



**Conservation and Water Stewardship**

Environmental Stewardship Division  
Environmental Approvals Branch  
123 Main Street, Suite 160, Winnipeg, Manitoba R3C 1A5  
T 204 945-8321 F 204 945-5229  
[www.gov.mb.ca/conservation/eal](http://www.gov.mb.ca/conservation/eal)

**File: 2815.10**

September 30, 2014

Shauna Sigurdson  
Regional Director  
Canadian Environmental Assessment Agency  
Canada Place, Suite 1145-Jasper Avenue  
Edmonton, Alberta T5J 4C3

Dear Ms. Sigurdson:

**Re: Minnova Corporation (Formerly Auriga Gold Corporation) – Puffy Lake Mine - Environment Act Proposal**

The responses from the Technical Advisory Committee (TAC) that requested additional information regarding Minnova Corporation's Environment Act Proposal for the Puffy Lake Mine were forwarded to the proponent for response.

Please find attached Minnova Corp.'s September 19th, 2014 letter responding to the comments and requests for additional information presented by the TAC. Please review the information provided to determine if your comments or concerns have been satisfactorily addressed.

Your comments, if any, are required to be submitted to the Environmental Approvals Branch by October 17th, 2014. No response on your part will be assumed to indicate no concern.

If you have any questions, please contact me at 204-945-7012.

Yours truly,  
*“original signed by”*

Jennifer Winsor, P.Eng.  
Environmental Engineer

Enclosure

c. Don Labossiere, Director – Environmental Compliance and Enforcement Branch,  
Manitoba Conservation and Water Stewardship

Donna Smiley, Provincial Manager - Environmental Compliance and Enforcement  
Branch, Manitoba Conservation and Water Stewardship  
Chris Beaumont-Smith, A/Director – Mines Branch – Manitoba Mineral Resources  
Sean Carriere, Project Manager – Canadian Environmental Assessment Agency (via  
Email)  
Public Registries



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**File: 2815.10**

September 30, 2014

Dan Roberts  
Water Resource Officer  
MB Conservation and Water Stewardship  
Box 640  
201 Fourth Ave.  
Swan River, MB R0L 1Z0

Dear Mr. Roberts:

**Re: Minnova Corporation (Formerly Auriga Gold Corporation) – Puffy Lake Mine - Environment Act Proposal**

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**File: 2815.10**

September 30, 2014

Adara Kaita  
Lands Branch  
MB Conservation and Water Stewardship  
200 Saulteaux Crescent, Box 25  
Winnipeg, MB R3J 3W3

Dear Ms. Kaita:

**Re: Minnova Corporation (Formerly Auriga Gold Corporation) – Puffy Lake Mine - Environment Act Proposal**

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Environmental Engineer

Enclosure

- c. Don Labossiere, Director – Environmental Compliance and Enforcement Branch,  
Manitoba Conservation and Water Stewardship  
Donna Smiley, Provincial Manager - Environmental Compliance and Enforcement  
Branch, Manitoba Conservation and Water Stewardship

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**File: 2815.10**

September 30, 2014

Cal Liske  
Acting Director  
Manitoba Mineral Resources  
360-1395 Ellice Ave  
Winnipeg, MB R3G 3P2

Dear Mr. Liske:

**Re: Minnova Corporation (Formerly Auriga Gold Corporation) – Puffy Lake Mine - Environment Act Proposal**

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Yours truly,  
***“original signed by”***

Jennifer Winsor, P.Eng.  
Environmental Engineer

Enclosure

- c. Don Labossiere, Director – Environmental Compliance and Enforcement Branch,  
Manitoba Conservation and Water Stewardship  
Donna Smiley, Provincial Manager - Environmental Compliance and Enforcement  
Branch, Manitoba Conservation and Water Stewardship

Chris Beaumont-Smith, A/Director – Mines Branch – Manitoba Mineral Resources  
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**File: 2815.10**

September 30, 2014

Caroline Boissonneault  
Wildlife Branch  
MB Conservation and Water Stewardship  
200 Saulteaux Crescent  
Winnipeg, MB R3J 3W3

Dear Ms. Boissonneault:

**Re: Minnova Corporation (Formerly Auriga Gold Corporation) – Puffy Lake Mine - Environment Act Proposal**

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If you have any questions, please contact me at 204-945-7012.

