NORTH AMERICAN TUNGSTEN CORPORATION LTD

Dec. 6, 2013.

Yukon Environmental and Socio-economic Assessment Board,
Suite 200 – 309 Strickland Street,
Whitehorse, YT Y1A 2J9

Attn: Ken McKinnon,
Executive Committee Member

Dear Ken:

re: Mactung Project (2008 – 0304): Supplementary Information Requests

Please accept this letter from the North American Tungsten Corporation Ltd. ("NTC") in reply to your Supplementary Information Request of Dec. 2, 2013 (the "Supplementary Requests"). Coupled with the information that will be provided orally at the technical meeting on Dec. 10, this letter should provide YESAB with sufficient information and ample comfort to issue its Final Screening Report before Christmas.

We have divided this reply into four sections:

1. Traditional Knowledge and the Ross River Dena (Information Requests #R1, R5, R6, and R8);
2. Water Quality and Geochemistry (#R2 and R3);
3. Geotechnical Considerations (#R4); and
4. Fish Passage on Tributary C (#R7).

In this letter, we hope to explain in considerable detail the approaches under which NTC and the Ross River Dena Council ("RRDC") will satisfy concerns filed on the YESAB Online Registry ("YOR") by, or in the name of, the RRDC or the Ross River Dena Elders (the "Elders"). In less written detail here, but with considerable data backup appended, we will address the water quality and geotechnical considerations to which the Information Requests refer. It is our understanding that the Dec. 10 technical meeting will address and form a record of the resolution of Information Requests #R2, R3, and R4. (The full list of Supplementary Requests is appended.)

Part 1: North American Tungsten and the Ross River Dena

Background

Following the October 29th meeting in Ross River, North American Tungsten, the RRDC, the Ross River Dena's Traditional Knowledge Technical Team (the "TK Team"), and the Elders commenced face-to-face discussions, primarily in Whitehorse, that have continued over the past five weeks. On October 31st, NTC and the RRDC met in Whitehorse to map out an agenda for negotiations. By Nov. 7th, RRDC Chief Brian Ladue and I were able to report to YESAB that we had entered into good-faith discussions to incorporate the Elders' traditional knowledge and the community's traditional land use into the Mactung Project's design. On Nov. 20, RRDC and NTC reported by letter to YESAB that

we had "agreed on a series of initiatives … to supplement the YESAB process and give force to recommendations based on traditional knowledge." And we asked YESAB to complete its final adequacy review prior to the issuance of a Final Screening Report.

Although the talks continue, the parties have made considerable progress on the issues identified in Information Requests #R1, R5, R6, and R8 … and on much more. The product of this dialogue will be an environmental agreement, enforceable under the laws of contract, which will bind NTC and the RRDC in a form of private protection that will complement public regulation.

NTC is committed to building a durable and respectful partnership with the RRDC. We believe our strengthened corporate policy in this regard has become clear to the RRDC, YESAB, the Yukon Government, and others with whom we've been in regular communication. For those whose access to this matter is limited to the written record, as filed on YOR, the improved relationship between the company and the RRDC would not be evident. To those people, and to YESAB, we provide this account. We hope it will help you reconcile the positive outcome and encouraging dialogue of the NTC/Ross River Dena talks with the Ross River Dena's earlier, less-than-supportive written comments. As you will see, NTC and the Ross River Dena will undertake a broad range of environmental plans and programs that will address more than the subject matter of Information Requests R1, R5, R6, and R8; and of course, these initiatives will supplement, they won't replace, the extensive requirements that will be set by YESAB, the Yukon Water Board, other regulators and licensors.

NTC and RRDC Ongoing Relationship (#R1, R3, R5, R6, R8)

NTC and the RRDC will manage their relationship and conduct an ongoing dialogue through a six-person committee, tentatively called the MacPass Joint Committee, which will be comprised of two NTC representatives, two RRDC representatives, and two representatives of the Elders. The Joint Committee will be established within three months of the publication of a favourable Decision Document under the Yukon Environment and Socio-economic Assessment Act for the Mactung Project. It will work to build consensus on a series of broad points and initiatives, all intended to manage the Mactung Project's industrial footprint on the environment. Building on the requirements in the YESAB assessment and the future water and land use licences, NTC and the Ross River Dena will oversee the further development of a fish and wildlife plan that will mitigate short term impacts and reduce long-term effects. Through the Joint Committee, the parties will address high-level priority traditional use or wildlife issues raised by the Elders. Setting priorities and work plans from within the many initiatives outlined below, the Joint Committee will oversee the development of avoidance measures, water management options, and heritage resource assessments. As a specific task, the Joint Committee will support the Ross River Dena in its current efforts with the Government of the Northwest Territories to develop a wildlife management plan.

Following its formation, the Joint Committee will address two high priority tasks: creating an annual prioritized work plan with a budget and hiring a Ross River Dena Land Steward. The Committee's annual work plan and budget will be the operating mechanism of the agreement between NTC and the RRDC. Many of the initiatives contemplated by the agreement are multi-year in nature with complex dependencies.

