MINUTES OF THE 242ND MEETING
OF THE WATER MANAGEMENT BOARD
FLOYD MATTHEW TRAINING CENTER
523 EAST CAPITOL AVENUE
PIERRE, SOUTH DAKOTA
MAY 3, 2023

CALL TO ORDER: Chairman Bill Larson called the meeting to order at 9:30 a.m. CentralTime. The roll was called, and a quorum was present.

Chairman Larson announced that the meeting was streaming live on SD.net, a service of South Dakota Public Broadcasting.

The following attended the meeting:

Board Members: Bill Larson, Rodney Freeman, Jim Hutmacher, Tim Bjork, Chad Comes, and Peggy Dixon. Leo Holzbauer was absent.

Department of Agriculture and Natural Resources (DANR): Eric Gronlund, Chief Engineer, Ron Duvall, Mark Rath, Adam Mathiowetz, Kim Drennon, Karen Schlaak, Genny McMath, and Rachel Rodriguez, Water Rights Program.

Attorney General's Office: David McVey, board counsel; Ann Mines Bailey, Water Rights Program counsel.

Legislative Oversight Committee: Representative Mike Weisgram.

Court Reporter: Carla Bachand, Capital Reporting Services, Pierre, SD.

Consider Water Permit Application No. 2850-2, Elk Mountain Water Users Association, Inc.: Jon Morgan, Annie Rosse, Luke and Jess Caster, Randy Miller, Marty O'Dea, Kent Keidel, JoAnn Stearns, Dalton Stearns, Dan Stearns, Travis Paulton, Misty Martinez, Eraclio Martinez, Tomas Martinez, Jama Martinez, all from Edgemont; Daniel Nebelsick, Rock Rapids, IA; Trent Bruce, Sioux Falls; Mike and Sandra McLain, Keystone; Scott James, Custer; Shawn Pitts, New Castle, WY; Rob Galbraith, Rapid City; Matt Naasz, Rapid City.

ADOPT FINAL AGENDA: Motion by Bjork, seconded by Hutmacher to adopt the agenda as posted. Motion carried unanimously.

CONFLICT DISCLOSURES AND REQUESTS FOR STATE BOARD WAIVERS: None.

ADOPT MARCH 8, 2023, BOARD MEETING MINUTES: Motion by Freeman, seconded by Dixon, to approve the minutes of the March 8, 2023, Water Management Board meeting. Motion carried unanimously.

JULY 12-13, 2023, MEETING LOCATION: Staff proposed that the July meeting be held in Pierre. Jim Hutmacher noted that he will not be able to attend the July meeting.

Motion by Bjork, seconded by Dixon, to hold the July 12-13, 2023, Water Management Board meeting in Pierre. Motion carried unanimously.

PUBLIC COMMENT PERIOD IN ACCORDANCE WITH SDCL 1-25-1: There were no public comments.

UPDATE ON DANR ACTIVITIES: Eric Gronlund, Chief Engineer, Water Rights Program, reported that there was more moisture this winter than the two prior years. In May 2023 the seasonal well readers will begin measuring wells throughout the state. The information will be used to determine how the aquifers reacted to the snowfall and snow melt. There is good flow in the streams at this time. The James River has some areas that are in severe flooding, but the flooding is expected to subside. The James River is used heavily for irrigation purposes. With the moisture that North Dakota received, with Pipestem and Jamestown Dams as well as the Sand Lake complex, good flows are expected throughout the season. In 2022 flows were good, and they subsided late in the season.

The Water Rights Program watches the drought index monitor closely. Since July 2020, there have been some areas in South Dakota that have always been in the red, or severe drought. The spring of 2023 was the first time since July 2020 where there wasn't any red. There certainly are some areas that are abnormally dry, but not severe. At the July board meeting, staff intends to update the board on aquifer levels.

Mr. Gronlund noted that the board packet included the Upland Colony water permit application report, recommendation, and comments. No petitions in opposition were received. State law allows for comments to be received but does not make the commentator a party to the proceeding or cause a hearing. The law does require the Water Rights Program to provide the comments to the Water Management Board, and the comments become part of the record. For this reason, the report and recommendation were included in the board packet. However, the public notice for Upland Colony's water permit application was noticed in a manner that if no petitions in opposition were filed, the permit would be issued based on the recommendation of the Chief Engineer. That is why a hearing was not scheduled for this application. Mr. Gronlund stated that the law allowing people to comment without being parties went into effect in July two years ago. He asked for board guidance on how the Water Rights Program should handle comments in the future.

David McVey, Assistant Attorney General, stated that he does not believe the board needs to deal with procedure in an open meeting. Mr. McVey stated that even though the board does not have the opportunity to vote on the recommendation or the comments, it would be appropriate to list it as an agenda item so the board can ask any questions of the staff in relation to the application. He said providing the comments to the board without them having the opportunity to at least inquire among DANR staff seems to negate the requirement of the comments in the first place.

Ms. Mines Bailey asked if Mr. McVey is suggesting that the Chief Engineer does not issue the permit even though he would be allowed to. Mr. McVey stated that he is suggesting that applications receiving comments should be included on the meeting agenda to give the board the opportunity to ask questions of the staff.

Mr. Gronlund said the board packet currently includes a table showing water permit applications to be considered as scheduled and unopposed new water permit applications issued based on the Chief Engineer's recommendation. Water Rights staff has discussed adding a third section to the table showing applications that received comments but no hearing. Mr. Gronlund said if these applications are listed on the agenda, the Water Rights staff believes the permit holder should receive notification that it is on the meeting agenda.

In response to a question from Mr. Bjork, Mr. Gronlund stated that two years ago the law was changed to require that a petitioner opposing an application has to show a unique injury as opposed to an injury to the public in general, but there needed to be an avenue for people who didn't have that unique injury to still comment.

Mr. Freeman stated that by putting these applications on the meeting agenda it then, in effect, makes the commenters quasi intervenors. Mr. McVey said intervenors need to file a petition opposing the application rather than simply submitting comments so, procedurally, commenters would not be quasi intervenors under the new statute. He said the comments do become part of the final record, which is the reason the board should be allowed to ask questions of the staff.

Mr. Comes suggested putting the application receiving comments on the agenda as an acknowledgement. Mr. McVey said he is okay with that as long as the board members have the opportunity to ask questions of the staff.

Mr. Freeman asked what happens if a board member objects to the staff's decision on the application.

Mr. McVey said the statute states that if there are objections, the chief engineer will either approve or disapprove, so there would be an opportunity for the board to ask questions of the staff.

Mr. McVey will work for Mr. Gronlund and Mr. Duvall to determine a reasonable process then share it with the board for their comments.

Mr. Gronlund announced that Program Assistants Karen Schlaak and Genny McMath are retiring on June 8, 2023. Combined they have 93 years of service to the state. Mr. Gronlund stated that the roles of Ms. Schlaak and Ms. McMath are integral to the Water Rights Program in that they probably see the permit applications and permits more than anyone else in the program. Mr. Gronlund discussed all of their duties.

Motion by Hutmacher, seconded by Comes, to thank Karen Schlaak and Genny McMath for their service and to wish them well in their retirement. Motion carried unanimously.

STATUS AND REVIEW OF WATER RIGHTS LITIGATION: Mr. McVey reported that the only matter pending is the Powertech appeal regarding the board's order denying the motion to amend the procedural order to resume the evidentiary hearing.

ADMINISTER OATH TO DANR STAFF: The court reporter administered the oath to DANR

staff who were present and intended to testify during the meeting.

CANCELLATION CONSIDERATIONS: Prior to the meeting, the board members received the board packet, which included a table listing the proposed cancellations, the notices of cancellation, and the chief engineer's recommendations.

Ron Duvall presented the eleven water rights/permits scheduled for cancellation. The owners were notified of the hearing and the reasons for cancellation. The Water Rights Program received no comments or letters in response to the notices of cancellation.

Division I is all of the area north of the Cheyenne River and Pennington County, Division II is all of the area south of the Cheyenne River including Pennington County, and Division III includes all of the east river area.

The chief engineer recommended cancellation of the following water rights/permits/vested water rights for the reasons listed.

Number	Original Owner	Present Owner(s) and Other Persons Notified	Reason
DIVISION I WATER PERMIT			
PE 1961-1	Statham Real Estate LLC	Same (% David Statham)	Non-Construction
DIVISION II WATER RIGHTS			
RT 812-2	H P Iwan	Patricia Jones	Abandonment/Forfeiture
RT 1014-2	Donn Paulson	Same	Abandonment/Forfeiture
Cancellation is for the irrigation component only. The storage dams are still in place and used for domestic livestock watering.			
DIVISION III WATER PERMITS AND WATER RIGHTS			
RT 1693A-3	Jim River Ridge Farms	Same (%Trent Johnson)	Abandonment
Cancellation is for the irrigation component only. The storage dam is still in place and of a size needing permitting.			
RT 3728-3	Todd & Elizabeth Cowan	Nachtigal w/Nachtigal Colin Farms	Abandonment/Forfeiture
RT 6621-3	Jay Cutts	Same	Abandonment/Forfeiture
PE 7832-3	Wohlleber Enterprises LLC	Same (% Chase O'Farrell & Josh Wohlleber)	Non-Construction
PE 7965-3	Mark & Dwight Noethlich	Same	Non-Construction
PE 7967-3	Mark & Dwight Noethlich	Same	Non-Construction
PE 8026-3	William V Hearnen	Same	Non-Construction
PE 8036-3	Wohlleber Enterprises LLC	Same (% Chase O'Farrell & Josh Wohlleber)	Non-Construction

Motion by Freeman, seconded by Hutmacher, to accept the chief engineer's recommendations for cancellation of the water rights and water permits for the reasons listed. A roll call vote was taken, and the motion carried unanimously.

CONSIDER VALIDATION OF VESTED WATER RIGHT CLAIM NO. 615-3, SD DEPARTMENT OF GAME, FISH AND PARKS: Mr. Gronlund reported that on May 22, 1959, the Department of Game, Fish and Parks filed a vested water right claim for Lake Alvin, which is impounded by a dam on Nine Mile Creek east of Harrisburg in Lincoln County. The claim stated that the amount of water to be claimed was as required to fill the lake to the spillway outlet, approximately 400 acre-feet per year. At that time, the standard practice on the amount of water claimed was to take the surface area times three feet to account for evaporation. At that time there was not a mechanism for public notice or validation of these types of recognized vested water right claims; they were simply filed with the department as recognized vested rights and protected accordingly.

In 1986, the South Dakota Legislature enacted two statutes, 46-2A-16 and 46-2A-17, providing a process for the Water Management Board to follow in validating vested water right claims which included providing public notice. The statutes state that no hearing is to be held unless a petition to oppose the validation is filed in response to the public notice; the board must validate the vested water right claims if they are unopposed.

Mr. Gronlund stated that in the case of all of Game, Fish and Parks vested water right claims, the former Chief Engineer, John Hatch, opposed the validations for the purpose of allowing the claims to be amended to include a spillway elevation, correct the amount of water claimed, or add any amendments of qualifications necessary to clarify the vested right.

In the county-by-county public notices, the Water Rights Program stated that it would validate the claims for sufficient water to fill the lake annually to the outlet elevation or to the elevation needed to maintain the ordinary high water mark. The problem is that a lot of those water bodies do not have an ordinary high water mark set or the outlet elevations have never been surveyed.

In the case of Lake Alvin, Vested Water Right Claim No. 615-3, the Game, Fish and Parks is in the process of reconstructing the dam, so the primary spillway elevation has been surveyed . Consequently, the Water Rights Program felt the validation of the vested water right claim could proceed.

Mr. Gronlund recommended validation of Recognized Vested Water Right Claim No. 615-3 for sufficient water to maintain the water level to Lake Alvin's spillway elevation of 1308.14 feet mean sea level based on NAVD88 datum, and that the vested water right have a priority date of January 1, 1954. Mr. Gronlund noted that the elevation is the elevation of the present spillway and will remain the same for the reconstructed spillway. At that elevation, the estimated impoundment behind Lake Alvin is approximately 900 acre-feet.

Motion by Bjork, seconded by Comes, to validate Recognized Vested Water Right Claim No. 615-3 for Lake Alvin, Department of Game, Fish and Parks, for sufficient water to maintain the water level to Lake Alvin's spillway elevation of 1308.14 feet mean sea level with a priority date of January 1, 1954. Motion carried unanimously.

UNOPPOSED NEW WATER PERMITS ISSUED BY THE CHIEF ENGINEER WITHOUT A HEARING BEFORE THE BOARD: Prior to the meeting, the board received a copy of the table listing the unopposed new water permits issued by the Chief Engineer. (See attachment.)

NEW WATER PERMIT APPLICATIONS: The pertinent qualifications attached to approved water permit applications throughout the hearings are listed below:

Well Interference Qualification
The well(s) approved under this permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this permit shall controlhis withdrawals so there is not a reduction of needed water supplies in adequate domestic wellsor in adequate wells having prior water rights.

Well Construction Rule Qualification No. 1
The well(s) authorized by Permit No. __ shall be constructed by a licensed well driller and construction shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) from the producing formation to the surface pursuant to Section 74:02:04:28.

Well Construction Rule Qualification No. 2
The well(s) authorized by Permit No.__ shall be constructed by a licensed well driller and construction shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.

Irrigation Water Use Questionnaire Qualification
This permit is approved subject to the irrigation water use questionnaire being submitted each year.

Low Flow Qualification
Low flows as needed for downstream domestic use, including livestock water and prior water rights must be by-passed.

CONSIDER WATER PERMIT APPLICATION NO. 2864-2 RUSHMORE GOLDTOWN, INC.: Mark Rath presented his report on the application for Rushmore Goldtown, Inc. operating Big Thunder gold mine. He noted that the application was not contested.

Application No. 2864-2 proposes to appropriate up to 2,850 gallons annually at a maximum pump rate of 0.022 cubic feet of water per second (cfs), or 10 gallons per minute (gpm), from Battle Creek for commercial and recreational use for a tourist gold panning operation. This site is located approximately three miles southeast of Keystone in Pennington County.

The applicant has held a placer mine claim on Battle Creek for several years, but in June 2022, the U.S. Forest Service notified the applicant to discontinue gold panning tours because they did not have the appropriate permits to operate a commercial business or cause surface-resource disturbance along the creek. At the same time, the DANR Surface Water Quality Program issued a cease-and-desist order to halt activities in the creek because Battle Creek is classified as

a protected cold-water fishery, is utilized for recreational use, and the mining activities were exceeding water quality standards and degrading the biological integrity of the Battle Creek.