Yours truly,  
*“original signed by”*

Jennifer Winsor, P.Eng.  
Environmental Engineer

Enclosure

- c. Don Labossiere, Director – Environmental Compliance and Enforcement Branch,  
Manitoba Conservation and Water Stewardship  
Donna Smiley, Provincial Manager - Environmental Compliance and Enforcement  
Branch, Manitoba Conservation and Water Stewardship

Chris Beaumont-Smith, A/Director – Mines Branch – Manitoba Mineral Resources  
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**File: 2815.10**

September 30, 2014

Dr. Michael Isaac  
Medical Officer of Health  
Northern Regional Health Authority  
867 Thompson Drive South  
Thompson, MB R8N 1Z4

Dear Dr. Isaac:

**Re: Minnova Corporation (Formerly Auriga Gold Corporation) – Puffy Lake Mine - Environment Act Proposal**

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Yours truly,  
***“original signed by”***

Jennifer Winsor, P.Eng.  
Environmental Engineer

Enclosure

- c. Don Labossiere, Director – Environmental Compliance and Enforcement Branch,  
Manitoba Conservation and Water Stewardship  
Donna Smiley, Provincial Manager - Environmental Compliance and Enforcement  
Branch, Manitoba Conservation and Water Stewardship

Chris Beaumont-Smith, A/Director – Mines Branch – Manitoba Mineral Resources  
Sean Carriere, Project Manager – Canadian Environmental Assessment Agency (via  
Email)  
Public Registries

# MINNOVA

CORP.

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September 19, 2014

Jennifer Winsor, P. Eng.  
Environmental Engineer  
Environmental Stewardship Division  
Environmental Approvals Branch  
123 Main Street, Suite 160  
Winnipeg, Manitoba  
R3C 1A5

**Regarding: Minnova Corporation (Formerly Auriga Gold Corporation) — PL Mine  
Environment Act Proposal (File: 2815.10)**

Dear Ms. Winsor,

Thank you for the opportunity to respond to the initial comments generated from your review process. We are pleased to provide the enclosed responses and we look forward to your positive assessment of our application to add open pit mining methods to our existing *Environment Act* Licence No. 1207E.

Please do not hesitate to contact me directly for any further information that you may require. We look forward to hearing from you.

Sincerely,



Gordon Glenn  
President & CEO  
Minnova Corp. (formerly Auriga Gold Corp.)  
T – 647 985 2785  
C – 416 625 2607

Response 1: Comment 1 – Shauna Sigurdson, CEAA  
Response 2: Comment 2 – Dan Roberts, Water Control Works and Drainage Licensing Section  
Response 3: Comment 3 – Adara Kalta, Crown Land Programs and Policy Manager  
Response 4: Comment 4 – Adara Kalta, Crown Land Programs and Policy Manager  
Response 5: Comment 5 – Cal Liske, Manitoba Mineral Resources  
Response 6: Comment 6 – Caroline Boissenneault, Wildlife Branch - Conservation and Water Stewardship  
Response 7: Comment 7 – Dr. Michael Isaac, Medical Officer of Health, Northern Regional Health Authority  
Attachment: AECOM Memorandum in Response to TAC Comments

cc. Sheryl Rosenberg, TDS Law  
Cliff Samioloff, AECOM

T: 647.985.2785  
F: 416.361.2519

365 Bay Street  
Suite 400  
Toronto, Ontario  
M5H 2V1

# Response

## **Comment 1– Shauna Sigurdson, CEAA**

**Winsor, Jennifer (CWS)**

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**Subject:** FW: EAP for review and comment - Auriga-Puffy Mine File: 2815.10

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**From:** Sigurdson,Shauna [CEAA] [<mailto:Shauna.Sigurdson@ceaa-acee.gc.ca>]

**Sent:** July-24-14 9:21 PM

**To:** Winsor, Jennifer (CWS); Webb, Bruce (CWS)

**Cc:** Steele, Tanla (CWS); Carriere,Sean [CEAA]

**Subject:** EAP for review and comment - Auriga-Puffy Mine File: 2815.10

Jennifer

We believe that this proposed project will be a designated project under CEAA 2012. We will be contacting the proponent to advise them and outline the requirements to submit a project description. Much of what is provided in the EAP will be support the completion of the project description.

