LIBERTY TOWNSHIP
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HECLA, SD 57446
OWEN ELSEN-CHAIRPERSON
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605-994-7101

Jeanne Goodman, Chief Engineer
Water Rights Program
Foss Building, 523 E Capitol
Pierre, SD 57501

February 9, 2015

Dear Jeanne Goodman, Chief Engineer,

RE: Opposition of Application No. 8065-3

We are expressing strong concern and opposition with the recommended approval of application number 8065-3. We feel that currently the well is an abandoned well as it is not serving for human consumption or livestock production. As required by South Dakota Codified Law (SDCL) 46-6-18 and 46-6-27, the well should be considered as an abandoned well and should be plugged. The well is a potential pollution source to everyone using the aquifer in the township and the potential liability to the well owner as well. Whoever owns the property on which the abandoned well is located is deemed to be the well owner.

We have a strong concern for the potential of contamination of the aquifers that serve Liberty Township. Currently Liberty Township is not served by any rural water system, these precious aquifers serve as our ONLY human drinking water source. This concern is further elevated by the age of the well, 1914, and the close proximity of the well to the City of Hecla's lagoon. The potential for a subsurface leak of a well this old is quite high. If this were to happen it could also put at risk the containment structure of the lagoon cells. If you put these risks all together, this would put the population of Liberty Township at undue and unreasonable risk. For these reasons, we strongly argue against that this would serve as a beneficial use of water and is in the public interest.

As Liberty Township Board Members, our public interest would be the safety of our aquifers, as these are our only source of drinking water. As well as concerns of the discharge has to the productivity of surrounding land, discharge potentially creating salty, non-productive soil, and the impact on public road infrastructure.

The following are some of the concerns of abandoned wells South Dakota Department of Environment & Natural Resources as listed on their website: http://denr.sd.gov/des/wr/abandonedwell.aspx

Environmental and Safety Hazards

Contamination of Aquifers

Unsealed or abandoned wells directly connect the land surface with ground water. Due to this, polluted surface water can easily enter the ground water and cause a contamination problem. Examples of pollutants that can enter the ground water are human or animal wastes, petroleum products, fertilizers, pesticides, etc. Once an aquifer has become

contaminated it can be very expensive and difficult to undo the damage. Some of the health hazards associated with contaminated ground water are "blue baby syndrome" caused by high nitrate levels and waterborne diseases such as hepatitis, cholera, and diarrhea caused by bacteria entering the ground water.

Cross Contamination of Aquifers

A well which penetrates more than one aquifer may allow water from one aquifer to contaminate another aquifer if the well is not properly constructed. Water may leak along the outside of the well casing if the well is not properly sealed or the casing may deteriorate and develop holes which allows water movement inside the casing. In either event, the water from one aquifer mixes with one or more other aquifers which may cause problems. Water of poorer quality may enter another aquifer and reduce the water quality as well as pollutants moving from a contaminated aquifer to an aquifer which, unfortunately, is about to become contaminated.

Clearly there is justified concern in regards to the preceding two subjects: age of well (1914), proximity of well to lagoon. There is great, undue risk here to the residents of Liberty Township and its landowners. It is our understanding this was a part of a mitigation process. We would encourage the state to investigate if the wetlands were created by artificial waters (by the well) prior to the mitigation that these would not have had to be mitigated by the project (the lagoon) and that the determination was in error. We would hope that mitigation does not come before public safety, surely if it has been done in error. Clearly this type of resolution makes sense and would benefit both parties and should be pursued.

Sincerely,

Owen Elsen

Owen Elsen, Chairperson

Michael Elsen, Vice-Chairperson

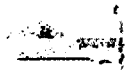
Merlyn Elsen

Merlyn Elsen, Supervisor

Cc (4): City of Hecla c/o Jay Osterloh, Mayor
Adam Mathiowetz, SD DENR-Water Rights Program
Ken Buhler, SD DENR-Water Rights Program
Eric Gronlund, SD DENR-Water Rights Program

Attachments (1): Abandoned Wells in South Dakota, (4) pages

Abandoned Wells in South Dakota

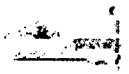


Property Owner Responsibilities

The owner of property on which an abandoned well is located is deemed to be the owner of the abandoned well. Consequently, the owner is also responsible for plugging the abandoned well or wells as required by South Dakota Codified Law (SDCL) 46-6-18 * Link /des/wr/46-6.aspx#46-6-18* and 46-6-27 * Link /des/wr/46-6.aspx#46-6-27* . There are many reasons for the owner to properly plug an abandoned well, aside from the legal requirement to complete the plugging. These wells also pose environmental and safety hazards resulting in potential legal liabilities. A list of abandoned well hazards is as follows:

- Contamination of aquifers * Link #Contamination of Aquifers* by allowing surface runoff carrying pollutants to enter the ground water;
- Cross contamination of aquifers * Link #Cross Contamination of Aquifers* by the well passing through more than one aquifer;
- Reducing artesian head pressure * Link #Reducing Artesian Head Pressure* which may affect other wells in the same aquifer;
- Safety hazards * Link #Safety Hazards* to people and animals.