Since that time, the applicant has worked with the U.S. Forest Service to relocate this commercial and recreational gold panning operation 400 feet away from the creek, from U.S. Forest Service property and on to private property, but water from the creek is still needed for the operation.

The applicant indicated that they intend to initially pump 750 gallons into holding tubs with the water utilized in the panning operation with the intent of catching and reusing the water. They intend to divert 20 gallons every other day from April 1st through October 31 to offset evaporative losses. The applicant also stated that they intend to haul water if the creek dries up.

Battle Creek is a perennial stream with its headwaters in the Black Hills in southern Pennington County. The upper portion of the Battle Creek watershed drains off the crystalline central core of the Black Hills. Streamflow is from direct runoff with relatively small contributions from groundwater. The creek tends to dimmish quickly during dry periods in this reach.

The proposed pump site is located about two and one-half miles upstream of the Madison-Minnelusa loss zone. Streams crossing the loss zone can lose some portion of the flow to the loss zone. In this case, the USGS estimates that loss threshold is 12 cfs, so if the flow is less than 12 cfs, the creek dries up when crossing the loss zone. If it is greater than 12 cfs, the amount greater than 12 cfs would get through and be available downstream.

There are no existing water rights/permits in the reach between the proposed diversion point and the top of the loss zone, but there are 12 existing rights/permits located in the reach below the loss zone. These rights/permits appropriate 18.45 cfs from Battle Creek.

In September 2002, the Water Management Board denied an application for an irrigation permit from Battle Creek located very close to the town of Hermosa, which is downstream a few miles from where the loss zone ends. There are some springs at that point adding flows to to the creek with a number of irrigation rights down to the confluence with the Cheyenne River. At that time, the Water Management Board denied the application. Based on USGS studies and historical data, the board determined that unappropriated water was not available and the application was not in the public interest.

Mr. Rath stated that typically the Chief Engineer would have recommended denial based on the 2002 board action; however, staff believes this application is a different case because the minimal amount of water that this application is requesting would not get through the loss zone during a dry period. Mr. Rath stated that, from a water rights perspective, this is akin to a futile call. A futile call is a situation in which a junior or more recent priority right is allowed to continue diverting water despite the presence of downstream senior rights when shutting down the junior right will not result in additional water being available to downstream senior rights. Denial of this application will have no discernable effect on whether the downstream existing rights have sufficient water in Battle Creek to satisfy their authorized use of water.

The Chief Engineer recommends approval of Application No. 2864-2 with the following

qualifications:

1. Low flows as needed for downstream domestic use, including livestock water must be bypassed. Diversion of water under this permit shall be in accordance with any written orders issued by the Chief Engineer.

2. The Permit holder shall report to the Chief Engineer annually the amount of water withdrawn from Battle Creek.

3. Water Permit No. 2864-2 authorizes a total annual diversion of up to 2,850 gallons of water from Battle Creek.

Mr. Hutmacher asked who owns the land in between the creek and the site. Mr. Rath answered that the Forest Service owns the land where the diversion will be located.

Ms. Mines Bailey noted that the applicants, Michael and Sandra McLain, were present to answer questions. There were no other questions.

Motion by Freeman, seconded by Dixon, to approve Water Permit Application No. 2864-2, Rushmore Gold Town, Inc. subject to the qualifications set forth by the Chief Engineer. Motion carried unanimously.

CONSIDER AMENDMENT OF QUALIFICATIONS TO CERTAIN WHITE RIVER WATER RIGHTS: Mr. Rath presented his report on the review of White River Water Rights and Report on Proposed Amendments.

Over the last 15 to 20 years the Water Rights Program has reviewed qualifications, particularly on the surface water side, on several water rights. Some of these have been brought before the board for modifications based on changing conditions and additional information that is available now, but not available when the permits were granted.

Mr. Rath noted that in January of 1977, the Water Rights Commission, the predecessor to the Water Management Board, approved several deferred White River applications with priority dates going back to April 12, 1976, and placed an automatic June 1 cutoff qualification on those permits. This same qualification has been placed on all White River permits issued since then.

In 2012, the Water Rights Program received an application for a water permit to irrigate from the White River in the river reach downstream from the Little White confluence. This permit and other permits issued in this reach since then contained an additional 20 cfs bypass as measured at the U.S. Geological Survey Oacoma stream gaging station. Currently there are 82 existing permits and rights appropriating 190.9 cfs from the White River. There are 32 of these rights appropriating 86.81 cfs from the White River from the reach downstream from the Little White confluence, and 11 of these rights appropriating 29.54 cfs have the junior priority date so they have the automatic June 1 cutoff qualification.

As part of the analysis, staff looked at the qualifications, the locations, the available stream gaging and water availability. The Water Rights Program is proposing to remove the June 1

automatic cutoff qualification from permits in the reach downstream of the Little White River confluence and add to the permits that do not already have it, a 20 cfs bypass as measured at the Oacoma gage. This would be similar to what was done with the Big Sioux River and James River bypass qualifications.

Mr. Rath stated that the Water Rights Program determined this is a more effective way of managing water availability and use in the lower White River reach. Currently, after June 1, the Water Rights Program will receive phone calls from irrigators asking to continue to irrigate. The Chief Engineer can issue a written order allowing them to continue to irrigate. Mr. Rath said the 20 cfs bypass has been included as a qualification since 2012, and it has been working. The Water Rights Program did not receive many requests for an extension on the Upper White River; the most recent was in the summer of 2022.

The Chief Engineer recommended that the Water Management Board approve deleting the mandatory June 1 shutoff qualification and adding the following qualifications for Water Right Nos. 1474-2, 1501-2, 1504-2, 1529-2, 1557-2, 1630-2, 1765-2, 2312-2, 2681-2, 2701-2, and 2835-2:

- Low flows as needed for downstream domestic use, including livestock watering and prior water rights must be bypassed.
- Diversions from the White River are authorized only when flow at the USGS Gaging Station No. 06452000 – White River near Oacoma is at least 20 cfs.
- Diversion of water under this permit shall be in accordance with any written orders issued by the Chief Engineer.
- The Water Management Board retains jurisdiction of this water right in the event additional information shows that adjustments need to be made to the bypass requirements.

Ms. Mines Bailey asked Mr. Rath to describe the communication the Water Rights Program had with the permit holders regarding these changes.

Mr. Rath stated that the Water Rights Program notified all of the irrigators and permit holders on the White River regarding the proposed changes, and the permit holders were informed that they had the opportunity to participate in today's hearing.

In accordance with the statute, the recommended changes to the qualifications were public noticed in the appropriate newspapers.

Mr. Rath stated that three of the permit holders requested more information, so Mr. Rath explained to them the reasons for the proposed changes to the qualifications. None of the permit holders filed opposition to the qualification changes.

In response to a question from Mr. Bjork regarding these qualifications, Mr. Rath stated that the Water Rights Program monitors the gaging stations. The gaging stations are available online, so the public is also able to monitor them. In 2022, permit holders on the James River were contacted by the Water Rights Program and reminded that if the flows got down to 20 cfs they were shutoff. Shut-off orders were issued to permit holders on the James River four years ago, after which, Water Rights staff did spot checking and found some violators who were notified

that they were in violation of the shutoff order.

Responding to a question from Chairman Larson regarding why the June 1 cutoff date is being deleted, Mr. Rath stated that in 1975-1976 it was extremely dry in South Dakota. Everyone was worried that the aquifers were being drawn down, and there was concern that all of the rivers were drying up. At the time, the Water Rights Commission stopped issuing new permits; there were at least five deferred permit applications on the White River. The Water Rights Program staff had an opportunity to look at the available stream flow data, which was fairly limited, and staff determined that the flows would be satisfactory until June 1, but flows would become very questionable after June 1. Staff did not specify that it was only on the upper White River and not the lower White River, so the Commission adopted June 1 as the cutoff date for any junior permits that would be issued from that point on.

With the June 1 cutoff date no longer in existence, the permit holders won't have to call the Water Rights Program to request to be allowed to pump beyond June 1; they just operate off the bypass condition. The Water Rights Program intends to continue monitoring the gages, and if the flow gets down to that lower level, shut off orders will be issued. If an irrigator ignores the order, there are legal avenues the Water Rights Program can pursue.

There were no further questions from the board. Chairman Larson requested board action.

Motion by Hutmacher, seconded by Bjork, to amend the qualifications for Water Right Nos. 1474-2, 1501-2, 1504-2, 1529-2, 1557-2, 1630-2, 1765-2, 2312-2, 2681-2, 2701-2, and 2835-2. Motion carried unanimously.

CONSIDER WATER PERMIT APPLICATION NO. 2850-2, ELK MOUNTAIN WATER USERS ASSOCIATION, INC.: Chairman Larson opened the hearing at 10:30 a.m.

Ann Mines Bailey, Assistant Attorney General, represented the Chief Engineer and the Water Rights Program.

Scott James, attorney from Custer, represented the applicant, Elk Mountain Water Users Association, Inc.

Rob Galbraith, attorney from Rapid City, represented intervenors, Daniel and Dalton Stearns.

Matt Naasz, attorney from Rapid City, represented intervenors, Tomas and Eraclio Martinez.

Travis Paulton appeared pro se.

Shawn Pitts appeared pro se on behalf of his parents.

Ms. Mines Bailey stated that Shawn Pitts is not an attorney. His parents asked him to attend the hearing in their stead and make arguments. Legally, one needs to be licensed to practice in order to represent other individuals. Ms. Mines Bailey stated that Mr. and Mrs. Pitts, who filed the petition, are not present at the hearing and have not retained counsel; however, Shawn Pitts is listed on Mr. Galbraith's witness list.

Chairman Larson stated that the board would allow Shawn Pitts to testify as a witness, but he will not be allowed to question witnesses or make arguments because he is not a party.

Ms. Mines Bailey stated that the Water Rights Program waives opening argument.

Mr. Jones stated that Elk Mountain Water Users Association, Inc. is here to present a case that this water permit is needed by the area. It is critically needed for fire suppression, and it is needed for a growing and developing area. Elk Mountain Water Users Association, Inc. does not believe any of the objections are going to raise to the level where the evidence shows that this permit will actually impair existing water rights.

Mr. Naasz stated that he believes the board is aware of the Martinez family's position in this given some procedural issues that arose prior to today. There is not enough evidence to demonstrate that this proposed diversion will not impact the Martinez family Madison aquifer well, which is the life of their ranch and their family home. Mr. Naasz said the Martinez family will be asking that the board defer this matter until such evidence is available.

Mr. Naasz stated that Mr. Sewell who was identified as the expert witness for the Martinez's, is only available via telephone because he is a well driller and is out on a drill rig today. Mr. Naasz asked the board to allow Mr. Sewell to testify via telephone.

Ms. Mines Bailey stated that the court reporter has to be able to physically see the individual receiving the oath, so there would have to be someone authorized to administer the oath at Mr. Sewell's location. She said the Water Rights Program objects to allowing Mr. Sewell to testify via telephone. The board has never allowed telephonic testimony. Part of the board's job in this process is to evaluate the credibility of the witness which, in part, requires the board to see the manner of the witness who is testifying.

Mr. McVey stated that it would be appropriate if Mr. Naasz could arrange for the witness to testify in a videographic format of some sort, and the board would withhold a determination as to whether the witness would be allowed to testify telephonically. He noted that the credibility of the witness is critical in order for the board to evaluate the witness's testimony properly. The other option is to find someone onsite who is authorized to administer the oath to the witness, but the preference is that he testify video graphically.

Mr. Naasz said he would work on trying to make video communication possible so the witness can testify.

Mr. Galbraith stated that his clients do not believe there is enough information for the board at this time to know what the impact will be on the surrounding wells and springs. He asked the board to defer or deny the application until additional information can be gathered.

Mr. Paulton said he agreed with Mr. Naasz and Mr. Galbraith.

Ms. Mines Bailey offered Exhibit 1, the administrative file for Water Permit Application No. 2850-2, Elk Mountain Water Users Association, Inc.

The exhibit was admitted into the record.

Ms. Mines Bailey called Kim Drennon who had previously been administered the oath by the court reporter.

Ms. Drennon is an engineer with the DANR Water Rights Program.

Ms. Mines Bailey offered Exhibit 2, Curriculum vitae of Kim Drennon.

The exhibit was admitted into the record.

In response to questioning by Ms. Mines Bailey, Ms. Drennon provided the following testimony.

Ms. Drennon received a bachelor's degree in engineering with a civil emphasis from Dordt University in May 2015, passed the Fundamentals of Engineering exam that same month, which is the first step in the process of receiving a P.E. license. She received a master's degree in Civil and Environmental Engineering from South Dakota School of Mines and Technology in December 2018.

Ms. Drennon has been employed at the DANR in the Water Rights Program since January 2019. She performs technical reviews of water permit applications, answers constituent complaints and questions, inspects dams that are owned by the state, along with other activities as described in her curriculum vitae. In her position, the focus has been primarily groundwater.

Ms. Drennon performed the technical review for Water Permit Application No. 2850-2, Elk Mountain Water Users Association, Inc.

Water Permit Application No. 2850-2 seeks to appropriate up to 145 acre-feet of water annually (ac-ft/yr) at a maximum pump rate of 0.333 cubic feet of water per second (cfs), or approximately 150 gallons per minute (gpm) from one well to be completed into the Madison aquifer. The application is located approximately 21 miles west of Custer and two miles east of the South Dakota/Wyoming border. The purpose of the appropriation sought is for a water distribution system to the Highlands Volunteer Fire Department for commercial use as a bulk water supply and fire protection.

During her technical analysis, Ms. Drennon reviewed the availability of unappropriated water for this application and the possibility of developing this application without unlawful impairment of existing water rights.

Ms. Drennon prepared a report for the application. On page 5, in the first sentence of the first paragraph, 37 water rights/permit should be changed to 39 water rights/permits and in the last sentence of the first paragraph 21,011 ac-ft/yr should be changed to 21,971 ac-ft/yr. Neither of these corrections change Ms. Drennon's analysis.

Ms. Drennon explained that when she wrote the report she believed that the nearest domestic well was located in the SW ¼ of Section 21 based on the information provided by the well

completion report that the driller submitted to the Water Rights Program. Since the petitions have been submitted, petitioner Martinez indicated that his well is in the NW ¼ of Section 21. Ms. Drennon has not done a site visit to verify the location of the well.