Shauna Sigurdson

Regional Director | Directrice Régionale

Canadian Environmental Assessment Agency | Agence canadienne d'évaluation environnementale

Prairie and Northern Region | Région des Prairies et du Nord

Canada Place, Suite 1145-Jasper Avenue, Edmonton Alberta, T5J 4C3 | Place Canada, pièce 1145 9700 avenue Jasper, Edmonton (Alberta) T5J 4C3

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Government of Canada | Gouvernement du Canada



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## **Response to Comment 1**

Thank you. We are in correspondence with the Agency directly concerning their position in that regard. We understand that your Branch administers only Manitoba's environmental assessment and licensing statute. We look forward to your approval of our proposed addition of open pits to the existing underground mine and mill development and we undertake not to commence construction of the first open pit until all necessary approvals have been obtained.

## **Comment 2 – Dan Roberts, Water Control Works and Drainage Licensing Section**

**Winsor, Jennifer (CWS)**

---

**From:** Roberts, Dan (CWS)  
**Sent:** July-28-14 10:40 AM  
**To:** Winsor, Jennifer (CWS)  
**Subject:** EAP for review and comment - Auriga-Puffy Mine File: 2815.10  
**Attachments:** Drainage Licence Application.pdf

Any water control works (drains, culverts, dykes, dams, etc.) associated with this project will require licensing under the *Water Rights Act* – an application is attached for the proponent's convenience. Any inquiries in this regard may be directed to the local *Water Resource Officer*. Their contact information may be found at:

[http://www.gov.mb.ca/conservation/waterstewardship/licensing/pdf/areas\\_of\\_focus\\_jan\\_23\\_12.pdf](http://www.gov.mb.ca/conservation/waterstewardship/licensing/pdf/areas_of_focus_jan_23_12.pdf)

Sincerely,

**Dan Roberts**  
Water Resource Officer  
Water Control Works and Drainage Licensing Section  
Conservation and Water Stewardship  
Box 6000, Building #1180, 75 - 7th Avenue,  
Gimli, MB R0C 1B0  
Cell: (204) 281-2122

### **Response to Comment 2**

Much of the earth works/water control infrastructure related to the planned mining activities is already in place from previous operating period.

Any new water control earth works will be identified and permitted in advance of physical activity taking place.



### **Comment 3 – Adara Kalta, Crown Land Programs and Policy Manager**

**Winsor, Jennifer (CWS)**

**Subject:** FW: EA Proposal - Auriga-Puffy Mine - File: 2815.10

**From:** Kalta, Adara (CWS) On Behalf Of +WPG1212 - Conservation\_Circulars (CWS)  
**Sent:** August-22-14 9:32 AM  
**To:** Winsor, Jennifer (CWS)  
**Cc:** Armstrong, Mike (CWS)  
**Subject:** FW: EA Proposal - Auriga-Puffy Mine - File: 2815.10

Hello Jennifer,

In addition to the comments outlined below, please include the following:

Page	Issue	Comments
16-17	Boreal Caribou	This assessment references several documents with outdated information on caribou. Manitoba recently released a draft version of "Conserving the Icon of the Boreal – Manitoba's Boreal Woodland Caribou Recovery Strategy". This updated document includes new information on caribou ranges, locations and conservation status assessments.
16-17	Boreal Caribou	Within the mapped project area and project region, historical data, and currently deployed telemetry collars show sporadic use by boreal caribou. This use is limited in duration and time and does not represent any core areas. Use of this area is generally limited to animals of the Naosap-Reed Herd. The Kississing herd to the north and the Wheadon Herd to the east occur in proximity to the project area and there may be potential use by these groups.
16-17	Boreal Caribou	The mine occurs in an area with existing disturbance. Due to the current level of industrial development there will be little additive effect with the development of this new mine.

Thank you.

- Adara  
Ph:204-945-6301

### **Response to Comment 3 provided by AECOM (full Memorandum attached)**

*"this assessment references several documents with outdated information on caribou. Manitoba recently released a draft version of "Conserving the Icon of the Boreal - Manitoba's Boreal Woodland Caribou Recovery Strategy". This updated document includes new information on caribou ranges, locations and conservation status assessments."*

The "Conserving the Icon of the Boreal - Manitoba's Boreal Woodland Caribou Recovery Strategy" was not available in 2012 when AECOM completed the terrestrial work. AECOM is of the opinion that this is marginal caribou habitat and adverse impacts to any local herd are unlikely.

