Manitoba
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

**File: 5463.10**

June 2, 2014

David Mhina Mchaina, Ph. D., P.Eng.
80 Richmond Street West
Suite 1802
Toronto, ON M5A 2A4

Dear Mr. Mchaina:

**Re: Victory Nickel Inc. - Minago Project Tailings and Waste Rock Management Area Relocation – Environment Act Proposal**

The initial review of the Victory Nickel Inc. - Minago Project Tailings and Waste Rock Management Area Relocation Environment Act Proposal (EAP) has been completed.

The review has generated requests for additional information. Please address and provide responses to the comments from the Technical Advisory Committee (TAC) that are presented in the attached items. The EAP review process will continue upon receipt of your response.

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

Yours truly,

***"original signed by"***

Jennifer Winsor, P.Eng.
Environmental Approvals Branch

Enclosures

c. Chris Beaumont-Smith, A/Director, Mines Branch – Mineral Resources
Don Labossiere, Director, Compliance and Enforcement – Conservation and Water Stewardship
Public Registries

**Winsor, Jennifer (CWS)**

**From:** Matthews, Rob (CWS)
**Sent:** April-02-14 9:38 AM
**To:** Winsor, Jennifer (CWS)
**Cc:** Anderson, Kristina (CWS)
**Subject:** RE: Victory Nickel advert for web and for TAC distribution - File: 5463.10

No concerns.

Rob Matthews, Water Use Licensing Section, CWS.

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**From:** Tembo, Soni (CWS)
**Sent:** April-01-14 1:20 PM
**To:** Schindler, Dennis (MAFRI); Kaita, Adara (CWS); Labossiere, Don (CWS); Molod, Rommel (CWS); Streich, Laurie (CWS); Kelly, Jason (CWS); Keenan, Phil (CWS); Missyabit, Ron (CWS); Page, Elaine (CWS); Phipps, Graham (CWS); Janusz, Laureen R (CWS); Stibbard, James (CWS); Matthews, Rob (CWS); Reimer, Geoff P (CWS); Cunningham, Neil (CWS); Roberecki, Susan (HEALTH); Peck, Angela (HEALTH); +WPG969 - MIT Environmental Services Section (MIT); Allum, Brad (MIT); Beaumont-Smith, Chris (IEM); Lowdon, Keith (IEM); Schafer, Dave (OFC); Kubish, Cheryl (OFC); Firlotte, Nicole (CWS); Boissonneault, Caroline (CWS); Poleschuk, Larry (LAB); +THO407 - Thompson CRP (MMG); Roberts, Wayde (CWS); Armstrong, Mike (CWS); 'Shauna.Sigurdson@ceaa-acee.gc.ca'; Crone, Jim (MMG); +WPG574 - HRB (TCHSCP)
**Cc:** Winsor, Jennifer (CWS)
**Subject:** Victory Nickel advert for web and for TAC distribution - File: 5463.10
**Importance:** High

Your review and comments would be appreciated for the attached Proposal submitted pursuant to *The Environment Act:*

http://www.gov.mb.ca/conservation/eal/registries/5463.1minago/index.html

The contact person assigned to co-ordinate review and assessment of the Proposal is: **Jennifer Winsor: 204-945-7012.**

Email replies are programmed to automatically deliver to **jennifer.winsor@gov.mb.ca**

Please indicate to the contact person if you are unable to review the proposal. A non-reply will be considered as indicating your department has reviewed the proposal and has no concerns.

Any comments you have on the Proposal should be emailed by **May 19, 2014.**

**No hard copies will be provided**

Thank you.

