

ALBERTA ENVIRONMENTAL APPEALS BOARD

Report and Recommendations

Date of Report and Recommendation – December 20, 2024

IN THE MATTER OF sections 91, 92, and 95 of the *Environmental Protection and Enhancement Act*, RSA 2000, c E-12, and section 115 of the *Water Act*, RSA 2000, c W-3;

-and-

IN THE MATTER OF appeals filed by Sharon Bright, Sharon Cockx, Darrel Cockx, Rodney Keller, Anthony Fink, Sylvia Kokts-Porietis, Adrienne MacDonald-Smith, Karen Hall, John Walsh, Marie Jeanne Walsh, Council of the Summer Village of Ghost Lake, Karen Laustsen, Dana Laustsen, Elizabeth Bohme, Connie Beaton, Bruce Macdonald, Peter Attalla, Michelle Attalla, Bob Miller, Sheila Miller, Royce Williams, Dave Williams, and Marlene Williams, with respect to the decision of the Director, Regulatory Assurance Division South, Alberta Environment and Protected Areas, to issue *Water Act* Preliminary Certificate No. 00346962-00-00 to Ian MacGregor.

Cite as: *Bright v. Director, Assurance Division South, Alberta Environment and Protected Areas*, re: *Ian MacGregor* (20 December 2024), Appeal Nos. 22-067-089 (AEAB), 2024 ABEAB 22.

BEFORE:

Ms. Barbara Johnston, Panel Chair;
Ms. Angela Aalbers, Board Member; and
Mr. Kurtis Averill, Board Member.

**BOARD
STAFF**

Mr. Andrew Bachelder, Counsel; Mr.
Cameron Smart, Counsel; and Ms. Denise
Black, Board Secretary.

PARTIES:

Appellants: Ms. Sharon Bright, Ms. Sharon and Mr.
Darrel Cockx, Mr. Rodney Keller, Mr.
Anthony Fink, Ms. Sylvia Kokts-Porietis,
Ms. Adrienne MacDonald-Smith, Ms.
Karen Hall, Mr. John and Ms. Marie
Jeanne Walsh, Council of Summer Village
of Ghost Lake, Ms. Karen and Mr. Dana
Laustsen, Ms. Elizabeth Bohme, Ms.
Connie Beaton, Mr. Bruce Macdonald, Mr.
Peter and Ms. Michelle Attalla,
represented by Mr. Clint Docken, Napoli
Shkolnik Canada,

Mr. Bob and Ms. Sheila Miller.

Mr. Royce Williams, and Mr. Dave and
Ms. Marlene Williams.

Preliminary Certificate Holder: Mr. Ian MacGregor, represented by Mr.
Alex MacWilliam, Dentons Canada LLP.

Director: Mr. Craig Knaus, represented by Ms. Erika
Gerlock, Alberta Justice.

Intervenor: The Stoney Nakoda Nations and the Stoney
Nakoda Land Management Ltd. represented
by Mr. L. Douglas Rae, Ms. Sara Louden,
and Mr. Eric Schneider, Rae and Company.

WITNESSES:

Intervenors: Mr. William Snow, member Goodstoney
First Nation and Acting Director of
Consultation for the Stoney Nakoda Nations.

Appellants: Mr. Rod Keller, Landowner of Arkayla Springs Nature Preserve; Mr. Anthony Fink, Resident, Summer village of Ghost Lake; Mr. John Walsh, Resident and Mayor, Summer Village of Ghost Lake; and Mr. Marc Bowles, Principal Hydrogeologist, Wyndham Environmental Ltd.

Mr. Bob Miller, Resident, Summer Village of Ghost Lake.

Preliminary Certificate Holder: Mr. Ian MacGregor, Preliminary Certificate Holder; and Mr. Vance Mathews, President/Principal Hydrogeologist, Intrinsic Groundwater Solutions, Ltd.

Director: Mr. Craig Knaus, Director, Regulatory Assurance Division South, Alberta Environment and Protected Areas; and Dr. Jianrong Wang, Senior Hydrogeologist Alberta Environment and Protected Areas.

EXECUTIVE SUMMARY

The Director, Regulatory Assurance Division South, Alberta Environment and Protected Areas (the Director) issued a preliminary certificate (the Preliminary Certificate) under the *Water Act* to Ian MacGregor (the Preliminary Certificate Holder). The Preliminary Certificate provided, upon compliance with the conditions of the Preliminary Certificate, the Preliminary Certificate Holder would be issued a licence to operate works and divert water from water source well WSW 7711 (WSW 7711) to supply water to a proposed 44-lot residential development known as Carraig Ridge (Carraig Ridge) to be developed near the Summer Village of Ghost Lake.

Sharon Bright, Sharon Cockx, Darrel Cockx, Rodney Keller, Anthony Fink, Sylvia Kokts-Porietis, Adrienne MacDonald-Smith, Karen Hall, John Walsh, Marie Jeanne Walsh, Council of the Summer Village of Ghost Lake, Karen Laustsen, Dana Laustsen, Elizabeth Bohme, Connie Beaton, Bruce Macdonald, Peter Attalla, Michelle Attalla, Bob Miller and Sheila Miller (the Appellants) filed appeals of the Director's decision to issue the Preliminary Certificate. Royce Williams, Dave Williams, and Marlene Williams also filed appeals of the Director's decision to issue the Preliminary Certificate but did not file submissions with the Board or appear at the hearing. Some Appellants applied for a stay of the Preliminary Certificate. After receiving submissions on whether the Appellants were directly affected by the issuance of the Preliminary Certificate and whether a stay should be granted, the Board found the Appellants were directly affected but declined to issue a stay.

The Board granted intervenor status to the Stoney Nakoda Nations and the Stoney Nakoda Land Management Ltd. and permitted them to file written submissions, speak to their submissions, and cross-examine the Director and Preliminary Certificate Holder at the hearing.

A public hearing was held on November 16 and 17, 2023, with closing oral arguments heard on March 14, 2024. The Board received and reviewed written submissions, assessed oral evidence and arguments presented at the hearing and reviewed the record of Alberta Environment and Protected Areas (EPA) on the following issues set by the Board:

1. Was the Director's decision to issue the Preliminary Certificate to Ian MacGregor appropriate and in accordance with the requirements of the *Water Act*? This is including, but not limited to:

- a. Did the Director's decision adequately consider the connectivity of water well (WSW 7711) to reserve water?
 - b. Did the Director's decision adequately consider the "no harm principle," specifically in relation to the other water users said to be sharing the same aquifer and harm to the environment generally, including Arkayla Springs?
 - c. Was the Director's decision based on "incomplete or inconclusive" information?
2.
 - a. Does the Director have jurisdiction to consider the adequacy of the yield of the water well for the proposed development?
 - b. If so, did the Director's decision adequately consider the yield of the water well for the proposed development.
 3. Are the conditions included in the Preliminary Certificate appropriate?
 - a. Are the monitoring and reporting conditions appropriate?
 - b. Are the complaint investigation conditions appropriate?

The Board found the Director's decision to issue the Preliminary Certificate was appropriate having regard to the *Water Act* and EPA's policies and guidelines. In particular, the Board found the Director considered the requirements of section 66(3) of the *Water Act*, which details the mandatory and discretionary matters the Director should consider when issuing a Preliminary Certificate.

The Board found the terms and conditions of the Preliminary Certificate appropriately addressed the potential impact of the diversion of water at WSW 7711 on the environment and other water users. However, the Board recommended the conditions of the proposed licence be varied to add the publication of measuring and monitoring data collected by the Preliminary Certificate Holder under the terms of the proposed licence, on a public website available on demand. The Board anticipated some of the concerns of the Appellants and Intervenors will be mitigated if this information is readily available. The Board recommended the conditions of the proposed licence be varied to add the requirement that the Preliminary Certificate Holder prepare and maintain a water contingency supply plan to address the potential shortfall in water supply at the proposed development. The Board recommended all other terms and conditions of the Preliminary Certificate be confirmed as issued.

The Board had concerns that despite multiple regulatory bodies being involved in the approval process for the Carraig Ridge development, the issue of the adequacy of water supply for Carraig

ridge had not been addressed. During the approval process and at the hearing the Appellants and EPA subject matter experts expressed serious concern the groundwater supplied by WSW 7711 would not be sufficient to meet the needs of Carraig Ridge when fully developed. While the Board found the Director had the discretion to consider adequacy of water supply when issuing the Preliminary Certificate, EPA policy only requires the Director to consider if the aquifer could sustain the proposed diversion rate and volume without damage to the environment or other water users. The Board is concerned that if WSW 7711 is unable to supply sufficient water to support the proposed 44 home development at Carraig Ridge and another economic source of water cannot be secured, the issue of adequacy of water supply may be brought by future homeowners before the Minister. The Board is also of the view such a situation could be avoided had the Director exercised his discretion and considered overall water needs for the proposed development or had there been a better delineation and cooperation between regulatory bodies for ensuring the adequacy of water supply.

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1. INTRODUCTION

[1] This is the Environmental Appeal Board's (the "Board") Report and Recommendation to the Minister of Environment and Protected Areas (the "Minister") concerning appeals of the decision by the Director, Regulatory Assurance Division South, Alberta Environment and Protected Areas ("the Director") to issue Preliminary Certificate No. 00346962-00-00 (the "Preliminary Certificate") to Ian MacGregor (the "Preliminary Certificate Holder") under the *Water Act*, RSA 2000, c W-3, (the "*Water Act*"). The Board has jurisdiction to hear the appeals pursuant to section 115(i)(a)(i) of the *Water Act*.¹

[2] The Preliminary Certificate provides, upon compliance with the conditions of the Preliminary Certificate, the Preliminary Certificate Holder will be issued a licence (the "Licence") for the diversion and use of up to 6,205 cubic meters per year ("m³/year") of groundwater from water well WSW 7711 ("WSW 7711"), at a maximum diversion rate of 22 cubic meters per day ("m³/day"), to supply water to a proposed 44-lot residential development known as Carraig Ridge ("Carraig Ridge"), to be developed near the Summer Village of Ghost Lake (the "Village").²

[3] The appeals were filed by Sharon Bright, Sharon Cockx, Darrel Cockx, Rodney Keller, Anthony Fink, Sylvia Kokts-Porietis, Adrienne MacDonald-Smith, Karen Hall, John Walsh, Marie Jeanne Walsh, Council of the Summer Village of Ghost Lake, Karen Laustsen, Dana Laustsen, Elizabeth Bohme, Connie Beaton, Bruce Macdonald, Peter Attalla, Michelle Attalla (collectively the "Docken Appellants"), Bob Miller and Sheila Miller (the "Millers"), Royce

¹ Section 115(1) of the *Water Act* provides:

"A notice of appeal under this Act may be submitted to the Environmental Appeals Board by the following person in the following circumstances:

(a) If the Director issues or amends an approval, a notice of appeal may be submitted:

(i) by the approval holder or by any person who previously submitted a statement of concern in accordance with section 109 who is directly affected by the Director's decision if notice of the application or proposed changes was previously provide under section"

² In 2014, the Preliminary Certificate Holder applied for a water diversion licence to divert up to 23,725 m³/year from four water source wells (WSW 7705, WSW 7708, WSW 7711, and WSW 7791) for purposes of supplying water to a proposed development of 45 lots at Carraig Ridge. Subsequently, the Preliminary Certificate Holder amended its application to apply for a water diversion licence to divert up to 6,205 m³ per year from WSW 7711 only for purposes of supplying a proposed development of 44 lots at Carraig Ridge. See Director's Record at page 1268.

Williams, Dave Williams, and Marlene Williams (the “Williams”) (the Docken Appellants and the Millers are collectively referred to as the “Appellants”)

[4] The Docken Appellants were jointly represented at the hearing by Mr. Clint Docken, the Millers represented themselves, and the Williams did not file submissions with Board, nor did they appear at the hearing.³

[5] The Board allowed the Stoney Nakoda Nations (the “Stoney Nakoda”) and the Stoney Nakoda Land Management Ltd. (“SNLM”) to intervene in the appeals (the “Intervenors”) and permitted them to file written submissions, speak to their submissions at the hearing, and cross-examine the Preliminary Certificate Holder and the Director.

[6] The Board held a public hearing on November 16 and 17, 2023 and received submissions and heard oral evidence on the following issues:

1. Was the Director’s decision to issue the Preliminary Certificate to Ian MacGregor appropriate and in accordance with the requirements of the *Water Act*? This is including, but not limited to:
 - a. Did the Director’s decision adequately consider the connectivity of WSW 7711 to reserve water?
 - b. Did the Director’s decision adequately consider the “no harm principle,” specifically in relation to the other water users said to be sharing the same aquifer and harm to the environment generally, including Arkayla Springs?
 - c. Was the Director’s decision based on “incomplete or inconclusive” information?
2.
 - a. Does the Director have jurisdiction to consider the adequacy of the yield of the water well for the proposed development?
 - b. If so, did the Director’s decision adequately consider the yield of the water well for the proposed development.
3. Are the conditions included in the Preliminary Certificate appropriate?
 - a. Are the monitoring and reporting conditions appropriate?
 - b. Are the complaint investigation conditions appropriate?

³ The Board’s Notice of Hearing made it clear that if any party failed to attend the hearing, the Board would proceed to make its Report and Recommendation without their input and without further notice to them.

[7] Based on the evidence and arguments presented, the Board concluded the Director's decision to issue the Preliminary Certificate was appropriate having regard to the *Water Act* and Alberta Environment and Protected Areas' ("EPA") policies and guidelines.

[8] Although, the Board concluded the terms and conditions of the Preliminary Certificate are appropriate, the Board recommended the Preliminary Certificate be varied to require the Preliminary Certificate Holder publish monitoring information for WSW 7711 on a public website and to require the Preliminary Certificate Holder prepare a water supply contingency plan for Carraig Ridge.

[9] The Board is concerned the approved yearly diversion volume for WSW 7711 is not sufficient to supply Carraig Ridge when it is fully developed. It appears to the Board the regulatory bodies charged with the approval of the various aspects of the Carraig Ridge project effectively passed the obligation of determining if there is sufficient water for the purpose at Carraig Ridge to each successive regulatory authority, until the issue was before the Board in the appeals.

[10] The Board notes the Director argued he did not have jurisdiction to consider whether WSW 7711 could adequately supply the proposed Carraig Ridge development. The Director was of the view EPA policy only requires him to determine if the aquifer supplying WSW 7711 (the "Aquifer") can support the approved diversion rate and volume, and responsibility for determining whether there is an adequate water supply for Carraig Ridge lay with the Municipality of Bighorn No. 8 (the "MD of Bighorn").

[11] The Board respectfully disagrees. It is the Board's view the Director has the discretion under section 66(3)(c)(iii) of the *Water Act*, to consider "any other matters applicable to the preliminary certificate... in the opinion of the Director are relevant", which would include the discretion to consider adequacy of water supply.⁴ However, the Board does not have the

⁴ Section 66(3) of the *Water Act* provides:

66(3) In considering whether to issue a preliminary certificate, the Director ...

(c) may consider ...

(i) any other matters applicable to the preliminary certificate or licence that, in the opinion of the Director are relevant including any water guideline water conservation objective and water management plan.

jurisdiction to require the Director to exercise a discretionary power. Therefore, the question of the adequacy of water supply at Carraig Ridge remains unanswered after many years of scrutiny and review by various regulatory bodies, including the hearing before the Board. The Board is concerned that if there is a shortfall of water once Carraig Ridge is partially or fully developed, and if homeowners are unable to secure a reliable and economic source of groundwater, it is likely the issue of adequacy of water supply will be before the Minister, a result that could have been avoided had there been a better delineation of responsibilities between, and cooperation of, the various regulatory bodies involved in the approval and licencing process or had the Director considered the overall impact on provincial water supply as it is likely any shortfall of water would have to be supplied from other sources in Alberta.

2. KEY TERMS

[12] The Board notes several terms were used by the Appellants, the Preliminary Certificate Holder, and the Director (the “Parties”) and the Intervenors throughout the hearing. For purposes of this report, the Board has clarified these terms as set out below.

- “Arkayla Springs” refers to four of the seven springs, located on the Arkayla Springs Nature Preserve property (the “Arkayla Preserve”), known as Silver Spring, Deer Spring, Rock Spring and the Artesian Well.⁵
- “Confined Aquifer” means an aquifer bounded by a less permeable bed above and below the aquifer.⁶
- “Unconfined Aquifer” means an aquifer bounded by a less permeable bed below but not above the aquifer.⁷
- “Q₂₀” means the theoretical long-term yield representing the amount of water that may be sustained by an aquifer in the vicinity of the tested well for 20 years, without lowering the water below the top of the aquifer for confined aquifers, or without resulting in a drawdown of more than two-thirds below the top of the aquifer for an unconfined aquifer.⁸

⁵ *Arkayla Springs Nature Preserve and Residents of the Summer Village of Ghost Lake, Assessment of Arkayla Springs Hydraulic Connection to Carraig Ridge Water Supply Well 7711*, Baseline Water Resource Inc., (September 19, 2023) (the “Baseline 2023(a) Report”) at page 1.

⁶ Alberta Environment and Protected Areas, *Guide to Groundwater Authorization*, (February 2023) (“Guide to Groundwater Authorization”) at page 12.

⁷ *Guide to Groundwater Authorization* at page 12.

⁸ *Guide to Groundwater Authorization* at page 12.

- “Available Head” is measured at the proposed production well and for a confined aquifer means the distance between the non-pumping water level and the top of the aquifer and for an unconfined aquifer is two-thirds of the initial saturated thickness of the aquifer.⁹
- “Maximum Daily Pumping Rate” is the daily pumping rate determined as the lower of the maximum pumping rate during the aquifer test or the Q₂₀ value.¹⁰
- “Allocation Order” is the *Bow, Oldman and South Saskatchewan River Basin Water Allocation Order*, Alta Reg 171/2007, setting out the specific uses for which reserved water can be allocated.
- “MGB Order” is the Municipal Government Board Order No. MGB 060/17 of the Municipal Government Board (“MGB”) accepting, subject to certain variations in wording and conditions, a joint recommendation provided by the Preliminary Certificate Holder and the MD of Bighorn regarding the development of the Carraig Ridge.
- “Quinn Well” is the water well located approximately 150 meters to the south and west of WSW 7711.¹¹
- “Keller Well” is the water well located on the property owned by Rod Keller, approximately 650 meters to the east of WSW 7711.¹²

3. TECHNICAL REPORTS

[13] The Preliminary Certificate Holder engaged Waterline Resources Inc. (“Waterline”), Fluid Domains Inc. (“Fluid Domains”) and Intrinsic Groundwater Solutions (“Intrinsic”) to prepare technical reports during the Licence application process and for purposes of the hearing. Baseline Water Resources Inc. (“Baseline”) prepared the technical reports relied on by the Docken Appellants during the hearing. The technical reports referred to by the Parties and the Intervenors are as follows:

1. The *Carraig Ridge Source Water Development Program Water Act License Application Technical Support Document, Version 2*, Waterline, January 23, 2014 (the “Waterline 2014 Report”), was prepared in support of the Preliminary Certificate Holder’s water licence application.¹³

⁹ Guide to Groundwater Authorization at page 12.

¹⁰ Guide to Groundwater Authorization at page 12.

¹¹ See Figure 2, Waterline 2017(a) Report, Director’s Record page 1120.

¹² See Figure 2, Waterline 2017(a) Report, Director’s Record page 1120.

¹³ Director’s Record at page 726.

2. The *Carraig Ridge Water Act Licence Application Technical Document Addendum Report* from Waterline to Carraig Ridge Ltd., February 1, 2017 (the “Waterline 2017(a) Report”),¹⁴ was an addendum to *EPA Supplemental Information Request Response* from Waterline to Carraig Ridge Ltd., December 20, 2016¹⁵ and the Waterline 2014 Report.
3. The *Technical Memorandum on 2017 Long-Term Aquifer Testing* from Waterline to Carraig Ridge Ltd. from Waterline to Carraig Ridge Ltd, June 5, 2017 (the “Waterline 2017(b) Report”), presented the findings of two long term aquifer tests completed in 2017 at WSW 7711.¹⁶
4. The *Carraig Ridge Source Water Development Program Water Act Licence Application Technical Support Document Water Source Well 7711, Near Cochrane, Alberta*, Waterline, May 16, 2019 (the “Waterline 2019 Report”), presented the findings from aquifer testing completed in 2018 and incorporated the external hydrology reviews completed by Fluid Domains and Intrinsic of the technical support documentation for Carraig Ridge.¹⁷
5. The *Technical Review Memorandum, Carraig Ridge Act Application* from Fluid Domains to Carraig Ridge Ltd., May 16, 2019 (the “Fluid Domains 2019 Report”) provided a third-party review of the technical information concerning Carraig Ridge’s proposed groundwater withdrawal from WSW 7711.¹⁸
6. The *Third-Party Technical Review, Carraig Ridge Source Water Development Program*, Intrinsic, May 16, 2019 (the “Intrinsic 2019 Report”), provided a third-party technical review of the technical information contained in the Waterline 2019 Report for purposes of developing a conceptual model and estimation of hydraulic parameters.¹⁹
7. The *Carraig Ridge Source Water Development Program*, Intrinsic, February 26, 2022 (the “Intrinsic 2022 Report”), was a technical review of the pumping tests completed in 2013, 2017 and 2018.²⁰
8. The *Ghost Reservoir Summer Village: Water Wells Hydrogeological Assessment*, Applied Aquatic, February 2017 (the “Applied Aquatic Report”), was the report submitted to EPA by Applied Aquatic Research Ltd. (“Applied Aquatic”) regarding the investigation conducted to

¹⁴ Director’s Record at page 1103

¹⁵ Director’s Record at page 1079.

¹⁶ Director’s Record at page 1160.

¹⁷ Director’s Record, at page 1252.

¹⁸ Director’s Record at page 1301.

¹⁹ Director’s Record at page 1311.

²⁰ Director’s Record at page 1400.

determine hydrological connectivity between the Ghost Reservoir near Cochrane, Alberta, and groundwater beneath the Village.²¹

9. The *Arkayla Springs Nature Preserve and Residents of the Summer Village of Ghost Lake, Assessment of Arkayla Springs Hydraulic Connection to Carraig Ridge Water Supply Well 7711* (the “Baseline 2023(a) Report”) was the report submitted to the Board in support of the written submissions of the Docken Appellants dated October 5, 2023.
10. The *Technical Review of Assessment of Arkayla Springs Hydraulic Connection to Carraig Ridge Water Supply Well PW7711 Prepared by Baseline Water Resources Inc.* (the “Intrinsic 2023 Report”), was the report submitted to the Board in support of the response submissions of the Preliminary Certificate Holder dated October 20, 2023.
11. The *Arkayla Springs Nature Preserve and Residents of the Summer Village of Ghost Lake, Technical Review of Director’s Statement and Intrinsic Groundwater Solutions Submissions to the Alberta Environmental Appeal Board* (the “Baseline 2023(b) Report”) was the report submitted to the Board with the Docken Appellants’ rebuttal submissions dated November 3, 2023.
12. The *Water Needs Assessment to Support Anticipated Population Growth on the Stoney Nakoda Nations*, March 22, 2018 (the “Stoney Nakoda Water Needs Assessment Report”) was a water needs assessment of existing and future water needs and water supply to the Stoney Nakoda.²²
13. The *Ghost Reservoir Summer Village: Water Wells Hydrogeological Assessment*, Applied Aquatic, February 2017 (the “Village Hydrogeological Assessment”), was an assessment of the hydrogeological connectivity between the Ghost Reservoir and the groundwater beneath the Village.²³

The Board has reviewed and considered each of the technical reports.

4. BACKGROUND AND FACTS

[14] On January 28, 2014, the Preliminary Certificate Holder applied to EPA for a licence for the diversion of water of 23,725 m³/year or 65 cubic m³/day from four newly drilled

²¹ Director’s Record at page 1820.

²² See Affidavit of the Intervenors, the Stoney Nakoda Nations and Stoney Nakoda Land Management Ltd., October 5, 2023, at Exhibit “7”.

²³ *Ghost Reservoir Summer Village: Water Wells Hydrogeological Assessment*, Applied Aquatic, (February 2017), Director’s Record, Tab IX.

water source wells, WSW 7705, WSW 7708, WSW 7711, and WSW 7791 (the “Application”).²⁴ The wells were to provide water for Carraig Ridge, a proposed 45-lot residential development located approximately 24 kilometres west of the town of Cochrane near Ghost Lake reservoir. In technical support of the Application, the Preliminary Certificate Holder submitted the Waterline 2014 Report to EPA.

[15] The Application was referred to EPA internal experts for review. Between January 2014 and April 2022, the Preliminary Certificate Holder undertook additional aquifer testing and provided EPA additional information and technical reports.

[16] On December 15, 2016, the Aboriginal Consultation Office, Aboriginal Relations (“ACO”), wrote EPA stating ACO determined consultation with respect to the Carraig Ridge project was not required, noting “this recommendation may change should additional information be provided that was not included in the referral from EPA”.²⁵

[17] The Preliminary Certificate Holder applied to the District of Bighorn No. 8 (the “MD of Bighorn”) for approval of the Carraig Ridge subdivision. On December 21, 2017, the MD of Bighorn granted the MGB Order approving the Carraig Ridge subdivision.²⁶

[18] Public Notice of the Application was posted between June 3 and July 3, 2019. EPA received 36 Statements of Concern of which the Director accepted 32, including the Appellants who the Director determined to be directly affected by the Application. Between March 14 and April 26, 2022, the Preliminary Certificate Holder responded to all Statements of Concern filers, including the Appellants, and provided updated information.²⁷

²⁴ As previously noted, in 2014 the Preliminary Certificate Holder applied for a water diversion licence to divert up to 23,725 m³/year from four water source wells for purposes of supplying water to a proposed development of 45 lots at Carraig Ridge. The Application was subsequently amended to apply for a water diversion of 6,205 m³ per year for purposes of supplying a proposed development of 44 lots at Carraig Ridge. See Director’s Record at page 1268.

