELL DRILLERS STATEMENT

This well was drilled under my jurisdiction and the above information is true and correct to the best of my knowledge and belief.

Signed *Russell C. Bore*

By _____

License No. 65

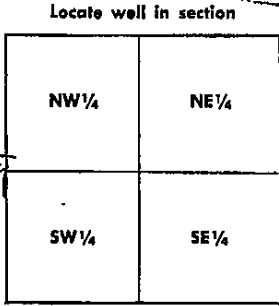
Dated _____, 19_____

Well #6.

WELL LOG AND REPORT OF THE STATE RECLAMATION ENGINEER OF IDAHO Department of Reclamation

MAY 12 1961

Permit No. 9-31908 Well No. County
Owner: City of Mountain Home
Address: Mountain Home, Idaho
Driller: Russel Cove Drilling Company
Address: Boise, Idaho
Well location: SE 1/4 NE 1/4 Sec. 26, T. 35 N/S, R. 6 E E 1/4
Size of drilled hole: 24-inch
Total depth of well: 940'



Give depth to standing water from the ground: 381' Water temp. °Fahr.
On "Pumping Test" delivery was 1200 g.p.m. or c.f.s. Drawdown was feet.
Size of pump and motor used to make test.
Length of time of test: 12 hours minutes.
If flowing well, give flow c.f.s. or g.p.m. and of shut off pressure.
If flowing well, described control works (TYPE AND SIZE OF VALVE, ETC.)
Water will be used for: City Weight of casing per lineal foot.
Thickness of casing: 5/16" Casing material: Steel (STEEL, CONCRETE, WOOD, ETC.)
Diameter, length and location of casing: 78' of 24"
37' of 20" liner sets from 70' on down

CASING RECORD

Table with 5 columns: Diam. Casing, From Feet, To Feet, Length, Remarks—seals, grouting, etc.

Number and size of perforations located feet to feet from ground
Date of commencement of well Date of completion of well 5/20/60

SENE S126 35 6E

Well #6 Continued.

From Feet	To Feet	Type of Material	Water-bearing Formation Ann. Yes or No	Casing Perforated Ann. Yes or No
0	3	Top Dirt		
3	14	Sand and Dirt		
14	30	Clay		
30	40	Gravel		
40	50	Hard Pan		
50	55	Gravel		
55	67	Clay		
67	180	Lava rock with Broken Wall		
180	183	Broken Rock with Water		
183	185	Rock		
185	195	Broken Rock and Cinder		
195	221	Black Rock		
221	455	Lava Rock with Broken Wall		
455	470	Broken Rock		
470	500	Rock		
500	513	Cinder		
513	618	Rock		
If more space is required use Sheet No. 2				

WELL DRILLER'S STATEMENT

This well was drilled under my supervision and the above information is true and correct to the best of my knowledge and belief.

Signed *Russell Cowe*

By _____

Dated _____, 19____

License No. 65

Well #8 Continued.

From Feet	To Feet	Type of Material	Water-bearing Formation Ans. Yes or No	Casing Perforated Ans. Yes or No
0	51	Top soil & Gravel		
51	60	Broken Lava		
60	120	Grey Lava (Broken)		
120	140	Red Lava (Loose)		
140	160	Brown Lava		
160	174	Grey Lava (Hard)		
174	220	Brown Lava		
220	240	Cinders & Broken Rock (Water & Calc) Boulders		
240	290	Grey Lava (Hard)		
290	302	Yellow Sandy clay & Boulders Cinders		
302	376	Brown Lava		
376	395	Grey Lava with Brown Seams		
395	410	Red Cinders (Struck Water 402)		
410	440	Grey Lava & Brown Lava Broken (Water Bearing)		
440	490	Grey Lava (Hard)		
490	493	Broken Lava (Grey)		
493	463	Grey Lava (Firm)		
463	478	Broken Rock & Cinders		
478	528	Grey Basalt (Hard)		
528	530	Broken Rock & Cinders		
530	593	Grey Lava		
593	610	Grey Lava		
610	615	Cinders		
615	680	Broken Grey Lava (Seams of water calc some Cinders)		
680	695	Red & Grey Lava		
695	722	Clay & Boulders (Sticky)		
722	751	Grey & Brown Lava (Coarse) (Perf)		
751	764	Grey Lava (Hard)		
764	772	Broken Rock & Sandy Clay (Sticky)		
772	800	Sandy Clay (Sticky)		
800	833	Sandy Brown Clay & Boulders (Caving)		
833	856	Sticky yellow clay		
856	884	Blue Sandy Clay (Sticky)		
884	902	Black Cinders & Gravel & Clay (Perf)		
If more space is required use Sheet No. 2				

WELL DRILLER'S STATEMENT

This well was drilled under my supervision and the above information is complete, true and correct to the best of my knowledge and belief.

Signed C. D. BOSTON & SONS, INC.

By Jamie Laton

Dated March 11, 1963

License No. 26

Well #9.

1. WELL OWNER
 Name City of Mountain Home
 Address Mountain Home, Idaho
 Owner's Permit No. _____

7. WATER LEVEL
 Static water level 73 feet below land surface
 Flowing? Yes No G.P.M. flow _____
 Temperature _____ ° F. Quality _____
 Artesian closed-in pressure _____ p.s.i.
 Controlled by Valve Cap Plug

2. NATURE OF WORK
 New well Deepened Replacement
 Abandoned (describe method of abandoning)

8. WELL TEST DATA
 Pump Bailer Other

Discharge G.P.M.	Draw Down	Hours Pumped
2,250	5'	12

3. PROPOSED USE
 Domestic Irrigation Test
 Municipal Industrial Stock

9. LITHOLOGIC LOG 028682

4. METHOD DRILLED
 Cable Rotary Dug Other

Hole Diam.	Depth		Material	Water	
	From	To		Yes	No
2 1/2	0	1	Soil.		
	1	10	Boulders.		
	10	32	Gray lava, hard.		
	32	41	Brown lava, caving.		
20	41	79	Gray lava, caving.	X	
	79	93	Brown lava, caving.		
	93	107	Gray lava.		X
	107	114	Brown lava, caving.		X
	114	129	Brown lava, cinders.		X
	129	143	Gray lava.		X
	143	193	Brown lava, hard.		X
	193	196	Gray lava.		X
	196	228	Brown lava, hard.		
	228	235	Gray lava, hard.		
	235	287	Brown lava, firm.		X
	287	313	Brown lava, some cinders.		
	313	327	Brown lava, with yellow clay seams.		
	327	335	Boulders and clay.		X
	335	384	Gray lava, hard. Possible water.		
	384	393	No cuttings.		X
	393	408	Brown lava, firm.		
	408	421	Gray lava, hard.		
	421	430	Black lava, cinders, some clay.		X
	430	501	Brown lava, firm.		
	501	523	Brown lava, cinders.		
	523	553	Boulders and clay, black.		
	553	600	Clay		

