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April 16, 2018

Via fax (780)-495-2876

Canadian Environmental Assessment Agency
9700 Jasper Ave. Suite 1145
Edmonton AB T5J 4C3

Dear Sir/Madam:

Re: Springbank Off-Stream Reservoir Project (80123)
File No.: 058106-0001

We are legal counsel to the owners of the lands set out in Schedule A. These lands are within the Project Area. In this correspondence, our clients will be referred to as the "Affected Landowners."

It is our understanding that the Project proponent, Alberta Transportation, has re-filed its Environmental Impact Statement ("EIS") with the Canadian Environmental Assessment Agency ("CEAA"). We further understand that CEAA is conducting a completeness review of the revised EIS.

We write to advise CEAA of the Affected Landowner's concerns with respect to the completeness of the EIS as it relates to dam design and specifications. The EIS Guidelines require Alberta Transportation to provide information with respect to the risk of accidents or malfunctions; Specifically, "[t]aking into account the lifespan of different project components, the proponent will identify the probability of potential accidents and malfunctions related to the project, including an explanation of how those events were identified, potential consequences…, the plausible worst case scenarios, alternative accident scenarios, and the effects of these scenarios."[1]

While Alberta Transportation has purported to provide an assessment of potential accidents and malfunctions, the EIS states that dam design details and specifications are included in a 2017 reported prepared by Stantec Consulting Ltd. titled "Springbank Off-stream Store Project Interim Design Report." This Report *has been excluded from* the EIS. The absence of the design specifications contained in this Interim Design Report prevents affected parties from providing comment on this issue, which in turn prevents CEAA from testing Alberta Transportation's analysis with respect to the probability and consequences of a structural failure.

[1]EIS Guidelines, section 6.6.1.

In addition, we enclose a Table of further missing information from the revised EIS prepared by PGL Environmental Consultants on behalf of the Affected Landowners, Tsuut'ina Nation, Kainai First Nation, and Ermineskin Cree Nation.

As a consequence of the absence of this information, any finding that this revised EIS is complete would necessarily be patently unreasonable.

Thank you for your consideration of this concern.

Yours truly,

MLT AIKINS LLP

Per: 

FOR John P. Gruber

JPG:smh

Table 1 – Previous Deficiencies, by VC and Project Component

Subject		Information Gap/Comment	Addressed in revised EIS? Additional comment or request?
Volume 2 – Assessment Approach			
3A and 3B and Appendices		Original comment, unanswered: *The project is identified in the EIS as a "protection project." The implication is that it may be held to a different assessment standard but no further information is provided. If different metrics or thresholds for assessment are being used, these must be made explicit to allow reviewers to properly understand and evaluate the EIS. The modifications to assessment methodology for a "protection project" have not been provided. It is not possible to replicate EIS methods without this information.*	There are a number of places within the EIS where the assessors compare post-flood effects with the Project to post-flood effects without the project (see, for instance, Section Vol 3D, Section 2.3.4). This is not an appropriate metric for determination of significance: it is possible for the post-flood effects with the infrastructure to be lower than those without the infrastructure and still be significant. The proponent must clarify methodology to state explicitly that the determination of significance is with respect to a full range of flood conditions and the effects comparisons is a like-to-like comparison for different flow conditions for each VC.
Volume 3A and 3B – Construction and Dry Operations Effects Assessment			
3A and 3B and Appendices	Hydrogeology	Original comment, unanswered: ***Vol 3A - Construction and Dry Operations Effects Assessment*** • *The boundaries set for the Regional Assessment Area (RAA) exclude the majority of IR145. The rationale for establishing these boundaries has not been provided. In the absence of a solid rationale for these boundaries, it is not possible to determine whether sufficient information has been collected to assess effects on fish and fish habitat, Wetlands and sensitive ecosystems, or TN lands.* • *The aquifer from which Tsuut'ina draws groundwater has not been delineated. Without this delineation, it is not possible to predict potential project effects on Tsuut'ina's interests.* • *The groundwater model has not been used to predict effects during construction/dry operations. This represents a gap in the assessment.* ***Vol 3B - Flood and Post-Flood Effects Assessment*** *The boundaries set for the Regional Assessment Area (RAA) exclude the majority of IR145. The rationale for establishing this boundary has not been provided. In the absence of a solid rationale for these boundaries, it is not possible to determine whether sufficient information has been collected to assess effects on fish and fish habitat, Wetlands and sensitive ecosystems, or TN lands.* • *The aquifer from which TN draws groundwater has not been delineated. Without this delineation, it is not possible to predict potential project effects on Tsuut'ina's interests.* • *Modelling of flooding on hydrogeology is not complete. Full results are pending. The application must therefore be*	We require the full groundwater model report. The Technical Data Report provided in Appendix I isn't sufficient to evaluate the boundary conditions of the model. It appears prescribed head nodes (Dirichlet boundary conditions) were applied to the perimeter of the model and corresponded to the interpreted potentiometric surface provided in the Hydrogeology baseline report. By forcing the solution at the south boundary adjacent to Tsuut'ina land to match the static groundwater heads measured in the baseline study, and running only the steady state solution, you prevent the model from assessing potential impacts adjacent to Tsuut'ina lands. We are particularly concerned about the long-term drawdown near the diversion channel in dry conditions. Our comment remains that it is not acceptable to assume the Elbow River south floodplain acts as a groundwater divide in both the shallow and bedrock aquifers and then design the groundwater model boundary conditions such that it is incapable of predicting water level changes near the boundary. A precautionary approach must be taken that attempts to predict effects on lands to the south of the Elbow River if the assumption of the groundwater divide is not valid either during dry conditions or flood conditions. The Groundwater model must be improved to be capable of predicting effects on Tsuut'ina and adjacent private lands. There