*Within the mapped project area and project region, historical data, and currently deployed telemetry collars show sporadic use by boreal caribou. This use is limited in duration and time and does not represent any core areas. Use of this area is generally limited to animals of the Naosap-Reed Herd. The Kississing herd to the north and the Wheadon Herd to the east occur in proximity to the project area and there may be potential use by these groups.*

AECOM agrees.

The mine occurs in an area with existing disturbance. Due to the current level of Industrial development there will be little additive affect with the development of this new mine.

AECOM agrees.

## **Comment 4 – Adara Kalta, Crown Land Programs and Policy Manager**

**From:** Kalta, Adara (CWS) On Behalf Of +WPG1212 - Conservation\_Circulars (CWS)  
**Sent:** August-21-14 9:43 AM  
**To:** Winsor, Jennifer (CWS)  
**Subject:** EA Proposal - Auriga-Puffy Mine - File: 2815.10

Hello Jennifer,

The Lands Branch provides the following comments:

- Monitoring to continue until all aspects of the alteration are decommissioned and must be to the satisfaction of the Environment officer; 6 years of post-closure monitoring will most likely not be sufficient.
- Decommissioning to occur in accordance with Mine Closure Reg. 67/99
- Open pits must be progressively rehabilitated as indicated in schedule.
- Financial security must be sufficient to cover all costs of site rehabilitation if project does not proceed
- Work Permits are required under *The Wildfire Act*, and *The Crown Lands Act* for clearing timber and removing overburden. Work Permits can be obtained Cranberry District Office.
- Without limiting other necessary regulatory approvals the proponent shall, prior to development on Crown land, apply for and obtain the appropriate land tenure allocations in accordance with *The Crown Lands Act*, from the Crown Land and Property Agency. It is noted that conditional general permits issued under *The Crown Lands Act* are in good standing; GP 4134/4058/2799/and 3758.
- Approvals will be required for any amendments to the existing proposal.

Thank you for the opportunity to review.

**Adara Kalta**  
Crown Land Programs and Policy Manager  
Lands Branch | Conservation and Water Stewardship  
Box 25, 200 Saulteaux Crescent | Winnipeg, MB R3J 3W3  
Cell: (204) 948-6301 | F: (204) 948-2197

## **Response to Comment 4**

We acknowledge our obligations under Mine Closure Reg. 67/99 and we undertake to complete progressive decommissioning and post closure monitoring of the proposed open pits to the satisfaction of both the Director of Mines and the Environment Officer. The closure plan filed with the Director of Mines will be updated to reflect the addition of the open pits.

Our current financial analysis, including both the existing components and the addition of the proposed pits, factors in mine closure, reclamation and monitoring costs of \$5.8 million. A substantial amount of this is expected to be posted as an initial bond and the balance to funded be funded from operating cash flow over the course of the 10 year mine life.

All required permits related to surface works not already held will be applied for in advance of physical activity on site taking place.

## **Comment 5 – Cal Liske, Manitoba Mineral Resources**

**Winsor, Jennifer (CWS)**

**Subject:** FW: EAP for review and comment - Auriga-Puffy Mine File: 2815.10

**From:** Liske, Cal (MMR)  
**Sent:** August-22-14 3:30 PM  
**To:** Winsor, Jennifer (CWS)  
**Subject:** RE: EAP for review and comment - Auriga-Puffy Mine File: 2815.10

Hi Jennifer,  
I only have a couple of comments:

1. With respect to the open pits and current underground workings, will a pillar be created between the bottom of the open pit(s) and current mine openings which would be of concern? If a pillar is to remain, what actions will take place regarding design to ensuring long term stability?
2. Upon reopening of the mine, a complete revised closure shall be re-submitted to the Mines Branch.

Regards,  
Cal.

**Cal Liske, P. Eng.**  
Acting Director,  
Chief Mining Engineer  
Manitoba Mineral Resources  
Mines Branch  
360-1395 Ellice Avenue  
Winnipeg, MB R3G 3P2  
Phone (204) 945-6517  
Cell (204) 619-3604  
Fax (204) 948-2578  
Email: [Cal.Liske@gov.mb.ca](mailto:Cal.Liske@gov.mb.ca)

### **Response to Comment 5**

The proposed stopes would be developed using the Minrail stoping system. Some of these stopes would be developed below or adjacent to a proposed open pit. These stopes would be developed starting from a ramp or a level and driven up-gradient to mine the variable thickness, gently dipping vein. These stopes do not need to break into a pit and a crown pillar normally would be expected to be left in place between a stope and the pit floor/ pit wall or the overburden interface in non-pit areas.