The MacPass Joint Committee will select a member of the Ross River Dena for employment by NTC as the Ross River Dena Land Steward. The role of the Ross River Dena Land Steward will be to implement the work plan as identified by the Committee and work to ensure the protection of traditional land use, heritage sites and the environment during the development and operation of the Mactung Project. The incumbent in this position will commence work in 2014, before NTC has applied for licences under the *Quartz Mining Act* or the *Waters Act*. The Land Steward is expected to gain expertise and experience at the Mactung Project site that can be integrated into the mining operations where he/she would become a core member of NTC's environment department. The Land Steward will also be charged with communicating traditional knowledge to NTC and conducting cross-cultural and educational training.

Annually, NTC and the Ross River Dena will undertake a review of the effectiveness of the many initiatives and programs they will develop. Supplementing the reporting required under the licences which will govern the Mactung Project, this review will include community reports to the Elders and a community meeting in Ross River that will include senior NTC representatives – either officers or directors.

Heritage Resources (#R1-a)

As an immediate priority, NTC and the Ross River Dena will prepare a statement of work for the retention of an archaeologist to participate in the preparation of a heritage assessment with the TK Team for areas in the Mactung Project area that should be protected under the *Historic Resources Act (Yukon)* or in accordance with the Traditional Knowledge Report. Archaeology will be conducted and integrated into the Traditional Knowledge to continue the on-going development of mitigation and management options. The heritage assessment is considered a priority.

NTC and Ross River Dena will co-operate in identifying Heritage Resources and areas of cultural significance that may be adversely affected by the Mactung Project. (The term "Heritage Resources" is defined in Part 6, sec. 66(10) of the *Historic Resources Act [Yukon]*.) No Heritage Resources will be disturbed or removed except in accordance with applicable law and with the consent of the Ross River Dena, and in any event not prior to NTC using best efforts to agree with the Ross River Dena upon any measures for protecting such Heritage Resources.

Any Heritage Resources discovered within the Properties will be immediately reported by NTC to the NTC/Ross River Dena's MacPass Joint Committee and Ross River Dena. NTC recognizes the Ross River Dena as the owner of Heritage Resources that are discovered in the Mactung Project area.

Fish and Wildlife (#R1-a, R5, R6)

Jointly and collaboratively, NTC and the Ross River Dena will develop a fish and wildlife plan to address the concerns identified in the Elders' Traditional Knowledge Report. Elements of this plan will include:

1. Monitoring programs that may add to the knowledge of unique fish and wildlife in the Mactung Project area. Targets will include:
    a. the extent of usage of mineral licks by ungulates;
    b. the availability of bear denning habitat immediately adjacent or proximal to areas of Mactung Project activity;
    c. sensitive habitats for Harlequin ducks,
    d. White-tail Ptarmigan habitat;
    e. Gyrfalcons;
    f. nesting sites for golden eagles;
    g. sensitive salmon and trout populations in mountain rivers and lakes in the MacMillan Pass area; and
    h. special spawning sites.
2. Mitigation and adaptive management practices as identified in the Traditional Knowledge Report or by any results generated by the monitoring program.
3. Identification of opportunities for NTC and the Ross River Dena to work with the Yukon Government to address overhunting and overfishing either through the joint development, or support for the development, of a harvest management plan, designation of protected or specially managed areas in areas proximate to NTC's mining operations, habitat protection, or improved regulation.

The Elders' Traditional Knowledge Report provides a strong, well-gathered inventory of plants and their supporting environment, wildlife populations and their key habitats, and fish species and the waters in which they live. The product of the Elder's experience and observations, coupled with fish

and wildlife surveys by the TK Team, these inventories are based on the Ross River Dena's continuing presence in the Mactung Project area. NTC will work with RRDC to update these inventories throughout the Mactung mine's life to support both adaptive management practices and to help the Ross River Dena and, by extension, the public, restore animal populations to levels closer to the capabilities of the MacMillan Pass environment, an area which suffers today from extreme hunting pressures.

Caribou (R1-a, R1-b, R1-c, R5, R6)

Jointly and collaboratively, NTC and the Ross River Dena will apply the Elders' knowledge of caribou populations and habitats within the Mactung Project area to develop a caribou management plan. The plan will identify the means by which negative impacts can be avoided or minimized by alternative siting of activities, applying timing windows to operations, and determining alternative, less impactful industrial methods.

As the Traditional Knowledge Report outlined, an important mineral lick is located approximately 600 meters from a proposed pipeline and service road running between the mine site and a Hess River tributary that NTC favours as a source of water to the Mactung Project. The Elders continue to believe that an alternative to the Hess River tributary should be used as the source of water for the mine.

After considerable discussion with the Ross River Dena, NTC has expanded the Mactung Project's proposed management and mitigation provisions. We believe that YESAB should assess and approve the proposed water source, pipeline, and road so long as the following conditions were met:

1. Construction of the road is timed to avoid important periods of the year when caribou are migrating, rutting, or calving in the Mactung Project area;
2. The pipeline between the mine site and the water source on the Hess River tributary is buried;
3. NTC maintains at least a 600-meter buffer between the mineral lick and the road and works to minimize disruption to the caribou, if any, in other directions from the lick;
4. The road is gated and access is restricted to NTC vehicles carrying out monitoring or maintenance of the pipeline and the pumping station at the water source. There will be no ore haulage on the road;
5. To the extent possible, NTC uses telemetry monitoring to observe the operations and analyze data from the pumping station in order to reduce the use of the road;
6. During times when caribou are observed in the area, use of the road will be further restricted to the maximum extent possible, and special prudence will apply during sensitive times such as calving, rutting and migration;
7. Unless specifically approved by the Ross River Dena Elders, no NTC employee will be permitted to hunt in the area between the Pelly River and Norman Wells, NWT; and
8. The pipeline will be removed and the road will be properly decommissioned as part of NTC's closure and reclamation plan for the Mactung Project.

