



Mackenzie Valley Land and Water Board
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Staff Report

Applicant: TerraX Minerals Inc.	
Location: Yellowknife, NT	File Number: MV2018C0023
Date Prepared: January 7, 2019	Date of Board Meeting: January 17, 2019
Subject: New Type A Land Use Permit	

1. Purpose

The purpose of this Report is to present to the Mackenzie Valley Land and Water Board (MVLWB/the Board):

- a) A new Land Use Permit (Permit) Application submitted by TerraX Minerals Inc. (TerraX);
- b) Consider the Preliminary Screening;
- c) Consider the Waste Management Plan;
- d) Consider the Spill Contingency Plan;
- e) Consider the Engagement Plan; and
- f) Consider the Closure and Reclamation Plan.

2. Background

- December 3, 2018 – Application received;
- December 7, 2018 – Application deemed complete and review commenced;
- December 27, 2018 – Reviewer comments and recommendations due and received;
- January 3, 2019 – Responses due and received;
- **January 17, 2019 – Application presented to the Board for decision, and day 41 of the 42-day timeline.**

3. Discussion

Project History and Purpose of Applications

TerraX is currently conducting mineral exploration activities under two Land Use Permits: MV20140005 and MV20160038 (see attached Maps/Figures document). As TerraX has acquired additional mineral claims and leases, and plans to expand their mineral exploration project, they have applied for a new Permit MV2018C0023 to encompass the area authorized under both current Permits, as well as additional property not included in the two existing Permits. Therefore, TerraX has applied to have one Permit covering their entire project area. In addition, TerraX has submitted a Type B Licence MV2018L2-0006 Application for the use of water for additional drilling over the expanded property. This Licence

MV2018L2-0006 application, which is still in the regulatory process, will be presented to, and considered by the Board separately.

Description of Application

The TerraX 'Yellowknife City Gold Project' (YCGP) is located immediately east, south and north of the City of Yellowknife and covers 782.23 square kilometers. The project is comprised of 164 mineral claims and 134 minerals leases. An additional four mineral claims are currently part of the federally managed Giant Remediation Project, which TerraX does not have access to. These claims are Goodwin #1 (32956), Goodwin #10 (32959), Goodwin #11 (32960) and Goodwin #12 (32961). These claims are not part of the Permit MV2018C0023 application.

Access to the YCGP area is via truck on winter roads, ATV, UTV and snow machine on existing trails, boat, and helicopter (see Figure 4 in the attached Maps/Figures document). Whenever possible, existing trails are used to gain access for the exploration and drilling activities. New access trails are only necessary based on ground/ice conditions and the location of drill targets away from exiting trails. Exploration work on the northern portion of the YCGP will be accessed by the existing secondary winter road route from Prosperous Lake to Johnston Lake (see Figure 5 in the attached Maps/Figures document).

The annual diamond drill programs are expected to drill 40 to 80 drill holes and between 10,000 and 20,000 metres with anticipated depths between 50 to 650 metres per each drill hole. The total area directly involved per each drill hole site which includes the drill, heater shack, rod sloop, and equipment is approximately 15 metres X 15 metres (225 m²).

Waste Management

All hazardous (i.e. fuels, used oils, chemicals, batteries, paint, contaminated soil), and non-mineral (i.e. black and grey water, construction materials, garbage) wastes will be contained and removed from site on a daily basis to an appropriate and approved facility. Mineral wastes, which consist of drill cuttings, will be placed in a natural depression or sump. If camp(s) is/are established, the camp(s) will be only accessible by aircraft during the summer so additional considerations will apply pertaining to the movement of waste off-site for disposal to an approved facility. Hazardous wastes will be kept in secure storage at camp. Used materials from camp will be sorted and stored in sealed containers in a designated waste management area at the camp. If materials can remain safely on site, they will be stored and backhauled on the next winter road. If not, the material will be shipped to Yellowknife via fixed-wing aircraft. There will be separate storage containers for incinerator ash, lead acid batteries, lithium batteries, oil filters, waste oil and fuel, chemical wastes, and contaminated soils. Upon arrival in Yellowknife, the materials will be expedited to the Hazardous Waste Transfer Facility operated by KBL Environmental at #17 Cameron Road in Yellowknife for proper disposal. TerraX has provided a letter of acceptance from KBL Environmental in Appendix 1 of their Waste Management Plan.

Camp

For the majority of the exploration activities, drilling will be conducted in the areas covered by the current Permits for 2019-2021. In these areas, all personnel are accommodated locally in Yellowknife and are transported to the exploration areas by truck, boat, helicopter, UTV, or ATV. Therefore, no temporary or permanent camp facilities are required. However, temporary and permanent camp facilities will eventually be required on the far northern portion of the property in the Quyta Lake to Clan Lake area. Five potential campsite locations have been identified. It is important to note that not all five campsites would be utilized at one time, it will depend on exploration results throughout the claim

block. These locations are all sandy ridges with good drainage adjacent to lakes with deep enough water for float planes to land safely. The potential camps are located on the following lakes (see Figure 7 in the attached Maps/Figures document):

- 1) Southeast corner of Quyta Lake
- 2) South end of Neck Lake
- 3) Northern end of Johnston Lake (two potential camp locations)
- 4) Southeast of Clan Lake

Equipment

The equipment listed below (Table 1) is for a range of activity from 1 to 6 drills operating under winter conditions and 1 to 9 drills operating under summer conditions.

Table 1: YCGP Equipment List

<u>Type and Number</u>	<u>Size</u>	<u>Purpose</u>
25HH, 30HH, DD50 or H2000 Diamond Drills (6 to 9)	23,000 to 25,000 lbs. each	Carry out drilling
Sloop for Equipment (6-9)	Skid mounted, approximately 3 ton capacity each	Carry drill rods, bits and consumables
Electric water pump and 1000m of water line (6-9)	3-5 hp motor with up to 1000m of hose per drill with approximate weight of 1000 lbs.	Provide water for drill rig
Insulated pump shack with fuel tank and propane bottles (6 to 9)	Approximately 1,5000 to 2,000 lbs.	Required during winter conditions to keep water pump and water lines from freezing.
Insulated heat shack for water lines with fuel tank and propane bottles (6 to 9)	Approximately 1,5000 to 2,000 lbs.	Required during winter when the water pump is further away from the drill in order to keep water lines from freezing.
Insulated heat shack for each drill with fuel tank (6 to 9)	Approximately 1,5000 to 2,000 lbs.	Required during winter to provide heat to the drill.
Drill cuttings tank (6-9)	Approximately 1,5000 to 2,000 lbs.	Used to collect drill cuttings that are then pumped to a natural land based sump from either a land or ice based drill rig
Portable heated toilets (1 to 3)	Approximately 500 lbs. each	For use with the drilling to minimize impacts
Cuttings separator unit inside a wooden shack or a steel container with fuel tank and generator (1-3)	Approximately 8,000 to 10,000 lbs.	Used to collect drill cuttings that are then removed to a natural land based sump. This unit is used to minimize water usage.
D-6 Dozer (1-3)	Approximately 29,000 lbs. each	For moving drills and equipment
Marooka (3-5)	Approximately 32,000 lbs. each	For moving drills and equipment
Skidder (1-3)	Approximately 18,000 lbs. each	For moving drills and equipment
Snowcat with 8 way snow plow (1-2)	Approximately 18,000 lbs. each	For building and grooming ice roads and portages in winter