	Subject	Information Gap/Comment	Addressed in revised EIS? Additional comment or request?
		considered incomplete. (Note that these modelling results are not thought to be the same as the missing Appendix I). • *The groundwater model predicts the project to result in hydraulic effects during flood conditions but the temporal and areal extent of these effects have not been defined. Effects on IR145 have not been assessed because they lie outside the RAA.*	are potable water wells on Tsuut'ina land immediately south of the proposed diversion channel where the groundwater model predicts a permanent decrease in hydraulic head of 5.5 m during dry conditions (it is not clear in the EIS if this hydraulic head decrease is in the shallow unconsolidated sediments or the bedrock or both). The groundwater model as designed, fails to adequately predict potential changes to groundwater in Tsuut'ina wells due to the presence of the diversion structure. Further a full sensitivity analysis of the groundwater model is required to demonstrate the predictions are robust. We assume this is included in the full Groundwater Modelling report as it is absent from the provided abbreviated technical data report.
3A and 3B and Appendices	Hydrology	Original comment, unanswered: • *Baseline temperatures have not been collected against which to model/predict potential adverse effects. These are required to adequately assess seasonal impacts to FSC fisheries.* • *Wetlands of concern to TN (which ideally should have been identified in TUS during EIS study period) have not been identified. It is therefore not possible to determine if the boundaries used for the hydrogeology model are sufficient to address Tsuut'ina's concerns. The sufficiency of the model to answer TN's questions will have to be reassessed once the TUS is complete.*	Gap remains.
3A and 3B and Appendices	Surface Water Quality	Original comment, unanswered: • *No data have been collected to establish baseline conditions on IR 145.* • *Effects of mercury methylation have not been carried through for assessment from earlier sections of the EIS.*	Gap remains.
3A and 3B and Appendices	Aquatic Ecology	Original comment, unanswered: • *The EIS has not selected species for study with reference to a TN TLU Study. It is not clear, therefore, whether all relevant FSC fish classes have been selected. This represents a potential gap in the EIS.* • *Groundwater data gaps identifies in Vol 4, Sec 5 prevent a fulsome assessment of effects on bull trout spawning (see EIS p.9.19 "bull trout spawning usually occurs...over coarse substrates in areas influenced by groundwater").* • *The EIS refers to "available of fish habitat remaining in the RAA" but no map or figure of these data identifying all available habitat have been provided. It is not possible to say that habitat losses and their locations are not significant since baseline distribution has not been presented.*	• There is still no reference to a TLU Studies with respect to fish species selected for study. Therefore, this potential gap in the EIS still remains. • Groundwater characterization on Reserve, including baseflow contributions and aquifer delineation, has not been completed. EIS gap remains. • A map/figure of fish habitat available in the RAA is still not provided. Given the lack presentation of baseline data in the RAA the original comment has not been addressed. What is the availability of fish habitat remaining in the RAA after project impacts? Geo-referenced data is needed.