NTC and the RRDC have committed to each other that they will monitor the effectiveness of the caribou mitigation and monitoring plan and, as appropriate, recommend adaptive management or other methods to continue to reduce the Mactung Project's impact on caribou.

Water Use and Management (#R1-b, R3)

During the course of the Mactung Project, NTC will work to ensure the highest standards of water quality: the mining operation will not have a deleterious effect on fish habitat, physical temperature or sedimentation. During the operation of the mine, NTC will treat water, or recycle treated water, prior to its discharge back to its source and, at all times, NTC will meet the water quality standards under its Water Licence. Copies of reports to the Yukon Water Resources Branch will be sent contemporaneously to the NTC/Ross River Dena Joint Committee.

In addition, prior to the issuance of a Water Licence for the Mactung Project, the members of the Joint Committee will work collaboratively to identify options that meet or exceed the environmental requirements in YESAB's Decision Document. NTC has also agreed, as a fundamental consideration, that further Mactung Project design would not be limited to locations or water sources within Yukon, but could include the closely neighbouring Northwest Territories.

The North Canol Road (#R1-c)

Jointly and collaboratively, NTC and the Ross River Dena will develop a coordinated approach to the North Canol Road that will, at once, address NTC's requirement to upgrade it to all-season haulage standards and support the Ross River Dena's objective of controlling public access to the area. NTC and the Ross River Dena are considering this issue from both an environmental and a business perspective. Aligning their interests, the parties may form the core of a public-private dialogue or partnership on the North Canol Road and the proposed bridge over the Pelly River at Ross River, Yukon.

NTC and the Ross River Dena will prepare a strategy to mitigate the impact of linear development on fish, wildlife, land and water in the Mactung Project area. Where required, elements of this strategy will be submitted to government for implementation. Mitigation may include limitations on hunting, vehicle and quad use, and the decommissioning of any roads as part of the mine closure plan.

In view of the number of large mining projects which may operate in, near, or through MacMillan Pass, or between Ross River and MacMillan Pass, the Ross River Dena intend to conduct a cumulative effects study. At the Ross River meeting, the representatives of the TK Team were encouraged to apply for funding from YESAB: NTC will support that application, and will cooperate with the study, although not financially.

"Meet Or Exceed" and Further Environmental Licensing

During the period between the issuance of a YESAA Decision Document for the Mactung Project and the application for a licence from the Yukon Water Board, NTC and the Ross River Dena will work collaboratively to identify for implementation environmental options which meet or exceed NTC's current mine plan and YESAB's conditions as outlined in the Decision Document. These improvements would form part of NTC's Water Licence application.

Part 2. Water Quality and Geochemistry (#R2 and R3);

The Information Requests:

R2. In order to prepare for a technical meeting please provide:

a) A description of the quantities of exposed tailings used to predict loadings from run-off and seepage;

b) Shake flask data for waste rock used as inputs to the model;

c) The most up to date humidity test cell results of the 2005 composite tailings used to represent expected conditions within the DSTF; and

d) Example calculations for waste rock loading rates concentrations in the run-off and reservoirs and of source terms.

We are striving to provide you with the information sought in R2 (a) and (d). In response to R2 (b), the shake flask data, we attach tables with the data used in the water quality monitoring. The tables are from *Appendix B: Mactung Geochemical Characterization and Predictive Water Quality Modeling Report*, which was first submitted to YESAB in October 2011 (YESAB registry #177-2) and, I'm told, was provided two additional times thereafter. Also attached, in response to R2 (c), are the most recent kinetic test results.

R3. A description of how the NATC-RRDC arrangement will address concerns with the design of storage facilities for tailings and waste rock and the geochemistry testing results.

The NTC/RRDC arrangement dealt with the above-cited design questions only in the broadest of

senses, as an area which the MacPass Joint Committee will address in its on-going dialogue, but the parties believe this should be on the agenda when the company and the RRDC's technical advisers meet at the Dec. 10 technical meeting.

In answer to R3, NTC says the following:

> The design and operation of the dry stack and waste rock storage facilities will be done in a manner similar to those facilities in Yukon which are currently in operations at the Alexco and Minto mines. The tailings and/or waste rock will be brought to the disposal facility, spread out and compacted in place to maximize density. The lifts will be a maximum of 200 mm in thickness and compacted to at least 95% of the maximum dry density as determined by ASTM D698. The size of the "open area" will be limited to minimize contact with precipitation and air.
>
> The benefits of the dry stack and waste rock disposal area include:
>
> 1. Water use is conserved and can be recycled;
> 2. The ability to handle/manage seismic effects is greatly improved;
> 3. Relatively speaking, the facility has a smaller footprint than other, "conventional" tailings options with much lower long-term liability;
> 4. Relative impermeability and lower seepage rates; and
> 5. The site can be progressively reclaimed to minimize erosion and fugitive dust and to provide the medium for vegetative re-colonization of the site.

We look forward to discussing the subject matter of R2 and R3 at the Dec. 10 technical meeting.