Ardco water truck with large flotation tires and a V snow plow (1-2)	Approximately 17,000 lbs.	For building ice roads, drill pads, and portages in winter
Electric and diesel powered water pumps with up to 1000 metres of water line (6 to 9)	Approximately 100 to 200 lbs.	For building ice roads, drill pads and portages in winter
½ ton to 1.5 ton, 4 x 4 wheel drive trucks (6 to 9)	Approximately 1,000 to 3,500 lbs.	For moving personnel, light weight drill supplies, fuel, and drill core
¾ ton 4 x 4 wheel drive trucks with a 6 way snow plow (1-2)	Approximately 1,500 to 2,000 lbs. each	For clearing lake ice and grooming ice roads
Bombardier tracked Ski dozer with 6-way angle plow (1)	Approximately 7,000 lbs.	For building ice roads, drill roads and portages in winter
1 ton dump truck (1)	Approximately 2,000 lbs.	For removing snow and ice from drill site clean-ups
Tracked skid steer loader (1)	Approximately 9,000 lbs.	For removing snow and ice from drill site clean-ups
Snow machines with small metal sleds (6 to 9)	Approximately 250-350 lbs. each	For moving personnel, light weight drill supplies, fuel and drill core
Cuttings separator unit inside a wooden shack or a steel container with fuel tank and generator (1-3)	Approximately 8,000 to 10,000 lbs.	Used to collect drill cuttings that are then removed to a natural land based sump. This unit is used to minimize water usage.
D-6 Dozer (1-3)	Approximately 29,000 lbs. each	For moving drills and equipment
Marooka (3-5)	Approximately 32,000 lbs. each	For moving drills and equipment
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Ardco water truck with large flotation tires and a V snow plow (1-2)	Approximately 17,000 lbs.	For building ice roads, drill pads and portages in winter
Electric and diesel powered water pumps with up to 1000 metres of water line (6 to 9)	Approximately 100 to 200 lbs.	For building ice roads, drill pads and portages in winter
½ ton to 1.5 ton, 4 x 4 wheel drive trucks (6 to 9)	Approximately 1,000 to to 3,500 lbs.	For moving personnel, light weight drill supplies, fuel and drill core
¾ ton 4 x 4 wheel drive trucks with a 6 way snow plow (1-2)	Approximately 1,500 to 2,000 lbs. each	For clearing lake ice and grooming ice roads
Bombardier tracked Ski dozer with 6-way angle plow (1)	Approximately 7,000 lbs.	For building ice roads, drill roads and portages in winter
1 ton dump truck (1)	Approximately 2,000 lbs.	For removing snow and ice from drill site clean-ups
Tracked skid steer loader (1)	Approximately 9,000 lbs.	For removing snow and ice from drill site clean-ups
Snow machines with small metal sleds (6 to 9)	Approximately 250-350 lbs. each	For moving personnel, light weight drill supplies, fuel and drill core

Fuel

Fuel storage at each drill site location is projected to consist of approximately 400 litres of diesel within engineered tankage on the drill, one 600 litre double walled containment tank, one 100-lb cylinder of propane and one small safety container (20 litres) of gasoline for UTV, ATV, and snowmobile use. In addition, water pumps will have approximately 50 litres of fuel stored in the fuel tank. The volumes noted above are for one diamond drill; as additional diamond drills are utilized these volumes will increase (Table 2). The number of drills will vary from 1 to 9 depending on the season and the location and number of drill targets to be tested. Storage at fuel caches and transport of fuel will be with engineered double wall containment tanks mounted on truck or tractor with engineered transfer pumps equipped with grounding cables.

Table 2: Daily Minimum to Maximum Fuel stored at Diamond Drills

Number of Drills	Diesel (litres)	Gasoline (litres)	Propane (lbs)
1 drill	1,150	20	350
6 drills	8,050	140	2,450
9 drills	10,350	180	3,150

Table 3: Maximum Fuel Cache Amounts for Campsites and related Drilling Activities

Fuel Type	Maximum Amount
Diesel	72,850 litres
Gasoline	5,280 litres
Aviation Fuel	40,000 litres
Propane	12,250 pounds

Management Plans

A Waste Management Plan, Spill Contingency Plan, and Engagement Plan were included with the Application. Board staff suggest that these Plans meet applicable guidelines and sufficiently reflect the scope of the proposed activities.

In addition to the required plans listed above, TerraX also submitted a Closure and Restoration Plan (also called a Closure and Reclamation Plan), an Exploration Plan, a Wildlife Management Plan, and an Archaeological Chance Find Procedure. Board staff have included the Closure and Reclamation Plan as a requirement of the draft Permit. The other noted plans have not been included in the draft Permit conditions.

During the public review, the Government of the northwest Territories – Environment and Natural Resources (GNWT-ENR) requested minor updates to the Waste Management Plan and Spill Contingency Plan. The GNWT-ENR noted that the Waste Management Plan was not clear on what types and quantities of waste are expected before as opposed to after the proposed camp is established (GNWT comment-72), and that a table was missing from the Spill Contingency Plan (GNWT comment-74). TerraX responded to these comments and recommendations by submitting updated plans. Board staff note that the updated Waste Management Plan, version 2, and Spill Contingency Plan, version 2, have addressed the recommendations requested by ENR.

Eligibility

TerraX holds 164 mineral claims and 134 mineral leases with the GNWT, and is therefore eligible for a permit as per subsection 18(a)(i) of the Mackenzie Valley Land Use Regulations:

18) A person is eligible for a permit who

- (a) Where the proposed land-use operation is in the exercise of a right to search for, win or exploit minerals or natural resources,*
(i) holds the right

Type of Area

This Project is located in a non-federal area.

Fees

The required Permit Application Fee of \$150.00 (attached) was included with the Application.

Term

TerraX has applied for a term 5 years for the Permit application. Board staff note that permits can be granted for a period of five years, plus a two-year extension (for a total of seven years).

4. Comments

Triggers

The activities as described trigger a Type A permit as per with paragraph 4(a) and (b) of the Mackenzie Valley Land Use Regulations:

(4) No person shall, without a Type A permit, carry on any activity that involves

- (a) on land outside the boundaries of a local government,*
(ii) the use of a vehicle or machine of a weight equal to or exceeding 10 t, other than on a road or on a community landfill, quarry site or airport,
(b) On land within or outside the boundaries of a local government,
(i) The use of motorized earth-drilling machinery the operating weight of which, excluding the weight of drill rods, stems, bits, pumps and other ancillary equipment, equals or exceeds 2.5 t, for a purpose other than the drilling of holes for building piles or utility poles or the setting of explosives within the boundaries of the local government,

5. Public Review

By December 27, 2018, comments and recommendations on the Application was received from the following reviewers:

- Environment and Climate Change Canada (ECCC);
- Department of Fisheries and Oceans Canada (DFO);
- Government of the Northwest Territories – Education, Culture and Employment (GNWT-ECE);
- Government of the Northwest Territories –ENR
- Government of the Northwest Territories – Lands;
- Indigenous and Northern Affairs Canada (INAC); and
- Board staff.

TerraX responded by January 3, 2018. The Review Summary and Attachments (attached) presents the comments and recommendations provided through this review.

There were no significant concerns identified during the review of the Application. The GNWT-ENR submitted a list of standard comments reminding the proponent of project requirements. TerraX responded appropriately to all comments. The GNWT-ENR, GNWT-ECE and the GNWT-Lands Inspector submitted recommendations to the Board on the draft conditions. These recommendations are outlined in the draft Permit (attached) for Board consideration.

Main Issues Raised during the Review

The following summarizes the main issues raised during the review:

- DFO commented (DFO comment-1) that there was not enough information on the water sources for project activities to evaluate environmental harm. TerraX responded that they will comply with the draft Licence conditions requiring authorization on water use from the inspector and monthly Water Use Reports. Board staff note that the results from the drilling program will dictate where TerraX will continue to explore, and therefore it is difficult for them to predict what water sources may be required. However, Board staff agree with DFO that additional information on water sources is required in order to properly assess and screen the potential impacts. Board staff have submitted an Information Request (IR) to TerraX requesting a list of sources and estimated water volumes for water use. As such, evidence is still being gathered for the Licence MV2018L2-0006 application, and it will therefore be presented to the Board at a later date.
- The GNWT-ENR commented (comments-69 and 70) that although the undertaking falls under the guideline's definition of "advanced mineral exploration", ENR recommends the Board reconsider whether the project, based on the scope and limited footprint, should require the Closure and Reclamation Plan be developed in accordance with the *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories*. Board staff note that the *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories* is simply a guidance document for proponents to use when developing a Closure and Reclamation Plan. If components of the guidance document are not applicable to the scope of the project, such as waste rock piles, then they would not be required in the Plan. The guidelines recognize that not all sections may apply to every project, and the Board can take applicability into account when reviewing and considering the Closure and Reclamation Plan.
- As mentioned in the Management Plan section above, during the public review, the GNWT-ENR requested minor updates to the Waste Management Plan and Spill Contingency Plan. The GNWT-ENR noted that the Waste Management Plan was not clear on what types and quantities of waste are expected before as opposed to after the proposed camp is established (GNWT comment-72), and that a table was missing from the Spill Contingency Plan (GNWT comment-74). TerraX responded to these comments and recommendations by submitting updated plans. Board staff note that the updated Waste Management Plan, version 2, and Spill Contingency Plan, version 2, submitted on January 3, 2019, have addressed the recommendations by GNWT-ENR.

