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MINUTES OF THE 225TH MEETING OF THE
WATER MANAGEMENT BOARD
FLOYD MATTHEW TRAINING CENTER
523 EAST CAPITOL AVENUE
PIERRE, SOUTH DAKOTA

JULY 8-9, 2020

CALL TO ORDER: Chairman Jim Hutmacher called the meeting to order at 8:30 a.m. Central Time. Board members present for the morning session of the meeting were Bjork (remotely), Freeman, Holzbauer, and Hutmacher. A quorum was present.

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

The following were present for the meeting:

Board Members: Jim Hutmacher, Rodney Freeman, Leo Holzbauer. Peggy Dixon and Bill Larson joined the meeting at 1:00 p.m. on July 8. Tim Bjork participated remotely. Chad Comes was absent.

Department of Environment and Natural Resources (DENR): Eric Gronlund, Ron Duvall, Adam Mathiowetz, Whitney Kilts, Water Rights Program.

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

Legislative Oversight Committee: Representative Mary Duvall.

Court Reporter

Jacqueline Weller, Black Hills Reporting

Water Permit Application No. 8409-3, Schley Farms/Schley Real Estate LLC

Brandon Smid, Helms & Associates

John Taylor, counsel for Schley Farms

Dusty Schley, applicant

Mike Gutenkauf, Clark Engineering

Kari Bartling, counsel for intervenor

Roger Rix, Brown County Mud Creek Watershed District

Water Permit Application No. 2805-2, R & J, LLC

Lon Buehner, intervenor

Mike Hickey, counsel for R & J, LLC

Juston Eisenbraun, applicant

Bill Hearne, intervenor

Water Permit Application No. 1992-1, Town of Buffalo

Dusty Ginsbach, counsel for Town of Buffalo

Ryan Smith, Town of Buffalo

John Taylor, counsel

Gary Johnson, Town of Buffalo

Deb Johnson, Town of Buffalo

Jody Johnson, Town of Buffalo

ANNUAL ELECTION OF OFFICERS: Motion by Freeman, seconded by Holzbauer, to elect Jim Hutmacher as chair, Tim Bjork as vice chair, and Leo Holzbauer as secretary. Motion carried unanimously.

ADOPT FINAL AGENDA: Mr. McVey stated that two motions for a continuance were filed in the matter of the permit hearing for the Town of Buffalo; one from John Harter and another from Mahamud Fital. A third motion was filed by Elizabeth Lone Eagle, but it was connected to a hyperlink and the document could not be printed.

Mr. McVey noted that the board had issued an order dated June 17, 2020, which required anyone who had an agenda item to be present and to provide notice to DENR., Of the three parties who filed a Motion for Continuance, none filed notice that they intended to be present.

Motion by Freeman, seconded by Bjork, to adopt the agenda with the addition of consideration of the motions to continue the Town of Buffalo matter. Motion carried unanimously.

CONFLICT DISCLOSURES AND REQUESTS FOR STATE BOARD WAIVERS: None.

ADOPT MAY 6, 2020 BOARD MINUTES: Motion by Freeman, seconded by Holzbauer, to approve the minutes from the May 6, 2020, Water Management Board meeting. Motion carried unanimously.

ADOPT JUNE 11, 2020 BOARD MINUTES: Motion by Bjork, seconded by Freeman, to approve the minutes from the June 11, 2020, Water Management Board meeting. Motion carried unanimously.

OCTOBER 7-8, 2020 MEETING AND LOCATION: The next meeting is scheduled for October 7-8, 2020, in Pierre.

STATUS AND REVIEW OF WATER RIGHTS LITIGATION: Mr. McVey reported that DENR has approved a plan to commence the vegetation and sediment removal at Lake Thompson.

Mark Rath commented that two weeks ago he measured Red Lake water elevation, and there is a 10-foot difference from the level last year to now.

ADMINISTER OATH TO DENR STAFF: The court reporter administered the oath to the DENR staff who intended to testify during the meeting.

UPDATE ON DENR ACTIVITIES: Eric Gronlund reported that due to the Covid 19 pandemic, staff worked remotely from home for more than a month, then were slowly phased back into the office until the department was fully staffed.

Staff are performing limited field work, somewhat hampered by travel and whether over night stays will be allowed.

After being closed for approximately two months, the Foss Building is now open to the public.

Following the hearing for the TransCanada matter, the board approved the Findings of Fact, Conclusions of Law, and Final Decision. The Water Rights Program issued the permits, which were subject to the qualifications. TransCanada was required to submit design plans for the water withdrawal and metering of the water as well as for instream flow monitoring of the three surface water sources. TransCanada submitted those plans to the Water Rights Program. On June 16, 2020, the Water Rights Program approved the plans for the water withdrawal metering and the instream flow monitoring. The withdrawal metering and instream flow meters need to be installed and operational prior to making withdrawals.

High water levels on lakes continue to be an issue, and with staff receiving a number of phone calls. Mr. Rath began measuring lake levels.

Western South Dakota is largely in a drought condition, as well as some areas in eastern South Dakota.. The flows in the Cheyenne River and the White River have been down. The James River is decreasing slightly, but has maintained a high flow. The Big Sioux River and the Vermillion River are also at high flow.

Responding to a question from Mr. Holzbauer regarding high lake levels at Lake Andes, Mr. Rath stated that several state agencies have been working with the tribe on the issue. The water levels dropped approximately five feet from the peak last fall when the water was causing issues at the White Stone community. U.S. Highway 18, which has since been built up, was under water at the time. The water level has gone up and down depending on precipitation. Currently, it is not to the point that it is impacting the community directly. Mr. Rath noted that the state is working on long-term solutions to the problem.

PUBLIC COMMENT PERIOD IN ACCORDANCE WITH SDCL 1-25-1: No one offered public comments.

CONSIDER MOTIONS FOR CONTINUANCE OF HEARING IN THE MATTER OF WATER

PERMIT APPLICATION NO. 1992-1, TOWN OF BUFFALO: Mr. Freeman stated that Dakota Rural Action had submitted a Motion for Continuance earlier, and he denied that motion for reasons set forth in the order. These three Motions for Continuance practically mirror the motion submitted by Dakota Rural Action.

Motion by Freeman, seconded by Holzbauer, to deny Mr. Harder's motion for a continuance of the hearing for the reasons as set forth in the earlier order relating to Dakota Rural Action's motion.

A roll call vote was taken, and the motion carried unanimously.

Motion by Freeman, seconded by Holzbauer, to deny Mahmud Fitol's motion for a continuance of the hearing for the reasons set forth in the earlier order relating to Dakota Rural Action's motion.

A roll call vote was taken, and the motion carried unanimously.

Motion by Freeman, seconded by Holzbauer, to deny Elizabeth Lone Eagle's motion for a continuance of the hearing because it was not timely, and it was not properly filed and served on the parties. A roll call vote was taken, and the motion carried unanimously.

WATER PERMIT APPLICATION NO. 8409-3, SCHLEY FARMS/SCHLEY REAL ESTATE,

LLC: Application No. 8409-3 proposes to impound 22 acre-feet (ac-ft) of water from Mud Creek, a tributary to the James River by constructing a low head dam (weir) with water impounded within the creek channel for irrigation. The site is located four miles east of Stratford, SD in Brown County.

Chairman Hutmacher opened the hearing by stating that this is a continuance of the hearing, which began on February 26, 2020.

Ann Mines Bailey, counsel for the Water Rights Program, stated that in February the following exhibits were offered and admitted into the record:

DENR Exhibit 1 – Administrative record for Application No. 8409-3

DENR Exhibit 2 – Curriculum vitae of Mark Rath

DENR Exhibit 3 – Area map

Ms. Mines Bailey stated that at the first hearing the board heard testimony from Mark Rath, engineer with the Water Rights Program. Mr. Rath testified that this application is seeking to impound 22 acre-feet of water from Mud Creek by constructing a low head dam, or weir, in the stream with water impounded within the creek channel for irrigation. Mud Creek is an intermittent stream, and it flows down to the James River. Mr. Rath testified that water would be available and that there are no other existing water rights on the stream.

When the hearing began on February 26, 2020, Jeanne Goodman was the chief engineer. Shortly after that, Ms. Goodman took a different position within the department, and Eric Gronlund was appointed as chief engineer. Mr. Gronlund has adopted Ms. Goodman's recommendation for approval of the permit application with qualifications. Ms. Mines Bailey noted that she did not intend to call Mr. Gronlund to testify.

John Taylor, counsel for Schley Farm/Schley Real Estate, LLC, stated that Dusty Schley, Schley Farms, and Mike Gutenkauf, DGR Engineering, will testify today. Mr. Taylor agreed with Ms. Mines Bailey's presentation of the background, and the applicant does not object to Mr. Gronlund's adoption of the recommendation for approval with qualifications.

Kari Bartling, counsel for the Brown County Mud Creek Watershed District also previously represented Garden Prairie Township and Timothy Flihs, but they both deferred to Brown County Mud Creek Watershed District and did not appear today. Ms. Bartling stated that Roger Rix, Brown County Mud Creek Watershed District board member, and Brandon Smid, Helms & Associates, would be testifying today. Ms. Bartling stated that the petitioner agrees with the new chief engineer adopting Ms. Goodman's recommendation, and that it is not necessary for new chief engineer, Mr. Gronlund to testify today.

Mr. Taylor asked if Tim Flihs and Garden Prairie Township had withdrawn their petitions in opposition of the application.

Ms. Bartling stated that Mr. Flihs and Garden Prairie Township deferred their petitions to have Roger Rix testify because, with the Covid-19 situation, they wanted to keep the number of people attending the hearing small.

Mr. Taylor stated that Dusty Schley would testify to the use of water and how that use is a beneficial use, how the use of water is in the public interest of the state of South Dakota, his family's cattle, the farming operation, the reason he submitted the application, the general concept and design of the diversion works, and how the water will be placed to beneficial use.

Mr. Taylor stated that if the need arises, Mike Gutenkauf will testify as to some of the more technical aspects of the diversion works and the potential upstream effects from the point of impoundment and diversion.

Mr. Taylor called Dusty Schley, Stratford, SD, who was administered the oath by the court reporter.

Mr. Schley testified that he is a co-owner in Schley Farms, which raises cattle, operates a feedlot, and grows crops. The feedlot is permitted for 4,500 head of cattle, but there are usually between 2,500 and 3,500 head of cattle at the feedlot. Schley Farms also has approximately 100-200 pasture cattle and raises corn and beans.

Mr. Taylor offered Applicant Exhibit F, an aerial map of the feedlot and general area in which the project will be located. Chairman Hutmacher admitted the exhibit into the record.

Mr. Schley testified as to the location of the cattle operation and provided a general overview of the farm operation. On Exhibit F, to the left of where the map shows “weir” is the feedlot. Just north of that is the irrigation pivot system, which uses water from the creek (Water Permit No. 8042-3). The boxes to the right labeled “Schley” are quarters that the family owns and farms, both cropland and pastureland by the creek. Mud Creek is used for irrigating now, but it is not a very reliable source of water. In order to prolong the irrigation season, as well as provide a more reliable water source within the pasture, the new permit Mr. Schley has applied for will allow him to construct a low head dam, or weir, which will create a small reservoir and give the him more access to irrigation and cattle water. Mr. Schley stated that if the water permit is granted, it does not change from the current 72 acres of irrigation by the existing permit. Mr. Schley also intends to water cattle from the impounded water. At this time cattle are watered from the creek, which

isn't reliable for water late in the season. There is also a stock dam in the pasture. The quality of the water in the stock dam is not good by the end of the year. There is also a very reliable, but very small stock tank with a well. Mr. Schley said with this proposed project, he will hopefully have a larger reservoir with cleaner, more abundant water for his cattle throughout the season.

In response to questions from Mr. Taylor, Mr. Schley stated that he was present for the hearing on February 26, 2020. He listened to testimony from Mark Rath, and he reviewed the chief engineer's recommendation regarding the permit application.

DENR Exhibit 1 is the administrative file, which contains the permit application and Mr. Rath's report, and the recommendation with the qualifications. Mr. Taylor asked Mr. Schley stated if he agrees with the qualifications. Mr. Schley answered that he does agree to the qualifications.

Mr. Taylor asked what the purpose is of installing a weir dam, or a low head dam, at the proposed point beyond impounding water. Mr. Schley stated that the primary reasons are the irrigation and it is a better source of water for the cattle. Exhibit F shows that there is a bridge at 401st Avenue which used to be the Schley's access to the other side of the pasture. Approximately 10 years ago, the county closed that bridge, so now it is more difficult to get to the other side of the pasture. Installing the weir, will effectively make low water flow access to the other side. This will allow Mr. Schley to drive over it to get to the other side of the pasture to check the cattle.

Mr. Taylor offered Applicant Exhibit P, a photo of Mr. Schley's son and wife standing on small, similar type structure as the proposed weir. Chairman Hutmacher admitted the exhibit into the record.

Mr. Taylor asked Mr. Schley to explain to the board how the weir dam will work. Mr. Schley said the photo is a small representation of what he intends to install. There will be a spillway that can be driven over. The weir will be just under three feet tall. The main difference between Exhibit P and the proposed weir will be that the Schley project will be 90 feet wide. A low flow bypass mechanism will be installed in order to drain the reservoir if necessary. At this time, a culvert system with a gate or flap on one end is planned. Detailed plans and specifications have not been completed at this time. Mr. Schley plans to work with the engineer to finalize plans and specifications once the permit is approved.

Mr. Taylor asked if water behind the dam will impound water upstream onto the neighbor's property. Mr. Schley answered that it will impound water within the channel banks upstream from their property line. He has received verbal and written approval from the neighbors. Mr. Schley pointed out on Exhibit F how far upstream the water will be impounded. Mr. Schley stated that the purpose of the low head dam is it keeps water within the banks so this structure will be less than three feet high in a creek that has banks seven to eight feet high. When he says water will back up onto the neighbor's property, the water will all stay within the channel. Everything outlined in red on Exhibit F is within the scope of the project and written permission from the neighbors has been received. The dot that shows "end of project" is about 200 feet into Stange's property and is where the engineer determined the impoundment of water will end.

Mr. Taylor asked if, as part of the water permit application, Mr. Schley provided DENR with evidence of written permission from the landowners to store water within the channel if he built a dam. Mr. Schley stated that all written permissions were included with the application, which he submitted to DENR in August 2019.

Mr. Taylor asked Mr. Schley if he would alter the plans if a neighbor were to change his mind and no longer want water stored in the channel on his land. Mr. Schley said he wants to get along with his neighbors so he will accommodate his neighbors if they ask him to do so.

Mr. Taylor asked if, under normal flowing conditions in the spring, the static water level will change in the creek. Mr. Schley answered that the elevation of the surface of the water will change because of the project under certain circumstances, and in other cases it will have no effect. Mr. Schley's engineer conducted a hydrology study that tells specifically what the height of the water will be pre- and post-project. When the creek is about half full, there will be a pretty good impact directly down by the weir. The water will be approximately 18 inches higher when the creek is half full. Going farther upstream, the water is about an inch higher than it would be if the proposed weir wasn't installed. Once the creek is two-thirds full, there is no difference whether the structure is there or not, and if the creek is full, there is also no difference. Mr. Schley said the only time the structure will have an impact is when it is a very dry year and the creek is less than half full, and that impact is mainly on his own property, which is the whole point of the project because he needs water for cattle and irrigation.

Mr. Taylor asked Mr. Schley to identify the yellow box in the upper right corner of Exhibit F. Mr. Schley said that is Mr. Flieds' property.

Mr. Taylor asked if the proposed project impacts Mr. Flied's property. Mr. Schley answered that, according to the hydrology study done by the engineer, the project will not affect Mr. Flieds' property.

Mr. Taylor asked if the proposed project impacts the Stange's property. Mr. Schley said the current hydrology study, which was done when the landowner gave him permission, indicates that the reservoir would go about 200 feet onto the Stange property. Looking at elevations provided by the watershed district, the water in the reservoir would increase three to six inches in the creek channel which is about eight feet in height. When the water is flowing, there would be a minor difference. When the creek is half full, on the border of Stange's and Rosso's property, it may be an inch higher. Once the creek is two-thirds full, there is no difference in the creek's water level, and once it's full there is also no difference.

Mr. Taylor asked Mr. Schley if he is familiar with the principle in South Dakota that the downstream neighbor can't be impaired. Mr. Schley answered that he is.

Mr. Taylor asked Mr. Schley if he understands that his upstream neighbors have an easement over his property for drainage, and if Mr. Schley were to impair the upstream neighbor's drainage, that is a criminal offense in South Dakota. Mr. Schley said he understood. He said he does not want to cause any damage upstream.

Mr. Taylor asked if there were any other entities that Mr. Schley worked with to obtain permission for the proposed project. Mr. Schley stated that he worked with DENR, the Army Corps of Engineers, the county zoning board, and a few other entities that may have a mild interest in it but didn't have permitting authority.

Mr. Taylor asked if it is Mr. Schley's understanding that Mud Creek Watershed District has permitting authority over the proposed project. Mr. Schley answered that they have no permitting authority, but he has talked to the district.

Mr. Taylor asked if it is Mr. Schley's understanding that Garden Prairie Township has permitting authority over the proposed project. Mr. Schley answered that the township has no permitting authority, but he has also talked to them.

Mr. Taylor asked if all the agencies Mr. Schley visited with agreed to the proposed project. Mr. Schley said he hasn't received any permits yet, but he has received approval letters from a number of organizations. Mr. Taylor asked why Mr. Schley hasn't received any permits. Mr. Schley said he hasn't received any other permits because Covid hit, and he is waiting for this DENR Water Permit to go through the process. Mr. Schley said other agencies want Mr. Schley to receive a water permit before considering approval of any other permits.

Mr. Taylor asked if Mr. Schley has received any additional letters of approval since the permit application was submitted in 2019. Mr. Schley's project goes under three county bridges, so he talked to the county and received approval from the county superintendent.

Mr. Taylor offered Applicant Exhibit C, a letter from Brown County Highway Department. Chairman Hutmacher admitted the exhibit into the record.

Mr. Taylor asked if Garden Creek Township indicated why they did not support Mr. Schley's project. Mr. Schley stated that according to the petition submitted to DENR, the township's concern is with damage to roads.

Mr. Taylor asked if the township indicated any conditions or adjustments to the project that could be made thereby, they would then support the project. Mr. Schley said he was only aware of the petition the township submitted to the state.

Mr. Taylor asked if the watershed district indicated anything to Mr. Schley about the project. Mr. Schley stated that he talked to Roger Rix and his son. Mr. Schley said before he spent the money for the hydrology report, he wanted to see what different entities require as far as permitting, and Mr. Rix sent a letter based on discussions the watershed district had at a board meeting regarding parameters.

Ms. Bartling objected. She said she believes that was a misstatement because that letter was not sent by the watershed district with any approval at all.

Mr. Schley stated that the letter says that it is Roger Rix's opinion, not the official position of the watershed district.

Chairman Hutmacher overruled the objection.

Mr. Taylor asked what the conditions were that Mr. Rix indicated the watershed would like to see made to the project. The first concern is the district would want to see the exact effects for the landowners and a way that every fall or when the season was over, the water could be drained from the reservoir. There is a fear of the reservoir icing up and causing ice dams the next spring. Mr. Taylor asked if Mr. Schley hired an engineer to examine the upstream impacts of that. Mr. Schley said he did hire an engineer who found there would be no damage to farmland or any property owners. Mr. Schley has incorporated in the design of the project a drainage mechanism to drain the reservoir as needed.

Mr. Taylor asked if, in Mr. Schley's opinion, there will be any impact to drainage along Mud Creek if the board were to grant the water permit and the dam is constructed. Mr. Schley answered that there will be no negative effects to drainage. According to the hydrology study, the weir will have no affect on cropland or pastureland. Mr. Schley said his end goal with building the dam and impounding the water is so he can use it for cattle and crops.

Ms. Mines Bailey had no questions.

Ms. Bartlett asked Mr. Schley asked what the letter from Roger Rix says about the position of the Brown County Mud Creek Watershed District. Mr. Schley answered that the letter says the correspondence is not an official position of the watershed district. In the letter, Mr. Rix said these concerns had been brought up in a past board meeting.

Referring to Applicant Exhibit F, the map, Ms. Bartling asked who Mr. Flihs is and if he objected to the project. Mr. Schley answered that Tim Flihs never gave approval for the project.

Ms. Bartling asked who Mr. Stange is and whether he gave Mr. Schley approval for the project. Mr. Schley answered that is Loyd Stange, and he originally gave approval for the project. Mr. Schley said he went forward with the hydrology report and the application based on Mr. Stange's approval. Mr. Schley said he did not receive a letter from Mr. Stange withdrawing his support of the project until the day before the hearing in February. Ms. Bartling asked if Mr. Schley is aware that Loyd Stange has now written a letter saying he does not support the project. Mr. Schley said he is aware.

Ms. Bartling asked if it is correct that since Mr. Schley already has an irrigation system in place, this project will be a supplemental irrigation system. Mr. Schley said he has one center pivot, and that will not change with this project. The current irrigation system is the only irrigation system set up on the property. Ms. Bartling said Mr. Schley testified that he has natural rain as part of it, he has this pivot system already in set up, and he is getting water from the creek for that. She asked if this dam would be a supplemental irrigation system. Mr. Schley said it will hold water. Ms. Bartling asked if it is correct that Mr. Schley testified that this project will prolong his

irrigation season. Mr. Schley answered that water for the crop side is one of the three benefits. She asked how long it will prolong Mr. Schley's irrigation season. He stated that he does not know. It may not prolong the irrigation season. The watershed of the Mud Creek is very large. If it rains 30 miles upstream, a day or two later enough water will come through that he can irrigate for a day or two until the creek goes dry again. With this project, Mr. Schley will be able to catch those rains and hopefully recharge the reservoir with 22 acre-feet of water every time there is a big storm upstream, even if the storm does not occur over his farm.

Ms. Bartling asked what other alternatives Mr. Schley has looked at as far as irrigation, and if he has considered building a reservoir on his land so he can pump water into the reservoir. Mr. Schley said Tim Flieds came up with the idea of Mr. Schley digging a big hole to store water. Mr. Schley said that would be extremely expensive, and he is not in the mood of taking usable acres of pastureland out of production to dig a big hole when he is able to create this project, and with engineer documentation that he is not going to hurt anyone. He said it seems silly that he would take more land out of production and spend \$100,000 digging a hole to hold water. If he dug a stock dam, the water from the storms in August and July that occur 30 miles upstream could not be collected. The stock dam would only fill up when it floods.

Referring to Applicant Exhibit P, the picture of what Mr. Schley is proposing, Ms. Bartling asked if that is sort of concrete structure. Mr. Schley said that is correct. Ms. Bartling referred to Applicant Exhibit A, the hydraulic analysis report, paragraph 4.0, Section 4.2.

Mr. Taylor objected to Ms. Bartling's line of questioning because the report has not been admitted as evidence, and the engineer has not yet testified. Chairman Hutmacher sustained the objection.