The Madison aquifer is composed of the permeable and saturated portions of the Madison Group, which is a Lower Mississippian and Upper Devonian aged group of limestone and dolomite. The Madison aquifer underlies more than 210,000 square miles in Montana, Wyoming, North Dakota, South Dakota, and Nebraska, and it extends into Canada as well. In South Dakota west of the Missouri River the Madison aquifer underlies approximately 30,000 square miles. When conducting her analysis, Ms. Drennon looked at just the portion of the Madison aquifer located within South Dakota. The aquifer is approximately 400 feet thick in this location. In the area of the proposed point of diversion the aquifer is confined. The head pressure in this area is approximately 130 feet above the top of the formation.

The Madison aquifer in this area does not produce flowing wells or springs because the top of the Madison aquifer is located approximately 1,020 feet below grade and the hydraulic head in the aquifer lifts the water 130 feet above that, so it would need to raise the water much higher for it to flow at land surface. There are places where the Madison aquifer flows in South Dakota.

The Madison aquifer is older and stratigraphically lower than the Greenhorn Formation. The Greenhorn Formation is middle Cretaceous aged formation of limestone which well drillers use to identify where they are in the stratigraphic column. The significance of the Madison aquifer being older and stratigraphically lower than the Greenhorn Formation is that there is an anti-groundwater mining statute, SDCL 46-6-3.1, which requires the Water Management Board to consider recharge versus withdrawals from groundwater sources, unless the water source is below the Greenhorn Formation and the application is for a water distribution system.

In examining the availability of unappropriated water, Ms. Drennon did a hydrologic budget and she looked at the record of observation wells. A hydrologic budget is comparing recharge to the aquifer with withdrawals from the aquifer. Recharge is any means by which water flows into the aquifer. A withdrawal is an intentional taking of water from the aquifer.

The Madison Aquifer receives recharge from infiltration of precipitation along the outcrop and infiltration from streamflow. The best study available to the Water Rights Program is a group of studies known as the Black Hills Hydrology Study. One study within this group estimated that recharge to the Madison Aquifer is 137,000 acre-feet per year in South Dakota.

There are 161 water rights/permits currently authorized to withdraw from the Madison aquifer, 10 future use water rights/permits reserving water from the Madison aquifer, and four permits which are pending. Of the 161 active water rights/permits, 97 are primarily for some type of water distribution system (rural water system, municipal, etc), 30 primarily for irrigation, 14 for commercial use, 11 for industrial use, four for domestic use, two for geothermal use, two for institutional use, and one is for recreation.

Ms. Drennon estimated a total of 67,554 acre-feet per year in withdrawals from the Madison Aquifer including reservations for future use and the amount likely to be withdrawn by deferred, held, and pending applications. In determining total withdrawals, Ms. Drennon used the

information on the annual irrigation questionnaires for water permits that are required to report. For water permits that have a volume limit listed on their permit, she assumed that they would develop the entire volume limit as listed on the permit. For permits that do not have a volume limit listed, they are limited only by the diversion rate, so Ms. Drennon assumed that they would pump at the maximum diversion rate 60 percent of the time. Sixty percent is a value that the Water Rights Program has established based on studying various water distribution systems and other users, and it is a value that the Water Management Board has accepted.

All of the future use and pending permits have a volume limit listed on the permit, so Ms. Drennon assumed they would develop the full volume. Should the permit be granted, the total volume that would be appropriated is 145 acre-feet per year, at the most.

In performing the technical review of the local hydrologic budget, Ms. Drennon used a report by Carter et al which divided the Black Hills into nine subareas and defined the subareas to minimize groundwater flow across those lines.

Ms. Mines Bailey offered Exhibit 6, a map of the Black Hills in South Dakota with the outcrop of the Madison Group shown and the subareas in the Carter et al report also shown. Ms. Drennon created the map using information maintained by the Water Rights Program.

The exhibit was admitted into the record.

Ms. Drennon pointed out on Exhibit 6 the location of the proposed point of diversion, which is shown as a yellow triangle with a pink outline in the lower left quadrant of the map. The subareas are outlined with purple dashes. The proposed point of diversion is located in Subarea 9. Based on the Carter et al report, Ms. Drennon estimated a recharge of approximately 24,100 acre-feet per year. There are no water rights or permits currently authorized to withdraw from Subarea 9, not including domestic wells. Domestic wells would constitute a very small amount of water in that area, so they wouldn't rise to the threshold of being meaningful in a hydrologic budget.

Ms. Drennon relied on the statewide budget rather than the localized subarea budget, in drawing her conclusions regarding the availability of unappropriated water. The statewide budget is the division at which the Water Management Board has recognized the Madison aquifer. Ms. Drennon also used observation well information. The Water Rights Program maintains 25 observation wells completed into the Madison aquifer. She reviewed all 25 wells in preparing the technical review of this application.

Ms. Mines Bailey offered Exhibit 5, a hydrograph showing the water level elevations in CU-93C and CU-95A, which are the two nearest observation wells to this application that are completed into the Madison aquifer. Ms. Drennon created this hydrograph using data maintained by the Water Rights Program.

The exhibit was admitted into the record.

The hydrograph shows that, in general, water levels increase over time, and they also respond to wet and dry cycles in the climate. The areas on the hydrograph that resemble dashes indicate that the Water Rights Program does not have data from time period. There was an obstruction in the casing of Observation Well CU-93C, which prohibited the Water Rights Program from measuring the well during

that period. The missing data does not cause concern because the hydrograph for CU-95A covers the time period of the missing data for CU-93C. Based on the observation well data, there is reasonable probability unappropriated water is available for this application.

Ms. Mines Bailey offered Exhibit 4, a map of the area around Water Permit Application No. 2850-2 showing surface geological formations, rivers, section lines, and several wells. Ms. Drennon created this map using data maintained by the Water Rights Program for the geology and rivers. The location of the wells on the map is based on information submitted by the petitioners. Ms. Drennon used Arc Map to create the map.

The exhibit was admitted into the record.

Ms. Drennon testified that on Exhibit 4, the proposed point of diversion is shown with a yellow triangle with a pink outline located in the middle left side of the map. The pink triangle shows the location of Mr. Martinez's well as described on his petition. The different colored areas on the map indicate the surface geology in that location. Ms. Drennon pointed out the area of the Madison surface geology, which is in the upper right corner of the map. It is labeled as MDme and is in Sections 17, 18 and 19 in Township 3 South, Range 2 East. The area of the proposed point of diversion is in the Spearfish formation.

The nearest water rights to the proposed point of diversion are Water Permit Nos. 2610-2 and 2730-2, which are for the same point of diversion located approximately 17 miles southeast of this application. The nearest observation well, CU-93C, is located approximately six miles north of this application, and CU-95A is located approximately 10 miles southeast of this application.

Ms. Drennon determined that there are domestic wells in the area by looking at the South Dakota Water Rights well completion report database. Not all domestic wells are on file because some could have been drilled before well drillers were required to submit a well completion report or, in theory, someone could hand dig their own well without the Water Rights Program's knowledge. The nearest domestic well on file to this application is the Martinez well. As documented on the well completion report, the Martinez well is approximately 7/10 of a mile south of this application. Based on the Martinez petition, the well is located approximately 900 feet from the application.

Ms. Mines Bailey offered Exhibit 7, which is a map of Section 21 that Ms. Drennon created using data maintained by the South Dakota Bureau of Information and Telecommunications.

The exhibit was admitted into the record.

Ms. Drennon pointed on Exhibit 7 the proposed point of diversion which is depicted by a yellow triangle with a pink outline in the upper left corner of the map. The Martinez well, as described by the petitioner, is marked with a pink triangle and is located in the upper left area of the map. The green diamond shows where the well completion report database indicated that the Martinez well is located, based on the well driller's information. Ms. Drennon stated that there are no changes to her conclusions due to the potential for a different location of the Martinez well.

In order to receive protection under the law, an existing domestic or appropriative well must meet the definition of an adequate well. An adequate is a well that is completed so that the pump

can be placed 20 feet below the top of the aquifer formation or, if the aquifer is thinner than that, as low as possible. To meet the definition of an adequate well in this proposed location, the pump would have to be placed at a depth of approximately 1,040 feet.

Ms. Drennon stated that there is reasonable probability that this application can be developed without unlawful impairment of existing water rights/permits and domestic uses. This opinion is based on the fact that there is no record of well interference complaints from the Madison aquifer in Custer County, the relatively low diversion rate of this application, and generally, the transmissivity of the Madison aquifer in combination with the distance of this application from the nearest well. Transmissivity is the capacity of the aquifer to allow water to flow through it. The Madison aquifer generally has a high transmissivity, and the aquifer is 400 feet thick in this area, which contributes to its high transmissivity.

For this application to unlawfully impair the nearest well, it would have to draw down the pressure in the aquifer approximately 150 feet at a distance of 900 feet from this application.

There is a statute that requires the Water Rights Program to examine impacts to springs. The best information regarding springs is available from the Black Hills Hydrology Study and from the U.S. Geological Survey's database. The Black Hills Hydrology Study indicates that the nearest major spring that could be sourced from the Madison aquifer is located approximately 30 miles southeast of this application. Ms. Drennon's opinion is that this proposed appropriation will have no impact on springs stemming from the Madison aquifer. This opinion is based on the fact that this application is 30 miles from the nearest known spring that could be coming from the Madison aquifer and the hydraulic head in the Madison aquifer in this location is too low in this location to be supplying springs.

Ms. Drennon reviewed the petitions in opposition, and her understanding of the petitioners' concerns is that there was confusion about the fact that this proposed use is something other than the fire department, some were concerned for their springs and surface water supply that comes from springs, and some were concerned for their Madison aquifer wells. There were also some concerns about shallower wells, which Ms. Drennon doesn't believe are in the Madison aquifer.

Regarding the petitioners' concerns about springs and surface water sources in the area of the proposed diversion point, Ms. Drennon stated that the springs in this area are not from the Madison aquifer. This opinion is based on the hydraulic head in the Madison aquifer and based on the geologic map, which is part of the record for this hearing. The geologic map clearly shows some of the rivers in the area coming from the Minnekahta Formation (Exhibit 4). Immediately in the area of this application is the Spearfish Formation, which is generally not a water producing aquifer in South Dakota and the Minnekahta Limestone further up the hill, which is an aquifer. Ms. Drennon's opinion is that the potential sources of those springs are likely the Minnekahta Formation or from other alluvial formations in the area. Ms. Drennon does not anticipate any impact to the springs in the area from an appropriation from the Madison aquifer because there is a confining layer between the Madison aquifer and the Minnekahta Limestone, which she believes is the source of those springs.

Ms. Drennon's opinion is that this application will not impact surface water sources in the area since none of the surface waters in the area are stemming from the Madison aquifer.

Ms. Drennon stated that she is not concerned about an unlawful impairment occurring in other wells in the Madison aquifer in this area.

Ms. Mines Bailey had no other questions of Ms. Drennon.

Mr. Jones had no questions of Ms. Drennon.

In response to questions from Mr. Naasz, Ms. Drennon provided the following testimony.

Ms. Drennon does not believe the Martinez well is an inadequate well, although she does not know where the pump is placed. When a domestic user files a complaint of well interference with the Water Rights Program, staff makes a note of the complaint in the files then staff investigates the complaint. Staff first ensures that the well is an adequate well as defined by the administrative rules. If it is an adequate well and it is being impaired by nearby water rights, the Water Rights Program proceeds with orders as necessary to protect that well. Each situation is different, but most of the time this process takes a few weeks. If the Water Rights Program has reason to believe that the allegedly interfering user is impairing a domestic well, a shut-off order may be issued.

The maximum diversion rate for a domestic well, before a water right application needs to be filed, is the equivalent number of gallons per day, which is equal to 18 gallons per minute continuously. Water Permit Application No. 2850-2 is requesting to appropriate 150 gallons per minute.

When Ms. Drennon wrote her report on the application, she believed the Martinez well was approximately 7/10 of a mile from the proposed diversion. She has not been to Mr. Martinez's well in person so she would take his word that it is approximately 900 feet from the proposed diversion. In preparing the report for this application, Ms. Drennon assumed that some drawdown is likely to occur in all confined wells. The drawdown measured could increase with closer distance. Exact aquifer behavior cannot be known without an aquifer performance test. The Madison formation's transmissivity varies from place to place. The nearest observation well is six miles away from the proposed point of diversion. It is fair to say that a well withdrawing from the same aquifer 900 feet away from the proposed diversion would feel the effect of the diversion much more quickly than an observation well, six miles away.

Mr. Naasz had no further questions of Ms. Drennon.

In response to a question from Mr. Paulton, Ms. Drennon stated that the location of the Paulton well on Exhibit 4 was determined based on the petition and the well completion report on file with the Water Rights Program. Mr. Paulton stated that the location shown for the Paulton well on Exhibit 4 is incorrect; the correct location of the well is the southwest quarter of Section 9 in Township 5 South Range 1 East.

In response to questions from Mr. Galbraith regarding an aquifer pump test, Ms. Drennon agreed that she took most or all of her information from studies that have been done generally in western South Dakota. She agreed that the best way to verify all of the information and all of the

assumptions she made based on those studies would be to do a performance test. The assumptions based on the Madison aquifer, the Minnekahta, and the Minnelusa are from studies that have a large ranging area. The aquifer performance test would not tell you about what geology is in the area but drilling a well there would. The information from an aquifer performance test can be used to estimate drawdown.

Regarding Exhibit 5, Observation well CU-93C is six miles north of the application and CU-95A is approximately 10 miles southeast of the application site.

Ms. Drennon stated that her information on the water elevation at the application site was based on the Martinez well completion report, which the nearest information available. The water level at the Martinez well site is approximately 130 feet above the top of the formation, but she does not have that in an elevation compared to sea level.

In response to a question from Ms. Mines Bailey, Ms. Drennon stated that the best information available to her regarding the water availability in the aquifer for this proposed point of diversion was the Carter et al report, the Carter Driscoll and Hamad report, and the observation well database that the Water Rights Program maintains. Those reports include the area surrounding the proposed point of diversion.

There being no further questions, Ms. Drennon was dismissed.

The board recessed for lunch at noon. Chairman Larson called the hearing back to order at 1:05 p.m.

Mr. James called Dan Nebelsick, DGR Engineering who was administered the oath by the court reporter.