The current thinking is to backfill stopes that would have other stopes developed beside them, and other stopes requiring fill for stability purposes. Stope and crown pillar stability would be assessed with the need for long-term stability (closure planning related) taken into account. The near surface stopes are likely also to be backfill-supported, as some pits may be partially or totally backfilled with suitable waste rock. The design of such a crown pillar would take into consideration the geology, rock and fill properties, stope and pit geometry, stope span and support system, including possible cable bolting in the Minrail center access heading, rib pillars, stope backfilling, pit slope, pit design, pit operations, pit backfill, projected eventual mine water levels, long term stability criterion and other factors, with geotechnical designs developed by a competent geotechnical engineer.

We expect to complete and file an updated closure plan following the re-opening of the mine.

**Comment 6 – Caroline Boissenneault, Wildlife Branch - Conservation and Water Stewardship**

**Winsor, Jennifer (CWS)**

---

**From:** Boissenneault, Caroline (CWS)  
**Sent:** August-26-14 9:19 AM  
**To:** Winsor, Jennifer (CWS)  
**Subject:** Emailing: EAP for review and comment - Auriga-Puffy Mine File 2815.10.msg due aug 26.msg  
**Attachments:** EAP for review and comment - Auriga-Puffy Mine File: 2815.10

Hello,

Wildlife Branch has reviewed the EA proposal and has the following comments to offer:

1) The wildlife and vegetation surveys were done in September. Many species of plants and animals are not detectable at this time of year (eg: breeding birds and many plant species). I strongly recommend additional wildlife surveys at other times of year when detectability is greatest.

2) Flooded Jellyskin, a federally threatened lichen, may be present in the area. The report indicates it was not observed during terrestrial surveys. However, it is unlikely it would be found during terrestrial surveys since it is a semi-aquatic species that typically grows on shorelines that are periodically flooded. Dedicated surveys in suitable habitat should be conducted for this species.

Thank you.

Caroline Boissenneault  
Conservation and Water Stewardship  
Wildlife Branch  
Tel. : 284-945-6810  
[Caroline.boissenneault@gov.mb.ca](mailto:Caroline.boissenneault@gov.mb.ca)

**Response to Comment 6 provided by AECOM (full Memorandum attached)**

With Respect to the timing of the survey.

The project area consists of fen habitat surrounded by rocky uplands. The disturbances to habitat will occur primarily in the fen areas. AECOM is not aware of any birds that ground nest in the fen habitat as nesting is much more likely in the rocky uplands, especially in the mixed woods environment. Fen plant species tend to be less seasonal than upland plants and therefore AECOM believes to have observed the plant species that would be there for the spring and summer growing seasons.

As far as disturbance to the surrounding rocky uplands, since the area of disturbance is significantly smaller, the mitigation strategies proposed should be sufficient to ensure minimum disturbance in those areas. AECOM would recommend timing of construction activities and a pre-construction nesting survey for disturbance in these areas.

With respect to Flooded Jellyfish Lichen.

AECOM records indicate that both survey areas were fens bounded by rocky uplands, not open water lakes with rocky shorelines. It is very unlikely that the Flooded Jellyskin lichen would occur in this area. The terrestrial surveys did include in the shoreline of Fire Pond.

## Comment 7 – Dr. Michael Isaac, Medical Officer of Health, Northern Regional Health Authority

### Potential health considerations for Public Registry 2815.10 - Auriga Gold Corporation - Puffy Lake Mine

By Dr. Michael Isaac, BSc., MD, CCFP, MPH, FRCPC  
Medical Officer of Health  
Northern Regional Health Authority  
867 Thompson Drive South  
Thompson MB R8N 1Z4  
Phone: 204-612-6145

#### Approach

1. Review of 'Environmental Baseline Assessment' and accompanying figures
2. Review of 'Notice of Alteration' and accompanying figures
3. Application of tool 'HIA Screening Checklist of Health Determinants' to screen for health considerations in the above information.

#### Preamble

This document is meant to provide feedback on the planned re-development of Puffy Lake mine as part of the regular environmental approvals process led by Manitoba Conservation and Water Stewardship. As a Medical Officer of Health, my role is to apply a 'health lens' to this development in an attempt to identify any potential health effects so that planning may take place to protect and promote the health of the public. Potential health effects in each domain below were considered based on the screening checklist referenced above.