Part 3. Geotechnical Considerations (#R4)

The Information request:

R4. Additional information to evaluate the geotechnical aspects of the ravine dam, the DSTF as proposed in the 2008 Project Proposal, and the expanded DTSF as proposed in the 2013 Adaptive Management Plan. Information should include:

a) Ground characterization, including at a minimum soil and ground water conditions and/or rock types, faults, joints, strength parameters of the ravine dam and DSTF;

b) Geotechnical stability analyses of the ravine dam demonstrating that the required factors of safety can be achieved;

c) Characterization of the tailings properties to be used in design of the DSTF;

d) Details of assumptions regarding the ground water table within the DSTF for stability analysis purposes;

e) Geotechnical stability analyses demonstrating that the required factors of safety can be achieved for both the overall slope and the individual 10m high benches of the DSTF; and

f) The details of the DSTF stability calculations discussed in Response 3.11b of the 2009 Addendum 1 to the Project Proposal.

On our behalf, in response to this request, EBA Engineering Consultants Ltd. prepared a detailed Technical Memo that is attached to this letter. The memo confirms that the Mactung Project's preliminary designs of the ravine dam and the dry stack tailings facility, adopting designs approved and used in the Alexco and Minto mines, meet and in most cases exceed the minimum recommended factors of safety in the Canadian Dam Association guidelines and the Waste Rock Design Manual. To assist you in your review, we enclose a copy of the January 2008 document entitled *"Mactung Preliminary Geotechnical Investigation"*.

Part 4. Fish Passage on Tributary C (#R7).

(To come on Monday, Dec. 9, for discussion at the Dec. 10 technical meeting, which we hope that DFO will attend.)

We note that the Department of Fisheries and Oceans was unable to visit the Mactung Project site this summer for their own testing – indeed, they have yet to visit the site – and we appreciate, as DFO said, that this is matter which could be further addressed in NTC's application for a Water Licence.

Finally…

As we stated in our October 16, 2013, cover letter to YESAB:

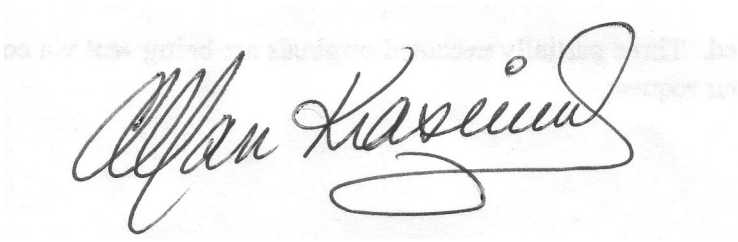
> "YESAB's positive assessment will represent just one step in a process that will place further obligations on NTC before mining can finally start at Mactung. For example, NTC recognizes that it must provide a further period of water and weather sampling in order to reach the threshold that YESAB believes is adequate in order for NTC to qualify for a Yukon Water Licence. And the courts have confirmed the Yukon Water Board's authority, independent of YESAB, to regulate industrial activity that may affect water quality or flow.
>
> "Throughout its mine life, NTC will operate Mactung within a highly regulated regime. In addition to the federal and territorial law, the mine's operations will be governed by the provisions of the [agreements] with the RRDC - stewards of this portion of the Kaska Nation's traditional territory. Even if law or contract didn't require it, NTC would continue to act in good faith with its neighbours."

This remains our understanding and our corporate commitment.

Finally, on January 7, 2013, in a letter posted on the YOR, Chief Brian Ladue of the Ross River Dena Council criticized NTC's engagement record, saying "consultation is not something NAT provides, it's about seeking input and advice and having discussions to help NAT design a project that is sustainable and will not infringe upon Kaska Dena rights." As we progressed through this remarkable period with the First Nation, he told me that NTC "had become the model other companies should follow" in their dealings with First Nations. By our actions, as outlined in considerable detail above, NTC believes it has provided proof that it is listening to the Ross River Dena Council and the Elders, and that the Mactung Project, as it progresses through final design and into operations, will itself become a model of responsible resource management.

Thank you for organizing the October 29 meeting in Ross River that was so constructive in spurring North American Tungsten and the Kaska Dena to better understand each other's needs, priorities, and sensitivities.

Kindest regards,
NORTH AMERICAN TUNGSTEN CORPORATION LTD.



PER: Allan Krasnick,
Barrister & Solicitor,
Director.

ENCL.

C.C. Kurt Heikkila,
Brian Ladue,
Norm Sterriah,
Rod Ambrosie.

YESAB's SUPPLEMENTARY INFORMATION REQUESTS OF DEC. 2, 2013.

R1. Additional information outlining how the NATC-RRDC arrangement is addressing outstanding issues raised by RRDCC in previous comments including the following:

a) Lack of use and consideration of traditional knowledge in effects assessment for heritage resources, fish and wildlife.
b) Consideration of alternatives to the use of the Hess River headwaters.
c) Effects to RRDC traditional use of the area from increased use by non-RRDC members due to improved access and mitigations at the mine site and along the North Canol Road.

R2. In order to prepare for a technical meeting please provide:

d) A description of the quantities of exposed tailings used to predict loadings from run-off and seepage;
e) Shake flask data for waste rock used as inputs to the model;
f) The most up to date humidity test cell results of the 2005 composite tailings used to represent expected conditions within the DSTF; and
g) Example calculations for waste rock loading rates concentrations in the run-off and reservoirs and of source terms.