Responding to questions from Mr. James, Mr. Nebelsick testified that he has been employed by DGR Engineering for 19 years. He has a bachelor's degree from South Dakota School of Mines and Technology and a master's degree with a focus on water resources from South Dakota School of Mines and Technology in civil engineering. Throughout his career he has worked with rural water systems, water supply districts, and municipalities on water supply planning, developing plans and specifications for water supply wells, and helping them with overall water system design. As part of his education at the School of Mines and Technology he took classes from professors that specialize in the geology of the Black Hills, and he specifically studied the Madison aquifer during his time in school.

Mr. James moved to qualify Mr. Nebelsick as an expert witness on the topics of well permits, drilling, and the hydrologic nature of this aquifer area.

Ms. Mines Bailey had no objections.

Mr. Naasz had no objections to Mr. Nebelsick offering opinions related to his qualifications, but he said Mr. Nebelsick has not discussed any of his qualifications related to drilling, so Mr. Naasz would reserve the opportunity to object to his opinions regarding drilling should it come up later in the hearing.

Mr. Paulton had no objections.

Mr. Galbraith said he is not sure that he understands what Mr. Nebelsick's field is yet. He stated that he may have an objection later, but as of now, he agrees that Mr. Nebelsick is qualified to testify as an expert witness.

Mr. James asked Mr. Nebelsick if he was retained by Elk Mountain Water Users Association to help with this project. The water users association asked him to help design a well for the site at the fire station and to also submit applications for water rights for the well. In the course of doing that, Mr. Nebelsick was also asked to examine the petitions, objections, and application pending before the Water Management Board.

Mr. Nebelsick stated that Exhibit A is a township section map of the expected use radius. The exhibit, prepared by Mr. Nebelsick, shows the project location in a red box near the center of the map. There is also a red circle that represents an approximate 10-mile radius that was used when preparing the application for the area that will potentially be served by this well. This area is approximately halfway between the project site in Newcastle and halfway between the project site in Custer, where many people get their water. The Elk Mountain Water Users Association board thought a ten-mile radius would be the general distance people might travel to the site to get water and it also was approximately an equal distance from other public water systems in the area. Mr. Nebelsick prepared Exhibit A using publicly available data for the aerial photography, township, section, range maps, and software, AutoCad and GIS to prepare the map.

Mr. James offered Exhibit A. The exhibit was admitted into the record.

Mr. Nebelsick stated that Exhibit B is an estimate of the annual water demand for the proposed water supply from this well. Mr. Nebelsick prepared the graph through discussions with the Elk Mountain Water Users Association board. The number of potential users and the water use for fire was initially estimated at 200 customers may be accessing this well at an average of 5,000 gallons per month, that there may be approximately 200 loads annually hauled for commercial use at 5,000 gallons per load and fire demand throughout the season might be for 30 days at 150 gallons per minute for 24 hours per day. Projections into the future were also provided for the next 40 years and provided a range of somewhere between 1.50 and 3.50 percent annual growth in water usage over the next 40 years. The assumptions used were based on average domestic use. In municipal applications, 5,000 gallons per user is often used for estimating monthly usage for domestic use and some of the information from the board was reviewed on their estimates on how many people might be served by this well. Exhibit B demonstrates to the point that there is a beneficial use of this water and there is a need generally within the area that the amount of water being requested can be used within a reasonable amount of time when this water source is in place.

Mr. James offered Exhibit B. The exhibit was admitted into the record.

Exhibit C is a map showing the information from the U.S. Geological Survey data for the Madison aquifer in this area. The exhibit shows the saturated thickness and the project location. The data shows that the Madison aquifer is fully saturated at this location, meaning that the

entire depth of the Madison aquifer is filled with water, and water is available to pump. With the water level above the Madison aquifer in this area, a well can be completed and water can be withdrawn from this area. Not far to the east of the project location the Madison aquifer is not saturated. There is a significant portion of the users that are served within the service territory that are in areas where the Madison aquifer is not fully saturated, so they would have a difficult time completing a well at their location. Having a well at the project location will provide a much closer place for those people to take water and haul it to their homes. Mr. Nebelsick prepared Exhibit C using publicly available data from the U.S. Geological Survey and ArcView GIS software.

Mr. James offered Exhibit C. The exhibit was admitted into the record.

Exhibit D is a map showing the information from the U.S. Geological Survey data for the top of the Madison aquifer and the potentiometric surface in the area of the well. The potentiometric surface is the level to which the elevation in the statistic water level in the well will rise above the top of the formation. The exhibit shows that a well could be set at the top of the Madison aquifer and still have approximately 200 feet of water available for pumping and drawdown. Mr. Nebelsick prepared the exhibit using publicly available data from the U.S. Geological Survey and ArcView GIS software.

Mr. James offered Exhibit D. The exhibit was admitted into the record.

Exhibit E is a map showing the estimated thickness of the Madison aquifer in the project area based on publicly available information from the U.S. Geological Survey for the Madison aquifer in the area. The exhibit shows that there is adequate thickness of the aquifer in that area to drill a well that will likely produce the water that the application is requesting. Mr. Nebelsick prepared the exhibit using publicly available information from the U.S. Geological Survey and ArcView GIS software.

Mr. James offered Exhibit E. The exhibit was admitted into the record.

Exhibit F is a copy of the South Dakota water well completion report for the Tom Martinez well obtained from the DANR website. The well completion report shows the location of the well originally marked in Section 16, and that has been modified to Section 21 due to updated information from Mr. Martinez. Mr. Nebelsick stated that based on other testimony and information from Mr. Martinez, the location of the well shown on the original well completion report is not accurate. The well completion report shows that the Madison formation was reached at a depth of 1,020 feet below ground surface. The Martinez well is approximately 900 feet away from the well that Elk Mountain is planning to drill, so it gives us a good estimate of how deep Elk Mountain will need to drill before they hit the Madison aquifer. The well completion report also shows that they drilled to 1,140 feet, so based on other publicly available information, they likely did not fully penetrate the Madison formation. The well completion report shows that 5-inch diameter casing was installed down to 1,025 feet below ground surface. Based on the well log, it appears that the casing extends approximately five feet into the Madison formation.

Mr. James asked Mr. Nebelsick if the figures on the Martinez well completion report gave him

any pause about whether the Martinez well is an adequate well.

Mr. Naasz objected stating that whether or not the Martinez well is an adequate well is a legal conclusion to be determined at the time that the issue arises, which is not this board hearing.

Chairman Larson sustained the objection.

Mr. James asked Mr. Nebelsick if the figures that are in the report show that the well penetrated to a depth that meets the definition of an adequate well.

Mr. Naasz objected to the question.

Chairman Larson sustained the objection.

Mr. James asked Mr. Nebelsick if there was any other information on the well completion report he intended to highlight. Mr. Nebelsick stated that the report shows there are formations above the Madison that are not water bearing material that provides a confining layer between this aquifer and other springs that would be at the surface, such as the Spearfish that extends from zero feet down to 65 feet at this location. This is significant because a confining layer would generally prevent significant amounts of water from traveling from the surface down to the aquifer in this location. The springs in this area would not likely originate from the Madison due to that confining layer. The well completion report also shows that the static water level is 890 feet below ground surface, again showing that there is not enough head pressure in the aquifer to move water from that aquifer even if it could penetrate the confining layer.

Mr. James offered Exhibit F. The exhibit was admitted into the record.

Exhibit G is the South Dakota well completion report for the Dave Wright well. The well is approximately 9,000 feet to the southeast of Elk Mountain Water Users Association's proposed drilling site. Mr. Nebelsick included this well completion report with the exhibits because it is the only other well in the area that penetrates the Madison aquifer and is close to the proposed well site. This well completion report also shows that the Madison Limestone is approximately 1,000 feet below ground surface. It doesn't specifically identify the Madison, so it's difficult to tell the Madison versus the Minnelusa in this area, but generally, the static water level is approximately the same at 900 feet below ground surface and the off white limestone is at 1,020 feet, which is the same as the Martinez well. Mr. Nebelsick obtained the Wright well completion report from the DANR website.

Mr. James offered Exhibit G. The exhibit was admitted into the record.

Exhibit H is a table out of a groundwater textbook called "Groundwater by Freeze and Cherry 1979." Mr. Nebelsick included this as an exhibit because it provides general guidance for transmissivities within Karst limestone aquifers, and the Madison in this area is typically considered a Karst limestone. Mr. Nebelsick said this allows us to estimate the ability of water to move throughout the aquifer in this type of formation. It also allows us to estimate the impact of pumping a well on other wells in the area, based on these estimates. Mr. Nebelsick used these as a reference point; he did not use these specific values in his calculations. This textbook is a

well-known source of information and provides general guidance on what might be found in the Karst aquifer. It is not specifically related to the Madison, but it is used to provide another check on whether or not the values he was using was within typical textbook values.

Mr. James offered Exhibit H.

Ms. Mines Bailey objected to admission of the exhibit under Rule 19-19-803 Sub. 18. She stated while she believes Mr. Nebelsick has met the requirements to be an exception to hearsay, the rule provides that, if admitted, a statement from learned treatises may be read into evidence but not received as an exhibit.

Chairman Larson sustained the objection, so the exhibit was not admitted.

Exhibit I is a copy of "Hydrogeologic Framework for the Madison and Minnelusa Aquifers in the Black Hills Area" by Jonathan McKaskey. Mr. Nebelsick stated that this is a thesis submitted to the Graduate Division for a Master of Science in Geological Engineering from the South Dakota School of Mines and Technology in Rapid City, South Dakota, in 2013. He used this document to reference estimates for transmissivity in the Madison aquifer. This is a reliable source because it is information submitted as part of a research project for the School of Mines and Technology and is based on information gathered throughout that analysis. Mr. Nebelsick said he intended to reference information on pages 32 and 33 during his testimony, specifically estimates of transmissivity and estimates of storage coefficient. Mr. Nebelsick read the following from page 32:

Transmissivity Estimates

Transmissivity is defined as the rate at which water of the prevailing kinematic viscosity is transmitted through a unit width of the aquifer under a unit hydraulic gradient (Heath, 1983) and is equal to hydraulic conductivity multiplied by the saturated thickness (Freeze and Cherry, 1979) Estimates for transmissivity in and near the study area range from 0.9 to 41,700 ft^2/day, with an average of approximately 11,850 ft^2/day.

Storage Coefficient Estimates

Storage coefficient values gathered from previous publications for the study area ranged from 6×10^{-9} to 2×10^{-3}, with an average of 2.9×10^{-4}.

Mr. James offered Exhibit I.

Ms. Mines Bailey objected to admission of the exhibit under Rule 19-19-803 Sub. 18.

Chairman Larson sustained the objection. The exhibit was not admitted.

Exhibit J is a copy of page 6 from Ms. Drennon's report to the Chief Engineer regarding Water Permit Application No. 2850-2, Elk Mountain Water Users Association, Inc. Mr. Nebelsick obtained the exhibit from the DANR website. Mr. Nebelsick stated that regarding the local hydrologic budget, this wellsite, as discussed in previous testimony, is part of subarea 9 of the

Carter et al report. As testified previously, there is approximately 24,100 acre-feet of annual recharge into this area and there are no water rights currently appropriated in this area. The application requested 145 acre-feet per year compared to an estimated recharge of 24,100 acre-feet per year. This request is for approximately 0.6 percent of the estimated annual recharge into the aquifer in this zone of the Madison.

Mr. James offered Exhibit J.

Ms. Mines Bailey stated that Ms. Drennon's report was already admitted into the record under Exhibit 1, the administrative file for Water Permit Application No. 2850-2, Elk Mountain Water Users Association, Inc.

Mr. Nebelsick stated that Exhibit K is a map of the area surrounding the proposed well along with known wells in the area and the approximate locations of what he understood to be the springs identified by the petitioners. He created the map using publicly available information based on landownership and public record. The location of the wells was estimated based on the well completion reports on DANR's website. Some of the spring locations were estimated based on the information in the petitioners' documents. Mr. Nebelsick stated that he has not physically observed the location of Mr. Martinez's well, but based information provided by Mr. Martinez, he has no reason to believe it is not approximately 1,000 feet away from the proposed well site. The map shows the Stearns well approximately 9,000 feet to the southeast of the proposed well for Elk Mountain Water Users Association.

Mr. James offered Exhibit K. The exhibit was admitted into the record.

Exhibits L and M are estimates of drawdown and estimated well interference based on different assumed transmissivities in the Elk Mountain well and estimates for how the 150 gallons per minute withdrawal rate and other withdrawal rates might impact the wells anywhere from 2,000 to 9,000 feet away. Mr. Nebelsick used assumptions based on information that will be discussed in a different exhibit. There is an estimate of transmissivity in Exhibit L of 3,200 gallons per day per foot, which is on the low side of the publicly available information, specifically available for Zone 9. Exhibit M shows a transmissivity estimate of 88,000 gallons per day per foot, which is the high end of the estimates provided specifically for Zone 9, that he was able to find in publicly available data. The high range estimate and the low range estimate of data available specifically in Zone 9 was used. Information available specifically for Zone 9 was more appropriate to use than other data. Mr. Nebelsick said this data is generally within the range of the other reports he referenced.

The estimated drawdown on Exhibit L shows that at 3,200 gallons per feet per day there would be approximately 159 feet of drawdown in the Elk Mountain well. At the upper end of the transmissivity (Exhibit M) at an estimate of 88,000 gallons per foot per day there would be approximately 6.5 feet of drawdown at 150 gallons per minute.

Mr. James asked if, based on these calculations, Mr. Nebelsick was able to determine if there would be any impacts on the Martinez or Stearns wells. Mr. Nebelsick stated there may be a slightly different distance then what the Stearns well now appears to be. At 1,000 feet this graph for the low transmissivity shows that there might be approximately 70 feet of well interference in

the Martinez well and approximately 45 feet of well interference in the Stearns well. At 9,000 feet at the high end of the transmissivity it shows that interference in the Martinez well could be as low and three or four feet and in the Stearns well interference could be two to three feet. The information in the well log that Mr. Nebelsick discussed earlier was that there was 135 feet of available drawdown in the Martinez well. Even if there was 70 feet of well interference, there would still be a significant amount of water available for drawdown in the Martinez well. Mr. Nebelsick created Exhibits L and M based on calculations used to estimate drawdown in aquifers that homogeneous. The Karst aquifer is not homogeneous, so there aren't any formulas specific for that aquifer, so he used the best information available to provide estimates of what he thinks that drawdown might be. As discussed in Ms. Drennon's report, the only way to really know what specifically happens at the site is with a pump test.

Mr. James offered Exhibits L and M. The exhibits were admitted into the record.