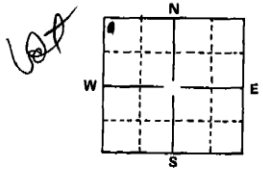
5. WELL CONSTRUCTION
 Diameter of hole 20 inches Total depth 600 feet
 Casing schedule: Steel Concrete

Thickness	Diameter	From	To
<u>.281</u> inches	<u>20</u> inches	+ <u>1</u> feet	<u>70</u> feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

 Was a packer or seal used? Yes No
 Perforated? Yes No
 How perforated? Factory Knife Torch
 Size of perforation _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

 Well screen installed? Yes No
 Manufacturer's name _____
 Type _____ Model No. _____
 Diameter _____ Slot size _____ Set from _____ feet to _____ feet
 Diameter _____ Slot size _____ Set from _____ feet to _____ feet
 Gravel packed? Yes No Size of gravel _____
 Placed from _____ feet to _____ feet
 Surface seal? Yes No To what depth 70 feet
 Material used in seal Cement grout Puddling clay

6. LOCATION OF WELL
 Sketch map location must agree with written location.

 County Elmore
NW 1/4 NW 1/4 Sec. 30, T. 3 N/S, R. 7 E/W

10.
 Work started April 2/73 finished Sept. 7/73

11. DRILLER'S CERTIFICATION **USGS**
 This well was drilled under my supervision and this report is true to the best of my knowledge.
 C. L. Hiddleston---Driller
C. L. Hiddleston & Son 35
 Driller's or Firm's Name Number
Mountain Home, Idaho
 Address
 Signed By _____ Date _____

Well #11.

USE TYPEWRITER OR BALL POINT PEN

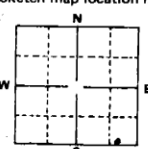
State of Idaho
Department of Water Resources