R3. A description of how the NATC-RRDC arrangement will address concerns with the design of storage facilities for tailings and waste rock and the geochemistry testing results.

R4. Additional information to evaluate the geotechnical aspects of the ravine dam, the DSTF as proposed in the 2008 Project Proposal, and the expanded DTSF as proposed in the 2013 Adaptive Management Plan. Information should include:

a) Ground characterization, including at a minimum soil and ground water conditions and/or rock types, faults, joints, strength parameters of the ravine dam and DSTF;
b) Geotechnical stability analyses of the ravine dam demonstrating that the required factors of safety can be achieved;
c) Characterization of the tailings properties to be used in design of the DSTF;
d) Details of assumptions regarding the ground water table within the DSTF for stability analysis purposes;
e) Geotechnical stability analyses demonstrating that the required factors of safety can be achieved for both the overall slope and the individual 10m high benches of the DSTF; and
f) The details of the DSTF stability calculations discussed in Response 3.11b of the 2009 Addendum 1 to the Project Proposal.

R5. Additional information outlining how NATC will address the lack of wildlife survey data in mitigating potential effects to wildlife.

R6. A description of how the NATC-RRDC arrangement will address concerns of project effects on mineral licks, caribou habitat, sheep habitat, bear habitat and groundhog. Describe how design of monitoring plans and mitigation measures for the above species will address wildlife concerns.

R7. Additional information outlining how NATC will address the lack of adequate information to conclude if FS 10 is a fish barrier. Identify any additional measures necessary to mitigate effects (including compensation as a possible mitigative measure) to fish and fish habitat should FS 10 not be a fish barrier.

R8. A description of how the NATC-RRDC arrangement will address concerns of project effects of proposed activities on salmon and rare trout.

Table 5: Shake Flask Analytical Results for Acidic Conditions

Rock Unit	Parameter		Wt. of Sample Used	Volume of DI Water Used	Final pH (24h)	Conductivity (24h)	Acidity (to pH 8.3)	Total Alkalinity (to pH 4.5)	Dissolved Sulphate SO4	Hardness CaCO3	Dissolved Aluminum Al	Dissolved Antimony Sb	Dissolved Arsenic As	Dissolved Barium Ba	Dissolved Beryllium Be	Dissolved Bismuth Bi	Dissolved Boron B	Dissolved Cadmium Cd	Dissolved Calcium Ca	Dissolved Chromium Cr	Dissolved Cobalt Co	Dissolved Copper Cu	Dissolved Iron Fe	Dissolved Lead Pb
	Units		g	ml	pH Units	µS/cm	mg CaCO3/L	mg CaCO3/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	Method		Weighing Scale	Graduated Cylinder	pH Meter	Conductivity Meter	Titration/ Calculation	Titration/ Calculation	Auto Turbidity	Calculation from Ca & Mg	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS
	Detection Limit		0.01	5	0.5	0.5	1	1	1		0.001	0.0002	0.0002	0.0002	0.0002	0.0002	0.00001	0.00004	0.00001	0.0002	0.0002	0.0002	0.00001	0.0002
1	Sample ID	B348381	250	750	1.5	23900	3710	#N/A	17	1109	168.0	< 0.001	**0.0270**	0.3700	0.0270	0.1100	0.08	0.0014	433	**0.0370**	0.043	**0.420**	**58.0**	**0.014**
1		B348383	250	750	1.3	28400	4050	#N/A	23	503	94.3	< 0.001	0.0020	0.4900	0.0190	0.4200	< 0.05	0.0005	188	**0.0590**	0.035	**0.350**	**68.0**	**0.017**
1		B348184	250	750	1.3	27700	4030	#N/A	9	643	135.0	< 0.001	0.0010	0.4200	0.0280	0.0340	< 0.05	0.0006	240	**0.0770**	0.020	**0.130**	**67.2**	**0.033**
1		B348220	250	750	1.3	27100	3550	#N/A	9	1117	66.0	< 0.001	0.0010	0.5000	0.0090	0.0040	< 0.05	0.0006	429	**0.1100**	0.011	**0.100**	**34.8**	**0.029**
3C		B348157	250	750	1.3	27800	3880	#N/A	6	828	97.5	< 0.001	0.0020	0.4000	0.0110	< 0.001	0.06	0.0020	323	**0.2800**	0.007	**0.050**	**30.4**	**0.020**
3C		B348402	250	750	1.4	25700	3050	#N/A	8	1653	30.7	< 0.001	0.0030	0.2400	0.0160	0.0110	< 0.05	0.0047	656	**0.0210**	0.011	**0.031**	**21.5**	**0.030**
3C		B348472	250	750	1.4	23200	2860	#N/A	19	1979	31.7	< 0.001	**0.0130**	0.1900	0.0360	0.0220	< 0.05	0.0007	778	**0.1200**	0.023	**0.500**	**70.6**	**0.029**
3C		B348344	250	750	1.7	17870	1510	#N/A	19	3223	18.5	< 0.001	**0.0110**	0.2200	0.0390	0.0020	< 0.05	0.0028	1280	**0.0100**	0.033	**0.029**	**9.1**	**0.023**
3C		B348500	250	750	1.4	27400	3620	#N/A	15	1097	53.2	< 0.001	0.0010	0.0120	0.0360	0.0060	< 0.05	0.0006	434	**0.0410**	0.009	**0.330**	**69.3**	**0.004**
3C/2B		B348426	250	750	1.5	22200	2700	#N/A	6	2077	63.9	< 0.001	**0.0070**	0.2400	0.0240	0.0010	0.05	0.0040	824	**0.1400**	0.006	**0.180**	**22.8**	**0.014**
3C		B348264	250	750	1.5	23700	3070	#N/A	4	1804	81.0	< 0.001	**0.0090**	0.1400	0.0180	0.0100	< 0.05	0.0080	717	**0.0820**	0.010	**0.058**	**25.2**	**0.023**
3C		B348403	250	750	1.4	24800	3150	#N/A	7	1423	63.6	< 0.001	**0.0160**	0.8500	0.0360	0.0020	< 0.05	0.0046	560	**0.0770**	0.012	**0.079**	**18.0**	**0.015**
3C		B348517	250	750	5.3	10720	165	66	13	4842	2.8	0.001	0.0010	0.1000	0.0160	< 0.001	< 0.05	0.0036	1920	0.0010	0.024	**0.230**	0.1	**< 0.001***
3C/2B		B348473	250	750	1.4	25100	3250	#N/A	13	1493	34.2	0.003	**0.0430**	0.3000	0.1000	0.0290	< 0.05	0.0006	577	**0.0290**	0.028	**0.280**	**30.2**	**0.040**
CCME Guidelines for the Protection of Aquatic Life													0.005					0.0096		0.0089		0.003	0.3	0.004