Exhibit N is a topographic map of the well site and showing elevation of the area around the well site. The exhibit shows that the well site is between 4,600 and 4,700 feet in elevation. The springs that were identified by the petitioners are all at higher elevations. With the groundwater table 890 feet below ground surface, water will not flow from 890 feet below the site to the springs that are at higher elevations. Mr. Nebelsick said in his opinion, water in the springs identified in Exhibit N is not coming from the Madison, and the proposed well will not impact those springs. He created the exhibit using ArcView GIS software and publicly available data and information on the springs from the petitioners.

Mr. James offered Exhibit N. The exhibit was admitted into the record.

Exhibit O is an estimate for construction of well into the Madison aquifer in this area. Mr. Nebelsick included this exhibit because it shows the general cost of producing a well in this area, it shows that it would be cost-prohibitive for many landowners to drill a well of this magnitude, and the importance of having a community well in this area. The cost estimate is broken down into multiple different segments. One segment was approximately $250,000, one segment was approximately $44,000, and one segment was approximately $72,000. It is estimated that the total cost would be more than $400,000 for a well of this type. The estimate was provided to Mr. Nebelsick by a local well driller, Taylor Drilling Company.

Mr. James offered Exhibit O.

Mr. Naasz objected to admitting the exhibit, citing hearsay.

Chairman Larson sustained the objection. The exhibit was not admitted.

Exhibit P is a new water system flow chart obtained from DANR showing the steps that a new public water system goes through to receive a certificate of approval to provide water to the public. Mr. Nebelsick included this exhibit because it shows the significant steps that Elk Mountain will need to go through, including water quality testing and compliance with DANR regulations to get a public water system approved. A public water system that is tested provides a public benefit versus the much lower requirements for a private well in the area. Mr. Nebelsick obtained this exhibit from the DANR website.

Mr. James offered Exhibit P.

Ms. Mines Bailey objected as to relevance.

Chairman Larson sustained the objection. The exhibit was not admitted.

Exhibit R is an estimate of transmissivity for Subarea 9 of the Madison aquifer from the J.M. Carter, Driscoll, and Hamad study. This is the more specific information Mr. Nebelsick relied upon for his estimates of transmissivity in this area. The transmissivity for an interior boundary in the Madison aquifer is 7,393 feet^2 per day. The outflow in the Madison aquifer is estimated at 591 feet^2 per day. This information helped Mr. Nebelsick in preparing Exhibits L and M.

Mr. James offered Exhibit R.

Ms. Mines Bailey objected citing Rule 803, as it can be read into the record but not admitted. Mr. Naasz and Mr. Galbraith joined in Ms. Mines Bailey's objection.

Chairman Larson sustained the objection. The exhibit was not admitted.

Mr. Nebelsick stated that Exhibit S is a map showing the same information from Exhibit M. Carter, Driscoll, and Hamad report.

Ms. Mines Bailey objected citing Rule 803, as it can be read into the record but not admitted. Mr. Naasz and Mr. Galbraith joined in Ms. Mines Bailey's objection.

Chairman Larson sustained the objection. The exhibit was not admitted.

Mr. Nebelsick stated that, based on his research, he agrees with the Chief Engineer's recommendations for this application. He believes unappropriated water is available because the estimated recharge in this area is significantly more than the amount of water requested on an annual basis. There is information available that shows that existing water rights will not be impaired because if there is water being withdrawn from the Elk Mountain well at the proposed flow rates, there will be well interference with the existing wells but there will still be a static water level above the Madison so, if a well pump is set 20 feet down into the Madison, there will still be water available for them to pump even if Elk Mountain is withdrawing 150 gallons per minute. This proposed well is a beneficial use of water because it will be used for fire protection, drinking water, and the fact that it will be a public water system will provide quality water to people to use for drinking water.

Mr. James had no further questions of Mr. Nebelsick.

Ms. Mines Bailey and Mr. Paulton had no questions of Mr. Nebelsick.

Responding to a questions from Mr. Naasz, Mr. Nebelsick stated that in Exhibit B regarding fire demand, the 150 gallons per minute estimate is the requested withdrawal rate for the application. He worked with the Elk Mountain Water Users Association board to come up with an estimate of

30 days that the water may be used for fire protection. He did not consider any existing water sources for fire protection in the area.

Mr. Nebelsick agreed that he had earlier testified that the Madison formation is not homogeneous, so the transmissivity is not consistent throughout the aquifer, and the storage coefficient is not consistent. He agreed that more information about the aquifer characteristics would be available if an aquifer pump test was conducted. He also agreed that because the Madison aquifer is not homogeneous, drawdown at various locations within the aquifer will be variable. Pump test information collected at a specific well would not necessarily provide all the data that is needed to project the drawdown at other locations. If he had access to specific well locations during the pump test, the drawdown could be measured at those specific locations.

This concluded questioning by Mr. Naasz.

In response to questions from Mr. Galbraith, Mr. Nebelsick stated that he was hired to help prepare the water permit application. An aquifer pump test was not done as part of that process because the well is not in place. Ms. Nebelsick did not request to perform an aquifer pump test on the well that is 900 feet away from the proposed well site. He stated that he would have a hard time getting the information that is needed from a pump test from a domestic well with five-inch casing in it. The infrastructure to do a pump test is not in place to provide the information that is needed. Elk Mountain Water Users District would first have to drill a well, then test pump that well, then monitor the other wells in the area to determine the impact of that pump test.

Regarding Exhibit B, Mr. Nebelsick stated that the fire assumption was based on the maximum of 150 gallons per minute. He does not know if 150 gallons permit minute would be sufficient to fight a wildland fire. He does not know how water is obtained to fight wildland fires. The water permit application initially requested 240 acre-feet of water. That was changed to 145 acre-feet water because the typical process for DANR is to approve 60 percent of the pumping rate, assuming that the well is going to run 60 percent of the time. Exhibit B was prepared after the water permit application was submitted. Mr. Nebelsick is aware that the Chief Engineer's recommendation is to approve the application with a 20-year term.

Mr. Nebelsick stated that Exhibit C contains information published in January 2001 by the U.S. Geological Survey. The area of the proposed well is fully saturated. East of the proposed well, 200 to 400 feet of the aquifer is saturated.

Exhibit E shows the estimated thickness of the Madison aquifer. The proposed well location is located on the boundary line between 200-400 feet and 400-600 feet. Mr. Nebelsick said this information is very general. He relies on more specific information in the well completion reports in the area.

Mr. Galbraith said Exhibit F, the well completion report for the Martinez well, shows that the Madison formation is only 120 feet. Mr. Nebelsick said that is the portion of the Madison that they drilled, and that is why there are other graphs showing that there is likely 400 feet of Madison aquifer available. That leads him to believe that the well did not fully penetrate the entire Madison aquifer, which is very common in domestic wells where a lot of capacity is not needed.

Mr. Galbraith said page 42 of Exhibit I contains Figures A and B. Figure A shows the unsaturated zones for the Minnelusa aquifer and Figure B shows the unsaturated zones for the Madison aquifer. Mr. Nebelsick said he has not studied Figures A and B. In response to questions from Mr. Galbraith, Mr. Nebelsick agreed that the figures show the area just east of Newcastle, WY and that there are unsaturated zones. Mr. Nebelsick stated that it is hard to tell in relation to the map in Figures A and B where the well site is located. Based on the maps in Figures A and B, essentially everything east of Newcastle, for quite some distance is unsaturated, but the Martinez well log shows that it is fully saturated plus 135 feet of water table above the Madison aquifer.

Mr. Galbraith said with Exhibits C, D, and E, there are a lot of varying numbers. We don't know if the formation is 200 feet thick or 400 feet thick, based on the data Mr. Nebelsick provided. Mr. Nebelsick stated that the graph does not show that it is 200 to 400 feet thick, it shows that it's right on the boundary line between 200 to 400 feet and 400 to 600 feet, which would lead him to believe that it is approximately 400 feet thick in that area. He would anticipate that being near a boundary line that is measuring 200 to 400 feet and 400 to 600 feet would indicate that there is approximately 400 feet of aquifer material in this area. Mr. Nebelsick agreed that it would be better if more site specific information was available for this area.

In response to questions from Mr. Galbraith regarding Exhibit L, Mr. Nebelsick stated that the potential drawdown at 1,000 feet was approximately 70 feet. The static water level in the Martinez well, if this is correct, could drop 70 feet. The well completion report for the Martinez well showed the static water level at 890 feet. The bottom of the casing in the Martinez well is at 1,025 feet, five feet below the top of the formation. Mr. Nebelsick said these are all estimates based on publicly available information.

Responding to questions from Mr. James on redirect, Mr. Nebelsick stated that if a site specific pump test were done at the Elk Mountain site, it would not show specifically what the drawdown would be at the Martinez well because the Madison is not a homogeneous, uniform aquifer. He would be able to get estimates for transmissivity based on the pump test, but he would have to use estimates and calculations to understand what is going on at the Martinez well. Without physically measuring the Martinez well, he would not know specifically what is going on in their well.

In response to questions from Ms. Mines Bailey regarding Exhibit L, Mr. Nebelsick stated that the factors he uses when calculating a drawdown estimate are the flow rate at which the well is pumped, the transmissivity, which is the rate at which water can move horizontally through aquifer, the storativity, which is an estimate of the amount of water the aquifer stores, the distance that any well is away from the well that is being pumped, and based on time. The estimated drawdown he calculated was based on 24 hours of continuous pumping. Based on the range that is available, he would estimate drawdown in the Martinez well to be somewhere between three feet and 70 feet if the Elk Mountain well were to continuously pump for 24 hours at 150 gallons per minute, which is the full diversion rate. Mr. Nebelsick said the best information available for the Madison aquifer specifically at the well site is the Martinez well completion report that shows the geology. The Stearns' well construction report also provides information regarding what's going on the in the area. That being about a mile away leads him

to believe that the aquifer is generally consistent in the area. To estimate transmissivity and storage coefficients, he has to rely on studies that have been done to provide ranges and then estimate what might happen within those ranges. There are different ways to conduct an aquifer performance test. If there is only the production well, it is very difficult to identify what is actually happening in the aquifer. There are things that can be done with step tests and time drawdown tests, but there are always inefficiencies in the well and it is difficult to know what is happening in the aquifer because we are only seeing what is happening in the well, not the aquifer. Ideally, for a performance test you would have other wells that are not being pumped, monitor wells that are in a radius that you could actually measure what is going on in the aquifer outside of the pumped well. The ideal pump test would have a production well and two monitor wells within the zone that is being influenced by the drawdown so a distance drawdown calculation could be done to estimate aquifer characteristics and well efficiency. In order to perform an aquifer performance test in this case, a well would need to be drilled at the proposed point of diversion.

Ms. Mines Bailey asked what it would cost to drill a production well.

Mr. Naasz objected due to relevance.

Chairman Larson sustained the objection.

Ms. Mines Bailey asked how long it takes to conduct an aquifer performance test. Mr. Nebelsick stated that, depending on which test is done, it may take anywhere from 24 hours to 30 days, but he believes this well would be pump tested between 24 and 48 hours. Depending on what information is being sought. The point of the pump test in this case is to prove the capacity of the well so we know what size of well pump and how much capacity can be supplied by the well. This information can be obtained while other wells are still using water. If the test is being performed to determine the characteristics of the aquifer, ideally, all the other wells would be turned off because if those wells are turning on and off during a pump test it can complicate the analysis.

Ms. Mines Bailey asked if the latter type of test is what the Martinez's and the other petitioners would want performed in order to ensure that they would have the specific characteristics of the aquifer.

Mr. Naasz objected to the questions. It calls for speculation.

Chairman Larson sustained the objection.

Ms. Mines Bailey asked if the second type of performance test would be used to determine the specific characteristics of the aquifer at this proposed point of diversion. Mr. Nebelsick said in order to get the best aquifer characteristics you would need a pumping well plus, ideally, at least two other monitor wells that wouldn't be pumped during the pump test.

In response to a question from Mr. Naasz regarding Exhibits L and M, Mr. Nebelsick stated that this analysis was based on an assumption of a 24 hour period of pumping at 150 gallons per minute. He would expect drawdown to increase if pumping occurred for 24 hours per day at 150

gallons per minute for 30 continuous days.

Mr. Nebelsick said the Elk Mountain Water Users Association indicated that there are multiple fire events throughout a typical fire season, so he wasn't intending to say that there would be 30 days of continuous pumping. His intention was to say that throughout a fire season there might be up to 30 days of pumping when water would be needed for fire protection.

There were no further questions of Mr. Nebelsick.

Mr. James called John Morgan who was administered the oath by the court reporter. In response to questions from Mr. James. Mr. Morgan provided the following testimony.

He lives approximately one mile from in proposed location. He is the president of the Elk Mountain Water Users Association, and he is also a member of the fire department. The Elk Mountain Water Users Association was specifically created for the purpose of installing a well for firefighting and for public use.

Exhibit T is a Weston County topographic map showing the terrain and the location of various homes in the area. Water for fighting fires is presently obtained from Newcastle, WY, which is 18 miles from the fire hall. Other people use that water source, both publicly and commercially.

Mr. James offered Exhibit T. The exhibit was admitted into the record.

Exhibit U is a landowner map near Elk Mountain in Weston County, Wyoming. The Forest Service and firefighting agencies in Wyoming enter South Dakota to help fight fires. The exhibit shows many families are living on the Wyoming side of the border and would benefit from the Elk Mountain Water Users Association project. A member of the water user association obtained this exhibit from Custer County.

Mr. James offered Exhibit U. The exhibit was admitted into the record.

Exhibit CC is a summary of the Elk Mountain Water Users Association landowner survey, which asked whether the landowner would be interested in hauling from the proposed well and how much water they would potentially use each month. Some of the surveys were gathered at the Elk Mountain Water Users Associations public meetings and some were obtained from members going door to door. The estimated usage per month totals 260,300 gallons per month. More than 80 people returned the completed survey.

Mr. James offered Exhibit CC.

Mr. Naasz objected to admitting the exhibit due to lack of foundation and the exhibit is hearsay.

Chairman Larson overruled the objection and admitted the exhibit into the record.

Exhibit DD is a copy of the Elk Mountain Water Users Association, Inc. Articles of Incorporation. The Elk Mountain Water Users Association is a non-profit corporation.

Mr. James offered Exhibit DD.

Ms. Mines Bailey objected due to relevance.

Chairman Larson overruled the objection and admitted the exhibit into the record.