*Sent on behalf of:*

*Jennifer Winsor, P.Eng.*

**Winsor, Jennifer (CWS)**

**From:** Roberts, Dan (CWS)
**Sent:** April-07-14 1:45 PM
**To:** Winsor, Jennifer (CWS)
**Subject:** Victory Nickel advert for web and for TAC distribution - File: 5463.10

All water control works (dykes, dams, culverts, drains, etc.) associated with this project 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

Sincerely,


Dan Roberts
Water Resource Officer
Water Control Works and Drainage Licensing Section
Conservation and Water Stewardship
Box 640, 201 Fourth Ave. S., Swan River, MB R0L 1Z0
Cell: (204) 281-2122, Fax: 734-3733

# Application for Licence to Construct Water Control Works

FORM 1: Revised: July 14, 2009

Manitoba Water Stewardship

Applicant Name (s) _____

Company Name _____ Telephone No. _____

Mailing Address _____ Postal Code _____ Cell Phone No. _____

Location of Residence _____ Fax No. _____ E-mail _____

## A. DEFINITIONS

1) Pursuant to ***The Water Rights Act***: **WATER CONTROL WORKS** are defined as any dyke, dam, surface or subsurface drain, drainage, improved natural waterway, canal, tunnel, bridge, culvert, borehole or contrivance for carrying or conducting water that (a) temporarily or permanently alters or may alter the flow or level of water, including but not limited to water in a water body, by any means, including drainage, or (b) changes or may change the location or direction of flow of water, including but not limited to water in a water body, by any means, including drainage.

2) **MINOR WATER CONTROL WORKS** (as defined by policy) are those works that meet the following criteria:

Respecting drainage, minor water control works:

- Are constructed solely on lands owned or controlled by the applicant without negative impact to other lands.
- Meet industry accepted engineering and construction standards.
- Involve excavation of organic soils only and do not lower water levels more than 30 cm (1 foot) below natural ground level.
- Are proven acceptable to municipal or provincial governments if water control works affect the location or flow of water on municipal or provincial property.
- Are proven acceptable to the landowner of lands on which they are constructed if applicant does not own the land.
- Do not occur in naturally vegetated riparian areas.
- Do not occur on Class 6 and 7 soils as defined by Canada Land Inventory (CLI) Soil Capability for Agriculture (1965).
- Do not alter the natural state of seasonal, semi-permanent or permanent marshes (Classes III, IV, V – Stewart and Kantrud marsh classification system).

Respecting dams, minor water control works:

- Are constructed solely on lands owned or controlled by the applicant without negative impact to other lands.
- Meet industry accepted engineering and construction standards.
- Are located within artificially constructed drainage channels.
- Are less than 1.5 meters in height and do not raise the spill elevation of a wetland above natural ground level.

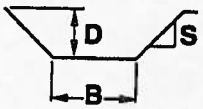
Respecting Infrastructure installations, minor water control works:

- Are constructed solely on lands owned or controlled by the applicant without negative impact to other lands.
- Do not alter the natural state of seasonal, semi-permanent or permanent wetlands (Classes III, IV, V – Stewart and Kantrud marsh classification system).
- Meet industry accepted engineering and construction standards.
- Do not change the hydraulic capacity of the structure by more than 15%.
- Includes replacement of culverts at the same location and elevation as the previous culvert.

## B. PHOTO/SKETCH/PLANS/DRAWING

All Water Rights Act license applications for construction of WATER CONTROL WORKS must include a photo, sketch, plan and/or drawing that incorporates:

1) Location of effected water bodies, maximum depths, approximate sizes, complete or partial drainage
2) Proposed drain location, length, depth (D), bottom width (B), and side slopes (S)
3) A topographic survey, if the magnitude of the project results in a request for survey information by Water Stewardship staff
4) Location of designated spoil sites
5) Flow direction of nearby watercourses
6) Description and location of proposed control structures and operation schedule (if applicable)
7) Road and culvert locations (including culvert sizes)
8) Legal descriptions and landowner names of surrounding/affected lands
9) North arrow
10) Industry accepted engineering and construction standards




For dam projects, except those that meet the definition of minor water control works, a copy of design drawings and decommissioning plan designed by a professional engineer registered to practice in Manitoba. Dams that have the capacity of less than 50 cubic decameters (40 acre feet) must be constructed to industry accepted engineering and construction standards but may be subject to less stringent reporting standards. Please contact either of the Manitoba Water Stewardship offices listed below for further details.