Page 1 of 2

RECEIVED

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well. 1978

<p>1. WELL OWNER</p> <p>Name <u>City of Mtn Home</u></p> <p>Address <u>Drawer 0, Mtn Home Idaho 83647</u></p> <p>Owner's Permit No. <u>61-7339</u></p>	<p>7. WATER LEVEL Department of Water Resources</p> <p>Static water level <u>410</u> feet below land surface</p> <p>Flowing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No G.P.M. flow <u>0</u></p> <p>Temperature <u> </u> ° F. Quality <u> </u></p> <p>Artesian closed-in pressure <u> </u> p.s.i.</p> <p>Controlled by <input type="checkbox"/> Valve <input type="checkbox"/> Cap <input type="checkbox"/> Plug</p>																																																																																																																																																																																																
<p>2. NATURE OF WORK</p> <p><input checked="" type="checkbox"/> New well <input type="checkbox"/> Deepened <input type="checkbox"/> Replacement</p> <p><input type="checkbox"/> Abandoned (describe method of abandoning)</p> <p><u>Well # 11</u></p>	<p>8. WELL TEST DATA</p> <p><input checked="" type="checkbox"/> Pump <input type="checkbox"/> Bailer <input type="checkbox"/> Other</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Discharge G.P.M.</th> <th>Draw Down</th> <th>Hours Pumped</th> </tr> </thead> <tbody> <tr> <td>2400</td> <td></td> <td></td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Discharge G.P.M.	Draw Down	Hours Pumped	2400																																																																																																																																																																																												
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<p>3. PROPOSED USE</p> <p><input type="checkbox"/> Domestic <input type="checkbox"/> Irrigation <input type="checkbox"/> Test <input type="checkbox"/> Other (specify type)</p> <p><input checked="" type="checkbox"/> Municipal <input type="checkbox"/> Industrial <input type="checkbox"/> Stock <input type="checkbox"/> Waste Disposal or Injection</p>	<p>9. LITHOLOGIC LOG</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Hole Diam.</th> <th colspan="2">Depth</th> <th rowspan="2">Material</th> <th rowspan="2">Water Yes/No</th> </tr> <tr> <th>From</th> <th>To</th> </tr> </thead> <tbody> <tr><td>24/20</td><td>0-</td><td>6</td><td>Lava Boulders and dirt</td><td></td></tr> <tr><td>24/20</td><td>6</td><td>20</td><td>Clay, tan</td><td></td></tr> <tr><td>24/20</td><td>20</td><td>28</td><td>Gray lava</td><td></td></tr> <tr><td>24/20</td><td>28</td><td>40</td><td>Tan Clay</td><td></td></tr> <tr><td>24/20</td><td>40</td><td>47</td><td>Pea gravel and clay</td><td>x</td></tr> <tr><td>24/20</td><td>47</td><td>50</td><td>Gravel, clay</td><td>x</td></tr> <tr><td>20</td><td>50</td><td>69</td><td>Gray lava</td><td></td></tr> <tr><td>20</td><td>69</td><td>72</td><td>Red Clay and cinders</td><td></td></tr> <tr><td>20</td><td>72</td><td>75</td><td>Brown lava</td><td></td></tr> <tr><td>20</td><td>75</td><td>115</td><td>Gray lava</td><td></td></tr> <tr><td>20</td><td>115</td><td>136</td><td>Brown lava</td><td></td></tr> <tr><td>20</td><td>136</td><td>156</td><td>Gray lava</td><td></td></tr> <tr><td>20</td><td>156</td><td>181</td><td>Brown lava</td><td></td></tr> <tr><td>20</td><td>181</td><td>184</td><td>Brown clay</td><td></td></tr> <tr><td>20</td><td>184</td><td>220</td><td>Gray lava</td><td>x</td></tr> <tr><td>20</td><td>220</td><td>241</td><td>Brown lava</td><td></td></tr> <tr><td>20</td><td>241</td><td>254</td><td>Gray lava</td><td></td></tr> <tr><td>20</td><td>254</td><td>267</td><td>Brown lava</td><td></td></tr> <tr><td>20</td><td>267</td><td>274</td><td>Gray lava</td><td></td></tr> <tr><td>20</td><td>274</td><td>331</td><td>Brown lava</td><td></td></tr> <tr><td>20</td><td>331</td><td>360</td><td>Red brown lava, cinders</td><td></td></tr> <tr><td>20</td><td>360</td><td>363</td><td>Gray lava</td><td></td></tr> <tr><td>20</td><td>363</td><td>386</td><td>Red Brown lava</td><td></td></tr> <tr><td>20</td><td>386</td><td>389</td><td>Brown clay</td><td></td></tr> <tr><td>20</td><td>389</td><td>401</td><td>Brown lava</td><td></td></tr> <tr><td>20</td><td>401</td><td>410</td><td>Gray lava</td><td></td></tr> <tr><td>20</td><td>410</td><td>428</td><td>Brown lava</td><td></td></tr> <tr><td>20</td><td>428</td><td>430</td><td>Yellow Clay</td><td></td></tr> <tr><td>20</td><td>430</td><td>450</td><td>Brown lava</td><td></td></tr> <tr><td>20</td><td>450</td><td>453</td><td>Water talc</td><td>x</td></tr> <tr><td>20</td><td>453</td><td>465</td><td>Brown lava</td><td></td></tr> <tr><td>20</td><td>465</td><td>480</td><td>Gray lava</td><td></td></tr> <tr><td>20</td><td>480</td><td>503</td><td>Brown lava</td><td></td></tr> <tr><td>20</td><td>503</td><td>547</td><td>Gray lava</td><td></td></tr> <tr><td>20</td><td>547</td><td>559</td><td>Red clay and cinders</td><td></td></tr> <tr><td>20</td><td>559</td><td>575</td><td>Brown lava</td><td></td></tr> <tr><td>20</td><td>575</td><td>583</td><td>Gray lava</td><td></td></tr> </tbody> </table>	Hole Diam.	Depth		Material	Water Yes/No	From	To	24/20	0-	6	Lava Boulders and dirt		24/20	6	20	Clay, tan		24/20	20	28	Gray lava		24/20	28	40	Tan Clay		24/20	40	47	Pea gravel and clay	x	24/20	47	50	Gravel, clay	x	20	50	69	Gray lava		20	69	72	Red Clay and cinders		20	72	75	Brown lava		20	75	115	Gray lava		20	115	136	Brown lava		20	136	156	Gray lava		20	156	181	Brown lava		20	181	184	Brown clay		20	184	220	Gray lava	x	20	220	241	Brown lava		20	241	254	Gray lava		20	254	267	Brown lava		20	267	274	Gray lava		20	274	331	Brown lava		20	331	360	Red brown lava, cinders		20	360	363	Gray lava		20	363	386	Red Brown lava		20	386	389	Brown clay		20	389	401	Brown lava		20	401	410	Gray lava		20	410	428	Brown lava		20	428	430	Yellow Clay		20	430	450	Brown lava		20	450	453	Water talc	x	20	453	465	Brown lava		20	465	480	Gray lava		20	480	503	Brown lava		20	503	547	Gray lava		20	547	559	Red clay and cinders		20	559	575	Brown lava		20	575	583	Gray lava	
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20	136	156	Gray lava																																																																																																																																																																																														
20	156	181	Brown lava																																																																																																																																																																																														
20	181	184	Brown clay																																																																																																																																																																																														
20	184	220	Gray lava	x																																																																																																																																																																																													
20	220	241	Brown lava																																																																																																																																																																																														
20	241	254	Gray lava																																																																																																																																																																																														
20	254	267	Brown lava																																																																																																																																																																																														
20	267	274	Gray lava																																																																																																																																																																																														
20	274	331	Brown lava																																																																																																																																																																																														
20	331	360	Red brown lava, cinders																																																																																																																																																																																														
20	360	363	Gray lava																																																																																																																																																																																														
20	363	386	Red Brown lava																																																																																																																																																																																														
20	386	389	Brown clay																																																																																																																																																																																														
20	389	401	Brown lava																																																																																																																																																																																														
20	401	410	Gray lava																																																																																																																																																																																														
20	410	428	Brown lava																																																																																																																																																																																														
20	428	430	Yellow Clay																																																																																																																																																																																														
20	430	450	Brown lava																																																																																																																																																																																														
20	450	453	Water talc	x																																																																																																																																																																																													
20	453	465	Brown lava																																																																																																																																																																																														
20	465	480	Gray lava																																																																																																																																																																																														
20	480	503	Brown lava																																																																																																																																																																																														
20	503	547	Gray lava																																																																																																																																																																																														
20	547	559	Red clay and cinders																																																																																																																																																																																														
20	559	575	Brown lava																																																																																																																																																																																														
20	575	583	Gray lava																																																																																																																																																																																														
<p>4. METHOD DRILLED</p> <p><input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rotary <input type="checkbox"/> Dug <input type="checkbox"/> Other</p>	<p>10.</p> <p>Work started <u>9/2/77</u> finished <u>12/20/77</u></p>																																																																																																																																																																																																
<p>5. WELL CONSTRUCTION</p> <p>Diameter of hole <u>20</u> inches Total depth <u>815</u> feet</p> <p>Casing schedule: <input checked="" type="checkbox"/> Steel <input type="checkbox"/> Concrete</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Thickness</th> <th>Diameter</th> <th>From</th> <th>To</th> </tr> </thead> <tbody> <tr> <td><u>.375</u> inches</td> <td><u>20</u> inches</td> <td><u>+ 1</u> feet</td> <td><u>50</u> feet</td> </tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> <p>Was casing drive shoe used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Was a packer or seal used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Perforated? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>How perforated? <input type="checkbox"/> Factory <input type="checkbox"/> Knife <input type="checkbox"/> Torch</p> <p>Size of perforation <u> </u> inches by <u> </u> inches</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Number</th> <th>From</th> <th>To</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table> <p>Well screen installed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Manufacturer's name <u> </u></p> <p>Type <u> </u> Model No. <u> </u></p> <p>Diameter <u> </u> Slot size <u> </u> Set from <u> </u> feet to <u> </u> feet</p> <p>Diameter <u> </u> Slot size <u> </u> Set from <u> </u> feet to <u> </u> feet</p> <p>Gravel packed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Size of gravel <u> </u></p> <p>Placed from <u> </u> feet to <u> </u> feet</p> <p>Surface seal depth <u>511</u> Material used in seal <input checked="" type="checkbox"/> Cement grout <input type="checkbox"/> Pudding clay <input type="checkbox"/> Well cuttings</p> <p>Sealing procedure used <input type="checkbox"/> Sherry pit <input checked="" type="checkbox"/> Temporary surface casing <input checked="" type="checkbox"/> Overbore to seal depth</p>	Thickness	Diameter	From	To	<u>.375</u> inches	<u>20</u> inches	<u>+ 1</u> feet	<u>50</u> feet																					Number	From	To										<p>11. DRILLERS CERTIFICATION</p> <p>Firm Name <u>Hiddleston Drilling Inc.</u> Firm No. <u>35</u></p> <p>Address <u>Mtn Home Idaho 83647</u> Date <u>12/22/77</u></p> <p>Signed by (Firm Official) <u>Ron</u></p> <p>and <u>Richard W. Johnson</u></p> <p>(Operator)</p>																																																																																																																																																								
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<p>6. LOCATION OF WELL</p> <p>Sketch map location must agree with written location. <u>6d</u></p>  <p>Subdivision Name <u> </u></p> <p>Lot No. <u> </u> Block No. <u> </u></p> <p>County <u>Elmore</u></p> <p>SE $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. <u>27</u> T. <u>3</u> N/S, R. <u>6</u> E/W</p>	<p>USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE COPY TO THE DEPARTMENT</p>																																																																																																																																																																																																