	Subject	Information Gap/Comment	Addressed in revised EIS? Additional comment or request?
3A and 3B and Appendices	Vegetation & Wetlands	Original comment, unanswered: *Absence of project-specific TLU for Tsuut'ina and Ermineskin Cree data does not allow a determination of project effects on TN traditional use of medicinal or other important plants.*	• Given the absence of project-specific TLU for Tsuut'ina. Ermineskin, or Kainai First Nations, the original comment still stands.
Volume 3C – Cumulative Effects Assessment			
	Cumulative Effects	Original comment, unanswered: *The inclusion list references existing flood protection infrastructure for consideration of cumulative effects but does not include proposed flood control infrastructure planned for Bragg Creek. The Bragg Creek Flood Mitigation project must be considered as reasonably foreseeable and must be included in the cumulative effects assessment.*	Gap remains – see further discussion in Table 2.

Table 2– Revised Springbank EIS Sufficiency Review

Section #	Subject	Page number	Information Gap/Comment	Insufficiency specific to CEAA "Annex 1" Request (CEAA letter to proponent dated Nov. 16, 2017)
EIS summary				
3.6.1	Project Location Alternatives	3.14	The EIS summary notes that the SR1 option was "recommended in combination with local mitigation for Bragg Creek and Redwood Meadows, over the MC1 Option." What is the rationale for proceeding with the SR1 project without including an integrated effects assessment of works at Bragg Creek and Redwood Meadows if the projects were recommended as a package? This is not to suggest that the MC1 option is preferred but that appropriate flood protection for the communities of Bragg Creek, Redwood Meadows, and Calgary includes three sets of works and should be assessed as a single project. CEAA should reject the EIS on the grounds that it represents project splitting and require that works at SR1, Bragg Creek, and Redwood Meadows be the subject of a single EIS.	Annex 1, Section (3) Alternative Means of Carrying out the Project. This section requires the proponent to identify **evaluation criteria for the alternative means analysis**. The Deltares report (Application Supporting Documentation #3) indicates that SR1, in conjunction with works at Bragg Creek and Redwood Meadows, is the preferred flood mitigation option. Annex 1, Section (22)(a) requires the proponent to complete a "cumulative effects assessment of the flood and post flood operations that includes consideration of…other flood mitigation works, and reflects reasonably foreseeable projects in regional and community development plans". The Application does not provide the proponent's rationale for designing and reviewing only the SR1 works of a cumulative effects assessment considering the Bragg Creek infrastructure and therefore must be considered deficient with respect to Annex 1 requests.
6.17.1.2	Diversion Structure Failure or Breach	6.113	Please provide a figure identifying the extent of backwater influence to identify what is meant by the statement "[b]ackwater influence during a failure to operate is limited to the most upstream extent of the floodplain berm."	Without a fulsome understanding of the extent of backwatering, it is not possible to complete an assessment of effects per Annex 1, S(18) Federal Lands.