Preliminary Screening

The draft Preliminary Screening (attached) contains information from the Application and public review regarding environmental and socio-economic concerns, along with mitigations, and is for the Board's consideration.

Draft Permit

The draft Permit (attached) contains recommended conditions based the standard Permit conditions list and reflects concerns and recommendations raised during the public review.

6. Security

Legislative Requirements

The Board may require security as per section 32 of the Mackenzie Valley Land Use Regulations, which state:

- 32(1) The Board may require security to be posted in an amount not exceeding the aggregate of the costs of*
- (a) Abandonment of the land-use operation;*
 - (b) Restoration of the site of the land-use operation; and*
 - (c) Any measures that may be necessary after the abandonment of the land-use operation.*
- 32(2) In setting the amount of security pursuant to subsection (1), the Board may consider*
- (a) The ability of the applicant or prospective assignee to pay the costs referred to in that subsection;*
 - (b) The past performance of the applicant or prospective assignee in respect of any other permit;*
 - (c) The prior posting of security by the applicant pursuant to other federal legislation in relation to the land-use operation; and*
 - (d) The probability of environmental damage or significance of any environmental damage.*

Security Estimate Calculations

TerraX included a security calculation using RECLAIM in the Application and determined a total reclamation cost of \$285,971.00 (\$231,252.00 under the Permit and \$54,719.00 under the Licence). TerraX proposed that the security be written into the Permit and Licence using a phased approach, with operational triggers requiring additional security to be posted. These triggers are a) Prior to the commencement of land use operations, b) Prior to the use of more than 6 diamond drills, and c) Prior to the construction and operation of a camp. The GNWT commented that they agree with the phased estimate provided by TerraX. The GNWT noted on the record that TerraX worked closely with the GNWT on developing the phased security estimate prior to it being submitted to the Board. The GNWT-ENR recommended that the Board adopt the staged security estimate provided by TerraX. Board staff have reviewed the RECLAIM submission and based on available information, Board staff also agree with the security proposed by TerraX and the GNWT-ENR. No concerns were raised during the public review regarding security. The RECLAIM estimate submitted by TerraX is attached below in Section 9.

7. Conclusion

The draft Permit conditions are based upon the standard condition list, public review, and Board staff recommendations. Board staff conclude that the conditions contained within the draft Permit should mitigate the potential environmental impacts this development may have on the land and water.

Board staff conclude that the Waste Management Plan, version 2, as submitted in response to review comments on January 3, 2019, is in conformity with the *Board's Guidelines for Developing a Waste Management Plan (2011)* and the requirements of Permit MV2018C0023.

Board staff conclude that the Spill Contingency Plan, version 2, as submitted in response to review comments on January 3, 2019, is in conformity with Indian and Northern Affairs Canada (INAC)'s *Guidelines for Spill Contingency Planning* and the requirements of Permit.

Board staff conclude that the Engagement Plan, as submitted, is in conformity with the Board's *Guidelines for Applicants and Holders of Water Licences and Land Use Permits (2013)* and the requirements of Permit MV2018C0023.

Board staff conclude there are no outstanding issues or concerns with the Application.

8. Recommendation

Board staff recommend the Board:

- a) **Make a motion to approve the preliminary screening** of the Application for Land Use Permit MV2018C0023 from TerraX Minerals Inc.
- b) **Make a motion to approve the Type A Land Use Permit MV2018C0023** for a term of 5 years and Reasons for Decision.
- c) **Make a motion to approve the Waste Management Plan, version 2** as required by Land Use Permit MV2018C0023.
- d) **Make a motion to approve the Spill Contingency Plan, version 2** as required by Land Use Permit MV2018C0023.
- e) **Make a motion to approve the Engagement Plan** as required by Land Use Permit MV2018C0023.
- f) **Make a motion to approve the Closure and Reclamation Plan** as required by Land Use Permit MV2018C0023.

A draft decision letter is attached. Board staff recommend including the following text in the decision letter:

- The Board reminds TerraX to adhere to all the commitments made in response to reviewer comments.

9. Attachments

- [Permit Application](#)
 - [Exploration Plan](#)
 - [Maps/Figures](#)
 - [Fee Receipt – Permit Application](#)
 - [Waste Management Plan – Version 1](#)
 - [Waste Management Plan – Version 2](#)
 - [Spill Contingency Plan – Version 1](#)
 - [Spill Contingency Plan – Version 2](#)
 - [Engagement Plan](#)
 - [Engagement Log](#)
 - [Closure and Restoration Plan](#)
 - [MSDS Sheets](#)
 - [Wildlife Management Plan](#)
 - [Archaeological Chance Find procedure](#)

- Review Summary and Attachments
- Draft Preliminary Screening
- [Security Estimate](#)
- Draft Land Use Permit Cover Page
- Draft Land Use Permit Conditions
- Draft Reasons for Decision
- Draft Decision Letter from the Board

Respectfully submitted,



Kierney Leach
Technical Regulatory Specialist



Jacqueline Ho
Regulatory Specialist

Review Comment Table

Board:	MVLWB
Review Item:	TerraX Minerals Inc. - New Type A Land Use Permit and Type B Water Licence Applications (MV2018C0023 & MV2018L2-0006)
File(s):	MV2018C00023 MV2018L2-0006
Proponent:	TerraX Minerals Inc.
Document(s):	Land Use Permit Application (500kb) Water Licence Application (450kb) Exploration Plan (3.6mb) Waste Management Plan (370kb) Spill Contingency Plan (430kb) Engagement Plan (280kb) Engagement Log (94kb) Security Estimate (1.9mb) Wildlife Management Plan (1.7mb) Closure and Restoration Plan (275kb) Archaeological Chance Find Procedure (35 kb) MSDS sheets (4.7mb) Community and Stakeholder Program (1.8mb) DRAFT Licence Conditions (230kb) DRAFT Permit Conditions (275kb)
Item For Review Distributed On:	Dec 7 at 17:28 Distribution List
Reviewer Comments Due By:	Dec 27, 2018
Proponent Responses Due By:	Jan 3, 2019
Item Description:	TerraX Minerals Inc. (TerraX) submitted a complete application for a type A land use permit (permit) and a type B water licence (licence). TerraX is currently operating under two Land Use Permits, MV20140005 and MV20160038. However, through the staking of claims and completing the purchase or option of several properties from other owners, TerraX's property currently covers 782 square kilometers. In order to conduct drilling on the expanded

property, TerraX has applied for a single Type A Land Use Permit to cover the entire property. In addition, the Type B licence application is to allow TerraX to use water for additional drilling over the expanded property.

Reviewers are invited to submit comments and recommendations using the Online Review System (ORS) by the review comment deadline specified below. Notices of application for water compensation must also be submitted by the review comment deadline. If reviewers seek clarification on the submission, they are encouraged to correspond directly with the proponent prior to submitting comments and recommendations.

Reviewers may also wish to consider providing an overarching recommendation regarding whether the Board should approve the submission, to provide context for the comments and recommendations and assist the Board with its decision.

Please provide comments and recommendations on the:

- â— **Permit Application;**
- â— **Licence Application;**
- â— **Exploration Plan;**
- â— **Waste Management Plan;**
- â— **Spill Contingency Plan;**
- â— **Engagement Plan;**
- â— **Engagement Log;**
- â— **Security / Closure Cost Estimate;**
- â— **Closure and Restoration Plan;**
- â— **DRAFT Permit Conditions; and**
- â— **DRAFT Licence Conditions.**

The draft Permit has been developed using the MVLWB's current Standard Land Use Permit Conditions Template. The purpose of the draft Licence and Permit is to allow parties to comment on possible conditions. These draft materials are not intended to limit in any way the scope of parties' comments. The Board is not bound by the contents of the draft Licence and Permit and will make its decision at the close of the proceeding on the basis of all the evidence and arguments filed by all parties.