Well #13.

1. WELL OWNER

Name City of Mountain Home
 Address P.O. Box R Mountain Home, ID 83647
 Drilling Permit No. 61-92-C-009
 Water Right Permit No. 61-02072-02170-07184-07339

7. WATER LEVEL

Static water level 445 feet below land surface.
 Flowing? Yes No G.P.M. flow _____
 Artesian closed-in pressure _____ p.s.i.
 Controlled by: Valve Cap Plug
 Temperature _____ °F. Quality _____
Describe artesian or temperature zones below.

2. NATURE OF WORK

New well Deepened Replacement
 Well diameter increase Modification
 Abandoned (describe abandonment or modification procedures such as liners, screen, materials, plug depths, etc. in lithologic log, section 9.)

8. WELL TEST DATA

Pump Bailer Air Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
1800	445	2 Hrs
2200	445	6 Hrs

3. PROPOSED USE

Domestic Irrigation Monitor
 Industrial Stock Waste Disposal or Injection
 Other Municipal (specify type)

9. LITHOLOGIC LOG

103697

Bore Diam.	Depth		Material	Water	
	From	To		Yes	No
24"	0	2	Soil		
"	2	35	Gray Lava		
"	35	41	Red & Brown Cinders		
"	41	58	Gravel & Sand w/some Clay		
24-20	58	92	Gray Lava		
"	92	124	Brown & Black Cinders & Clay		
"	124	126	Void (Lost Circulation Completely)		
"	126	142	Soft		
"	142	144	Hard		
"	144	149	Soft		
"	149	156	Firm		
"	156	166	Soft		
"	166	190	Firm		
"	190	196	Medium		
"	196	197	Soft		
"	197	214	Firm		
"	214	217	Medium to Soft		
"	217	229	Firm		
"	229	231	Soft		
"	231	234	Firm		
"	234	235	Void		
"	235	237	Soft		
"	237	253	Medium		
"	253	258	Soft		
"	258	262	Medium		
"	262	270	Soft		
"	270	271	Void		
"	271	311	Soft		
"	311	324	Medium		
"	324	326	Hard		
"	326	332	Medium		
"	332	338	Soft		
"	338	345	Medium		
"	345	346	Soft		
"	346	355	Medium		
"	355	363	Hard		

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Department of Water Resources

4. METHOD DRILLED

Rotary Air Auger Reverse rotary
 Cable Mud Other _____
(backhoe, hydraulic, etc.)

5. WELL CONSTRUCTION

Casing schedule: Steel Concrete Other _____
Thickness Diameter From To
.375 inches 20 inches + 1 feet 75 feet
.250 inches 16 inches 3 feet 370 feet
 _____ inches _____ inches _____ feet _____ feet

Was casing drive shoe used? Yes No
 Was a packer or seal used? Yes No
 Perforated? Yes No
 How perforated? Factory Knife Torch Gun
 Size of perforation? _____ inches by _____ inches
Number From To
 _____ perforations _____ feet _____ feet
 _____ perforations _____ feet _____ feet
 _____ perforations _____ feet _____ feet

Well screen installed? Yes No
 Manufacturer _____ Type _____
 Top Packer or Headpipe _____
 Bottom of Tailpipe _____

Diameter _____ Slot size _____ Set from _____ feet to _____ feet
 Diameter _____ Slot size _____ Set from _____ feet to _____ feet
 Gravel packed? Yes No Size of gravel _____
 Placed from _____ feet to _____ feet

Surface seal depth 75 Material used in seal: Cement grout
 Bentonite Puddling clay _____
 Sealing procedure used: Slurry pit
 Temp. surface casing Overbore to seal depth
 Method of joining casing: Threaded Welded
 Solvent Weld Cemented between strata

Describe access port Tube welded on side

10.

Continued Next Page
 Work started 9-21-92 finished 11-3-92

6. LOCATION OF WELL

Sketch map location **must** agree with written location
 Subdivision Name _____
 Lot No. _____ Block No. _____
 County Elmore
 Address of Well Site Optimist Park
(give at least name of road)
 T. 3 N or S
 SW 1/4 NW 1/4 Sec. 27, R. 6 E or W

11. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.
 Hiddleston & Son, INC.
 Firm Name _____ Firm No. 35
 Rt 3, Box 610-D
 Address Mountain Home, ID 83647 Date 11-11-92
 Signed by Drilling Supervisor [Signature]
 and [Signature]
 (Operator) [Signature]
(if different than the Drilling Supervisor)

APPROVED
AUG 8 9 1993

Well #14.