Section #	Subject	Page number	Information Gap/Comment	Insufficiency specific to CEAA "Annex 1" Request (CEAA letter to proponent dated Nov. 16, 2017)
7.2.2	VCs only assessed in Flood and Post-flood operations		This section a "neutral" effect overall. It is incorrect to conflate a "neutral" effect with "no effect." No effect means that, during the entire project, no effect will be of measurable magnitude at any time. A 'neutral' effect means during the project, many effects may be of measurable magnitude, but average out over time to look similar to the original "no effect" environment. Understanding what these individual effects is critical to understanding effects on Tsuut'ina and private lands and use and must be properly characterized or the assessment becomes oversimplified and insufficient for impact assessment.	
7.2.3	VCs not assessed in Either Scenario	7.10	The EIS notes that "[w]ith mitigation following the recommendation of ACT, no adverse residual environmental effects on historical resources are anticipated. In the absence of residual effects, there is no pathway for cumulative effects and, therefore, no cumulative effects assessment is warranted." This is unclear and methodologically incorrect. Residual effects regardless of significance must be carried over to a cumulative assessment. It is extremely unlikely that any project, following mitigation, leaves no residual effects at all. This assertion raises questions about the EIS capacity to accurately predict and assess effects and must be rejected as unreliable.	
Volume 1 – Project description				
1	Flood Frequencies		The application does not provide 1:1000-year flood value. Please provide this value and indicate how it is related to project flood and probable maximum flood (PMF).	
Volume 2 – Assessment Approach				
3	Overview of Approach		No comments at sufficiency review	
4	Presentation		No comments at sufficiency review	
5	Scoping	Table 5.1	The VC selected with respect to Aboriginal Peoples seems to limit the assessment to consideration of effects on objects. Where is the effect of the project on experience of the land and spiritual practices assessed? Without data regarding this VC and a subsequent assessment of effects on cultural experience, the EIS must be considered incomplete.	This represents an information deficiency with respect to Annex 1 Section 18 (Federal lands), paragraph (a) which requires the proponent to include "an assessment of any other VCs of importance or VCs Tsuut'ina Nation has identified that are not already covered in other subsections of the EIS guidelines that may be affected by the changes to the

Section #	Subject	Page number	Information Gap/Comment	Insufficiency specific to CEAA "Annex 1" Request (CEAA letter to proponent dated Nov. 16, 2017)
				environment." This principle applies equally to Ermineskin and Kainai First Nations
5	Scoping	Table 5.2	This table omits a linkage between Reservoir Management and Aboriginal Use and Culture. Tsuut'ina has indicated that fish strandings associated with Reservoir drainage represents and effect of concern given that it is contrary to stewardship beliefs and practices held by the Nation. Reservoir management therefore interacts with Traditional Land and Resource Use practices. Table 5.2 must be revised to accurately reflect project linkages. Without an assessment of the effects of Reservoir Management (or its consistency with) on traditional practices, the EIS is deficient.	See above.
6	Existing Conditions		No comments at sufficiency review	
7	Effects Assessment (effects of the environment on the project)	7.7	The Project represents an unique situation in which the environment is unlikely to damage the project infrastructure but changing environmental conditions may mean that the Project is insufficient to serve the purpose for which it was built. That is, increased climate variability leading to larger and/or more frequent floods may exceed the project's flood control capacity. Without proper accounting for future trends in flooding, the project benefits cannot be accurately weighed against the project's environmental, social, and economic costs. CEAA must direct the Proponent to develop revised flood frequency and volume predictions based on literature regarding climate change and assess the efficacy and value proposition of the project in this context, otherwise the application is deficient.	This represents a flaw in EIS methodology with respect to the Effects of the Environment on the Project. In the absence of due consideration of the project's efficacy in the face of changing flood frequencies, the EIS must be considered deficient
Volume 3A – Construction and Dry Operations Effects Assessment and Associated Appendices in Vol 4				
5 and Appendix I	Hydrogeology		There is no analysis of groundwater-surface water interactions between Elbow River and floodplain and the unconfined sand/gravel aquifer of stream deposits and/or the underlying bedrock aquifer. The only mention of groundwater in the area is to state there appears to be a groundwater divide at the Elbow River, however I couldn't find any substantiating evidence of this divide and the groundwater model is incapable of predicting how this divide may be affected by the project.	This represents an information deficiency with respect to Annex 1 Section 18 (Federal lands).