Under the Preliminary Screening Requirement Regulations of the Mackenzie Valley Resource Management Act (MVRMA), the Board must conduct a preliminary screening for an application for a proposed development that requires a water licence, unless it is exempt from Part 5 of the MVRMA. Reviewers are encouraged to provide

	<p>comments and recommendations (e.g., on impacts and mitigation measures) to assist with the completion of the preliminary screening.</p> <p>Please be advised that comments made by reviewers regarding impacts of this project to wildlife and wildlife habitat in this preliminary screening will inform the GNWT Minister of Environment and Natural Resources' determination regarding whether a Wildlife Management and Monitoring Plan will be required for this project as per Section 95 of the Wildlife Act.</p> <p>All documents that have been uploaded to this review are also available on our public Registry. If you have any questions or comments about the ORS or this review, please contact Board staff identified below.</p>
General Reviewer Information:	<p>In addition to the email distribution list, the following organization received review materials by fax:</p> <ul style="list-style-type: none"> •NWT Metis Nation: Tim Heron, NWTMN IMA Coordinator: (867)872-3586.
Contact Information:	<p>David Finch 867 766 7467 Jacqueline Ho 867-766-7455 Jen Potten 867-766-7468 Kierney Leach 867-766-7470</p>

Comment Summary

TerraX Minerals Inc. (Proponent)				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Analysis
1	General File	Comment (doc) Zipped Geospatial Shape files for project bounding coordinates and physical and cultural features Recommendation		
2	General File	Comment (doc) Amended text for Spill Contingency Plan Recommendation		
3	General File	Comment (doc) Amended text for Waste Management Plan Recommendation		
Environment and Climate Change Canada: Russell Wykes				

ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Analysis
1	ECCC Comments	Comment ECCC has reviewed this application in accordance with our mandate, and has no comments at this time. Recommendation n/a	Jan 4: TerraX would like to thank ECCC for reviewing the applications.	Noted.

Fisheries and Oceans Canada: Triage Group Fisheries Protection Program

ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Analysis
1	DFO's Comments on Water Licence	Comment The Program has reviewed the Proponent's application pursuant to its mandate. At this time the Program does not have enough information to determine if the Project will result in serious harm. Recommendation Additional information on the water bodies proposed to be used for water taking, as well as water volumes from each water body is required to complete the review of this project.	Jan 4: The proponent will comply with the following conditions outlined in the DRAFT version of Type B Water Licence #MV2018L2-0006. Part B: General Condition # 9; and, Part D: Conditions Applying to Water Use conditions # 1, 2 and 3. By complying with these proposed conditions no water taking will occur until	In order to assess the potential impacts on the water source, the additional information recommended by DFO is required. As a result, Board staff has sent an Information Request to TerraX requiring the information of the water source in order to properly conduct the preliminary screening.

			information on volumes are collected by the proponent and reported to an inspector.	Board staff are of the opinion that the Information Request will mitigate any concerns related to fish and wildlife.
GNWT - ECE: Glen Mackay				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Analysis
2	Draft Condition 50 - Archaeological Buffer	Comment Accurate spatial data is available for most of the recorded archaeological sites in the land use permit area. As such, an avoidance buffer of 30 m is sufficient for the protection of archaeological sites during exploration activities. Recommendation Use a 30 m avoidance buffer for Condition 50 of the Draft Land Use Permit.	Jan 4: The Proponent agrees with retaining draft condition # 50 in the Final Draft Land Use Plan.	Board staff have included this distance in the draft Permit and will present it to the Board for decision.
2	Draft Conditions 53 and 54 - AOA/AIA High Potential	Comment Terra X has conducted several AOA and AIA studies within their exploration areas (under MV20140005 and MV20160038). The current land use permit area extends beyond the areas covered in these studies. Draft conditions 53 and 54 should be retained on the final land use permit to cover any new exploration areas for which archaeological work has not yet been completed. Recommendation Retain draft conditions 53 and 54 on the final land use permit. AOA reports should be reviewed and accepted by ECE at least 30 days prior to new ground disturbance.	Jan 4: The Proponent agrees with retaining draft conditions # 53 and # 54 of the Final Land Use Plan.	Board staff have included these conditions in the draft Permit and will present them to the Board for decision.
GNWT - Lands: Darren Campbell				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Analysis
89	General File	Comment (doc) General Cover Letter Recommendation		

44	Topic 1: Industrial and Solid, Liquid or Sewage Waste Disposal	<p>Comment If the Proponents Waste Management Plan or methods of waste disposal indicate that project waste, or industrial waste, will be transported to community infrastructure for disposal, the Proponent should not assume they may deposit industrial wastes, generated outside of community boundaries, in Northwest Territories community Solid and Liquid Waste Disposal Facilities.</p> <p>Recommendation 1) Should the Proponent intend to deposit waste in an NWT community Solid and Liquid Waste Disposal Facility, ENR requests that the Proponent demonstrate in the Waste Management Plan, and to the Board, that the receiving communities Solid and Liquid Waste Disposal Facility holds a Water Licence that authorizes the disposal of any industrial waste streams originating from outside municipal boundaries. The Proponent should also demonstrate to the Board that the community has been consulted, and has consented in writing, regarding the use of its infrastructure for disposal of the waste streams and quantities in question, and the disposal of such wastes will not contravene the Waters Act or the Environmental Protection Act and related Regulations and Guidelines.</p>	<p>Jan 4: The Proponent will consult with the City of Yellowknife on the intent to deposit waste in the Solid and Liquid Waste Disposal Facility. The proponent will not deposit waste until the City of Yellowknife has consented in writing. The proponent will ensure that disposal of the waste streams and quantities in question will not contravene the Waters Act or the Environmental Protection Act and related Regulations and Guidelines.</p>	Acceptable response.
45	Topic 2: Incineration and Open Burning	<p>Comment The proponent is planning on having an incinerator in camp.</p> <p>Recommendation 1) If open burning will be utilized during project activities, only those waste streams identified in the Municipal Solid Wastes Suitable for Open Burning document located on the GNWT ENR website may be open burned without the use of an approved incinerator.</p>	<p>Jan 4: The Proponent agrees with and will comply with this recommendation.</p>	Acceptable response.

		The document can be found at the following site. http://www.enr.gov.nt.ca/sites/enr/files/guidelines/solid_wastes_suitable_open_burning.pdf		
46	None	<p>Comment None</p> <p>Recommendation 2) At any time, or in the event that the Proponent intends to incinerate any waste streams, the Proponent should provide to the Board Incineration Management Strategies that demonstrate that the device and procedures selected are suitable to the waste stream intended for incineration. Otherwise, harmful releases of toxic compounds, will result. Incineration strategies should meet the emissions limits established under the Canada-Wide Standards (CWS) for Dioxins and Furans (CCME 2001), CWS for Mercury Emissions (CCME 2000) and the NWT Ambient Air Quality Guidelines. The Incineration Management Strategies should also include: a) A description of waste streams intended for incineration; b) Selected incineration technology and rationale for selection (the minimum requirement to accommodate complex waste streams should be a dual-chamber, controlled-air incinerator); c) A description of recycling and waste segregation plans that control waste entering the incinerator; d) Operator training and qualifications, and the use of trained and designated operators; e) Procedures for operation and maintenance, including record-keeping (i.e. completion of burn cycle and maintenance logs, and recording of the weight of each waste load charged to the incinerator); f) A reporting requirement to summarize the tracking and record-keeping component; and, g) Weigh scales to record the weight of each load charged to the incinerator; h) Details of emission measurement methods, where applicable.</p>	<p>Jan 4: The Proponent agrees with and will comply with this recommendation.</p>	Acceptable response.
47	None	<p>Comment None</p> <p>Recommendation 3) Residual ash from the incineration of non-segregated waste must be tested prior to disposal to ensure that it meets the criteria specified in the NWT Environmental Guideline for Industrial Waste Discharges. Incineration ash can be contaminated with toxic compounds and by-products such as dioxins and furans and should therefore be tested to ensure that it is disposed of in an appropriate and approved manner.</p>	<p>Jan 4: The Proponent agrees with and will comply with this recommendation.</p>	Acceptable response.
48	Topic 3: Hazardous Waste Management	<p>Comment All Proponents that generate hazardous wastes must be registered as a generator of hazardous waste in the NWT. The Guideline for the General Management of Hazardous Waste in the NWT defines hazardous waste and outlines the roles and responsibilities of generators, carriers, and receivers of hazardous waste in the NWT. The ENR, Environment Division (ED) registers generators, carriers, receivers, and tracks the disposal of hazardous waste generated in the NWT to registered receiving facilities on hazardous waste movement documents (manifest). The definition of hazardous waste includes all waste materials that are 'dangerous goods' according to the Transportation of Dangerous Goods Regulations, and any additional waste of special concern that the ED has determined hazardous until proven</p>	<p>Jan 4: The Proponent will register as a generator of hazardous waste with ENR. It should be noted that the non-toxic rock</p>	Acceptable response.