The county had proposed a well for fire protection and they were looking for property to put a well on. The fire department volunteered to let the county put a well on some of its land. The fire department asked the county if it would be possible to use the well for potable water to sell to the community due to lack of water. The water users association board was then formed, and an engineer was contacted to help with getting a well drilled. The Elk Mountain Water Users Association held public meetings after the process was started. All of the meetings were public. They were advertised on Facebook and other social media, newspaper, bulletin boards, and word of mouth. Several people from the community attended the meetings. The comments received during the meetings were generally supportive of the project.

Mr. James asked Mr. Morgan if any of the parties that submitted petitions in opposition of the application attended the meetings.

Mr. Naasz objected to question due to relevance.

Chairman Larson sustained the objection.

Mr. James asked if Mr. Morgan ever became aware of people not being supportive of the project. Mr. Morgan said the Elk Mountain Water Users Association was not aware of anyone not being supportive of the project until the second to last day that petitions in opposition were due, and the petitions were presented to the association's attorney.

Mr. Morgan stated that Elk Mountain Water Users Association needs this water mainly for fire protection because supplies are limited. The ponds are drying up and water has to be hauled to the tanks that are available throughout the community. The fire department received permission to take water from a pond close to the fire department but last year the pond went dry so it could not be used. It would be very helpful to have this water source close by. It would cut down on response time to fires and to obtaining water. It would also improve the quality of life for people who live in the community and need water.

Ms. Mines Bailey and Mr. Paulton had no questions of Mr. Morgan.

In response to questions from Mr. Naasz regarding Exhibit U, Mr. Morgan testified that water is not commercially available to the families in the areas shown on the exhibit. The Martinez has allowed the fire department to utilize water in a pond across the road from the fire hall, but that is the pond that dried out last year. The pond is full at this time.

Responding to questions from Mr. Galbraith, Mr. Morgan stated that he does not know how fast water can be pulled from the Martinez pond. In some cases, 150 gallons of water per minute is not enough to fight a fire. At 150 gallons of water per minute it would take a long time to fill a 5,000 gallon tank. The fire department has fought many fires without having local water

resources available. In the winter months the Martinez pond is frozen and in the summer months it dries up. The fire department has permission from Jim and Sharon Fridley, owners of the pond leased by the Stearns, to pull water from that pond. The fire department was told not to pull water from the Stearns' pond. The Martinezs have also given the fire department verbal permission to pull water from their pond.

Mr. Morgan said this project was funded through the county and ARPA funds. He does not know if the funding received was for fire protection or potable drinking water.

Mr. Galbraith asked Mr. Morgan if he is aware of the restrictive covenants on the property that prohibit the property from being operated for any reason for commercial purposes.

Ms. Mines Bailey objected to the question due to relevance.

Mr. Galbraith stated that this is a public interest issue as it is in violation of the covenants.

Mr. Larson sustained the objection.

Responding to a question from Mr. Galbraith, Mr. Morgan agreed that there was concern for the fire department because the ponds were drying up and the fire department may not be able to pull water from them.

In response to questions from Mr. Paulton, Mr. Morgan said he is familiar a well, which is approximately three and one half miles away from the fire department. The owner gave the fire department permission to use the water any time. The fire department obtains the water through a one-inch garden hose to fill a 12,600 gallon tank.

Mr. Paulton said a three-inch fitting would be capable of 300 gallons of water per minute so tank water is available on a refill system three and one half miles from the fire department. Mr. Paulton said he just wanted to clarify that there are other water sources available.

Mr. James objected stating that Mr. Paulton is testifying rather than asking a question.

Chairman Larson sustained the objection and asked Mr. Paulton to ask a question.

In response to a question from Mr. Paulton, Mr. Morgan said he is not aware of any other water sources south of the well 3 ½ miles to the south. Mr. Morgan stated that the fire department does not consider the this well is a suitable water source.

Mr. Galbraith objected stating that Mr. Morgan was nonresponsive to the question.

Mr. Larson sustained the objection.

Responding to a question from Mr. James, Mr. Morgan stated that if the well is drilled and produces water, the water will be available to the public at large, including the people who are objecting to approval of the application today.

In response to questions from the board members, Mr. Morgan stated that Elk Mountain Water Users Association has no plans to install pipelines to distribute the water. The terrain is very rocky and many of the homes are 500 to 800 feet in elevation above the well. The Elk Mountain Water Users Association's first meeting was March 27, 2022. This association was organized specifically for installing this proposed well. Any revenue generated through retail sale of the water will be used for upkeep and maintenance of the facility, to add storage tanks, pay the electricity bill for the pump; there will be no profit. There will be a yearly membership fee but that has not been established yet because there is no well pumping water yet. Approximately 80 people will participate as members of the association.

There were no further questions of Mr. Morgan.

Mr. James called Luke Caster who was administered the oath by the court reporter. In response to questions from Mr. James, Mr. Caster provided the following testimony.

He lives in the Custer Highlands area where the well project is being proposed. He is a non-voting member on the Elk Mountain Water User Association board, and he is chief of the Highlands Fire Department. He started on the fire department when he was 16 years old. The number of people in the area has grown since then. In the beginning, fire calls amount to two or three per year, and last year there were 43 fire calls. There were three trucks when he started on the fire department; now there are six trucks. If water from this proposed well became available it would make fighting fires in this area significantly easier because it would reduce the distance the fire department has to travel to bring water in to fight the fires. The fire department does have water storage, but storage doesn't last forever. The storage tanks are fed off of a one-inch garden hose, and it takes 18 hours to fill the tank; the tank can be drained very quickly during a fire.

Exhibit Q is a Black Hills National Forest Large Fire History map from 1910 to 2022. Mr. Caster received this map from the U.S. Forest Service.

Mr. James offered Exhibit Q. The exhibit was admitted into the record.

Mr. Caster pointed out the Highlands Fire Department's response area on Exhibit Q. The fires have gotten bigger over time due to the amount of people in the area. Significant fires in the area include Jasper, Red Point, Elk Mountain, Elk Mountain 2, Barrel Fire, and many more. The area is so fire-prone because it is drier in that area.

This concluded questions from Mr. James.

Ms. Mines Bailey had no questions of Mr. Caster.

Mr. Paulton asked if one gallon of water per three square feet of fire is for the fire area or the fire perimeter. Mr. Caster stated that according to the research he did talking to the U.S. Forest Service and the state, they said it depends on if it's still burning or in the mop up period. The water can be used to stop the fire or keep the fire from jumping the fire lines. If there is a large running crown fire in treetops, water will not be effective. Water is effective for a ground fire.

In response to questions from Mr. Naasz, Mr. Caster stated that he has never been told the fire department cannot use the Martinez water to fight fires. The fire department has an agreement with the Martinezs to use the water in their stock dam, and the fire department has used the Martinez dam to fill its storage tanks at the beginning of the year. He does not know how much water the fire department used last year or in a typical year. For one structure fire over 30,000 gallons of water was used.

Mr. Galbraith presented Exhibit 543, covenants for the fire hall property, as an offer of proof to the board. He asked if Mr. Caster was aware of the restrictive covenants that cover the fire hall property and prohibits commercial uses on that property. Mr. Caster answered that he was not aware of the covenants.

Mr. Galbraith offered Exhibit 543. He stated that the Water Management Board has a gatekeeping function to make sure this application is in the public interest and that it is a public benefit. A violation of covenants covering the property is not in the public interest, so it is improper for this usage to be approved of by the Water Management Board because it is in violation of a contractual agreement that clearly exists with respect to the fire hall property.

Ms. Mines Bailey stated that the granting of a water permit does not grant legal access to the proposed point of diversion. The state has never looked at, or regulated access to a well or a proposed point of diversion. In response to the public interest argument, Ms. Mines Bailey said the statute provides that it has to be within the purview of the board. Restrictions and covenants do not fall within Title 46; therefore Mr. Galbraith's argument is outside the scope of the Water Management Board's permissible view of public interest.

Ms. Mines Bailey objected as to foundation.

Chairman Larson sustained the objection.

Mr. James objected to the exhibit due to relevance.

Chairman Larson sustained the objection.

In response to a question from Mr. Galbraith, Mr. Caster stated that the fire department had 43 fire calls last year. Mr. Galbraith stated that he checked the State Fire Marshall about the number of fire calls, and the State Fire Marshall indicated that there were zero. He asked if the 43 calls were all fire calls, or something different. Mr. Caster answered that some of the calls may not have been reported. There were not 43 incidents where water was needed for fires last year; some of the calls were medical.

Mr. Galbraith asked if 150 gallons per minute is enough water to fight fires, Mr. Caster answered that it is not, but it fits the need the fire department has. In some cases, it will be enough water but, in a lot of cases, it will not.

This concluded questions by Mr. Galbraith.

Responding to a question from Mr. Comes, Mr. Caster stated that there are some ranchers that charge for the use of the water, including the Forest Service and South Dakota Wildland Fire.

There were no other questions of Mr. Caster.

Mr. James called Kent Keidel who was administered the oath by the court reporter. In response to questions from Mr. James, Mr. Keidel provided the following testimony.

He lives in the Custer Highlands area one mile east of the proposed the well site. He has participated in Elk Mountain Water Users Association meetings. He took photographs of the area surrounding the proposed well site.

Exhibits V through AA are photos of the Stearns property. The photos were taken by Mr. Keidel with a camera on October 1, 2022. The reason for taking the photos is he felt it may be relevant to the Water Management Board to show that there were a lot of dried up impoundments includingon the Forest Service property and Martinez's pond and Stearns still had water in his. He also checked on some springs that these people were drawing water from. Mr. Keidel said Exhibits V through AA are accurate copies of photos he took.

Mr. James offered Exhibits V through AA.

Ms. Mines Bailey objected as to relevance. She said it does not seem pertinent to the four factors to be considered by the Water Management Board.

Mr. James stated the purpose of the photos is to show that these are not reliable sources of water for fighting fires.

Chairman Larson sustained the objection.

In response to questions from Mr. James, Mr. Keidel stated that, in his opinion, this water is needed because the other sources cannot be relied upon for firefighting. Also, he was told that the bottoms of the three existing storage tanks are about ready to rot out. Once those storage tanks can no longer be used, all the fire department can do is haul water from Custer or Newcastle.

There were no further questions of Mr. Keidel.

Mr. Naasz called Eraclio Martinez who was administered the oath by the court reporter.

In response to questions from Mr. Naasz, Mr. Martinez provided the following testimony.

He owns the Martinez Ranch and his address is 10216 Valley Road, Edgemont, which is the headquarters for the ranch. His father is Tomas Martinez. The Martinezs run cattle and horses on the ranch. Two families operate the ranch, Eraclio and Tomas Martinez. Mr. Martinez has three children, and they attend school in Newcastle.

Exhibit 601 is a map showing the incorrect location of the proposed well. The well is actually

located approximately 900 feet east/southeast of the Tomas Martinez residence.

Mr. Naasz offered Exhibit 601. The exhibit was admitted into the record.

Exhibit 602 is a map showing the location of the Tomas Martinez residence and the location of the well, showing the distance from that well to the county road. The building with the blue roof shown on the map is the fire hall. The ranch headquarters is shown near the end of the red line to the north.

Mr. Naasz offered Exhibit 602. The exhibit was admitted into the record.

Mr. Martinez's well is approximately 965 feet from the proposed well location. The well is drilled into the Madison aquifer. The depth is consistent with the well completion report. The water is used for domestic purposes and for livestock watering. This is the water supply for Mr. Martinez's family and the ranch.

Exhibit 620 is a photo of the Tomas Martinez home, which is the main headquarters of the ranch. The photo also shows the well, storage tank, and wellhouse. The photo was taken in February 2023.

Mr. Naasz offered Exhibit 620. The exhibit was admitted into the record.

Exhibit 621 is a photo of Mr. Martinez pointing at the well.

Mr. Naasz offered 621. The exhibit was admitted into the record.

Exhibit 622 is a photo Mr. Martinez took looking at the proposed well site and the fire hall. The proposed well will be located near the powerline between the fire hall and the shed. This photo was taken in February 2022.

Mr. Naasz offered Exhibit 622.

Ms. Mines Bailey objected as to relevance.

In response to questions from Mr. Naasz, Mr. Martinez stated that the gray building is the fire hall. This photo is showing how far the well is to the fire hall.

Chairman Larson overruled the objection and admitted Exhibit 622 into the record.

Responding to questions from Mr. Naasz, Mr. Martinez stated that he was standing approximately four big steps north of the well when he took the photo. Mr. Martinez and Tomas Martinez determined the distance between his well and the proposed well location with a measuring wheel.

Exhibit 625 is a photo of the measuring wheel. The wheel reads 965 feet.

Mr. Naasz offered Exhibit 625.

Ms. Mines Bailey objected as to relevance and cumulative.

Chairman Larson overruled the objection and admitted Exhibit 625 into the record.

In response to questions from Mr. Naasz, Mr. Martinez stated that the terrain between the Martinez well site and the proposed point of diversion is very rough. When using the measuring wheel, he had to go around the structure of his parent's house, then over a fence, down a gully, then back up a gully, and in another 20-30 feet he had to go up and down another gully. All those feet were captured by the measuring wheel, so it is fair to say that 965 feet is an over estimate regarding distance.

Exhibit 629 is a photo of the Martinez's Crocker well. Mr. Martinez stated that the well is approximately 130 feet deep; it is not drilled into the Madison aquifer. Mr. Martinez has never told the fire department it cannot utilize his water. All of the Martinez water sources are available if the fire department needs to use the water.

Mr. Naasz offered Exhibit 629.

Ms. Mines Bailey objected as to relevance. This well is not completed into the Madison aquifer.

Chairman Larson sustained the objection. The exhibit was not admitted into the record.

In response to questions from Mr. Naasz, Mr. Martinez stated that the Crocker well is less than one mile from his main Madison well.

Exhibit 640 is a photo of Coon Creek as it comes into the Martinez property from the west. The creek dissects the Martinez property. The creek has never gone dry.

Mr. Naasz offered Exhibit 640.

Ms. Mines Bailey objected as top relevance. It is not pertinent to the Madison aquifer or this water permit application.

Mr. Martinez stated that the structure shown in Exhibit 640 is the fire hall.

Chairman Larson sustained the objection. The exhibit was not admitted into the record.

In response to questions from Mr. Naasz, Mr. Martinez stated the Coon Creek is available for the fire department to utilize, if needed. He believes the fire department has used water from the creek. The Martinez's have given verbal authority for the fire department to use the water.

Exhibit 651 is a photo of the Martinez stock dam, which is located just east of where the photo in Exhibit 640 was taken. The photo in Exhibit 651 was taken in April 2023.