Form 238-7
3/95-C96

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

830645

Office Use Only			
Inspected by _____			
Twp _____	Rge _____	Sec _____	
_____ 1/4	_____ 1/4	_____ 1/4	
Lat: _____	_____	Long: _____	_____

1. DRILLING PERMIT NO. _____
Other IDWR No. **D0038800** Well #14

2. OWNER:
Name City of Mtn Home
Address PO Box 10
City Mtn Home State ID _____ Zip 83647

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location

N

W	E	S	N
W	E	S	N
W	E	S	N
W	E	S	N

Twp. 3 North or South
Rge. 7 East or West
Sec. 19 1/4 NE 1/4 SE 1/4
10 acres 40 acres 160 acres

Gov't lot _____ County Elmore
Lat: _____ Long: _____

Address of Well Site Off Hwy 20
(Give at least name of road + Distance to Road or Landmark)
City Mtn Home
Lt. _____ Blk. _____ Sub. Name _____

4. USE:
 Domestic Municipal Monitor Irrigation
 Thermal Injection Other _____

5. TYPE OF WORK check all that apply (Replacement etc.)
 New Well Modify Abandonment Other clean out

6. DRILL METHOD
 Air Rotary Cable Mud Rotary Other _____

7. SEALING PROCEDURES

SEAL/FILTER PACK			AMOUNT	METHOD
Material	From	To	Sacks or Pounds	
N/A				

Was drive shoe used? Y N Shoe Depth(s) _____
Was drive shoe seal tested? Y N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS
 Perforations Method _____
 Screens Screen Type _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						<input type="checkbox"/>	<input type="checkbox"/>

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
206 ft. below ground Artesian Pressure _____ lb
Depth flow encountered _____ ft. Describe access port or control devices: _____

11. WELL TESTS:
 Pump Bailer Air Flowing Artesian

Yield gal/min.	Drawdown	Pumping Level	Time

Water Temp. _____ Bottom hole temp. _____
Water Quality test or comments: _____
Depth first Water Encountered _____

12. LITHOLOGIC LOG: (Describe repair or abandonment)

Water				Y	N
Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temp.		
16"	404	405	Gray Lava		
16"	405	405.3	Red Cinder		
16"	405.3	406	Brown lava		
16"	406	406.5	Black cinder		
16"	406.5	423	Gray lava & cinders		
16"	423	428	Brown lava & cinders		
16"	428	453	Brown lava & thin layer of brown cinder		
16"	453	456	Black cinder & quartz		
16"	456	468	Gray lava		
16"	468	478	Black cinders		
16"	478	493	Black lava		
16"	493	507	Hard gray lava		
16"	507	511	Brown lava & cinders		
16"	511	525	Gray lava		
16"	525	544	Brown lava		
16"	544	551	Gray lava		
16"	551	568	Oviline		
16"	568	575	Brown lava & cinders		
16"	575	585	Brown cinder		
16"	585	588	Brown lava & cinders		
16"	588	605	Brown lava		
16"	605	621	Olivine & pumice		
16"	621	675	Brown cinders		
16"	675	692	Gray lava		

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WATER RESOURCES
WESTERN REGION

Completed Depth: 692 (Measurable)
Date: Started 02-16-05 Completed 02-21-05

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Hiddleston & Son, Inc. Firm No. 35
Firm Official [Signature] Date 3-23-05
Supervisor or Operator [Signature] Date 2-28-05
(Sign once if Firm Official & Operator)

Well #15.
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

000110

1. WELL TAG NO. D D0052623 Production well # 15

Drilling Permit No. **903501-850490**
Water right or injection well # **61-2072, 61-2167, 61-7184, 61-2170**

2. OWNER

Name **City of Mountain Home**
Address **1150 South Main**
City **Mountain Home** State **ID** Zip **83647**

3. WELL LOCATION:

Twp. **3** North or South Rge. **6** East or West
Sec. **25** NW 1/4 NW 1/4 NW 1/4
Gov't Lot _____ County **Elmore**
Lat. **43° 08:23.81N** (Deg. and Decimal minutes)
Long. **115° 41:44.98W** (Deg. and Decimal minutes)
Address of Well Site **990 McKenna Drive**
City **Mountain Home**

(Give at least name of road + Distance to Road or Landmark)

Lot. _____ Blk. _____ Sub. Name **Richard Aquirre Park**

4. USE:

Domestic Municipal Monitor Irrigation Thermal Injection
 Other _____

5. TYPE OF WORK check all that apply (Replacement etc.)

New Well Replacement well Modify existing well
 Abandonment Other _____

6. DRILL METHOD:

Air Rotary Mud Rotary Cable Other _____

7. SEALING PROCEDURES

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
Bentonite	0	60'	5073lbs	Overbore / Pumped
Enviroplug	143'	150'	400 lbs	Overbore / Pump
Cement	0	143'	35000lbs	Pumped

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/Schedule	Material	Casing	Liner	Threaded	Welded
24"	+1'	60'	.375	Steel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
18"	+2'	484.1'	.375	Steel	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Was drive shoe used? Y N Shoe Depth(s) _____

9. PERFORATIONS/SCREENS:

Perforations Y N Method _____
Manufactured screen Y N Type **Johnson Screen**
Method of installation **Overbored and set in place**

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
693.2'	484.2'	0.100		18"	S S	304

Length of Headpipe **488.1 feet** Length of Tailpipe **2 feet**

Packer Y N Type **18" T-K Packer**

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
none				

11. FLOWING ARTESIAN:

Flowing Artesian? Y N Artesian Pressure (PSIG) _____
Describe control device _____

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) **533'** Static water level (ft) **489'**
Water temp. (°F) **70** Bottom hole temp. (°F) _____
Describe access port **Through top of well**

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Test method:			Flowing artesian
			Pump	Bailer	Air	
41'	992gpm	60	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
65'	1500gpm	200				
101'	2100gpm	1200				

Water Quality test or comments:

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water	
				Y	N
30"	0	2'	Top Soil		x
30"	2'	52'	Sand and Gravel	x	
30"	52'	56'	Brown Lava		x
30"	56'	60'	Broken up Brown and Gray Lava		x
24"	60'	75'	Brown and Gray Basalt		x
24"	75'	146'	Brown Cinders	x	
24"	146'	190'	Gray and Brown Basalt		x
24"	190'	253'	Gray and Brown Basalt w/ Brown Clay		x
24"	253'	282'	Gray Basalt		x
24"	282'	424'	Gray and Brown Basalt		x
24"	424'	450'	Brown Basalt		x
24"	450'	533'	Gray and Brown Basalt		x
24"	533'	584'	Red and Brown Basalt	x	
24"	584'	615'	Gray Basalt w/ Brown and Red Cinders	x	
			Gray Basalt w/ Brown and Red Cinders		
24"	615'	680'	w/ Talc and Brown Clay	x	
24"	680'	690'	Gray Basalt w/ Red Brown Cinders/Talc	x	
24"	690'	720'	Gray Basalt and Red Cinders	x	
24"	720'	755'	Black Basalt and Brown Cinders	x	
24"	755'	760'	Fractured Gray Basalt w/ Cinders	x	
			fractured gray&brown basalt w/brown Clay & Talc		
24"	760'	810'	Red & Brown Cinders w/Talc brown Clay	x	
24"	810'	854'	Black and Red Cinders w/ Sand and Gravel and some Brown Clay	x	
24"	854'	870'	Black Cinders w/ Sand and Gravel (Heaving)	x	
24"	870'	890'	Black Cinders w/ Sand&Gravel heaving	x	
24"	890'	894'	Sand	x	
24"	894'	989'	Sand and Gravel (Heaving)	x	
24"	989'	1000'	Blue Clay		x