Ms. Bartling asked what will happen with the sediment that is in creek when the dam is built. Mr. Schley said he has not done any studies to say what will happen with the sediment. Ms. Bartling asked if Mr. Schley is aware that the Brown County Mud Creek Watershed District has spent a significant amount of money having an engineering analysis done, hiring and contracting with B&B Contracting to remove sediment from the Mud Creek. Mr. Schley said they have reminded him of that a couple of times. Ms. Bartling asked if Mr. Schley agrees that all of the money that came for doing that is from taxpayer money and Mr. Schley himself has even paid taxes to have that process done. Mr. Schley answered that he agrees.

Mr. Bjork asked if it would be a benefit to Mr. Schley to know what the sedimentation is going to be, otherwise he could be cleaning out the reservoir within the first year, or the first year it could be absolutely no benefit to Mr. Schley because it could flow right through the dam. Mr. Schley stated that he is not concerned about the sediment. In the 1920's and 1930's when everyone had cattle, people basically built the same structure as he is proposing to build. Google maps shows the remnants of those structures just downstream where they washed out. Upstream from where these dams were located, the elevation of the creek bottom is no different than where it is otherwise. The only place it is higher is just downstream of where the dam was from the remnants of the previous dam. If in the last 70-80 years there hasn't been a buildup of sediment from all the dams that occurred every mile in the creek, he is not concerned about his project now.

Mr. Holzbauer said it sounds like Mud Creek is a slow-moving creek, unless this ground is very erodible, the movement of sediment shouldn't be that heavy. He asked if that is a big problem in the area. Mr. Schley said this isn't like the Niobrara River where sand is flying down the river. With the previous dams that were there for decades, he has not noticed a buildup of sediment upstream of the dams.

Mr. Holzbauer said he is concerned that a lot of money is being spent to remove sediment. Mr. Schley said just upstream of the weir, the watershed district would like to come in dredge part of his land, and that is from a previous dam that was put in years ago. Mr. Schley stated he believes that of the piece of ground that they want to dredge is not from sediment, but from someone doing a bad job of building the dam. When the dam washes out they go in and throw more dirt on the top and do that for a couple of decades until it builds up downstream. He believes the Mud Creek Watershed District is cleaning up areas like that. Mr. Schley said his structure would be ripped.

Chairman Hutmacher asked if the creek banks are grassed or cut washout. Mr. Schley said it depends where you are on the creek. The first two quarters upstream of the weir is pasture, so there is some erosion from cattle traffic on the bank. Upstream from that, the creek the bank has cattails and vegetation and holds together better.

Chairman Hutmacher asked if Mr. Schley has looked or is concerned about wind erosion from the reservoir. Mr. Schley said there may be some wind erosion. He has talked to his engineer about

doing some kind of riprap or geofabric. Mr. Schley stated he hasn't made any firm decision until he receives the permit.

Mr. Taylor called Mike Gutenkauf, Clark Engineering, who was administered the oath by the court reporter.

Mr. Taylor asked if Mr. Gutenkauf has conducted a personal examination of Mud Creek on Mr. Schley's property. Mr. Gutenkauf answered that he conducted the examination in the summer of 2019, and it took him 40 to 60 hours to complete the study.

Mr. Taylor asked if Mr. Gutenkauf is being compensated for appearing at the hearing. He answered that he is.

Responding to questions from Mr. Taylor, Mr. Gutenkauf stated that he is a member of the South Dakota Professional Engineering Society and the Association of State Floodplain Managers. He stated that in order to be a member of the South Dakota Professional Engineering Society a person has to be a professional engineer. To be a member of the Association of State Floodplain Managers a person has to be a certified floodplain manager. Mr. Gutenkauf said he obtained his floodplain manager certification by studying, taking an examination and practicing in the field. Mr. Gutenkauf said he has been qualified as an expert in the field of engineering for purposes of trial testimony approximately six to eight times throughout his career.

Mr. Taylor offered Applicant Exhibit G, the resume of Mike Gutenkauf. Chairman Hutmacher admitted the exhibit into the record.

Mr. Taylor said he had no additional questions as to the qualifications of Mr. Gutenkauf as an expert, and he moved pursuant to SDCL 19-19-702 to tender him as an expert in the field of hydrology and floodplain drainage analysis. There were no objections by the parties. Chairman Hutmacher declared him an expert witness.

Mr. Taylor asked Mr. Gutenkauf if he read Mr. Schley's water permit application and DENR Engineer Mark Rath's report and the recommendation. Mr. Gutenkauf answered that he did.

Responding to questions from Mr. Taylor, Mr. Gutenkauf stated that he was present at the hearing on February 26, 2020, he heard Mr. Rath testify, and he agrees with Mr. Rath's conclusions regarding the availability of water within Mud Creek. Mr. Gutenkauf said he reviewed the chief engineer's recommendation regarding the water permit application and the proposed qualifications, specifically qualifications two and three. He agrees with the chief engineer's recommendations and proposed qualifications should the board grant the permit. Mr. Gutenkauf also listened to Dusty Schley's testimony. Mr. Schley obtained Mr. Gutenkauf's services to examine the drainage within Mud Creek and upstream from the point of diversion. Mr. Gutenkauf then conducted an analysis of the drainage within Mud Creek in the vicinity of the proposed point of diversion, and he wrote a report, dated February 11, 2020, about the analysis.

Mr. Taylor offered Applicant Exhibit A, Report of Hydraulic Analysis. Chairman Hutmacher admitted the exhibit into the record.

In response to questions from Mr. Taylor, Mr. Gutenkauf stated that the purpose of Mr. Schley's project is to impound water for irrigation purposes, livestock watering, and as a bridge for land access during certain times of the year. Mr. Gutenkauf said DENR Exhibit 3 is an accurate map of the general area of the proposed project. It shows the drainage basin of the Mud Creek watershed. Mr. Gutenkauf said he is not aware of additional models that are available detailing the Mud Creek watershed. FEMA has not published a study of the Mud Creek watershed, that he is aware of. If FEMA were to study the watershed region, they would be concerned with certain floodplain criteria and flood levels. In a flood study, a 100-year flood is also called a one percent flood; there is one percent annual chance of occurrence. FEMA might also study a 500-year flood, but primarily it is the 100-year flood that FEMA is concerned with. In a 100-year floodplain analysis for new construction, FEMA is most concerned with construction occurring within that 100-year floodplain. For example, in the city of Aberdeen there is a 100-year detailed flood study. There is floodplain in the fringes of the creek and the overbank areas, and there is a floodway, which is the channel that you want not to be unimpeded so the water can pass freely. In the case of a detailed study such as in the city of Aberdeen and other areas where there is a detailed study of the creek, you can't fill in the floodway unless you do an engineering analysis to prove that there is not any impact above or below the project in terms of any increasing the 100-year floodplain elevations. FEMA has not conducted a detailed flood study on the creek, and there is no defined 100-year flood elevation on the creek. To create or approximate a 100-year food elevation, cross-section information on the creek is needed with creek bottom and floodplain elevation information. With

that information a hydraulic model is built to determine flows for given flood events to simulate the elevations of a 100-year flood at various cross-sections along the creek. Mr. Gutenkauf said he built a computer model when performing his analysis of Dusty Schley's project, and he determined that Mr. Schley's project would meet the criteria for a no-rise valuation.

Mr. Taylor asked Mr. Gutenkauf who has jurisdictional oversight of building permits within the Mud Creek Watershed. Mr. Gutenkauf said he believes Brown County Planning and Zoning is the entity that would issue a building permit and a floodplain development permit, which is also needed for this project.

Mr. Taylor asked Mr. Gutenkauf to explain what the overall general results from his no-rise analysis on Mr. Schley's proposed project. Mr. Gutenkauf said on page 8 of Applicant Exhibit A, the reports discusses several different results. The first paragraph below the tables on page 9 discusses static or ponded water conditions, and that would be the extent of the 22 acre-foot reservoir. The paragraph discusses how during that condition, when the water is not flowing and the dam is full, the water will pond to about 1,700 feet downstream of the quarter line between the northwest and northeast quarters of Section 4 in Garden Prairie Township.

Mr. Taylor asked Mr. Gutenkauf to apply these numbers to the map. Referring to Applicant Exhibit F, neighborhood map, Mr. Gutenkauf pointed out where the specific elevation lines are located on the map. The red dot marked as "End of Project" is where the 1,700 foot line is for static conditions. Mr. Gutenkauf said he modeled the creek pre-project and post-project and

analyzed several flood events to see what the effect of the project would be; a 2-year event, a 5-year event, a 10-year event, 25-year event, 50-event, and a 100-year event.

Mr. Taylor asked Mr. Gutenkauf if he agreed with Mark Rath's testimony that Mud Creek is an intermittent stream. Mr. Gutenkauf said he agreed that Mud Creek is an intermittent stream.

Mr. Gutenkauf said the flows discussed in his report came from the same gaging station that Mr. Rath referenced in his report. For a 5-year event it is 262 cfs. The modeling results for a 5-year event show that water elevations are about two feet below the top of the channel banks. For this event there is zero water elevation impact due to the dam. Above the five-year event, it becomes repetitive; there is zero impact from flood events greater than the 5-year event.

Mr. Taylor asked Mr. Gutenkauf to identify Applicant Exhibit L, NE ¼ Section 7 5-year flood event images, Applicant Exhibit M, NE ¼ Section 7 10-year flood event images, Applicant N, NE ¼ Section 7 25-year flood event images, and Applicant O, NE ¼ Section 7 100-year flood event images.

Mr. Taylor offered Applicant Exhibits L, M, N, and O. Chairman Hutmacher admitted the exhibits into the record.

Responding to questions from Mr. Taylor, Mr. Gutenkauf said these images depict the NE ¼ of Section 7 and the flow of Mud Creek during a 5-year, 10-year, 25-year, and 100-year flood events for both pre-project and post-project conditions, presuming that the diversion works are installed. These are graphics of the digital elevation surface, which is a representation of the digital ground

elevation, and is determined using a digital elevation model. Mr. Gutenkauf said he concluded from looking at these images that there is not a difference in water boundaries as a result of the proposed diversion works.

Mr. Taylor asked Mr. Gutenkauf to identify Applicant Exhibit H, NE ¼ Section 4 5-year flood event images, Applicant Exhibit I, NE ¼ Section 4 10-year flood event images, Applicant Exhibit J, NE ¼ Section 4 25-year flood event images, and Applicant Exhibit K, NE ¼ Section 4 100-year flood event images.

Mr. Taylor offered Applicant Exhibits H, I, J, and K. Chairman Hutmacher admitted the exhibits into the record.

Referring to Applicant Exhibit F, neighborhood map, Mr. Gutenkauf pointed out which quarter section Application Exhibits H, I, J, and K are specific to. The quarter section is bounded by an orange square on the map. It includes the Flihs property and a portion of the Stange property. The exhibits are similar to Applicant Exhibits L, M, N, and O in terms of what they show, pre- and post-project impacts of a 5-year, 10-year, 25-year, and 100-year flood event. Mr. Gutenkauf said he concluded, from looking at these images, that there is not a difference in water boundaries as a result of the proposed diversion works.

In response to questions from Mr. Taylor, Mr. Gutenkauf stated that if the board were to grant the permit and Mr. Schley constructed the project, with a normal rain event the creek will increase in elevation due to the project. For a 5-year flood event the creek will be about two feet below the

top of the channel banks. For a 10-year flood event the channel banks would be full at 587 cfs and there is no impact pre- and post-project .

Mr. Taylor asked if Mr. Gutenkauf had any reasons to disagree with Mark Rath's conclusion that water is available in Mud Creek. Mr. Gutenkauf said he had no reason to disagree. The proposed project will not detrimentally impact upstream property owners. In the 2-year flood event, with the 50 cfs flow starting upstream of the dam, there is a bit of an impact; the water surface elevation does increase. There will be no impediment to drainage of upstream property because water will continue to flow over the top of the dam.

Mr. Gutenkauf recommended to the board that Mr. Schley's permit be granted.

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

Ms. Bartling said in Applicant Exhibit A, Section 8.1 states that the existing pre-project channel in the vicinity of the project is approximately bank-full during the 10-year event. She asked what that means. Mr. Gutenkauf answered that the channel is at the top of its banks during a 10-year event up 587 cfs. For instance, in a 25-year event, water spills out of the banks and into the overbank.

Ms. Bartling asked what happens to all the sediment accumulated from the fields when the creek floods. Mr. Gutenkauf stated that he did not study sediment as part of the analysis. Ms. Bartling stated your analysis is limited to the effects of the project if there is a flood, but it doesn't address

the sediment and where it is going and whether it creates a flood situation upstream later on after a 5-year, 10-year, 25-year, or 100-year flood event. Mr. Gutenkauf said he did not analyze sediment impact. He analyzed water surface elevations only.

Ms. Bartling asked if there is no dam in place and there is a five-year flood event or 10-year event, there will be erosion causing sediment to into the creek, and if there is no dam in place, whether the water will flow so quickly it will flush the sediment out of that area.

Mr. Taylor objected stating that the question is in conjected form and a compound question. He said counsel is testifying and mischaracterizing Mr. Gutenkauf's prior testimony. Chairman Hutmacher sustained the objection.

Mr. Bartling asked if there is a 5-year, 10-year or 25-year event and there is erosion into the creek and there is no dam, is it correct that the sediment can freely flow downstream.

Mr. Taylor objected as to form. Chairman Hutmacher sustained the objection.

Ms. Bartling asked if there is a dam and sediment flows into the creek, where is the sediment going to back up if there is a dam. Mr. Gutenkauf said he would expect some accumulation upstream of the dam. Ms. Bartling ask if there is accumulation of sediment upstream of the dam, is there a possibility that there could be later flooding that Mr. Gutenkauf has not considered in him analysis. Mr. Gutenkauf answered that, supposing the creek bed increases, it could affect water elevations. Ms. Bartling asked if that could have an impact upstream. Mr. Gutenkauf said

eventually that could happen. Ms. Bartling asked if it is correct that the increased sediment in the channel can't be predicated as to part of Mr. Gutenkauf's analysis. Mr. Gutenkauf said he did not study sediment accumulation. Ms. Bartling asked Mr. Gutenkauf if he testified that this in Zone A and that FEMA has not done a study on Mud Creek as to the defined 100-year flood elevation.

Mr. Gutenkauf answered that is correct. Ms. Bartling asked if it is correct that the only way that we can guess what is going to happen is by a computer analysis. Mr. Gutenkauf said that is correct. She asked if the computer analysis takes into effect sediment that goes into the creek anytime there is a flood event. Mr. Gutenkauf answered that is correct. Ms. Bartling asked it is correct that there is no way to predict and there is no history to show what effect this sediment could have and if it might flood out other people upstream. Mr. Gutenkauf said he believes it could be studied, but he did not study it and he is not aware of any existing studies of sediment or sediment-affected flooding. Ms. Bartling asked if it is true that Mr. Gutenkauf has no way to prove that this is truly a no rise event because he doesn't know what the situation would be with respect to sediment.

Mr. Taylor objected stating it is argumentative. Chairman Hutmacher overruled the objection.

Mr. Gutenkauf stated that the study talks about a no rise and although a no rise isn't required, it would fulfil the needs of a no rise. That wasn't analyzed as part of the study and it is not typically included.

Ms. Bartling asked if the report indicates that the proposed dam is a simple earth berm-type structure with riprap or other means of erosion protection for the berm inslopes and berm top. Mr.

Gutenkauf said that is correct. Ms. Bartling said Applicant Exhibit P was admitted during Dusty Schley's testimony and he testified that the exhibit is a photo of what his structure will look like, and that appears to be a concrete structure. Mr. Gutenkauf said it appears to be concrete.

Ms. Bartling asked if the structure Mr. Schley is proposing is not the same structure that Mr. Gutenkauf did his analysis on. Mr. Gutenkauf said what is indicated there is what he had discussed with Mr. Schley previously. He said he is not sure that Mr. Schley has finalized plans for the dam, but it wouldn't change anything if it was a concrete structure or if it was an earthen dam with riprap on top. Practically speaking, there are differences, but in terms of a flood analysis, there is no difference. Ms. Bartling asked if it was an earthen dam and the creek was flowing very fast, there was a huge flood event, would there be the possibility that the dam could be washed out. Mr. Gutenkauf said any dam could wash out.

Ms. Bartling asked if a concrete dam could wash out. Mr. Gutenkauf answered that in the case of what Mr. Schley has proposed, the riprap or erosion protection would be designed to help prevent that. It's not going to absolutely prevent erosion because there is always a chance that there could be a biblical flood, and that could happen with concrete as well. Concrete is generally more resistant to erosion.

Ms. Bartling asked if there was a biblical event, would there be a greater chance that for an earthen berm to wash out and the water would flow more readily than if it was a concrete structure. Mr. Gutenkauf answered that there is more of a chance of it washing out if there is an earthen berm.

Ms. Bartling asked Mr. Gutenkauf if he is aware of the work the Brown County Mud Creek Watershed District is doing in this area. He answered that he is loosely familiar with the work that the watershed district is going in the area, and he has skimmed through the plans that Brandon Smid prepared. Ms. Bartling asked if Mr. Gutenkauf knows what those plans depict. Mr. Gutenkauf said the plans are for about 2,000 to 3,000 yards of sediment removal, beaver dams, and rip rapping existing dams. He said a couple thousand yards isn't a lot of sediment removal, but it's something. Ms. Bartling asked if Mr. Schley's project would have an impact on that. Mr. Gutenkauf said he does not know because he does not know the sediment removal project locations.

Mr. Bjork asked if, as this structure ages, is there potential for increased 10-25 year flood events on landowners upstream. Mr. Gutenkauf asked what degree of sediment accumulation Mr. Bjork is envisioning. Mr. Bjork said Mr. Gutenkauf testified that he did not study sediment, but if there is going to be accumulation in that channel, that will raise the bed of that channel over time, which means the floodplain is going to increase. Mr. Bjork said he is looking for Mr. Gutenkauf's expertise on potential or increased flooding as that structure ages and sediment accumulates. Mr. Gutenkauf said he believes it would be negligible in the case of those larger flood events. In a 2-year flood event there is an impact pre- and post-project for that 50 cfs flow in the channel. Mr. Gutenkauf said he would expect a greater impact on that event, but he wouldn't expect much impact for the larger flood events such as a 100-year flood event. Mr. Bjork asked if this structure would have a cumulative effect on upstream flooding. Mr. Gutenkauf answered that he doesn't anticipate any effect on upstream flooding from this structure. For the 2-year event, that 50 cfs flow in the channel, there is a slight impact, maybe $\frac{3}{4}$ inch or an inch, at the Flihs property and it

is contained within the channel. If there were sediment accumulation due to long-term aging and long-term sediment accumulation in the channel, there is a chance with a massive flood event that there would be an impact, but he wouldn't expect it for larger flood events. Due to the nature of the floodplain, a 100-year flood is quite wide on Mud Creek.

There were no other questions from the board.

Ms. Bartling called Brandon Smid, project engineer, Helms & Associates, who was administered the oath by the court reporter.

In response to questions from Ms. Bartling, Mr. Smid testified that he has a bachelor's degree in civil engineering and a professional engineer licensed in South Dakota and North Dakota. Mr. Smid said he has been a professional engineer for seven years.

Mr. Smid identified Petitioner's Exhibit 11 as his curriculum vitae. He testified that the majority of work he does is on water, sewer, and airport projects. Mr. Smid said he was hired by the Brown County Mud Creek Watershed District to do an analysis of the creek in 2016-2017.

Ms. Bartling offered Petitioner's Exhibit 11. Chairman Hutmacher admitted the exhibit into the record.

Ms. Bartling asked Mr. Smid why the Brown County Mud Creek Watershed District hired him.

Mr. Smid stated that the original purpose for which he was hired was to survey the actual creek bottom. Surveyors took shots of the cross-section about every 200 feet for about 17 miles.

Ms. Bartling asked Mr. Smid if he came up with a plan for the watershed district in order to address the flooding. Mr. Smid answered that the district's main objective was to eliminate the sediment in the actual creek bottom, so Helms & Associates came up with removing quite a bit of the sediment along certain sections.

Mr. Smid identified Petitioner's Exhibit 17 as the Construction Plans for Mud Creek Sediment and Obstruction Removals.

Ms. Bartling offered Petitioner's Exhibit 17. The exhibit was admitted into the record.

Ms. Bartling asked if, during the process of developing this project, the Brown County Mud Creek Watershed District held several public meetings so that people could express their concerns about the plans so constituents could let Helms & Associates know what they wanted done or their thoughts. Mr. Smid said public meetings were held, but he did not attend the meetings. Bob Alcock, principal engineer with Helms & Associates, attended the public meetings.

Ms. Bartling asked if the process of bringing in the constituents occurred prior to this project proposal being completed, so the constituents could provide input that would have had an affect of construction plans. Mr. Smid answered yes.

Ms. Bartling asked if, as part of the process, Mr. Smid was also in contact with the Army Corps of Engineers. Mr. Smid answered yes.

Mr. Smid identified Petitioner's Exhibit 13, January 24, 2018, letter to Brandon Smid from Steve Naylor, Corps of Engineers.

Ms. Bartling offered Petitioner's Exhibit 13.

Mr. Taylor objected based on relevancy. He stated that the existence of the Mud Creek Watershed District is not in question. The jurisdiction of the Department of the Army Corps of Engineers oversight of Mud Creek drainage basin is not in question. The subject matter of the document is the Section 404 permit of the Clean Water Act. Mr. Taylor said we are not talking about water crossings, and none of those issues are in question. He moved to exclude Petitioner's Exhibit 13.

Chairman Hutmacher overruled Mr. Taylor's objection and admitted the exhibit into the record.

Ms. Bartling asked Mr. Smid to tell the board, in paragraph 2 of Exhibit 13, what specific instructions did the Army Corps of Engineers have for the project. Mr. Smid read paragraph 2 of Exhibit 13, "As described in submitted project plans, all materials dredged from Mud Creek would be removed from the project site by truck to be disposed of in an upland location. The project plans specify that dredged material will not be side cast into lands adjacent to Mud Creek which may contain wetland areas."

Ms. Bartling asked if one of the concerns the Army Corps of Engineers had was significant erosion and having that wash back into the river. Mr. Smid answered that is correct.

Ms. Bartling asked if the Army Corps of Engineers actually required, pursuant to what was in the specifications, that whatever was taken out of the creek couldn't just be put on the side of the creek bank, it had to actually be trucked away and put somewhere else so that it could not flow back into the creek. Mr. Smid said that is correct.

Ms. Bartling asked if erosion is a huge issue here. Mr. Smid said in certain areas it is.

Ms. Bartling asked how Mr. Smid was going to deal with those erosion issues with his project. Mr. Smid stated that a lot of the sediment that is in the channel will be removed and installing vegetative buffers along the edges of the creek.

Ms. Bartling asked if the dam project is put in place, what affect will it have on the Brown County Mud Creek Watershed District project. Mr. Smid answered that the district is trying to clean up the channel and return it back to a natural flow by taking out the sediment or any obstructions. If Mr. Schley installs the dam, he would be adding an obstruction into the creek bottom.