Mr. Naasz offered Exhibit 651.

Ms. Mines Bailey objected as to relevance. The stock dam has no connection to the Madison aquifer.

Mr. Naasz stated that the board has seen pictures of this dam before.

Chairman Larson sustained the objection. The exhibit was not admitted into the record.

In response to questions from Mr. Naasz, Mr. Martinez stated that condition of the stock dam at this time is good. During the last 25 to 30 years, the stock dam has gone dry only three times. Mr. Martinez has been on this ranch since the early 90's. Mr. Martinez stated that he was aware of the change to the location of the well on the well completion report from Section 16 to Section 21. The well completion report was signed, as it relates to that correction, when it was submitted to the Water Rights Program. Mr. Martinez stated that this matter is very important to him and his family because if they lose their Madison aquifer well, they will lose their entire operation very quickly. Mr. Martinez said he is here today to make sure that his well and his livelihood are protected. He asked the board to consider the fact that the Martinez well is 900 feet from the proposed well when making their decision.

Mr. Naasz had no further questions of Mr. Martinez.

In response to a question from Ms. Mines Bailey, Mr. Martinez stated that he does not know where the pump is set in his Madison aquifer well.

Mr. Galbraith asked Mr. Martinez if he could provide 150 gallons per minute with all the sources he has identified if the fire department needed the water. Mr. Martinez stated that he believes he could provide 150 gallons per minute.

Mr. Galbraith handed Mr. Martinez Exhibit 511, a map identifying various wells and springs in the area. Mr. Martinez stated that he contributed to creating the map.

In response to questions from Mr. James, Mr. Martinez stated that he and the fire department have a verbal agreement for the fire department to use water from his property. He does not make this water available to everyone in the community but, if someone needs water, he would give it to them. He does not know if the static water level in his well has ever gone down. It would be beneficial to his ranching operation to have a backup source of water when the stock dam goes dry.

In response to questions from Mr. Naasz, Mr. Martinez stated that if the board determines that an aquifer pump test needs to be performed by Elk Mountain Water Users Association prior to the water permit being granted, he would consider cooperating with Elk Mountain Water Users Association to make sure the pump test got the information needed. Mr. Martinez stated that last year when the stock dam went dry, he had no problem getting water from his Madison well.

In response to a question from Mr. Comes, Mr. Martinez stated that the verbal agreement with the fire department has worked satisfactorily over the years, even before Luke Caster became fire chief. Mr. Martinez said he understands the qualification set forth by the chief engineer regarding controlling withdrawals so there is not a reduction of needed water supplies in

adequate domestic wells or wells having prior water rights.

This concluded questioning of Mr. Martinez.

Mr. Galbraith called Travis Paulton who was administered the oath by the court reporter. In response to questions from Mr. Galbraith, Mr. Paulton provided the following testimony.

Mr. Paulton stated that he is a local rancher, and he lives nine miles south of the proposed well. He read the following statement into the record:

> I am Travis Paulton. I am a cattle rancher and a landowner in the Elk Mountain area as well as a professional wildland fire fighter with 22 years of experience. The Paulton ranch is a four-generation ranch which supports four families. Our livelihood depends upon water. We have developed springs and drilled wells at great expense. Any disruption to our water supply threatens our livelihood. Our ranch owns a Madison well 4.7 miles south of the contested Elk Mountain Water Users Association well. If there were to be a disruption to our water supply it will be costly. As part of the petition process and in consideration our property rights, the reason myself along with my family, Bill and Susan Paulton, have submitted petitions is that now is the time to voice our concerns before the disruption may occur. I am not opposed to another well in our community. We realize additional water sources are valuable, however, we are greatly alarmed at the excessive amount of water the Elk Mountain water permit is requesting. The estimated gallons of water the Elk Mountain community says it will use from this well is only six percent of the 145 annual acre-feet allowance written into the permit. I believe Custer County has requested an additional 500,000 gallons per year, which is an additional one percent. In other words, the permit is requesting 93 percent more water than is estimated to fulfill current needs. The other interest for the use of the water from the Elk Mountain Water Users well is the local volunteer fire department. The Highlands volunteer fire department is small but has done a good job over the years. The majority of the personnel are trained for wildland fire and, therefore, their equipment historically has been set up for wildland fire. I have been working wildland fires for 22 years. I have travelled from coast to coast providing water handling services to the Forest Service for all types of wildland fires. I have seen wildland fires from several 100,000 acres to just a few acres. I began wildland firefighting because our ranch has been in the center of the majority of wildland fires in the Black Hills. The Jasper fire burned in 2000 which burned 83,508 acres. Elk Mountain complex in 2001, Red Point fire in 2003, West Hill in 2003, West Pass Creek in 2006, WhoopUp Canyon and Barrel fire in 2011, to name a few. Most of these fires burned on part of our ranch. Over the years I have seen how water supply is important in controlling these large fires; however, none of these fires rely on just one water supply. Local landowners, including ourselves, have done an excellent job to develop dependable and accessible water sources throughout our area. I have a map included that shows the water sources scattered throughout the community. Some of these water sources are saved exclusively for wildland fires, but most are multipurpose sources with a priority put on wildland fire supply. We capture small water flows and store them in 3,000 gallon tanks, up to 12,600 gallons tanks. If fact, there is a 12,600 gallon tank set up exclusively as a water source for fires just three miles from the Highlands Fire Department. These tanks are plumbed with the ability to adapt to any fire

truck and have fast refill times. These tanks are being automatically refilled by water sources of a constant 10 to 20 gallons per minutes. Our ranch alone has developed six of these storage sites spread around the area as close as four miles from the fire hall. All of these water storage sites are clean and reliable. They range from 3,000 gallons up to 20,000 gallons. All of these water storage systems are automatically refilled if the level of the water drops below full. The amount of water needed on a wildland fire is not as much as one may think. The majority of wildland fires are contained by the removal of fuel, which is the process of constructing fire lines. Fire lines need to be located in an area that the fire behavior will be minimal and the probability for success will be good. Water is the tool used to keep fire lines effective. Large running crown fires are not able to be stopped by water, therefore, the perception that tens of millions of gallons of water are needed to stop a wildland fire is not accurate. Large fires logistically need multiple water sources identified around the fire. In the Elk Mountain area, many other ranches have water sources similar to ours. In addition, firefighters also have sources in the towns of Custer and Newcastle and further south in Dewey and Edgemont. A well-engineered water source system that is supplied by a dependable 15-25 gallons a minute automatic refill rate is far more valuable than an oversized pump trying to be an on-demand water supply. A power outage will disable the water source. If a wildland fire threatens a power line, the power company disconnects the power. This can happen anywhere along the power line. For example, April 7, 2022, the Wabash Spring fire four miles west of Custer caused the shutdown of electricity to the Custer Highlands community. However, an above-ground or cistern water storage system is like having a battery backup and does not require electricity in the event of a power outage. The 145 acre-feet per year that the Elk Mountain Water Users Association well is applying for equals 47.24 million gallons of water. That would be like if you hauled 11,811 loads per year, 32 loads at 4,000 gallons each, every single day for 365 days per year. The proposed 145 acre-feet is grossly over-calculated and exaggerated. The argument that has been made is that since the desired water use from the proposed Elk Mountain well is currently already being hauled from the Newcastle well, from the same Madison aquifer, then the new well will not make any difference. Allow me to explain the difference. The concern is from my viewpoint as a landowner and Madison aquifer well owner. The difference is that there are local geological factors that affect the performance of one well versus the other. The Newcastle well is located at a surface elevation of 4,460 feet above sea level according to the USGS Newcastle quadrangle. The Newcastle well is an artesian well with a head pressure of approximately 150 psi at the surface. In other words, at a 4.33 psi per foot rise in elevation the static water level would be 346 feet above the surface putting the elevation at 4,806 feet above sea level. Our Madison well is located at the base of Elk Mountain 4.7 miles directly south of the proposed contested well T5S, R1E, Section 9. This well is also 18 miles the way the crow flies from the Newcastle well. Our well is 4,320 feet above sea level with a static water level of 562 below the surface. In other words, 3,758 feet above sea level there is a difference of 1,048 feet of elevation between the static level of these two wells, which are drilled in the same aquifer. I would argue that the recharge points and the interconnection of the Madison aquifer are not all the same and are contiguous. Therefore, we see a huge difference in the static water levels out of the same aquifer. My concern is that 145 acre-feet of requested water annually would have a negative impact on my family's well. To assume that 145 acre-feet is going to be okay to take just because the water is available in

> the overall Madison aquifer does not mean that locally the proposed Elk Mountain well will be sustainable at that rate. Secondly, the amount of water currently being hauled by Elk Mountain residents from Newcastleisn't even a drop in the bucket compared to the 145 acre-feet requested nor has the estimate even come close. In closing I would like to ask the question – who will be liable for any potential problems with our existing local water supply if 145 acre-feet is approved? The Elk Mountain Water Users Association has already voiced concerns that there is a shortage in funds to properly complete the project. If the Elk Mountain Water Users Association runs out of money, who will pay to fix any problems? The ranchers and other local well owners cannot afford nor should be expected to take that responsibility. I also must ask the question what other potential commercial users might there be in the future? Why should we use our taxpayer dollars to fund an unelected board to sell water for commercial interests? It is not unreasonable to be concerned that only seven percent of the request 145 acre-feet has been identified as a need and that 93 percent of the water requested for the Elk Mountain community could be legally sold to our detriment. Thank you.

In response to questions from Mr. Galbraith, Mr. Paulton stated that he has 22 years of firefighting background. Having an additional water source with 150 gallons per minute will make a difference, but the firefighters don't rely strictly on one water source. On a big fire, the firefighters rely on multiple water sources logistically positioned around the fire. Water is more accessible around the fire that way. Multiple water sources are more valuable to fighting a fire than one single source of water. Mr. Paulton said he assisted in identifying wells, springs, and other water sources for Exhibit 511. The information that Mr. Paulton put on Exhibit 511 comes from his own personal knowledge of the area.

Mr. Galbraith had no further questions of Mr. Paulton.

Ms. Mines Bailey had no questions of Mr. Paulton.

In response to a question from Mr. Naasz, Mr. Paulton stated that he has not and will not deny the fire department water from any of the sources he has under his control.

In response to questions from Mr. James, Mr. Paulton stated that his employer operates a private fire service. They contract with the US Forest Service for a wildland fire service; however, if there is a local fire on Mr. Paulton's ranch or in the surrounding communities, the wildland firefighters have responded with their own equipment at no charge, and they will continue to do so because that is what a good community member should do. Mr. Paulton does not dispute that at this time the Highlands fire department hauls water from Newcastle to fight fires, but he believes there are other options. Some of the other sources, when it's not wildland fire season such as wintertime, are drained. The fire season is during a non-freezing time typically so, when the time comes where is it not freezing, the water sources are filled and they are available for use.

This concluded questioning of Mr. Paulton.

Mr. Paulton offered Exhibit 700, the well completion report for this Madison aquifer well. The exhibit was admitted into the record.

Mr. Galbraith called Shaun Pitts who was administered the oath by the court reporter.

In response to questions from Mr. Galbraith, Mr. Pitts provided the following testimony.

He participated, with Mr. Stearns, Mr. Paulton and Mr. Martinez, in creating Exhibit 511, a map that identifies the various wells, springs, storage tanks, and other water sources in the area. His contribution to that comes from his personal knowledge of the area. He has never denied anybody the use of water for firefighting purposes. He has also provided equipment for every major fire in western Custer County free of charge. He was one of the founding members of the Elk Mountain Fire Department, which is now the Highlands Fire Department. The resources that currently exist in the area are more important to the fire department than one well pumping 150 gallons per minute. Responsible water development and responsible use is a good thing for everybody as long as the accountability and the responsibility is there.

In response to questions from Mr. Naasz regarding Exhibit U, Mr. Pitts pointed to the location of the Patricia Baumann residence on the Wyoming side of the area. Patricia Baumann has a commercial well. Her property is located approximately 3.8 miles from the Dewey Road. She has six taps for house water, and she provides commercial water for agriculture and residential. Mr. Pitts stated that the Jasper fire, which was in August 2000, encompassed an area north of Highway 16 just behind his place to the Jewel Cave National Monument. After that period, they started bringing in 21,000 gallon portable storage tanks obtained from the oil field. Those were staged throughout the Jasper fire area north and south of the highway. To date, there is about 68,000 gallons of available storage plus two large storage tanks. Three storage tanks were also brought in for the Highlands Fire Department. Approximately ten years ago Mr. Pitts welded new bottoms in the three storage tanks. Two of the storage tanks are still in operation. These are 13,000 gallon tanks.

Mr. Pitts stated that Exhibit 701 are pictures. The top two pictures are the tanks that are set on Harold Solace. He and Mr. Solace brought these tanks from the Cheyenne River and fixed them up. One of the tanks sits by Mr. Button's property.

Mr. Galbraith offered Exhibit 701.

Ms. Mines Bailey objected stating that there was a procedural order that required an exchange of exhibits, but she has not received these exhibits. She also objected as to relevance. The exhibit does not pertain to the four factors or the Madison aquifer.

Chairman Larson sustained the objection. The exhibit was not admitted into the record.

This concluding questioning by Mr. Galbraith.

In response to a question from Mr. James, Mr. Pitts stated that he cannot verify whether the Baumann property water is a potable water source.

There were no further questions of Mr. Pitts.

Mr. Galbraith called Dalton Stearns who was administered the oath by the court reporter.

In response to questions from Mr. Galbraith, Mr. Stearns stated that he participated, with Mr. Pitts, Mr. Paulton and Mr. Martinez, in creating Exhibit 511, a map that identifies the various wells, springs, storage tanks, and other water sources in the area. His contribution to that comes from his personal knowledge of the area.

Mr. Galbraith offered Exhibit 511.

Ms. Mines Bailey objected as to relevance, foundation, and best evidence rule.

Chairman Larson overruled the objection and admitted Exhibit 511 into the record.

Responding to questions from Mr. Galbraith regarding Exhibit 511, Mr. Stearns stated that the proposed well site is marked with a red dot. The petitioners' homes are marked in gold. Active wells are marked in orange. Active springs are marked in blue. Cased wells with no flow are marked in green. A cased well with no flow is a well that is not flowing out of the ground under its own pressure, for example an artesian would not be a cased well with no flow. Dams are marked in purple. Water storage is marked in brown and water systems are marked in gray. The Button property is less than four miles away from the fire hall. The Baumann property is also approximately four miles away from the fire hall.