Completed Depth (Measurable) **695 feet**

Date: Started **4-2-2008** Completed **4-22-2009**

14. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name **Hiddleston Drilling** Co. No. **35**

*Principal Driller *[Signature]* Date **4/30/09**

*Driller *[Signature]* Date _____

*Operator II _____ Date _____

Operator I *[Signature]* Date **4-30-09**

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WATER RESOURCES
WESTERN REGION

APPENDIX D
CONTINGENCY PLAN
For the City of Mountain Home
Updated in November, 2016

Public Water System #4200032

Water Department Supervisor:
David Sonnentag
(208) 599-3842

Water Department:
1150 South Main Street
Mountain Home, ID 83647
208-587-2108

Record Updates Annually

Date Reviewed	Reviewer	Changes or Comments (attach additional documents as needed)

Table 1. Emergency Contact Information.

Organization	Contact Person	Phone Number
Safe Drinking Water Hotline		1-800-426-4791
State Communications		1-800-632-8000
National Response Center		1-800-424-8802
Bureau of Hazardous Materials		422-5726
Solid Waste Management		793-2447
Bureau of Environmental Health and Safety		334-2584
Environmental Emergency Consulting	Environmental Management Solutions	895-0326
Idaho DEQ	State Office	373-0502
Regional Health Department	Southwest District Health Jami Delmore	455-5300 455-5403
Water System Management	David Sonnentag	W 208-587-2108 C 208-599-3842
Law Enforcement	MH: Humberto Fuentes Elmore Co: Rick Layher Elmore Co Dispatch	587-2101 587-3370 ext 228 587-2100
Fire Station	City of Mountain Home Fire Dept	587-2117
Transportation Department	Mountain Home Highway District	587-3211
Hospital /Health Clinic	Elmore Medical Center	587-8401
Ambulance Service	Elmore County	580-5480
Power Company	Idaho Power	208-388-2200
Regional DEQ contact	Julia Achabal	373-0426
Idaho Rural Water Association	Adrianna Hummer	208-392-3576
County Commissioners		587-2129 ext 505
County Emergency Coordinator	Traci Lefever	587-2126 ext 265
County Emergency Management		587-2100
Local Incident Assessment Team	David Sonnentag Ryan Day Donald Flynn Joseph McLeod Kevin Weaver	599-3842 906-9926 599-1062 587-2108 598-0912
Neighboring Water Systems	Phone number	After hours number
City of Grandview	208-834-2700	
City of Glens Ferry	208-366-7518	208-366-7581
City of Hammett	208-366-2219	208-366-2219
Pine and Featherville	208-653-2443	
King Hill	208-366-2710	
Oasis	208-580-2902	

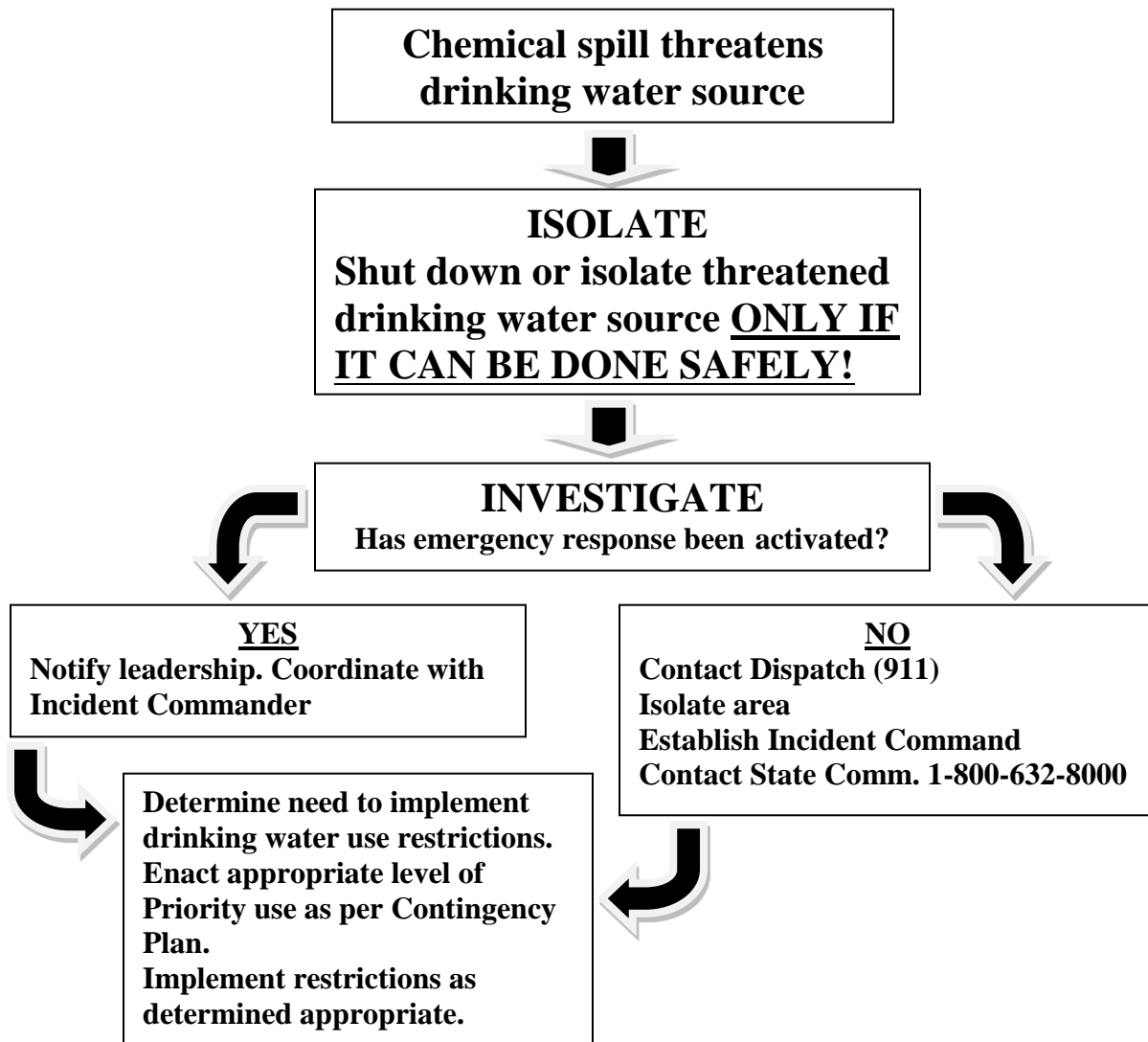
EMERGENCY ACTION GUIDE

Drinking Water Source Protection Plan

If a hazardous chemical incident occurs in the Drinking Water Source Protection Area and is likely to pose a threat to drinking water sources (wells, springs, surface water intake, storage facility), implement the emergency action steps below immediately.