## C. LOCATION of Works:

1) Municipality/Parish _____ 2) Conservation District (if applicable) _____

3) Location of water control works (include ¼ section, township and range, river lots, sub-division, or other legal description)

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| LEGAL SUBDIVISION | QUARTER | SECTION | TOWNSHIP | RANGE | E/W | LOT | BLOCK | PLAN |
| | | | | | | | | |

Or otherwise described as _____

4) Identify water body, natural waterway, or drain that water flows into (if known) _____

**D. DESCRIPTION of Works:**

1) Describe your proposal and its purpose (Please include any methods to control outflow):

_____

_____

_____

2) Does the proposed project meet the definition of minor water control works? ☐ Yes ☐ No
(See definition section A)

3) Is a bio-security plan in place for the subject property? ☐ Yes ☐ No

4) Will drainage/lowering of a slough, pond or lake be undertaken? ☐ Yes ☐ No

a. If yes, please indicate the following:
What is the total estimated area of water? _____ Acres _____ Hectares

5) Has a survey been completed for these works? ☐ Yes ☐ No

a. If yes, please attach a copy to this application

8) Provide details on sediment and erosion control plan(s). _____

_____

_____

**E. LANDOWNER Approvals:**

1) Proposed water control works are located on: ☐ Private Property ☐ Municipal Property ☐ Crown Land

2) The applicant is the: ☐ Registered Landowner ☐ Lessee ☐ Other: _____

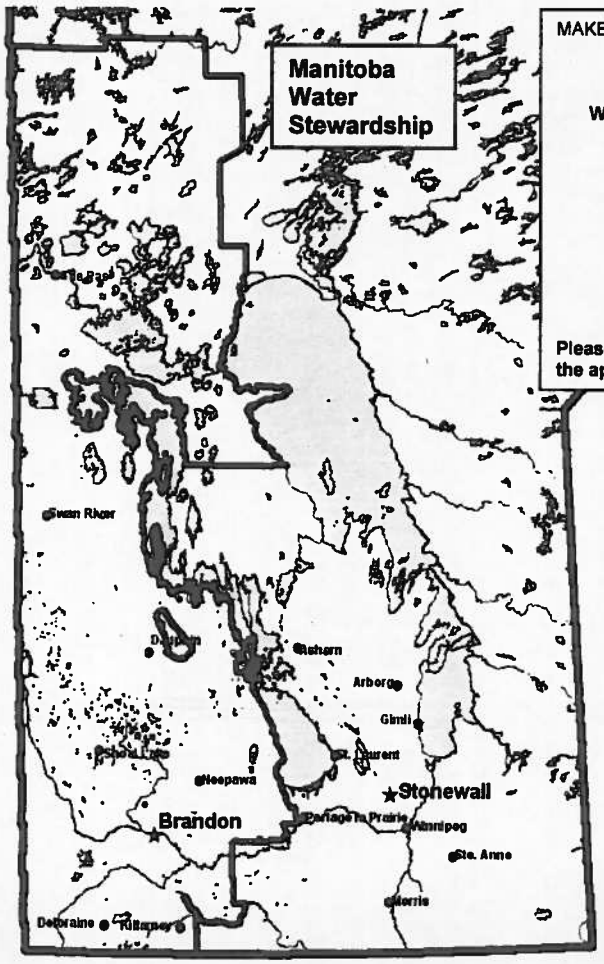
**If lessee or other, please provide registered landowner signature of approval below.**

3) Will the proposed water control works alter a water body or water level(s) on land you do not own or control?

4) Will the proposed water control works cause water to leave your land?