²⁵ Director’s Record at page 91.

²⁶ *MacGregor v Municipal District of Bighorn No. 8 (Subdivision Authority)* 2017 ABMGB 60.

²⁷ Director’s Record at pages 650 to 653.

[19] On May 16, 2019, the Preliminary Certificate Holder amended the Application by reducing the yearly diversion request to 6,205 m³/year and setting a Maximum Daily Pumping Rate of 22 m³/day for a 44-lot proposed development at Carraig Ridge.²⁸

[20] On April 20, 2022, Dr. Jianrong Wang, Ph.D., P.Geol., EPA Senior Hydrogeologist, provided the “Application under the *Water Act* - Event Tracking Sheet” to Pauline Scoffield, EPA Approval Coordinator, recommending the Preliminary Certificate Holder’s Application be approved and a Preliminary Certificate be issued.²⁹

[21] On November 11, 2022, the Director issued the Preliminary Certificate.

[22] Between November 22 and December 7, 2022, the Board received Notices of Appeal from each of the Appellants and the Williams. Some Appellants requested a stay of the Preliminary Certificate.

[23] The appeals related primarily to connectivity of the Aquifer to Arkayla Springs and the aquifers supplying water wells used by the Appellants, and the sufficiency of water supply for the proposed development.

[24] On December 9, 2022, the Board received a Notice of Appeal from Sharlene Fritz, which appeared to be filed outside of the legislated time limit for filing an appeal. When requested by the Board to provide reasons why an extension of time to appeal should be granted, Ms. Fritz responded she could “... offer no specific reason or extenuating circumstances.” The Board dismissed Ms. Fritz’s Notice of Appeal and issued reasons for its decision on January 10, 2023.³⁰

[25] On December 15, 2022, the Board advised the Parties that the Preliminary Certificate Holder agreed to a temporary stay until the Board made its decision on the stay request.

[26] Between December 19 and 22, 2022, the Board received submissions regarding the stay request from some of the Appellants. After reviewing the submissions, the Board dismissed the stay application and issued its reasons on February 13, 2023.³¹

²⁸ Director’s Record at pages 1246 and 1247.

²⁹ Director’s Record at page 2440.

³⁰ *Fritz v. Director, Regulatory Assurance Division south, Alberta Environment and Protected Areas*, re: *Ian MacGregor* (10 January 2023), Appeal No. 22-090-D (AEAB) 2023 ABEAB 1.

³¹ Environmental Appeals Board Letter dated February 13, 2023.

[27] On February 13, 2023, the Board notified the Parties a mediation meeting would be scheduled and conducted by Tamara Bews, Member of the Board. The Board noted Alex MacWilliam, counsel for the Preliminary Certificate Holder, previously served as Chair of the Board when Ms. Bews was a member and asked if the Parties had concerns with Ms. Bews conducting the mediation. After receiving responses from the Parties, the Board confirmed Ms. Bews would conduct the mediation. The Board also received comments from Anthony Fink, Sylvia Kokts-Portietis, and the Millers regarding Mr. MacWilliam representing the Preliminary Certificate Holder. The Board advised the Parties that the Board cannot dictate who represents the Preliminary Certificate Holder, noting Mr. MacWilliam had not been on the Board for more than two years and the “cooling off period” as suggested by the *Conflicts of Interest Act*, RSA 2000, c C-23 had been met.

[28] On March 8, 2023, the Board received the Director’s Record and provided it to the Parties on March 16, 2023.

[29] A mediation meeting was held June 9, 2023, and did not result in a resolution. On July 27, 2023, the Board notified the Parties the hearing dates were set for November 16 and 17, 2023, and requested the Director provide a Supplemental Director’s Record.

[30] On July 29, 2023, the Board sent a copy of the Notice of Hearing to the MD of Bighorn for placement on the county’s public bulletin board or website.

[31] Between August 9 and August 23, 2023, the Board received submissions from the Parties regarding the issues for the hearing.

[32] On August 24, 2023, the Board received applications from the Stoney Nakoda and SNLM to intervene in the hearing. The Board set up a process to receive submissions from the Parties regarding the application (the “Intervenor Application”).

[33] On August 24, 2023, the Board requested the Director provide the Board the Carraig Ridge Area Structure Plan, the Preliminary Certificate Holder’s water supply contingency plan, and any subdivision/redesignation bylaws and development permits in the Director’s possession.

- [34] On August 25, 2023, the Board set the issues for the hearing as follows:
1. Was the Director's decision to issue the Preliminary Certificate to Ian MacGregor appropriate and in accordance with the requirements of the *Water Act*? This is including, but not limited to:
 - a. Did the Director's decision adequately consider the connectivity of WSW 7711 to reserve water?
 - b. Did the Director's decision adequately consider the "no harm principle," specifically in relation to the other water users said to be sharing the same aquifer and harm to the environment generally, including Arkayla Springs?
 - c. Was the Director's decision based on "incomplete or inconclusive" information?
 2.
 - a. Does the Director have jurisdiction to consider the adequacy of the yield of the water well for the proposed development?
 - b. If so, did the Director's decision adequately consider the yield of the water well for the proposed development?
 3. Are the conditions included in the Preliminary Certificate appropriate? This is including but not limited to:
 - a. Are the monitoring and reporting conditions appropriate?
 - b. Are the complaint investigation conditions appropriate?

[35] On August 31, 2022, the Board received comments from the Director and the Preliminary Certificate Holder on the Intervenor Application. The Board did not receive comments from the Appellants or the Williams. The Board reviewed the comments and determined that the Stoney Nakoda and SNLM would be granted intervenor status and permitted to provide written submissions and present evidence at the hearing. The Board requested the Intervenor confirm they were prepared to participate in the hearing solely with respect to the issues set by the Board on August 25, 2023, and would not include any constitutional issues, such as the determination of Section 35 rights or the adequacy of consultation. The Board notes, it has determined it does not have the jurisdiction to deal with constitutional matters. On September 14, 2023, the Intervenor responded stating they would participate in the hearing with respect to the issues set by the Board.

[36] On August 31, 2023, the Director provided the Board the subdivision by-law and the Carraig Ridge Area Structure Plan and advised that the Director had never received a water supply contingency plan from the Preliminary Certificate Holder. On September 13, 2023, the

Board requested the Preliminary Certificate Holder provide the redesignation by-law and any development permits.

[37] On September 21, 2023, the Docken Appellants submitted the Baseline 2023(a) Report to the Board.

[38] On September 21, 2023, the Board acknowledged receipt of the Baseline 2023(a) Report and set a schedule for the Parties to provide written submissions for the hearing.

[39] On October 2 and 13, 2023, the Preliminary Certificate Holder requested the Docken Appellants provide additional information with respect to the Baseline 2023(a) Report. The Board received the additional information on October 6, 12, and 17, 2023.

[40] On October 3, 2023, the Board notified the Parties and the Intervenors that a member of the panel for the hearing, Dr. James Armstrong, had previously worked with some of the assessors of the Baseline 2023(a) Report. The Board requested the Parties and Intervenors notify the Board if they have any objections to Dr. Armstrong remaining on the panel for the hearing.

[41] On October 5, 2023, the Board received the Intervenor's written submission (the Intervenors' Submission") and the Docken Appellants initial submission (the "Docken Appellants' Initial Submission") for the hearing.

[42] On October 10, 2023, the Preliminary Certificate Holder asked Dr. Armstrong to be recused from the hearing panel. On October 11, 2023, the Board advised the Parties, and the Intervenors, that Dr. Armstrong would be replaced by Anjum Mullick, Board Member, noting Ms. Mullick was acquainted with one of the technical assessors of the Baseline 2023(a) Report and two of the Appellants. The Board requested the Parties, and the Intervenors, advise the Board of any objections to Ms. Mullick sitting on the panel.

[43] On October 10, 2023, the Board received the Millers' initial submission (the "Millers' Initial Submission"). The Williams did not provide a written submission which is a hearing requirement, and the Board requested comments from the Parties regarding the fact written submissions were not provided by the Williams. On October 20, 2023, the Board notified the Parties and the Intervenors that the Williams would not attend the hearing.

[44] On October 11, 2023, the Intervenors asked the Board to reconsider its level of participation in the hearing and permit the Intervenors to cross-examine the Preliminary Certificate Holder and the Director (the “Reconsideration Application”). The Board received comments from the Parties on the Reconsideration Application and determined the Intervenors would be allowed to cross-examine the Director and the Preliminary Certificate Holder. The Board issued its reasons for its decision on November 8, 2023.³²

[45] On October 20, 2023, the Board advised the Parties, and the Intervenors that due to scheduling issues, Kurtis Averill, Board Member, would be replacing Ms. Mullick on the panel for the hearing.

[46] The Board held a public hearing on November 16 and 17, 2023. At the hearing it was determined closing arguments would be provided in writing and closing oral arguments would be heard by video conference on March 14, 2024.

[47] On November 30, 2023, the Board requested the Parties comment on the relevance to the appeals of the MGB Order approving the Carraig Ridge. The Board received comments on the relevance of the MGB Order from the Preliminary Certificate Holder, the Millers, and the Docken Appellants.

[48] On January 3, 2024, the Intervenors advised the Board they reserved their rights to a cost application.

[49] Between January 12 and February 20, 2024, the Board received written closing arguments from the Parties.

[50] On March 14, 2024, the Board heard oral closing arguments by videoconference.

[51] On April 12, 2024, the Board requested the Parties provide comments with respect to the following questions (the “Panel Questions”):

³² Environmental Appeals Board Letter, November 8, 2023.

1. Condition 3.6 of the Proposed Licence under the Preliminary Certificate states:

“Prior to diverting any water from the source of water, the Licensee shall equip the production well as identified in Table 3-1, with a ‘dip-tube’ or alternative way to monitor the water levels in the pumping wells.”

What “alternative” ways of monitoring water levels in the pumping wells would be considered appropriate?

2. Part 4 of the Proposed Licence under the Preliminary Certificate requires the Licensee to monitor and measure water levels in Well 7711 and record the information listed in Condition 4.4(a).

What qualifications are required for the person conducting the measuring, monitoring, and recording activities?

3. Condition 3.8 of the Proposed Licence under the Preliminary Certificate states:

“The Licensee shall calibrate each measuring device referred to in Condition No. 3.5 in accordance with the manufacturer’s specifications.”

What qualifications are required for the person calibrating the measuring and monitoring devices required in the Proposed Licence under the Preliminary Certificate?

4. Is there a specific water level that would cause the Director to initiate a complaint investigation under Part 5 of the Proposed Licence under the Preliminary Certificate?

Are there other conditions or measurements in Well 7711 that would cause the Director to initiate a complaint investigation?

5. What additional monitoring, reporting, or complaint investigation conditions, if any, would be appropriate to add to the Proposed Licence under the Preliminary Certificate?

The Parties provided the Board comments on April 25, 2024.

[52] On May 23, 2024, the Board requested the Intervenors provide comments on the Panel Questions, which the Intervenors provided on June 4, 2024 (the “Intervenors’ Response to the Panel Questions”).

[53] On June 4, 2024, the Parties were requested to provide the Board comments regarding the Intervenors’ Response to the Panel Questions. On June 17 and 18, 2024, the Board

received comments from the Preliminary Certificate Holder and the Docken Appellants. On June 17, 2024, the Director stated he would not be providing further comments. No comments were received from the Millers.

[54] The Board closed the hearing on August 26, 2024.

5. ISSUES

[55] The issues before the Board are:

1. Was the Director's decision to issue the Preliminary Certificate to Ian MacGregor appropriate and in accordance with the requirements of the *Water Act*? This is including, but not limited to:
 - a. Did the Director's decision adequately consider the hydraulic connectivity of WSW 7711 to reserved water?
 - b. Did the Director's decision adequately consider the "no harm principle," specifically in relation to the other water users said to sharing the same aquifer and harm to the environment generally, including Arkayla Springs.
 - c. Was the Director's decision based on "incomplete or inconclusive" information?
2.
 - a. Does the Director have jurisdiction to consider the adequacy of the yield of the water well for the proposed development?
 - b. If so, did the Director's decision adequately consider the yield of the water well for the proposed development?
3. Are the conditions included in the Preliminary Certificate appropriate? This is including, but not limited to:
 - a. Are the monitoring and reporting conditions appropriate?
 - b. Are the complaint investigation conditions appropriate?

6. PRELIMINARY MATTERS

[56] At hearing, the Board identified four preliminary matters:

1. What is the appropriate onus of proof in the circumstances of the appeals before the Board?
2. Does the precautionary principle apply to the issuance of the Preliminary Certificate and the circumstances of the appeals before the Board?

3. Can the Board consider adequacy of consultation with the Stoney Nakoda and reconciliation and honour of the Crown when considering issue 1(c) of the appeals: Was the Director's decision based on "incomplete or inconclusive" information?
4. Should the Board grant the Docken Appellants motion to admit the Report of the Auditor General, *Surface Water Management*, Environment and Protected Areas (July 2024) as evidence in the appeals.

6.1. Onus of Proof

6.1.1. Docken Appellants

[57] The Docken Appellants submitted the onus is on the Preliminary Certificate Holder to show the Application for a water licence is not for reserved water³³ and the standard of proof necessary is that of "certainty", citing the Board's decision in *Crowsnest Pass v. Director, Southern Region, Environmental Management, Alberta Environment*, 2009 ABEAB 27 ("*Crowsnest Pass*"):

"The Parties responded to the Board's questions regarding the appropriate onus to be placed upon the Appellant in satisfying its obligation to establish a lack of connectivity between the aquifer and Crowsnest Lake or any other surface water. The Appellant argued the onus it was obligated to meet should be one of a preponderance of evidence, a standard of proof that the Board considers prudent in this case. The Director argued, however, that the standard of proof necessary in these types of applications is more definite; *that an applicant for a groundwater licence would need to establish with certainty that the applied for licence was clearly in relation to groundwater, thereby requiring definitive evidence to refute any possibility of a groundwater to surface water connection.*"³⁴ [Emphasis by the Docken Appellants.]

[58] The Docken Appellants argued the circumstances of the appeals was like that in *Crowsnest Pass* because the conceptual hydrological model relied upon by the Director was flawed as it ignored the potential for hydraulic connectivity of the Aquifer to Arkayla Springs and the Preliminary Certificate Holder did not demonstrate to the Director with certainty the Aquifer was not reserved water subject to the Allocation Order. The Docken Appellants also noted its expert

³³ Section 2 of the Allocation Order states:

"2 All the water in the Bow River Basin, Oldman River Basin and South Saskatchewan River Basin that is not, on the date this Order is filed under the *Regulations Act*, allocated under a licence or registration or specified in a preliminary certificate is reserved."

³⁴ *Crowsnest Pass* at paragraph 147.

witness, Marc Bowles, M.Sc., P.Geol., Principal Hydrogeologist, Baseline, believed there was “a high probability the springs are hydraulically connected to [WSW] 7711.”³⁵

6.1.2. Millers

[59] The Millers argued the onus was on the Preliminary Certificate Holder to “have proven hydraulic connectivity (or the lack of connectivity) either during the planning approval process (beginning in 2007 or earlier) or as part of the past 10 years of investigations during the regulatory approval process.”³⁶ The Millers submitted the evidence before the Board was limited, unclear and conflicting, and the risk of impact on the Village wells and the environment was significant. The Millers argued the Preliminary Certificate Holder must convince the Board “beyond a shadow of a doubt” the Aquifer was not hydraulically connected to Arkayla Springs.

[60] With respect to the Director’s assertion the Appellants had failed to meet the onus to provide “quantitative evidence of hydraulic connection” to show the Preliminary Certificate should not have been issued,³⁷ the Millers submitted the Director held the Preliminary Certificate Holder “to a very low burden of proof compared to that facing potentially impacted citizens.”³⁸

6.1.3. Preliminary Certificate Holder

[61] The Preliminary Certificate Holder submitted the Preliminary Certificate Holder met the onus of demonstrating to the satisfaction of the Director that the water applied for was not connected to reserved water and subject to the Allocation Order.

[62] The Preliminary Certificate Holder submitted the onus is on the Appellants to prove to the Board the decision of the Director was unreasonable. This means the Appellants must provide sufficient, credible evidence to establish to hydraulic connectivity between WSW 7711 and surface water.³⁹

³⁵ Baseline 2023(a) Report at paragraph 6.0.

³⁶ Written Closing Submission of the Millers, February 20, 2024 (“Millers’ Final Written Closing Argument”) at paragraph 4.

³⁷ Written Closing Submissions of the Director, February 6, 2024 (“Director’s Response Written Closing Argument”) at page 17.

³⁸ Millers’ Final Written Closing Argument at paragraph 10.

³⁹ Written Closing Argument of the Preliminary Certificate Holder (“Preliminary Certificate Holder’s Response Written Closing Argument”) at paragraph 71.

6.1.4. Director

[63] The Director submitted the Appellants have not met the onus of providing any independent quantitative evidence establishing the Preliminary Certificate should not have been issued so there is no sufficient basis upon which to quash the Preliminary Certificate. The Director submitted the evidence provided by the Preliminary Certificate Holder supported the issuance of the Preliminary Certificate and nothing in the submissions or arguments provided by the Appellants or the Intervenors would have impacted the outcome of his decision.

6.1.5. Analysis and Findings

[64] The Docken Appellants submitted the onus was on the Preliminary Certificate Holder to show with sufficient certainty the water to be diverted under the Licence was not reserved water. The Board heard submissions from the Millers that the Preliminary Certificate Holder must convince the Board “beyond a shadow of a doubt” the Aquifer is not hydraulically connected to Arkayla Springs.

[65] The Millers argued the burden of proof placed on the Appellants at the hearing was more onerous than that placed on the Preliminary Certificate Holder, as the Appellants were required to provide quantitative evidence of hydraulic connection between WSW 7711 and surface water to show the Preliminary Certificate should not have been issued. The Millers were of the view the Preliminary Certificate Holder was not similarly required to demonstrate, in the Application process or at hearing, there was no hydraulic connection between WSW 7711 and surface water.

[66] The Board respectfully disagrees with the Appellants. As stated in previous Board decisions, the onus is on the Appellants to provide sufficient evidence and argument to support their position and to demonstrate to the Board on the balance of probabilities the Director’s decision should be reversed or varied. Further, the concerns of the Appellants must be more than speculative.⁴⁰ As recently stated by the Board in *Blackfalds*:

⁴⁰ Fenske at paragraph 41. See: also, *Alexander et al. v. Director Regional Approvals, Regulatory Assurance Division – South, Alberta Environment and Parks, re: Town of Blackfalds* (22 December 2023), Appeal Nos. 20-011-014 (“*Blackfalds*”) at paragraph 43. See also *Fenske and Janus v Director, Central Regional Services, Alberta Environment re: Beaver Regional Waste Management Services Commission*, 2006 ABEAB 12 at paragraph 41; *Paron et al. v. Director, Environmental Services, Northeast Slopes Region, Alberta Environment* (1 August 2001) Appeal

“The onus on the Appellants is to raise more than mere speculation. The Appellants must provide sufficient, reliable and relevant evidence to show on the balance of probabilities the Board should recommend to the Minister the decision of the Director should be varied or reversed.”⁴¹

[67] The Board finds placing the onus of proof on the Preliminary Certificate Holder or the Director to disprove the allegations of the Appellants would render the Application process redundant. The Board understands it may be difficult for appellants to assess technical information contained in a water licence application and it is expensive for appellants to employ their own technical experts to assess the information or gather new information. However, the Board believes the onus of proof need not necessarily be met by bringing technical evidence to the contrary, and it is possible for appellants to show on the balance of probabilities the Preliminary Certificate should not have been issued through a careful analysis of evidence before the Board, cross-examination, and argument.

6.2. Precautionary Principle

6.2.1. Docken Appellants

[68] The Docken Appellants submitted the Director failed to apply the precautionary principle because there was no certainty regarding the lack of hydraulic connectivity of WSW 7711 to Arkayla Springs. The Docken Appellants referred to the Board’s decisions in *Crowsnest Pass* and in *Alberta Foothills v. Director, Southern Region, Operations Division, Alberta Environment and Sustainable Resource Development*, 11-179-R, 2013 ABEAB 40 (“*Alberta Foothills*”), where in each case the Board upheld the director’s decision to deny an application for a *Water Act* licence because of the lack of certainty with respect to the aquifer in question and its boundaries.

Nos. 01-045-047-D; *Northcott v. Director, Northern Region, Regional Services, Alberta Environment*, re: *Lafarge Canada Inc.* (11 January 2005), Appeal Nos. 04-009, 04-011, and 04-012-R (AEAB); *Bailey et al. #2 v. Director, Northern Environmental Slopes Region, Environmental Services, Alberta Environment*, re: *TransAlta Utilities Corporation* (18 May 2001) Appeal Nos. 00-074, 077, 078, 01-001-005-R (AEAB); and *Lederer and Chant v. Director, Bow Region, Alberta Environment* re: *Spruce Valley Ranch Ltd.* (6 March 2001) Appeal Nos. 00-068 and 00-069-D (AEAB).

⁴¹ *Blackfalds* at paragraph 78.

[69] The Docken Appellants cited the Board's statement in *Crowsnest Pass*:

“In this particular case, the precautionary principle needs to apply. There is a significant amount of uncertainty regarding the aquifer and the barrier that might exist. Water is a valuable resource that needs to be protected and preserved, which is the reason the legislators enacted the Allocation Order. Since a great deal of uncertainty still exists regarding the aquifer and its properties, the Board considers it appropriate to recommend to the Minister that he confirm the Director's decision that the application is denied.”⁴²

The Docken Appellants also noted the Board in *Alberta Foothills* stated:

“In the Board's view, the Director properly applied the *precautionary principle* in making his decisions. He did not have sufficient data and evidence to demonstrate with any level of certainty that a barrier existed between Wind Walk aquifer and Reserved Water...the *precautionary principle* requires the decision maker to take a conservative approach and decide in a way that is protective of the environment.”⁴³

[70] The Docken Appellants submitted the number of technical reports issued by the Preliminary Certificate Holder was not persuasive evidence of a lack of hydraulic connectivity and there is no minimum volume of water or period of diversion that is exempt from the Allocation Order.⁴⁴

[71] The Docken Appellants argued, contrary to the assertions of the Director, in the face of uncertainty adding conditions to the Licence addressing future issues is not precautionary, as it places the environment and pre-existing users of groundwater at risk of irreparable damage and does not achieve the protective objectives of the precautionary principle.

6.2.2. Millers

[72] Mr. Millers stated the precautionary principle required the decision maker to take a conservative approach in the face of much uncertainty and protect the environment. The Millers argued the evidence before the Board was limited, unclear and conflicting, the risk of impact on the Appellants is significant, and despite repeated requests, the Preliminary Certificate Holder failed to provide the Director substantive evidence of a lack of hydraulic connectivity of the

⁴² *Crowsnest Pass* at paragraph 146.

⁴³ *Alberta Foothills* at paragraph 158.

⁴⁴ *Alberta Foothills* at paragraph 141.

Aquifer to Arkayla Springs. The Millers submitted the Baseline 2023(a) Report provided analysis and ground-truthed evidence the Aquifer and Arkayla Springs may be hydraulically connected and requested the Board put significant weight on the precautionary principle in the face of uncertainty.

6.2.3. Preliminary Certificate Holder

[73] The Preliminary Certificate Holder submitted the Director applied the precautionary principle when he issued the Preliminary Certificate because, after ten years of extensive review by EPA, the Preliminary Certificate was issued subject to number of significant conditions applying both before and after the issuance under the Preliminary Certificate of the Licence. The Preliminary Certificate Holder argued the terms and conditions together with the Director's investigative and enforcement powers under the *Water Act* provided the Appellants protection in the unlikely event the water to be diverted under the Licence was reserved water or had an impact on the groundwater serving the Appellants' wells.

[74] The Preliminary Certificate Holder submitted the circumstances before the Board were distinguishable on the facts from Board's decisions in *Crowsnest Pass* and *Alberta Foothills*. Unlike *Crowsnest Pass* and *Alberta Foothills*, where the Director denied a *Water Act* licence application because there was insufficient evidence or lack of certainty regarding the aquifer, in this case the Director concluded there was sufficient evidence to determine the Aquifer was not reserved water under the Allocation Order.