Ms. Bartling asked why the watershed district is spending money to take out all of these obstructions. Mr. Smid stated that the biggest reason is to increase flow.

Ms. Bartling asked if the increase flow is affecting many, many people upstream? Mr. Smid said it can.

Ms. Bartling asked if, by taking out the obstruction, the goal was to get the creek to flow the way it used to flow so that it doesn't flood all the way upstream. Mr. Smid answered yes.

Ms. Bartling asked if there are landowners that pay money in taxes to this watershed district for this project. Mr. Smid said that is correct. The project was funded by taxpayer dollars.

Ms. Smid identified Petitioner's Exhibit 16, Construction Specifications & Contract Documents for the project. Ms. Bartling asked if the sediment removal project was ultimately let for bids based on these specifications. Mr. Smid answered yes.

Ms. Bartling offered Petitioner's Exhibit 16. Mr. Taylor objected on the grounds of relevancy. Existence of the Mud Creek Watershed District nor the wetlands mitigation project that is ongoing is not in question. Chairman Hutmacher overruled the objection and admitted the exhibit into the record.

Ms. Bartling asked if it is correct that, based on what was contained in Exhibit 16, there was a bid letting process and a bid was awarded. And if, so how much was the bid. Mr. Smid said that is correct, and the bid was about \$185,000. The bid was awarded to B&B Contracting. Ms. Bartling asked if B&B Contracting performed some of the work on the premises. Mr. Smid stated that they have removed a number of the beaver dams, but because of the elevation of the water, they have

not removed the sediment or installed the vegetative buffers. Ms. Bartling asked if a partial payment of \$35,000 has already been made to B&B Contracting for the work they have done. Mr. Smid said that is correct. Ms. Bartling asked if that money came from Brown County Mud Creek Watershed District and ultimately from taxpayer money. Mr. Smid said that is correct.

Mr. Taylor asked Mr. Smid if it is a fair characterization to say that the Mud Creek sediment and obstruction removal project is a wetlands mitigation project. Mr. Smid answered yes.

Mr. Taylor said the letter Mr. Smid received from the Corps of Engineers references a Section 404 of the Clean Water Act. He asked if the mandate to remove dredged materials from Mud Creek is standard. Mr. Smid said that it is standard so any sediment that is taken out of the creek is going to an upland site.

Mr. Taylor asked Mr. Smid if, regarding Petitioner's Exhibit 16, any work has occurred on or upstream of Mr. Schley's property in that relative neighborhood. Mr. Smid said some work has occurred in that relative neighborhood, but the sediment removal hasn't occurred yet because of the water elevation is too high at this time.

Mr. Taylor asked if Mr. Smid or Helms & Associates have performed a sediment discharge analysis on Mud Creek. Mr. Smid answered that neither he nor Helms & Associates has conducted a sediment discharge analysis on Mud Creek. Mr. Taylor asked if Mr. Smid knows for certain the sediment load of the Mud Creek drainage and the rate at which sediment may discharge upstream of the proposed weir. Mr. Smid said he does not know.

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

Mr. Holzbauer asked if the taxpayer money for the project is coming from local taxpayers, Brown County, state or federal. Mr. Smid said he does not know for certain, but he would guess that the money comes from anyone in the Brown County Drainage District.

There were no other questions from the board.

Ms. Bartling called Roger Rix, Groton, SD, who was administered the oath by the court reporter.

Responding to questions from Ms. Bartling, Mr. Rix stated that he owns property within the Mud Creek Watershed District. It is not adjacent to Mud Creek, but is within the watershed.

Ms. Bartling asked if Mr. Rix was the driving force behind the formation of the Brown County Mud Creek Watershed District. Mr. Rix answered he was the initiator with a group of five individuals that took it upon themselves to try to improve the water flow within the area.

Mr. Rix identified Petitioner's Exhibit 18 as the Order of Creation of Brown County Mud Creek Watershed District filed with South Dakota Secretary of State on July 25, 2012.

Ms. Bartling offered Petitioner's Exhibit 18. Chairman Hutmacher admitted the exhibit into the record.

Ms. Bartling asked if the Brown County Mud Creek Watershed District is a political subdivision.

Mr. Rix answered that is correct. It encompasses approximately 166,000 acres within Brown

County, and the taxing district is just those acres. Mr. Bartling asked if, when the district was

being formed, did that district have to be put to a public vote. Mr. Rix answered that it did, and it

passed with over two-thirds majority and the district was formed. Ms. Bartling asked if it is

correct that by creating this district, it allows the district board to levy taxes against the land within

the district. Mr. Rix answered that is correct. Mr. Bartling asked if each year the Brown County

Mud Creek Watershed District has a levy amount that they request. Mr. Rix said that is correct.

The district has a budget hearing every year to secure funds and the district had enough to start the

project. The bids were let two years ago to start the project. Bids were let on the first phase for

about one-third of the way up the creek, and the district was hoping to continue the project, but the weather patterns changed, so the district has been unable to accomplish the mission at this point.

Ms. Bartling asked if at the beginning when the district was formed, for the first year there was

really no money. Mr. Rix said the district did not have money, but it secured funding from the

state to help develop the general improvement plan within the district that was approved by the

Department of Environment and Natural Resources (DENR). He said the district is trying to

follow that plan, but the weather has to cooperate in order to allow the district to complete the

mission. Ms. Bartling asked if DENR gave the district a \$10,000 loan the first year. Mr. Rix

answered yes. Ms. Bartling asked if the district also received money from the James River Water

Development District, which is another political subdivision. Mr. Rix answered that the district

received a grant from the water development district. Ms. Bartling asked if it is correct that the

watershed district is no different than, for example, a school district, asking for money from the

county auditor, having a mil levy, etc. and when people get their county tax statement, there is actually a spot on that statement that shows the levy amount that is going to the Brown County Mud Creek Watershed District. Mr. Rix answered that is correct.

Ms. Bartling asked if the watershed district hired Helms & Associates to perform an engineering analysis on the creek to help prevent flooding. Mr. Rix said the district did hire them. Ms. Bartling asked what Helms & Associates recommended. Mr. Rix answered that Helms & Associates recommended removal of sedimentation and obstructions within the Mud Creek basin to improve the water flow.

Ms. Bartling asked if the watershed district held public meetings with constituents so they could comment on each part of the process. Mr. Rix said they did, and the district heard very little to no objection, in fact, all but a certain smaller area of the landowners signed a permit to allow the district to access their property to do surveys to find areas of concern.

Ms. Bartling asked if it is correct that all of the engineering fees that have been paid, which amount to \$100,000, came from taxpayer funds and were paid by the Mud Creek Watershed District. Mr. Rix answered that is correct. Most of the funds came from the taxpayers, but there were some funds from the James River Water Development District. Ms. Bartling asked if the sediment removal bid had been awarded. Mr. Rix said the bid has been awarded for the first phase, and a small portion has been completed. Unfortunately, the district did not have the funds quick enough for the process. Mr. Rix believes if the district would have had funds a year earlier, the district could have gone into phase 2. Ms. Bartling asked if it is correct that part of the

problem right now with finishing the sediment removal is the high water. Mr. Rix said that is correct.

Ms. Bartling asked if the watershed district is contractually bound to pay B&B Contracting approximately \$185,994.08. Mr. Rix said that was the contract he signed. Ms. Bartling asked if the district has paid B&B \$35,000 to date, using taxpayer money. Mr. Rix said that is correct.

Ms. Bartling asked if some of the constituents have come to the district very concerned about Mr. Schley putting a dam at the very end of where this project is. Mr. Rix said they have, and people are asking if this is doing exactly the opposite of the mission of the watershed district., In the district's opinion, it is. Ms. Bartling said Mr. Schley submitted a letter from Mr. Rix in the initial application. She asked Mr. Rix if he recalls writing the letter to Mr. Schley in the beginning of this situation. Mr. Rix said he did. He said the letter was written to give Mr. Schley an idea of what the watershed district's thoughts were, extrapolated mostly by his personal feelings, more than the district. Some board members had discussions with patrons within the watershed district, and over the course of conversations, concerns were brought up. Mr. Rix said in the letter he tried to relay to Mr. Schley what some of the concerns were. Mr. Rix said he tried very carefully to let Mr. Schley know that it was his own personal opinion and not an official position of the watershed district.

Ms. Bartling asked what the Brown County Mud Creek Watershed District's official position is. Mr. Rix stated that the district has a heightened concern of sedimentation above and below caused by this dam that goes against the mission of what the watershed district was formed. The

watershed district is concerned that over time there will be continual sedimentation without the assurance that the sedimentation would be taken care of other than having to use taxpayer dollars again to clean it up. Ms. Bartling asked if it is in the public interest to be using taxpayer money to have to fix a problem that was already fixed.

Mr. Taylor objected to the question; it calls for a legal conclusion from Mr. Rix. Chairman Hutmacher sustained the objection.

Ms. Bartling asked Mr. Rix, as the chairman of the watershed district board, if he is concerned about the idea that there would be public money used on your project, then all that work being basically negated by Mr. Schley's project. Mr. Rix said the watershed district is bound by law to be stewards of the money that is collected from the taxpayer, and watershed district needs to be concerned about doing a project more than once and using the money the watershed district receives to be best of the district's ability.

In response to questions from Mr. Taylor, Mr. Rix stated that the district is a political subdivision of Brown County. The Mud Creek Watershed District does not have permitting authority with respect to any construction project.

Mr. Taylor asked if it is correct that Mr. Rix testified that the Brown County Mud Creek Watershed District is bound by law to be stewards of its resources. Mr. Rix said he may have overstepped his bounds in that he does not know the law, but he does understand that watershed district has an oath that the board members take regarding prudent use of the taxpayer's dollars.

Mr. Taylor asked if the watershed district board members have a general obligation to make good decisions on behalf of the watershed district. Mr. Rix answer that is correct.

Mr. Taylor asked Mr. Rix if he is familiar with the statutory scheme that creates a watershed district. Mr. Rix answered said he was very versed in it 2012, but he has not looked at the statutes since. Mr. Taylor asked Mr. Rix if it would surprise him if the statutes required that a watershed district put water to beneficial use. Mr. Rix answered that it would not surprise him. Mr. Taylor asked Mr. Rix if he would be surprised if the statutory scheme required watershed districts to put water to it's maximum beneficial use. Mr. Rix said he cannot answer that. He said the Brown County Mud Creek Watershed District's mission was reviewed with DENR and the mission was approved within the DENR, and that involves improving the flow of water through the district.

Ms. Mines Bailey stated at the February hearing, a comment was made that the Brown County Mud Creek Watershed District had presented its plan to the Water Management Board. She asked Mr. Rix if, in fact, the plan was presented to the Board of Water and Natural Resources for approval. Mr. Rix said he would refer that question to the watershed district's attorney.

Ms. Bartling stated that the plan was approved by the Board of Water and Natural Resources on September 24, 2015.

Mr. Holzbauer asked if there is any possibility that this project might create more tax dollars. Mr. Rix answered that if it ends up causing more sedimentation that has to be cleaned out, yes it would. He said the prior surveys that have shown dams that have caused additional sedimentation

before and after the dam, and he would anticipate there would be sedimentation that would need to be removed.

Mr. Holzbauer asked if this project is put in place, would it create more tax dollars for the county by making someone more money to pay taxes on. Mr. Rix said he does not know how it would. He said he does not disagree that Mr. Schley might end up having 280 bushel corn instead of 220, but when you talk about the scope of 166,000 acres and the size of Brown County, the effect would be very minimal when it's only for a 40-acre pivot.

Mr. Bartling said how much someone makes on their crops doesn't make a difference when it comes to the Brown County Mud Creek Watershed District's levy. The levy is based solely on property taxation.

Mr. Holzbauer asked if this would raise the value of the property. Mr. Rix said he doubts it would raise the value of the property because it already classified as irrigated farm ground, so the property tax levy valuation would stay the same.

Mr. Holzbauer said he is just wondering if there is any positive effect on somebody improving their property to create more income and well-being for the area. Mr. Rix said he wouldn't feel comfortable assuming.

Rebuttal

Mr. Taylor called Mr. Schley who had previously been administered the oath. He asked Mr. Schley if he plans to drain the impoundment every year. Mr. Schley said as of now that is not written in the water right permit, but if the watershed district wants that, he does not have a problem doing so as long as his irrigation season is over and he no longer needs the water for the cattle.

Mr. Taylor asked if Mr. Schley would be willing to accept a condition in the permit that requires him to drain the impoundment seasonally. Mr. Schley said if it is written very flexibly without a particular date. He said last year he had cattle in the pasture until Thanksgiving. He said if he needs the water later in the season, he doesn't want the condition to require him to drain the impoundment by a specific date.

Mr. Taylor asked Mr. Schley if he would consider himself as a steward of his own property. Mr. Schley answered yes.

Mr. Taylor asked if Mr. Schley plans to regularly care for the upstream areas and inspect those upstream areas for any sedimentation that may occur. Mr. Schley said this bypass not only allows primary uses downstream to be able to get their water, but he can also drain the reservoir. He said if you look on the Exhibit F, Schley is listed on several of the quarters immediately upstream of the weir, and he no desire to damage his own property. The lowest elevation upstream of that weir takes place on one of the Schley properties, so if there would happen to be a sediment buildup, he can dredge the reservoir. He said that is in his personal best interest.

Ms. Bartling said Mr. Schley indicated he had his cattle in the pasture in November. She asked if Mr. Schley is aware that Tim Flihs had expressed concern about an ice dam forming if this wasn't cleaned out in a timely fashion. Mr. Schley said he is aware. Mr. Bartling asked if that is a possibility if Mr. Schley is not required to drain the impoundment by a certain period of time of the year. Mr. Schley said he does not have a problem with draining the reservoir if he can wait and drain it when he is done with it. Mr. Schley said he thinks the whole ice dam thing being a real issue is silly, but as long as the date he has to drain the impoundment is flexible, he will do it.

Mr. Bartling asked if Mr. Schley understands that the watershed district's constituents aren't looking for flexibility. They want to know that it is going to be drained so that there isn't an issue with an ice dam. Mr. Schley said it is fantastic that they have an issue with it, but he doesn't think it is an issue.

Chairman Hutmacher suggested that a condition could be that once there is two inches of ice on the pond, it has to be drained.

Mr. Schley stated that he is open to discussing how such a condition is worded. For instance, at one time it did ice up then it thawed out again and he kept the cattle out longer. He said if there is a warm fall and winter and grass is available, he wants to be able to utilize that pasture and water. If there is a reservoir of water and he opens that up, that water will start flowing and, unless the ice is super thick, it going to start breaking the ice up and flow out. Mr. Schley said his reservoir is not that big in the grand scheme of things. It's only one-third of the way up the whole creek bed. Mr. Schley said if he finds himself in a situation where there is actually water still left in the

reservoir by the end of the season, there's probably still water in the rest of the creek system because he hasn't used it all for the cattle or irrigation, so if he opens it up it isn't going to matter because there is still water and ice in the system. He said the only situation where he could create an ice buildup would be where the reservoir is full and the creek is empty. If the creek is empty, it is a dry season and he would use that water up anyway. Mr. Schley said he can't see very many situations where that would even matter. He said that is why he believes the ice dam is silly.

Chairman Hutmacher asked Mr. Schley how the small tank he testified about is fed. Mr. Schley said the tank is at the old farm site and fed with an artesian well. It is a very small tank. Chairman Hutmacher said in the fall of the year when the temperatures drop, the cattle don't drink as much water, and Mr. Schley could put another tank in for a couple of months to get by. Mr. Schley said he agreed that there are other options, but he doesn't believe it is necessary. Mr. Schley said he is open to other options, but he wants the use of the water to be flexible so he can utilize it.

Chairman Hutmacher requested closing arguments.

Ms. Mines Bailey stated that SDCL 46-2A-9 requires that the following factors be met before any water permit is granted: unappropriated water is available for the applicant's proposed use, that the proposed diversion can be developed without unlawful impairment of existing rights, and that the proposed use is a beneficial use and in the public interest. Mr. Schley would like to construct a low head dam with 22 acre-feet of water impounded in the creek channel for the purposes of running his irrigation pivot, which is already permitted. He is also looking to do livestock watering. Those uses have been deemed beneficial and in the public interest by the Water

Management Board in the past. Mr. Rath testified that unappropriated water is available and that the project will not unlawfully impair any existing rights. Admittedly, there are some concerns about sedimentation. Ms. Mines Bailey said it is within the board's authority to make a decision. She stated that she has long stood before the board and urged them to consider public interest within the confines of Title 46, which talks about the use of the water. She said the chief engineer does not have the authority to look at the water quality and sedimentation.

Ms. Mines Bailey said the chief engineer recommended approval of Water Permit No. 8409-3, Schley Farms/Schley Real Estate, LLC, with the following qualifications:

1. Water Permit No. 8409-3 authorizes an impoundment with a storage capacity of 22 acre-feet of water on Mud Creek.
2. The permit holder shall install a low flow bypass mechanism in the dam.
3. Low flows as needed for downstream domestic use, including livestock water and prior water rights must be by-passed. The bypass during periods of low flow is only required to the extent that there is inflow upstream of the dam. The permit holder is not required to bypass stored water if there is not inflow into the dam.

Ms. Mines Bailey noted that the board may also add qualifications as it deems necessary to protect the public interest.

Mr. Taylor stated that everyone heard Mark Rath's testimony regarding the application and his analysis, the four factors of SDCL 46-2A-9, and his recommendation to the chief engineer to approve the permit. Jeanne Goodman recommended that the board approve the permit, and Eric Gronlund has adopted Ms. Goodman's recommendation. Mr. Rath addressed four key points. Water is available within Mud Creek and the diversion can be made without impairment of existing rights. Mr. Schley holds the other existing right on Mud Creek. It is clear that the proposed use of water is a beneficial use. Mr. Schley will use the water on the family farm for irrigation and cattle. Mr. Rath also said that, subject to any qualifications the board recommends to the chief engineer, the proposed use of the water is in the public interest of the state of South Dakota. Mr. Taylor said Mr. Schley provided testimony explaining how the water will be used. Mr. Taylor said he came into this process very late, and Mr. Schley had already contacted the appropriate agencies, talked to his neighbors and asked for permission before proceeding. Mr. Schley also talked to the watershed district and the township board in advance of submitting the permit application. He also had a professional engineer look at it and include some mechanism for bypass because of the ice dams. Mr. Taylor said the question isn't whether the impoundment, would cause a sediment load. DENR's counsel expressed that those issues are not within this board's purview. The issue for today is can the appropriation be made and is the use of the water within the public interest of the state of South Dakota. Mr. Taylor said clearly it is. A lot of time was spent talking about the upstream effects. Mr. Gutenkauf talked about the upper limit of the ponding and how that is affected during lower flow, uncommon rain events, those 2-year rain events. It has a negligible effect impact. Mr. Schley is aware of his obligation with respect to his neighbors, that is why he went and talked to them first. He does not want to harm his neighbors; he wants to get along with them. Mr. Taylor said Mr. Schley knows and will follow what the law

for drainage is in South Dakota. South Dakota is a civil rules state and as recently as 2017 in Surat Farms LLC vs. the Brule County Board of Commissioners, the South Dakota Supreme Court affirmed that a downstream property owner can't impair drainage to the detriment of an upstream property owner. In the case of Carmody vs. Lake County Commissioners the South Dakota Supreme Court affirmed the holding in Surat Farms LLC vs. Brule County Board of Commissioners. It is not the Water Management Board's job to look at the other ancillary issues, sediment loads, upstream drainage effects, the taxing district. All of those things are important, but the questions at the end of the day are is water available and can it be put to beneficial use. In his testimony, Mr. Gutenkauf explained that there is no increased risk of flooding within Mud Creek, the flow is generally protected, and it meets the no rise criteria that the Brown County zoning ordinance would require for construction within the flood plain.

Mr. Taylor, on behalf of Dusty Schley, Schley Realty, and Schley Farms, requested that the board grant the permit subject to any reasonable conditions it may impose.

Ms. Bartling stated that as indicated, SDCL 46-2A-9 provides for four elements. One is the reasonable probability that there is unappropriated water available for the applicant's proposed use. Ms. Bartling said the petitioner does not disagree that water is available.

Second is that the proposed diversion can be developed without unlawful impairment of existing rights. Ms. Bartling said she cannot agree that with this application that is the case. There are two landowners who have indicated they don't want this, and they feel that their rights are going to be impaired directly by the project and they are directly upstream; Mr. Flihs and Mr. Stange. She

said there are a slew of other landowners who voted to form a watershed district so they could pay taxpayer money to clean out the creek. That was the sole reason why this was done, and they have rights too. To allow a project that essentially negates the entire project that the watershed district is doing and negates the taxpayer money being spent is an impairment of the rights of the other people.

The fourth factor is that the proposed use is a beneficial use. Ms. Bartling said it may be beneficial to Mr. Schley, but it's not beneficial to any of the constituents. The petitioners are concerned because the watershed district is trying to increase the flow by removing the sediment and prevent the flooding that has been rampant in Brown County for the past 10 years. Right now, there are farmers in the area that have been unable to get into their fields because of the amount of water. Allowing somebody to dam up this area when there are all these farmers that are having to prevent plant, the timing is terrible for that. It is not a beneficial use.

The last element is whether the project is in the public interest. Ms. Bartling said it is absolutely not in the public interest. She said she understands one person trying to back up the water, but when Mr. Schley says he wants to have the ability to determine when he cleans the dam out, etc. that doesn't take into effect the other people upstream. It doesn't take in into effect the significant amount of the watershed district spent to do exactly the opposite of what his project going to do. That is not in the public interest. That is throwing taxpayer money away. Ms. Bartling said when Ms. Mines Bailey stated that water quality and sedimentation is not something the chief engineer looks, that is true. It is not and that is a problem because you're not looking at the forest for the trees. You're not looking at the whole public interest. In this situation, the public interest says you

can't allow a project like this to go forward, when you've got the exact opposite being paid for by taxpayer money. That is why the constituents are so concerned and opposed to the project. It negates what the watershed district has worked on for years and spent hundreds of thousands of dollars on, and what the district is contractually obligated to complete.

Ms. Bartling asked the board to deny the water permit application.

Chairman Hutmacher requested board discussion.

Motion by Freeman, seconded by Holzbauer, to approve Water Permit No. 8409-3, Schley Farms/Schley Real Estate LLC, subject qualifications set forth by the chief engineer.

Mr. Freeman stated that the law requires the board to put to maximum beneficial use the waters of the state. In his judgement this type of operation is exactly the type of thing this board has considered a beneficial use for many years. Mr. Freeman said he understands the concerns regarding sediment, but the board does not have any evidence before them that shows that sediment will occur, that if sediment did occur, the amount of sediment, nor does the board have any evidence of the affects of sediment. Mr. Freeman said he believes the applicant knows his responsibility. The applicant's land will be most affected if there is any sediment build up, and his testimony makes it clear that he intends to rectify that if it does occur.