Section #	Subject	Page number	Information Gap/Comment	Insufficiency specific to CEAA "Annex 1" Request (CEAA letter to proponent dated Nov. 16, 2017)
			The Groundwater model needs to be improved to predict potential effects on Tsuut'ina land. See comment above.	
6 and Appendix J	Hydrology		No comments at sufficiency stage. To the extent that the Hydrogeology sections influences this section; this section is likely incomplete.	This represents an information deficiency with respect to Annex 1 Section 18 (Federal lands).
7	Surface Water Quality		No comments at sufficiency stage	
8	Aquatic Ecology	8.2.2	Maps/figures showing the footprint of construction laydown areas and site access routes with respect to fish habitat are not presented in the EIS. The full footprint of the Project and its potential impact on riparian and instream areas needs to be visually presented in the EIS to evaluate potential impacts on fisheries values important to First Nations.	
Section 8 and Appendix M	Follow-up and Monitoring		The Assessment of Potential Effects on Aquatic Ecology does not contain a follow-up and monitoring section to assess potential changes to fish habitat from altered hydrology and hydrogeology during dry conditions.	
10 and Appendix L	Vegetation and Wetlands		No comments at sufficiency stage	
Volume 3B – Flood and Post-Flood Effects Assessment and Associated Appendices in Vol 4				
5 and Appendix I	Hydrogeology		There is no analysis of groundwater-surface water interactions between Elbow River and floodplain and the unconfined sand/gravel aquifer of stream deposits and/or the underlying bedrock aquifer. The only mention of groundwater in the area is to state there appears to be a groundwater divide at the Elbow River, however we could not find any substantiating evidence of this divide and the groundwater model is incapable of predicting how this divide may be affected by the project. The Groundwater model needs to be improved to predict potential effects on Tsuut'ina and private lands.	This represents an information deficiency with respect to Annex 1 Section 18 (Federal lands).
6 and Appendix J	Hydrology		To the extent that the Hydrogeology sections influences this section; this section is necessarily incomplete. As such, it represents a material deficiency in the EIS.	This represents an information deficiency with respect to Annex 1 Section 18 (Federal lands).
7	Surface Water Quality		No comments at sufficiency stage.	

Section #	Subject	Page number	Information Gap/Comment	Insufficiency specific to CEAA "Annex 1" Request (CEAA letter to proponent dated Nov. 16, 2017)
8.2.4	Fish toxicity	8.13	There does not appear to be any baseline data presented to support an assessment on changes in fish toxicity. This is a concern given water impoundment and the potential for mercury methylation as well as changes in other contaminant concentrations.	
8.2.2	Permanent Alteration of Fish Habitat	8.6	There are no maps or figures or quantitative data to support the assessment on permanent alteration of fish habitat. We understand that Volume 3B discusses changes in flows and sediment and bedload transport, but what are the quantitative impacts to fish habitat and structure and where are these predicted to occur?	
8.0	Follow-up and Monitoring	8.i	Section 8 lacks a follow-up and monitoring section, which should be a component of the assessment given the uncertainty in the assessment on the effects of flooding on the fish populations in the LAA, and the effects on direct and indirect alteration of fish habitat during flood and post-flood operations.	
Appendix M	Aquatic Ecology Appendix	-	The Aquatic Ecology Technical Data Report lacks baseline data for fish toxicity/contaminants.	
10	Vegetation and Wetlands		No comments at sufficiency stage	
Appendix L	Vegetation and Wetlands	-	There is no ecosystem mapping or wetland mapping, or a description of mapping methods presented in the Vegetation and Wetlands supplementary data appendix. Where is the presentation of field methods/data?	
Volume 3C – Cumulative Effects				
1.2.2	Hydrogeology	1.22	The revised EIS notes that "[t]he Bragg Creek Flood Mitigation…[is] located outside the RAA defined for hydrogeology. As such no pathway for cumulative effects are anticipated." Since the conceptual model does not support the selection of the RAA, excluding the Bragg Creek project is premature.	
Volume 3D – Accidents and Malfunctions, Effects of the Environment on the Project, and Summary of Environmental Effects				
2.3.2	Climate Change	2.6	The revised EIS provides one paragraph to indicate that the climate variability has been accounted for. The EIS does not, however, adequately demonstrate this accounting. This is particularly relevant given that academic literature on future flood frequency suggests that past return periods are not predictors of future return periods and, in particular, larger and more frequent floods	