		<p>otherwise, including but not limited to: a) incinerator waste and/or residuals (including bottom ash and fly ash); b) any liquid or solid wastes contaminated with refined petroleum products; c) bilge wastes; d) vehicle or vessel servicing wastes e) drilling wastes; f) produced fluids (Glycol / Hydrocarbon / Inorganic Mixtures); g) tailings; and h) any hydrocarbon, lead, mercury or other forms of contaminated soils. The Guideline for the General Management of Hazardous Waste in the NWT and the Transportation of Dangerous Good Regulations may be found at the following sites: http://www.enr.gov.nt.ca/sites/enr/files/guidelines/general_management.pdf http://www.tc.gc.ca/eng/tdg/clear-menu-497.htm</p> <p>Recommendation 1) If the Proponent is using or generating hazardous waste, they must register as a generator of hazardous waste in the NWT and track the disposal of hazardous waste from the site activities to registered receivers on hazardous waste movement documents provided by ENR. Please contact the Environment Division, ENR to register or for more information contact Mr. Lee Ross, Hazardous Waste Management Specialist, Environment Protection and Waste Management by email (Lee.Ross@gov.nt.ca) or by phone (867) 767-9236 extension 53187.</p>	cuttings related to the diamond drilling activities will continue to be deposited in natural sumps as per condition 26(1)(g) 38 in Draft Land Use Permit #MV2018C0023.	
49	Topic 4: Fuel Storage and Spill Contingency Planning and Reporting	<p>Comment ENR acknowledges the proponent's Spill Contingency Plan. In addition, the Proponent should also follow best practices for fuel storage and spill containment during project activities which may include the following recommendations. Recommendation 1) To assist in spill contingency planning, information is provided in EPA Spill Contingency Planning and Reporting Regulations found here: https://www.justice.gov.nt.ca/en/files/legislation/environmental-protection/environmental-protection.r2.pdf If clarification or further information is needed please contact the Environment Division, ENR directly to aid in the development of the Plan.</p>	Jan 4: The Proponent agrees with and will comply with this recommendation.	Acceptable response.
50	None	<p>Comment None Recommendation 2) In accordance with the Spill Contingency Planning and Reporting Regulations Section 10, all spills in accordance with Schedule B must be reported immediately to the 24-hour Spill Report Line (867) 920-8130.</p>	Jan 4: The Proponent agrees with and will comply with this recommendation.	Acceptable response.
51	None	<p>Comment None Recommendation 3) With respect to the Environmental Protection Act Section 5 (1b) all spills, regardless of amount, must be cleaned up, and contaminated materials disposed of at an approved facility, or in an approved manner. Additionally, as indicated in Section 5(1c) all reasonable efforts must be made to notify any parties affected or potentially affected by the spill.</p>	Jan 4: The Proponent agrees with and will comply with this recommendation.	Acceptable response.

52	None	<p>Comment None</p> <p>Recommendation 4) Fuel storage areas should be greater than 100m distance from the ordinary high water mark of a water body and not located in a drainage channel.</p>	<p>Jan 4: The Proponent agrees with and will comply with this recommendation.</p>	<p>Acceptable response.</p> <p>This is a standard condition that has been included in the draft Land Use Permit and will be considered by the Board.</p>
53	None	<p>Comment None</p> <p>Recommendation 5) All fuel or storage vessels containing hazardous substances left for extended periods of time (including overnight in vehicles), should be stationed in an area that contains sufficient secondary containment (i.e. Drip pans, lined bermed areas, double walled enviro-tanks etc.).</p>	<p>Jan 4: The Proponent agrees with and will comply with this recommendation.</p>	<p>Acceptable response.</p> <p>This is a standard condition that has been included in the draft Land Use Permit and will be considered by the Board.</p>
54	None	<p>Comment None</p> <p>Recommendation 6) It is recommended spill kits be provided. Personnel should be trained to ensure that in the event of a spill it is contained and remediated appropriately to industry-accepted best practices and regulatory approval. In case refuelling takes place near water, in water spill planning should be considered to prevent inadvertent releases.</p>	<p>Jan 4: The Proponent agrees with and will comply with this recommendation.</p>	<p>Acceptable response.</p> <p>Board staff note that TerraX has submitted a Spill Contingency Plan for Board approval.</p>
55	None	<p>Comment None</p> <p>Recommendation 7) ENR recommends, for the operator's convenience and increased environmental protection, that all heavy equipment and refuelling vehicles carry portable spill kits that include items such as absorbent pads, containment booms, and spill pool</p>	<p>Jan 4: The Proponent agrees with and will</p>	<p>Acceptable response.</p>

		catchment receptacles. Readily available and fully stocked spill kits can effectively mitigate potential spills.	comply with this recommendation.	
56	Topic 5: Wildlife: NWT Listed and Pre-listed Species at Risk	<p>Comment Sections 76 and 77 of the Species at Risk (NWT) Act require the Minister of Environment and Natural Resources to make a submission to the body responsible for assessing the potential impacts of a proposed development, or for considering a Land Use Permit or Water Licence application, respecting the potential impacts of the proposed development, Permit or Licence application on a NWT-listed or pre-listed species or its habitat. NWT-listed species are those that are on the NWT List of Species at Risk. Pre-listed species are those that have been assessed by the NWT Species at Risk Committee (SARC) but have not yet been added to the NWT List of Species at Risk. The Proponent should be aware that NWT-listed or pre-listed species at risk and their habitat may also be subject to protection under existing sections of the NWT Wildlife Act. As a best practice, ENR encourages the Proponent to consider potential impacts, mitigation measures and monitoring requirements for species at risk listed under the federal Species at Risk Act, as well as those designated as at risk by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) that may occur in the project area, and the prohibitions that may apply to these species under federal legislation. The project area overlaps with the ranges of the following NWT-listed and/or pre-listed species: . Boreal Caribou - Threatened in the NWT . Barren-ground Caribou - Threatened in the NWT . Grizzly Bear - Special Concern in NWT . Little Brown Myotis (bat) - Special Concern in the NWT . Wood Bison - Threatened in the NWT</p> <p>Recommendation 1) Although the project overlaps with the range(s) of the species listed above, ENR is of the opinion that the scope, nature, areal extent, scale and/or timing of the proposed project are such that the likelihood of impacts, with the implementation of appropriate mitigation measures discussed in the Wildlife Management Plan, to NWT-listed or pre-listed species at risk is minimal.</p>	Jan 4: The Proponent agrees with and will comply with this recommendation.	Acceptable response.
57	Topic 6: Cumulative Effects Tracking	<p>Comment Keeping track of the disturbance footprint of development activities is an important component of tracking and informing the management of cumulative effects on wildlife and wildlife habitat.</p> <p>Recommendation 1) The Proponent should submit the bounding coordinates or geospatial data for the proposed project footprint and for the completed project footprint to the Land and Water Board for placement on the public registry. The Mackenzie Valley Land and Water Board's Standards for Geographic Information Systems (GIS) Submissions should be followed when submitting spatial data.</p>	Jan 4: The Proponent submitted the bounding coordinates and geospatial data as requested to the MVLWB as digital files in the GIS format	Acceptable response. Board staff can confirm that this data has been submitted.