Rock Unit	Parameter		Dissolved Lithium Li	Dissolved Magnesium Mg	Dissolved Manganese Mn	Dissolved Molybdenum Mo	Dissolved Nickel Ni	Dissolved Phosphorus P	Dissolved Potassium K	Dissolved Selenium Se	Dissolved Silicon Si	Dissolved Silver Ag	Dissolved Sodium Na	Dissolved Strontium Sr	Dissolved Tellurium Te	Dissolved Thallium Tl	Dissolved Thorium Th	Dissolved Tin Sn	Dissolved Titanium Ti	Dissolved Uranium U	Dissolved Vanadium V	Dissolved Zinc Zn	Dissolved Zirconium Zr	
	Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
	Method		ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	
	Detection Limit		0.0002	0.00001	0.0002	0.0001	0.0002	0.00003	0.00002	0.0002	0.00005	0.00005	0.00001	0.0002	0.0002	0.00002	0.0001	0.0002	0.0002	0.0001	0.0002	0.0001		
1	Sample ID	B348381	0.024	6.82	2.12	0.0012	0.071	12.2	8.1	**0.003**	188.0	**< 0.00025**	4.19	0.7200	< 0.001	0.0004	< 0.0005	< 0.001	0.0670	0.0030	0.023	**0.059**	< 0.01	
1		B348383	0.048	8.10	0.93	0.0006	0.074	23.0	21.2	0.001	106.0	**< 0.00025**	3.10	0.2600	< 0.001	0.0008	0.0008	< 0.001	0.1000	0.0081	0.019	**0.080**	< 0.01	
1		B348184	0.066	10.70	1.79	0.0005	0.040	30.7	21.6	**0.002**	147.0	**< 0.00025**	5.35	0.3600	< 0.001	0.0008	0.0084	< 0.001	0.2400	0.0130	0.031	**0.066**	< 0.01	
1		B348220	0.077	11.20	3.10	0.0018	0.021	37.0	21.0	**0.002**	72.5	**< 0.00025**	4.22	0.8000	< 0.001	0.0007	0.0079	< 0.001	0.3000	0.0140	0.025	**0.071**	< 0.01	
3C		B348157	0.054	5.19	1.59	0.0017	0.047	21.7	10.3	**0.002**	112.0	**< 0.00025**	4.02	0.3600	< 0.001	0.0005	0.0010	0.002	0.2000	0.0410	0.300	**0.330**	< 0.01	
3C		B348402	0.006	3.73	4.85	0.0017	0.048	12.7	3.7	0.001	38.8	**< 0.00025**	1.46	0.5000	< 0.001	0.0001	< 0.0005	< 0.001	0.0230	0.0200	0.029	**0.470**	< 0.01	
3C		B348472	0.052	8.94	3.98	0.0018	0.026	71.3	12.1	**0.002**	34.1	**< 0.00025**	1.69	1.2200	< 0.001	0.0008	0.0040	0.005	0.1400	0.0200	0.019	**0.050**	< 0.01	
3C		B348344	0.013	6.58	4.65	**0.1410**	**0.270**	24.0	10.4	**0.015**	13.4	**< 0.00025**	2.60	1.1700	< 0.001	0.0004	0.0015	< 0.001	0.0330	0.0250	0.061	**0.150**	< 0.01	
3C		B348500	0.007	3.12	6.92	0.0082	0.011	5.6	0.8	0.001	77.3	**< 0.00025**	1.56	0.1200	0.001	< 0.0001	0.0025	0.004	0.0100	0.0037	0.006	**0.054**	< 0.01	
3C/2B		B348426	0.037	4.74	7.23	0.0072	0.037	22.9	4.6	**0.002**	83.6	**< 0.00025**	3.59	0.9900	< 0.001	0.0003	0.0047	0.005	0.0440	0.0190	0.140	**0.340**	< 0.01	
3C		B348264	0.011	3.35	5.30	0.0028	0.073	17.8	2.9	**0.002**	111.0	**< 0.00025**	2.92	0.9600	< 0.001	< 0.0001	0.0015	< 0.001	0.0380	0.0280	0.042	**0.730**	< 0.01	
3C		B348403	0.035	6.10	2.10	0.0019	0.081	20.9	9.3	**0.002**	63.0	**< 0.00025**	2.73	2.4200	< 0.001	0.0003	0.0012	< 0.001	0.0930	0.0140	0.180	**0.280**	< 0.01	
3C		B348517	0.005	11.70	24.20	0.0008	0.005	< 0.15	1.9	**0.007**	4.8	**0.0011**	0.71	0.7700	< 0.001	< 0.0001	< 0.0005	< 0.001	< 0.001	0.0270	< 0.001	**0.048**	< 0.01	
3C/2B		B348473	0.031	12.70	2.40	0.0015	0.056	29.2	10.2	**0.004**	44.9	**< 0.00025**	1.67	0.8100	< 0.001	0.0006	0.0010	0.002	0.0970	0.0600	0.042	**0.042**	< 0.01	
CCME Guidelines for the Protection of Aquatic Life						0.073	0.11			0.001		0.0001				0.0008						0.03		