Mr. Holzbauer said for the last couple of years, South Dakota has had excessive rain. There are more years in the past that South Dakota has been short of water than having too much water. If

there is water there, other people are going to benefit from this somewhere upstream. He said this is just one man trying to preserve and the use the water for South Dakota.

Mr. Bjork stated that he spent more than 20 years working with watersheds and one of the most serious problems with watersheds was sedimentation. It caused problems in streams, it caused problems in drainage areas, and it caused most of the problems that he had to deal with to the point where sedimentation dams would be built to try to protect lakes. Sediment is a problem in South Dakota, and it always has been a problem in South Dakota. Mr. Bjork said over the last couple of years there have been a lot of people trying to tell the board how to do their job. The definition of public interest is more and more narrowly defined as time goes on. Pretty soon it isn't going to exist. Right now, there is no definition of public interest out there. For someone to tell the board that they can't do this, or they can't consider that, is simply conjecture. He said the board doesn't know, unfortunately, how to define public interest, and again, over the last couple of years, somebody is trying to define it more narrowly, and that disturbs him. Mr. Bjork stated he believes the board has a little more leeway than what it is given credit for. Mr. Bjork said he will be voting no on the motion.

Chairman Hutmacher said he thought about trying to figure out how to amend it to empty it annually or to do something with sediment removal. The common sense part of him says that if it fills up with sediment this dam is not going to hold water for him to irrigate with anyway.

There being no further board discussion, Chairman Hutmacher requested a vote on the motion.

The motion carried with Freeman, Holzbauer, and Hutmacher voting aye and Bjork voting no.

Mr. Taylor will prepare proposed Findings of Fact and Conclusions of Law, which are due by September 10, 2020. Objections are due by September 25, 2020. The board will consider adoption of the Findings of Fact and Conclusions of Law on October 7, 2020.

Chairman Hutmacher closed the hearing.

WATER PERMIT APPLICATION NO. 1904B-1, DOUGLAS OTTEMA: Eric Gronlund stated that the board packet contained the report, the recommendation, and the Affidavit of Publication. There were no petitions to intervene in this matter.

Water Permit Application No. 1904B-1 proposes to amend Water Permit No. 1904A-1 to extend the length of time allowed to complete the construction of three small dry draw dams/dugouts. Water Permit No. 1904-1 authorized the appropriation of up to 6 acre/ft of water for the dams/dugouts to be used in a mining operation approximately 12 miles west of Lead/Deadwood, SD, in Lawrence County. Water to fill the dams/dugouts will be supplied primarily by snowmelt and runoff events. Water will be diverted from the dams/dugouts at a maximum instantaneous diversion rate of 0.167 cubic feet of water per second (cfs), which is less than 75 gallons per minute (gpm), to be used when processing ore. If snowmelt/runoff events are not supplying up to 6 acre-ft of water in the dams/dugouts, water in adjacent dry gulches will be diverted at a maximum instantaneous diversion rate of 0.167 cfs to maintain the water levels in the dams/dugouts.

The deadline to complete the works, based on the prior permit, was April 26, 2020. By that deadline, Mr. Ottema had only completed a dam with storage of approximately 0.5 acre-feet of water.

Mr. Gronlund said this application is requesting an extension of time. The statute that is applicable in this case is SDCL 46-5-26, which allows for an extension of time, but only due to engineering difficulties that could not have been reasonably anticipated, operation of law beyond the power of the applicant to avoid, or due to other exigent circumstances identified by the Water Management Board. Mr. Gronlund said issue in this case is exigent circumstances identified by the board. That is the reason this application was scheduled for a board hearing.

Mr. Gronlund said he started working with Mr. Ottema in 1998 when he filed a water permit. Mr. Gronlund went onsite in an area called Beartown. At that time, Mr. Ottema had plans for 15 acre-feet of water from 10 small dams and dugouts. He was planning to divert at a rate of 100 gpm for the actual processing of the ore. The date to complete construction on that project was February 2003, but Mr. Ottema never did do any construction, and that permit was cancelled in 2008 for non-construction.

In 2009, Mr. Ottema submitted Application No. 1904-1, which was approved for 6 acre-feet of water and diversion of 75 gpm. The project was to be completed by December 2014. It was past the date to complete construction of works when he told the department that only one small dam had been completed, so there wasn't the ability for an extension of time. Mr. Ottema said the

reason it wasn't complete was due to problems dealing with the magnitude of the project as well as dealing with the U.S. Forest Service on permitting issues. SDCL 46-2A-8.1 allows for reinstatement of a permit if it's within three years after date to complete construction. The department processed the application for reinstatement for Water Permit No. 1904A-1. That application was filed in January 2015. The date to complete construction on that was April 6, 2020. Mr. Ottema still hasn't done much work on the project, but he did file for an extension of time in March of 2020, so it was before the deadline to complete construction. The extension request was filed on the basis that Mr. Ottema is a full-time caregiver for his ailing wife. The department then processed the application for an extension.

Mr. Gronlund stated that this project has been going on for 22 years, and he has one small dam built.

This application is for small dams or dugouts located on the headwaters to Bear Gulch and Potato Creek, which is a tributary to Beaver Creek. Both of those are tributaries ultimately to the Red Water River, which flows into the Belle Fourche River. Mr. Gronlund said it did raise some concerns, initially, back in 1998 on whether the application would be able to be approved because the board in prior decisions, told the department to consider the Red Water, Spearfish Creek, and Belle Fourche River in that segment as a complex, and the board had a prior permit application that was denied for water from Spearfish Creek. Mr. Gronlund said Potato Creek and Beaver Creek actually over the outcrop of the Madison and Minnelusa. There is a 9 cfs loss zone before water would survive the threshold. The water otherwise goes into the groundwater at that location, for the most part. From that aspect, the department was able to recommend approval of

the extension of time. The claim for extension of time is based on exigent circumstances due to Mr. Ottema needing to care for his ailing wife.

Mr. Gronlund said SDCL 46-5-26 states the board needs to make a finding of whether there are exigent circumstances. Mr. Gronlund said the department still believes that, based on the prior permits, there is unappropriated water, no other water rights are going to be adversely impacted, it is a beneficial use, and it is in the public interest.

The chief engineer recommended approval of Water Permit Application No. 1904B-1 with the following qualifications:

1. Water Permit Nos. 1904-1, 1904A-1 and 1904B-1, Douglas Ottema combined, authorize three dry draw dams/dugouts with a total combined storage capacity of six acre-feet of water and sufficient water annually to maintain the water level in the dams/dugouts.
2. Low flows as needed for downstream domestic use, including livestock water and prior water rights, must be by-passed.
3. Applicable provisions of Water Permit Nos. 1904-1 and 1904A-1 are incorporated into Water Permit No. 1904B-1.

In answer to a question from Chairman Hutmacher, Mr. Gronlund stated that the application filing fee for reinstatement is \$100 plus publication costs. The licensing fee is still applicable in this case because the department has not yet done the licensing investigation.

Mr. Holzbauer asked if the issues with the U.S. Forest Service have been resolved. Mr. Gronlund said he can't speak to Mr. Ottema's issues with the U.S. Forest Service, but those were issues from back in 2012-2014, so hopefully the issues are resolved. Mr. Gronlund said about once every other year Mr. Ottema contacts him, and for several years he has talked about how he is having to be a caregiver for his wife, so that is not something that was contrived by any means.

Motion by Freeman, seconded by Holzbauer, to approve Water Permit Application No. 1904B-1, Douglas Ottema, with the qualifications set forth by the chief engineer. A roll call vote was taken, and the motion carried unanimously.

Chairman Hutmacher called a recess.

Chairman Hutmacher called the meeting back to order at 1:25 p.m. Board members present were Bjork (remotely), Dixon, Freeman, Holzbauer, Larson, and Hutmacher.

WATER PERMIT APPLICATION NO. 2805-2, R & J, LLC: Chairman Hutmacher opened the hearing.

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

Michael Hickey, attorney from Rapid City, represented R & J, LLC.

Lon Buehner and Bill Hearne, both from Rapid City, were intervenors and appeared pro se.

Mr. McVey stated that included in the board packet were the report, the chief engineer's recommendation, letters in opposition dated January 28, 2020, and December 7, 2019 from Lon Buehner, letter in opposition dated December 12, 2019, from William Hearne, letter dated February 9, 2000, to Westley Parker from Eric Gronlund, Affidavit of Publication, Notice of Entry of Order and Scheduling for Hearing dated May 11, 2020, Amended Order on Chief Engineer's Motion for a Continuance dated May 7, 2020, Notice of Entry of Order dated June 18, 2020, and Order dated June 17, 2020.

Ms. Mines Bailey waived her opening statement.

She offered DENR Exhibit 1, the administrative record for Water Permit Application No. 2805-2, R & J, LLC. The administrative record contains the application, the report of the engineer, the recommendation of the chief engineer, the petitions to intervene, subsequent correspondence regarding this permit, and notices of publication. Ms. Mines Bailey noted that the parties were provided the opportunity to review the exhibit.

Chairman Hutmacher admitted the DENR Exhibit No. 1 into the record.

Ms. Mines Bailey called Adam Mathiowetz, who was administered the oath by the court reporter.

Responding to questions from Ms. Mines Bailey, Mr. Mathiowetz testified that he is employed with the Department of Environment and Natural Resources in the Water Rights Program and is an Engineer III. He is responsible for reviewing groundwater permit applications, groundwater complaints regarding various issues, usually when it involves a well, reviewing well construction, licensing well drillers and water well pump installers, managing two full-time technicians who maintain the groundwater observation well network, managing the seasonal employees that measure the observation wells, and other tasks as assigned to him by the chief engineer, which includes being a technical expert as related to groundwater and wells.

Mr. Mathiowetz identified DENR Exhibit 2 as his curriculum vitae.

Ms. Mines Bailey offered DENR Exhibit 2. Chairman Hutmacher admitted the exhibit into the record.

In response to questions from Ms. Mines Bailey, Mr. Mathiowetz said his specialty is groundwater. He stated that he performed a technical review of Water Permit Application No. 2805-2 and prepared a report. Mr. Mathiowetz pointed out corrections to the report. On page 2, line 2, at the end of the first sentence and in Figure 1 it references “and a pending application.” Mr. Mathiowetz stated that the pending application is No. 2572A-2, and the application was approved by the Water Management Board at its February 2020 meeting. Board approval of the permit does not change any of the analyses within the report. The addition would also affect the labeling for that application as shown on Table 1 on page 4 of the report.

Water Permit Application No. 2805-2 proposes to appropriate 4 acre-feet of water annually at a maximum instantaneous diversion rate of 0.044 cubic feet of water per second, which is 20 gallons per minute, from two proposed wells to be completed into the Crystalline Rock Aquifer for commercial use at a RV campground facility. The wells are to be in the NW $\frac{1}{4}$ SW $\frac{1}{4}$ Sec. 13-T1S-R6E in Pennington County. This site is located on the north side of Highway 16 near Rockerville, SD.

Mr. Mathiowetz stated that the scope of his review is the probability of unappropriated water being available and whether there would be an unlawful impairment of existing water rights. The standard for determining the availability of unappropriated water is SDCL 46-6-3.1, which states, “No application to appropriate groundwater may be approved if, according to the best information reasonably available, it is probable that the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source. An application may be approved, however, for withdrawals of groundwater from any groundwater formation older than or stratigraphically lower than the greenhorn formation in excess of the average estimated annual recharge for use by water distribution systems.”

Mr. Mathiowetz stated that recharge is water entering an aquifer and a withdrawal is a deliberate removal of water from an aquifer.

Mr. Mathiowetz said the Crystalline Rock Aquifer is the crystalline that forms the central core of the Black Hills where water is stored in the solutions and fractures within that rock and where the

aquifer is generally exposed at land surface. That is an approximate area of 574,000 acres in the Black Hills region. Because all of the water is stored in the fractures and faults that make up the placement of where water can be stored, which is also called secondary porosity, it is unpredictable and discontinuous where these fractures and faulting are so while the entire extent is 574,000 acres, functionally it could be broken down into many smaller aquifers. Due to the highly unpredictable and discontinuous nature, it is very difficult to determine exact extents of these smaller aquifers. The aquifer receives recharge through direct infiltration of precipitation where the fractures can be found at the surface and from streamflow losses.

Ms. Mines Bailey asked if any studies have been done to calculate amount of recharge that the Crystalline Rock Aquifer receives. Mr. Mathiowetz studies have been done. One study estimated recharge to the aquifer at 3,600 acre-feet per year under the assumption that recharge to the aquifer had to be at least equal to estimated withdrawals to account for the fact that significant declines were not seen, although it was noted that, because the aquifer can also lose water to streams, the recharge must be greater than the estimated 3,600 acre-feet per year.

DENR maintains one observation well (CU-86A) in this aquifer. The observation well data is real data measurements taken by DENR seasonal employees and other full-time staff in the department that shows exactly what is happening in the aquifer at that well. The well would account for changes due to climatic conditions and pumping. The department is required by ARSD 74:02:05:07 to consider observation well data amongst other data when determining the availability of unappropriated water.

The hydrograph for observation well CU-86A is on page 5 of Mr. Mathiowetz's report. The hydrograph shows that the aquifer can and does receive recharge and that it has a large fluctuation of over 40 feet at the location of the observation well.

Withdrawals from this aquifer are for domestic purposes, commercial, industrial, municipal use, and housing developments. The estimated total withdrawal from the aquifer is 217.9 acre-feet per year.

Ms. Mines Bailey asked Mr. Mathiowetz to identify DENR Exhibit 4. Mr. Mathiowetz stated that Exhibit 4 is a map showing water permits and water rights near the area of Application No. 2805-2 as well as large fault locations. Mr. Mathiowetz said he created the map using ESRI ArcMap, DENR databases and published reports.

Ms. Mines Bailey offered DENR Exhibit 4. Chairman Hutmacher admitted the exhibit into the record.

Ms. Mines Bailey asked Mr. Mathiowetz to explain how the proposed sites of diversion were designated on DENR Exhibit 4. Mr. Mathiowetz stated that the proposed sites of diversion are the blue "W" inscribed inside of the yellow circles on the map. The dark lines on the map that are solid or dashed represent faults as marked in the Redden & DeWitt report. The red pentagons represent the locations of the water rights and permits on file with the DENR Water Rights Program.

Ms. Mines Bailey asked if Mr. Mathiowetz looked at withdrawals in the entire aquifer. Mr. Mathiowetz answered that he did not look at withdrawals in the entire aquifer; he looked at the area as designated with the dashed box around the outside of DENR Exhibit 4 and can also be seen in Figure 1 in his report. Mr. Mathiowetz looked at that area because it is primarily bounded by faults of which water generally does not move perpendicularly across it.

Ms. Mines Bailey asked if Mr. Mathiowetz looked at recharge over the whole aquifer or only this portion of the aquifer. Mr. Mathiowetz said he looked at recharge over the entire aquifer. Due to the discontinuous nature of the fractures and faults as well as the distribution of precipitation within the Black Hills due to the Black Hills themselves creating their own effects, it is extremely difficult to nearly impossible to delineate an aquifer area over which to consider recharge, but also to then set a reasonable estimate to figure out exactly how much recharge would occur over a smaller area. It is a broad term estimate to show that the aquifer does receive recharge. Mr. Mathiowetz reiterated that water is typically not going to move perpendicularly cross the faults, and therefore, that acts essentially as a boundary. It is relatively unreasonable to look at this across the fault. Also, because of the physics of how water flows within the Crystalline Rock Aquifer, the unpredictable nature, and the limited extent of the fractures, looking at withdrawals 30 miles away would not be appropriate.

Ms. Mines Bailey asked Mr. Mathiowetz to explain how he determined estimated withdrawals of 217.9 acre-feet per year for this area. Mr. Mathiowetz stated that the 217.9 acre-feet of estimated annual withdrawal is based on assuming pumping at the permitted diversion rate for the water rights and permits at 60 percent of the time. The only exception to that is for Permit No. 2572-2.

That permit holder is required to report annual pumping, and they have pumped a sufficient amount of time and have been consistent, so the average of what they reported is likely their long-term average pumping and they are not further developing. Ms. Mines Bailey asked why Mr. Mathiowetz used 60 percent for all permits but not Permit No. 2572-2. Mr. Mathiowetz answered that the 60 percent comes from a historical established best method to estimate water, when the Water Rights Program originally issued permits by diversion rate only. When the method was changed to quantifying them to an annual volume, communications with the various stakeholders, municipalities, and water systems were considered. It became relatively apparent that they were pumping approximately 60 percent of the time on some of the high-end users. That is a number the Water Rights Program has used to be conservative for an estimate where there is not reported pumping or an annual volume that they can't pump beyond. The board has previously accepted using 60 percent for an estimate.

Ms. Mines Bailey asked how many water rights are in the area of interest. Mr. Mathiowetz stated that there are 10. The closest is Water Right No. 2211-2 for Pine Haven Heritage Home. It is located approximately 0.17 miles (920 feet) west-southwest of the proposed well sites.

Mr. Mathiowetz identified DENR Exhibit 3, which is a map zoomed in to within a couple of miles of the applicant's proposed locations. The exhibit includes water rights and well completion reports on file with the Water Rights Program. He stated that he created Exhibit 3 using Water Rights Program databases and ESRI ArcMap.

Ms. Mines Bailey offered DENR Exhibit 3. Chairman Hutmacher admitted the exhibit into the record.

Responding to questions from Ms. Mines Bailey, Mr. Mathiowetz answered that the proposed well sites are designated with a blue “W” inside a yellow circle with a white box around it. The red dots are water rights and permits on file with the Water Rights Program. The yellow triangles are the well completion reports for the wells on file with DENR. These wells are within approximately one mile of the proposed well locations. The yellow circles are the well completion reports for wells on file with DENR. These wells are further away than approximately one mile of the proposed well locations. All newly constructed domestic wells are required to be on file with the department. It is possible that there are other domestic wells in the area that the department is not aware of.

Mr. Mathiowetz stated that based on the information available, the proposed diversion can be developed without unlawful impairment to existing rights. Unlawful impairment is defined in ARSD 74:02:04:20(7). Mr. Mathiowetz said his opinion for unlawful impairment is based on the relatively limited diversion rate proposed by the applicant and limited amount of water to be withdrawn, the continued development of the Crystalline Rock Aquifer throughout the Black Hills without a significant history of complaints, and the fact that domestic users can pump to an equivalent of what the applicant is requesting.

Responding to questions from Ms. Mines Bailey, Mr. Mathiowetz said as a diversion rate is increased there is the ability to create a greater drawdown at greater distances through the physics of how well drawdown work. By having a relatively limited diversion rate and limited volume,

there will also be less pumping for a shorter period of time. Both of those work together to reduce the potential for drawdown.

Ms. Mines Bailey asked Mr. Mathiowetz to describe what he understands are the concerns of the petitioners. Mr. Mathiowetz said there were concerns as to the availability of unappropriated water and the appropriateness of the area of interest that he considered in his report. There were concerns that development of the proposed wells would unlawfully impair their existing water rights. There were concerns regarding water quality, particularly nitrates, as it relates to septic issues and septic volumes for various users.

Responding to questions from Ms. Mines Bailey, Mr. Mathiowetz stated that septic issues are not part of the Water Rights Program's review process. Regarding the area of interest, Mr. Mathiowetz said he bounded the area of interest primarily to the east and the west using the largest known faults in the area since water does not typically move perpendicularly across the faults, therefore, they act as boundary conditions. He looked at the north and south boundaries by attempting to, as best as possible, place the applicant's wells in the center. When he noticed that there were permits just to the north of the boundary when he originally centralized the applicant's wells, he moved the boundary further north.

Ms. Mines Bailey asked Mr. Mathiowetz what an adequate well is. Mr. Mathiowetz responded that an adequate well is defined in ARSD 74:02:04:20(6) as a well constructed or rehabilitated to allow various withdrawal methods to be used, to allow the inlet to the pump to be placed not less than 20 feet into the saturated aquifer or formation material when the well is constructed, or to

allow the pump to be placed as near to the bottom of the aquifer as is practical if the aquifer thickness is less than 20 feet.

Mr. Mathiowetz stated that a well must be adequate in order to qualify for protection under the law. In the Crystalline Rock Aquifer, having an adequate well does not necessarily mean the well will produce water. Because the fractures and faults can be encountered at various depths and they are unpredictable in discontinuous nature. With a well 200 feet deep the fracture that is supplying the well could be at 100 feet, but the inflow from that fracture may only be a half-gallon per hour so the well could easily be pumped dry. But, because there are over 200 feet of saturated thickness, the well would be adequate. As it applies to the Crystalline Rock Aquifer, some wells could be within 10 feet of each other and not share any fractures at all. There could also be wells that are a half-mile away that share a fracture and could interfere with each other.

Ms. Mines Bailey asked for Mr. Mathiowetz's overall opinion as to the potential for unlawful impairment should the water permit application be granted. Mr. Mathiowetz stated that, based on the information available, he believes that the proposed diversions can developed without unlawfully impairing existing users with adequate wells.

Mr. Mathiowetz stated that that the qualifications proposed by the chief engineer are to protect adequate well holders, both with appropriative and domestic rights as well as establish the limits that the applicant can use their water right as proposed. The chief engineer recommended approval of the application with the following qualifications:

1. The wells 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 control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The wells authorized by Permit No. 2805-2 shall be constructed by a licensed well driller and construction of the well and installation of the pump 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.
3. The permit holder shall report to the Chief Engineer annually the amount of water withdrawn from the Crystalline Rock aquifer.
4. Water Permit No. 2805-2 authorizes a total annual diversion of 4.0 acre-feet of water.

This concluded questioning by Ms. Mines Bailey.

In response to questions from Mr. Hickey, Mr. Mathiowetz stated that due to secondary porosity, there is significantly more flow in the Madison Aquifer as compared to the Crystalline Rock Aquifer. Secondary porosity is describing large separations such as solution cavities or fractures as compared to primary porosity, which when you look at sand is the space between sand particles. Secondary porosity would be a crack.

Mr. Hickey asked if, in this situation, there could be two wells, three feet apart that would not have any transmissivity between the two, and there could also be wells that are further apart where there would be a fracture and they would have transmissivity between them. Mr. Mathiowetz answered that both of those scenarios are possible.

Mr. Hickey asked if the depth of a well is a factor. Mr. Mathiowetz stated that having a deeper well would give you a higher chance of encountering more fractures, therefore, having more fractures would create more potential to encounter a fracture that is encountered by another well.

Mr. Hickey stated that in his report, Mr. Mathiowetz indicated that several of the wells are in the neighborhood of 100 to 150 feet deep. He asked if that is significant. Mr. Mathiowetz answered that it can be significant. In some places the fractures can run deeper, and in other places they don't go as deep. Typically, there are fractures all through the depth, but in general, there are almost no fractures below 500 feet. In some places, that number is closer to 200 or 300 feet.

Mr. Hickey stated that in one of the petitions for intervention, there is mention that one of the intervenors has a well that only produces three gallons per minute. He asked Mr. Mathiowetz what that tells him. Mr. Mathiowetz answered that without further information it doesn't tell him specifics. It could be that they have encountered a limited fracture system and, therefore, that is all the well can produce within an approximate range. There could be issues within their water system, whether it be a pump or another limit. But without further information, it doesn't tell him anything.