Section #	Subject	Page number	Information Gap/Comment	Insufficiency specific to CEAA "Annex 1" Request (CEAA letter to proponent dated Nov. 16, 2017)
			are likely. Without flood return periods calculated based on future expectations for flood frequency and volume, the EIS must be considered deficient.	
2.3.4	Characterization of Potential Residual Effects	2.8	It is disingenuous to suggest that residual effects of a flood exceeding the design effects (leading to emergency water release) would be "not significant" on the grounds that these effects "would be attenuated because the Project would divert 77,800 dam^3 [77,800,000 m^3] of floodwaters". It is true that flooding would be attenuated, but without mapping and modelling to determine depth and extent of actual flooding, it is not possible to conclude that effects would be "not significant". Without data to support this statement (in the form of modelling and mapping for the PMF) the application is deficient.	

Schedule A

Number	Legal Description
1.	First Meridian 5 Range 4 Township 24 Section 27 Quarter North West Excepting thereout all mines and minerals And the right to work the same Area: 64.7 Hectares (160 acres) more or less Second Meridian 5 Range 4 Township 24 Section 27 Quarter North East Containing 64.7 Hectares (160 acres) more or less Excepting thereout Plan Number Hectares (Acres) Road 8911908 1.62 3.99 Excepting thereout all mines and minerals And the right to work the same
2.	Meridian 5 Range 4 Township 24 Section 27 Quarter South West Excepting thereout all mines and minerals And the right to work the same Area: 64.7 Hectares (160 acres) more or less
3.	Meridian 5 Range 4 Township 24 Section 27 Quarter South East Containing 64.7 Hectares (160 acres) more or less Excepting thereout: Plan Number Hectares (Acres) Road 8911908 1.57 3.89 Excepting thereout all mines and minerals And the right to work the same

Number	Legal Description
4.	First Meridian 5 Range 4 Township 24 Section 26 Quarter North West Containing 64.7 Hectares (160 acres) more or less Excepting thereout: Plan Number Hectares (Acres) Roadway 4953JK 1.57 3.89 Road 8911908 1.60 3.95 Excepting thereout all mines and minerals And the right to work the same Second Meridian 5 Range 4 Township 24 Section 26 Quarter North East Containing 64.7 Hectares (160 acres) more or less Excepting thereout: Plan Number Hectares (Acres) Roadway 4953JK 1.62 4.01 Excepting thereout all mines and minerals And the right to work the same
5.	First Meridian 5 Range 4 Township 24 Section 26 Quarter South West Containing 64.7 Hectares (160 acres) more or less Excepting thereout: Plan Number Hectares (Acres) Road 8911908 1.64 4.05 Road 9410772 0.793 1.96 Excepting thereout all mines and minerals And the right to work the same Second Meridian 5 Range 4 Township 24 Section 26 Quarter South East Containing 64.7 Hectares (160 acres) more or less Excepting thereout Hectares (Acres) more or less A) Plan 9410772 Road 0.405 1.00 Excepting thereout all mines and minerals And the right to work the same

Number	Legal Description
6.	Meridian 5 Range 4 Township 24 Section 25 Quarter South West Containing 64.7 Hectares (160 acres) more or less Excepting thereout Hectares (Acres) more or less A) Plan 9410772 Road 0.394 0.974 Excepting thereout all mines and minerals
7.	Meridian 5 Range 4 Township 24 Section 25 Quarter North East Excepting thereout all mines and minerals Area: 64.7 Hectares (160 acres) more or less
8.	Meridian 5 Range 4 Township 24 Section 25 Quarter South East Containing 64.7 Hectares (160 acres) more or less Excepting thereout: Hectares (Acres) more or less A) Plan 9410772 Road 0.394 0.974 Excepting thereout all mines and minerals
9.	Meridian 5 Range 4 Township 24 Section 22 Quarter North East Containing 64.7 Hectares (160 acres) more or less Excepting thereout: Plan Number Hectares (Acres) Block 'A' 8110352 15.28 37.76 Road 8911908 1.46 3.61 Excepting thereout all mines and minerals