**If yes to either questions 3 or 4, please provide evidence of impacted landowner(s) approval below.**

| Legal Description | Landowner Name(s) (Please Print) | Signature of Approval | Date Signed |
|---|---|---|---|
| | | | |
| | | | |
| | | | |




MAKE CHEQUES PAYABLE TO: **MINISTER OF FINANCE**
FEE OF $25.00 MUST ACCOMPANY APPLICATION
CHEQUE AND APPLICATION CAN BE MAILED TO:

**WATER CONTROL WORKS & DRAINAGE LICENSING SECTION**

Box 13, 1129 Queens Avenue
Brandon, MB R7A 1L9

**OR**

Box 4556, 293 Main Street
Stonewall, MB R0C 2Z0

**Please Note: Incomplete applications may be returned to the applicant unprocessed.**

_____
Signature of Applicant

_____
Print Name

_____
Signature of Landowner (if different from Applicant)

_____
Print Name

_____
Date Signed

| FOR OFFICE USE ONLY | |
|---|---|
| | Date Received: _____ |
| | Amount Received: $ _____ |
| | Received By: _____ |
| | MRO#: |

Manitoba

# Memorandum

**Date:** April 10, 2014

**To:** Jennifer Winsor, P.Eng.
Environmental Engineer
Environmental Approvals Branch
Conservation and Water Stewardship
123 Main St., Ste. 160
Winnipeg, MB R3C 1A5

**From:** Kevin Jacobs
Water Quality Management Section
Manitoba Water Stewardship
123 Main Street, Suite 160
Winnipeg MB R3C 1A5

http://www.gov.mb.ca

**Subject:** 5463.10 - Victory Nickel Incorporated - Minago Project - Tailings and Waste Rock Management Facility Relocation

**Telephone:** 204-945-4304
**Facsimile:** 204-948-2357
**E-Mail:** Kevin.Jacobs@gov.mb.ca

Hello Jennifer,

On behalf of the water quality management section of Manitoba Conservation and Water Stewardship the proposed relocation of the planned Minago Project Tailings and Water Rock Management Facility was reviewed. Comments are limited in scope to the relocation of the tailings facility as this appears to be the only component changed from the previously licensed proposal.

The executive summary provided with the report was informative. The proponent provided a large amount of documentation in which it is not clear which portions have been changed from the original environmental assessment. For example, the documents refer to a number of dates which have since passed regarding anticipated construction and production dates. It would be helpful if the proponent were to provide a short summary on the status of this project including updating the dates within the documents provided in support of the proposed alteration.

The proposal notes the tailings management facility was originally designed to allow for seepage up to 250 $m^3$ per day which was proposed to be managed using perimeter ditching and pumping water back to the tailings facility. The new proposal despite having a much larger footprint (595 hectares versus 219 hectares) has an estimated seepage rate of 23 $m^3$ per day. The proponent is asked to comment on the reasons for this difference.

The new tailings area is proposed to be bounded by two natural ridges which are assumed to be sedimentary rock. The proponent is asked to provide information on how the hydraulic integrity of the proposed tailings impoundment will be maintained. For example are there any fractures in these natural structures which could allow supernatant tailings water to infiltrate?

The proposed tailings area is proposed for a natural wetland area. Consistent with other developments with the potential to impact wetlands it is recommended the proponent enter into a Wetland Compensation Agreement with an approved habitat conservation organization to offset the loss of wetland area associated with the proposed project.

Thank you for the opportunity to review this proposal. Should you have any questions, please do not hesitate to contact me at the above telephone number.

Manitoba

**Infrastructure and Transportation**
Highway Planning and Design Branch
Environmental Services Section
1420 – 215 Garry St., Winnipeg, MB R3C 3P3
T (204) 619-4359 F (204) 945-0593

April 14, 2014

Tracey Braun, M. Sc.
Director, Environmental Approvals Branch
Manitoba Conservation and Water Stewardship
123 Main St., Suite 160
Winnipeg, MB R3C 1A5

RE: Victory Nickel Incorporated - Minago Project - Tailings and Waste Rock Management Facility Relocation
Client File No. 5463.10

Dear Ms. Braun:

MIT has reviewed the proposal under the Environment Act noted above and we do not have any concern.

Thank you very much for providing us the opportunity to review the proposal.