Mr. Hickey said one of the qualifications requires that the well be constructed by a licensed well driller. He asked if Mr. Mathiowetz knows that the applicant plans to use Taylor Drilling, if the application is granted. Mr. Mathiowetz answered that he did not know that. Mr. Hickey asked if Taylor Drilling is a qualified well driller. Mr. Mathiowetz answered that Taylor Drilling is a licensed well driller.

Mr. Hickey asked if it is correct that there is a qualification that states the applicant must control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or adequate wells having prior water rights. Mr. Mathiowetz answered that is correct. Mr. Hickey asked what that qualification means. Mr. Mathiowetz stated that the qualification means that the applicant needs to control the withdrawals such that they don't unlawfully impair other users, which further means that if it is determined that the applicant has impaired other users, that situation needs to be dealt with. Mr. Hickey asked if that describes adequate domestic wells, which Mr. Mathiowetz described earlier and the ones having adequate wells with prior water rights are the one that are legally protected. Mr. Mathiowetz answered that is correct. Those would be the wells that are shown in Table 1 on page 4 of the report. The table shows the priority date for each well. Mr. Hickey asked if that includes all domestic wells including the ones not shown in Table 1. Mr. Mathiowetz answered that is correct. It includes all domestic wells that are adequate.

Mr. Hickey asked if there is a qualification that the applicant has to annually report to the chief engineer the amount of water withdrawn. Mr. Mathiowetz answered that is correct.

Mr. Hickey asked if there is a qualification that the applicant is limited to 4 acre-feet of water per year. Mr. Mathiowetz stated that is correct.

Mr. Hickey concluded his questioning of Mr. Mathiowetz.

Bill Hearne, intervenor, asked Mr. Mathiowetz how it is determined that an applicant is the cause of Mr. Hearne having less water after the applicant drills a well. Mr. Mathiowetz stated that during the course of an investigation and he was the engineer conducting the investigation, he would consider timing. He would talk to Mr. Hearne about what happened, determine if Mr. Hearne has looked at other issues such as the electrical system or a pump. He would also talk to the applicant and other nearby landowners. In this case, because there are several wells located nearby, Mr. Mathiowetz would ask questions of them and measure water levels in wells locally, if possible. After looking at that information, an evaluation would be made based on what is learned.

Mr. Hearne asked what would happen if it was found that everything was operating correctly and there is a still drop in water volume and similar things are happening in other adjacent wells. Mr. Mathiowetz said he would potentially look at other adjacent wells as well as Mr. Hearne's well. He stated that he would have to consider everything. You can't look at it isolated because by looking at everything you may find that the person with the issue, the issue was something that is not necessarily caused by whoever may be pumping. It might be that one of the fractures is starting to get plugged even though there isn't a whole lot of sediment in the fractures. A 60 year old well, for example, will eventually plug due to fine sediments. So, it cannot be looked at

isolated. It has to be looked at in the broad scope in the context of as much information around it as possible.

Mr. Hearne asked if the determination is made that there is an impairment, what action does DENR take. Mr. Mathiowetz answered that he is not the chief engineer so he can not speak at to what the chief engineer would recommend.

Mr. Buehner said Mr. Mathiowetz indicated that the Crystalline Rock Aquifer is localized, associated with fracturing, and weathering, so it is not a regional aquifer like the Madison Formation. Mr. Mathiowetz stated that it is regional because it exists in a region, but it needs to be considered on both scales with the information available.

Responding to questions from Mr. Buehner, Mr. Mathiowetz stated that well logs across the entirety of the Crystalline Rock Aquifer indicate that there are well depths ranging from very shallow, or less than 100 feet, to several that are 500 feet deep throughout the Black Hills Region. There are several wells that are shallower, so people have found enough water for their uses from the shallower wells.

Mr. Buehner asked Mr. Mathiowetz to explain the difference between confined and unconfined conditions. Mr. Mathiowetz stated that unconfined conditions is where the water level in an aquifer is below the top of the physical aquifer materials. The more scientific way of saying it is that the static water level is atmospheric air pressure. A confined aquifer is when the water level in the closed system would be above the top of the physical aquifer materials.

Mr. Buehner asked if it is correct that there could be a confined aquifer at a deeper depth where the fractures are not open to atmospheric pressure. Mr. Mathiowetz said that is correct.

Mr. Buehner asked what the difference would be in long-term productivity of an unconfined versus a confined reservoir. Mr. Mathiowetz stated that confinement has no relation to productivity.

Mr. Buehner said in a confined reservoir the water is there and you drill the well and it starts to produce. In an unconfined reservoir you have the opportunity to reserve its recharge. Mr. Mathiowetz stated that most confined aquifers also have the availability for recharge, otherwise aquifers such as the Madison Aquifer could not be used outside of the outcrop. Most of Rapid City's wells wouldn't exist. A vast majority of confined aquifers also have a point at which it has a portion that is unconfined, and that is its recharge area.

Mr. Buehner asked if Mr. Mathiowetz is saying that the Madison Aquifer is confined reservoir, except by where it outcrops. Mr. Mathiowetz answered that large portion of the Madison Aquifer, since it is a regional aquifer underlying many states, is under confined conditions and is, therefore, confined in those areas. In the outcrop area where there is not overlying material or in the portions where the water level is not above the top of the formation, it is unconfined. Mr. Mathiowetz said this is an example of defining the difference between confined and unconfined aquifers.

Mr. Buehner asked if the recharge will replace the water produced in an unconfined reservoir. Mr. Mathiowetz answered that recharge tends to replace the water pumped from any aquifer, including an unconfined aquifer.

Mr. Buehner said his point is that a confined reservoir under pressure because of the overburden, it is not open to atmospheric pressure. Because of that when water is pumped the fractures tend to close, and you don't have the opportunity because it's not open to atmospheric pressure for recharge to refill those closed fractures in a confined reservoir. He asked if that is correct. Mr. Mathiowetz answered that is not correct. The fractures do not tend to close, at least not in any significant scale that would be able to be measured with any piece of equipment that he would use in the course of performing his duties.

Mr. Buehner said Mr. Mathiowetz stated that he looked at this area and he looked at the faults. Mr. Mathiowetz's report states that this application proposes to use these limited mapped faults and the actual areal extent of the aquifer may be even smaller. He asked if Mr. Mathiowetz took into account the topography when trying to understand the areal extent of this localized aquifer. Mr. Mathiowetz answered that he considered topography as best he could by looking to where there were streams to see if he could identify large alluvial deposits. Mr. Buehner asked if Mr. Mathiowetz looked a topographical map of the area. Mr. Mathiowetz stated that he did.

Mr. Buehner asked what formation this localized aquifer produces from. Mr. Mathiowetz answered that the proposed wells will be completed into the Metagrayswacke, which is based on the Rockerville 7.5 Minute Series Geologic Quadrangle Map.

Mr. Buehner asked if the formation is Precambrian and how thick the Precambrian is. Mr.

Mathiowetz stated that Precambrian is a better term. The thickness of the Precambrian in this area is greater than 500 feet.

Mr. Buehner asked if DENR Exhibit 4 shows all of the water rights in the area. Mr. Mathiowetz answered that Exhibit 4 shows all water rights and permits that are completed into the Crystalline Aquifer in that area.

Mr. Buehner asked if Mr. Mathiowetz checked with other state departments to see whether there are commercial entities in this area. Mr. Mathiowetz stated that he did not. Mr. Buehner asked if Mr. Mathiowetz knows why the Gaslight Restaurant in downtown Rockerville is not shown with a water right. Mr. Mathiowetz answered that he does not know.

Mr. Buehner said on Exhibit 4 it shows the location for Permit No. 2224-2, and right across the road from that is an entity called Big Mountain Cabins. He asked if it has a water right. Mr. Mathiowetz said not that he is aware if a water right is held for Big Mountain Cabins. Mr. Buehner said six tenths of a mile northeast of Permit No. 2224-2 is an entity called Silver Mountain Resort and Cabins. He asked if that entity has a water right. Mr. Mathiowetz stated that both of those entities may have surface water rights, but he does not know.

Mr. Buehner asked if Mr. Mathiowetz has inspected any of these locations. Mr. Mathiowetz answered that he has not.

Regarding Table 1 in the report, Mr. Buehner asked if it is true to say that the appropriated water volumes for those permits are Mr. Mathiowetz's figures divided by 0.6. Mathiowetz stated that he converted the permitted diversion rate to acre-feet per year, then multiplied it by 0.6. Mr. Buehner said he wanted to focus on the properties in the Rockerville area. He asked when the property that holds Permit No. 2211-2, Pine Haven Heritage Home, was last inspected. Mr. Mathiowetz answered that he does not know. Mr. Buehner asked if Mr. Mathiowetz is aware that the Pine Haven Heritage Home has not been in operation for the last six years, and that this property has gone through at least four ownership changes in the last five years and is now part of Rockerville Lodge and Cabins. Mr. Mathiowetz answered that he is not. Mr. Buehner asked if Rockerville Lodge and Cabins is listed in Table 1 as having a water right. Mr. Mathiowetz answered no.

Mr. Buehner asked when the property that holds Permit No. 485-2 was last inspected. Mr. Mathiowetz answered that he does not know. Mr. Buehner asked if Mr. Mathiowetz is aware that the Rockerville Park tourist attractions in this area have been vacant for at least 17 years, and that those buildings were dilapidated and intentionally burned down by the Rockerville Volunteer Fire Department more than three years ago. Mr. Mathiowetz answered that he is not.

Mr. Buehner asked if Mr. Mathiowetz is aware that this permit is to be used in a planned unit development that has recently been approved by Pennington County. Mr. Mathiowetz answered that he is not.

Mr. Buehner stated that on DENR Exhibit 4, Permit No. 483-2, Rockerville Trading Post, and Permit No. 479-2, Rockerville Gold Town, Inc. are shown on the map with a red pentagon between the two permits. He asked where Permit 483-2 is located. Mr. Mathiowetz answered that they are in the approximate same location, they may even be in the exact same location.

Mr. Buehner said those two wells are closer to the applicant's property than what Mr. Mathiowetz has shown on Exhibit 4.

Ms. Mines Bailey objected stating that is not in the evidence. Chairman Hutmacher sustained the objection.

Mr. Buehner asked if Mr. Mathiowetz reviewed the permits in detail with the files held by the Water Right Program. Mr. Mathiowetz said he did look through all of them. Mr. Buehner said on Permit 483-2, Rockerville Trading Post, the file shows that this water permit was transferred from Rockerville Trail Motel to the Rockerville Trading Post in September 1991. He asked if that means that the Rockerville Trail Motel no longer had a water permit after that point in time. Mr. Mathiowetz answered that the Rockerville Trail Motel could have been under that water right under a different name, but he does not know for certain. Mr. Buehner questioned if it is correct that there is no other name on the list with regard to existing water rights, so if the Rockerville Trail Motel was still in existence, you would expect it to show up on your table. Mr. Mathiowetz answered that they could have just changed their name. He does not know the ins and outs of that business. Mr. Buehner asked if Mr. Mathiowetz is aware that the Rockerville Trail Motel is today, part of Rockerville Lodge and Cabins. Mr. Mathiowetz said he is not aware of that.

Mr. Buhner asked if Mr. Mathiowetz for Figure 3 he looked at what the area and acreage is of the water rights in the Rockerville area cover. Mr. Mathiowetz said he did not measure the area as shown in Figure 3 of the report on page 7, nor did he measure the area over which the property that these water rights physically exist on since he did not have easy access in the mapping software he used to property boundaries for individual properties.

Mr. Buehner said in Figure 3, on Highway 16 there is a little turnoff on the right hand side of the figure. He asked what that turnoff displays. Mr. Mathiowetz answered that he does not know.

Mr. Buehner asked what happens to the rainfall that falls on top of the Crystalline Rock Aquifer. Mr. Mathiowetz answered that some will infiltrate into the fractures that at surface, some will run off into local streams and be either moved downstream in the stream itself or stored in the alluvium, the fine sand and gravel and silt next to the stream.

Mr. Buehner asked Mr. Mathiowetz to explain what evapotranspiration means. Mr. Mathiowetz said evapotranspiration is a combination the words evaporation and transpiration. Evaporation is the water at or near land surface that is evaporated through the processes that the sun does. Transpiration is the water that is exhaled by plants in their processes of living. Mr. Buehner asked if Mr. Mathiowetz remembers what percentage of rainfall Driscoll and Carter said applies to evapotranspiration. Mr. Mathiowetz said he does not recall. Mr. Buehner asked if Mr. Mathiowetz recalls what percentage of the annual precipitation Driscoll and Carter said typically goes to runoff. Mr. Mathiowetz said he does not recall. Mr. Buehner asked if Mr. Mathiowetz

recalls the percentage of the precipitation that they say typically goes to recharge. Mr.

Mathiowetz said he does not recall. Mr. Buehner asked if Mr. Mathiowetz recalls what Driscoll and Carter say the definition of annual yield is. Mr. Mathiowetz said he does not recall their definition of annual yield.

Mr. Buehner said in the report, Mr. Mathiowetz says Driscoll and Carter determined that actual recharge must be greater than 3,600 acre-feet because there is some stream flow and that the exposed area of the Crystalline Rock is 574,000 acres. Mr. Buehner said 3,600 acre-feet sounds like a lot, but if you take 3,600 acre-feet divided by 574,000 acres is six thousandths of a foot multiplied times 12.

Ms. Mines Bailey objected. She said Mr. Buehner needs to ask a question rather than provide testimony. Chairman Hutmacher sustained the objection.

Mr. Buehner asked Mr. Mathiowetz what amount of recharge water it would be for 3,600 acre-feet over 574,000 acres. Mr. Mathiowetz said he could calculate it. Mr. Buehner asked Mr. Mathiowetz if he would have reason to disagree if Mr. Buehner told him it is six thousandths of an inch. Mr. Mathiowetz said he would not disagree, but he would not agree without calculating it himself.

Mr. Buehner said when Driscoll and Carter say it has to be much greater than that, if you're talking about a very, very small amount of water, that's really a statement a person can't argue

with. Mr. Mathiowetz said he is not going to judge the USGS on the language they put in their reports.

Mr. Buehner asked how far the observation well is from the applicant's area. Mr. Mathiowetz answered that it is approximately 17.5 miles southwest of the applicant. Mr. Buehner asked if Mr. Mathiowetz believes it is appropriate to use an observation well 17 miles away given the unpredictability of the reservoir. Mr. Mathiowetz answered yes, because it is the only observation well available and he is required to consider observation wells and it shows that the aquifer can be recharged. Mr. Buehner asked if Mr. Mathiowetz is aware that in the report for Application No. 2211-2, located in the area, the engineer that prepared that report said the Division of Water Rights does not cite any observation wells in this area. Mr. Mathiowetz said he is aware. Mr. Buehner said in Application No. 2222-2, which again is in this area, the engineer that prepared the report said the Division of Water Rights does not cite any observation wells completed in the Precambrian Rock in this area. Mr. Mathiowetz said he is aware. Mr. Buehner said also for Application No. 2345-2, the Water Rights Program does not cite any observation wells completed in the Precambrian Rock in this area. Mr. Mathiowetz said he is aware. Mr. Buehner said he guesses Mr. Mathiowetz has a different opinion with regard to the pertinent aspect of a 17-mile away observation well compared to the other engineers. Mr. Mathiowetz said he does have a different opinion because of further information as well as further board decisions that have occurred since the time those engineers wrote their reports.

Mr. Buehner said DENR Exhibit 3, is a map that shows the domestic wells. He said in a recent report Mr. Mathiowetz mentioned the number of wells and a map of those wells was included in

the original report, but Mr. Mathiowetz did not include it in this original report. He asked if there is a reason as to why those were not initially included. Mr. Mathiowetz answered that it would depend on what report Mr. Buehner is referencing. The well completion report database is mapped to the nearest unit of location that is provided to the Water Rights Program by the well drillers, whether that is the center of the section, the center of a quarter, or the center of a quarter quarter. On the occasion that the Water Rights Program gets GPS coordinates There may have been other circumstances with the report Mr. Buehner is referencing that would have warranted including that map. Mr. Buehner said because they weren't included in Mr. Mathiowetz's original report, the recommendation from the chief engineer was made from a report where the domestic wells were not indicated in the report or quantified in the report.

Ms. Mines Bailey objected stating that is not in evidence. Chairman Hutmacher sustained the objection.

Mr. Buehner said his understanding of what he heard Mr. Mathiowetz say is that the septic issue really isn't pertinent to the water rights discussion and review. He asked if that is true. Mr. Mathiowetz said that is not accurate. Mr. Mathiowetz said he reviews the availability of unappropriated water and the potential for unlawful impairment of existing water rights in terms of the potential for adverse impact, as he is bound by the rules and laws. Mr. Buehner asked if that would include adverse impact as a result of septic contamination. Mr. Mathiowetz answered no. Mr. Buehner asked if Mr. Mathiowetz reviews the potential for negative impact of the applicant's water right on a septic system. Mr. Mathiowetz said he does not. Mr. Buehner asked Mr. Mathiowetz to explain why in the application form supplemental information he asks for the type

of system for septic disposal as well as the capacity. Mr. Mathiowetz said there is a setback requirement in the South Dakota Well Construction Standards for new well construction that for his purposes that is the consideration. He said he does not know if there are other needs, whether historical in the Water Rights Program or other people that require that information.

Mr. Buehner said he believes he heard Mr. Mathiowetz say that the fracture plug due to fine sediment. Mr. Mathiowetz said it can, and if he said it will plug, that was an accidental misstatement. It is possible that it can. Mr. Buehner said the example Mr. Mathiowetz quoted where there is a well with a half-gallon per hour because it encountered fractures at 100 feet and a well of this kind does not produce. He asked how Mr. Mathiowetz can tell that that is not a result of a lack of recharge. Mr. Mathiowetz answered that there are wells that are isolated and act in that way. These wells have an inflow rate of a half-gallon per hour, and that is the nature of the formation the wells are completed into.

This concluded questioning by Mr. Buehner.

Responding to a question from Mr. Hickey, Mr. Mathiowetz stated that none of the questions asked of him today changed any of his opinions as contained in his report.

Mr. Hickey had no other questions.

Mr. Holzbauer asked if earthquakes potentially influence the fractures and whether they become filled in. Mr. Mathiowetz answered that he has not spent any time studying whether that is

possible, but it is possible that earthquakes could potentially have influences on the fractures. He said he does not know much about earthquakes.

Mr. Holzbauer asked if there is such a thing as DNA on water. Mr. Mathiowetz answered no to DNA, but said water with the same source has similar ions. A STIP diagram analysis can be done to analyze the cations and anions to generate a shape, and if they have the same source, the shapes may be the same and the magnitudes might be different. For one well the shape might be bigger, but the general shape is the same. There are various dating processes to determine how old the water is based on various radionuclides.

Mr. Holzbauer said his concern is that one person using water is affecting another person using water, and we don't know if it's the same water or not.

Mathiowetz said it is potentially very hard to determine chemically if it is the same water without spending more time determining exactly where the water came through, or following the molecular path to a point.

Responding to a question from Mr. Bjork, Mr. Mathiowetz said there are definitions within the South Dakota Well Construction Standards for setback distances between septic systems and wells. Mr. Bjork asked if those are not maintained, could it be considered an adverse impact. Mr. Mathiowetz answered that the well construction would be in violation and would need to be plugged and replaced with either a proper well or a variance for well construction would need to be obtained.

There were no other questions of Mr. Mathiowetz by board members.

Ms. Mines Bailey called Eric Gronlund, chief engineer, who was previously administered the oath.

Responding to questions from Ms. Mines Bailey, Mr. Gronlund testified that he has been the chief engineer for approximately 4.5 months. Prior to being appointed chief engineer, Mr. Gronlund was an engineering manager with the Water Rights Program for about a year and a half. Before that, Mr. Gronlund was an engineer III with a Bachelor of Science in agricultural engineering from SDSU and he is a registered professional engineer. Prior to being appointed chief engineer, Mr. Gronlund said he basically handled the day to day processing of water permit applications within the state of South Dakota. This included assisting individuals calling the Water Rights Program and helping them through the application process, making sure the application is complete once it is submitted, the distribution of the application to staff for review, assisting with the technical reviews, reviewing the staff reports, drafting the recommendations, the publication process, and if petitions are filed, noticing and scheduling hearing before the Water Management Board.

Mr. Mines Bailey asked Mr. Gronlund to provide a brief description of the permitting and licensing process. Mr. Gronlund said once an application is filed, under South Dakota law, the Water Rights Program is required to review the application and make a recommendation within 60 days. Once the recommendation is made, there is the public notice process. If the application is a standard application and doesn't get contested, it is commonly approved based on the recommendation. The Water Management Board is provided with a table of the uncontested water

permits that are approved. Once contested, an application goes before the Water Management Board for hearing. If the application is approved by the board, it becomes a permit. Once a water permit is approved, based on the statutes, there is a five-year period to complete construction of works. When a permit is issued, a cover letter and notice of completion of works is provided to the permit holder. When a permit holder completes the project an investigation is conducted, and ultimately the water permit is licensed to represent the level of development at that time. The investigation varies greatly, depending on staff resources. Generally, after the five years, the project goes on a list for someone to do the licensing investigation. The Water Rights Program has hired four seasonal retired engineers to conduct the licensing investigations.

Ms. Mines Bailey asked if, other than the licensing investigation, does staff visit all of the water permits holders. Mr. Gronlund said staff does not routinely contact water right holders that have been licensed unless there is a complaint of some other reason. There are instances where a water right holder of a license has another permit, and if staff is on-site, they will inquire about the other water right.

Ms. Mines Bailey asked what happens when someone sells their property and transfers the permit. Mr. Gronlund said there is a statute that requires a notice of transfer of ownership to be filed with the Water Rights Program if there is a conveyance of a water permit. It is common that when a piece of property goes up for sale, the realtor or title company contacts the Water Rights Program. However, it also often times gets overlooked.

Responding to questions from Ms. Mines Bailey, Mr. Gronlund stated that he reviewed Water Permit Application No. 2805-2 in his prior capacity of engineering manager. He, as chief engineer, has reviewed the application, the report written by Mr. Mathiowetz, and the recommendations of former chief engineer Jeanne Goodman. Mr. Gronlund said he agrees with Mr. Goodman's recommendations. He believes this is a beneficial use and it is in the public interest. Mr. Gronlund discussed the following four qualifications:

1. The wells 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 control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The wells authorized by Permit No. 2805-2 shall be constructed by a licensed well driller and construction of the well and installation of the pump 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.
3. The permit holder shall report to the Chief Engineer annually the amount of water withdrawn from the Crystalline Rock aquifer.
4. Water Permit No. 2805-2 authorizes a total annual diversion of 4.0 acre-feet of water.