[75] The Preliminary Certificate Holder argued the circumstances before the Board in the appeals were like those before the Board in *Mikisew Cree First Nation v. Director, Northern Region, Regional Services, Alberta Environment*, 2005 ABEAB 20 ("*Mikisew*"). In *Mikisew*, the Board acknowledged it was impossible to predict all potential effects of a project, and found the Director had followed the precautionary principle because he had incorporated conditions in the approval to respond to unanticipated situations, stating:

“... The Approval Holder must comply with all of the conditions, and the Director has the authority to take any required steps to ensure compliance. Although it is virtually impossible to predict all potential effects of a project, the Director has

incorporated these conditions into the Approval to respond to situation that may arise that were not anticipated, thus following the precautionary principle.”⁴⁵

6.2.4. Director

[76] The Director submitted *Crowsnest Pass* and *Alberta Foothills* were distinguishable on the facts because the Director was of the view the totality of the evidence supports the finding the Aquifer is confined and not hydraulically connected to reserve water. The Director submitted the conditions of the Preliminary Certificate addressed the lack of one hundred percent certainty of outcome and contained the standard clauses related to monitoring, reporting and complaint resolution included in all groundwater licences. The Director stated there were no further conditions he would add to the Preliminary Certificate at this time.

6.2.5. Analysis and Findings

[77] The Docken Appellants and the Millers argued the Director failed to apply the precautionary principle because the Preliminary Certificate Holder did not establish with certainty WSW 7711 was not hydraulically connected to surface water, even when repeatedly requested to do so by EPA. The Millers requested the Board put significant weight on the precautionary principle.

[78] Respectfully, the Board rejects the Appellants’ arguments. This is not a case like *Alberta Foothills* and *Crowsnest Pass* where the Board applied the precautionary principle and upheld the decision to refuse to issue a water licence on the basis there was insufficient scientific support for finding the water was not reserved water. This is a case like *Mikisew*, where the Director has integrated the precautionary principle into his decision to issue the Preliminary Certificate by prescribing terms and conditions to address potential problems and minimize harm to the Appellants, the environment, and the other users of the Aquifer.

[79] In *Mikisew*, the First Nation appealed a decision to issue a *Water Act* approval related to an oilsands processing plant and mine. While the appeal was dismissed for being filed out of time, the First Nation argued an extension to the deadline should be granted because of the precautionary principle due to “...uncertain effects of unproven technology on the environment are

⁴⁵ *Mikisew*, at paragraph 52.

such that irreparable harm could occur if they are not adequately dealt with.”⁴⁶ The Board rejected this argument based on a review of the terms and conditions in the approval, particularly the monitoring conditions, finding these terms and conditions “...are all indicative of the precautionary principle being applied with the Approval.”⁴⁷

[80] The precautionary principle was adopted in the Supreme Court of Canada in *114957 Canada Ltée (Spraytech, Société d'arrosage) v. Hudson (Town)* [2001] 2 S.C.R. 241, 2001 SCC 40 (“*Spraytech*”). The two-part test provides where there is a threat of “serious or irreversible damage [to the environment], lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.”⁴⁸ A plain reading of *Spraytech* makes it clear development is not prohibited but it needs to be undertaken with appropriate measures in place to prevent environmental degradation. *Spraytech* states, to achieve sustainable development, “environmental measures must anticipate, prevent and attack the causes of environmental degradation.”⁴⁹

[81] In the Board’s decision in *Blackfalds*, the Board considered an appeal of an approval of under the *Water Act*. The Board stated with respect to the precautionary principle:

“... the Board’s role is to consider the degree and nature of the uncertainty, and whether what if anything can be done by the Board to mitigate the uncertainty. The language adopted by the Supreme Court of Canada [in *Spraytech*] makes plain that the precautionary principle is only intended to be engaged in circumstances where scientific uncertainty exists, and once engaged, additional protective measures should be put in place. Therefore, the Director when faced with scientific uncertainty and potential environmental damage, has two potential courses of action. The Director may require additional terms and conditions such as monitoring, and amending, which allow the Director to be responsive should environmental consequences occur. Alternatively, in the much more extreme cases of scientific uncertainty and greater risk of consequences, the Director can choose to deny the application for the authorization.”⁵⁰

⁴⁶ *Mikisew* at paragraph 53.

⁴⁷ *Mikisew* at paragraph 52.

⁴⁸ The Supreme Court of Canada in *Spraytech* at paragraph 31, quoting the *Bergan Ministerial Declaration on Sustainable Development (1990)* at paragraph 7.

⁴⁹ The Supreme Court of Canada in *Spraytech* at paragraph 31, quoting the *Bergan Ministerial Declaration on Sustainable Development (1990)* at paragraph 7.

⁵⁰ *Blackfalds* at paragraph 96.

[82] In the appeals before the Board, the Board is satisfied the Director applied the precautionary principle in making his decision to issue the Preliminary Certificate. The Director determined the totality of the evidence supported the finding the Aquifer was confined and isolated, and where uncertainty existed due to the difficulty in modelling the Aquifer because of the complexity of the geological substructure, it was addressed with additional terms and conditions applying before and after the Licence is issued and ensuring the Director will be responsive to any environmental consequences that may occur.

6.3. Adequacy of Consultation and Reconciliation and Honour of the Crown

[83] The Intervenors raised the following issue through its submissions at the hearing:

The Director erred as he based his decision on incomplete or inconclusive information because:

- a. the Director breached procedural fairness as the Stoney Nakoda were not adequately consulted with regards to the impact of the Carraig Ridge project on Aboriginal and Treaty rights and interests; and
- b. the Director had an obligation to first consider reconciliation and honour of the Crown prior making his decision to issue the Preliminary Certificate and failure to do so was not in the public interest.

[84] The Board notes that prior to the oral hearing it advised the Intervenors that the Board has determined it does not have the jurisdiction to hear constitutional matters such as the determination of Section 35 rights and adequacy of consultation.⁵¹ The Intervenors subsequently confirmed to the Board they were prepared to participate in the hearing solely on the issues set by the Board.⁵²

⁵¹ Section 11 of the *Administrative Procedures and Jurisdiction Act*, RSA 2000, c A-3 (the “*Jurisdiction Act*”), provides that the Board does not have the jurisdiction to determine matters related to the constitutional duty to consult as follows:

“Notwithstanding any other enactment, a decision maker has no jurisdiction to determine a question of constitutional law unless a regulation made under section 16 has conferred jurisdiction on that decision maker to do so.”

⁵² On September 7, 2023, the Board wrote to the Parties stating it had decided to grant the Stoney Nakoda intervenor status but noted the Intervenors had identified concerns the Stoney Nakoda Section 35 rights had not been considered. The Board requested the Intervenors confirm they were willing to participate in the hearing solely with respect to the issues heard set by the Board on August 25, 2023. The Intervenors confirmed they were willing to participate on that basis on September 14, 2023. As well, on cross examination at the hearing by the Preliminary Certificate Holder, Mr. Snow, witness for the Intervenors, confirmed the Intervenors through their counsel acting

6.3.1. Intervenor

[85] The Intervenor submitted no consultation occurred with the Stoney Nakoda prior to the issuance of the Preliminary Certificate.⁵³ The Intervenor argued the consultation with ACO in 2016 (the “2016 Assessment”) was not complete or accurate.

[86] The Intervenor submitted the Stoney Nakoda are comprised of the Bearspaw First Nation, Chiniki First Nation, and Goodstoney First Nation, sometimes referred to as the Stoney Indian Band. The Stoney Nakoda are direct descendants of the Stoney Indian Nation and Tribe who were parties to *Treaty No. 7* of 1877. The Intervenor submitted the Stoney Nakoda have Indian Reserves in lands contemplated by *Treaty No. 6* and *Treaty No. 7*, including the Morley Reserve.⁵⁴ Two portions of the Morley Reserve are located adjacent to Carraig Ridge, one running the full length of the western border of Carraig Ridge (the “Morley Western Block”), and other to the east running along the neighbouring property owned by Mr. Keller, an Appellant to these appeals (the “Morley Eastern Block”).

[87] At the hearing, William Snow, a member of the Goodstoney First Nation and the Acting Director of Consultation for the Stoney Nakoda, appeared as a witness for the Intervenor. Mr. Snow stated the purpose of his testimony was to explain the importance of lands, water and wildlife and the impact of Carraig Ridge on the Stoney Nakoda.

[88] SNLM owns approximately 2490 acres of land northeast and east of Carraig Ridge, used for a variety of purposes including agricultural and domestic purposes.⁵⁵

[89] The Intervenor stated the Stoney Nakoda are an Indian Band under the *Indian Act*, RSC 1985, c I-5. The Stoney Nakoda members are “Indians” within the meaning of section 91(24) of the *Constitution Act, 1867*, the *Constitution Act, 1930* and the *Constitution Act, 1982* and are

under the Stoney Nakoda instructions had agreed they would confine their submissions at the hearing to the issues identified by the Board.

⁵³ Intervenor’s Submission at paragraph 19.

⁵⁴ Intervenor’s Submission at paragraphs 6 to 8.

⁵⁵ Intervenor’s Submission at paragraphs 4 and 5.

“Aboriginal peoples of Canada” within the *Constitution Act, 1982* including section 35. Members of the Stoney Nakoda are Indigenous peoples recognized under international laws.⁵⁶

[90] The Intervenors submitted, in addition to the Stoney Nakoda Indian Reserves, the Stoney Nakoda asserts both Aboriginal title and right to portions of lands within the western half of the province of Alberta (the “Traditional Lands and Traditional Use Lands”). The assertion of these rights and title are the subject of the Court of King’s Bench Action No. 0301-19586.⁵⁷

[91] The Intervenors submitted the Stoney Nakoda continue to exercise their Aboriginal and treaty rights throughout their Traditional Lands and Traditional Use Lands, including lands and waters near Carraig Ridge and WSW 7711.⁵⁸

[92] The Intervenors submitted Carraig Ridge is located “in the heart” of Stoney Nakoda territory. The Intervenors stated they have cultural, spiritual, and historic understanding and connection to the Ghost River area and have traditional stories about this area. The Intervenors submitted Carraig Ridge and WSW 7711 are located within Treaty 7 territory and the Traditional Lands and Traditional Use Lands of the Stoney Nakoda.⁵⁹

[93] Mr. Snow stated the Stoney Nakoda have “since time immemorial” enjoyed the continuous use of water in the Tradition Lands and Traditional Use Lands to facilitate hunting, fishing, trapping, camping, gathering as well as other cultural and spiritual activities. Mr. Snow stated, “the Stoney Nakoda have not surrendered or ceded the use of waters originating and flowing in Stoney Nakoda traditional territory, including bed and banks of those waters since time immemorial.” The Intervenors noted numerous groundwater sources, rivers, streams, and drainages run through the Morley Reserve.⁶⁰

[94] The Intervenors submitted the Director’s decision was based on incomplete or inconclusive information because the Director relied on the 2016 Assessment which was based on

⁵⁶ Intervenors’ Submission at paragraph 9.

⁵⁷ Intervenors’ Submissions at paragraph 10.

⁵⁸ Intervenors’ Submissions at paragraph 14.

⁵⁹ Intervenors’ Submissions at paragraphs 12, 14 and 15.

⁶⁰ Intervenors’ Submissions at paragraphs 16 and 17.

the Waterline 2014 Report, and ACO was not provided any of the subsequent technical reports, which, if received by ACO, may have changed its recommendation.⁶¹

[95] The Intervenors argued they had a legitimate expectation the Director would provide the subsequent technical reports and request a new consultation, and failure to do so was a breach of the duty of procedural fairness owed to the Stoney Nakoda. They asserted the 2016 Assessment cannot be relied on by the Director as determinative of no duty to consult.⁶²

[96] The Intervenors further submitted the Director failed to consider reconciliation and honour of the Crown as part of its obligation to consider the public interest when a decision has the potential to impact Stoney Nakoda Aboriginal and Treaty rights.⁶³ The Intervenors argued the Director was aware the Stoney Nakoda lands border Carraig Ridge, and the Stoney Nakoda had communicated the need for a full consultation to the Preliminary Certificate Holder in 2019.

[97] The Intervenors explained the honour of the Crown is the constitutional principle requiring the Crown to conduct itself honourably with Aboriginal peoples. The Intervenors submitted recent Supreme Court jurisprudence, including *Manitoba Metis Federation Inc. v. Canada Manitoba Metis Federation Inc. v Canada (Attorney General)*, 2013 SCC 14 (Can LII), 2013 SCR 52 (“*Manitoba Metis*”), found it is becoming more certain that the honour of the Crown is engaged in situations where the Crown has an obligation to do something in dealing with Indigenous groups, not just where there may be an obligation to consult.

[98] The Intervenors further explained the ultimate purpose of the honour of the Crown is the reconciliation of pre-existing Aboriginal societies with the assertion of Crown sovereignty. A broad and meaningful application of the honour of the Crown is necessary to advance the goal

⁶¹ See Director’s Record at Tab 19. The 2016 Assessment made a recommendation for no consultation as there were:

1. no impacts on neighbouring groundwater users;
2. proposed pumping rates of the proposed water source wells should not unreasonably interfere with existing users of groundwater resources in the area; and
3. Carraig Ridge water source wells are not connected to reserve water and there are no impacts to First Nation Treaty rights to fish.

⁶² Intervenors’ Submission at paragraphs 33 and 35.

⁶³ The Intervenors referred to the Board’s decision in *Nault and Mitchell v. Director, Southern Region, Regional Services, Alberta Environment, re: Town of Canmore*, 2004 ABEAB 44 (CanLII) at paragraph 32 where the Board stated it “must consider the diverse aspects of the public interest when making its decision and recommendation”.

of reconciliation. The Intervenors submitted the promise of reconciliation is also embodied in section 35 of the *Constitution Act*.

[99] The Intervenors submitted the Alberta Court of Appeal in *AltaLink Management Ltd. v. Alberta*, 2021 ABCA 342 (“*AltaLink*”) recognized, where a tribunal is exercising its statutory powers and responsibilities, it must consider the honour of the Crown and reconciliation when engaged with First Nations and must include in any decision “an analysis of the impact of these principles upon any order made *when raised by the parties and relevant to the public interest.*”⁶⁴ [*Emphasis by the Intervenors.*]

[100] The Intervenors noted the Alberta Court of Appeal in *Fort McKay First Nation v. Prosper Petroleum Ltd.*, 2020 ABCA 163 (“*Prosper*”) found the regulator in *Prosper*, who did not have the jurisdiction to consider the adequacy of the Crown consultation, had an obligation to consider broader concerns such as the Crown’s relationship with the First Nations and matters of reconciliation. The Intervenors submitted the Board, and the Director had the same obligation.

[101] The Intervenors argued the Director’s referral and reliance on the 2016 Assessment was not the end of the Director’s obligations to the Stoney Nakoda. The Director must also consider reconciliation, the honour of the Crown and the impact of the issuance of the Preliminary Certificate on the Stoney Nakoda as part of his public interest mandate. The Intervenors argued the Director must first determine if the Preliminary Certificate would breach the Stoney Nations’ constitutionally protected rights and if it does, its issuance cannot be in the public interest and the Preliminary Certificate should be revoked.

6.3.2. Docken Appellants and Millers

[102] The Docken Appellants and the Millers did not make submissions with respect to this preliminary matter.

6.3.3. Preliminary Certificate Holder

[103] The Preliminary Certificate Holder submitted the Stoney Nakoda filed a Statement of Concern on July 3, 2019, but did not respond to EPA’s request to show how they were directly

⁶⁴ *AltaLink* at paragraph 84.

affected by the Application, so EPA properly rejected their Statement of Concern. The Preliminary Certificate Holder submitted the Intervenor's are now asserting Aboriginal and Treaty rights, when they could have participated in the Application four years ago had they responded to the Director's request.⁶⁵

[104] The Preliminary Certificate Holder submitted the Intervenor's agreed to respect the issues as set by the Board for the appeals. The Preliminary Certificate Holder asked the Board to disregard the submissions of the Intervenor's relating to the adequacy of the consultation despite the Intervenor's arguing the submissions related to Issue 1(c) of the appeals. Adequacy of consultation is outside the jurisdiction of the Board.

[105] The Preliminary Certificate Holder noted ACO recommended no consultation pursuant to the *Government of Alberta's Policy with First Nations on Land and Natural Resource Management* (2013), and the *Government of Alberta's Guidelines on Consultation with First Nations on Land and Natural Resource Management* (2014).⁶⁶

[106] The Preliminary Certificate Holder argued the case authorities cited by the Intervenor's are distinguishable from the facts of the appeals and the Board should apply the same approach as the Alberta Court of Appeal in *Benga Mining Limited v. Alberta Energy Regulator*, 2022 ABCA 30 ("*Benga*") where, similar to the current circumstances before the Board, the Court had the benefit of receiving reports from ACO and participation from Indigenous groups in arriving at its decision.

6.3.4. Director

[107] The Director noted the Intervenor's alleged the decision to issue the Preliminary Certificate was based on incomplete information due to inadequate consultation with the Stoney Nakoda. The Director argued the hearing of the appeals was *de novo* in nature and the Intervenor's may have brought forward at the hearing any information, as potentially affected persons, to support allegations of the potential of adverse impacts to water availability and water supply.

⁶⁵ Written Response Submissions of the Preliminary Certificate Holder Ian MacGregor, October 20, 2023, at paragraph 33 and 34.

⁶⁶ Director's Record, at Tab 19.

[108] The Director submitted, however, the Intervenors included in their submission broad legal positions and assertions regarding Aboriginal and Treaty Rights. The Director asserted the Board does not have the jurisdiction under section 11 the *Jurisdiction Act* to hear and determine matters of constitutional law, noting the Stoney Nakoda are already engaged in litigation regarding such rights in the Court of Kings Bench Action No. 0301-19586.

6.3.5. Analysis and Findings

[109] As previously noted, the Board does not have the jurisdiction to determine questions of constitutional law.⁶⁷

[110] The Intervenors are asking the Board to find the Director based his decision on inconclusive or incomplete information because he did not adequately consult with the Stoney Nakoda. The Board only has the jurisdiction granted to it by the Legislature. Framing a constitutional question so it falls under Issue 1(c) of the appeals does not grant the Board jurisdiction. That would require an act of the Legislature. The Board accepts the evidence of the Director that he appropriately referred and received the 2016 Assessment, and no consultation was required by the ACO with respect to the Carraig Ridge Project.⁶⁸

[111] The Board finds *Manitoba Metis*, *Prosper*, and *Alta Link* are distinguishable on the facts.

[112] In *Manitoba Metis*, the federal Crown failed to implement the land grant provisions set out in section 31 of the *Manitoba Act, 1870* (the “*Manitoba Act*”). The Supreme Court of Canada in *Manitoba Metis* found the honour of the Crown applied outside the duty to consult, as the honour of the Crown obliged the Crown to act with diligence in fulfilling its obligation under section 31 of the *Manitoba Act*.⁶⁹

[113] In *Prosper*, the Fort McKay First Nation (the “FMFN”) appealed the decision of the Alberta Energy Regulator (“AER”) approving an application for a bitumen recovery project located within five kilometres of reserve lands. The FMFN argued negotiation of an access

⁶⁷ *Jurisdiction Act*, section 11.

⁶⁸ See the 2016 Assessment at the Director’s Record Tab 19, page 94.

⁶⁹ *Manitoba Metis* at paragraph 110.

management plan between FMFN and the Crown, and the associated letter of intent from the Crown, gave rise to additional obligations stemming from the honour of the Crown that were beyond the duty to consult on an individual project. The Court allowed the appeal. The Court found, while the AER was prevented from considering adequacy of Crown consultation under section 21 of the *Responsible Energy Development Act*, SA 2012, c R-17.3, the issues before it raised broader concerns including the Crown's relationship with FMFN and matters of reconciliation arising as a result of the state of the negotiations between FMFN and the honour of the Crown should have been considered by the AER.⁷⁰

[114] In *Alta Link*, the Alberta Utilities Commission ("AUC") had decided the additional costs arising from the transfer of electrical transmission lines from AltaLink Management Ltd. to certain partnerships controlled by the Piikani Nation and the Blood Tribe, could not be passed on to rate payers. The AUC, in making its decision, refused to consider the cost savings of routing transmission lines through reserve lands and the intangible benefits arising from a partnership between AltaLink Management Ltd. and the First Nations. While the majority decision did not directly address whether the AUC erred in not considering the honour of the Crown and reconciliation, Justice Feehan, in his concurring decision, stated:

"The Commission has a duty to consider the honour of the Crown where it is relevant to the public interest. The honour of the Crown becomes relevant to the public interest whenever the Crown has an obligation towards an Indigenous collective that invokes the special relationship between the Crown and Indigenous people."⁷¹

[115] With respect to reconciliation, Justice Feehan stated that where an administrative tribunal has a broad public interest mandate it must "address reconciliation as a social concept of rebuilding the relationship between Indigenous peoples and the Crown by considering the concerns and interest of Indigenous collectives."⁷²

[116] The Board finds the matter before the Board is not one where the Crown had an obligation to do something when dealing with Indigenous groups as in *Manitoba Metis, Prosper*

⁷⁰ *Prosper* at paragraphs 56 and 57.

⁷¹ *Alta Link* at paragraph 104 citing *Manitoba Metis* at paragraph 72.

⁷² *Alta Link* at paragraph 121.

or *Alta Link*. The Intervenors have not provided evidence of special relationship between the Intervenors and the Crown not considered by the Director (*Prosper* and *Alta Link*), or evidence of an obligation owed to the Intervenors requiring the Crown to do something which the Crown did not do (*Manitoba Metis*).

[117] The facts in this case are like those in *Benga*, where the Court considered an appeal of the denial by the Joint Review Panel (the “JRP”) of an application for an approval of an open pit coal mine. Two of the Appellants, the Piikani Nation and the Stoney Nakoda First Nations (the “First Nation Appellants”), argued the JRP failed to consider the honour of the Crown as the JRP did not address the economic benefits to the First Nation Appellants if the project proceeded. Despite the record showing the First Nation Appellants were not asked an explicit question as to what they would lose if the project did not proceed, the Court determined JRP had sufficient information before it to assess the socioeconomic impacts of the project⁷³ and the First Nation Appellants had full participation rights in the hearing process and chose the extent to which they participated. On this basis, the Court would not consider any proposed grounds of appeal based on the consideration of the economic benefit of the project in the context of the public interest or honour of the Crown stating:⁷⁴

“Unlike *Prosper*, this was not a situation where a decision-maker refused to consider information by the parties; here the Panel considered information provided by *Benga*, *Stoney Nakoda* and *Piikani*. There was no restriction on any of the parties in relation to what evidence could be filed related to socioeconomic benefits. And, unlike *AltaLink*, this was not a rate case, where different considerations come in to play under a different legislative scheme. Here, unlike the Alberta Utilities Commission in *Altalink*, the Panel had the benefit of receiving reports from ACO, as well as participation from the Indigenous groups in arriving at its decision.”⁷⁵

[118] As in *Benga*, the Board had the benefit of reviewing the 2016 Assessment and the participation of the Intervenors at the hearing.

⁷³ *Benga* at paragraphs 117 and 118.

⁷⁴ *Benga* at paragraph 121.

⁷⁵ *Benga* at paragraph 120.

[119] The Board finds the Intervenors have failed to establish reconciliation and the honour of the Crown would require the Director to consider the impact of the issuance of the Preliminary Certificate on constitutionally protected Aboriginal and Treaty interests and rights.

[120] The Board will consider the Intervenors' other evidence and arguments submitted with respect to the issues of the appeals.

6.4. Admission of the Auditor General Report

[121] On July 26, 2024, the Docken Appellants submitted a copy of the Report of the Auditor General, *Surface Water Management*, Environment and Protected Areas (July 2024) (the "Auditor General Report") to the Board for consideration in the appeals. On July 30, 2024, the Board acknowledged receipt of the Auditor General Report and requested the Parties provide comments on whether the Board should consider this information. On August 6 and 7, 2024, the Board received comments from the Parties.

6.4.1. Docken Appellants

[122] The Docken Appellants submitted the Auditor General Report should be considered by the Board because it related to surface water withdrawals and the appeals are about the withdrawal of surface water at WSW 7711.

6.4.2. Millers

[123] The Millers submitted the Auditor General Report provided context for the appeals and should be considered by the Board. The Millers submitted EPA's approach with respect to the Carraig Ridge Application reflected the shortcomings identified in the Auditor General Report regarding the processes and reporting of surface water allocations. The Millers asserted the shortcomings identified by the Auditor General of Alberta:

"... range from inadequate planning, limited water availability assessments, questionable decision-making discretion and rationale of the Director and ... that [EPA] cannot be relied-upon to undertake required monitoring, consequences and corrective action where the applicant's compliance is lacking or not to be trusted."⁷⁶

⁷⁶ Letter from Bob Miller to the Board dated August 6, 2024, at page 1.

[124] The Millers further submitted the Board should admit this information because it allowed the Board to consider the appeals in the context of managing water resources in Alberta from basin wide planning to site specific planning, licencing, and compliance monitoring.

6.4.3. Preliminary Certificate Holder

[125] The Preliminary Certificate Holder submitted the Board should not consider the Auditor General Report as it was an opinion report related to surface water licences, irrelevant to the appeals and it was too late in the appeal process to admit new, untested opinion evidence.

6.4.4. Director

[126] The Director submitted the Board should not admit the Auditor General Report as it deals with surface water management not groundwater licencing, which is the subject of the appeals.

6.4.5. Analysis and Findings

[127] The Auditor General Report documents the results of an audit conducted by the Auditor General of Alberta of “the processes that [EPA] uses to manage surface water allocation and use, and its public reporting on managing surface water.”⁷⁷ The Auditor General Report does not address the licencing and allocation of groundwater.