#### Biophysical Environment

1. Housing conditions – where will employees be housed? Page 7 of The Notice of Alteration states that there will be 60-100 employees (+/- families) housed in the community of Sherridon, Manitoba. Recent population statistics indicate a recent population in Sherridon of 80 people, with 36 private dwellings.<sup>(1)</sup> Based on the employee numbers provided, the community of Sherridon could potentially see a large increase in its population temporarily (mine to be operable for a period of 8-9 years). The magnitude of the increase appears to be in the range of 60 - 300 people depending on how many family members accompany mine employees. Consideration as to where employees and their families will be housed, and how this housing may affect local residents should be taken into account. Specifically consideration should be given to:
  - a) Fire and building safety
  - b) Security
  - c) Sanitation
  - d) Indoor air quality (including radon and asbestos)
  - e) Crowding
  - f) Affordability and accessibility of housing for employees and other community members

#### Social and Economic Environment

1. Employment and Household economic resources – there would appear to be a significant opportunity in this realm for community members who may be employed by the mine, or who may experience economic spin-offs.
  - a) Will there be consideration given to hiring local community members?
  - b) Will the jobs provided engender job stability and sufficient income?
  - c) Will there be access to financial services for employees?
  - d) How will operation of the mine affect economic disparities in the area?
  - e) How will employment equity be addressed?
2. Social networks
  - a) Will an increase in the population of Sherridon of temporary residents lead to a change in social cohesiveness in the community?
3. Violence
  - a) Will there be an increase in street violence in Sherridon, or family and relationship violence?

#### Health related behaviours and lifestyles

- 1) Will the local community be able to support employees in having a healthy diet, physical activity, recreation, and safe means of transport?
- 2) Will there be occupational and community capacity to deal with potential substance use issues including alcohol, and/or prescription/illicit drugs?
- 3) Will there be occupational and community capacity to address tobacco use from an individual and health protection standpoint?
- 4) Will there be occupational and community capacity to support positive mental health?

#### Health Care and Public Health Systems

1. Access to health services
  - a) Will local health services be able to handle the extra capacity needed due to a population increase in Sherridon as well as potential occupational health issues from the mine site? These services include emergent/urgent care issues as well as primary care services such as family planning, mental health services, and maternal/infant/child health.
  - b) Is there sufficient public health infrastructure in place to handle potential public health issues and prevention initiatives?

#### Other public services

1. Education
  - a) Will the local education system be able to handle a potential increase in enrollment?
  - b) Will health staff capacity be sufficient to meet school health needs?
2. Childcare
  - a) Will there be sufficient child care spaces in Sherridon or nearby communities for employee family members and others in the community?

2. Working conditions – The nature of the operation may lend itself to occupational health and safety issues. Specifically, attention should be paid to:
  - a) Structural safety (especially for underground operations)
  - b) Air quality (including, but not limited to, diesel exhaust, dust, silica, carbon monoxide)
  - c) Exposure to toxins/heavy metals in mine tailings
  - d) Ergonomics
  - e) Work task safety
  - f) Noise
  - g) Psychosocial – including stress from night shift, extended shifts, overtime, isolation
3. Water quality – Water quality considerations should be addressed for both the site and community where employees and their families may be housed.
  - a) Will the water system in Sherridon be able to handle the extra capacity of employees and families housed in the community?
  - b) Will drinking water be provided at the mine site and if so will it be safe to drink? Will bottled water be brought in from off site or will there be a private/semi-private/or public water system used at the mine?
  - c) Will mine operations lead to environmental contamination of aquatic species which humans may consume as food?
4. Outdoor Air Quality
  - a) Will there be nuisance odours in the nearby communities of Sherridon/Cold Lake?
  - b) Will mine operations or an increase in vehicular traffic cause a significant increase in allergens/irritants (ex. diesel exhaust, particulates) for nearby community members or employees who are exposed?
5. Noise
  - a) Will vehicular traffic cause an undue amount of noise in nearby communities
6. Solid waste
  - a) Will members of nearby communities be exposed to mine tailings through trapping, hunting, fishing, or other occupational or recreational activities?
  - b) Will mine tailings lead to contamination of terrestrial species which may be consumed by local community members?
  - c) Will the solid waste and waste water systems in Sherridon be able to handle an increase in volume due to an increase in the population?
7. Food supply
  - a) Will a temporary increase in the population of Sherridon compromise access to a sufficient supply of safe and nutritious food?