Mr. Gronlund stated that he has reviewed the petitions submitted by Mr. Buehner and Mr. Hearne, and he believes they had concerns about Mr. Mathiowetz's report and the approach he took with

the report. Their deep-rooted concerns are the impact to the domestic wells in the area and the septic tank issues. The septic tank issues are not within the chief engineer's authority or part of the Water Rights Program review for this permit. Regarding Mr. Buehner and Mr. Hearne's concerns about the impact to domestic wells, Mr. Gronlund stated that the Precambrian Rock is a unique situation. It is not what we are used to with some of the glacial aquifers in the east river portion of South Dakota, or the Madison aquifer. This is a situation where there are domestic wells or other wells out in the Precambrian Rock that meet the adequate well definition but aren't necessarily a reliable source of water.

Ms. Mines Bailey asked if the application were granted and R & J, LLC completes the well into the Crystalline Rock Aquifer and Mr. Buehner or Mr. Hearne feel that it is impairing their wells, what would that process entail. Mr. Gronlund said they would initially need to contact the Water Rights Program and file a complaint, which would result in the Water Rights Program doing an investigation. The investigation involves staff from the Water Rights Program visiting on-site and talking with the individuals and looking at the well construction of the wells in question and the wells in the area.

Mr. Gronlund said the investigation first involves a desktop look by a staff person. There are approximately 1,600 observation wells throughout the state in the various aquifers in the state. That is one of the first steps, besides well construction that the Water Rights Program would take in investigating that complaint.

Mr. Gronlund said this would be a little different situation because the one observation well in the Crystalline Rock Aquifer is 17.5 miles away from the application, and likely isn't necessarily representative of what's happening in that local area. The Crystalline Rock Aquifer does react to climatic conditions and its water levels vary, more so with the climatic conditions with rising and falling water levels. The observation well probably isn't as much of a benefit to the Water Rights Program in this case. This would be somewhat of a unique investigation as far as needing to look at the well construction and needing to go on-site. It might involve having R&J pump their well after everything has sat for a while, put a tape measure down it to see if, when they start pumping, that domestic well water level goes down. That would be unusual for an investigation, but that might be a situation where it needs to occur.

Ms. Mines Bailey asked what Mr. Gronlund's recommendation is regarding this application. Mr. Gronlund stated that his recommendation remains for approval with the four qualifications, with emphasis on qualification No. 1, the well interference qualification.

Mr. Hickey asked if there is a requirement that if someone has a water permit that is no longer used, they have to notify DENR to report that it is no longer in use. Mr. Gronlund stated that he is not aware of any statute that requires notification.

Mr. Buehner said in the file for No. 479-2, Mr. Gronlund had authored a letter to Mr. Westly Parker discussing the potential water right need for the Gaslight Restaurant. He asked if that was ever resolved. Mr. Gronlund said he believes that letter is dated 2000, and to his knowledge, no

response was received to the letter to Mr. Parker. Mr. Buehner asked if Mr. Gronlund knew where the Gaslight restaurant is currently getting their water from. Mr. Gronlund answered no.

Mr. Buehner asked if Mr. Gronlund is aware of the planned unit development recently approved by Pennington County in the Rockerville area. Mr. Gronlund said he believes Brittney Molitor, Pennington County Planning and Zoning, the Water Rights Program regarding a planned unit development (PUD) in this area. Mr. Buehner asked if the developer of the PUD, which offsets the R&J acreage, contacted the Water Rights Program find out the status of the water rights they were looking at developing the property on. Mr. Gronlund said he believes Mr. Eisenbraun may have called him at some point through the application process. Mr. Buehner asked if Mr. Gronlund recalls sending an email advising them that have a 70 gallon per minute from Water Right No. 479-2 and No. 485-2. Mr. Gronlund said he does not recall. Mr. Buehner asked if the Gaslight and area of this PUD are all under these two initial water rights, and the Gaslight was discussing with Mr. Gronlund back in 2000 the potential transfer of rights of whether they needed a new water right, the Gaslight has been carved out and is operating as a separate entity, and one of those wells that are under this initial water right have also been carved out by, but yet that original 70 gallons per minute Mr. Gronlund has indicated applies to this smaller acreage for this PUD.

Ms. Mines Bailey objected as to relevance, compound question, and facts not in evidence.

Chairman Hutmacher sustained the objection.

Mr. Buehner asked if Brittney Molitor, since late last year, had a discussion with Mr. Gronlund with regard to the situation where Pennington County approves construction permits without a

required water right for commercial entities. Mr. Gronlund answered if he had that discussion with Ms. Molitor, he does not recall it.

Mr. Buehner asked Mr. Gronlund to explain why Big Mountain Cabins, Silver Mountain Resort & Cabins, as well as the Gaslight do not show up with a valid water right today. Mr. Gronlund answered that he could speculate, but he does not know for a fact.

This concluded questioning by Mr. Buehner.

There were no board questions of Mr. Gronlund.

Mr. Hickey called Juston Eisenbraun who was administered the oath by the court reporter.

In answer to questions from Mr. Hickey, Mr. Eisenbraun stated that he lives in Quinn, South Dakota. He is a rancher and an insurance agent. Mr. Eisenbraun said he is a member of R & J, LLC with Robert Wentz, Sioux Falls, who owns two packaged liquor stores. R& J LLC is a limited liability company that is currently in good standing. Mr. Eisenbraun said he completed and submitted the water permit application to DENR. R & J, LLC intends to construct an 86-unit campground and 15 cabins, a store, and shower house. The campground will be open from May 1 until the end of October. KTM Engineering, Rapid City, designed the plans.

Mr. Hickey offered Applicant Exhibit 100, a copy of the diagram for the proposed campground.

Chairman Hutmacher admitted the exhibit into the record.

Responding to questions from Mr. Hickey, Mr. Eisenbraun stated that Exhibit 100 describes the concept of the project. The proposed project is located at Rockerville. There is 1580 feet of highway frontage. The 86 campsites will have water, sewer, and electricity. R & J, LLC is hoping to be approved to use water from the two wells. The wells will be drilled by Taylor Drilling, Rapid City. Taylor Drilling recommended two wells because it is not known if the wells will produce four gallons per minute or 20 gallons per minute. Mr. Eisenbraun said the projected amount of use for the campground is four acre-feet of water per year. He said if the first well is drilled and it produces 20 gallons per minute, a second well would probably not be drilled, but R & J, LLC would go with whatever Taylor Drilling's recommendation is. Under the concept, a storage reservoir is planned. The purpose of the reservoir is to equalize the water so there is not a huge draw at one time. Having the reservoir would allow R & J, LLC some flexibility as to when the wells would be pumped, and R & J, LLC would be willing to pump the wells in the evening or at night so as not to impair other users.

Mr. Eisenbraun said he believes Taylor Drilling is aware of the setback requirements and will comply with those requirements.

For the first year, there will be 86 RV hookups, 15 cabins, an office/store, a laundry facility, and shower house. In the future a pool will be constructed, along with a bath house and a pavilion. R & J, LLC has approached Pennington County with respect to obtaining the necessary conditional use permits. The planning and zoning board approved the proposal. The county commission is waiting for the outcome of the permit application before it makes a decision on the proposal.

This will be a seasonal operation that is open from May 1 until October 30 each year. It is anticipated that the peak period will be June 15 through August 15.

Mr. Hickey asked Mr. Eisenbraun if R & J, LLC agrees with the recommendation and the qualifications of the chief engineer. Mr. Eisenbraun said it is his opinion that the proposed operation is in the public interest, the proposed use is a beneficial use, and there is water available, and there will be no unlawful impairment of existing rights.

Mr. Hearne had no questions of Mr. Eisenbraun.

Mr. Buehner said on Applicant Exhibit 100, it shows one potential well area, but the application was for two wells. He asked where the second well will be located. Mr. Eisenbraun answered that the second well, if needed, will be between the shower house and the road. The well shown on Exhibit 100 will be drilled first.

Mr. Buehner asked Mr. Eisenbraun how long R & J, LLC has owned this property. Mr. Eisenbraun said R & J, LLC has owned the property since April or May 2019. Mr. Buehner asked if the previous owner of the property talked to Mr. Eisenbraun about the well or the flow capacity of the well at the neighboring motel. Mr. Eisenbraun answered they did not. Mr. Buehner asked if Mr. Eisenbraun is aware of the large planned unit development the county has approved directly south of the proposed campground along Highway 16, and what that development is going to consist of. Mr. Eisenbraun said he is aware of the planned unit development, and he does not

know what the development will consist of. Mr. Buehner asked if Mr. Eisenbraun attended a meeting at the Gaslight where the developer discussed his plans, and what he said he was told his water rights were for that area. Mr. Eisenbraun said he did attend the meeting, but he does not recall what the developer said he was told his water rights were for that area. Mr. Buehner asked if it is true that R & J, LLC needs a water right permit to proceed with the conditional use permit request, and that there is a long list of other things that must be approved before R & J, LLC can go in with the request. Mr. Eisenbraun said that it is true that a water right permit is needed to proceed with the conditional use permit, and the only other permit needed is a septic permit. Mr. Buehner said R & J, LLC is not just waiting for a water permit, and if they do get this water permit, is it true that per Pennington County Ordinance 306 this whole process starts over with notification of the neighbors, and then the county will decide whether or not to approve the conditional use permit. Mr. Eisenbraun answered yes.

This concluded questioning by Mr. Buehner.

Ms. Mines Bailey asked Mr. Eisenbraun if he understands that if R & J, LLC is granted a permit that does not necessarily mean that they will find water when the well is drilled, that domestic use takes priority of R & J, LLC's use, and the qualification the chief engineer is recommending. Mr. Eisenbraun answered yes, he understands, and he agrees to abide by the qualifications. Ms. Mines Bailey asked if there is a plan for an alternate water source in the event that adequate water for the campground is not found in either of the two proposed wells. Mr. Eisenbraun stated that there is not a plan for an alternative water source. If adequate water is not found, the campground probably will not be built.

Ms. Mines Bailey said there are concerns about the septic system. She asked if R & J, LLC has started working on the septic system permitting. Ms. Eisenbraun said the engineering firm is working on that. An application has not yet been submitted to DENR.

This concluded questioning by Ms. Mines Bailey.

Mr. Larson asked why the 20,000-gallon reservoir is included the plan. Mr. Eisenbraun said R & J, LLC is thinking it's probably not going to get a 20 gallon per minute well, so the reservoir will be needed to serve the users. Mr. Larson asked if R & J, LLC will be able to pump water into the reservoir at night when others are not using their wells, and how many days will the 20,000-gallon reservoir will cover the needs for the campground. Mr. Eisenbraun said R & J, LLC is willing to pump at night, and the reservoir is enough capacity for two days use.

Mr. Bjork asked if Mr. Eisenbraun is concerned with the close proximity of the well, the septic tank, and the reservoir. Mr. Eisenbraun answered that there is more than 300 feet between each of those three facilities.

This concluded questions from the board members.

Mr. Hickey had no further witnesses.

Bill Hearne was administered the oath by the court reporter and testified that he lives at 23762 Pine Haven Drive and is an adjacent landowner to the subject property. Mr. Hearne said most of his career has been in owning private businesses, but he has a BS in engineering, a Master of Science in economics, and a Master of Science in business administration. Mr. Hearne stated that he taught for two years in the Graduate School of Business at the University of South Dakota and also taught classes at the School of Mines.

Mr. Hearne offered Exhibit 300. Chairman Hutmacher admitted the exhibit into the record.

Mr. Hearne stated that Exhibit 300 shows the subject property and the location of the Hearne well on property 50206, a commercial motel next to Mr. Hearne's home, and two wells located nearby that serve the community. Mr. Hearne stated that this area is fragile as far as water production and the ability to process septic because of the unusual rock formation. It is dramatically different than a mile down the road on the other side of the nonconformity where it is mostly sandstone and limestone. Mr. Hearne said in his area there are cracks and no water voids, and there are a lot of issues that relate to that. He stated that when he moved into his home 11 years ago, the commercial property and motel were vacant. When the water was tested at the time, the volume and quality was good. Over the years, that motel was renovated. The person that renovated the motel had one bed per room. About two years ago, the motel changed hands again, and it went from one bed per room to two beds per room. Mr. Hearne said that amount of increase in activity dramatically changed the effect on his home, and it happened almost instantly. Mr. Hearne said his well volume dropped from four to six gallons per minute to three gallons per minute and stayed at that level. The biggest concern is the nitrate levels in the water. The motel is currently

operating at about 200 percent of the permitted capacity on septic, and the nitrate level has just exploded. Mr. Hearne said his well is the closest well to the motel. The nitrate level in his well is running 11 ppm to 13 ppm, and the federal guideline for nitrates is 10 ppm. Mr. Hearne said he had to install a reverse osmosis system in his home to try to deal with that. He said because of that unpredictable nature of how the water flows in this area, it is unknown where that effluent will go. Mr. Hearne said in this case, it comes to his well. He said in his case, a business causes a detriment that somebody else has to spend money to mitigate. The process of getting regulatory agencies to deal with that has been totally ineffective. Initially, when he went to the county they said that is not their issue, but it is a DENR issue. Mr. Hearne submitted the data to DENR. After several months DENR said it is not their issue, but it is a county issue, so he sent it back to the county. Mr. Hearne said he has worked with the county for over a year, and, as far as he knows, they have done nothing even though that facility is operating substantially over their permitted capacity. Mr. Hearne said his concern is that once someone gets a permit, they can do whatever they want to do. His experience is that the regulatory agencies either choose not to do anything or just look the other way. He said he is concerned that as more commercial development occurs in this fragile and unpredictable area, on the septic side, the nitrate level is going to go up. His expectation is that the two community wells will exceed the 10 ppm, just like his well has.

Mr. Hearne said if this permit is granted, he has a high expectation that there will be impairment issues of other wells because that water will turn into septic, which is then going to contaminate other wells. Nobody really knows where that goes because of the unpredictable nature of the area. So, in granting this permit it would be creating a mess that somehow would have to be cleaned after the fact. The size of this development dwarfs anything else in the area. The motel is about

equal to the entire subdivision as far as usage goes, and this proposed development will be double or triple of what the motel is. He said in orders of magnitude it is more volume and more septic production. Mr. Hearne said he has already seen the effect, and the neighbors are also going to have the effect, and his guess is that his will get worse.

Mr. Buehner asked Mr. Hearne if he recently installed a cistron. Mr. Hearne answered that he was concerned that his well was pumping three gallons per minutes. If he is washing his motorcycle with a spray washer and his wife takes a shower, she runs out of water, so he installed the cistron for backup capacity. Mr. Buehner asked how deep of a hole was dug for the citron. Mr. Hearne said the installer of the cistron wanted the hole to be eight feet deep, but it was extremely difficult digging, but finally got it seven feet deep.

This concluded questions from Mr. Buehner.

Responding to questions from Mr. Hickey, Mr. Hearne stated that the well was there when he bought the home, and he has been there about 11 years. An application for well construction was filed by the previous owner, and the well was permitted. The well is 75 feet deep. Mr. Hearne said he does not know what the water saturation level is. He asked the company that installed the cistron to do a review of the well, and they didn't find any problems. Mr. Hearne said he does not know the motel well's depth or the gallons per minute for that well. Mr. Hearne said his well is about 250 to 300 yards away from the proposed septic system shown on Exhibit 100.

Mr. Hickey asked if Mr. Hearne has visited with Mr. Eisenbraun about the nature of the septic system that he is contemplating. Mr. Hearne answered that he has talked to Mr. Eisenbraun briefly, but he did not get a good understanding of the septic system at all, and he would like to know more. Mr. Hickey asked if Mr. Hearne would like the engineer who develops the plans for the septic system to share it with him. Mr. Hearne answered that he would like to see it.

This concluded questions by Mr. Hickey.

Ms. Mines Bailey asked Mr. Hearne which letter on DENR Exhibit 3 represents his well. He answered that his well is listed under the prior owner, Norton, and labeled with the letter "F" on the exhibit. Ms. Mines Bailey asked what the depth of the pump is in Mr. Hearne's well. He answered that it is 75 feet.

This concluded questions by Ms. Mines Bailey.

Chairman Hutmacher asked what the motel has for a septic system. Mr. Hearne said it is a mound system, and there are two of them. About 10 years ago, the county required the motel to double the capacity, so the motel had the old septic system taken out and installed two systems and they alternate usage of the two systems.

There were no other questions from board members.

Lon Buehner was administered the oath by the court reporter and testified that he lives at 23734 Pine Haven Drive, Rapid City, South Dakota. Mr. Buehner graduated from South Dakota School of Mines in 1974 with a mining engineering degree. With the mining engineering degree, he had fairly extensive schooling in geology. Upon graduation, he went to work for Amoco, which is a major oil company, and he worked there for 28 years. From 1977 to 1978 Mr. Buehner attended a year-long petrophysics training program at the research center, that was taught by research experts. Petrophysics is the part of geology that deals with the study of rocks. Mr. Buehner said for his career he was on the production site of the business. He was involved in completing wells, repairing wells, predicting performance of wells, predicting performance of reservoirs, and identifying economic opportunities to enhance recovery. He worked on oil wells, gas wells, water wells with electric pumps, including numerous reservoirs that contain natural fractures. Mr. Buehner said in his career he functioned as an expert witness on many occasions with oil and gas commissions as well as an expert witness in some litigation matters. He retired in 2002 and moved into the Rockerville area in 2003.

Mr. Buehner offered Exhibit 200, three photos he personally took and a copy of a postcard of the old Rockerville Gold Town tourist attraction. Chairman Hutmacher admitted the exhibit into the record.

Mr. Buehner said the picture in the upper left corner of Exhibit 200 is a postcard of Rockerville Gold Town. He said he would speculate that this was probably the late 1950's, and the water rights for these properties are dated 1958. The picture on the upper right and the two pictures on the lower part of the exhibit are pictures Mr. Buehner took in the spring of 2020 of the two water

rights that pertain to the heart of Rockerville, Rockerville Gold Town, Rockerville Park. All that is left of Rockerville Gold Town today are the foundations of the buildings. The upper right corner photo shows the construction that has started on the Rockerville PUD. The lower left photo represents the Rockerville Park. The cement slab shown in the picture used to be the restrooms, which were torn down in the last 17 years. In the lower left picture, there is a pipe that is sticking up above a bent fence post. That is one of the wells that the PUD will be using under their 70 gallon per minute water right.

Mr. Buehner said if you look at the staff report, there is a large amount of estimated water being used in the Rockerville Park and in the Gold Town. Mr. Buehner said that water use cannot be valid because of the lack of development that exists.

Mr. Buehner offered Exhibit 201 from the Pennington County records, and is a page from the May 5, 2020, meeting agenda packet for the Rockerville Gold Town PUD, which has been approved by Pennington County.

Ms. Mines Bailey objected based on relevancy and hearsay. Mr. Hickey joined in the objection.

Mr. Buehner said the reason the exhibit is relevant is because this property is in the area of interest and it represents two of the water rights that have been discussed in the testimony.

Chairman Hutmacher sustained the objection, and the exhibit was not admitted into the record.

Mr. Buehner asked if he can talk about the approved PUD without the exhibit. Chairman Hutmacher said Mr. Buehner could talk about the PUD.

Mr. Buehner stated that the PUD in the Rockerville area that has recently been approved by Pennington County consists of 100 townhomes, with 50 of the units being one bedroom and 50 of the units being two bedrooms. In addition, they have approval for two, three-story apartment buildings as well as substantial commercial lots that they plan on selling and developing. Mr. Buehner said there is a lot of development that is going to occur immediately offsetting the applicant's property. Water rights that already exist, water rights that they have been told equate to 70 gallons per minute.

Mr. Buehner offered Exhibit 202, which is a map that he prepared showing the location of the proposed RV park. This map represents area wells that are in the South Dakota well completion database in the 4 section area surrounding the applicant's property. Mr. Buehner said he plotted the locations, and in his subdivision where he knew exactly where the well was located, he noted the exact location.

Mr. Hickey objected to the exhibit on the basis of relevancy. Chairman Hutmacher overruled the objection and admitted the exhibit into the record.

Mr. Buehner said the point he wanted to make is that there are a lot of domestic wells in the area. The aquifer doesn't know if it's a commercial well or a domestic well. The reality is when you start to look at the estimated use of the existing water rights, particularly when you take a look at

Exhibit 200 where very little properties exist, but we're seeing a large allocation of water for those properties. Mr. Buehner said it is important to recognize that the number of domestic wells does have an impact on the water in the area.

Mr. Buehner offered Exhibit 203, which is a copy of a USGS topographic map of the area that he accessed online.

Mr. Hickey objected based on relevancy. Chairman Hutmacher overruled the objection and admitted the exhibit into the record.

Mr. Buehner said the applicant's property is just north of where the map shows Rockerville, north of Highway 16. He said with this exhibit you can see the dramatic drop off in elevation to the northwest, north, and east down into Spring Creek. It is about 600 feet. Mr. Buehner said his interpretation of this exhibit is that the localized aquifer is quite small. This area is located on a fairly flat, but elevated area compared to Spring Creek. He said there won't be an opportunity to get water down in Spring Creek up into the aquifer, and with that degree of relief, the fracture intensity is diminished, if not totally gone and, if anything, the Rockerville area is going to lose precipitation through runoff and into Spring Creek.

Mr. Buehner offered Exhibit 204 is a copy of a page from the DENR staff engineer's referenced study, Hydraulic Conditions and Budgets for the Black Hills of South Dakota.

Mr. Hickey objected on the basis of relevancy. Chairman Hutmacher overruled the objection and admitted the exhibit into the record.

Mr. Buehner said the pink color in the middle of Exhibit 204 represents the Precambrian in the Crystalline core area of the Black Hills. The outcrop of the other formations circles the Black Hills. The Black Hills were created from an uplift and through erosion and in the center of the Black Hills is the inner Crystalline Rock.

Mr. Buehner offered Exhibit 205, which is a picture he took of a sign that exists at the turnout that he pointed out earlier in his cross examination.

Ms. Mines Bailey objected based on hearsay and relevancy. Mr. Hickey joined in the objection. Chairman Hutmacher overruled the objection and admitted the exhibit into the record.

Mr. Buehner offered Exhibit 206, which is a copy of the geologic map of the Rockerville Quadrangle showing the geology in the area. Mr. Buehner said he downloaded it from the internet.

Mr. Hickey objected based on relevancy. Chairman Hutmacher overruled the objection and admitted the exhibit into the record.

Mr. Buehner said this map represents the geologic units that are present on the surface in the Rockerville Quadrangle. There is yellow dot one-third of the way down from the top left side that

shows Rockerville and there is a cross-section that goes very close to Rockerville. That is shown in the upper cross-section at the bottom of the page. The brown represents the Precambrian reservoir. The white is also Precambrian shown below the blue formations. This shows the Madison Formation and other formations dipping to the east. The Precambrian formation underneath that actually is a confining reservoir because the water does not leave those upper formations. There is extremely thick Precambrian Rock where Rockerville sits. That is the rock that fractures are being produced from either weathering or fractures near the surface.

Mr. Buehner offered Exhibit 207, which is a blowup of that same Exhibit 206. It just shows the Rockerville area.