[128] The Board appreciates the Appellants efforts in bringing the Auditor General Report to its attention. The Board acknowledges certain conclusions made by the Auditor General regarding allocation of surface water were not unlike the concerns raised by the Appellants regarding the allocation of groundwater at WSW 7711. However, as the Board determined WSW 7711 is not hydraulically connected to surface water, it would be inappropriate for the Board to speculate that the Auditor General Report, which is in respect of allocation of surface water, has applicability to the allocation of groundwater from an isolated, confined aquifer. Further, for the Board to consider admitting additional evidence at the late stages of the hearing process, the evidence would have to relate directly to the matters before the Board. The Board finds the Auditor

⁷⁷ Auditor General Report at page 1. The Auditor General Report defines ‘allocation’ in footnote 1 at page 1 of the Auditor General Report as meaning “the volume, rate, and timing of water that the government permits water licence holders to withdraw from a water source in one year”.

General Report does not meet this requirement. On this basis the Board denies the motion of the Docken Appellants to admit the Auditor General Report.

7. EVIDENCE AND ARGUMENTS

7.1. Issue 1(a) - Hydraulic Connectivity of the WSW 7711

1. Was the Director's decision to issue the Preliminary Certificate to Ian MacGregor appropriate and in accordance with the requirements of the *Water Act*? This is including, but not limited to:

a. Did the Director's decision adequately consider the hydraulic connectivity of WSW 7711 to reserved water?

7.1.1. Intervenors

[129] The Intervenors made no submissions with respect to Issue 1(a) of the appeals.

7.1.2. Docken Appellants

[130] The Docken Appellants consisted of 22 individuals and the municipal government of the Village. The Docken Appellants submitted they shared a common concern for the natural environment and their domestic water wells.

[131] At the hearing, three of the Docken Appellants, Rod Keller, Anthony Fink, and John Walsh, as well as the Docken Appellants' expert, Mark Bowles, M.Sc., P.Geol., Principal Hydrogeologist, Baseline, appeared as witnesses. Mr Bowles prepared the Baseline 2023(a) Report and the Baseline 2023(b) Report.

[132] The Docken Appellants requested the Preliminary Certificate be revoked because the Aquifer supplying WSW 7711 is hydraulically connected to Arkayla Springs and constitutes reserved water under the Allocation Order and cannot be allocated under a preliminary certificate or a licence.⁷⁸

[133] The Docken Appellants submitted the Director erred in relying on a flawed conceptual hydrogeological model that did not consider Arkayla Springs and Arkayla Canyon.

⁷⁸ Section 2 of the Allocation Order states:

"2 All the water in the Bow River Basin, Oldman River Basin and South Saskatchewan River Basin that is not, on the date this Order is filed under the *Regulations Act*, allocated under a licence or registration or specified in a preliminary certificate is reserved."

[134] The Docken Appellants submitted the evidence did not support the Director's conclusion the Aquifer was confined and of limited extent.

[135] Mr. Bowles testified Arkayla Springs are located about 400 metres southeast of WSW 7711 flowing all year and based on a comparison of their relative water levels, are topographically and geologically downgradient from WSW 7711. Mr. Bowles submitted the primary flow of groundwater in the area was from WSW 7711 towards Arkayla Springs.

[136] Mr. Bowles stated he made a site visit to Arkayla Springs, Arkayla Canyon, and Arkayla Creek, which are in the Arkayla Preserve owned by Mr. Keller. Mr. Bowles provided photographic evidence to show Arkayla Canyon is a deep valley incised into the syncline structure in which the Aquifer is located and is a significant topographic feature. Mr. Bowles testified Arkayla Springs flow out of the bedrock in Arkayla Canyon and feed Arkayla Creek, which eventually disappears into the alluvial gravels underlying the Village, supplying the Village water wells.

[137] Mr. Bowles explained the axis of the syncline structure in which the Aquifer is located is along the property line between Carraig Ridge and Arkayla Preserve.⁷⁹ He stated the hydrogeological conceptual model created by Waterline in 2017 showed geological pressure had caused significant fractures to form along the axis of the syncline and within the subsurface beds. Mr. Bowles further testified the rock outcrops at Arkayla Canyon could be viewed at the surface and consisted of alternating layers of heavily fractured sandstone and micro fractured siltstone, not shale as asserted by the Preliminary Certificate Holder. The Docken Appellants submitted the heavy fracturing of the subsurface at the axis of the syncline together with the layers of fractured sandstone and micro fractured siltstone provided a direct pathway for water to flow across the geological substructure units from WSW 7711 to Arkayla Springs.⁸⁰

⁷⁹ See the Waterline (2017) Report, Figure 2, Director's Record at page 1278.

⁸⁰ At the hearing, Mr. Bowles referred to three cross-sections of the subsurface syncline included in the Baseline 2023(a) Report (Figure 7, Figure 8 and Figure 9) which were oriented to include Arkayla Springs, Arkayla Creek, and Arkayla Canyon and which show the alternating layers of fractured sandstone and micro fractured siltstone and the fractures along the axis of the syncline cutting across geological units, facilitating a hydraulic connection between the Aquifer and Arkayla Springs.

[138] Mr. Bowles testified during his site visit of the area he observed two primary structural orientations for the fractures at the outcrops of Arkayla Canyon. He stated, this was important because the fracture orientations, when plotted on a Fracture Orientation Stereonet, showed the two primary fracture orientations in the area to be north, northwest to south, southeast and northeast to southwest or towards Arkayla Springs.⁸¹ Mr. Bowles noted well data obtained from well testing elsewhere on the Carraig Ridge property, which tracked the flow path of potential contamination from potassium chloride contained in drilling mud, showed the flow orientation in this area was north, northwest to southeast or towards Arkayla Springs.

[139] Mr Bowles submitted the evidence did not support the Director's conclusion that the Aquifer was confined because it was bounded above and below by an impermeable layer of shale. Mr. Bowles submitted, based on his observations of the rock outcrops at Arkayla Canyon, the sandstone layers of the syncline were not bounded by impermeable layers of shale, instead are bounded by micro fractured siltstone which facilitates the flow of groundwater.

[140] Mr. Bowles testified he did not observe shale at Arkayla Canyon. Mr. Keller, the landowner of Arkayla Preserve, and Mr. Fink, a resident of the Village also both testified they had not observed shale on the Arkayla Preserve. Mr. Fink explained to the Board he had a combined honours degree in geology and geophysics and as a geoscientist he had spent time on Mr. Keller's property as he had always been interested Arkayla Creek and Arkayla Canyon, and the aquifers under the Village supplying his well.

[141] Mr. Bowles submitted it is possible the well drillers misidentified the siltstone layers as shale when analysing the drilling core samples. He explained, when drilling a water well, the driller is concerned with two things, "water bearing sandstones" and "everything else."⁸²

[142] Mr. Bowles submitted the evidence does not support the existence of boundary conditions limiting the hydraulic connectivity of WSW 7711 to the east. The Docken Appellants argued that Dr. Wang had erred in concluding the Aquifer was of limited lateral extent based on his analysis of data from Pump Test C. Dr. Wang had created a graphical curve representing the

⁸¹ Docken Appellants' Hearing Presentation at slides 47 and 48.

data from Pump Test C which Dr. Wang asserted matched the expected curve of a confined aquifer with boundary conditions limiting its lateral extent. The Docken Appellants argued the curve representing the data from a single pump test was not a reliable indicator of boundary conditions because the rate at which the aquifer was pumped over the extended twenty-one-day period of the Pump Test C resulted in the Aquifer being mined. The Docken Appellants noted that Dr. Wang had stated the no-flow boundaries observed in Pump Test C could alternatively be due to the Aquifer being stressed beyond its capability due to the pumping rate and duration of the pump test rather than due to the drawdown cone intercepting one or more thrust faults.⁸³

[143] The Docken Appellants submitted Dr. Wang's analysis also did not consider certain transient conditions that are difficult to model, such as seasonal recharge and that the data used by Dr. Wang could be interpreted differently depending on the assumptions applied. The Docken Appellants argued there was also no evidence that even if such boundary conditions existed, they were oriented to isolate WSW 7711 from Arkayla Springs.

[144] The Docken Appellants argued differing boundary conditions identified by Intrinsic for WSW 7711 and OBS 6036⁸⁴ also should not be relied upon by the Board. The Docken Appellants noted Dr. Wang, in February of 2022, stated that EPA was unable to accept this kind of interpretation:

“Given the distance from ... WSW 7711 to ...OBS 6036 is only 13 m, both wells are assumed to be in the same groundwater flow field during the pumping test. It is hard to understand why the boundary conditions used for the pumping test data interpretation for WSW 7711 and OBS 6036 are totally different.

Furthermore, the boundary conditions assigned for the pumping test interpretation must have the geological and hydrogeological meaning. Otherwise, it is so arbitrary that the match to the pumping test is meaningless.”⁸⁵

The Docken Appellants also noted that despite the comments made by Dr. Wang, no additional scientific data was provided by the Preliminary Certificate Holder to EPA.

⁸³ See Letter from Dr. Wang to the Preliminary Certificate Holder dated September 5, 2017, Director's Record at page 386.

⁸⁴ The Intrinsic (2022) Report identified constant head boundaries on the north, south and east sides of WSW 7711, and with respect to OBS 6036 located 13 metres away from WSW 7711, a constant head boundary to the east and a no-flow boundary to the west of OBS 6036.

⁸⁵ Director's Record at page 606.

[145] Mr. Bowles explained two thrust faults existed in the area, one to the west of WSW 7711, between WSW 7711 and the Quinn Well, and one to the east of Arkayla Springs, between Arkayla Springs and the Keller Well. He submitted the thrust faults did not limit the potential for hydraulic connectivity between WSW 7711 and the Aquifer because neither was between WSW 7711 and Arkayla Springs.⁸⁶

[146] Mr. Bowles submitted analysis of the groundwater showed similarities in groundwater chemistry data from samples taken at WSW 7711 and Arkayla Springs supporting the potential for hydraulic connection between WSW 7711 and Arkayla Springs. Mr. Bowles argued the Director erred when he concluded the geochemical analysis of sodium and total dissolved solids concentrations showed groundwater from Arkayla Springs was not of similar chemical composition as the Aquifer, because water samples analysed were obtained from WSW 7711 while pumping. Mr. Bowles submitted Arkayla Springs flows naturally and the Director did not consider that changes in concentrations of sodium ions and total dissolved solids may occur when WSW 7711 is pumping, reflecting the pathway the groundwater was following. If non-pumping or early pumping conditions were considered for WSW 7711, the Docken Appellants argued the range of sodium and total dissolved solids concentrations sampled from WSW 7711 and Arkayla Springs were virtually identical, indicating a hydraulic connection.⁸⁷

[147] Mr. Bowles submitted the evidence showed the Aquifer was hydraulically connected to deeper and older groundwater because during late stages of Pump Test C geochemical analysis showed sodium concentrations increased.

[148] The Docken Appellants submitted pump test data obtained from the pump test of WSW 7711 in March 2017 (“Pump Test A”), and from Pump Test C, in April 2017, exhibited seasonal recharge events likely associated with meltwater infiltration from snow and ground frost due to the time of year the tests were undertaken, indicating it was unlikely the Aquifer was

⁸⁶ The Board notes that at the hearing, Dr. Wang asserted that the easterly thrust fault was between WSW 7711 and Arkayla Springs, and therefore limited the extent of the Aquifer. However, on cross-examination by Mr. Bowles, Dr. Wang acknowledged that the easterly thrust fault was east of both WSW 7711 and Arkayla Springs.

⁸⁷ Final Written Closing of the Appellants, February 20, 2024, (“Docken Appellants’ Final Written Closing Argument”) at pages 13 to 15 and Table 1.

confined vertically. The Docken Appellants noted subject matter experts from EPA,⁸⁸ Waterline⁸⁹ and Fluid Domains,⁹⁰ all concluded there was local recharge to the Aquifer from rain and snowmelt.

[149] The Docken Appellants submitted evidence of a regional declining pressure trend identified in the Waterline (2019) Report⁹¹ and a regional groundwater trend identified in the Intrinsic (2022) Report⁹² indicated leakage from the Aquifer, which meant the Aquifer was not confined.

[150] The Docken Appellants noted the Preliminary Certificate Holder's expert in its Intrinsic 2022 Report also concluded there was no evidence to suggest the Aquifer was in a closed system:

“The well test interpretation identified bilinear flow in late time which is an indication of permeable faults and the interpretation also consistently identified the presence of constant head boundaries. *This, along with the observation of a regional groundwater trend, indicates the wells are located within an open shallow groundwater system. There is no evidence that the aquifer is in a closed system or bounded by no flow boundaries preventing groundwater flow.*”⁹³ [Emphasis by the Docken Appellants.]

[151] The Docken Appellants submitted the Director erred in concluding the lack of a drawdown in the Quinn Well (which is closer to WSW 7711 than Arkayla Springs) was evidence the Aquifer is in a closed system. The Quinn Well draws from a much deeper aquifer, is hydraulically isolated from WSW 7711 by a thrust fault and is situated in a direction not aligned with the predominant fracture flow orientation which controls groundwater flow.

7.1.3. Millers

[152] Bob and Sheila Miller are full time residents of the Village.

⁸⁸ See Memorandum dated July 2, 2019, to Dr. Wangs from Jeff Gutsell, M.Sc., P. Geol. EPA District Hydrogeologist (Lethbridge), Director's Record at page 430.

⁸⁹ See Waterline (2017) Report, Director's Record at page 1165.

⁹⁰ See Fluid Domains Report, Director's Record at page 1304.

⁹¹ Director's Record at page 1262.

⁹² Director's Record at page 1476.

⁹³ Intrinsic 2022 Report at page 76.

[153] Much of the Millers' evidence and argument was based upon the failure of the Preliminary Certificate Holder to undertake the required technical studies or provide the Director, even when requested to do so, with substantive evidence to determine if WSW 7711 is or is not connected to surface water. The Millers expressed their concern the other issues before the Board would not be considered further if the Board determines the system is closed and not connected to surface water.⁹⁴

7.1.4. Preliminary Certificate Holder

[154] The Preliminary Certificate Holder (Ian MacGregor) and Vance Mathews, Principal Hydrogeologist, Intrinsic, appeared as witnesses at the hearing.

[155] The Preliminary Certificate Holder testified at the hearing he had been proceeding with the plans for the Carraig Ridge development since 2007. He stated that his family owned the lands on which Carraig Ridge was located since 2005 and they also owned the lands on which a conservation easement was placed enabling Carraig Ridge to go forward. The development was meant to be a legacy for his family.

[156] The Preliminary Certificate Holder submitted that in 2014 he applied under the *Water Act* for a licence to divert 23,725 m³/year of groundwater for residential purposes to supply the development of 45 homes at Carraig Ridge. Over the next 8 years, the Preliminary Certificate Holder and his consultants had discussions and meetings with EPA and provided several expert technical reports, well test data and other data to EPA. As a result of this process, the volume of water requested to be diverted was reduced to 6,205 m³/year and the number of homes to be developed to 44.

[157] The Preliminary Certificate Holder told the Board they had taken all possible steps to reduce planned water consumption at Carraig Ridge by requiring low water use fixtures, monitoring for leaks in the water supply system and the use of storage tanks so pumping of WSW 7711 could be managed. The Preliminary Certificate Holder stated the diversion rate of 6,205 m³/year would be sufficient to service the development of 44 homes at Carraig Ridge, based on public water usage data available for the town of Cochrane.

⁹⁴ Millers' Final Written Closing Argument at paragraph 8.

[158] The Preliminary Certificate Holder explained at the hearing that Carraig Ridge is approximately 670 acres. The Preliminary Certificate Holder stated under the *Water Act*, one water well that produces up to 1,250 m³/year could have been drilled for each 40 acres of land at Carraig Ridge, for a total of sixteen individual wells, diverting up to a total of 20,000 m³/year without obtaining a diversion licence.⁹⁵ The Licence applied for provides for a diversion of approximately one third of that volume.

[159] The Preliminary Certificate Holder stated all the necessary regulatory permits to allow Carraig Ridge to proceed had been obtained and two homes have been built with two more under construction. It is anticipated one and a half homes will be built per year, taking another 25 years to fully complete the development.

[160] At the hearing, Mr. Mathews provided the Board a technical presentation of his conclusions set out in the reports he had prepared for the Carraig Ridge Application. The Preliminary Certificate Holder explained he engaged Mr. Mathews in 2019 for purposes of reviewing the work previously completed by Waterline. Mr. Mathews has specialized training in well test interpretation and was the primary author of the Applied Aquatics Report which evaluated the hydraulic connectivity between Ghost Lake and certain Village wells. Mr. Mathews prepared the Intrinsic (2019) Report, the Intrinsic (2022) Report, and the Intrinsic (2023) Report.

[161] Mr. Mathews testified there was no evidence the Aquifer was hydraulically connected to wells on neighbouring properties, wells located in the Village, or Arkayla Springs based on:

1. geochemical analysis;
2. the structural complexity of Carraig Ridge;
3. interpretation of pumping test and water level data; and
4. well elevations.

Geochemical Analysis

[162] Mr. Mathews submitted hydro chemical evidence from samples taken at WSW 7711 and Arkayla Springs showed groundwater flowing to Arkayla Springs was served by a

⁹⁵ See *Water Act*, section 51(6).

different source than WSW 7711. He stated it was expected, as groundwater flows downgradient, both sodium and total dissolved solids concentrations would increase. Sodium concentrations increase because natural softening of groundwater occurs as groundwater flows through the subsurface. However, given the short flow distance between WSW 7711 and Arkayla Springs (400 metres), Mr. Mathews was of the view geochemical analysis showed sodium concentrations were higher than expected at Arkayla Springs when compared to WSW 7711, and total dissolved solid concentrations were lower than concentrations found in samples from WSW 7711, indicating a lack of hydraulic connectivity.

[163] Mr. Matthews stated there were several different isolated flow systems in the Carraig Ridge area based on his analysis of the hydro chemical differences in major ion composition between WSW 7711 and other sampling points at Carraig Ridge. This was not unexpected for an area subject to folding, thrust faults, and fracturing. Mr. Matthews submitted water sampled at Arkayla Springs did not have the same chemical composition as the Aquifer as its chemical composition fell between the chemical composition of water sampled at the Keller Well and at WSW 7711. Mr. Matthews acknowledged the Durov Plot used by Baseline, which shows the relative concentration of certain ion groups, was a starting point for geochemical assessment. Mr. Matthews stated further analysis was necessary to ensure the geochemical analysis was complete.

[164] With respect to the change in water chemistry occurring during the later stages of Pump Test C, the Preliminary Certificate Holder did not agree it was evidence of the Aquifer drawing from deeper, older groundwater. The Preliminary Certificate Holder argued, if the Aquifer were hydraulically connected to a deeper groundwater system, it would have provided pressure support to WSW 7711 and resulted in a much higher yield at WSW 7711. Further, Mr. Mathews submitted changes in groundwater quality parameters can also occur due to geochemical processes.

Structural Complexity of Carraig Ridge

[165] Mr. Matthews submitted the preferential groundwater flow path in the Carraig Ridge area is north to south and does not support west to east hydraulic connectivity between WSW 7711 and Arkayla Springs. Mr. Matthews told the Board two fracture sets were identified

for the Aquifer. The primary set of fractures were oriented parallel to the bedding of the syncline at an average strike of 330 degrees, and the second of fractures were oriented perpendicular to the bedding of the syncline at an average strike orientation of 170 degrees.⁹⁶ Mr. Mathews explained the strike of a fracture indicated the direction of the fracture plane. In this case, it meant the flow of groundwater for the Aquifer would be north to south, not west to east.

[166] Mr. Mathews noted the lack of drawdown at the Quinn Well (located 150 metres southwest of WSW 7711) during the pumping of WSW 7711 supported the presence of a north to south trending flow barrier between the Quinn Well and the Aquifer. Hydro chemical dissimilarities also indicated a lack of west to east hydraulic connectivity.

[167] Mr. Matthews referred to the Docken Appellants' hearing presentation referencing wells drilled to the north of Carraig Ridge for purposes of tracking the subsurface movement of a chloride plume.⁹⁷ At the hearing, Mr. Mathews stated that the chloride plume was moving topographically downgradient, but its flow is being impeded to the east because the open fractures through which the chloride plume was flowing generally were measured to show that they closed to the east. As a result, Mr. Mathews stated the movement of the chloride plume would be north to south not west to east, as was suggested by the Docken Appellants. Mr. Matthews stated the considerable exploratory work and analysis completed with respect to those wells indicated there was a high degree of correlation between the fracture orientation determined for the area north of Carraig Ridge, and the north to south orientation determined at WSW 7711.

[168] It was also determined fractures in the area north of Carraig Ridge were measured to close at depth due to the pressure of overlaying layers of rock or overburden pressure, indicating the fracture length of the Aquifer is likely limited.

Well Test Interpretation

[169] Mr. Matthews submitted the purpose of well test interpretation is to determine the response of the Aquifer, the extent of the influence of the pumping test, what the well drainage

⁹⁶ Intrinsic (2022) Report at Figure 125, Director's Record at page 1608.

⁹⁷ See Docken Appellants' Power Point Presentation (November 18, 2024) at slide 85.

area looks like, and the behaviour of the Aquifer. As part of the analysis, to determine the Aquifer's lateral extent, it was necessary to determine if boundaries for the Aquifer existed.

[170] Mr. Matthews explained pump test data showed the wells in the Carraig Ridge area responded differently based on whether the well was completed in a fracture, completed in a poorly connected fracture, or completed in the rock matrix (not in a fracture).⁹⁸ He submitted differing boundary conditions were found for each of WSW 7711 and OBS 6036 because WSW 7711 was completed in a fracture, while OBS 6036 was only partially completed in a fracture.

[171] Mr. Matthews submitted his analysis of the pumping tests for WSW 7711 showed the Aquifer was of limited extent. The pumping tests established no-flow boundaries for WSW 7711 about 200 metres to the north and south, and a constant head boundary about 100 metres to the east.⁹⁹ Mr. Matthews explained, when WSW 7711 was pumped, the drawdown cone would hit the boundaries to the north, south, and east.¹⁰⁰ OBS 6036 had different boundaries than WSW 7711, being a closer no-flow boundary to the west and a closer constant head boundary to the east.¹⁰¹

[172] Mr. Matthews stated he determined the effective fracture length "supports an interpretation of a poorly connected area in the vicinity of the WSW 7711 and OBS 6036 wells". Effective fracture length at WSW 7711 was determined to be limited at approximately 50 meters.¹⁰² Mr. Matthews stated, when the limited fracture length is taken together with the limited productivity of WSW 7711 and the boundary conditions determined for WSW 7711, it indicated the Aquifer is of limited extent.

[173] In cross examination, Mr. Matthews was asked about the permeability of the constant head boundary identified by Intrinsic to the east of WSW 7711, between WSW 7711 and

⁹⁸ See Intrinsic (2019) Report at page 10, Director's Record at page 1321 where Intrinsic determined that the Aquifer was a double porosity bedrock aquifer overlain by alternating shales and sandstones characterized by porous matrix blocks of sandstone and discrete fractures networks within the sandstone bedrock.

⁹⁹ Intrinsic (2022) Report at Figure 80, Director's Record at page 1563.

¹⁰⁰ Intrinsic (2022) Report at Figure 81, Director's Record at page 1564.

¹⁰¹ Intrinsic (2022) Report at Figure 79, Director's Record at page 1562.

¹⁰² Intrinsic (2022) Report at page 33, Director's Record at page 1433.

the Arkayla Springs.¹⁰³ Mr. Matthews stated a constant head boundary would not be impermeable but would keep water levels in the Aquifer at a particular level or hydraulic head, unlike a no-flow barrier which is like an impermeable wall. Mr. Matthews submitted, based on the well responses he analysed, the Aquifer showed a significant drawdown (draining quite quickly) when WSW 7711 was pumped. He submitted the significant drawdown was due to the limited length of the fracture of approximately 50 metres, the high permeability of the fracture and the low permeability but high storage of the matrix block. Mr. Matthews stated the constant head boundary:

“... wouldn’t be impermeable. ... It’ll keep the head at that level but what is interesting is when you take a look at the analyses, the drawdown in the aquifer is still quite significant. So, I don’t think [the constant head boundary] is able to provide water into this area as you would necessarily expect. You wouldn’t expect such ... extreme drawdowns.”

[174] In response to the Docken Appellants’ assertion the Director erred in finding there was a thrust fault to the east of WSW 77111 between WSW 7711 and Arkayla Springs limiting the extent of the Aquifer, the Preliminary Certificate Holder submitted the Docken Appellants failed to consider that a no-flow barrier was identified by Dr. Wang between WSW 7711 and Arkayla Springs. The Preliminary Certificate Holder argued the no-flow barrier, together with the fracture orientation and limited fracture length, does not support a hydraulic connection between the Aquifer and Arkayla Springs.

[175] In response to the assertion by the Docken Appellants that the sandstone layers of the syncline were bounded by fractured siltstone, Mr. Mathews stated it did not matter whether the bounding layers were shale or siltstone. Mr. Mathews explained that groundwater follows the preferential pathway through the sandstone layers from north to south, based on the orientation of the fractures. Sandstone is the preferred pathway for groundwater flow because sedimentary rocks like mudstone, siltstone, and shale have ductile properties that do not fracture as much as sandstone. Mr. Mathews noted Baseline’s assertion that there existed a highly fractured network of shale along the axis of the syncline allowing groundwater to flow west to east, is not supported by any subsurface exploration or drilling.