Sincerely,

R. Coulter

Ryan Coulter, M. Sc., P. Eng.
Manager of Environmental Services

## Winsor, Jennifer (CWS)

**From:** Real,David [CEAA] [David.Real@ceaa-acee.gc.ca]
**Sent:** April-22-14 5:25 PM
**To:** Winsor, Jennifer (CWS)
**Cc:** Carriere,Sean [CEAA]; Tiege,Susan [CEAA]; Sigurdson,Shauna [CEAA]
**Subject:** Victory Nickel - Minago Project - Tailings and Waste Rock Management Facility Relocation - File: 5463.10

Hello Ms. Winsor,

After reviewing the Proposal, it has been determined that this project is not subject to CEAA, 2012 and the Agency will have no further involvement.

Thank you,

**David Real**
Environmental Assessment Officer
Prairie and Northern Region | Région des Prairies et du Nord
Canadian Environmental Assessment Agency | Agence canadienne d'évaluation environnementale
CDI Building 425, 10115 – 100A Street | Édifice CDI 10115, rue 100A, bureau 425
Edmonton, Alberta, T5J 2W2
David.Real@ceaa-acee.gc.ca
*Telephone | Téléphone*: 780-495-2384
*Facsimile | Télécopieur*: 780-495-2876
Government of Canada | Gouvernement du Canada

**From:** Kubish, Cheryl (OFC)
**Sent:** May-12-14 12:23 PM
**To:** Winsor, Jennifer (CWS)
**Subject:** RE: Victory Nickel advert for web and for TAC distribution - File: 5463.10

At this time, the Office of the Fire Commissioner has no concerns with respect to the relocation of the TWRMF.

Cheryl Kubish
Administrative Assistant
Office of the Fire Commissioner
508-401 York Avenue
Winnipeg MB R3C 0P8
Phone: 945-3328
Fax: 948-2089

E-Mail address: Cheryl.Kubish@gov.mb.ca

## Winsor, Jennifer (CWS)

**From:** Kelly, Jason (CWS)
**Sent:** May-13-14 5:56 PM
**To:** Winsor, Jennifer (CWS)
**Subject:** RE: Victory Nickel advert for web and for TAC distribution - File: 5463.10

Parks and Protected Spaces Branch has reviewed the proposal filed pursuant to the *Environment Act* for Victory Nickel advert for web and for TAC distribution - File: 5463.10. The Branch has no comments or concerns to offer as it does not affect any provincial parks, park reserves, ecological reserves, areas of special interest or proposed protected areas.

Jason Kelly, M.N.R.M.
Ecological Reserves and Protected Areas Specialist
Parks and Protected Spaces Branch
Conservation and Water Stewardship
Box 53, 200 Saulteaux Cres
Winnipeg, MB R3J 3W3

Phone: 204-945-4148
Cell:
Fax: 204-945-0012

Email: Jason.Kelly@gov.mb.ca

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**From:** Tembo, Soni (CWS)
**Sent:** April-01-14 1:20 PM
**To:** Schindler, Dennis (MAFRI); Kaita, Adara (CWS); Labossiere, Don (CWS); Molod, Rommel (CWS); Streich, Laurie (CWS); Kelly, Jason (CWS); Keenan, Phil (CWS); Missyabit, Ron (CWS); Page, Elaine (CWS); Phipps, Graham (CWS); Janusz, Laureen R (CWS); Stibbard, James (CWS); Matthews, Rob (CWS); Reimer, Geoff P (CWS); Cunningham, Neil (CWS); Roberecki, Susan (HEALTH); Peck, Angela (HEALTH); +WPG969 - MIT Environmental Services Section (MIT); Allum, Brad (MIT); Beaumont-Smith, Chris (IEM); Lowdon, Keith (IEM); Schafer, Dave (OFC); Kubish, Cheryl (OFC); Firlotte, Nicole (CWS); Boissonneault, Caroline (CWS); Poleschuk, Larry (LAB); +THO407 - Thompson CRP (MMG); Roberts, Wayde (CWS); Armstrong, Mike (CWS); 'Shauna.Sigurdson@ceaa-acee.gc.ca'; Crone, Jim (MMG); +WPG574 - HRB (TCHSCP)
**Cc:** Winsor, Jennifer (CWS)
**Subject:** Victory Nickel advert for web and for TAC distribution - File: 5463.10
**Importance:** High