IMPORTANT: Remain uphill and upwind of any chemical release area. Coordinate with the Incident Commander of emergency response agencies and provide assistance relative to protecting the drinking water sources. **Activate the Idaho Contingency Plan by contacting State Communications at 1-800-632-8000.**

EMERGENCY ACTION STEPS



I. INTRODUCTION

The purpose of developing a Contingency Plan is to establish, provide, and keep updated certain emergency response procedures that may become necessary in the event of a partial or total loss of public water supply service because of natural disasters, chemical contamination, mechanical failure, or civil disorders. This Contingency Plan is the procedural guide for responding to such emergencies.

Regardless of protection strategies and efforts to prevent contamination or exposure of the municipal water system to harmful materials, it is recognized that contamination may still occur, either from accidental chemical releases, intentional acts of vandalism, or as unforeseen results of the otherwise legal use of hazardous materials. To that end, the City of Mountain Home has established this Contingency Plan as a strategy guide for emergency actions should such an incident occur. This Plan is developed on the premise that a transportation-related chemical spill is the most likely threat to the drinking water system. However, the provisions of this Contingency Plan may be employed in any event that poses a threat to the municipal drinking water system. If deemed of sufficient severity, the City of Mountain Home may declare a state of emergency or disaster under the provisions of Idaho Code Chapter 10, title 46, Idaho Emergency Preparedness Act in order to request resources and support assistance from Elmore County, the state of Idaho, and/or federal agency sources.

II. HAZARD ANALYSIS/RISK ASSESSMENT

The water system and planning team has conducted an initial hazard analysis and risk assessment. Derived through discussion, historical occurrence and review of available statistical reports, the planning team has assigned a priority class to each identified hazard/threat, and a probability rating. Outcome of the process indicates that the most likely and most significant threat to the existing municipal water supply is a chemical spill from the major transportation corridor of Interstate 84. The following table illustrates contamination sources considered.

Table 2. Threats/Hazards Considered.

Priority Rating ¹	Threat/Hazard	Highly Probable	Probable	Possible	Possible but Unlikely
6	Natural contamination (natural sources)				x
4	Agricultural chemical leaching				x
3	Electrical/mechanical failure			x	
2	Chemical spill – Residential			x	
1	Chemical spill – Transportation related		x		
5	Intentional contamination – Vandalism or terrorism				x

¹=Priority rating based upon known or perceived threats to the aquifer and water system.

III. PUBLIC WATER SUPPLY CHARACTERISTICS

Table 3. Water System Specifics.

Storage volume	3,150,000 gallons
Supply source(s)	3 Groundwater Wells
People served	14,000
Distribution method	Pressurized
Production capacity (gpm)	12,300 during power outages

Please note: Water storage values provided in Table 3 do not include water needed for fire suppression.

IV. CONTINGENCY PLAN – CONCEPT OF OPERATION

Upon notification of an emergency or other event that may impact or threaten to impact the City of Mountain Home’s water supply, David Sonnentag will be notified immediately. Mr. Sonnentag will serve as the lead coordinator for mitigation efforts. City government members will participate in a unified command structure to assist in managing and mitigating the emergency incident. Refer to Table 1 on page 65 for contact information.

V. CHEMICAL RELEASE ACTION STEPS

The following emergency action guide will be implemented in the event of a chemical release or spill that may threaten any portion of the water supply system:

1. EMERGENCY ACTION STEPS:

Figure 1 on page 66 of this Contingency Plan provides an emergency action guide that may be implemented immediately upon discovery of a chemical spill or other event that threatens Mountain Home’s drinking water sources. The best protective step to maintain system integrity is to **isolate first, then investigate further**. It MUST be understood, however, that no one should enter into a hazardous environment unless properly trained and equipped to do so. Actions should be taken using the Idaho Hazardous Materials Response Plan and to determine exclusion zones and protective actions.

To find a copy of the Idaho Hazardous Materials Response Plan, visit DEQ’s website at: <http://bhs.idaho.gov/Pages/HazardousMaterials/Plan.aspx> or call your regional DEQ contact listed on page 65. The following action steps should be taken:

- If not already established by emergency response agencies, an Incident Command System (ICS) will be established. If an ICS is already established, the water operator, system engineer and/or governing board/officials will coordinate and serve as liaisons with the Incident Commander to assess threats and implement water system protection measures.
- If not already done by the Incident Commander, the Idaho State Communications Center (State Com) will be notified of the type and properties of the release. Contact phone number is **1-800-632-8000**.
- The water operator will initiate system source isolation (e.g. shutting down wells; isolating spring sources, etc.) as determined appropriate for the event.

- Public notifications, water usage restrictions, and priority use protocol will be implemented as necessary through the Mountain Home Water Department and City government.
- The Idaho Department of Environmental Quality (DEQ), District Health Department, and other state and/or federal agency(s) that may be involved will be consulted and coordinated with to ensure the mediation and safety of delivered drinking water.
- If the event makes drinking water unusable, the need to supply supplemental drinking water (bottled water, etc.) will be assessed and determined by Mr. Sonnentag and the Mayor of Mountain Home.
- In keeping with the County Emergency Operations Plan, the County Office of Emergency Management and the Bureau of Disaster Services Area Field Officer (BDSAFO) will be notified. In the event that needed resources are not available within the County, the County Emergency Manager and BDSAFO will work through the State Emergency Operations Center to facilitate resource requests.