Mr. Hickey objected based on relevancy. Chairman Hutmacher overruled the objection and admitted the exhibit into the record.

Mr. Buehner stated that Exhibit 207 shows the Rockerville area. The yellow around Rockerville represents a surface of thin gravel deposit. The light tan or brownish color represents the Precambrian Rock. Less than a mile to the east there is a blunt shift in the geology to where you get into the Madison Formation.

Mr. Buehner said referring back to the thick Precambrian Formation that he showed earlier, water is being produced from the same formation that the septic effluent is being put in. There is a dramatic change in geology over a very short distance.

Mr. Buehner offered Exhibit 208, which is a photograph he took of a road cut one mile east of the applicant's property.

Chairman Hutmacher admitted the exhibit into the record.

Mr. Buehner stated that this photo is a road cut, which is explained on the sign in the turnout area just to the west. This is the Madison Formation, a prolific water producer that Rapid City and other areas get their water from. The property owners just above this road cut are the Hoffmans. The Hoffman well was listed in the staff report as a Crystalline Rock Aquifer well. Mr. Buehner said with the high rate of 100 gallons per minute that they achieved, along with the description of cuttings, it is his opinion that it probably is more of a Madison Aquifer producer than a Crystalline Rock Aquifer producer. This rock has porosity and permeability that water can flow through, unlike the Crystalline core.

Mr. Buehner offered Exhibit 209, which is a photo he took of another road cut in the heart of the downtown Rockerville area.

Chairman Hutmacher asked Mr. Buehner to provide testimony regarding the water permit application. Mr. Buehner said the geology is very important from the standpoint of understanding the water production.

Chairman Hutmacher admitted the exhibit into the record.

Mr. Buehner stated that Exhibit 209 is a photo he took of another road cut. It is less than a mile from the previous exhibit. This shows the Precambrian Rock that the wells in the area produce out of. It is more fractured near the surface than below the surface, but it is a different type rock and different geology.

Mr. Buehner offered Exhibit 211, which is an open hole completion schematic. He said the reason he went through the geology is that it is important to understand that when producing from natural fractures versus producing from the rock itself, the storage capacity is diminished, and the predictability becomes an issue. Mr. Buehner said Exhibit 211 is an open hole schematic to help understand how the wells produce water.

Ms. Mines Bailey objected on the basis of relevancy. Mr. Hickey joined in the objection and added that it invades the province of the board. Chairman Hutmacher sustained the objection and did not admit the exhibit into the record.

Mr. Buehner stated that almost all of the wells in the area are such that a small amount of casing is set in place, then the hole is drilled, and it is completed open hole. The reason that is done is because when there are fractures that are producing the water, you want to have as much exposure to the reservoir as is possible. Sometimes water is encountered at a fairly high level and sometimes it is deeper. Mr. Buehner said that homeowners in the subdivision that are operating with cisterns with one gallon per minute flow restrictors because of the lack of water from their wells. He said he recently had a well drilled and encountered two gallons per minute at about 100 feet. A lot of wells in this area are drilled to 100 to 200 feet because that is where the first fracture

zone is encountered, according to the drilling reports. A well was drilled to a depth of 650 feet, and below 100 feet no incremental water was found. The reason they know there wasn't any incremental water is because the well was drilled with air, it is air lifted, so they are able to determine whether or not any incremental water was picked up. Mr. Buehner said you can't assume once you get below the initial fracture zone that more water will be encountered. That is why there is some variance with regard to well depths in the area.

Mr. Buehner stated that his Exhibits 214 through 217 are already included DENR Exhibit 1, the administrative file. Those are copies of invoices from Howie Construction that discuss the performance of wells in the area when the well servicing company was called because people were not getting water from their wells. This started in 2003. The two wells that his subdivision drilled and are currently hooked up to cistrons and one gallon per minute flow restrictors were 120 feet deep and 160 feet deep and they initially were air lifted when they were drilled. One well was 10 to 15 gallons per minute and the second well was 15 gallons per minute. In a matter of a few years, rainfall dropped off dramatically. The subdivision called the well servicing company thinking there was a pump problem, a shale problem, or that shale was sloughing in. It was learned that none of that had occurred. The well servicing company tested the pump and it ran fine. Mr. Buehner read the descriptions of the problems with the wells. He said the subdivision has had a difficult time meeting its water needs even though there is not really much water being produced in the area. There are a fair number of domestic wells. The use in the subdivision is approximately 5,000 gallons per day. There is a report on a water permit for the Golden Hills Subdivision, and they estimated their use at 3,500 gallons per day. The two subdivisions are using 8,500 gallons per day compared to the 10,000 gallons per day that the applicant is going to be

using. Mr. Buehner said this does not include the Gaslight, which has been operating for 20 years; hopefully it will get a permit for the water they are using.

Mr. Buehner offered Exhibit 219, which is a copy of a page that the staff engineer, who wrote the report on the application, referenced regarding the Hydrologic Conditions and Budgets for the Black Hills of South Dakota authored by Dan Driscoll and Janet Carter.

Ms. Mines Bailey objected as to hearsay. Mr. Buehner said this report is publicly available, and he got a copy of it from the internet.

Mr. Hickey joined in Mines Bailey objection and due to lack of foundation.

Chairman Hutmacher sustained the motion, and the exhibit was not admitted.

Mr. Buehner stated that the report that the staff engineer referenced, as well as other publications, states that the average precipitation in the Rockerville area or in the core area of the Hills is 18.61 inches of water, and the report also states that they did a pan evaporation study near Pactola, and they determined that 30 inches of water evaporated from that pan during the summer. Mr. Buehner said evapotranspiration or evaporation itself eats up the lions share of the annual precipitation. It is important to understand what happens with the annual precipitation because that is where the recharge to the aquifer comes from. That same report that the staff engineer references states that evapotranspiration is estimated to be 91 percent of the annual precipitation, leaving about nine percent for runoff and recharge.

Mr. Buehner offered Exhibit 221, which is page 59 of the Hydrologic Conditions and Budgets for the Black Hills of South Dakota authored by Dan Driscoll and Janet Carter that the staff engineer referenced and used in his report.

Mr. Hickey objected on the basis of relevance and lack of foundation. Chairman Hutmacher overruled the objection and admitted the exhibit into the record.

Mr. Buehner said this exhibit is a map of the estimated annual yield and contours for the average annual recharge in inches for the Black Hills. The white area in the middle is the Crystalline Rock core of the Black Hills. They have colored and highlighted the Madison and Minnelusa Formations. Rockerville is located in the central area of the core on the right-hand side. Mr. Buehner stated that what the authors, Driscoll and Carter, are saying is they are estimating annual recharge in this area of the Hills to be no more than two inches of water per year.

Mr. Buehner offered Exhibit 222, which is a table he prepared for four permitted areas in the Rockerville area, the water that has been allocated by existing permits, and the acres for each of those properties.

Ms. Mines Bailey objected as to relevance, foundation, and hearsay. Mr. Hickey joined in the objection. Chairman Hutmacher sustained the objection, and the exhibit was not admitted into the record.

Mr. Buehner offered Exhibit 223, an exhibit he prepared summarizing the water for the permits, the annual precipitation, and the published recharge.

Ms. Mines Bailey objected as to relevance, foundation, and hearsay. Mr. Hickey objected as to relevance, foundation, hearsay, and it is also cumulative to his testimony. Chairman Hutmacher sustained the objections, and the exhibit was not admitted into the record.

Mr. Buehner said the water rights that are in place represent recharge over a 1,400-acre area.

Mr. Buehner offered Exhibit 224, which shows the same well database map that he entered earlier with a circle that represents a radius that gets you to 1,400 acres.

Ms. Mines Bailey objected as to relevance. Mr. Hickey objected as to relevance and it is cumulative to Exhibit 202. Chairman Hutmacher sustained the objection, and the exhibit was not admitted into the record.

Mr. Buehner stated that it is his opinion that with the amount of allocated water that is in existence, there is no water available. It hasn't been a problem until now because there was little to no development in the Rockerville area. He said the planned unit development is now being constructed, and in the median of the highway, they are building a city; two apartment buildings, 100 townhomes, a restaurant that is using water without a permit, and a motel. Because of the water that has been allocated to the existing properties, and when comparing that allocation to the two inches of recharge, the numbers show that there is no unallocated water available.

Mr. Buehner offered Exhibit 225, the cover sheet of the Golden Hills Homes drinking water report. It is one of the water rights listed in the area of interest, and Exhibit 226, the Golden hills Homes drinking water report.

Ms. Mines Bailey objected to Exhibit 226 on the grounds of relevance and hearsay. Mr. Hickey objected to Exhibits 225 and 226 on the grounds of relevance and hearsay. Chairman Hutmacher sustained the objections, and the exhibits were not admitted into the record.

Mr. Buehner read the following from the report. “We serve more than 47 customers an average of 3,525 gallons of water per day. Our water is groundwater that we produce from local wells. The state has performed an assessment of our source water and they have determined that the relative susceptibility rating for the Golden Hills Homes public water supply system is high.” Mr. Buehner stated that this is a water quality report that is concluding that the susceptibility is high. He said it is his opinion that not only is there is not unallocated water available, but it is not in the public’s best interest. If there is a situation where the plan unit development is up and running with a water right permit, the Gaslight needs help because it doesn’t have a permit, and if there is not sufficient water to meet the applicant’s needs, Mr. Buehner said he doesn’t want to see a situation where existing commercial properties are shutdown. He said he is also deeply concerned with regard to septic because with the Precambrian fractured reservoir, water is being produced from a relatively shallow depth, and that is the same zone that the septic is being put in. The state has recognized that in this area, it is highly susceptible to contamination.

Mr. Hearne had no questions of Mr. Buehner.

Ms. Mines Bailey asked Mr. Buehner if he has a well completion report on file for his domestic well. Mr. Buehner said he doesn't own the well. He is on a shared well that has a filed a well completion report on record. Ms. Mines Bailey asked which well it is. Mr. Buehner said the well is not shown on an exhibit. He said there were about 50 wells that he pulled completion reports and the wells shown on DENR's exhibit shows substantially less wells than that. Ms. Mines Bailey asked what name Mr. Buehner's well is listed under. Mr. Buehner answered that it is an Earl Stratmeyer well. The location is not where DENR Exhibit 3 shows it is. In response to a question from Mr. Mines Bailey, Mr. Buehner said the well is not shown on DENR Exhibit 3 as D, and of the Es, or either of the Ns. He said his two shared wells are on lots that are adjacent to the applicant and within 500 to 700 feet of the proposed wells. They are not shown on the exhibit. Mr. Mines Bailey asked if the wells are listed on the key. Mr. Buehner said his Exhibit 213 was taken from the South Dakota well completion report and has the date of April 3, 1996, on the bottom of the page, and there is no such well listed on the key in DENR Exhibit 3.

Ms. Mines Bailey asked Mr. Buehner what the depth of his well is and at what depth the pump is set. He answered that the well is 160 feet deep, and the pump is set at the bottom of the well.

Ms. Mines Bailey asked Mr. Buehner if he is aware that recharge to an aquifer can go outside of a property line where the well may be located. Mr. Buehner answered that he believes that could happen. Ms. Mines Bailey asked if the static water level of Mr. Buehner's well was measured during the dry times. Mr. Buehner said it was not.

This concluded Ms. Mines Bailey's questions for Mr. Buehner.

Mr. Hearne, Mr. Hickey, and the board members had no questions of Mr. Buehner.

None of the parties called rebuttal witnesses.

Chairman Hutmacher requested closing remarks.

Ms. Mines Bailey stated that the South Dakota Legislature has imposed statutes that require that water be put to the maximum beneficial in the state. SDCL 46-2A-9 which sets for the four factors that must be met before any permit can be granted. Those four factors are 1) there has to be availability of unappropriated water, 2) it has to be demonstrated that there will not be unlawful impairment of existing rights, 3) it has to be a beneficial use, and 4) in the public interest. With regard to the availability of unappropriated water, the board heard testimony from Adam Mathiowetz, an expert engineer with years of experience and education in hydrology and geology. The best information available about the Crystalline Rock Aquifer is that there is, at a minimum, 3,600 acre-feet of recharge to this aquifer every year. Mr. Mathiowetz also testified regarding the best information available and it just isn't set up so it can be calculated on a smaller, more local scale. In looking at this, Mr. Mathiowetz also evaluated the withdrawal, and said it was most appropriate to look at a smaller area of withdrawals because of the fault lines that exist. Because of the natural constrictions on the water, he looked at that limited area and said that there is a total water use of approximately 217 acre-feet per year. Based on that, Mr. Mathiowetz concluded that

there is unappropriated water available. Mr. Mathiowetz looked at the potential for unlawful impairment, and he testified that there is clear evidence that this aquifer is unpredictable, that there is no uniformity to the fractures within this aquifer. Mr. Mathiowetz testified that, given the fact that there is a lack of significant history of complaints in this aquifer or even this portion of the aquifer, and given the relatively low diversion rate and the low volume requested by the applicant, that it was his expert opinion that it was unlikely to cause unlawful impairment. The third fact is beneficial use, which is defined by statute as beneficial to the appropriator. Mr. Eisenbraun testified to that, expressing the benefit of his campground and business venture. The board also heard the chief engineer testify to the fact that this is the type of use that has been found to be beneficial by the Water Management Board historically. The fourth factor is public interest. The board heard chief engineer Gronlund testify that this use has been found to be in the public interest in the past. Overall, as this board knows, anytime someone sinks a well, they are not guaranteed water, and that a permit doesn't equal water, but in this matter the four factors have been met. There has been evidence presented meeting all of the factors for granting a water permit.

Ms. Mines Bailey stated that the chief engineer recommended approval of Water Permit Application No. 2805-2 with the qualification that have been proposed. She noted that the board may add other qualifications as it deems necessary.

Mr. Hickey said he would join in the argument of the state, and that the applicant accepts the qualifications and condition as outlined in the chief engineer's recommendation. It is in the public interest, the evidence shows that there is available water based upon reasonable probability, there

is no unlawful impairment to adequate wells in the area, be it domestic or otherwise permitted, and it is in the public interest. He requested that the board approve the application.

Mr. Buehner stated that there is no unallocated water. He said you can't be using water if properties don't exist or buildings don't exist in the Rockerville area. That will change with the planned unit development where a city of 300 people is in the process of being built. He said he puts a lot of faith in Dan Driscoll and Janet Carter. They have published a lot of information, and when they estimate two inches of recharge, he believes that because his wells indicate that, or the wells wouldn't be on cistrons with one gallon per minute flow restrictors. Mr. Buehner said when you take wells that go from 10 to 15 gallons per minute, and in a matter of a few years they are on a one gallon per minute flow restrict and barely getting by with water, that tells him that the recharge is very limited. He encouraged the board and staff to take a hard look at water rights in this area because there are properties that have been operating, in some cases for decades, without a valid water right. Mr. Buehner said he has a concern with public interest on things like the Gaslight. The Gaslight is highly regarded by the community people in the area. It is the only restaurant outside of Rapid City unless you go to Keystone. Mr. Buehner said if there is a water production problem, he or someone in the community will be notifying the state. It is going to be very difficult for them to see where the problem is. The Gaslight has been using potentially thousands of gallons a day, and they don't even have a water right permit, so there is going to be serious consideration in shutting the Gaslight down. That type of action is not in the public interest. Mr. Hearne commented during his testimony that the nitrate level in his water exceeds the 10 parts per million. Mr. Buehner said he did not get into it in this discussion, although he had furnished it with the information that is part of Exhibit 1. Mr. Buehner said he has filed formal

complaints with DENR on the septic issues with the amount of septic effluent be disposed of versus what is permitted. The DENR elected to send the complaint to the county. Mr. Buehner said his community has not heard one word in a year, so if this application is approved, he will file the complaint and will again hope that the staff and the board recognize the situation. He said his calculations show there is no unallocated water available and he does not believe it is in the public's best interest to go ahead with additional water knowing that a city of 300 is being built right next door. There are domestic wells in the area that are barely getting by, and septic systems that may be causing the water to be unsafe to drink.

Chairman Hutmacher requested board discussion and board action.

Mr. Freeman said he believes the staff engineer testified that water is available, and the other factors have been met. There was no other expert testimony to the contrary. Qualification No. 1 offers protection on the water use. He appreciates the septic issue concerns, but the Water Management Board does not have jurisdiction of those issues.

Motion by Freeman, seconded by Larson, to approve Water Permit No. 2805-2, R & J, 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 proposed Findings of Fact and Conclusions of Law, which are due by September 10, 2020. Objections and alternative findings are due by September 25, 2020.

Chairman Hutmacher closed the hearing and declared a recess until 8:30 am on July 9, 2020.

JULY 9, 2020

Chairman Hutmacher called the meeting back to order at 8:35 a.m.

Board members present were Bjork (remotely), Dixon, Freeman, Holzbauer, Larson, and Hutmacher. Comes was absent.

WATER PERMIT APPLICATION NO. 1992-1, TOWN OF BUFFALO: Chairman Hutmacher opened the hearing.

Mr. McVey stated that included in the board packet were the report on the application, recommendation of the chief engineer, petitions in opposition, Affidavits of Publication, notices of the scheduled hearing, motions filed by the parties, and a variety of Orders from the prehearing chairman.

July 8, 2020 Trisha Etringer submitted a Motion for Continuance, and Dakota Rural Action submitted an Objection, Response, and Motion for Reconsideration in response to an Order from the prehearing chairman denying Dakota Rural Action's earlier Motion of a Continuance. These two documents were not included in the board packet.

Mr. McVey stated that the Motion for Continuance filed by Ms. Etringer is identical to the motions the board acted on the prior day of the meeting.

Motion by Freeman, seconded by Larson, to deny Ms. Etringer's motion for a continuance of the hearing for the reasons as set forth in the earlier order relating to Dakota Rural Action's motion. A roll call vote was taken, and the motion carried unanimously.

Mr. McVey stated that Dakota Rural Action filed a motion for reconsideration of the prior Motion for Continuance filed by Dakota Rural Action and denied by the prehearing chairman on July 2, 2020. Mr. McVey said this motion did not contain any new information.

Motion by Freeman, seconded by Holzbauer, to deny Dakota Rural Action's Objection, Response, and Motion for Reconsideration. A roll call vote was taken, and the motion carried unanimously.

Chairman Hutmacher requested appearances.

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

Dusty Ginsbach, attorney, represented the town of Buffalo.

Ms. Mines Bailey offered Exhibit 1, the administrative record for Water Permit Application No. 1992-1, town of Buffalo. It contains the application, the report, the recommendation, the petitions

to intervene, notice of publication, and all subsequent filings by the parties. Chairman Hutmacher admitted Exhibit 1 into the record.

Ms. Mines Bailey called Whitney Kilts who was administered the oath by the court reporter.

In response to questions from Ms. Mines Bailey, Ms. Kilts testified that she has been natural resources engineer with the Department of Environment and Natural Resources Water Rights Program for about five years.

Ms. Mines Bailey asked Ms. Kilts to identify Exhibit 2. Ms. Kilts said Exhibit 2 is a copy of her curriculum vitae. The curriculum vitae was prepared by Ms. Kilts and it is up to date.

Ms. Mines Bailey offered Exhibit 2. Chairman Hutmacher admitted the exhibit into the record.

Ms. Mines Bailey asked Ms. Kilts to explain what her job entails. Ms. Kilts said she prepares technical reports for the chief engineer on assigned groundwater permit applications, provides testimony to the Water Management Board on contested applications, responds to inquiries from the public and other state and federal agencies on aquifer, dam, water well, and basic water rights information questions. Ms. Kilts also co-directs the daily activities of the seasonal observation well technicians, and she helps perform data management in quality control and quality assurance on the observation well network program. Ms. Kilts does water permit licensing inspections and dam safety inspections, assists in the review of plans and specifications for the Dam Safety Program as well as other activities as assigned.

Responding to questions from Ms. Mines Bailey, Ms. Kilts stated that she is familiar with Water Permit Application No. 1992-1. She prepared the report to the chief engineer on Water Permit Application No. 1992-1. The scope of her review was to determine if unappropriated water was available in the aquifer for the proposed diversion by the application and to see if there was potential for unlawful impacts to existing rights as a result of the application.

Ms. Kilts said in the last paragraph on page 7 of the report, “City of Buffalo” should be changed to “town of Buffalo.”. Ms. Kilts noted that the pending application that was referred to under *Withdrawals* on page 5 was granted after the report was finalized.

Ms. Mines Bailey asked Ms. Kilts to present her report.

Ms. Kilts stated that Water Permit Application No. 1992-1 by the Town of Buffalo proposes to appropriate up to 82 acre-feet of water annually at a maximum instantaneous diversion rate 0.19 cubic feet per second (cfs) from the Hell Creek aquifer for municipal use. The diversion point is one existing well (280 feet deep) located on the southeast edge of Buffalo, SD.

The Hell Creek Aquifer exists within the saturated, permeable, and porous portions of the Hell Creek Formation which is part of the Cretaceous aged deposits that underlie portions of South Dakota, North Dakota, Wyoming, Montana, and Canada. The formation is comprised of shale interbedded with carbonaceous shale, bentonitic silty shale, siltstone, sandstone, and claystone-pebble conglomerate.

Ms. Mines Bailey asked if the aquifer is confined or unconfined. Ms. Kilts answered that it varies depending on the location. Based on the well completion report submitted with Application No. 1992-1, the well was completed under confined conditions. A study by Allen and others in 1985 estimated that for the South Dakota portion of the aquifer, water in storage was in excess of 82,000,000 acre-feet.

The Water Rights Program monitors one observation well completed into the Hell Creek aquifer.

In reviewing the application, Ms. Kilts said she looked at whether unappropriated water was available for the requested diversion made by the application and potential for unlawful impairment to existing rights. For determining the availability of unappropriated water, the Water Rights Program uses the best information available to determine if there a reasonable probability that the appropriation could be made without average annual withdrawals from the aquifer exceeding average estimated annual recharge to the groundwater source.

Responding to questions from Ms. Mines Bailey, Ms. Kilts said recharge is water that enters the aquifer and a withdrawal is an artificial means of extracting water from the aquifer. The Hell Creek Aquifer receives recharge through infiltration and precipitation, streamflow, and infiltration, and groundwater flow. In determining the estimated recharge, Ms. Kilts used the 1985 report by Hedges and Burch, which used base flow regression analysis in two locations in South Dakota to determine an order of magnitude for recharge. The estimates that resulted from the analysis were 0.25 and 0.29 inches per year. When those amounts are applied over the area of the aquifer in

South Dakota, that results in an estimated average annual recharge to the Hell Creek Aquifer in South Dakota of approximately 112,306 to 130,275 acre-feet per year. The Hedges and Burch study is the best information available about recharge to the Hell Creek Aquifer in South Dakota.

There are 12 water rights/permits on file with the Water Rights Program appropriating water from the aquifer, and there are also domestic and livestock withdrawals from wells in the aquifer. Ms. Kilts used the information in the Water Rights Program database to estimate the appropriate withdrawals from the aquifer to be less than 806 acre-feet per year. Based on how the Water Rights Program has historically done estimations, for those permits limited by a diversion rate, Ms. Kilts said she estimated 60 percent of full-time pumping. The exception was Water Permit No. 1963-1. For that permit Ms. Kilts estimated full use since it's both for irrigation and non-irrigation use and it was a relatively new permit so there was no long period of record for irrigation use.