¹⁰³ Intrinsic (2022) Report at Figure 79, Director’s Record at page 1562.

[176] Mr. Mathews also noted shale was found in core samples drawn on the lands north of Carraig Ridge, was encountered by the Preliminary Certificate Holder at Carraig Ridge, and, based on information in the public domain, shale or mudstone had been found in the subsurface of the area.

Water Level Data and Well Elevations

[177] Mr. Mathews submitted the completion intervals and the water levels of each of the Keller Well, the Quinn Well, WSW 7711 and the other source wells WSW 7791 and WSW 7709 were not the same or in equilibrium, indicating they are not hydraulically connected to WSW 7711.¹⁰⁴

[178] Mr. Matthews submitted Arkayla Springs, and the Village water wells were not ignored in the modelling completed by the Preliminary Certificate Holder. It was determined, as there was no evidence to support a hydraulic connection, Arkayla Springs and the Village wells would not be adversely affected by pumping WSW 7711. Water levels of the wells in the Village are significantly lower than WSW 7711¹⁰⁵ and the Applied Aquatics Report suggests a higher degree of connection to the Ghost Reservoir than to WSW 7711, so pumping of WSW 7711 would not have an adverse impact on the Village wells.

Lack of Evidence of Hydraulic Connectivity

[179] The Preliminary Certificate Holder submitted the evidence provided by the Appellants was not sufficient to establish hydraulic connectivity between the Aquifer and surface water because Baseline:

1. did not complete a full geochemical assessment using samples collected from WSW 7711 and Arkayla Springs at the same time;
2. relied on Durov Plots, which are used in geochemical analysis to show the relative concentration of certain ion groups as a starting point for geochemical analysis. The use of Durov Plots by Baseline was an oversimplification, was not up to technical scrutiny or scientifically defensible, and did not address the evolution of groundwater and processes that occur in a groundwater system, such as weathering, disilusion, mineralization, precipitation, or hardness;

¹⁰⁴ Intrinsic (2022) Report at Figure 289, Director's Record at page 1772.

¹⁰⁵ Intrinsic (2022) Report at Figure 291, Director's Record at page 1774.

3. did not perform or complete subsurface structural work, collection of cores, measurement of fractures, fracture orientation, fracture closure, fracture length or connectivity;
4. did not acquire new pump test data or analyse existing pump test data to provide evidence of the potential for hydraulic connectivity;
5. relied on visual observations and surface mapping from a site visit to the Keller property which was an oversimplification; and
6. relied on information developed by Waterline and failed to consider the additional analysis completed by Intrinsic.

7.1.5. Director

[180] At the hearing, Director Craig Knaus, the designated director who made the decision to issue the Preliminary Certificate, and Dr. Jianrong Wang, Ph.D., P.Geol., EPA Senior Hydrogeologist appeared as witnesses.

[181] The Director explained he had assumed responsibility for the Carraig Ridge Application in November of 2021 following five different directors being responsible for the Application since it was first submitted, noting the other directors were no longer with EPA. The Director submitted his decision to issue the Preliminary Certificate was appropriate as it was based on his understanding and review of the available technical information provided by the Preliminary Certificate Holder, as supplemented by EPA'S subject matter experts' technical reviews and recommendations.

[182] The Director described the application process as follows:

1. Application is received.
2. Administrative review for completeness.
3. EPA subject matter expert review.
4. First Nation Consultation.
5. Public Notice of Application and Statements of Concern review.
6. Recommendation to the Director for Decision.
7. Decision by Director to issue or refuse to issue the water licence or preliminary certificate.¹⁰⁶

¹⁰⁶ Director's Hearing Presentation at page 2.

[183] The Director stated, throughout the application process, EPA must abide by the concept of administrative fairness and ensure decisions are fair and reasonable and made without bias. From a regulatory perspective, the Director stated the decisions must be made on a timely basis, must consider applicable legislation and regulatory policies such as the *Approved Water Management Plan for the South Saskatchewan River Basin (Alberta)* (EPA, August 2006) (the “Approved Water Management Plan”) and the Allocation Order, and must balance economic and social considerations for environmental protection as required by the *Water Act*.

[184] The Director stated he was precluded from basing his decision on an incomplete file, noting the administrative completeness review was completed in 2014. The Director explained that once the file is determined administratively complete, EPA works with an applicant to try to satisfy the technical issues or gaps through supplemental information requests (“SIRs”), which identify any potential concerns and determine if appropriate mitigations are in place to minimize the potential risks.

[185] The Director submitted, as part of the Application process, ACO was consulted and on December 15, 2016, a recommendation was received from ACO stating no consultation was required.¹⁰⁷ The Director stated that despite the receipt of additional technical reports and information, no additional consultation with ACO was required because the information originally submitted to ACO had not changed, the Carraig Ridge development was on private lands and did not result in a disturbance to Crown lands, WSW 7711 was not connected to reserved water, and the proposed pumping rates and volumes would not interfere with existing groundwater users.

[186] The Director stated as part of the Application process, the Preliminary Certificate Holder was required to undertake a public consultation process, to provide the public information on the proposed activity and the opportunity to provide comments. Notice of the Application was posted in the Rocky Mountain Outlook newspaper, on EPA’s website, at the Carraig Ridge site and sent by mail to Mr. Keller, who owned the neighbouring property. In response, 35 statements of concern were received, of which EPA found 32 of the statement of concern filers to be directly

¹⁰⁷ Director’s Record, Part 2, Tabs 18 and 19.

affected. The Preliminary Certificate Holder was required to respond to the concerns raised by the statement of concern filers.

[187] The Director submitted the evidence supported the issuance of the Preliminary Certificate and nothing in the hearing submissions or arguments provided by the Appellants or the Intervenors would have impacted the outcome of his decision.

[188] Dr. Wang made a presentation to the Board at the hearing regarding the technical information relied upon to make his recommendation to the Director to issue the Preliminary Certificate. Dr. Wang submitted there was no evidence of hydraulic connectivity between WSW 7711 and Arkayla Springs based on:

1. the geological structure;
2. the hydrogeology; and
3. water chemistry of the area.

Geological Structure

[189] Dr. Wang explained Carraig Ridge is located on the axis of a syncline structure formed in the Brazeau Formation and consists of alternating layers of sandstone and shale. Dr. Wang submitted that for WSW 7711 to be hydraulically connected to Arkayla Springs the sandstone in which the Aquifer is located would have to either have a hydraulic connection to the overburden, if Arkayla Springs was fed by overburden, or would have to feed Arkayla Springs directly through a connected sandstone layer.

[190] Dr. Wang submitted there are geological factors limiting the potential for a hydraulic connection between WSW 7711 and Arkayla Springs. Dr. Wang was of the view the Aquifer was in a closed system because it was bounded above and below by impermeable layers of shale, making it a confined aquifer, and it was also limited in lateral extent. Dr. Wang submitted WSW 7711 and Arkayla Springs are on opposite sides of the axis of the syncline structure and the sandstone layers in the syncline are relatively thin when compared to the layers of shale. Dr. Wang argued, due to the geological pressure because of the folding of the syncline around the axis, there was an increased potential for the thin sandstone layers in the area to be “pinched off,” limiting the hydraulic connectivity.

[191] Dr. Wang further submitted the conceptual cross section used in his presentation at the hearing to depict the syncline was for illustration purposes, and not to scale.¹⁰⁸ If the actual formation were depicted to scale, Dr. Wang submitted there would be at least twice as many sandstone layers. The number of layers of sandstone and their relative thickness made it unlikely Arkayla Springs and the Aquifer accessed the same sandstone unit or the fracture network extended through the thicker shale network connecting layers of sandstone.¹⁰⁹

[192] Dr. Wang stated the subsurface at Carraig Ridge is complicated because of the existence of the syncline and thrust faults. He explained a thrust fault is created when compression causes the bedrock to break and move in different directions causing a geological unit to be disconnected from other geological units, and in this case, creating aquifers that are only accessible to the property directly above. Dr. Wang noted there are several thrust faults limiting the hydraulic connectivity of WSW 7711. The thrust faults were oriented north to south with one being located west of WSW 7711, and the other east of WSW 7711 and Arkayla Springs, isolating WSW 7711 from the Keller Well, and wells located on the Stoney Nakoda lands to the east of WSW 7711.

[193] On cross examination, Dr. Wang was asked if there was a fracture system in proximity to the axis of the syncline through which groundwater could flow. Dr. Wang responded that fractures not only depend on the geological force, but on the characteristics of the geological units. If the sandstone layers were relatively thick compared to thinner shale layers, a regional fracture network could be created. However, as most of the syncline was shale and the sandstone layers were relatively thin, Dr. Wang did not believe the fractures could extend further.

[194] When asked if his opinion would change if the sandstone layers were confined by layers of siltstone not shale, Dr. Wang submitted differing hydrogeologists would prefer differing models of the subsurface based on their professional opinions. Dr. Wang stated, if a regional fracture system existed allowing the flow of groundwater, it would be expected there would be more production from other wells located close to the axis of the syncline, which was not the case.

¹⁰⁸ Director's Hearing Presentation at slide 21.

¹⁰⁹ At the hearing, Dr. Wang explained that based on his analysis of the drilling data for WSW 7711, he had determined that the average thickness of the sandstone layers in the area was 5.12 metres and the ratio of sandstone to well depth was 44.27 percent.

Hydrogeology

[195] Dr. Wang submitted the hydrogeological analysis did not support a hydraulic connection between the Aquifer and Arkayla Springs or other subsurface aquifers in the area.

[196] Dr. Wang explained the pump test of a water well is required to determine how water is flowing underground. Under EPA policy, for a small request of water, a 24-hour pump test is required and for a larger request, a 72-hour pump test is required.¹¹⁰ The longest pump test was Pump Test C at 21 days or three times the maximum requirement of the groundwater guideline.

[197] Using Pump Test C data, Dr. Wang compared a standardized template of a semi-log typical curve to pump test data and concluded the curve created was best represented as a barrier boundary curve. This indicated the Aquifer was a confined aquifer with two or more no-flow boundaries and therefore, part of a closed system and not hydraulically connected to Arkayla Springs or any other subsurface aquifers.

[198] Dr. Wang noted Pump Test C mined the Aquifer because of the length of the test and the high rate at which the well was pumped. Dr. Wang argued this indicated there was no extensive outside of site location feed for the Aquifer and supported the conclusion that groundwater recharge supply for WSW 7711 was limited.¹¹¹

[199] Dr. Wang also noted OBS 6036 was affected during Pump Test C indicating it was in the same aquifer as WSW 7711. However, the Quinn Well, located 150 meters to the west of WSW 7711 and the other test wells on the Carraig Ridge site, located a minimum of 500 metres away from WSW 7711, were not impacted, indicating they were not in the same aquifer as WSW 7711 and were geologically isolated.

Water Chemistry

[200] Dr. Wang submitted the water chemistry of the Arkayla Springs did not support a hydraulic connection with WSW 7711 because total dissolved solids concentrations in Arkayla

¹¹⁰ See Appendix 2, Guide to Groundwater Authorization.

¹¹¹ Director's Hearing Presentation at slide 33.

Springs were relatively smaller than concentrations found at WSW 7711. Total dissolved solids in groundwater flowing downgradient from WSW 7711 to Arkayla Springs would be expected to show an increase in concentration.

[201] Based on the foregoing the Director submitted he concluded the Aquifer was in a closed system and the volume of water to be diverted from the Aquifer would have no impact on adjacent groundwater users in proximity to WSW 7711, such as the Quinn Well or on other groundwater users such as the Intervenors, the Keller Well and the Village, or Arkayla Springs.¹¹²

[202] The Director submitted the volume of water requested of 6,205 m³/year was small, could be reasonably provided by the Aquifer, the likelihood of WSW 7711 affecting other aquifers in the area was minimal, and the water to be licenced was not reserved water.¹¹³

7.2. Issue 1(b) – No Harm Principle

Was the Director’s decision to issue the Preliminary Certificate to Ian MacGregor appropriate and in accordance with the requirements of the *Water Act*? This is including, but not limited to:

(b) Did the Director’s decision adequately consider the “no harm principle,” specifically in relation to the other water users said to sharing the same aquifer and harm to the environment generally, including Arkayla Springs?

7.2.1. Intervenors

[203] The Intervenors submitted the Director did not adequately consider the potential harm caused to other water users, including the Intervenors and the environment generally.¹¹⁴

[204] The Intervenors submitted the Director’s decision to issue the Preliminary Certificate was not appropriate or in accordance with the *Water Act* because the Director did not adequately consider the no harm principle. The Intervenors argued the Director failed to a consider:

¹¹² Director’s Hearing Presentation at slide 34.

¹¹³ Director’s Hearing Presentation at slide 35.

¹¹⁴ Intervenors’ Submissions, at paragraph. 23.

1. the impact of WSW 7711 on five Stoney Nakoda homes located on the Morley Western Reserve and the residents' access and use of water in the area;
2. the impact on the spring, identified in the Stoney Water Needs Assessment,¹¹⁵ located directly south of WSW 7711, which had traditional and cultural importance to the Stoney Nakoda;¹¹⁶
3. the potential of hydraulic connectivity between the Aquifer and water sources on Intervenors' lands;
4. the conclusion of the Stoney Water Needs Assessment that the bedrock geology of the area was comprised of laminated siltstone and mudstone, which does not support the Director's conclusion that the composition was impervious;
5. extended pumping of WSW 7711 may potentially draw from the older and deeper water of Wapiabi Formation which underlies a portion of the Morley Reserve;
6. the impact on the public interest if WSW 7711 does not provide sufficient water for Carraig Ridge;¹¹⁷ and
7. the cultural, spiritual, and historical significance of water in the Carraig Ridge area.¹¹⁸

7.2.2. Docken Appellants

[205] The Docken Appellants submitted the no harm principle meant no harm should be caused to existing water users and the environment by the issuance of a water licence and water withdrawal from the Aquifer. The Docken Appellants argued the diversion of groundwater by WSW 7711 upstream of Arkayla Creek and the Village would negatively impact Village residents (existing users) and Arkayla Springs (the environment).

[206] At the hearing, Mr. Keller, Mr. Anthony Fink and Mr. John Walsh, Village Mayor, testified as to the potential harm that may occur if WSW 7711 negatively impacted their use of groundwater or the environment. Mr. Keller is the Preliminary Certificate Holder's neighbour to the east and Arkayla Springs are located on his property. Mr. Keller described his property as a

¹¹⁵ The Stoney Nakoda commissioned a Water Needs Assessment which was completed in 2018 for purposes, amongst other things, of identifying current and future water needs.

¹¹⁶ See Snow Affidavit at paragraph 21 and 22, Exhibit "7", figure 38.

¹¹⁷ Intervenors' Submissions at paragraph 24.

¹¹⁸ Intervenors' Submissions at paragraph 36.

pristine tract of land requiring respect, stewardship, and protection. Arkayla Preserve was created to protect wildlife, riparian areas, and vegetation, and relies on access to the year around reliable water source provided by Arkayla Springs.

[207] Mr. Keller explained the Arkayla Preserve lands have never been farmed, have some of the best native fescue grasslands in the Foothills region, and were home to a wide variety of natural plant species as well as a broad spectrum of birds and wildlife. Mr. Keller submitted the Arkayla Preserve was a release site for wildlife rehabilitation programs and would be negatively impacted if pumping of WSW 7711 adversely affected Arkayla Springs.

[208] Mr. Fink stated he was a resident of the Village and had concerns about the diversion of 6,205 m³/year, being the equivalent of 1.34 million gallons/year of groundwater, extracted upstream from the recharge source of the aquifers that feed the Village wells. Mr. Fink noted the limited water chemistry done on the water wells in the Village indicated the well water is neither water from Ghost Lake nor rainwater, but from another source which was likely Arkayla Creek.

[209] Mayor Walsh noted he was a resident of the Village. He expressed his concerns about the impact WSW 7711 will have on the recharge of the Village aquifers feeding the numerous wells in the Village. He also noted the Village was undertaking a study regarding climate resiliency to understand and protect the fragility of the groundwater source for the Village wells, particularly in view of climate change.

[210] Mayor Walsh questioned EPA's support of a private development, whose only purpose was the financial gain of the Preliminary Certificate Holder, particularly in view of the potential risk to the Village wells, the lack of field work supporting the Preliminary Certificate Holder's Application and the potential cost to pre-existing groundwater users should the security of their water supply be jeopardized.

[211] The Docken Appellants submitted the founding principle of water usage is "first in time, first in right" and the Aquifer lies in the recharge area for both Arkayla Springs and the Village wells, which the Village have relied on since the 1960's to supply their water needs.

[212] The Docken Appellants argued its witnesses, Mr. Bowles and Mr. Fink, have provided field observations and technical information connecting the outflow of Arkayla Springs to the recharge of the aquifers providing water to some of the residents of the Village. The Docken Appellants submitted water production from WSW 7711 could diminish or eliminate water flowing from Arkayla Springs to the aquifers sourcing the Village wells.

[213] The Docken Appellants submitted the Director should not have relied on the Applied Aquatics Report to conclude there was a higher degree connection between Ghost Lake and the Village wells because:

1. Applied Aquatics Report was limited in scope and contained certain omissions, including the failure to consider the presence of springs in the Village not fed by Ghost Lake;¹¹⁹
2. Arkayla Creek eventually flows into the “gravels” upslope of the Village and supplies the aquifers that provide water for some of the Village wells;
3. most of the Village water wells do not rise and fall in concert with the water levels of Ghost Lake; and
4. the chemical composition of certain water wells tested in the Village resemble Arkayla Creek water more closely than Ghost Lake water.¹²⁰

[214] The Docken Appellants argued the residents of the Village have no recourse if their water wells dry up due to water extractions from WSW 7711, and it is more burdensome and expensive for the 90 villagers from the Village to retrofit alternative water supplies into existing homes than for Carraig Ridge to design and implement alternative water supply options into their mostly unbuilt development.

[215] The Docken Appellants asked the Board to consider the comments made by Mayor Walsh in his letter sent to the Board in October 2023:

“We are deeply troubled by the decision of both the developer, Ian MacGregor, and Alberta Environment to forgo more definitive investigations based on the perceived constraints of time and cost....opting to use multiple consultants to reinterpret potentially faulty data rather than conducting the correct studies does not instil

¹¹⁹ At the hearing Mayor Walsh testified that when the Village was originally built, most of the water came from springs at the west end of the Village where Villagers manually hauled water for their use by horse and wagon. Mayor Walsh further testified, in the springtime when Ghost Lake levels are drawn down six to eight metres below the levels of the springs in the Village, the springs continued to flow, concluding that these springs are not hydraulically powered by Ghost Lake so they most likely source their water from elsewhere.

¹²⁰ See Docken Appellants’ Final Written Closing Argument at page 17.

confidence in the accuracy of the project's assessments...Furthermore, we believe that the Government of Alberta has not sufficiently considered the potential long term ramifications of the proposed water diversion. This includes their liability if the project disrupts the water supply in our community. The financial, environmental, and social costs with restoring or replacing the water supply to the residents of the [Village], should the project proved detrimental, could be substantial and burdensome. We implore the government to evaluate these consequences comprehensively."¹²¹

7.2.3. Millers

[216] At the hearing, Mr Miller submitted the no harm principle required no harm be inflicted upon existing water users and the natural environment by the issuance of a new water licence. In relying on the unproven assumption that WSW 7711 is a closed aquifer, Mr. Miller argued that EPA has "essentially assume[d] away"¹²² the no harm principle.

[217] The Millers argued the Director failed to apply the no harm principle, despite warning flags being raised by those submitting statements of concern, the Appellants and EPA experts, and the Preliminary Certificate Holder failing to provide the Director missing information when requested.

[218] The Millers referred to Dr. Wang's statement in his Request Referral email to Pauline Scoffield, EPA Approvals Coordinator,¹²³ stating EPA had no confidence about the sustainable yield (Q₂₀), but it was EPA's understanding the Preliminary Certificate Holder was preparing a contingency plan to ensure there would be no risk of water supply disruption.¹²⁴ The Millers argued, if contingency actions were invoked by Carraig Ridge it follows there would be adverse impacts to Arkayla Springs, the Village water wells, and the environment. While Carraig Ridge might receive trucked in water or water from another source, the Millers expressed concerns over who would carry the responsibility of repairing the harm to the environment or other groundwater users.¹²⁵

¹²¹ Docken Appellants' Initial Closing Argument at page 15.

¹²² Initial Written Closing Arguments, Bob and Sheila Miller, January 23, 2024, at page 3.

¹²³ Director's Record at page 608.

¹²⁴ Submission by Bob and Sheila Miller in Reference to Ian MacGregor/Water Act Preliminary Certificate No. 0034692-00-00, EAB Files Nos.: EAB 22-067-089, October 10, 2023 ("Millers' Initial Submissions") at page 4.

¹²⁵ Millers' Initial Submissions at page 4.

[219] The Millers submitted, if the Board considered the new evidence in the Baseline 2023(a) Report, the Board must apply the no harm principle.¹²⁶

7.2.4. Preliminary Certificate Holder

[220] The Preliminary Certificate Holder submitted there was no evidence of harm to the Appellants' use of their water or the natural environment because there is no connectivity of WSW 7711 with surface water or groundwater used by the Appellants.

[221] The Preliminary Certificate Holder submitted that the no harm principle was essentially a paraphrasing of the factors listed in section 66(3) of the *Water Act*. The Preliminary Certificate Holder argued the Director appropriately applied the no harm principle when making his decision to issue the Preliminary Certificate as he considered the relevant matters and factors specified in the Approved Water Management Plan and the potential effects on other water users and the environment.¹²⁷

7.2.5. Director

[222] The Director testified the issuance of the Preliminary Certificate posed no reasonable potential of harm to other water users, including the Appellants and the Intervenors, or the environment outside of the Aquifer because the Aquifer is an isolated aquifer, not connected

¹²⁶ The Millers' Final Written Closing Submissions at page 7.

¹²⁷ Section 66(3) of the *Water Act* provides:

66(3) In considering whether to issue a preliminary certificate, the Director

- (a) must consider, with respect to the applicable area of the Province, the matters and factors that must be considered in issuing a licence, as specified in an applicable approved water management plan,
- (b) may consider any existing, potential or cumulative
 - (i) effects on the aquatic environment,
 - (ii) hydraulic, hydrological and hydrogeological effects, and
 - (iii) effects on household users, licensees and traditional agriculture users,that result or may result from the potential diversion of water operation of a works or provision or maintenance of a rate of flow of water or water level requirements, and
- (c) may consider
 - (i) effects on public safety,
 - (ii) with respect to irrigation, the suitability of the land for irrigated agriculture, and

any other matters applicable to the preliminary certificate or licence that, in the opinion of the Director are relevant including any water guideline water conservation objective and water management plan.

to other water well users' aquifers and does not discharge to the surface or act as a water source to Arkayla Springs.

[223] The Director submitted, in making his decision, he applied the no harm principle because he considered:

1. the purpose of the *Water Act* set out in section 2, including recognizing the need to manage and conserve water resource to sustain our environment and the need for Alberta's economic growth and prosperity;¹²⁸
2. section 4.1 of the *Water Act* requiring action taken under the *Water Act* to be in accordance with any applicable ALSA regional plan; and
3. section 66(3) of the *Water Act* requiring the Director to consider the matters and factors in the Approved Water Management Plan when making the decision to issue a preliminary certificate.¹²⁹

7.3. Issue 1(c) – Incomplete or Inconclusive Information

Was the Director's decision to issue the Preliminary Certificate to Ian MacGregor appropriate and in accordance with the requirements of the *Water Act*? This is including, but not limited to:

(c) Was the Director's decision based on "incomplete or inconclusive" information?

7.3.1. Intervenors

[224] The Intervenors submitted the Director made his decision on incomplete and inconclusive information because he did not have a complete and accurate consultation with the Stoney Nakoda and did not consider reconciliation and honour of the Crown, which would require the Director to consider the impact of the issuance of the Preliminary Certificate on constitutionally protected Aboriginal and Treaty rights and interests. The Board notes it determined it has no jurisdiction to consider the adequacy of consultation as that is a constitutional law question and the circumstances before the Board are not ones that reconciliation and the honour of the Crown

¹²⁸ Sections 2(a) and (b) of the *Water Act* provides:

"2 The purpose of this Act is to support and promote the conservation and management of water including the wise allocation and use of water, while recognizing

- (a) the need to manage and conserve water resources to sustain our environment and to ensure a healthy environment and high quality of life in the present and the future;
- (b) the need for Alberta's economic growth and prosperity..."

¹²⁹ See Appendix A, Approved Water Management Plan for the South Saskatchewan River Basin (Alberta), Table of Matters and Factors.

would require the Director to consider Aboriginal and Treaty rights and interests of the Stoney Nakoda. The following is a summary of other submissions of the Intervenors respecting Issue 1(c) of the appeals.

[225] The Intervenors submitted the Director was missing essential information in making his decision because he did not consider:

1. the five Stoney Nakoda homes located on the Morley Reserve Western Block adjacent to the Carraig Ridge;
2. the spring located to the South of Carraig Ridge, as identified in the Stoney Nakoda Water Needs Assessment;
3. the Stoney Nakoda Water Needs Assessment found the Brazeau Formation was comprised of siltstone and mudstone not impermeable shale;
4. potential hydraulic connectivity of the Aquifer to Arkayla Springs meant the Aquifer was not isolated and could be hydraulically connected to water sources on Intervenors' lands;
5. the possibility that WSW 7711 draws from the Wapiabi Formation which underlies a portion of the Morley Reserve; and
6. there may not be sufficient water for the Carriage Ridge project.¹³⁰

7.3.2. Docken Appellants

[226] The Docken Appellants submitted the Director erred in issuing the Preliminary Certificate because the Director relied on erroneous assumptions, incomplete site characterization and interpretation of questionable data. The Docken Appellants argued the Director's Record showed Dr. Wang repeatedly requested geological and hydrogeological data from the Preliminary Certificate Holder, which was never provided.