			required by the the MVLWB on Janaury 3, 2019.	
58	Topic 7: Wildlife Abodes	<p>Comment Subject to sub-section 51(2) of the Wildlife Act, it is illegal to break into, destroy, or damage a den, beaver dam or lodge, muskrat push-up or hibernaculum unless you have an Aboriginal or treaty right or a Permit to do so. Protection of dens, beaver lodges, muskrat push-ups, and hibernacula is essential to ensuring reproductive success and survival of both adults and young.</p> <p>Recommendation 1) The Proponent should conduct pre-activity surveys within 800m of the project footprint to identify active bear dens if project activities will occur between September 30 and March 30. Surveys should be conducted in the fall to detect freshly dug dens.</p>	<p>Jan 4: No active bear dens have been observed during activities to date. Activities in areas outside of the current areas being worked will comply with this recommendation.</p>	Acceptable response.
59	None	<p>Comment None</p> <p>Recommendation 2) If an active bear den is detected, or suspected, the Proponent should implement and maintain an 800 m exclusion zone until the bear emerges in spring.</p>	<p>Jan 4: The Proponent agrees with and will comply with this recommendation.</p>	Acceptable response.
60	None	<p>Comment None</p> <p>Recommendation 3) If a bear den and exclusion zone would result in the halt of part or the entire program, the Proponent should contact ENR to discuss alternative mitigation options. The location of active bear dens should be kept confidential between the developer and ENR until after emergence in the spring.</p>	<p>Jan 4: The Proponent agrees with and will comply with this recommendation.</p>	Acceptable response.
61	None	<p>Comment None</p> <p>Recommendation 4) It is recommended that, if encountered, beaver lodges, muskrat push-ups, and hibernacula are not disturbed or damaged.</p>	<p>Jan 4: The Proponent agrees with and will comply with this recommendation.</p>	Acceptable response.
62	Topic 8: Wildlife Attractants and Waste Management	<p>Comment Subject to sub-section 66(1) of the Wildlife Act no person shall store food, waste, or other substances in a manner that may attract big game or other prescribed wildlife and put people, domestic animals, or wildlife in danger. Subject to sub-section 65(1) of the Wildlife Act, it is illegal to intentionally feed big game, furbearers or other prescribed wildlife. Schedule A - Part 2 of the Wildlife General Regulations sets out the species prescribed as fur-</p>	<p>Jan 4: The Proponent agrees with and will comply with this recommendation.</p>	Acceptable response.

		bearers. Recommendation 1) The Proponent should utilize food and garbage handling and storage procedures that will minimize the attraction of wildlife.		
63	None	Comment None Recommendation 2) The Proponent should store all food, waste, washed recyclables and debris that may attract wildlife within sealed animal proof containers until final disposal.	Jan 4: The Proponent agrees with and will comply with this recommendation.	Acceptable response.
64	None	Comment None Recommendation 3) The Proponent should ensure that sealed animal proof containers are cleaned once emptied to minimize the attraction of wildlife.	Jan 4: The Proponent agrees with and will comply with this recommendation.	Acceptable response.
65	None	Comment None Recommendation 4) The Proponent should ensure that all grey water (dishwater, showers, laundry, etc.) and black water (sewage) are treated and disposed of in a manner that will minimize the attraction of wildlife.	Jan 4: The Proponent agrees with and will comply with this recommendation.	Acceptable response.
66	None	Comment None Recommendation 5) The Proponent should remove all waste petroleum products including used oil filters, rags, scrap metal, discarded machinery, parts, drums, barrels, or plastics to an approved waste disposal facility.	Jan 4: The Proponent agrees with and will comply with this recommendation.	Acceptable response.
67	Draft Water Licence " (Topics 9 to 12) Topic 9: Ordinary High Water Mark	Comment Part A, Condition 2 lists definitions, which includes the term "ordinary high water mark". However, Part F Condition 9 refers to the "normal high water mark". Recommendation 1) ENR recommends the Board ensure the defined terms are consistent throughout the Water Licence.	Jan 4: The Proponent agrees with this recommendation by ENR.	Board staff have updated the draft Water Licence as recommended by ENR and agreed to by TerraX.
68	Topic 10: Action Level	Comment Part A, Condition 2 lists definitions. ENR notes definitions for terms not otherwise used in the Water Licence should not be included. The term "Action level" is defined in the draft Water Licence but is not used elsewhere in the Water Licence.	Jan 4: The Proponent agrees with this	Board staff have updated the draft Water

		Recommendation 1) ENR recommends the Water Licence only include definitions for terms that are used in the Water Licence.	recommendation by ENR.	Licence as recommended by ENR and agreed to by TerraX.
69	Topic 11: Closure and Reclamation Plan	<p>Comment Part A, Condition 2 defines the Closure and Reclamation Plan as "a document, developed in accordance with the Mackenzie Valley Land and Water Board and Aboriginal Affairs and Northern Development Canada's Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories which describes the proposed plans to close and reclaim the undertaking." ENR notes that although the undertaking falls under the guideline's definition of "advanced mineral exploration" given the requirement of a Water Licence, consideration should be given to defining the Closure and Reclamation Plan based on the scope of the project. Specifically, the project does not include long-term waste streams such as a waste rock pile and may therefore not require such a comprehensive plan that is outlined in the guidelines.</p> <p>Recommendation 1) ENR recommends the Board reconsider whether the project, based on the scope and limited footprint, should require the Closure and Reclamation Plan be developed in accordance with the referenced guidelines.</p>	Jan 4: The Proponent agrees with the recommendation by ENR that the limited scope and footprint of the project does not require a Closure and Reclamation Plan.	Board staff note that the Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories is simply a guidance document for proponents to use when developing a Closure and Reclamation Plan. If components of the guidance document are not applicable to the scope of the project, such as waste rock piles, then they would not be required in the Plan. The

				guidelines recognize that not all sections may apply to every project, and the Board will take applicability into account when reviewing and considering the Closure and Reclamation Plan.
70	None	<p>Comment None</p> <p>Recommendation 2) Should the scope of the project change, ENR recommends the requirement for the Closure and Reclamation Plan to be developed in accordance with the guidelines be reassessed.</p>	Jan 4: The Proponent agrees with this recommendation by ENR.	See above Board staff analysis to GNWT comment-69.
71	Topic 12: Schedule 2 Security	<p>Comment GNWT met with TerraX on November 27th, 2018 for a general project overview and again on November 29th, 2018 to specifically discuss securities. During the week of December 3-7, 2018, various emails and phone calls were exchanged between TerraX and GNWT staff discussing various components of the security estimate as well as various staging scenarios. Through those discussions, TerraX and GNWT have reached an agreement on a staged security estimate for the site which was submitted to the Board by TerraX as part of their application for a Water Licence.</p> <p>Recommendation 1) ENR recommends that the Board adopt the security estimate provided by TerraX dated December 7th, 2018 which outlines the staged security amounts below: 1) Stage 1 Security: Total security of \$152,540.00 to conduct exploration with up to six (6) diamond drills based out of Yellowknife, similar to the current activities under Land Use Permits MV2014C0005 and MC2016C0038. 2) Stage 2 Security: Total security of \$226,810.00 to conduct exploration with up to nine (9) diamond drills based out of Yellowknife, similar to the current activities under Land Use Permits MV2014C0005 and MC2016C0038. The amount of the Stage 2 security would be the Stage 1 security total plus an increased cost of \$74,270.00. 3) Stage 3 Security: Total security of \$285,970.00 to conduct exploration with up</p>	Jan 4: The Proponent agrees with this recommendation by ENR.	<p>Noted.</p> <p>These values and triggers have been included in the draft Licence and Permit conditions.</p>