Your review and comments would be appreciated for the attached Proposal submitted pursuant to *The Environment Act:*

http://www.gov.mb.ca/conservation/eal/registries/5463.1minago/index.html

The contact person assigned to co-ordinate review and assessment of the Proposal is: **Jennifer Winsor: 204-945-7012.**

Email replies are programmed to automatically deliver to **jennifer.winsor@gov.mb.ca**

## Winsor, Jennifer (CWS)

**From:** Stibbard, James (CWS)
**Sent:** May-14-14 10:19 AM
**To:** Winsor, Jennifer (CWS)
**Subject:** Re: 5463.10 Victory Nickel Mine EAP

Ms. Winsor,
Office of Drinking Water reviewed the above noted EAP and has no concerns with it respecting drinking water sources or safety.
If you have any questions, please call.
Regards,

**James Stibbard P. Eng.**
Approvals Engineer
Office of Drinking Water
1007 Century Street
Winnipeg MB R3H 0W4
phone: (204) 945-5949
fax: (204) 945-1365
email: James.Stibbard@gov.mb.ca
website: www.manitoba.ca/drinkingwater

## Winsor, Jennifer (CWS)

**From:** Boissonneault, Caroline (CWS)
**Sent:** May-16-14 10:29 AM
**To:** Winsor, Jennifer (CWS)
**Subject:** Emailing: Victory Nickel advert for web and for TAC distribution - File 5463.10
**Attachments:** Victory Nickel advert for web and for TAC distribution - File: 5463.10

Hello:
The Wildlife Branch has reviewed the proposal and ahs the following comments:

1) The proposed location for the new Tailings and Waste Rock Management Facility (TWRMF) is between two limestone outcrops. There are two concerns related to these outcrops:

a) rare fern species are known to occur on limestone outcrops in the region, especially on exposed limestone cliffs, ledges, and boulders. The proposal does not mention vegetation surveys of the limestone outcrops. Vegetation surveys should be conducted to determine if rare ferns are present in this area and any impacts mining operations might have on them.

b) as the report states, bat hibernacula are known in the region and are typically associated with limestone outcrops and plateaus. Bats were observed in the area during wildlife surveys, but no detailed surveys for hibernacula are mentioned in the proposal. Additional surveys of the limestone outcrops should be conducted to determine if bat hibernacula are present and any impacts mining operations might have on them.

2) While the proponent contacted the Manitoba Conservation Data Centre (to obtain rare species records) in 2007 for the original proposal, they did not contact the CDC for updated information to include in this proposal. The CDC recommends that the proponent request a data update for the project area as significant additions have been made to the CDC database over the last seven years.

Thank you.
Caroline Boissonneault
Conservation and Water Stewardship
Wildlife Branch
Tel.: 204-945-6810
Caroline.boissonneault@gov.mb.ca

Your message is ready to be sent with the following file or link attachments:

Victory Nickel advert for web and for TAC distribution - File 5463.10

Note: To protect against computer viruses, e-mail programs may prevent sending or receiving certain types of file attachments. Check your e-mail security settings to determine how attachments are handled.

## Winsor, Jennifer (CWS)

**From:** Kaita, Adara (CWS) on behalf of +WPG1212 - Conservation_Circulars (CWS)
**Sent:** May-21-14 9:47 AM
**To:** Winsor, Jennifer (CWS)
**Cc:** Hastman, David (CWS)
**Subject:** EA Proposal - Victory Nickel - Tailing & Waste Rock Management Facility Relocation - File: 5463.10

Hello Jennifer,

I apologize for the late response. Lands Branch has no concerns with the proposal to relocated the tailings and waste rock management facility, conditional upon the following:

- Onsite contractor(s) obtaining required Crown land Work Permits prior to any onsite activity commencement – including auxiliary activities (e.g., road/access development/improvement/camp site and setup /establishment).
- All access roads to be developed will require a Crown lands General Permit as per The Crown Lands Act.