Mr. Stearns said Exhibit K, a landowner map with well locations, shows property he owns southeast of the well site. He also leases property north of the well site. Mr. Stearns now owns the property that the Dave Wright well (Exhibit G) is on. Mr. Stearns stated that on a daily basis he has 300 head of goats, 50 head of cows, horses and his household that all rely on his well. When the power goes out he has to utilize the water to the best of his ability, so he has to use a generator to power the well, and he easily uses 2,000 gallons a day on average. During the summer that amount can be immensely higher and during the winter it can be lower, but his operation relies on water so he can make a living to support his family and continue what his great grandfather started doing in that area. He stated that his operation is not sustainable if the well goes out.

Mr. Stearns said fire protection is a very important use of the water. If the proposed well does not get approved, there are several other sources of water that can be used for fighting fires. If the well does not get approved people will continue to haul water.

Ms. Mines Bailey and Mr. Naasz had no questions of Dalton Stearns.

In response to questions from Mr. James regarding Exhibit 511, Mr. Stearns stated that he does not know how many of the dots on the map are public water sources that are available for household use. He said on state land the water sources would all be public. People can purchase and haul water from Newcastle, Custer or Patricia Baumann. Mr. Stearns said he has a domestic well. Mr. James asked Mr. Stearns why he thinks it's fair for him to have access to drinking water but not the rest of the community?

Mr. Naasz objected to the question

Chairman Larson sustained the objection.

Mr. James asked Mr. Stearns if he tried to charge the county for using water during a fire in 2022? Mr. Stearns answered that he has not asked the county to pay for water before. Last year there was a fire close to property that he leases from Jim and Sharon Fridley, and the helicopter was dipping water out of their dam. He talked to them because he had no idea what was going on and they said that they were going to replace the water.

In response to a question from Mr. Galbraith, Mr. Stearns said he has never been asked if his water can be used to fight a fire.

There were no further questions of Mr. Stearns.

Mr. Galbraith called Dan Stearns who was administered the oath by the court reporter.

In response to questions from Mr. Galbraith, Mr. Stearns said he lives near the Gurney Draw at Elk Mountain. Mr. Stearns submitted a number of photographs with his petition opposing the application. The photos identify different springs, dams, etc. on his property. One of the photos from 2011 shows helicopters dipping into the West Fork Coon Creek dam for fire control. Mr. Stearns said he has never told anyone that they can't use his water for the purpose of fire control. There are also photos taken in 2022 of the West Fork Coon Creek Dam. He said his granddad brought 300 head or horses from White Clay in 1900 and watered the horses at this dam because it was the best source. Mr. Stearns said to his knowledge that springs put out water below the gyp rock, not above the gyp rock There is a constant spring flow during the winter and during the summer so stock could water there year round. It was the best water source from Evans Plunge to Buffalo Gap. Mr. Stearns said he owns that land and there is a patented 1924 water right on that dam. Mr. Stearns said he tested the springs, and he took samples on the mountain. The Stearns' have always had the water when nobody else did, and he tested all of them and took the samples to Midcontinent laboratories in Rapid City, who did a chemical analysis on samples and determined that the water is not potable. Mixed Spring on the Wyoming side is putting the best spring volume on Elk Mountain. Mixed Spring is the second best drinking water on the mountain. The Gurney Spring or the south spring up the draw from where Mr. Stearns lives is the best drinking water on the mountain. Those springs are on the outbreaks on the bowl that the Stearns live in. The Stearns have a 1902 irrigation right on the east side of Coon Creek and there are springs that are feeding that draw.

Exhibit 533 is the water tests results that Mr. Stearns spoke of. The results are for water that is either on the Stearns property or property that he leases.

Mr. Galbraith offered Exhibit 533.

Ms. Mines Bailey objected as to relevance. These are not Madison aquifer waters, nor are they connected to the four factors for which the board is responsible for today.

Mr. Galbraith said the exhibit does identify drastically different qualities of water, so the springs do not all come from the same place.

Ms. Mines Bailey said the testimony in the record is that the springs in the area are not sourced from the Madison aquifer, therefore, she does not see how the water quality in these springs is pertinent to the issue before the board.

Chairman Larson sustained the objection.

In response to questions from Mr. Galbraith, Mr. Stearns said if one of his wells goes dry, he has backup plans. The spring on the west fork of Coon Creek has never gone dry. All the neighbors have relied on it for fire protection before Paultons got that permit, and there were 250 head, and they were taking 75 loads a day for five days. When Mr. Stearns questioned the federal government about it, they made him turn in a claim on it. The fire boss called Mr. Stearns and asked him if he knows if he actually owns that reservoir. Mr. Stearns told him he does own it and they should ask before they take water from it. He said water is critically important.

Mr. Stearns said he thinks the Elk Mountain Water Users Association are going to pull a fast one with Covid money. He said the Stearns family is going to defend their water right and irrigation right.

In response to a question from Mr. James, Mr. Stearns said for years he allowed the fire department to use water when they need to until he was unable to manage 250 head of cattle in one quarter section while three helicopters were taking water. Mr. Stearns said he did not sue the federal government; he filed a claim.

Mr. Galbraith asked Mr. Stearns if he ever sued the Forest Service in federal court. Mr. Stearns said he filed a claim, and they paid it. There was a lawsuit prior to that when the Forest Service fire burned onto his property, and it burned part of his house and part of his land.

There were no further questions from the board.

The parties presented closing arguments.

Motion by Bjork, seconded by Hutmacher, to enter executive session pursuant to SDCL 1-25-2(3) for the purpose of consulting with legal counsel regarding proposed or pending litigation or contractual matters. Motion carried unanimously.

The board entered executive session at 5:42 p.m. and came out of executive session at 6:10 p.m.

Motion by Hutmacher, seconded by Comes, to approve Water Permit Application No. 2850-2, Elk Mountain Water Users Association, LLC subject to the qualifications set forth by the chief engineer. A roll call vote was taken and the motion carried unanimously.

Ms. Mines Bailey will prepare the draft Findings of Fact, Conclusions of Law and Final Decision by June 16, 2023. Objections are due by June 27, 2023.

Chairman Larson declared the meeting adjourned at 6:15 p.m.

A court reporter was present for the hearing and a transcript of the proceedings may be obtained by contacting Cheri Wittler, Precision Reporting, PO Box 232, Onida SD 57564, telephone number (605) 258-2678.

An audio recording of the meeting is available on the South Dakota Boards and Commissions Portal at https://boardsandcommissions.sd.gov/Meetings.aspx?BoardID=106.

Approved July 12, 2023.

W H Larson

Water Management Board

ATTENDANCE SHEET
WATER MANAGEMENT BOARD
Date May 3, 2023

NAME *(PLEASE PRINT)*	MAILING ADDRESS	CITY, STATE & ZIP	ITEM OF INTEREST
Jon Morgan	10169 Elk Mtn Rd	Edgemont SD 57735	Water
Anne Rosse	10326 Turkey Trail	Edgemont SD 57735	Water
Scott James	429 1/2 Mt Rushmore Rd	Custer 57730	Water Rights
Luke and Jess Castor	10234 Valley RD Edgemont SD 57735	Edgemont SD 57735	2850.2
RANDY miller	25474 Moonlight Drive	EDgemont 57735	2850.2
Marty O'Dea	10353 Elk Drive	Edgemont 57735	Water 2850.2
Kent Keidel	10293 Valley Rd Edgemont	" SD 57735	2850.2
Daniel Nebelsick	1302 S Union St. Rock Rapids IA	Rock Rapids IA 51246	Elk Mountain
Trent Bruce	1300 S Highline Ave Sioux Falls SD	Sioux Falls, SD	Elk Mtn
Mike Mclain	PO BOX 459 Keystone	keystone SD	water
Sandra Mclain	" "	"	water
Mike Weisgram	114 Port Charlotte	Fort Pierre	Oversight
JoAnn Stearns	25499 Dewey Rd.	Edgemont, SD	water
Shawn Potts	25373 Gillette Cyn Rd	Newcastle, WY	Water
Dalton Stearns	#10321 Two Track Trl	Edgemont SD	Water

ATTENDANCE SHEET
WATER MANAGEMENT BOARD
Date May 3, 2023

NAME *(PLEASE PRINT)*	MAILING ADDRESS	CITY, STATE & ZIP	ITEM OF INTEREST
Dan A. Stears	25499 Dewey Rd	Edgemont SD 57735	water rights
Rob Galbraith	P.O. Box 803C RCSD 57709		Water
Travis Paulton	~~10693~~ 10693 Pass Creek Rd	Edgemont SD 57735	water
Misty Martinez	25263 Dewey ROAD	Edgemont SD	water
Ercilio Martinez	↓	↓	↓
Tomas Martinez			
Irma Martinez			
Matt Nagel	506 6th St. Rapid	Rapid City	Elk Mountain

WATER MANAGEMENT BOARD MEETING
May 3, 2023

Qualifications:
wi - well interference
wcr -well construction rules
iq - irrigation questionnaire
lf - low flow

Unopposed New Water Permit Applications Issued Based on the Chief Engineer Recommendations

No.	Name	Address	County	Amount	Use	Source	Qualifications
2026-1	Whiskey Ridge LLC	Sturgis	MD	36.2 af	Dist. System	1 well – Minnelusa	wi, wcr, 2 special
2027-1	Rae Marie Homes LLC	Spearfish	LA	45 af	Dist. System	1 well – Madison	wi, 4 special
2865-2	Black Hills Tiny Resort	Rapid City	PE	0.022 cfs	Commercial	1 well – Minnekahta	wi, 2 special
8654-3	Schultz Bros. Dairy	Freeman	HT	0.333 cfs	Commercial	4 wells -2 Turkey Ridge	wi, wcr, 4 special
8665-3	Tri-R, LLC	Pipestone, MN	CK	0.223 cfs	Commercial	3 wells – Altamont	wi, wcr, 4 special
8680-3	Dean/John Lindstrom	Beresford	CL	1.78 cfs	70 acres	1 well – Lower Vermillion Miss	wi, wcr, iq, 1 special
8681-3	Leber Bros, LLC	Parker	TU	1.78 cfs	125.26 acres	1 well – Parker Centerville	wi, wcr, iq
8685-3	Joe Schumacher	Centerville	TU	1.56 cfs	120 acres	1 well -Upper Vermillion Miss	wi, wcr, iq
8686-3	Smit Family Trust	Hurley	CL	1.78 cfs	160 acres	1 well -Upper Vermillion Miss	wi, wcr, iq
8687-3	Rus Farms Real Estate, LLC	Rock Valley, IA	LN	1.78 cfs	160 acres	1 well – Parker-Centerville	wi, wcr, iq, 1 special
8688-3	Nicholas P. Hybertson	Centerville	TU	1.78 cfs	57 acres	1 well – Parker-Centerville	wi, wcr, iq, 2 special
8691-3	Wade Larson	Vermillion	CL	1.78 cfs	98 acres	1 well – Missouri Elk Point	wi, wcr, iq, 1 special
8693-3	Matt/Lynn Dassow	Missouri City, TX	CL	1.78 cfs	120 acres	1 well – Lower Vermillion Miss	wi, wcr, iq,1 special
8694-3	Lacey Land LLC	Brandon	CA	0.89 cfs	32 acres	1 well – Grand	wi, iq, 1 special
8695-3	William H Hansen	Centerville	TU	1.78 cfs	72.03 acres	1 well – Upper Vermillion Miss	wi, iq, 1 special
8696-3	Upland Hutterian Brethren, Inc.	Artesian	SA	16.8 af	Domestic	1 well – Codell	wi, 2 special
8697-3	Upland Hutterian Brethren, Inc.	Artesian	SA	46.25 af	Commercial	4 wells – Dakota & Codell	wi, 5 special
8698-3	Upland Hutterian Brethren, Inc.	Artesian	SA	24.9 af	Commercial	1 well -Dakota	wi, 5 special
8699-3	Ken Swatek	Wagner	CM	1.78 cfs	110 acres	1 well – Choteau: West	wi, wcr, iq, 1 special
8709-3	Mapleton RE Partners LLC	Sioux Falls	MA	200 af	100 acres	2 wells – Split Rock Creek	wi, wcr, iq, 1 special
8710-3	Coulson Land Co.	Yankton	YA	0.86 cfs	44 acres	1 well – Missouri Elk Point	wi, iq, 1 special
8711-3	Dean/John Lindstrom	Beresford	CL	1.78 cfs	70 acres	1 well – Lower Vermillion Miss	wi, wcr, iq, 1 special
8712-3	Allen Fugere	Estelline	HM	1.89 cfs	138 acres	1 well – Big Sioux Brookings	wi, wcr, iq,
8713-3	Larry Donnelly	Elk Point	UN	1.56 cfs	112 acres	1 well – Missouri Elk Point	wi, wcr, iq
8716-3	Bob Macy	Maricopa, AZ	CL	1.78 cfs	160 acres	1 well – Missouri: Elk Point	wi, wcr, iq,
8717-3	Coulson Land Co.	Yankton	YA	0.67 cfs	38.57 acres	Missouri River	iq, 1 special
8718-3	Roger Sieck	Hill City	TU	1.67 cfs	140 acres	1 well – Parker Centerville	wi, wcr, iq,
8719-3	Lacey Land LLC	Brandon	CA	0.89 cfs	32 acres	1 well – Grand	wi, iq, 1 special
8720-3	Reinschmidt Lands LLC	Burbank	CM	1.77 cfs	130 acres	1 well – Choteau: West	wi, iq
8723-3	Mark E Venner Sr	Pierre	HU	1.11cfs	215 acres	Missouri River	iq

8724-3	City of Crooks	Minnehaha	MA	25.9 af	FWP, REC	Unnamed tributary	lf, 1 special
8725-3	Roger Sieck	Hill city	CL	1.89 cfs	151 acres	1 well – Lower Vermillion Miss	wi, wcr, iq,
8726-3	Gale Westburg	Sioux Falls	CL	1.78 cfs	70 acres	1 well – Lower Vermillion Miss	wi, wcr, iq, 1 special
8728-3	Nick and Matt Kranz Inc	Watertown	CD	1.78 cfs	130 acres	1 well – Big Sioux North	wi, iq,
8729-3	Joe Brennan	Summit	GT	2.11 cfs	175 acres	2 wells – Prairie Coteau	wi, wcr, iq
8732-3	Sioux Rural Water System Inc	Watertown	HM	2,100 af	RWS	4 wells – Big Sioux North	none