#### 3. Public Safety

- a) Will there be sufficient police, fire, and emergency response preparedness for both the mine site and community of Sherridon?

#### Additional comments:

Resource extraction activities can lead to a temporary increase in the population of nearby communities, which no doubt can have positive impacts for local business and government. However, resource extraction developments can also lead to a phenomenon called 'the boomtown effect' which can cause unintended negative consequences for local communities. (2-5) Extensive work in this area has occurred over that past 4 decades, most recently with respect to shale gas developments. Mining operations in many ways are analogous to energy extraction projects when it comes to local community impact. The boomtown effect is described as (5):

"This effect occurs when a rapid change in population, industrialization and economic prosperity also leads to a host of social ills that impact community health. These can include increased rates of crime, drug and alcohol abuse, sexually-transmitted infections (STIs), and domestic violence; inadequate supply and quality of housing; increased cost of living; increased community dissatisfaction; increased mental health and social services care loads; increased hospital admissions; insufficient infrastructure; and insufficient capacity in public services, including policing, local government, social services, and health care." (Pg. 5)

Given the small size of Sherridon, and its relative isolation, the re-development of Puffy Lake mine could potentially have a large impact on the community. Attempts should be made to anticipate these impacts, and planning should occur to prevent or mitigate negative consequences in the community.

#### References

- (1) Statistics Canada. 2012. Sherridon, Manitoba (Code 460046) and Manitoba (Code 46) (table). Census Profile. 2011 Census. Statistics Canada Catalogue no. 98-316-XWE. Ottawa. Released October 24, 2012. <http://www12.statcan.gc.ca/census-recensement/2011/dp-pd/prof/index.cfm?lang=5> (accessed July 30, 2014).
- (2) Freudenburg WR, Bactagaluji LM, Landolt-Young C. Mental health consequences of rapid community growth: a report from the longitudinal study of boomtown mental health impacts. J Health Hum Resour Adm 1982 Winter;4(3):334-352.
- (3) Goldenberg S, Shoveller J, Ostry A, Koehoorn M. Youth sexual behaviour in a boomtown: implications for the control of sexually transmitted infections. Sex Transm Infect 2008 Jun;84(3):220-225.
- (4) Jacquet J. Energy Boomtown and Natural Gas: Implications for Marcellus Shale Local Governments and Rural Communities. NERC RD Rural Development Paper 2009 January;43. Accessed on July 30, 2014 from: <http://energy.wilkes.edu/PDFFiles/Issues/Energy%20Boomtowns%20and%20Natural%20Gas.pdf>
- (5) Office of the Chief Medical Officer of Health New Brunswick Department of Health. Chief Medical Officer of Health's Recommendations Concerning Shale Gas Development in New Brunswick. 2012. Accessed on July 30, 2014 from: [http://www2.gnb.ca/content/dam/gnb/Departments/h-s/pdf/en/HealthyEnvironments/Recommendations\\_ShaleGasDevelopment.pdf](http://www2.gnb.ca/content/dam/gnb/Departments/h-s/pdf/en/HealthyEnvironments/Recommendations_ShaleGasDevelopment.pdf)

## **Response to Comment 7**

Thank you for the feedback and questionnaire. It will definitely form a basis for our longer-term, Community and Social Responsibility (CSR) program. At this point most of the questions related to potential impact on the closest community of Sherridon, i.e. water quality, outdoor air quality, noise, food supply and solid waste. Such impacts are forecast to be minimal to negligible given the distance from the mines site. Standard mitigation efforts (sound barriers, dust suppression etc.) will be utilized and these factors will be monitored during start-up and operations.

With respect to housing conditions we would expect to see a net improvement through new investment and increased maintenance of homes in the community resulting from improved economic conditions and a reduction in local unemployment.

Minnova believes that a sustainable future depends on a strong local workforce. As such we believe there will be a net improvement in the social and economic environment as a result of new employment and contracting opportunities. Minnova intends to work closely with the local communities (Sherridon-Cold Lake and Pukatawagan) to recruit and train local workers, engage local and First Nation's contractors. Our long term goal is to build on existing skill sets available in the local communities and implement a training program to develop a sustainable local work force for the duration of the mine. Minnova also recognizes the value in supporting local businesses and will work with local suppliers and service providers to increase their capacity to provide reliable services and supplies at competitive prices. We anticipate that a large percentage of all goods and services procured for the re-start and operation of our Maverick Gold Project will originate within Manitoba and from local businesses.