It is noted that the Victory Nickel's EIS predicts that there will be no harm to the habitat in the Minago River. With the changes to the Fisheries Act, the onus is on the proponent to assess whether or not they anticipate doing serious harm to habitat. If Victory Nickel concludes that serious harm will not result then they do not need to contact DFO for a review or Authorization. However, if it is eventually concluded that serious harm resulted, the Letter of Advice that they have received earlier would not relieve them of responsibility since they were not operating under the regime described to DFO at the time the Letter was issued.

Thank you for the opportunity to review.

**Adara Kaita**
Crown Land Programs and Policy Manager
Lands Branch | Conservation and Water Stewardship
Box 25, 200 Saulteaux Crescent | Winnipeg, MB R3J 3W3
Cell: (204) 945-6301 | F: (204) 948-2197

**Winsor, Jennifer (CWS)**

The Groundwater Section has reviewed the Victory Nickel proposal and provides the following comments:

- It appears that the limestone $K_v$ and $K_h$ used the in groundwater modeling were equal (Figure 24, Golder 2009b). However based on the rock description (Sctn. 7.3.3.1.1 – "the upper 24 m of the formation is stratified ...") suggests this assumption may not be reasonable. Using equal vertical / horizontal hydraulic conductivity will affect dewatering predictions and the extent of the predicted drawdown. What evidence demonstrates that the $K_v$ and $K_h$ are equal in the carbonate aquifer? How will the modeled drawdown compare to the current prediction if $K_h > K_v$?

- The simulated drawdown cone in limestone from the Model Calibration (Figure 21, Golder 2009b) is much smaller than the observed drawdown cone as recorded for the pumping test (Figure 15B, Golder 2009b). For example the simulated 1m drawdown coverage is roughly equal to the 4m observed drawdown area which suggests that the extent of the observed 1m drawdown will much larger than shown in the simulation.
    - Note that because of the apparent under-prediction of the modeled drawdown the predicted drawdown cone for dewatering (Figure 26, Golder or Figure 7.6-19) will likely be much smaller than what will result from actual dewatering.
    - This may extend the dewatering of the carbonate aquifer (confined to unconfined conditions) to beneath the Oakley Creek. Drainage from the overburden materials would then be expected.

- The potential for sinkholes on the property exist (Sctns: 7.3.3.3.4; 7.3.3.3.6) and therefore the combination of dewatering, increased surface and overburden vertical drainage, vibration from operations and blasting may potentially result in collapse of large voids, or the piping of surface sediments into large fractures and voids within the carbonate aquifer. A contingency plan should be in place in the remote chance that if this was to occur within the stream beds or local tributaries to Oakley Creek in the immediate vicinity of mine.

- Based on the five day pumping test the report indicates in that there will be no effect on Oakley Creek due to dewatering (several sections including 7.6.11.4). Because the groundwater gradients in the bedrock will be altered to be steeply downward shallow overburden monitoring should continue during the duration of dewatering and into early post-closure in the Oakley Creek area south of the mine site to demonstrate there is no significant adverse effect from pumping and shallow dewatering. The water levels in the shallow overburden should be included in the monitoring program for this area in addition to what is proposed in 7.6.11.7 & Table 10.1-1.

- Flowing artesian conditions from the carbonate aquifer are present at some locations (7.6.3.1) but are currently confined by the overburden. In post closure it is expected that water levels will eventually return to these levels but will not be confined by the overburden as it will be removed from the pit area. Section 7.4.8.2.1 indicates that the pit will discharge directly to Oakley Creek. At that time water quality in the pit would be expected to be similar to groundwater with dilution from precipitation. Table 7.6.10 indicates the potential magnitude of effects from groundwater discharge to surface water bodies. Maintaining a high water level in the pit to balance the groundwater heads would be expected to lessen the inflow of groundwater into the pit once it is full. What plans are in place to maintain a high water level in the pit post-closure to limit the discharge of groundwater into the pit when it has been flooded?

Regards,

Graham Phipps, Ph.D., P.Geo.

Groundwater Management Section
18-200 Saulteaux Cres.
Winnipeg, MB R3J 3W3

Manitoba
Conservation and Water Stewardship