The plugging of an abandoned well needs to meet requirements outlined in the SD Well Construction Standards sections 74:02:04:67 * Link http://legis.sd.gov/rules/DisplayRule.aspx?Rule=74:02:04:67* and 74:02:04:69 * Link http://legis.sd.gov/rules/DisplayRule.aspx?Rule=74:02:04:69* . These rules specify how to plug a well depending on the type of well construction, the type of aquifer or aquifers which the well penetrates, and the materials to be used to plug the well. Even though the owner of an abandoned well may plug the well, it is strongly suggested that a SD licensed well driller perform the work due to the varying conditions encountered in plugging an abandoned well. If a well is not plugged properly, ground water contamination may still occur and it is very difficult and expensive to correct the improper plugging of an abandoned well.



Historical Background

Abandoned wells exist throughout South Dakota and tap into every principle aquifer in the state. These are the same aquifers that are relied on today for much of the drinking water used in the state. While the actual number of abandoned wells is not known, it is possible to make some reasonable estimates of the number of abandoned wells. In 1910, South Dakota had approximately 78,000 farms which reached a maximum of 84,300 farms in 1932. Since

that time, farm numbers have declined steadily to about 31,700 today. Therefore, South Dakota has lost approximately 52,600 farms that likely had at least one well which may now be abandoned. Aside from the reduction in the number of farmsteads, other factors have also contributed to the creation of abandoned wells such as the development of rural water systems and rural electrification. Abandoned wells are not only a problem on farmsteads. Municipalities have also hooked up to rural water systems or constructed replacement wells and have not properly plugged their old wells which gradually fall into disrepair. Many people have good intentions to maintain an old well as a backup or standby well, but typically these wells never get used again and are forgotten over time. When this occurs, the well becomes a potential pollution source to everyone using the aquifer and a potential liability to the well owner. Whoever owns the property on which the abandoned well is located is deemed to be the well owner.

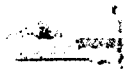
Locating Abandoned Wells

Abandoned wells may be located anywhere but there are some obvious indicators of the presence of abandoned wells such as windmills, hand pumps, abandoned farmsteads, or a simple pipe sticking out of the ground. Wells were often drilled near outbuilding and were housed in small sheds or sometimes wells were located in the basement of a home. Perhaps not so obvious are the inhabited farmsteads that are now served by rural water or farms that have had newer wells drilled to replace the original well which has since been abandoned. The same can be said of cities and towns in South Dakota that have hooked to rural water or drilled replacement wells. Other indicators of the presence of an abandoned well are depressions supporting aquatic vegetation, such as cattails, in an otherwise dry area. Often, wells were hand dug and are large diameter wells constructed of concrete, wood, bricks, rock, or other materials around the perimeter of the well. In some instances, the abandoned well is housed within a large diameter pit which may be several feet deep.

Other information sources for locating abandoned wells include:

- Previous landowners or long-time neighborhood residents;
- Well drillers and well completion reports filed with Water Rights Program (605 773-3352);
- In the case of irrigation wells or other large water use wells, a water right permit on file with the Water Rights Program;
- Old photos of the property showing building locations;
- County or city building permits;

- Old fire insurance plan drawings may show the location of wells



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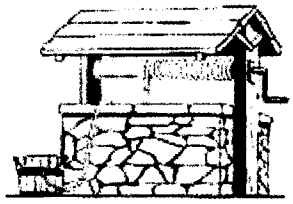
Reducing Artesian Head Pressure * Link *

Abandoned wells from which water flows over the land surface or that leak water underground from one aquifer to another aquifer will reduce the head pressure in an aquifer. As a result, water levels in nearby wells will be lowered and wells that once flowed may need to be pumped to get water from the well. It may not even be possible to place a pump in a well that no longer flows due to the size of the well casing. In addition, water flowing from an abandoned well may result in a waste of water which is prohibited by state law in SDCL 46-1-4.

Safety Hazards * Link *

Many abandoned wells are not marked or covered. In some instances the well casing or a pit in which the well is located is large enough for a person or animal to fall into and become seriously injured or killed. While such occurrences are rare, they do happen. Fortunately, these types of accidents are entirely preventable with proper plugging of the well.



If you have questions or need more information, please contact the Water Rights Program at 605 773-3352 or email * Link mailto:DENRINTERNET@state.sd.us?subject=Atten: Ken Buhler* us or view a report (Adobe Acrobat PDF file) entitled "Abandoned Well Sealing Demonstration Project. * Link /des/wr/abandonedwells.pdf* " Thank you for helping to protect South Dakota's water resources.

Acknowledgement: Most of this abandoned well information consists of excerpts from a publication (FS 891 - October 1993) entitled, "Plugging Abandoned Water Wells" prepared in cooperation with the South Dakota State University Cooperative Extension Service, East Dakota Water Development District, and the Water Rights Program of the Department of Environment and Natural Resources.