Notes: Shake flask testing conducted using modified weak acid extraction procedure as listed in Price (1997).
Values in BOLD indicate an exceedance of the Canadian Water Quality Guidelines for the Protection of Aquatic Life
CCME Guidelines do not apply to all parameters displayed
< indicates less than the laboratory's lower detection limit
* Detection limit raised due to sample matrix interference

Table 6: Shake Flask Analysical Results for Waste Rock in Neutral Conditions (2011 Analyses)

Rock Unit	Sample ID	pH	Redox	Conductivity	Acidity (to pH 4.5)	Total Acidity (to pH 8.3)	Alkalinity	Sulphate	Major Anions	Major Cations	Difference	Balance (%)	Hardness CaCO3	Aluminum Al
		meter	meter	meter	titration	titration	titration	Turbidity	Calc	Calc	Calc	Calc		ICP-MS
			mV	uS/cm	mg CaCO3/L	mg CaCO3/L	mg CaCO3/L	mg/L	meq/L	meq/L	meq/L	%	mg/L	mg/L
1	MS147-330.3-1	7.88	294	54	#N/A	3.1	28.7	3	0.64	1.10	-0.47	-26.8%	22.1	0.372
1	MS155-312.4-1	8.00	291	54	#N/A	3.0	31.6	3	0.69	0.68	0.01	0.8%	20.4	0.665
1	MS163-351.4-1	7.86	295	75	#N/A	3.4	35.6	4	0.80	0.81	-0.01	-0.6%	33.9	0.239
1	MS163-384.7-1	7.67	297	123	#N/A	4.2	32.1	17	1.00	1.14	-0.15	-6.8%	50.6	0.0553
1	MS163-386.2-1	7.77	255	94	#N/A	4.0	30.0	10	0.81	0.90	-0.10	-5.6%	38.5	0.0615
1	MS170-177.7-1	7.95	282	83	#N/A	3.5	42.0	3	0.90	0.83	0.07	3.9%	33.0	0.356
1	MS181-177.9-1	7.99	280	84	#N/A	3.0	45.3	3	0.97	0.86	0.11	6.2%	33.9	0.338
1	MS206-380.1-1	7.99	282	60	#N/A	2.7	30.4	3	0.67	0.62	0.05	3.9%	19.6	0.483
1	MWMT09-10-331.5-1	7.85	299	78	#N/A	3.5	25.9	4	0.60	0.58	0.02	1.9%	22.1	0.222
1	MS149-336.2-1	7.21	281	28	#N/A	2.5	12.1	3	0.30	0.28	0.02	4.1%	8.4	0.117
1	MS151-256.8-1	7.87	278	63	#N/A	1.7	36.8	3	0.80	0.71	0.09	6.2%	21.1	0.889
1	MS157-260-1	7.83	280	57	#N/A	1.7	33.8	3	0.74	0.66	0.08	5.6%	16.1	0.893
1	MS157-288.7-1	7.75	285	83	#N/A	2.1	42.3	4	0.93	0.85	0.08	4.2%	31.8	0.407
1	MS160-258.5-1	7.72	277	51	#N/A	1.7	25.6	3	0.57	0.55	0.03	2.5%	13.4	0.737
AVERAGE		**-**	**284**	**71**	**#N/A**	**2.9**	**32.3**	**5**	**0.74**	**0.76**	**-0.01**	**-0.03%**	**26.1**	**0.417**
3C	MS170-106.8-3C	7.94	280	56	#N/A	3.3	31.0	3	0.68	0.59	0.10	7.7%	25.7	0.215
3C	MS206-259-3C	7.93	282	64	#N/A	3.0	30.5	3	0.67	0.66	0.01	1.0%	26.6	0.388
3C	MS212-160.9-3C	7.77	290	38	#N/A	3.2	22.8	2	0.50	0.40	0.10	11.0%	16.4	0.100
3C	MWMT09-10-185.1-3C	7.92	290	63	#N/A	3.1	31.0	3	0.68	0.64	0.04	2.9%	27.2	0.253
3C	MWMT09-10-197-3C	7.92	285	58	#N/A	3.2	32.7	2	0.70	0.62	0.08	5.7%	27.2	0.251
3C	MS142-185-3C/3D	7.79	331	146	#N/A	2.2	48.3	16	1.30	1.36	-0.06	-2.2%	60.6	0.127
3C	MS143-275.2-3C	7.72	296	94	#N/A	2.2	36.0	7	0.87	0.89	-0.03	-1.5%	37.9	0.194
3C	MS144-269.8-3C	7.77	283	88	#N/A	2.1	38.1	3	0.83	0.90	-0.07	-4.3%	35.0	0.441
3C	MS149-285.9-3C	7.77	262	49	#N/A	2.1	28.4	3	0.63	0.56	0.07	6.1%	19.2	0.638
3C	MS155-234.1-3C	7.59	286	50	#N/A	2.2	29.1	3	0.64	0.56	0.09	7.1%	20.1	0.487
3C	MS157-112.2-3C	7.79	282	60	#N/A	1.7	33.5	3	0.73	0.67	0.06	4.4%	24.1	0.544
3C	MS160-182.1-3C	7.83	282	78	#N/A	1.9	38.2	5	0.87	0.80	0.07	4.1%	22.8	0.465
3C	MS160-183.5-3C	7.88	272	58	#N/A	1.5	34.5	2	0.73	0.67	0.06	4.5%	16.3	1.04
3C	MS163-35.1-3H*	7.43	275	60	#N/A	2.0	23.0	4	0.54	0.55	-0.01	-0.8%	19.9	0.164
3C	MS181-50.9-3C	7.65	263	50	#N/A	1.8	27.9	3	0.62	0.52	0.10	9.1%	21.9	0.376
3C	MS206-278.6-3C	7.98	313	72	#N/A	2.0	31.6	5	0.74	0.72	0.02	1.4%	30.1	0.424
3C	MS229-107.2-3C	8.12	311	79	#N/A	1.5	41.3	3	0.89	0.68	0.21	13.0%	29.5	0.368
AVERAGE		**-**	**287**	**68**	**#N/A**	**2.3**	**32.8**	**4**	**0.74**	**0.69**	**0.05**	**4.06%**	**27.1**	**0.38**