		to nine (9) diamond drills and a camp. The amount of the Stage 3 security would be the Stage 2 security total plus an increased cost of \$59,160.00.		
72	Waste Management Plan (Topics 13 to 14) Topic 13: Drilling and Camp Waste	<p>Comment Section 4.0 outlines the Yellowknife Based Drilling Programs Waste Management and identifies waste generated related to drilling. Section 5.0 outlines Camp Based Waste Management and identifies waste generated by the proposed camp. ENR notes there is waste identified in Section 5.0 that is expected before the proposed camp is established such as sewage, contaminated soils and drill cuttings. It is therefore isn't clear what types and quantities of waste are expected before and after the proposed camp.</p> <p>Recommendation 1) ENR recommends TerraX clarify the sources, types, quantities, storage and method of disposal for waste, such as those noted above, and any others that will be generated during operations before and after the establishment of the proposed camp.</p>	<p>Jan 4: The Proponent has submitted an updated Waste Management Plan to the MVLWB on January 3, 2019.</p>	<p>Acceptable Response.</p> <p>Board staff can confirm that an updated Waste Management Plan has been submitted to address the recommendation made by ENR.</p>
73	Topic 14: Hazardous Waste Storage	<p>Comment Section 5 explains that hazardous and potentially hazardous materials will be stored in sealed containers in a designated waste management area at the camp. As well, if the materials can remain safely on site they will be stored and backhauled on the next winter road. ENR notes these materials should be stored at a minimum distance of 30 m from the ordinary high water mark of a watercourse.</p> <p>Recommendation 1) ENR recommends TerraX store any hazardous or potentially hazardous materials at least 30 m from the ordinary high water mark of a watercourse.</p>	<p>Jan 4: The Proponent agrees with and will comply with this recommendation.</p>	<p>Acceptable response.</p> <p>This is a standard condition that has been included in the draft Land Use Permit and will be considered by the Board.</p>
74	Spill Contingency Plan “ (Comments 15 to 16) Topic 15: Table 2	<p>Comment The end of Section 2.3 explains that the maximum amounts of fuel stored on the YCGP are outlined in Table 3. ENR notes Table 3 does not exist in the Spill Contingency Plan.</p> <p>Recommendation 1) ENR recommends TerraX review Section 2.3 to ensure there are correct references to the corresponding tables.</p>	<p>Jan 4: The Proponent has submitted an updated Spill Contingency Plan to the MVLWB on January 3, 2019.</p>	<p>Acceptable Response.</p> <p>Board staff can confirm that an updated Spill Contingency Plan has been submitted to address the</p>

				recommendation made by ENR.
75	Topic 16: Map	<p>Comment Although maps are provided in other documents as part of the Water Licence application, the Spill Contingency Plan will be a standalone document during operations of the project. For this reason, a map of the area should be included that identifies buildings, roads, other infrastructure, waterbodies, direction of flow on land and in water, environmentally sensitive areas and any other important on or off-site features as well as the locations of spill response materials.</p> <p>Recommendation 1) ENR recommends TerraX include a map in the Spill Contingency Plan that identifies the features noted above.</p>	<p>Jan 4: Given the temporary location of the drilling activities the inspector is notified prior to any location changes of all land use activities. Additional information satisfying this recommendation has been submitted to the MVLWB as part of review point #57. The proponent will also comply with all conditions in section 26(1)(m) - Fuel Storage, which will satisfy the recommendation related to the location of spill response materials.</p>	Acceptable response.
76	Inspector's comments	<p>Comment The Permittee has demonstrated since receiving their original land use permit (MV2014C0005) in March 2014 that a 50 metre setback can be complied with since great</p>	<p>Jan 4: The Proponent agrees</p>	Acceptable response.

	on: Draft Land Use Permit - 26(1)(a) Location and Area - Condition #1	<p>efforts have been employed to engage and accomodate cabin owners in and around the Walsh Lake, Banting Lake, and other areas where land use operations are occurring.</p> <p>Recommendation The Operations Division, Department of Lands supports the request by Terra X Minerals Inc. for a 50m setback from private properties as per condition one in the draft LUP.</p>	with the Inspector's recommendation for a 50 metre setback from private properties as per 26(1)(a) - condition #1 in Draft Land Use Permit MV2018C0023. This land use permit condition is very important to the opertional ability and on-going "good neighbour" relationship that the Proponent has built with the cabin owners within the land use area.	
77	Inspector's comments on: Draft Land Use Permit - 26(1)(a) Location and Area - Condition #3	<p>Comment There are no existing campsites in the land use area at this time and Condition #2 will mitigate potential environmental concerns from the establishment of camp.</p> <p>Recommendation Please remove Condition #3 from the land use permit.</p>	Jan 4: The Proponent agrees with the Inspector's recommendation.	Acceptable response. Board staff will present this recommendation to the Board for consideration.
78	Inspector's comments	Comment The Forest Protection Act, Forest Management Regulations, and the Government of the Northwest Territories' Forest Fire Prevention and Suppression Guidelines for Industrial	Jan 4: The Proponent agrees	Acceptable response. Board

	on: Draft Land Use Permit - 26(1)(c) Type and Size of Equipment - Condition #14	Activities dictate the requirements of a person and therefore Statutes and Guidelines should not be repeated in a land use permit, rather a comment from the appropriate Regulator on the on-line review system (ORS) for their requirements. Also Part A (scope) item 3 of the land use permit states; Compliance with the terms and conditions of this Permit does not excuse the Permittee from its obligation to comply with the requirements of any applicable Federal, Territorial, Tli?cho, or Municipal laws. Recommendation Please remove Condition #14 from the land use permit.	with the Inspector's recommendation.	staff will present this recommendation to the Board for consideration.
79	Inspector's comments on: Draft Land Use Permit - 26(1)(j) Protection of Historical, Archaeological, and Burial Sites - Condition #50	Comment With the Archaeological Overview (AO) and Archaeological Impact Assessment (AIA) already conducted by TerraX, and being required to continue with archaeological studies with the issuance of this land use permit (Condition #53 & #54), 30 metres is consistent with the Mackenzie Valley Land Use Regulations and previous land use permits. Recommendation The Inspector does not object to the setback remaining 30 metres.	Jan 4: The Proponent agrees with the Inspector's recommendation.	Noted. Board staff will present this recommendation to the Board.
80	Inspector's comments on: Draft Land Use Permit - 26(1)(j) Protection of Historical, Archaeological, and Burial Sites - Condition #53	Comment Thirty (30) days is a sufficient time line for the report to be reviewed by an Inspector to ensure activities in the land use area don't disturb known or potential archaeological sites. Recommendation Please use 30 days for this condition.	Jan 4: The Proponent agrees with the Inspector's recommendation.	Noted. Board staff will present this recommendation to the Board.
81	Inspector's comments on: Draft Land Use Permit - 26(1)(l) Security Deposit -	Comment To ensure security is posted prior to any of the land use operations proposed in the application occurring, "drilling" must be removed from this section of the condition. Recommendation Please replace "drilling" with "land use operations".	Jan 4: The Proponent agrees with the Inspector's recommendation.	Acceptable response. Board staff have updated the draft Permit accordingly and

	Condition #55 a)			will present this recommendation to the Board for consideration.
82	Inspector's comments on: Draft Land Use Permit - 26(1)(m) - Fuel Storage - Condition #57	<p>Comment Compliance with this condition cannot occur by a Permittee during seasonal shutdowns of land use operations. Also, other conditions in the land use permit and Environment Canada Regulations mitigate the potential for environmental concerns to arise.</p> <p>Recommendation Please remove Condition #57 from the land use permit.</p>	Jan 4: The Proponent agrees with the Inspector's recommendation.	Acceptable response. Board staff will present this recommendation to the Board for consideration.
83	Inspector's comments on: Draft Land Use Permit - 26(1)(m) - Fuel Storage - Condition #65	<p>Comment The Applicant must confirm that this volume of fuel would be the maximum fuel on site at any one time and includes all activities/operations being proposed in the application (ie: camp(s), winter road construction, drilling, etc.).</p> <p>Recommendation Applicant must confirm volumes.</p>	Jan 4: The Proponent has submitted an updated Spill Contingency Plan to the MVLWB on January 3, 2019. The updated maximum fuel stored on the land use site at any time has been updated to 118, 130 litres.	Noted. Board staff have updated the 'Maximum Fuel on Site' condition in the draft Permit accordingly.
83	Community and Government Stakeholder Engagement Program YK City Gold Project	<p>Comment Page 25 - Emergency Services, Aid to Public</p> <p>Recommendation The Department confirmed with the Yellowknife RCMP (Det. Insp. Laporte) who is comfortable with the paragraph on Emergency Services pg. 25 as written.</p>	Jan 4: The Proponent agrees with the recommendation.	Noted.