### Onsite Health and Safety and Environment

Our current development and operating plan is very comparable to the original operations and will comply with provincial the *Workplace Safety and Health Act*, *Onsite Wastewater Management System Regulation* (Manitoba Regulation 83/2003) and all other applicable *Continuing Consolidation of the Statutes of Manitoba* or CCSM Acts in compliance with industry standards.

### Public Health and Safety

The mine site will establish onsite health services (nurse, emergency medical station, ambulance emergency transportation infrastructure (helicopter pad), etc.). Members of the workforce who reside in the region will also have access to local health services available in the town of Sherridon.

## Memorandum

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Subject AECOM TAC Response

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From Mark Hadfield

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Date September 19, 2014 Project Number 60320005.505

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AECOM Canada Ltd. (AECOM) has reviewed the Puffy Lake Mine Environment Act Proposal Technical Advisory Committee comments for file 2815.10 and has prepared the following responses.

**Adara Kalla**  
**Crown Lands Programs and Policy Manager**  
**Lands Branch Conservation and Water Stewardship**

*“this assessment references several documents with outdated information on caribou. Manitoba recently released a draft version of “Conserving the Icon of the Boreal - Manitoba’s Boreal Woodland Caribou Recovery Strategy”. This updated document includes new information on caribou ranges, locations and conservation status assessments.”*

The “Conserving the Icon of the Boreal - Manitoba’s Boreal Woodland Caribou Recovery Strategy” was not available in 2012 when AECOM completed the terrestrial work. AECOM is of the opinion that this is marginal caribou habitat and adverse impacts to any local herd are unlikely.

*Within the mapped project area and project region, historical data, and currently deployed telemetry collars show sporadic use by boreal caribou. This use is limited in duration and time and does not represent any core areas. Use of this area is generally limited to animals of the Naosap-Reed Herd. The Kississing herd to the north and the Wheadon Herd to the east occur in proximity to the project area and there may be potential use by these groups.*

AECOM agrees.

*The mine occurs in an area with existing disturbance. Due to the current level of industrial development there will be little additive affect with the development of this new mine.*

AECOM agrees.



**Caroline Boissonneault**  
**Conservation and Water Stewardship**  
**Wildlife Branch**

*The wildlife and vegetation surveys were done in September. Many species of plants and animals are not detectable at this of year (eg: breeding birds and many plant species). I strongly recommend additional wildlife surveys at other times of year when detectability is greatest.*

The project area consists of fen habitat surrounded by rocky uplands. The disturbances to habitat will occur primarily in the fen areas. AECOM is not aware of any birds that ground nest in the fen habitat as nesting is much more likely in the rocky uplands, especially in the mixed woods environment. Fen plant species tend to be less seasonal than upland plants and therefore AECOM believes to have observed the plant species that would be there for the spring and summer growing seasons.

As far as disturbance to the surrounding rocky uplands, since the area of disturbance is significantly smaller, the mitigation strategies proposed should be sufficient to ensure minimum disturbance in those areas. AECOM would recommend timing of construction activities and a pre-construction nesting survey for disturbance in these areas.

*Flooded Jellyskin, a federally threatened lichen, may be present in the area. The report indicates it was not observed during terrestrial surveys. However, it is unlikely it would be found during terrestrial surveys since it is a semi-aquatic species that typically grows on shorelines that are periodically flooded. Dedicated surveys in suitable habitat should be conducted for this species.*

AECOM records indicate that the survey areas consist of fens bounded by rocky uplands. No open water lakes with that periodically flood were observed, including the shoreline of Fire Pond. The Committee on the Status of Endangered Wildlife in Canada defines the Flooded Jellyskin habitat as “restricted to periodically inundated substrate, usually the bark of trees along the banks of ponds and waterways, and in wet lowland forests flooded every spring. It occurs almost exclusively on the bark of living deciduous trees, and always below the high-water mark”. Since this habitat is not within the Project footprint, including Fire Pond, it is very unlikely that the Flooded Jellyskin lichen would occur in this area.

**Mark Hadfield, B.Sc.**  
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