[227] The Docken Appellants argued the cross-section used in Waterline's conceptual hydraulic model developed in 2017, erred by not including Arkayla Springs and Arkayla Canyon.¹³¹ This error was not corrected by any of the subsequent technical reports provided by the Preliminary Certificate Holder. Consequently, the Director did not consider that Arkayla Springs was topographically and geologically downgradient from WSW 7711.

¹³⁰ Intervenors' Written Submissions at paragraphs 24 and 36.

¹³¹ See Figure 5 of the Waterline (2019) Report, Director's Record at page 1281.

[228] The Docken Appellants submitted the Aquifer was difficult to model because the bedrock structure and associated hydrogeological groundwater flow in the area near the WSW 7711 was complex and strongly influenced by folding and fracturing associated with a syncline and significant local topographical features.

[229] The Docken Appellants submitted that Waterline completed multiple pumping tests of WSW 7711 yielding different, non-repeatable results. For example, four pumping tests, referred to by the Preliminary Certificate Holder as Tests E through H, yielded four different response curves. The Docken Appellants argued this indicated the Aquifer is heterogeneous not homogeneous and a mathematical solution cannot take in account all the variables present in a heterogeneous reservoir creating uncertainty in the modelling. The Docken Appellants noted multiple experts came to differing conclusions when interpreting the pumping test data.

[230] The Docken Appellants submitted the hydrogeological model relied on by the Director was incomplete, inaccurate, and inconclusive based on the following:

1. the model failed to recognize the extensive fractured network around the axis of the syncline and that the syncline potentially consisted of layers of sandstone and siltstone allowing for the flow of groundwater between geological units;
2. geochemical analysis was based on samples taken when WSW 7711 was pumping leading to the erroneous conclusion the Aquifer and the aquifer sourcing Arkayla Springs had differing chemical compositions;
3. EPA and the experts retained by the Preliminary Certificate Holder failed to complete a site inspection of Arkayla Springs or Arkayla Canyon; and
4. the model developed by the Preliminary Certificate Holder was inconclusive because:
 - a. pump test data may be affected by seasonal recharge WSW 7711 limiting its use in determining hydrogeological parameters; and
 - b. Intrinsic's final recommendation for long-term sustainable yield (Q_{20}) for WSW 7711 was based on the two-day 2013 pump test of WSW 7711, ignoring the data for the longer-term pump tests and the potential for Arkayla Springs to result in a net withdrawal from the local groundwater system.

7.3.3. Millers

[231] The Millers submitted the Director did not have adequate or accurate information before him when he made his decision to issue the Preliminary Certificate. The Millers asserted the Director acknowledged there was uncertain and conflicting interpretations, models, and assumptions upon which the Director based his decision.

[232] In his closing presentation to the Board, Mr. Miller submitted the Preliminary Certificate Holder relied on assumptions, theories, and a contrived conceptual model, misrepresenting the hydrological setting and ignoring the existence of Arkayla Springs, Arkayla Canyon, and the downslope Village with its 80 plus residential wells. The Millers submitted the Preliminary Certificate Holder placed EPA in a position where they had to decide on limited and misleading information. Mr. Miller asserted EPA, pleading limited time and resources and a backlog of projects, made its decision on the information provided to it without even a site visit to confirm the information provided by the Preliminary Certificate Holder.

[233] The Millers submitted Dr. Wang in his Referral Request stated he had no confidence in the sustainable yield (Q_{20}) for WSW 7711 and a contingency plan was being prepared to address shortfalls in water supply.

[234] The Millers also submitted the Preliminary Certificate Holder failed to provide ground-truthed factual evidence the Aquifer is not hydraulically connected to surface water. The Millers argued the hydraulic connectivity of the Aquifer had been an issue throughout the EPA approval process and the Director was not provided substantive evidence to address the issue prior to making his decision. The Millers referred to the comments by Dr. Wang in his letter, dated July 23, 2019, to Brett Jackson of Carraig Ridge:

“This would imply that groundwater from WSW 7711 is connected or has potential to be connected with surface ... If the groundwater in WSW 7711 is connected with surface water and/or if it discharges as springs or directly to the Ghost Reservoir, the groundwater from the WSW 7711 is ‘reserved water’. No licence can be issued if these situations exist.

*Please provide further evidence on whether or not there are connections with surface water, including Arkayla Springs.”*¹³² [Emphasis by the Millers.]

¹³² Director’s Record at pages 465 and 466.

[235] The Millers noted, three years later, in an email dated April 20, 2022, to Pauline Scoffield, EPA Approval Coordinator, and the Director, Dr. Wang stated:

“I reviewed the report titled “Re: Carraig Ridge Source Water Development Program” prepared by Intrinsic Groundwater Solutions to [the Preliminary Certificate Holder], dated February 26, 2022. The following are the review comments and recommendations for the water act application File 00346962:

The above report has 419 pages. No new pumping test data were collected after the previous work. This report tried to use different methods to interpret the existing data. ... [EPA] cannot accept this kind of interpretation.”¹³³

[236] The Millers argued after more than sixteen years of study and planning approvals and appeals there was still no conclusive evidence presented by the Preliminary Certificate Holder or EPA to confirm if there was hydraulic connectivity or not. The Millers submitted the Board should place greater weight on the Baseline 2023(a) Report than the incomplete and inconclusive information provided by the Preliminary Certificate Holder and his experts because the Baseline 2023(a) Report provided a more thorough and evidence-based assessment of the potential for hydraulic connectivity in the Carraig Ridge area.

[237] The Millers submitted the Director erred when he recommended the water request of 6,205 m³/year be approved based on “the *existing information* about this project”.¹³⁴ [*Emphasis* by the Millers.] The Millers argued existing information before the Director did not support a determination the Aquifer was not hydraulically connected to surface water or other groundwater users and did not assess the risks or potential impacts on Arkayla Springs or the Village residential wells.

7.3.4. Preliminary Certificate Holder

[238] The Preliminary Certificate Holder submitted the Director’s decision was not based on incomplete or inconclusive information.

[239] The Preliminary Certificate Holder submitted the record shows EPA reviewed the Application for the Preliminary Certificate in detail and where concerns were raised, they requested further information. When the information was received, it was reviewed by EPA,

¹³³ Director’s Record page 606.

¹³⁴ Director’s Record at page 608.

including peer reviews from additional subject matter experts within EPA. EPA had further discussions internally and with the Preliminary Certificate Holder. The Preliminary Certificate Holder asserted the review process was lengthy and unprecedented, and resulted in the issuance of a Preliminary Certificate subject to mandatory conditions.¹³⁵

[240] The Preliminary Certificate Holder stated the Appellants have repeatedly argued the Director's decision was based on inadequate, inaccurate, and misleading information supplied by the Preliminary Certificate Holder and his experts, and that the Preliminary Certificate Holder refused to supply additional information to EPA. The Preliminary Certificate Holder disagrees with the inference that the Preliminary Certificate Holder was less than open with EPA and submitted the allegations "are flat out wrong and baseless" as they are not supported by the evidence.¹³⁶

[241] The Preliminary Certificate Holder submitted the Board understands applications for permits, licenses, and approvals are an iterative process. The Preliminary Certificate Holder argued this was the case for the Carraig Ridge Application, eventually leading to the Director being satisfied the requirements for the issuance of the Preliminary Certificate had been met.

[242] The Preliminary Certificate Holder submitted Arkayla Springs and Arkayla Creek were not ignored by the Preliminary Certificate Holder as their presence was shown on Lidar and considered by the Preliminary Certificate Holder's experts who determined there was no potential for hydraulic connection between WSW 7711 and Arkayla Springs or the Village wells.

[243] The Preliminary Certificate Holder submitted he had provided proper data, expert analysis and evidence as required by EPA, to support the Application for Carraig Ridge.

7.3.5. Director

[244] The Director submitted he had complete and conclusive information to reasonably conclude, in accordance with applicable legislation and EPA policy, that the Aquifer was a confined aquifer with no connection to surface water, had no connection to other subsurface aquifers, and there would be no impacts to any water users drawing from other aquifers, or the

¹³⁵ Preliminary Certificate Holder's Oral Closing Argument, March 14, 2024.

¹³⁶ Preliminary Certificate Holder's Oral Closing Argument, March 14, 2024.

environment. The Director also submitted he considered the whole of the file including engagement with statement of concern filers, advice from EPA's subject matter experts, and applicable legislation and EPA policy when he made his decision to issue the Preliminary Certificate.

[245] In his closing oral arguments, the Director explained the Application went through a prolonged review, atypical for an application of this nature. Evidence showed many technical reports were submitted to EPA by the Preliminary Certificate Holder, and Dr. Wang had sought the advice of other colleagues prior to making his recommendations. Dr. Wang made his recommendation to the Director after considering the file in its entirety.

[246] The Director submitted the application process was iterative. The Director submitted that at the end of the process after considering the entire file and Dr. Wang's recommendation, as well as the Director's own review of the information received, he determined he had sufficient information to make his decision and issue the Preliminary Certificate.

[247] The Director stated the interpretation of data may change depending on which expert is reviewing it. Where there are conflicting opinions about potential outcomes, the Director stated he must consider the likelihood of those potential outcomes. In his oral closing arguments, the Director stated, "to refuse an application on the fact that I don't have one hundred percent assurance that some negative impact may occur... that is unreasonable. We take things on more of a risk perspective." The Director noted, since one hundred percent certainty was not possible, he chose to issue a Preliminary Certificate with a five-year term and require monitoring and reporting under the Licence, so EPA can assess if there are any unanticipated impacts on the Aquifer.

[248] The Director submitted he did not agree with the Appellants differing interpretation of the same data set the Director considered in his decision-making process. The Director submitted the Appellants have not met the onus of providing any independent quantitative evidence establishing the Preliminary Certificate should not have been issued.

7.4. Issue 2 – Adequacy of the Yield of Water.

- (a) Does the Director have jurisdiction to consider the adequacy of the yield of the water well for the proposed development?**
- (b) If so, did the Director’s decision adequately consider the yield of the water well for the proposed development?**

7.4.1. Intervenors

[249] The Intervenors did not make submissions regarding Issues 2(a) and (b) of the appeals.

7.4.2. Docken Appellants

[250] The Docken Appellants submitted the requested yearly volume of groundwater to be diverted from WSW 7711 was not sufficient for the intended use at Carraig Ridge and on this basis the Preliminary Certificate should be revoked.

[251] The Docken Appellants submitted the proposed household usage rates at Carraig Ridge, based on a requested daily diversion rate 17 m³/day, were unrealistic. The Docken Appellant argued, when considering the adequacy of water supply, the Board should consider the statutory limit provided in the *Water Act* for the diversion of water for household purposes without the requirement of a *Water Act* licence.¹³⁷ Based on the rate set in the *Water Act* of 1250 m³/year or 3.42 m³/day, the daily diversion rate for 44 homes would be 150.48 m³/day (3.42 m³/day/household x 44 homes) not 17 m³/day. The Appellants submitted the requested diversion of water of 17 m³/day is only sufficient to provide water for about five homes (3.42 m³/day per home x 5 homes = 16.1 m³/day).

[252] The Docken Appellants expressed concern that a review of the Carraig Ridge Area Structure Plan and the MGB Order shows the adequacy of water supply has never been addressed in a meaningful way and the shortfall of water may not materialize until after the issuance of the Licence. The Docken Appellants argued this could lead to additional wells being drilled and additional hearings before the Board.

¹³⁷ *Water Act*, section 51(6)(a).

[253] The Docken Appellants noted EPA has expressed concerns about the adequacy of the water supply. As stated by Dr. Wang:

“Based on the existing information about this project, it is recommended:

a. Approve the water request of 6,205 m³/year, with a max rate of 22 m³/day. *Although the Department has no full confidence about the sustainable yield Q₂₀, the applicant is preparing a contingency plan, which includes hauling water to supplement the water supply for the subdivision residences. This will minimize the risk for water supply disruption.*”¹³⁸ [Emphasis by the Docken Appellants.]

[254] In response to the Director’s assertion that only the Preliminary Certificate Holder will be impacted if the Aquifer was mined or over-produced, the Docken Appellants argued there was a high probability the Aquifer was hydraulically connected to Arkayla Springs and mining the Aquifer would likely have an adverse impact on Arkayla Springs and the Village wells. The Docken Appellants asserted the Preliminary Certificate Holder has not provided any tangible solution to the future water shortage problem nor has he provided a water supply contingency plan. The Docken Appellants suggested other water source options are available that should have been considered by the Director such as requiring an off-site water source be secured or the treatment and re-use of grey water and rainwater.¹³⁹

[255] In response to the question posed by the Board regarding the applicability of the MGB Order to the appeals, the Docken Appellants submitted the MGB understood that adequate water was critical to the development of Carraig Ridge and endeavoured in the MGB Order to create a system of checks and balances to prevent negative impacts on the environment and existing water users. However, the Docken Appellants argued, the MGB Order effectively transferred the implementation and enforcement of those objectives to the MD of Bighorn, EPA, and/or Alberta Health:

“[30] The Development shall ensure potable water supply is provided for all Phases of the Subdivision in accordance with all applicable Provincial legislation and approvals issued by [EPA] and/or Alberta Health, as required, to the reasonable satisfaction of the MD.”

¹³⁸ Director’s Record at page 2440.

¹³⁹ See Docken Appellants’ Final Written Closing Argument at page 19 where several other sources of water were suggested by the Docken Appellants to address the water supply shortage.

Further:

“[49] The MGB is satisfied that the Appellant is required to provide an adequate supply of water to the proposed parcels. The Appellant will have to obtain any applicable permits and licences from [EPA] to supply the subject property with water. The MGB understands that should issues regarding water occur, further plans of the proposed development are questionable.”¹⁴⁰

7.4.3. Millers

[256] The Millers submitted, after 16 years of planning and analysis, there is no certainty the Aquifer can support the development of 44 homes at Carraig Ridge or if there was a shortfall, where water supply would come from. The Millers noted the approved yearly diversion rate of 6,205 m³/year was only 25% of the yearly 23,725 m³/year diversion rate the Preliminary Certificate Holder originally applied for in 2017.

[257] The Millers submitted that they could not understand how a fundamental question, such as adequacy of water supply, could remain unanswered through the land use and planning approval process and the water licencing application process, and at this late stage, was now determined not to be within the jurisdiction of the Board in the appeals.¹⁴¹

[258] In response to the Board’s question regarding the applicability of the MGB Order to the appeals, the Millers submitted that the MGB Order effectively pushed the responsibility of ensuring there was a sufficient water supply for the full development of Carraig Ridge to EPA, who then argued the Director had the jurisdiction to only consider whether the Aquifer could sustain the proposed diversion rate of 6,205 m³/year.¹⁴²

[259] The Millers’ submitted that in 2017 when the MGB Order was issued, there was no confirmed water supply. The MGB Order noted in its summary of Carraig Ridge’s position, that the plans for Carraig Ridge were “based on [the Preliminary Certificate Holder’s] ongoing Water

¹⁴⁰ Docken Appellants’ response to the relevance of the MGB Order to the appeal, December 15, 2023, at pages 4 and 5.

¹⁴¹ See the Millers’ Final Closing Written Argument at page 4, paragraph 9 where the Millers stated:
“With respect to the question of whether the Director has jurisdiction to consider the adequacy of the yield of water well for the proposed development we accept that, regrettably, the Director does not appear to have that jurisdiction in this licensing and appeal process.”

¹⁴² Millers’ Final Written Closing Argument at page 13.

Licence application concerning four wells on the property, under review by AEP”.¹⁴³ The Millers argued, while the MGB may have heard from the Preliminary Certificate there were plans to set policies to reduce allowable water usage by future owners of the Carraig Ridge properties and most properties would be part time residences, the MGB had no ability to participate in the setting of the policies or to enforce them. The Millers provided anecdotal evidence of another part time vacation development near Carraig Ride that was now 30% occupied by fulltime residents.¹⁴⁴

[260] The Millers also noted the MGB Order allowed for the first 15 units of Phase 1 of Carraig Ridge to be built without a proven water supply, leaving it until Phase 3 for the Preliminary Certificate Holder to find a permanent potable water supply for the final 14 homes. The Millers also noted that the Carraig Ridge Area Structure Plan similarly provided:

“In accordance with Section 6.5.d of the Carraig Ridge Area Structure Plan, if insufficient potable water is not available for the full scope of development contemplated in the Subdivision, then Development Permits shall only be issued to units which have a potable water supply which has been approved by AEP and/or Alberta Health, as required.”¹⁴⁵

The Millers noted the MGB order also stated the MGB understands “that should issues regarding water occur, further plans of the proposed development are questionable.”¹⁴⁶

7.4.4. Preliminary Certificate Holder

[261] The Preliminary Certificate Holder submitted the Appellants have not provided any credible evidence the Director erred in issuing the Preliminary Certificate based on an allocation volume 6,205 m³/year and a maximum daily pumping rate of 22 m³/day. The Preliminary Certificate Holder argued a maximum daily pumping rate of 22 m³/day would withdraw less from the Aquifer than is being recharged naturally.

[262] The Preliminary Certificate Holder submitted that despite Dr. Wang having reservations about sustainable yield, he recommended the Preliminary Certificate be issued

¹⁴³ Millers’ Final Written Closing Argument at page 12, MGB Order at paragraph 34.

¹⁴⁴ Millers’ Final Written Closing Argument at page 12, MGB Order at paragraph 35.

¹⁴⁵ Millers’ Final Written Closing Argument at page 13, MGB Order at paragraph 29.

¹⁴⁶ Millers’ Final Written Closing Argument at page 14, MGB Order at paragraph 49.

because the Preliminary Certificate Holder was preparing a contingency plan for water supply so there would be no risk of a water supply disruption.¹⁴⁷

[263] The Preliminary Certificate Holder submitted that the Appellants' submissions there was inadequate water to supply the Carraig Ridge development were without merit because:

1. the Director was not required to consider whether the volume water requested by the applicant is sufficient for the purpose;
2. the MD of Bighorn not EPA has the jurisdiction to determine if there was sufficient water for the purpose;
3. section 66(3) of the *Water Act* does not require the Director to consider the adequacy of water supply;
4. the MD of Bighorn placed conditions in its approval requiring the Preliminary Certificate Holder to demonstrate an adequate supply of potable water before it was allowed to proceed with each phase of Carraig Ridge; and
5. there was an adequate supply of water from WSW 7711 to supply Carraig Ridge.

7.4.5. Director

[264] The Director submitted EPA does not have the jurisdiction, and is not responsible under the *Water Act*, to ensure adequate water supply for Carraig Ridge. The Director submitted it was the municipal authority that has the onus to ensure proper servicing for a development exists before they consider or issue a land use decision under the *Municipal Government Act*, RSA 2000, c M-26. The Director explained water supply needs for a development can be achieved by several means, including obtaining a diversion licence under the *Water Act*.

[265] The Director submitted the decision to issue the Preliminary Certificate was based on whether the Aquifer can sustainably supply the requested amount of water, not whether the Aquifer can sustain the development at Carraig Ridge. The Director submitted he considered the matters and factors set out in Part 4 of the *Water Act* and the Approved Water Management Plan, which do not require him to consider adequacy of water supply for the development.

¹⁴⁷ Director's Record at page 608.

[266] The Director argued EPA's role is to evaluate and decide on management and use of water resources in Alberta, which includes diversion and usage applications. The Director stated the Preliminary Certificate Holder acknowledged they will have to access other water sources to satisfy the full water needs of the development.

[267] The Director also argued there is no requirement under the *Water Act* that a household must be supplied with 3.42 m³/day. The Director submitted the household exemption contained in section 21 of the *Water Act* sets a maximum amount of groundwater a household is entitled to divert without a licence for listed household purposes and has no applicability to the issuance of the Preliminary Certificate.

[268] The Director also explained the Preliminary Certificate Holder was preparing a water shortage contingency plan that includes hauling water to supplement water supply and minimizes the risk for water supply disruption issues for Carraig Ridge. In addition, the Director noted the Preliminary Certificate Holder had incorporated water conservation measures into its Condominium Bylaw and Design Guidelines, including use of the highest standard low water use fixtures in the homes and a prohibition on extensive or non-native landscaping. The Preliminary Certificate Holder also expected the homes will be used primarily on a part-time basis by a 50+ demographic without young children.

7.5. Issue 3. – Appropriateness of the Conditions

Are the conditions included in the Preliminary Certificate appropriate?

This is including, but not limited to:

- (a) **Are the monitoring and reporting conditions appropriate?**
- (b) **Are the complaint investigation conditions appropriate?**

7.5.1. Intervenors

[269] The Intervenors submitted the conditions in the Preliminary Certificate are not appropriate and because the Intervenors' Aboriginal and Treaty rights and interests were not considered prior to its issuance. The Board notes it found that it does not have the jurisdiction to consider the adequacy of the consultation as that is a constitutional law question and the circumstances before the Board are not ones where reconciliation and honour of the Crown would

require the Director to consider the Aboriginal and Treaty rights and interests of the Stoney Nakoda.

[270] The Intervenors requested, if the Preliminary Certificate is upheld, the following conditions be imposed:

1. the Stoney Nakoda be permitted to do a ceremony at WSW 7711;
2. the Stoney Nakoda be permitted to conduct a cultural assessment of the lands and waters underlying WSW 7711; and
3. the Preliminary Certificate Holder engage the Stoney Nakoda in all monitoring activities.¹⁴⁸

[271] The Board notes Mr. Snow testified a cultural assessment study would have provided the Indigenous perspective of the impacts of Carraig Ridge on wildlife, lands, and waters. Mr. Snow stated that the cultural assessments done by the Stoney Nakoda involve the community, the elders and knowledge keepers and recognition of the importance of conducting cultural studies. Mr. Snow submitted cultural assessments were a growing trend in academic and conservative circles.

7.5.2. Docken Appellants

[272] The Docken Appellants noted there will be no relevant data available from monitoring WSW 7711 and impacts on other water users and the environment will not be known until the Licence is issued under the Preliminary Certificate and WSW 7711 is producing at its licenced capacity, at which time the Appellants will have no recourse.

[273] Although required by the Licence, the Docken Appellants submitted it was unlikely the Preliminary Certificate Holder would investigate complaints in any meaningful manner considering the adversarial nature of the statement of concern process and the hearing before the Board.

7.5.3. Millers

[274] The Millers submitted the conditions attached to the Preliminary Certificate and the Licence are insufficient or inappropriate. The Millers argued the responsibility to monitor and

¹⁴⁸ Intervenors' Submission at paragraph 50.

investigate complaints should not be left to the Preliminary Certificate Holder because the Preliminary Certificate Holder has denied any hydraulic connectivity, has displayed a lack of knowledge about Arkayla Springs and potential connectivity to the Village wells, and has shown themselves to be unwilling to collect the necessary data requested by EPA.

[275] The Millers submitted a condition should be added to the Preliminary Certificate and Licence requiring monitoring at Arkayla Springs and the Village wells.

7.5.4. Preliminary Certificate Holder

[276] The Preliminary Certificate Holder submitted the conditions included in the Preliminary Certificate were appropriate, including those relating to monitoring, reporting, and complaint investigation, noting Dr. Wang had testified the monitoring conditions would provide an early warning if something unexpected happens.

[277] The Preliminary Certificate Holder noted, although the Preliminary Certificate Holder was required to manage any complaints arising with respect to the diversion of water including investigative and reporting conditions under the *Water Act*, the Director has broad powers of enforcement, including the right to cancel the Preliminary Certificate or the Licence where the Director is of the opinion there is a contravention of the *Water Act*. The Director also has authority under the *Water Act* to review complaints, conduct inspections and investigations.

[278] The Preliminary Certificate Holder submitted that the mandatory terms and conditions, together with the powers afforded the Director under the *Water Act*, are appropriate as they “provide ample protection to the Appellants in the extremely unlikely event that the diversion of water from WSW 7711 causes any adverse impacts to the groundwater serving their wells.”¹⁴⁹

7.5.5. Director

[279] The Director submitted the monitoring, reporting, and complaint investigation conditions contained in the Preliminary Certificate are appropriate as they address the lack of one hundred percent certainty regarding potential outcomes of the Licence on the Aquifer and will allow the Director to ascertain the impact on the Aquifer if any unintended consequences arise.

¹⁴⁹ Preliminary Certificate Holder’s Written Closing Argument at paragraph 76.

[280] The Director submitted, as the Aquifer was in a closed system, the main risk was whether the Aquifer can supply the proposed development 6,205 m³/year of water at a maximum daily pumping rate of 22 m³/day. To mitigate and prevent damage to the Aquifer, the Director submitted the standard monitoring, reporting, and compliant investigation clauses included in the Licence are sufficient. The Director noted the Preliminary Certificate Holder should bear the expense of the monitoring and reporting activities.