Ms. Kilts stated that observation well HR-86F, which is the Hell Creek Aquifer observation well, is located about 3.9 miles to the southeast of the well site for this application. The Water Rights Program's online publicly available observation well database will automatically generate hydrographs. Ms. Kilts used that database to generate the hydrograph for HR-86F.

Ms. Mines Bailey offered Exhibit 4, the hydrograph for Hell Creek observation well HR-86F. Chairman Hutmacher admitted the exhibit into the record.

In response to questions from Mr. Mines Bailey, Ms. Kilts stated that the period of record for the information on Exhibit 4 is from 1986 to 2019. The period of record is important because the longer the period of record, the better idea the Water Rights Program has of how the aquifer responds, either climatically or with any withdrawals in the aquifer. The hydrograph shows that the water levels in the aquifer have been fairly stable over the period of record, and there has even been a slight increase in the water level, which would indicate there is more water in storage in the aquifer. Additionally, the observation well data shows that the well responds to climatic conditions, recharging during wet periods and a gradual decline during dry periods.

Ms. Kilts stated that the best information available indicates that unappropriated water is available in the Hell Creek Aquifer for the diversion proposed by Water Permit Application No. 1992-1, town of Buffalo.

Ms. Kilts stated the Exhibit 5 is a map of the vicinity of Buffalo. The map specifically shows domestic and stock wells in the area of the proposed diversion point that are on file with the Water Rights Program. The map also shows approximate locations of Buffalo water rights/permits and other Hell Creek Aquifer water rights/permits, and the location of the Hell Creek observation well. Ms. Kilts created this map using the ESRI ArcMap program and information from the Water Right database, the observation well database, and the well completion report database.

Ms. Mines Bailey offered Exhibit 5. Chairman Hutmacher admitted the exhibit into the record.

Ms. Mines Bailey asked Ms. Kilts to describe the different designations shown on Exhibit 5. Ms. Kilts stated that the yellow star shows the approximately location of the well that Application No. 1992-1 proposes to use. The red triangles in the area of the star are the other water rights and permits for Buffalo. The blue diamond is the location of the Hell Creek observation well. The red circles indicate other Hell Creek water rights/permit within the extent of the map. The green circles are domestic and stock wells that are on file with the Water Rights Program.

Ms. Kilts stated that within South Dakota the Water Rights Program has 12 water rights/permits on file for the Hell Creek Aquifer. The closest water rights to the proposed diversion point are the other water rights held by Buffalo. The closest ones not belonging to the applicant are Nos. 1963-1 and 1963A-1, which are located approximately eight miles west of the well site for this application. The Water Rights Program has on file six domestic wells within a mile of the application. It is possible that there are other domestic wells in the area. The closest domestic well on file with the Water Rights Program is the Penn Well, which is about one-tenth of a mile away from the well site for this application.

Responding to questions from Ms. Mines Bailey, Ms. Kilts stated that unlawful impairment is a direct result of pumping from the appropriation if there is a reduction of needed water supply in adequate domestic wells or in adequate wells having prior water rights. Part of what the Water Rights Program uses to determine that is how an adversely impacted domestic well is defined, which is a well in which the pump intake was set at least 20 feet below the top of the aquifer at the time of construction or if the aquifer is less than 20 feet, as near to the bottom of the aquifer as is

practical, and the water level of the aquifer has declined to a level that the pump will no longer deliver sufficient for the well owner's needs.

Ms. Kilts stated that based on the best available information, there is a reasonable probability that there will not be an unlawful impact to existing rights, should this application be granted. That is based on the fact that there is not a history of complaints associated with the pumping from Buffalo's existing water rights and that no impacts are being seen on the observation well from withdrawals from the aquifer.

Ms. Mines Bailey asked how artesian head pressure factors in. Ms. Kilts explained that to get to the point where there is an adversely impacted domestic well, the water level would need to decrease to a point that is below the top of the aquifer. Artesian head pressure drives the water level to be above the top of the aquifer. Based on the well completion report submitted with the application, there is approximately 170 feet of artesian head pressure that would have to be depleted before a water level even reached to top of the aquifer.

Ms. Mines Bailey asked Ms. Kilts to explain there being no impact on the observation well. Ms. Kilts stated that the hydrograph for the observation well shows it is dominated by climatic conditions and no characteristics of pumping impacts are shown the hydrograph.

Ms. Mines Bailey asked how close water rights are to the observation well. Ms. Kilts stated that the city of Buffalo's other water rights are four to four and a half miles from the observation well. They have been pumping for a while, and no impacts on the existing wells have been seen in

the observation well data. Ms. Kilts said it would be in the applicant's best interest, since they have other wells in close proximity, to manage pumping from this well so as not to impact their other wells.

Ms. Mines Bailey asked Ms. Kilts if she would expect to see any impact to Mr. Wilson's permits, which are eight miles away from this well. Ms. Kilts stated that she believes Ms. Mines Bailey is talking about Permit Nos. 1963-1 and 1963A-1, which are indicated on Exhibit 5. Since impacts are not seen on the observation well, which is four miles away, Ms. Kilts said she would not expect to see impacts to Mr. Wilson's wells at a distance of eight miles away. Impacts of drawdown due to pumping will decrease the further away you get from the pumping well.

Ms. Mines Bailey asked Ms. Kilts if she reviewed the petitions in opposition of the application. Ms. Kilts said she read the petitions. The petitions expressed a number of concerns and several of the concerns are related to public interest issues. There are also concerns that the applicant did not indicate on the application that they may potentially supply water to TC Energy. There was also a statement that they believe that this application, if granted, would unlawfully impact existing rights, however, there was not an explanation as to how that would occur as a result of the application.

Ms. Mines Bailey asked Ms. Kilts if her review encompasses any of the petitioners' concerns regarding the potential sale of water to TC Energy or any of the other public interest concerns expressed. Ms. Kilts said it does not because she did not look at public interest when preparing her report. Ms. Mines Bailey asked if Ms. Kilts had a response to their concerns regarding the

impact on existing rights. Ms. Kilts stated that based on how you look at whether there is an unlawful impact to existing rights, the best information available would indicate that there is a reasonable probability that existing water rights would not be unlawfully impacted. She noted that the chief engineer does have a proposed qualification that addresses unforeseen, unexpected issues.

Ms. Mines Bailey asked if the town of Buffalo expressed in their application why they are seeking a new water permit. Ms. Kilts stated that the application indicated the town of Buffalo that they would like to drill a deeper well to see if they could get better water quality and to start to retire two other existing wells.

Ms. Mines Bailey asked if it is common to retire a well. Ms. Kilts stated that based what is in the water permit files on some of the ages of Buffalo's other wells, it would not be a surprise that they may need to replace some of the wells.

This concluded questioning by Ms. Mines Bailey.

Mr. Ginsbach asked Ms. Kilts if she has an opinion in her report as to the recoverable acre-feet of water in Harding County. Ms. Kilts answered that on page 3, of the report in Table 1 the estimated recoverable water in the Hell Creek Aquifer is broken down by South Dakota county. For Harding County, the estimated recoverable water is in excess of 28,000,000 acre-feet.

Mr. Ginsbach asked how many acre-feet per year the town of Buffalo is requesting to withdraw for this permit. Ms. Kilts stated that the town of Buffalo requested withdraw of up to 82 acre-feet of water annually.

Responding to a question from Mr. Ginsbach, Ms. Kilts stated based on the best information available, average annual recharge to the aquifer exceeds estimated average annual withdrawals in South Dakota. Ms. Kilts stated the average annual recharge, based on her analysis, is in excess of estimated average annual withdrawals by a great amount.

Mr. Ginsbach asked if it is very unlikely that 82 acre-feet per year withdrawn under this permit is going to exceed the resource of 28,515,200 acre-feet. Ms. Kilts answered yes.

Mr. Ginsbach asked if the discharge of the Penn well is monitored. Ms. Kilts stated that, to her knowledge, the Penn well is not monitored. Mr. Ginsbach asked if, in theory, there could be no discharge out of the Penn well. Ms. Kilts answered if the well is not being used, yes. Mr. Ginsbach asked if Ms. Kilts has any recollection as to when DENR was given notice of the Penn well's use. Ms. Kilts answered she is not sure what date the department received the well completion report for the Penn well.

Mr. Ginsbach asked if it is common that when a domestic well is abandoned, DENR receives that information. Ms. Kilts stated that an abandoned well should be plugged, and a plugging report for the well should be submitted to the department. The other possibility is that the owner of the well

may think at some time in the future they may use the well; it could be temporarily abandoned and kept with out being plugged, and the department would not receive notice of that.

Mr. Ginsbach asked if anyone with the state follows up on those domestic wells to see if they have been plugged. Ms. Kilts answered that when the Water Rights Program receives well completion reports, well plugging reports, well rehab report, that information is entered into the well completion report database. A well completion report and a well plugging report are not matched up and placed in the same file. The Water Rights Program does not routinely contact domestic well owners to ask what the status of their well is.

Mr. Ginsbach asked if there is any portion in the state of South Dakota where the Hell Creek formation is unconfined. Ms. Kilts answered yes. Mr. Ginsbach asked if it is in Harding County. Ms. Kilts stated that there are likely areas in Harding where the aquifer is unconfined.

Mr. Ginsbach asked if there is any interplay between the Hell Creek Aquifer and any other aquifer. Ms. Kilts answered that there is potential that at some locations there may be interplay between the Hell Creek Aquifer and Fox Hills, however, those locations are not well mapped.

This concluded questioning by Mr. Ginsbach.

There were no questions from the board members.

Ms. Mines Bailey called Eric Gronlund, who had previously been administered the oath.

Mr. Gronlund testified that he is employed by the Department of Environment and Natural Resources in the Water Rights Program as the chief engineer.

Mr. Gronlund identified Exhibit 3 as his curriculum vitae.

Ms. Mines Bailey offered Exhibit 3. Chairman Hutmacher admitted the exhibit into the record.

In response to questions from Ms. Mines Bailey, Mr. Gronlund stated that he has been the chief engineer for four and one half months. Before becoming chief engineer, Mr. Gronlund said he has worked in various positions in the Water Rights Program since 1990. Mr. Gronlund has been employed at the Department of Environment and Natural Resources since 1984. Prior to becoming chief engineer, Mr. Gronlund was an engineering manager performing the day to day administration of the water permitting process, which starts at the time someone inquires about an application, the review of the application, the assigning of the application to a staff person and helping them with the technical review, drafting the recommendation for consistency purposes, going through the public notice process, and if contested, the scheduling of the matter before the Water Management Board.

Mr. Gronlund stated that he has been involved with Application No. 1992-1 since it was first submitted. He has reviewed the report authored by Whitney Kilts.

Mr. Gronlund stated that he reviewed the recommendation issued by former chief engineer, Jeanne Goodman, and he concurs with and adopts the recommendation.

Mr. Gronlund said he believes this is a beneficial use. He said he believes it is in the public interest because the past board decisions have consistently been that water being used for municipal purposes, for the inhabitants of municipalities, is a beneficial use and in the public interest.

Mr. Gronlund said he concurred with the former chief engineer's recommendation of approval of the application with the following qualifications:

1. The well 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 control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The well authorized by Permit No. 1992-1 shall be constructed by a licensed well driller and construction of the well and installation of the pump 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.
3. The permit holder shall report to the Chief Engineer annually the amount of water withdrawn from the Hell Creek aquifer.

4. Water Permit No. 1992-1 authorizes a total annual diversion of 82 acre-feet of water.

Ms. Mines Bailey asked if Mr. Gronlund reviewed the petitions that were filed in opposition to the application. Mr. Gronlund answered that he has reviewed the petitions. Ms. Mines Bailey asked Mr. Gronlund what his understanding is regarding the petitioners' concerns. Mr. Gronlund stated that he concurs with what Ms. Kilts said earlier, but he believes the real concern is that the town of Buffalo would be providing construction water to TransCanada. The town of Buffalo is seeking an appropriation for municipal use. Municipal use includes industry, institutional, commercial, municipal, and irrigation.

Ms. Mines Bailey asked if it is common or uncommon to sell water for construction or road projects. Ms. Gronlund said he believes that is a very common practice. Ms. Mines Bailey asked if the town of Buffalo provided any description as to why they were seeking an additional water permit. Mr. Gronlund stated that according to the application, the town of Buffalo would like to drill a deeper well to see if they can get better water and start to retire two other existing wells.

There were no questions from Mr. Ginsbach or the board members.

Ms. Mines Bailey rested.

Mr. Ginsbach called Ryan Smith, waste and water superintendent, town of Buffalo, who was administered the oath by the court reporter.

Responding to questions from Mr. Ginsbach, Mr. Smith testified that he completed the application for Permit No. 1992-1. The water will be used for municipal use because it is his understanding the municipal use includes the sale of water to homes. Mr. Smith said he reviewed the 1999 applications for the town of Buffalo for a new well, and that is where the use on this application came from.

Responding to questions from Mr. Ginsbach, Mr. Smith stated that the town of Buffalo has a description for the wells that are not related to the permit number. The 1999 well is referred to as Well 7, and the new well for No. 1992-1 will be Well 8. The town of Buffalo has four operating wells; Well 3, 4, 5, and 7. Well 1 is retired, Wells 2 and 6 are plugged but have water rights that the town is planning to retire.

In response to questions from Mr. Ginsbach, Mr. Smith stated that he was involved in the siting of the test hole for this application. The test hole is located on the southeast side of town directly north and northeast of the baseball fields and northeast of the golf course. The rodeo arena and the football field are also in the vicinity of the test hole. The airport road is near the test hole, and the airport is located 1,500 feet from the test hole. A map showing the location of the test hole was included in the permit application. The town of Buffalo does not own the property on which the test hole is located; it is owned by the Chamber of Commerce/Buffalo Commercial Club. The Harding County Chamber of Commerce also owns the football field, baseball fields, and rodeo

arena. Harding County owns the airport and property to the south of Airport Road. The town of Buffalo owns the water tower and the land around the water tower. The county and Heath Page own property near the water tower.

Responding to questions from Mr. Ginsbach, Mr. Smith said he contacted the Harding County Chamber of Commerce to discuss the location and timing of the test hole. After that there was discussion regarding setting up committees for the negotiation for the piece of property that the well was going to sit on. The town of Buffalo reached an agreement with the Chamber of Commerce regarding the use of their property. Mr. Smith said he was not involved in the negotiations, other than offering his opinion. He said his opinion was that originally the Chamber of Commerce was asking for quite a bit, but when the committees were together and negotiations took place, he believed it was a fair compromise between the town and the Buffalo Commercial Club.

Mr. Smith identified Exhibit A, the license to use premises between the town of Buffalo and the Harding County Chamber of Commerce.

Mr. Smith offered Exhibit A. Chairman Hutmacher admitted the exhibit into the record.

Responding to questions from Ms. Ginsbach, Mr. Smith stated that Exhibit A is entitled "License to Use Premises." The parties are the town of Buffalo and the Buffalo Commercial Club. The Harding County Chamber of Commerce and Buffalo Commercial Club support the community by sponsoring community functions. The Harding County School District uses the football field for

games, practices, and community events. The football field is irrigated. The town of Buffalo supplies water for irrigation from its distribution system, which is treated by chlorine injection.

Mr. Ginsbach asked if water for construction is treated. Mr. Smith said some is and some isn't. He said most of the Well 7 water is sent to a bulk tank, and that is untreated and sold as non-potable water. If water from a hydrant or a house is used, then it is treated. Well 8 is synonymous with Permit No. 1992-1. The water coming from Permit No.1992-1, if approved, will be treated, but water for bulk sales will not be treated. Well 8 will be connected to the city distribution system, and there would temporarily be a separate line for bulk water sales. That line could be turned into a special line for irrigation systems, which would be near the baseball fields, the golf course, and possibly the football field. Mr. Smith stated that the town of Buffalo commonly sells water for construction, to private individuals, corporations, and state entities.

Mr. Ginsbach asked Mr. Smith how long he has worked for the town of Buffalo and to name the companies that have purchased water from the town of Buffalo. Mr. Smith stated that he has worked for the town of Buffalo for two years. Recently water has been sold to Olson Construction, Ace in the Hole Construction, Keller Drilling, and a company constructing the road for DOT.

Mr. Ginsbach asked if selling bulk water is profitable to the town of Buffalo. Mr. Smith stated that the town makes enough money to keep the well running. Mr. Smith said the money goes directly to the general fund and is in no way tied to his compensation. For bulk water from Well 7 the town charges \$10 per 1,000 gallons.

Responding to questions from Mr. Ginsbach, Mr. Smith said he has lived in Buffalo just over two years. He also lived there from 1990 to 1995. Before that he lived in Pennington County and Montana. Mr. Smith said his family and extended family lives in Buffalo. He is married and his wife lives in Buffalo. He said his wife was not born there but grew up in Buffalo. Mr. Smith said he frequently went back to Buffalo between 1995 and 2017.

In response to questions from Mr. Ginsbach, Mr. Smith stated that the license agreement states that water will be available for multiple uses, including recreation, fire suppression, construction, and drinking water. The last page of the license agreement is signed by Gary Johnson, president of the town of Buffalo board and Sam Olson, president of the Harding County Chamber of Commerce. Mr. Smith said the price the town was going to sell the water for in this contract was \$7.00 per 1,000 gallons. Of that, the Harding County Chamber of Commerce will receive \$5.00 per 1,000 gallons of water that the town sells as construction sales relating to projects where the cumulative construction sales will be greater than 500,000 gallons.

This concluded questions by Mr. Ginsbach.

Responding to questions from Ms. Mines Bailey, Mr. Smith stated that Water Permit No. 1691-1 (Well 7) is in operation, for Water Permit No. 1178B-1 (Wells 4 and 5) the two wells are active, Water Permit No. 278-1 (Well 3) is active, Water Permit No. 1163-1 (Well 6) is inactive and plugged, and Water Permit No. 1178A-1 (Well 2) is inactive. The two wells that the town plans on retiring are Well 2 and 6. Well 5, which is active at this time, will be retired in the future.

This concluded questioning by Ms. Mines Bailey.

Mr. Ginsbach asked if retiring a well encompasses giving up the water right. Mr. Smith said as far as he knows it does not. Mr. Ginsbach asked if the town would keep the priority water right to reserve future use for the town of Buffalo. Mr. Smith said that would be up to the town board.

There were no questions from the board.

Chairman Hutmacher requested closing statements.

Ms. Mines Bailey stated that the overriding policy of the state of South Dakota is that we are to put water to maximum beneficial use. There was testimony today that the town of Buffalo requested 82 acre-feet of water for municipal use. There was testimony that the city would like to water a football field and provide water to its residents as well as sell water for municipal purposes for construction. SDCL 46-2A-9 states that a permit to appropriate water may be issued only if there is reasonable probability that there is unappropriated water available for the applicant's proposed use, that the proposed diversion can be developed without unlawful impairment of existing rights, that the proposed use is a beneficial use and in the public interest. The board heard testimony today from Ms. Kilts that unappropriated water is available in the Hell Creek Aquifer. This is a vast resource with very low use. There was testimony that the likelihood of unlawful impairment is quite low. There are no impacts being seen to the observation well located within four miles of the proposed diversion site. There was testimony that if effects aren't going to be

felt four miles away, they are not going to be felt eight miles, 80 miles or 100 miles away. There was testimony from Mr. Gronlund that he adopts the recommendation of the former chief engineer and that this is consistent with the board's past rulings that this is a beneficial use and in the public interest. He testified as to municipal use and what it encompasses. Ms. Mines Bailey said it is the recommendation of the chief engineer that this application be granted. This clearly meets the requirements of SDCL 46-2A-9. Providing water to people is a beneficial use and in the public interest. Ms. Mines Bailey said the chief engineer requests that the board grant this application with qualifications.

Mr. Ginsbach stated that the water is available, and it will be put to a beneficial use in the public interest. He said based on the intervenor's concerns about the end user of the water, a decision not to grant this application is going to have effects across all of South Dakota and all of its municipalities, which regularly supply construction water to third parties.

Chairman Hutmacher stated that there were no intervenors present for this hearing.

Chairman Hutmacher requested board discussion and/or action.

Motion by Freeman, seconded by Larson, to approve Water Permit Application No. 1992-1, town of Buffalo, 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 proposed Findings of Fact and Conclusions of Law, which are due by September 3, 2020. Objections or alternative findings are due by September 18, 2020. The board will consider adoption of the Findings of Fact and Conclusions of Law on October 7, 2020.

Chairman Hutmacher closed the hearing.

Chairman Hutmacher stated that on the previous day of the meeting board amended the agenda to include the three motions for a continuance of the hearing for Water Permit Application No. 1992-1. Those are still included on the agenda, but the board also needs amend the agenda to include approval of a prehearing chair and alternate prehearing chair. He asked the board to rescind the motion from the previous day which approved the agenda.

Motion by Freeman, seconded by Bjork, to rescind the motion to approve the amended agenda from the previous day of the meeting. A roll call vote was taken, and the motion carried with Bjork, Freeman, Holzbauer, Larson, and Hutmacher voting aye. Dixon abstained.

Chairman Hutmacher requested a motion to approve the agenda as amended to also include appointment of a prehearing chair and alternate prehearing chair.

Motion by Bjork, seconded by Freeman, to approve the agenda as amended to include appointment of a prehearing chair and alternate prehearing chair. A roll call vote was taken, and the motion carried unanimously.

Motion by Bjork, seconded by Holzbauer, to appoint Freeman as prehearing chair and Larson as alternate prehearing chair. A roll call vote was taken, and the motion carried unanimously.

ADJOURN: Motion by Freeman, seconded by Holzbauer, to adjourn the meeting. Motion carried.

A court reporter was present for the hearings, and a transcript of the proceedings may be obtained by contacting Jacqueline K. Perli Reporting, Inc., dba Black Hills Reporting, 1601 Mt. Rushmore Road, #3280, Rapid City, SD 57701, telephone number (605) 721-2600.

The meeting was also digitally recorded, and the recording is available on the department's website at <http://denr.sd.gov/boards/schedule.aspx>.

Approved this ___ day of October 2020.

Water Management Board

WATER MANAGEMENT BOARD MEETING

JULY 8-9, 2020

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
1904B-1	Douglas Ottema	Whitewood	LA	0.167 cfs	industrial	3 dry draw dams/dugouts	lf, 2 special
1992-1	Town of Buffalo	Buffalo	HR	0.19 cfs	municipal	1 well-Hell Creek Aquifer	wi, wcr, 2 special
2805-2	R & J LLC	Wall	PE	0.044 cfs	commercial	2 wells-Crystalline Rock	wi, wcr, 2 special
8409-3	Schley Farms/Schley Real Estate LLC	Stratford	BN	22 AF	72 acres	Mud Creek trib of James River	lf, 2 special

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