Number	Legal Description
10.	First Meridian 5 Range 4 Township 24 Section 23 Quarter North West Containing 64.7 Hectares (160 acres) more or less Excepting thereout Plan Number Hectares (Acres) Road 8911908 1.75 4.32 Excepting thereout all mines and minerals Second Meridian 5 Range 4 Township 24 Section 23 Quarter South West Containing 64.7 Hectares (160 acres) more or less Excepting thereout Plan Number Hectares (Acres) Road 8911908 1.89 4.66 Excepting thereout all mines and minerals
11.	Meridian 5 Range 4 Township 24 Section 23 Quarter North East Excepting thereout all mines and minerals Area: 64.7 Hectares (160 acres) more or less
12.	Meridian 5 Range 4 Township 24 Section 23 Quarter South East Excepting thereout all mines and minerals Area: 64.7 Hectares (160 acres) more or less
13.	Meridian 5 Range 4 Township 24 Section 24 Quarter North West Excepting thereout all mines and minerals Area: 64.7 Hectares (160 acres) more or less
14.	Meridian 5 Range 4 Township 24 Section 24 Quarter South West Excepting thereout all mines and minerals And the right to work the same Area: 64.7 Hectares (160 acres) more or less

Number	Legal Description
15.	Meridian 5 Range 4 Township 24 Section 24 Quarter North East Excepting thereout all mines and minerals And the right to work the same Area: 64.7 Hectares (160 acres) more or less
16.	Meridian 5 Range 4 Township 24 Section 24 Quarter South East Excepting thereout all mines and minerals And the right to work the same Area: 64.7 Hectares (160 acres) more or less
17.	Meridian 5 Range 4 Township 24 Section 25 Quarter North West Excepting thereout all mines and minerals Area: 64.7 Hectares (160 acres) more or less
18.	Meridian 5 Range 3 Township 24 Section 19 Quarter North East Excepting thereout all mines and minerals And the right to work the same Area: 64.7 Hectares (160 acres) more or less
19.	Meridian 5 Range 3 Township 24 Section 19 Quarter South East Excepting thereout all mines and minerals And the right to work the same Area: 64.7 Hectares (160 acres) more or less
20.	Meridian 5 Range 4 Township 24 Section 15 Quarter South East Containing 64.7 Hectares (160 acres) more or less Excepting thereout: Plan Number Hectares (Acres) Road 9012109 2.26 5.57 Excepting thereout all mines and minerals

Number	Legal Description
21.	Meridian 5 Range 4 Township 24 Section 14 Quarter North West Containing 64.7 Hectares (160 acres) more or less Excepting thereout: Plan Number Hectares (Acres) Road 9012109 1.62 4.00 Excepting thereout all mines and minerals And the right to work the same
22.	Meridian 5 Range 4 Township 24 Section 14 Quarter South West Containing 64.7 Hectares (160 acres) more or less Excepting thereout: Plan Number Hectares (Acres) Road 9012109 0.951 2.35 Excepting thereout all mines and minerals
23.	First Meridian 5 Range 4 Township 24 Section 14 Quarter North East Excepting thereout all mines and minerals Area: 64.7 Hectares (160 acres) more or less Second Meridian 5 Range 4 Township 24 Section 14 Quarter South East Excepting thereout all mines and minerals Area: 64.7 Hectares (160 acres) more or less
24.	Meridian 5 Range 4 Township 24 Section 13 Quarter North West Excepting thereout all mines and minerals And the right to work the same Area: 64.7 Hectares (160 acres) more or less
25.	Meridian 5 Range 4 Township 24 Section 13 Quarter North East Excepting thereout all mines and minerals And the right to work the same Area: 64.7 Hectares (160 acres) more or less