2. PRIORITIES FOR USE OF DRINKING WATER DURING WATER SUPPLY EMERGENCIES

During periods of water system emergencies, priorities for use of drinking water may be established depending upon the severity and anticipated duration of the emergency. Those services and uses determined less critical to public health and safety will be suspended for a period to be determined by the City of Mountain Home Water Department. This Contingency Plan is developed to prepare for management in the event of a water system emergency, and shall not be deemed to contravene the authority of local government. It is recognized that the Mayor and City Council may exercise its authority and impose other more or less restrictive controls, based upon the particular event.

Table 4. Prioritizing Water Use During Restrictions and Emergencies

	Use Advisory	Priority Use	Prohibited Use
Level 1: Minor contaminants – follow Health District recommendations	Boil Order, or other treatment dependent upon nature of the contaminant. Follow Health District recommendations.	Drinking Water Yard and other uses	Boil Order or other treatment for domestic uses No restrictions
Level 2: Reduced supply due to source closure or limitation (including drought)	Watering Restriction Notice	Drinking Water Limited yard and other uses	Yard or garden use by scheduled watering hours <u>ONLY</u>
Level 3: Reduced supply due to source closure or limitation (including drought)	Water Restriction Notice	Drinking Water	<u>NO OUTSIDE WATER USE</u>
Level 4: Serious hazard affecting water source	Bottled Water <u>ONLY</u> Notification of all media outlets		<u>NO DOMESTIC USE</u>
Level 5: Serious environmental and	Bottled water <u>ONLY</u> No physical contact	<u>NO USE ALLOWED</u>	<u>ANY USE OR CONTACT</u>

health hazard affecting water source	Notification of all media outlets		<u>PROHIBITED</u>
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3. SHORT-TERM REPLACEMENT ALTERNATIVES

The City of Mountain Home has water storage capacity to last approximately 3 days without lawn watering. However in the event it becomes necessary to isolate or shut down any drinking water sources, drinking water may have to be provided through a state-certified water hauler, or by bottled water. Water conservation practices should be put into effect. The water system would coordinate with the Health Department to identify certified water haulers and shippers who would be contacted to provide water by truck. Potential water providers are listed in the following section.

Depending upon the anticipated duration of the water emergency, the City of Mountain Home may request support from the Idaho National Guard Potable Water Transportation Purification Unit at Boise. Such requests must be made through the Idaho Bureau of Disaster Services (BDS) and can be fulfilled by contacting the Elmore County Office of Emergency Management at 208-587-2100 number or the Idaho BDSAFO by contacting State Communications at 1-800-632-8000.

The City of Mountain Home may have to identify and contract with commercial water purification companies to provide short or long-term water services until the water emergency can be remedied.

4. INVENTORY OF AVAILABLE RESOURCES FOR EMERGENCY USE

Bottled water is available at:

- Walmart (208) 587-0601 2745 American Legion Blvd
- Albertsons (208) 587-5460 528 N Main St
- Jacksons (208) 587-5301 585 W 6th S
- Pilot (208) 587-4465 1050 US-20

Water filtration and certified water haulers:

- Culligan Filtration Services (208) 343-1816
- Boise Water Works Pool and Spa, Boise (208) 377-9093
- G&G Fire Support, Boise (208) 377-3825
- Water Tender Services, Boise (208) 695-3567
- Anne's Potable Water, Caldwell (208) 459-1906
- Waterway Trucking LLC, Meridian (208) 855-2572
- CEI Water Trucks, Meridian (208) 888-1017
- Sweet Water, Nampa (208) 250-0107

State assets available through the Idaho Bureau of Disaster Services:

- Idaho National Guard transportable potable water tanks
- Idaho National Guard transportable water purification system

VI. LOCAL INCIDENT ASSESSMENT TEAM

Upon notification of a water emergency and as soon as possible, a local Incident Assessment Team will be assembled to assess any impact to the water system, long-range outlook, and alternatives for rectifying the water emergency. The Team will include but may not be limited to those positions identified in Table 1 on page 65.

VII. PUBLIC NOTIFICATION PLAN

1. PUBLIC NOTIFICATIONS: Upon notification of an incident impacting the water system and upon recommendation from the water operator, regulatory agencies or other relevant sources, the Mayor for the City of Mountain Home will order the appropriate level of public notification to be made.

The provisions of this Contingency Plan will guide the level of notification used, however the particular threat or seriousness of impact shall be the deciding factor as to the level and method of public notification.

2. MEDIA OUTLETS: Depending upon the nature of the threat and the severity and seriousness of potential public health implications, the Mayor and Water Operator will decide upon a dissemination method for public notification. Southwest District Health should not be overlooked as a resource for notification and special expertise in dealing with media information issues. The following are notification methods and media outlets that may be employed at the discretion the Mayor and Water Operator:

Mailers and posted public announcements

- Utility bill mailers
- Special announcement mailers or flyers
- Public announcements posted at identified sites within the community

Local and area newspapers

- Mountain Home News: (208) 587-3331
- Idaho Statesman: (208) 377-6400 or on the weekends call (208) 373-6627
- Elmore County Press: (208) 845-2067 jack_cindy@el-wyhee.com or ed@el-wyhee.com

Broadcast media for issuing public notices:

- Cumulus/Citadel Broadcasting Company, covering the following stations (208) 336-3670
 - KBOI News Talk Radio 670 AM
 - KIZN 92.3 FM
 - KKGL “The Eagle” 96.9 FM
 - KQFC 97.9 FM
 - KTIK Sports Radio 93.1 FM
 - KTIK Sports Radio 1350 AM
- Journal Broadcast Group, covering the following stations (208) 344-3511

- KRVB “The River” 94.9 FM
- KQXR “The X” 100.3 FM
- KJOT 105.1 FM
- KTHI 107.1 FM
- KGEM 1140 AM

- Spanish Radio Stations
 - KWEI 1450 AM (208) 367-1859
 - KMHR 950 AM
 - KCID 1490 AM
 - KQTA 106.3 FM
 - KDBI 101.9, out of Emmett

- Television stations:
 - KBCI-CBS Channel 2 (208) 336-5222
 - KTVB-NBC Channel 7, (208) 321-5614
 - Journal Broadcasting: KIVI-ABC Channel 6, (208) 336-0500
 - KNIN-FOX Channel 9 (208) 336-0500 Banks

Idaho Emergency Alert System (For immediate public health and safety)

- Central Activation Center (CAC)
- Idaho State Communications Center 1-800-632-8000
- National Weather Service NOAA Weather Radio (NWR)
 - Automatically included via EAS Activation
- All LOCAL Broadcast Media
 - Automatically included via EAS Activation