84	Community and Government Stakeholder Engagement Program YK City Gold Project	<p>Comment Page 28, 29 and 30 - a lot of unnecessary spacing</p> <p>Recommendation Remove the spacing</p>	<p>Jan 4: The Engagement Plan is a living document which is routinely updated in consultation with its stakeholders and as images, logos, permissions and additional information become available. The proponent looks forward to considering your suggestions during the next update.</p>	<p>Acceptable response. This is a minor edit that can be addressed in future iterations of the Community and Government Stakeholder Engagement Program. Board staff also note that this is not a program for Board approval.</p>
84	Inspector's comments on: Draft Land Use Permit - 26(1)(o) - Resotration of the Lands - Condition #74	<p>Comment This condition is typical of quarrying activities and isn't applicable to proposed operations.</p> <p>Recommendation Please remove condition #74 from the land use permit.</p>	<p>Jan 4: The Proponent agrees with the Inspector's recommendation.</p>	<p>Acceptable response. Board staff will present this recommendation to the Board for consideration.</p>
85	Community and Government Stakeholder Engagement Program YK	<p>Comment Page 31 - track changes showing without YK Hearitage Committee logo</p> <p>Recommendation Add logo and accept track changes.</p>	<p>Jan 4: The Engagement Plan is a living document which is routinely updated in</p>	<p>Acceptable response. This is a minor edit that can be addressed in future iterations</p>

	City Gold Project		consultation with its stakeholders and as images, logos, permissions and additional information become available. The proponent looks forward to considering your suggestions during the next update.	of the Community and Government Stakeholder Engagement Program. Board staff also note that this is not a program for Board approval.
86	Community and Government Stakeholder Engagement Program YK City Gold Project	<p>Comment Page 32 - with Labour Engagement. Space removed with track changes. Paragraph 4 - extra space at beginning of paragraph</p> <p>Recommendation accept track changes. Remove extra space at beginning of paragraph 4</p>	<p>Jan 4: The Engagement Plan is a living document which is routinely updated in consultation with its stakeholders and as images, logos, permissions and additional information become available. The proponent looks forward to considering your suggestions</p>	<p>Acceptable response. This is a minor edit that can be addressed in future iterations of the Community and Government Stakeholder Engagement Program. Board staff also note that this is not a program for Board approval.</p>

			during the next update.	
87	Community and Government Stakeholder Engagement Program YK City Gold Project	<p>Comment Page 33 - first paragraph. Recognizes spelt with an 's' paragraph 4. organize spelt with an 's' (note in paragraph 2 and 4, organized is spelt with a z).</p> <p>Recommendation update to spell both with a z</p>	<p>Jan 4: The Engagement Plan is a living document which is routinely updated in consultation with its stakeholders and as images, logos, permissions and additional information become available. The proponent looks forward to considering your suggestions during the next update.</p>	<p>Acceptable response. This is a minor edit that can be addressed in future iterations of the Community and Government Stakeholder Engagement Program. Board staff also note that this is not a program for Board approval.</p>
88	Type B Water Licence	<p>Comment Page 3, 17</p> <p>Recommendation remove all comments and accept all track changes. Adjust page numbers</p>	<p>Jan 4: The Proponent agrees with the recommendation.</p>	<p>Board staff note this recommendation on the Type B Licence conditions and will present it to the Board for consideration.</p>
INAC - Yellowknife: Dinah Elliott				

ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Analysis
1	TerraX Applications	<p>Comment The application does not include the use of federal land.</p> <p>Recommendation CIRNAC Environment has no recommendations at this time. Should an amendment to include federal land be submitted, further review by CIRNAC Environment will be warranted.</p>	<p>Jan 4: The Proponent agrees with the recommendation.</p>	<p>Noted.</p>

MVLWB: Kierney Leach

ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Analysis
1	Phased Security Deposits	<p>Comment Currently, the draft Licence and Permit contain phased security requirements with triggers based on project activities. These project activity phases requiring additional security were proposed by TerraX in their Licence and Permit Applications. Board staff note that the last trigger (c.) is 'prior to the construction of a camp'. Board staff would like to seek clarification from TerraX on if a camp may be required ahead of the second trigger (b.) prior to the use of more than 6 diamond drills.</p> <p>Recommendation Please indicate if there is any chance that the construction of a camp may precede the use of more than 6 diamond drills so that the Board can ensure the phased security conditions appropriately align with the project activities.</p>	<p>Jan 4: The construction of a camp prior to the use of more than 6 diamond drills is possible. However, this possibility would be contingent on the significance of the exploration results from the far northern portion of the current property. If the camp is constructed prior to the use of more than 6 diamond drills</p>	<p>Noted. Board staff will edit the Permit and Licence security deposit conditions to allow for this flexibility in the staged security.</p>

			then the stage 3 security amount of \$59,160.00 would come into effect and be added to the stage 1 security amount of \$152,540.00.	
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David Finch, Regulatory Specialist
Jen Potten, Regulatory Coordinator
Kierney Leach, Technical Regulatory Specialist
Mackenzie Valley Land and Water Board
PO BOX 2130
YELLOWKNIFE, NT, X1A 2P6

DEC 20 2018

Dear Mr. Finch, Ms. Potten, and Ms. Leach:

Re: TerraX Minerals Inc. Type A Land Use Permit (MV2018C0023) and Type B Water Licence (MV2018L2-0006) Applications

Thank you for providing the opportunity to comment on the above-noted applications. The Government of the Northwest Territories (GNWT) submission is intended to assist the Mackenzie Valley Land and Water Board (MVLWB) in making its preliminary screening determination under ss. 125(1) of the *Mackenzie Valley Resource Management Act*, and to provide recommendations for the MVLWB's consideration in developing permit and licence conditions, should the project proceed to the regulatory phase.

The GNWT has reviewed the documents and provides the following for the MVLWB's consideration:

- Land and Water Security Estimate (summarized below)
- Comments in ORS spreadsheet format, including recommendations

All GNWT departments with interests related to the project reviewed the applications. Comments and recommendations were provided by the GNWT Departments of Lands (including inspectors) and Environment and Natural Resources. Additional comments from the Department of Education, Culture and Employment have been provided to the MVLWB under separate cover.

TerraX and the GNWT agreed on a staged security estimate for this project. This estimate was submitted to the MVLWB by TerraX as part of their application package. The GNWT therefore recommends the MVLWB require TerraX Mining Inc. to post reclamation securities as follows before starting authorized project activities:

- Stage 1 Security: Total security of \$152,540.00 (land \$130,123.00/water \$22,417.00) to conduct exploration with up to six (6) diamond drills based out of Yellowknife, similar to the current activities under Land Use Permits MV2014C0005 and MC2016C0038.
- Stage 2 Security: Total security of \$226,810.00 (land \$193,479.00/water \$33,332.00) to conduct exploration with up to nine (9) diamond drills based out of Yellowknife, similar to the current activities under Land Use Permits MV2014C0005

and MC2016C0038. The amount of the Stage 2 security would be the Stage 1 security total plus an increased cost of \$74,270.00.

- Stage 3 Security: Total security of \$285,970.00 (land \$231,252.00/water \$54,719.00) to conduct exploration with up to nine (9) diamond drills and a camp. The amount of the Stage 3 security would be the Stage 2 security total plus an increased cost of \$59,160.00.

Should the MVLWB or any reviewers have questions about this submission, please contact Darren Campbell, Project Assessment Analyst, by email at Darren.Campbell@gov.nt.ca or by phone at 867-767-9180 (Ext. 24024) or Melissa Pink, Manager, Project Assessment Branch, by email at Melissa.Pink@gov.nt.ca or by phone at 867-767-9180 (Ext. 24021).

Sincerely,



Lorraine Seale
Director
Securities and Project Assessment
Department of Lands

Attachments: Comments in ORS format