[281] The Director submitted EPA's role is to provide regulatory oversight by receiving and reviewing the submitted data, ensuring a qualified and experienced person undertakes the monitoring and reporting, and ensuring the integrity and accuracy of the submitted data is maintained. In addition, the Director has enforcement powers under the *Water Act*, including the power to cancel the Preliminary Certificate or the Licence, in the case of a serious breach of a term or condition.¹⁵⁰

[282] The Director noted the Preliminary Certificate was issued for a 5-year period and does not allow for any withdrawal until the water treatment plant and distribution system have been constructed and the Licence is issued, ensuring the water is being used only for designated purposes.

7.5.6. Response to the Board's Questions

[283] After hearing the Parties' evidence and argument and reviewing the Parties' written submissions, the Board had five questions relating to the conditions contained in the Preliminary Certificate and the Licence. The Board set a submission process for the Parties to provide their responses and comments. The Parties' relevant answers to the Board's questions are summarized below. The Board notes that the Millers responded only to Question 5 of the Board's questions.

1. *Condition 3.6 of the Proposed Licence under the Preliminary Certificate states:*

"Prior to diverting any water from the source of water, the Licensee shall equip the production well as identified in Table 3-1, with a 'dip-tube' or alternative way to monitor the water levels in the pumping wells."

What "alternative" ways of monitoring water levels in the pumping wells would be considered appropriate?

¹⁵⁰ *Water Act*, section 71(1)(d) and 55(1)(e).

[284] The Intervenors submitted the water levels should be measured using permanently installed water level data loggers and the make, model, and installation process to be as recommended by a professional hydrogeologist. Data recordings should be continuous and collected data should be transferred to remote storage and provided to EPA, in accordance with conditions 4.4 and 4.5 of the Preliminary Certificate. The Intervenors also submitted the dip tube water level readings should be collected monthly in monitoring wells designated by EPA, as a requirement of the Licence, and submitted in accordance with conditions 4.4 and 4.5.

[285] The Docken Appellants concurred with the Intervenors that a continuous downhole monitor, with readily available electronic data, is accepted industry standard, and should be required by EPA. The Docken Appellants submitted the data should be accessible to impacted parties in a timely manner. The Docken Appellants stated actual drawdown of the aquifer should be compared to predicted drawdowns, and if the actual drawdown was more than ten percent of predicted amount, the Preliminary Certificate Holder should have to re-evaluate the Aquifer. However, the Docken Appellants expressed doubt that level of testing would ever occur.

[286] The Preliminary Certificate Holder submitted they understood EPA would accept four alternative methods of monitoring water levels in pumping wells: dip-tube, water well sounder; sonic sounder and downhole gauge/transducer. They also noted use of permanent downhole gauges and manual measurement was standard practice.

[287] The Director submitted he was aware of alternative devices to monitor and measure water levels. He stated if the measuring device provided the same type and accuracy of data, the device would be acceptable to the Director.

2. *Part 4 of the Proposed Licence under the Preliminary Certificate requires the Licensee to monitor and measure water levels in Well 7711 and record the information listed in Condition 4.4(a).*

What qualifications are required for the person conducting the measuring, monitoring, and recording activities?

[288] The Intervenors submitted the person collecting the data from the data logger and the dip tube should be trained by the respective manufacturer/vendor of the equipment.

[289] The Docken Appellants submitted the person conducting measuring, monitoring, and recording activities must be certified by Association of Professional Engineers and Geoscientists of Alberta (“APEGA”) in the specific disciplines involved.

[290] The Preliminary Certificate Holder noted the manufacturers of data loggers do not train or certify individuals. The Preliminary Certificate Holder submitted the report provided to the Director containing the data to be collected under the Preliminary Certificate would be reviewed and signed off by a licensed professional, employed by a company that maintains an APEGA Permit to Practice under supervision of professional engineers or hydrogeologists.

[291] The Director responded that the person conducting measuring, monitoring, and recording activities for water levels should be a field technician who specialized in water monitoring and sampling.

3. *Condition 3.8 of the Proposed Licence under the Preliminary Certificate states:*

“The Licensee shall calibrate each measuring device referred to in Condition No. 3.5 in accordance with the manufacturer’s specifications.”

What qualifications are required for the person calibrating the measuring and monitoring devices required in the Proposed Licence under the Preliminary Certificate?

[292] The Intervenors submitted the data logging equipment should be calibrated annually by a qualified representative of the manufacturer of the equipment and the dip tube should be calibrated annually by an Alberta licenced water well driller or professional hydrogeologist.

[293] The Docken Appellants submitted the person calibrating the measuring and monitoring devices must be certified by APEGA in the specific disciplines involved.

[294] The Preliminary Certificate Holder submitted the manufacturer’s specifications provide the manner and frequency for calibrating the monitoring devices. The Preliminary Certificate Holder noted dip-tubes are not calibrated. They are installed so a water level sensor can be lowered into the well to record the water level. The manual measurements are compared to downhole gauge measurements. When determined necessary, the downhole gauge would be calibrated as previously noted in the Preliminary Certificate Holder’s response to Question 2.

[295] The Director submitted the person calibrating the water level measuring device would be the same field technician conducting the measuring, monitoring, and recording activities

as noted in Question 2. The frequency of calibrations would be in accordance with manufacturer specifications.

4. *Is there a specific water level that would cause the Director to initiate a complaint investigation under Part 5 of the Proposed Licence under the Preliminary Certificate?*

Are there other conditions or measurements in Well 7711 that would cause the Director to initiate a complaint investigation?

[296] The Intervenors submitted specifying a specific water level which would trigger a compliant investigation would need to be addressed by a professional hydrogeologist. The Intervenors submitted if groundwater levels in WSW 7711, or regional groundwater levels were trending lower, a complaint investigation would be warranted.

[297] The Docken Appellants stated they were not confident the Preliminary Certificate Holder or Director will address any future complaints.

[298] The Preliminary Certificate Holder submitted that the Preliminary Certificate Holder is required under the Preliminary Certificate to report to the Director any complaints received. If the Preliminary Certificate Holder fails to do so, the Director could investigate. The Preliminary Certificate Holder stated that requiring a complaint investigation if WSW 7711 or regional groundwater levels are trending lower over time was too broad and uncertain of a condition, difficult to comply with and enforce, and if water levels were trending lower, it could be due to many different reasons.

[299] The Director submitted there is no specific water level triggering a complaint investigation. The Director stated he looks at water level trends as an indicator of a potential issue requiring further investigation. The intent of the complaint investigation conditions is to investigate concerns from third parties of surface water and groundwater interference due to the diversion of groundwater under the Licence.

[300] The Director submitted the Preliminary Certificate Holder must comply with the maximum daily diversion rate and maximum annual diversion volume for WSW 7711, as set out in the Licence. If the monthly electronic reporting by the Preliminary Certificate Holder to the Director shows those limits are exceeded, the Director would consider a complaint investigation process and/or a compliance action.

5. *What additional monitoring, reporting, or complaint investigation conditions, if any, would be appropriate to add to the Proposed Licence under the Preliminary Certificate?*

[301] The Intervenors submitted water levels be monitored at EPA designated monitoring wells as a condition of the Licence and loss of groundwater or a change of water quality should trigger an investigation.

[302] The Docken Appellants submitted modifying the conditions will not change the risk or rectify the withdrawal of reserved water from the Aquifer. The Docken Appellants noted underlying technical data regarding WSW 7711 water levels and raw well test data have never been available to the Appellants, so appropriate monitoring conditions cannot be suggested. The Docken Appellants argued there are numerous other water source alternatives available which would ensure the environment and existing users are not put at risk.

[303] The Millers argued the conditions in the Preliminary Certificate are the wrong answer to the question and do not alleviate the concerns of the Appellants or existing water users, as they do not address whether there is hydraulic connectivity between WSW 7711 and reserved water, and the potential impact on domestic wells. The Millers asserted the conditions do not properly or honestly assess and report to EPA any potential impacts that could result when WSW 7711 is in full production.

[304] The Director submitted there were no other conditions he would add. The Director stated the included conditions are standard clauses in all groundwater licences issued by EPA and are sufficient for the Licence.

8. BOARD'S ANALYSIS

[305] Under section 99(1) of EPEA, the Board must provide the Minister with its report and recommendations regarding the issues in these appeals. The Board's report and recommendations are to recommend to the Minister to confirm, reverse, or vary the Preliminary Certificate and associated Licence.

[306] The Board considered the oral evidence, arguments, and written submissions provided by the Parties, the Director's Record, and the relevant legislation in making its recommendations to the Minister.

[307] The Board appreciates the participation of the Intervenors at hearing. The Intervenors provided the Board with additional context and background information regarding the Carraig Ridge project and the potential impact on their lands.

[308] Section 66(1) of the *Water Act* provides, in part, that:

“66(1) If a person has applied for a licence other than a licence the temporary diversion of water, the Director may issue preliminary certificate under section 51 to that person for the period of time stated in the preliminary certificate.

Section 66(3) requires, in part, that:

- “(3) In considering whether to issue a preliminary certificate, the Director
- (a) must consider, with respect to the applicable area of the Province, the matters and factors that must be considered in issuing a licence, as specified in the approved water management plan,
 - (b) may consider any existing, potential or cumulative
 - (i) effects of the aquatic environment,
 - (ii) hydraulic, hydrological and hydrogeological effects, and
 - (iii) effects on household users, licensees and traditional agriculture users,

that may result from the potential diversion of water ...”

[309] The Board finds the Director met his obligations under both section 66(3)(a) and 66(3)(b) of the *Water Act* and has considered the relevant matters and factors under the Approved Water Management Plan. The Director discussed how he met these obligations in his direct evidence. Specifically, the Director testified the Aquifer was isolated and of limited extent, the Preliminary Certificate Holder was the only user of the Aquifer and the volume of water to be diverted from the Aquifer would have no impact on adjacent groundwater users in the proximity of WSW 7711 or impact on the environment. The Director also testified the Aquifer was not reserved water, as it was not hydraulically connected to surface water and the Allocation Order did not apply. Based on the evidence presented at the hearing and the written materials, the Board agrees with the Director’s analysis and finds the Director referenced the correct Approved Water Management Plan for the Carraig Ridge project.

8.2. Issue 1(a) - Hydraulic Connectivity of WSW 7711

1. Was the Director's decision to issue the Preliminary Certificate to Ian MacGregor appropriate and in accordance with the requirements of the *Water Act*? This is including, but not limited to:

(a) Did the Director's decision adequately consider the hydraulic connectivity of WSW 7711 to reserved water?

[310] Regarding the first issue in these appeals, the submissions presented by the Appellants, the Preliminary Certificate Holder, and the Director were primarily focused on the hydraulic connectivity of WSW 7711 to Arkayla Springs. The Parties agree that if WSW 7711 is hydraulically connected to Arkayla Springs, it constitutes reserved water under the Allocation Order and cannot be licenced.¹⁵¹ Where the Parties disagree is whether the evidence shows WSW 7711 to be hydraulically connected to Arkayla Springs.

[311] The Board heard submissions from the Docken Appellants that the conceptual hydrogeological model relied upon by the Director failed to consider the potential for WSW 7711 to be hydraulically connected to Arkayla Springs. The Docken Appellants argued the evidence did not support the Director's conclusion the Aquifer is a confined aquifer of limited extent because:

1. groundwater may flow downgradient from WSW 7711 to Arkayla Springs, through layers of fractured sandstone and micro fractured siltstone in the syncline and through large fractures along the axis of the syncline, which cut across geological units;
2. there is no evidence of a hydraulic barrier between the Aquifer and Arkayla Springs and the Director did not accept the boundary conditions for WSW 7711 and OBS 6036 as determined by Intrinsic;
3. geochemical analysis showed the chemical composition of groundwater from WSW 7711 and Arkayla Springs was similar;
4. the Aquifer is hydraulically connected to older, deeper groundwater because there was an increase in sodium concentrations during late time pumping of Pump Test C;

¹⁵¹ In 2007, the Allocation Order was passed which reserved all water the in South Saskatchewan River Basin as follows:

"2 All the water in the Bow River Basin, Oldman River Basin and South Saskatchewan River Basin that is not on the date this Order is filed under the *Regulations Act*, allocated under a licence or registration or specified in a preliminary certificate is reserved".

5. the Aquifer is not vertically isolated and is subject to leakage because there was evidence of seasonal recharge and a regional declining pressure trend; and
6. isolation of the Quinn Well should not be considered as evidence the Aquifer is of limited extent because the Quinn Well draws from a deeper aquifer.

[312] The Board notes the Millers relied on the analysis provided by the Docken Appellants' expert Mr. Bowles, showing the potential for WSW 7711 to be hydraulically connected to Arkayla Springs. The Millers expressed concern if the Board determines the Aquifer is not connected to surface water, the other issues of the appeals would not be considered further.

[313] The Board heard from the Preliminary Certificate Holder that the evidence supported a conclusion of an isolated aquifer of limited extent because:

1. the aquifer is confined as the sandstone layer is bounded above and below by impermeable layers of shale;
2. the geochemical analysis does not provide evidence of a west to east hydraulic connection between WSW 7711 and Arkayla Springs;
3. the preferential flow of groundwater follows fracture orientation from north to south, not west to east from WSW 7711 to Arkayla Springs;
4. the lack of response of the Quinn Well supports the presence of north to south trending flow barriers between the Quinn Well and the Aquifer;
5. well test interpretation by Intrinsic identified boundaries to the north, south and east of WSW 7711;
6. WSW 7711 is a low yield well and evidence showed fractures in the subsurface near WSW 7711 were poorly connected due to limited fracture length and fractures closing at depth;
7. water levels of WSW 7711, other source wells at Carraig Ridge, the Keller Well, and the Quinn Well are not in equilibrium indicating they are not hydraulically connected; and
8. evidence supports a greater connection of the Village wells to Ghost Reservoir than to WSW 7711.

[314] The Board heard from the Director that his decision to issue the Preliminary Certificate was appropriate based on his review and understanding of the technical information provided during the Application process by the Preliminary Certificate Holder, as supplemented by EPA's subject matter experts' reviews and recommendations. The Director stated he abided

by administrative fairness, considered applicable legislation, and regulatory policy including the factors set out in the Approved Water Management Plan, ensured the decision was made on a timely basis and nothing in the submissions made by the Appellants or the Intervenors would have changed his decision to issue the Preliminary Certificate.

[315] The Director submitted the likelihood of WSW 7711 being connected to other aquifers in the area was minimal and the water to be licensed was not reserved water.

[316] The Board heard from Dr. Wang, EPA's hydrogeologist that if the Aquifer were reserved water, it would either have a hydraulic connection to the overburden or to Arkayla Springs in the subsurface. Dr. Wang testified the Aquifer was not connected to the overburden because it was a confined Aquifer bounded above and below by impermeable shale. Dr. Wang further testified the Aquifer was not hydraulically connected to Arkayla Springs because:

1. the syncline is comprised of multiple relatively thin layers of sandstone and thicker shale layers making it unlikely the fracture network extended through the shale layers connecting sandstone layers and therefore it was unlikely Arkayla Springs and the Aquifer accessed the same sandstone unit;
2. thrust faults running north to south in the area isolated the Aquifer from the Quinn well to the west and from the Keller Well and the Stoney Nakoda lands to the east;
3. analysis of Pump Test C well test data indicated the Aquifer is confined with two or more no-flow boundaries and the lack of response of the Quinn Well and other test wells on the Carraig Ridge site, except for OBS 6036 which accesses the same aquifer as WSW 7711, indicated the other wells were not supplied by the same aquifer as WSW 7711; and
4. the lower concentration of total dissolved solid concentrations in water samples from Arkayla Springs, when compared to those from the pump tests of WSW 7711, indicated Arkayla Springs is sourced from a different aquifer than WSW 7711.

[317] As previously discussed, the onus is on the Appellants to provide sufficient, reliable, and relevant evidence to show on the balance of probabilities that the water to be diverted under the Licence is reserved water, and that the Board should recommend to the Minister the decision of the Director should be reversed.

[318] The Board is not satisfied the Appellants met the onus of proof.

[319] It is the Board's view the Director appropriately concluded the analysis and modelling showed the Aquifer is a confined Aquifer of limited extent and not hydraulically connected to surface water and therefore not reserved water subject to the Allocation Order.

[320] Much of the Docken Appellants' evidence and argument regarding the hydraulic connection of WSW 7711 is based on the assertion the Director erred in finding the sandstone layers of the syncline were bounded by layers of impermeable shale. Witnesses for the Docken Appellants testified siltstone, not shale, was observed at the rock outcrops at Arkayla Canyon and shale was not found on the Arkayla Preserve. They asserted fractured siltstone, and the existence of a large fracture network along the axis of the syncline, allowed groundwater to flow across geological units from WSW 7711 to Arkayla Springs.

[321] The Board finds the assertions of the Docken Appellants speculative. Evidence provided by the Appellants must be more than speculative, it must be sufficient, reliable, and relevant. The Board does not accept the evidence provided by the Docken Appellants.

[322] The geology of the subsurface at Carraig Ridge is complex due to folding and faulting making the Aquifer difficult to model. The complexity of the subsurface is the reason these appeals are before the Board. Given the complexity of the subsurface, it is the Board's view that it is not sufficient for the Appellants to speculate that observations of siltstone at the rock outcrops at Arkayla Canyon and the lack of shale observed at Arkayla Preserve apply to the subsurface at WSW 7711. The Board notes the Preliminary Certificate Holder and the Director both testified that a finding of siltstone, rather than shale at WSW 7711, would not change their conclusions regarding hydraulic connectivity.

[323] The Board is of the view it is also not sufficient to speculate groundwater flows from WSW 7711 to Arkayla Springs through a regional fracture network along the axis of the syncline. The evidence provided by the Director and the Preliminary Certificate Holder was that WSW 7711 is structurally isolated from other areas in Carraig Ridge because the subsurface structure in the vicinity of WSW 7711 is made up of multiple layers of fractured sandstone bounded by impermeable shale, the fractures in the sandstone matrix are limited in length, close at depth and are likely to be pinched off due to geological pressure, WSW 7711 was of low productivity and boundary conditions exist limiting the extent of the Aquifer. Geochemical

analysis by the Director and the Preliminary Certificate Holder showed concentrations of sodium and total dissolved solids in samples taken from WSW 7711 and Arkayla Springs were not consistent with the flow of groundwater through the subsurface from WSW 7711 to Arkayla Springs. Apart from OBS 6036, which is known to access the same aquifer as WSW 7711, the Appellants did not provide substantive evidence that WSW 7711 was hydraulically connected to any other wells on the Carraig Ridge site, Arkayla Springs, the Keller Well or the Quinn Well. The Board accepts the evidence of the Preliminary Certificate Holder and the Director.

[324] With respect to the Docken Appellants assertion the evidence does not support the existence of boundary conditions between WSW 7711 and Arkayla Springs, the Board respectfully disagrees.

[325] Both the Preliminary Certificate Holder and the Director provided evidence of boundary conditions to the east of WSW 7711. While their methodology differed, and the Director did not agree with the boundary conditions identified by Intrinsic, both concluded the rapid drawdown of the Aquifer when pumping WSW 7711 indicated the Aquifer was not being recharged. Mr. Mathews stated at the hearing with respect to the existence of a constant head boundary to the east of WSW 7711, "... the drawdown in the aquifer is still quite significant so I don't think [the constant head boundary] is able to provide water into this area as you would necessarily expect. You wouldn't expect such ... extreme drawdowns." Dr. Wang similarly concluded, based on Pump Test C, groundwater recharge supply of WSW 7711 was limited as there was no evidence of an extensive outside source of groundwater supplying the Aquifer. While the Appellants may not agree with the methodology used by the Director or the Preliminary Certificate Holder, the Board finds the Appellants' assertions regarding the lack of boundary conditions speculative and not supported by substantive evidence.

[326] Regarding the Docken Appellants' assertions that the geochemical analysis undertaken by Baseline provided evidence that WSW 7711 was hydraulically connected to Arkayla Springs and deeper groundwater and that the regional groundwater trend identified by Intrinsic was evidence of leakage of the Aquifer, the Board finds that these assertions speculative.

[327] The Board must consider the entirety of the evidence before it when making its recommendation to the Minister. The geochemical analysis undertaken by the Director and the

Docken Appellants is just one of the factors the Board must consider. The preponderance of evidence before the Board is that the Aquifer is confined and of limited extent and the groundwater to be diverted at WSW 7711 is not reserved water. While the Appellants do not agree with the methodology used by the Director when analysing the geochemical data, the Appellants have not provided the Board sufficient evidence to convince the Board on the balance of probabilities that the Director made an error when he determined that the geochemistry of the groundwater at WSW 7711 and Arkayla Springs were different and did not support a conclusion of hydraulic connectivity. Differing experts may have differing views when analysing the same set of data as is evidenced by the numerous technical reports provided by the Approval Holder in making the Application. As well the existence of a regional groundwater trend is not sufficient without other evidence to support a finding that WSW 7711 is hydraulically connected to Arkayla Springs or surface water.

[328] The Board finds that the Appellants did not meet the onus of proof required to show on the balance of probabilities WSW 7711 was hydraulically connected to reserved water.

8.3. Issue 1(b) – No Harm Principle

Was the Director’s decision to issue the Preliminary Certificate to Ian MacGregor appropriate and in accordance with the requirements of the *Water Act*? This is including, but not limited to:

(b) Did the Director’s decision adequately consider the “no harm principle,” specifically in relation to the other water users said to sharing the same aquifer and harm to the environment generally, including Arkayla Springs.

[329] The Board heard from the Intervenors that the Director failed to consider the no harm principle because he did not consider the potential harm to the Stoney Nakoda homes adjacent to Carraig Ridge, the Stoney Nakoda Water Needs Assessment, the conclusions of the Baseline 2023(a) Report, the insufficiency of water to meet Carraig Ridge needs, and the cultural, spiritual, and historical significance of water in the Carraig Ridge area. The Board notes, in considering the Intervenors arguments regarding the no harm principle, the Board did not consider any submissions of the Intervenors regarding the adequacy of consultation with the Stoney Nakoda with respect to Carraig Ridge as the Board cannot consider constitutional questions.

[330] The Board heard submissions from the Docken Appellants that the Director failed to apply the no harm principle because water extracted from WSW 7711 could negatively impact the Arkayla Springs (the environment) and the Village residents (existing groundwater users) if WSW 7711 is hydraulically connected to Arkayla Springs. The Docken Appellants submitted it would be more burdensome on the Villagers to retrofit alternative water supplies than it would be for Carraig Ridge to design and implement an alternative water supply. The Docken Appellants noted the Villagers are first in time and first in right with respect to the groundwater supplying their water wells. As well, if Arkayla Springs were negatively impacted, the Arkayla Preserve and its wildlife rehabilitation program would be harmed.

[331] The Millers told the Board the Preliminary Certificate Holder had not properly assessed the hydraulic connectivity of the Aquifer, and the Board should not assume the no harm principle away. The Millers submitted the Director erred when he did not apply the no harm principle despite concerns of harm being raised by statement of concern filers, the Appellants, and EPA experts. The Millers asked the Board to consider the new evidence in the Baseline 2022(a) Report.

[332] The Board heard from the Preliminary Certificate Holder there were no other users of the Aquifer or harm to the environment because of issuance of the Preliminary Certificate or the Licence because the Aquifer was structurally isolated. The Preliminary Certificate Holder submitted Arkayla Springs was not ignored by the Preliminary Certificate Holder, instead the Preliminary Certificate Holder determined there was no evidence to support a hydraulic connection between WSW 7711 and Arkayla Springs so diverting groundwater from WSW 7711 would not impact Arkayla Springs.

[333] The Board heard from the Director that the issuance of the Preliminary Certificate posed no reasonable potential of harm to other groundwater users, including the Appellants and the Intervenor, or the environment outside of the Aquifer, because the Aquifer was hydraulically isolated.

[334] The Board finds the Director appropriately considered the no harm principle. The Appellants did not meet the onus of proof necessary to convince the Board, on the balance of probabilities, that WSW 7711 was hydraulically connected to Arkayla Springs. The Board

respectfully rejects the Millers assertion the Board is assuming away the no harm principle. The Board is of the view it must consider the application of the no harm principle in the context of the Aquifer being isolated and of limited extent, and whether the issuance of the Preliminary Certificate would cause harm to other groundwater users or the environment.

[335] The Director determined the Aquifer was structurally isolated and the issuance of the Preliminary Certificate did not harm other groundwater users or the environment because the only user of the Aquifer is the Preliminary Certificate Holder. The Director also determined the Aquifer could sustain the diversion rate applied for, and the aquifers supplying the residential wells of the Appellants and the Intervenors were structurally isolated from the Aquifer. While the Appellants have speculated the methodology applied by the Director in concluding the Aquifer was structurally isolated was flawed, the Appellants failed to provide substantive evidence to support their allegations. The Board notes the Director testified, where there is differing expert opinions, the Director must consider the likelihood of outcome. The Director was of the view it was unlikely WSW 7711 was hydraulically connected to surface water but addressed the uncertainty of outcome by including monitoring and reporting terms and conditions in the Preliminary Certificate and Licence to mitigate potential damage should something unexpected occur. In doing so, the Board finds the Director applied the no harm principle.

8.4. Issue 1(c) – Incomplete or Inconclusive Information

Was the Director’s decision to issue the Preliminary Certificate to Ian MacGregor appropriate and in accordance with the requirements of the *Water Act*? This is including, but not limited to:

(c) Was the Director’s decision based on “incomplete or inconclusive” information?