Number	Legal Description
26.	Meridian 5 Range 3 Township 24 Section 18 Quarter North East Excepting thereout all mines and minerals Area: 64.7 Hectares (160 acres) more or less
27.	First Meridian 5 Range 4 Township 24 Section 10 That portion of the South East Quarter Lying North West of the Elbow River Excepting thereout all mines and minerals And the right to work the same Second Meridian 5 Range 4 Township 24 Section 10 That portion of the South West Quarter Lying North West of the Elbow River Excepting thereout all mines and minerals And the right to work the same
28.	First Meridian 5 Range 4 Township 24 Section 3 That portion of the North West Quarter which lies West of the Elbow River Excepting thereout: 0.004 of a hectare (0.01 of an acre) more or less As described in transfer registered as 2235EU Excepting thereout all mines and minerals And the right to work the same Second Meridian 5 Range 4 Township 24 Section 3 That portion of the South West Quarter which lies North West of the Elbow River Meridian 5 Range 4 Township 24 Excepting thereout all mines and minerals And the right to work the same

Number	Legal Description
29.	Meridian 5 Range 4 Township 24 Section 3 Quarter South West Containing 64.7 Hectares (160 acres) more or less Excepting thereout: A) That portion of the said quarter section which lies Northwest of the Elbow River B) Plan Number Hectares (Acres) more or less Road 2309JK 0.129 0.32 Road 9710339 1.92 4.7 Excepting thereout all mines and minerals
30.	First Meridian 5 Range 4 Township 24 Section 3 Quarter North East Containing 64.7 Hectares (160 acres) more or less Excepting thereout: Plan Number Hectares (Acres) Road 9710339 2.22 5.5 Road 0813063 0.170 0.42 Excepting thereout all mines and minerals Second Meridian 5 Range 4 Township 24 Section 3 Quarter North West Containing 64.7 Hectares (160 acres) more or less Excepting thereout: That portion of said Quarter section which lies West of the Elbow River Excepting thereout all mines and minerals
31.	Meridian 5 Range 3 Township 24 Section 17 That portion of the North West Quarter which lies to the North of the Elbow River containing 53.3 Hectares (131.76 acres) more or less Excepting thereout all mines and minerals And the right to work the same
32.	Plan 0711819 Block 2 Lot 2 Excepting thereout all mines and minerals Area: 11.83 Hectares (29.23 acres) more or less (ATS Reference: 5: 4: 24: 10 NE)

Number	Legal Description
33.	Plan 0711819 Block 2 Lot 1 Excepting thereout all mines and minerals Area: 41.34 Hectares (102.15 acres) more or less (ATS Reference: 5: 4: 24: 10 NE)
34.	Meridian 5 Range 3 Township 24 Section 20 Quarter South West Excepting thereout all mines and minerals Area: 64.7 Hectares (159.88 acres) more or less
35.	Plan 2538K Block A Excepting thereout all mines and minerals And the right to work the same (ATS Reference 5: 4: 24: 13: S)
36.	Meridian 5 Range 3 Township 24 Section 20 Quarter North West Excepting thereout all mines and minerals Area: 64.7 Hectares (160 acres) more or less
37.	Description Plan 0313535 Block 1 Lot 2 Excepting thereout all mines and minerals Area: 3.4 Hectares (8.4 acres) more or less (ATS Reference: 5; 4; 24; 3; SE)
38.	Description Plan 0313536 Block 2 Lot 1 Excepting thereout all mines and minerals Area: 22.18 Hectares (54.81 acres) more or less (ATS Reference: 5; 4; 24; 3; SE)
39.	Description Plan 0313536 Block 2 Lot 1 Excepting thereout all mines and minerals Area: 22.18 Hectares (54.81 acres) more or less (ATS Reference: 5; 4; 24; 3; SE)

Number	Legal Description
40.	Description Plan 0313536 Block 3 Lot 1 Excepting thereout all mines and minerals Area: 28.11 Hectares (69.46 acres) more or less (ATS Reference: 5; 4; 24; 3; SE)
41.	Description Plan 0313536 Block 3 Lot 1 Excepting thereout all mines and minerals Area: 28.11 Hectares (69.46 acres) more or less (ATS Reference: 5; 4; 24; 3; SE)
42.	Meridian 5 Range 4 Township 24 Section 22 Quarter North West Excepting thereout all mines and minerals Area: 64.7 Hectares (160 acres) more or less
43.	Meridian 5 Range 4 Township 24 Section 4 Quarter North East Excepting thereout all mines and minerals And the right to work the same Area: 64.7 Hectares (160 acres) more or less