[336] The Board heard submissions from the Intervenors that the decision to issue the Preliminary Certificate was based on incomplete or inconclusive information, including the failure of the Director to consider adequacy of consultation with the Stoney Nakoda and reconciliation and honour of the Crown. The Board will not consider any submissions of the Intervenors regarding adequacy of consultation and reconciliation and honour of the Crown because the Board found it does not have the jurisdiction to hear constitutional law questions regarding adequacy of

consultation, and the circumstances before the Board were not ones to which reconciliation and the honour of the Crown applied.

[337] The Intervenors submitted the Director made his decision to issue the Preliminary Certificate based on incomplete or inconclusive information because he did not consider the Stoney Nakoda homes adjacent to Carraig Ridge, the Stoney Nakoda Water Needs Assessment, the conclusions of the Baseline 2023(a) Report, and the insufficiency of the water to be diverted under the Licence to meet Carraig Ridge needs.

[338] The Board heard submissions from the Docken Appellants that the hydrological model relied upon by the Director was flawed as it did not consider the existence of Arkayla Springs, the extensive fracture network in the Carraig Ridge area, the possibility the sandstone layers were bounded by more permeable siltstone allowing for the flow of groundwater across geological units, and the geochemical analysis was based on water samples taken from WSW 7711 while it was pumping rather than in a non-pumping state. The Docken Appellants noted the Director failed to make a site visit, the Aquifer was difficult or could not be modelled due to the geological complexity of the area making pumping test data unreliable and unrepeatable, pump test data was impacted by the possible influence of seasonal recharge of WSW 7711, and the Director erred in relying on a pumping test of a two-day duration to determine the Q_{20} .

[339] The Board heard from the Millers that the Director acknowledged there was uncertainty and conflicting interpretations, models, and assumptions and despite several requests, the Preliminary Certificate Holder failed to undertake the necessary technical studies necessary or provide the Director with the necessary information, to determine if there was hydraulic connectivity between the Aquifer and Arkayla Springs. The Millers noted EPA staff did not visit either Carraig Ridge or the Appellants' properties, and on several occasions, Dr. Wang questioned the confidence he had in the Preliminary Certificate Holder's conclusions. The Millers argued there was no existing information before the Director upon which the Director could determine the potential for hydraulic connectivity of the Aquifer and asked the Board place greater weight on the Baseline 2023(a) Report because it was a more thorough and evidence-based analysis.

[340] The Board heard submissions from the Preliminary Certificate Holder that the review process for the Application was iterative, was unprecedented in its technical analysis, and

resulted in the issuance of a Preliminary Certificate subject to conditions. The Preliminary Certificate Holder submitted that before the Preliminary Certificate was issued, he had satisfied all the requirements of the Director, including providing proper data and expert analysis.

[341] The Director submitted the Application process was iterative, and at the end of the process he had sufficient information and considered the whole of the file when he made the decision to issue the Preliminary Certificate in accordance with his statutory obligations and EPA policy. The Director explained it would be unreasonable for EPA to expect one hundred percent certainty in assessing outcome, and when considering the various interpretations of the experts, he must consider the likelihood of the outcome in his decision-making process. The Director submitted due to the lack of one hundred certainty, he decided to issue a Preliminary Certificate with a five-year term and included monitoring and reporting conditions in the Licence so EPA can continue to assess and determine if there are any unanticipated impact on the Aquifer.

[342] The Board finds that the Appellants did not satisfy the onus of showing on the balance of probabilities that the decision to issue the Preliminary Certificate was based on inconclusive or incomplete information.

[343] Much of the Appellants' argument regarding potential hydraulic connectivity of the Aquifer to Arkayla Springs was based on perceived errors, omissions, and unsupported assumptions and faulty interpretation of well test data contained in the modelling and technical reports provided by the Preliminary Certificate Holder and relied upon by the Director. The Appellants asserted there was insufficient analysis and study by the Director of the potential of hydraulic connectivity between the Aquifer and Arkayla Springs.

[344] The Board is of the view models are intended to be representations and not absolute truths. Hydrogeological modelling of the Aquifer is complicated by the fact the geological substructure at Carraig Ridge is complex due to the significant folding and faults found in the area. Given the limitations of modelling and the complexity of the substructure, the Board accepts the Director's evidence that one hundred percent certainty of a lack of hydraulic connectivity could never be achieved.

[345] The Docken Appellants' argument that the modelling was flawed was based primarily on the alleged failure of the modelling to consider Arkayla Springs, the perceived error

by the Director in concluding the syncline was comprised of sandstone and impermeable shale, the alleged failure of the Director to recognize the potential existence of a regional fracture network through which groundwater could flow from WSW 7711 to Arkayla Springs and the geochemical analysis undertaken by Mr. Bowles. While the Board appreciates the detail with which the Appellants reviewed the extensive technical information and understands the Appellants concerns regarding hydraulic connectivity and the adequacy of the Q₂₀, the Board found the Appellants' assertions were speculative and the Board is of the view these speculative assertions are not sufficient to establish on the balance of probabilities that the modelling relied on by the Director was flawed.

[346] Further, the Board is also of the view that the assertion of a differing expert view as to the appropriate geochemical interpretation of pump test data is not sufficient, without other substantive evidence, to convince the Board on the balance of probabilities that the modelling relied upon by the Director was flawed. The Board accepts the Director's testimony that where there are differing expert opinions, the Director must consider the likelihood of outcomes. Uncertainty of outcome was addressed by the Director through the terms and conditions of the Preliminary Certificate and Licence.

[347] The Appellants also relied on several statements from Dr. Wang expressing uncertainty in the technical information and analysis provided by the Preliminary Certificate Holder, or the alleged failure of the Preliminary Certificate Holder to provide information regarding hydraulic connectivity when requested. The Board is of the view these statements should not be considered in isolation and outside of the context of the approval process. The Application process was iterative. The Board accepts the Director's evidence that at the end of the process, he considered the entire file as it was compiled over the eight-year review period, including the engagement of the statement of concern filers and advice from EPA subject matter experts. Where uncertainty existed, the Director determined it appropriate to issue a Preliminary Certificate with a five-year term and conditions for ongoing monitoring, reporting, and complaint investigation.

[348] Regarding the Intervenors' assertion the Director was missing essential information as set out in the Baseline 2023(a) Report, the Board is of the view the Director addressed perceived

errors and omissions in the modelling and analysis as discussed above. Regarding the assertion by the Intervenors there may be impact to homes on the Morley reserve to the west of WSW 7711, or the spring to the south of Carraig Ridge, the Board finds these assertions to be speculative and not supported by evidence, noting the Director found that the Aquifer is confined and of limited lateral extent and there is a thrust fault to the west of WSW 7711 which would isolate the Aquifer from the Morley Reserve.

8.5. Issue 2(a) – Adequacy of the Yield of Water.

(a) Does the Director have jurisdiction to consider the adequacy of the yield of the water well for the proposed development?

(b) If so, did the Director’s decision adequately consider the yield of the water well for the proposed development?

[349] The Intervenors made no submissions with respect to respect to Issues 2(a) and (b) of the appeals.

[350] The Board heard submissions from the Docken Appellants the requested diversion of water is not sufficient for the intended use at Carraig Ridge, and the Director failed to require the Preliminary Certificate Holder to secure other sources of water for the development. The Docken Appellants submitted the diversion of 17 m³/day was only sufficient to supply approximately five homes at Carraig Ridge which raised concerns the Preliminary Certificate Holder may drill more water wells, leading to more proceedings before the Board, or the Aquifer would be over produced or mined, negatively impacting Arkayla Springs. The Docken Appellants noted the adequacy of water supply was considered in the MGB Order, but implementation and enforcement obligations were shifted by the MGB to other regulators, such as EPA, Alberta Health, and the MD of Bighorn.

[351] The Board heard from the Millers there was insufficient water to support a development of 44 homes and a water supply contingency plan had never been provided to the Director. The Millers argued it was inappropriate a development could go through the land use and planning process and be approved, without answering the question of adequacy of water supply. The Millers submitted that at this point in the approval and licencing process no one had taken responsibility for determining adequacy of water supply.

[352] The Preliminary Certificate Holder submitted, based on public data regarding water usage for the Town of Cochrane, the water to be diverted under the licence is sufficient for the proposed development at Carraig Ridge. The Preliminary Certificate Holder argued there is no requirement under the *Water Act* for the Director to consider whether there was sufficient water for the purpose and the Preliminary Certificate cannot be revoked on that basis. The Preliminary Certificate Holder stated the municipal planning authority had the jurisdiction to determine if there was adequate water supply for Carraig Ridge and the MGB in its decision set conditions requiring the Preliminary Certificate Holder demonstrate an adequate supply of water before proceeding with each phase of the Carraig Ridge development.

[353] The Board heard submissions from the Director that he does not have the jurisdiction under the *Water Act* to ensure there is an adequate water supply for Carraig Ridge. The Director stated the onus to determine adequacy of water supply is on the municipal authority when making a land use decision under the *Municipal Government Act*. The Director told the Board he issued the Preliminary Certificate based on his determination the Aquifer could sustainably supply the requested allocation of 6,205 m³/year, not whether the water requested could sustain Carraig Ridge. The Director stated the maximum volume of water that can be diverted without a licence for household purposes under the *Water Act* was not a relevant consideration when he issued the Preliminary Certificate, and the Preliminary Certificate Holder acknowledged other sources of water may need to be secured if there is a short fall.

[354] The Board respectfully disagrees with the Director's assertion that he has no jurisdiction to consider the adequacy of water supply for Carraig Ridge purposes. The Board finds the Director has the discretion to consider the adequacy of water supply under section 66(3)(c)(iii) of the *Water Act*, however there is no mandatory obligation on the Director to do so.

[355] Section 66(3) of the *Water Act* provides the mandatory and discretionary factors the Director must or may consider when issuing a Preliminary Certificate. The mandatory factors the Director must consider are found in section 66(3)(a) as follows:

“66(3) In considering whether to issue a preliminary certificate, the Director

- (a) must consider, with respect to the applicable area of the Province, the matters and factors that must be considered in issuing a licence, as specified in an applicable approved water management plan ...”

Table 2 of the Approved Water Management Plan sets out the matters and factors that also must be considered when issuing a Preliminary Certificate but do not include a requirement to consider adequacy of water supply for the purpose.

[356] Sections 66(3)(b) and (c) of the *Water Act* set out the discretionary factors the Director may consider when making his decision to issue a preliminary certificate.¹⁵² The Board is of the view section 66(3)(c)(iii) of the *Water Act* confers the discretionary power to consider adequacy of water supply for the purpose. Section 66(3)(c)(iii) states the Director may consider:

“... any other matters applicable to the preliminary certificate or licence that, in the opinion of the Director are relevant including any water guideline, water conservation objective, and water management plan.”

[357] The Board does not have jurisdiction to require the Director to exercise a discretionary power. The Director testified EPA policy did not require consideration of adequacy of water supply for the purpose. The Director submitted he complied with EPA policy when he determined the proposed diversion rate was sustainable by the Aquifer without harm to other water users or the Aquifer. The Board accepts the Director’s testimony.

¹⁵² Section 66(3)(b) and (c) of the *Water Act* provide:

“66(3) In considering whether to issue a preliminary certificate, the Director ...

- (b) may consider any existing, potential or cumulative
 - (i) effects on the aquatic environment,
 - (ii) hydraulic, hydrological and hydrogeological effects, and
 - (iii) effects on household users, licensees and traditional agriculture users, that result or may result from the potential diversion of water operation of a works or provision or maintenance of a rate of flow of water or water level requirements, and
- (c) may consider
 - (i) effects on public safety,
 - (ii) with respect to irrigation, the suitability of the land for irrigated agriculture, and
 - (iii) any other matters applicable to the preliminary certificate or licence that, in the opinion of the Director are relevant including any water guideline water conservation objective and water management plan.”

[358] With respect to the provisions of the MGB Order requiring either EPA or Alberta Health to approve the potable water supply, the Board finds there is no legislative authority requiring EPA to do so, and the Board has no jurisdiction with respect to Alberta Health.

[359] As the Board finds there is no legislative requirement the Director consider the adequacy of the yield of water for the Carraig Ridge development, it is not necessary for the Board to consider issue 2(b) to the appeals.

8.6. Issue 3. – Appropriateness of the Conditions

**Are the conditions included in the Preliminary Certificate appropriate?
This is including, but not limited to:**

- (a) Are the monitoring and reporting conditions appropriate?**
- (b) Are the complaint investigation conditions appropriate?**

[360] The Intervenors submitted the conditions in the Preliminary Certificate are not adequate to address their concerns because the potential impacts on the Intervenors' Aboriginal and Treaty rights and interests were not considered prior to its issuance. The Board found it does not have the jurisdiction to hear constitutional law questions regarding adequacy of consultation and the circumstances before the Board were not ones to which reconciliation and the honour of the Crown applied.

[361] The Intervenors also requested conditions be added to the Preliminary Certificate allowing the Intervenors to do a ceremony at WSW 7711, complete a cultural assessment of the land and waters underlying WSW 7711, and be engaged in all monitoring activities.

[362] In response to the Board's questions, the Intervenors and the Docken Appellants both argued monitoring of the water level in the Aquifer should be collected electronically and on a continuous basis. The Docken Appellants submitted the data recorded should be available to affected parties. The Intervenors submitted the Director should designate monitoring wells from which water level data should be collected monthly.

[363] The Docken Appellants submitted the conditions of the Preliminary Certificate do not address the impact of WSW 7711 on Arkayla Springs, the environment or Village wells because there will be no relevant data available until WSW 7711 has been produced at its capacity.

The Docken Appellants argued the conditions of the Licence do not change the risk of drawing reserved water from the Aquifer. They also expressed concern the Preliminary Certificate Holder would not address any future complaints.

[364] The Millers submitted the conditions of the Preliminary Certificate were inappropriate or insufficient because they do not address the potential hydraulic connectivity of WSW 7711, the potential impact of pumping WSW 7711 on the Village wells, or the impacts that could result when WSW 7711 is at full production. The Millers argued monitoring should not be completed by the Preliminary Certificate Holder as the Preliminary Certificate Holder has previously shown he is unwilling to collect the necessary data requested by EPA. The Millers submitted a condition should be added requiring monitoring at Arkayla Springs and the Village wells.

[365] The Preliminary Certificate Holder submitted the conditions in the Preliminary Certificate were appropriate for the licence of the size and type to be issued, including those relating to monitoring, reporting and complaint investigations, and no further conditions need be added. The Preliminary Certificate Holder noted Dr. Wang had stated the monitoring conditions would provide an early warning if something unexpected happened.

[366] The Director submitted the conditions of the Preliminary Certificate were appropriate as they addressed the lack of one hundred percent certainty of outcome, were standard clauses included in all groundwater licences, and there were no further conditions he would add at this time. The Director stated the main risk to an aquifer in a closed system is that the approved diversion of water is sustainable and does not damage the Aquifer.

[367] The Director noted the Preliminary Certificate was issued for five years and is conditional on the construction of the water treatment plant and distribution system which ensures the water is only used for designated purposes. When the Licence is issued, it is subject to monitoring, reporting and complaint resolution conditions. The Director explained the Preliminary Certificate Holder must comply with the pumping rate and volume limits set in the Licence because failure to do so may result in a complaint investigation process and/or a compliance action. The Director stated he also had enforcement powers under the *Water Act*, including the power to cancel the Preliminary Certificate or the Licence in the case of a serious breach of a term or condition.

[368] The Board finds the monitoring and complaint investigation conditions required by the Preliminary Certificate are adequate, as they meet or exceed EPA guidelines. The Board accepts the Director's evidence the terms and conditions of the Licence are designed to monitor and ensure there is not an adverse impact to the Aquifer, or the environment, because of the Carraig Ridge Approval.

[369] The Board understands the Appellants concerns regarding Arkayla Springs and their residential wells. However, the Board does not have the jurisdiction to require the Preliminary Certificate Holder to monitor the Village wells and Arkayla Springs as they are located on private lands. As well, the Board questions the usefulness of such monitoring as there are many extraneous factors that could affect the productivity of Arkayla Springs and the Village wells that are not within the control of the Preliminary Certificate Holder.

[370] The Board is of the view the reporting conditions in the Preliminary Certificate should be amended to require the Preliminary Certificate Holder to make available on a public website accessible on demand, the information it collects pursuant to Condition 4.4 of the Licence, as reported to the Director under Condition 4.5. As stated, the Board is cognizant of the Appellants' and Intervenors' concerns and anticipates some of these concerns regarding the lack of information will be alleviated if the Appellants and Intervenors are able to easily access the measuring and monitoring information collected by the Preliminary Certificate Holder.

[371] The Preliminary Certificate Holder and the Director have, throughout their submissions and at the hearing, referred to the preparation of a water supply contingency plan. The Board shares the concerns of the Appellants and the Intervenors regarding the adequacy of water supply. The Board is of the view the conditions of the Preliminary Certificate and the Licence be amended to include the requirement that the Preliminary Certificate Holder prepare and maintain a water supply contingency plan in a form acceptable to the Director.

[372] With respect to the Intervenors' request for a cultural assessment and a ceremony on Carraig Ridge lands, the Board does not have the jurisdiction to require the Preliminary Certificate Holder undertake further consultation with the Stoney Nakoda but encourages the Preliminary Certificate Holder to work with the Intervenors regarding their concerns. The Board

is also of the view the public reporting of measuring and monitoring activities will satisfy the Intervenors' request to be involved in monitoring activities.

9. CONCLUSIONS AND RECOMMENDATIONS

[373] The Board found the Director's decision to issue the Preliminary Certificate appropriate having regard to the *Water Act* and EPA's policies and guidelines. The Board found the issuance of the Preliminary Certificate did not adversely affect users of the Aquifer or the environment.

[374] The Board recommends the Preliminary Certificate be varied to include the public reporting of monitoring information for WSW 7711 on a website accessible on demand, and the requirement the Preliminary Certificate Holder prepare a water supply contingency plan.

[375] The Board recommends all other terms and conditions of the Preliminary Certificate be confirmed as issued.

10. RECOMMENDATIONS

[376] The Board recommends that the Minister:

1. Vary the Preliminary Certificate by:

a. adding a new condition 3.9

3.9 Prior to diverting any water from the source of water, the Licencee shall prepare and maintain at all times, a water supply contingency plan acceptable to the Director.

b. replacing condition 4.5 as follows:

4.5 The Licencee shall report to the Director the results of the recording in 4.4 using the "Digital Regulatory Assurance System" ("DRAS") and any other information required in writing by the Director on or before the end of the month following the month in which the information is based upon was collected. The Licencee shall within 60 days of recording the information collected under 4.4 using DRAS in accordance with 4.5, publish the report provided to the Director under 4.5 on a publicly available website acceptable to the Director.

11. OBITER COMMENTS

[377] While the Board finds the Director was not required to consider the adequacy of water supply for the Carraig Ridge project, the Board remains concerned the future homeowners of Carraig Ridge will not have sufficient water to meet their needs.

[378] Water resources in Alberta are owned by the province¹⁵³ and are managed in accordance with applicable legislation and EPA policy and guidelines. The overall purpose of the *Water Act* “is to support and promote the conservation and management of water including the wise allocation and use of water... .”¹⁵⁴ The Board is of the view EPA is ultimately responsible to manage water resources in Alberta, including any future sources of water Carraig Ridge may require in meeting its needs. The Board is concerned EPA policy which does not require the Director to consider adequacy of water supply for the purpose is too restrictive and does not reflect EPA’s overall responsibility under the *Water Act* with respect to water resources in Alberta.

[379] The Board notes the MGB could have required the Preliminary Certificate Holder to establish adequacy of water supply (from groundwater or other sources as is necessary) as a condition of its approval of Carraig Ridge land use application but instead passed the obligation on to the MD of Bighorn, EPA, and Alberta Health. The Board is of the view the findings of the MGB do not relieve EPA of its legislative obligations to manage water resources in Alberta.

[380] None of the regulatory bodies involved in the approval process for the Carraig Ridge development took responsibility for determining adequacy of water supply. This places the burden of securing additional water supply, if required, on future homeowners of the development, who may not be aware the Aquifer may not be able to provide sufficient water for the development when fully built out. When issuing the Preliminary Certificate, the Director was aware adequacy of water supply may be an issue. As stated by Dr. Wang in his recommendation to grant the Preliminary Certificate:

¹⁵³ Section 3(2) of the *Water Act* states:

“(2) The property in and the right to the diversion and use of all water in the Province is vested in Her Majesty in right of Alberta except as provided for in the regulations.”

¹⁵⁴ *Water Act* at section 2.

“There are several rounds of reports and review comments between the applicant and AEP. Our understanding is still the same, that is there is not enough water for this project due to the syncline structure. Shale layers interlayered with the sandstone layers which will prevent the large and well connected fracture network to be formed. And silt and clay will also clog the existing fractures in the shale layers with the time. Eventually the fracture aquifer will be limited in extension which will impact the groundwater supply.”¹⁵⁵

[381] The Board is concerned, as demand for water resources increases in Alberta due to rising population, additional water sources may not be economically accessible to the future homeowners at Carraig Ridge. If this occurs, it is likely the question of adequacy of water supply for Carraig Ridge ends up before the Minister. The Board believes such a situation could be avoided had the Director considered, from a provincial perspective, the totality of water required to support the development at Carraig Ridge and where that water would be sourced from. The Board also is of the view there is an opportunity for the approving regulatory authorities to work together to determine who should bear the responsibility for ensuring adequacy of water supply for the purpose.

12. CLOSING

[382] With respect to sections 100(2) and 103 of EPEA, the Board recommends copies of this Report and Recommendations, and the decision of the Minister, be sent to the following:

1. Mr. Clint Docken, Napoli Shkolnik Canada on behalf of Ms. Sharon Bright, Ms. Sharon and Mr. Darrel Cockx, Mr. Rodney Keller, Mr. Anthony Fink, Ms. Sylvia Kokts-Porietis, Ms. Adrienne MacDonald-Smith, Ms. Karen Hall, Mr. John and Ms. Marie Jeanne Walsh, Summer Council of Village of Ghost Lake, Ms. Karen and Mr. Dana Laustsen, Ms. Elizabeth Bohme, Ms. Connie Beaton, Mr. Bruce Macdonald, Mr. Peter and Ms. Michelle Attalla;
2. Mr. Bob and Sheila Miller;
3. Mr. Royce Williams and Mr. Dave and Ms. Marlene Williams;
4. Mr. Alex MacWilliam, Dentons Canada LLP., on behalf of Mr. Ian MacGregor;
5. Ms. Erika Gerlock, Alberta Justice on behalf of Mr. Craig Knaus, Director, Regulatory Assurance Division South, Alberta Environment and Protected Areas; and

¹⁵⁵ Director's Record at pages 606 and 607.

6. Mr. L. Douglas Rae, Ms. Sara Loudon, and Mr. Eric Schneider, Rae and Company of behalf of the Stoney Nakoda and the Stoney Nakoda Land Management Limited.

Dated on December 20, 2024, at Edmonton, Alberta.

-original signed-

Barbara Johnston
Board Chair and Panel Chair

-original signed-

Angela Aalbers
Board Member

-original signed-

Kurtis Averill
Board Member

APPENDIX A

Approved Water Management Plan for the South Saskatchewan River Basin (Alberta) Table of Matters and Factors

1. FACTORS THAT MUST BE CONSIDERED WHEN MAKING DECISIONS

[1] Section 2.7.3 of the Approved Water Management Plan for the South Saskatchewan River Basin (Alberta) (the “SSRB”) provides:

“2.7.3. Matters and Factors that must be Considered in Making Decisions on Applications for Licences, Preliminary Certificates or Approvals

The *Water Act* contains provisions (sections 11(3)(a) and 51(4)) for an Approved Water Management Plan to identify Matters and Factors that must be considered by the [EPA] designated Director in making decisions on applications for water licences, preliminary certificates or approvals. The Matters and Factors that must be considered in the SSRB are listed in Table 2.”

[2] Table 2 of the SSRB sets out the Matters and Factors as follows:

Matters and Factors	Guidelines
Existing, potential and cumulative effects on the aquatic environment	<ul style="list-style-type: none"> • No significant adverse effect on the aquatic environment
Existing, potential and cumulative effects on any applicable instream objective and/or Water Conservation Objective	<ul style="list-style-type: none"> • No significant adverse effect on existing instream objectives and/or Water Conservation Objectives
Efficiency of use	<ul style="list-style-type: none"> • Industry standards and best practices
Net diversion	<ul style="list-style-type: none"> • Likely an amendment • Existing allocation does not increase • Quality and timing of return flow should be benign or beneficial for the environment
Existing, potential, and cumulative hydraulic, hydrological and hydrogeological effects	<ul style="list-style-type: none"> • No significant adverse effect
With respect to irrigation, the suitability of the land for irrigated agriculture	<ul style="list-style-type: none"> • The land must be suitable for irrigated agriculture: Class 4 or better in accordance with the standards of Alberta Agriculture Food and Rural Development

Existing, potential, and cumulative effects on the operation of reservoirs or other water infrastructure	<ul style="list-style-type: none">• No significant adverse effect on operations unless the reservoir or infrastructure licensee agrees it is feasible to adjust operations to mitigate effects
First Nation Rights and Traditional Use	<ul style="list-style-type: none">• Government of Alberta First Nation Consultation Policies and guidelines on Land Management and Resource Development• Agreements with First Nations