Notes: * Sample is from 3H and laboratory results are consistent with 3C samples
#N/A = Not Applicable

Table 6: Shake Flask Analytical Results for Waste Rock in Neutral Conditions (2011 Analyses)

Rock Unit	Sample ID	Antimony Sb	Arsenic As	Barium Ba	Beryllium Be	Bismuth Bi	Boron B	Cadmium Cd	Calcium Ca	Chromium Cr	Cobalt Co	Copper Cu	Iron Fe	Lead Pb	Lithium Li	Magnesium Mg	Manganese Mn
		ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
1	MS147-330.3-1	0.0011	0.0032	0.00151	< 0.00002	< 0.00001	0.0169	<0.000003	6.79	<0.0005	0.000036	0.0006	0.016	0.00002	0.012	1.240	0.0042
1	MS155-312.4-1	0.0005	0.0004	0.00181	< 0.00002	0.00004	0.0111	<0.000003	7.73	<0.0005	0.000033	< 0.0005	0.157	< 0.00002	0.009	0.267	0.0032
1	MS163-351.4-1	0.0123	**0.009**	0.00155	< 0.00002	< 0.00001	0.0158	0.000011	13.40	<0.0005	0.000063	< 0.0005	0.005	0.00010	0.005	0.129	0.0024
1	MS163-384.7-1	0.0027	**0.0061**	0.00211	< 0.00002	< 0.00001	0.0093	0.000040	19.30	<0.0005	0.000098	< 0.0005	0.007	< 0.00002	0.040	0.575	0.0225
1	MS163-386.2-1	0.0038	**0.019**	0.00157	< 0.00002	< 0.00001	0.0129	0.000008	14.70	<0.0005	0.000089	< 0.0005	0.008	0.00007	0.033	0.463	0.0145
1	MS170-177.7-1	0.0014	0.0003	0.00287	< 0.00002	< 0.00001	0.0170	<0.000003	12.10	<0.0005	0.000047	0.0007	0.029	0.00012	0.012	0.659	0.0097
1	MS181-177.9-1	0.0011	0.0020	0.00218	< 0.00002	< 0.00001	0.0164	<0.000003	12.70	<0.0005	0.000038	< 0.0005	< 0.002	0.00006	0.011	0.510	0.0119
1	MS206-380.1-1	0.0020	**0.015**	0.00157	< 0.00002	< 0.00001	0.0103	<0.000003	7.77	<0.0005	0.000040	0.0006	0.064	0.00008	0.015	0.060	0.0008
1	MWMT09-10-331.5-1	0.0024	0.0025	0.00120	< 0.00002	< 0.00001	0.0093	<0.000003	8.52	<0.0005	0.000081	< 0.0005	0.004	0.00002	0.008	0.203	0.0026
1	MS149-336.2-1	0.0002	0.0004	0.00152	< 0.00002	< 0.00001	0.0043	0.000003	3.10	<0.0005	0.000159	**0.0349**	0.008	0.01220	0.003	0.161	0.0020
1	MS151-256.8-1	< 0.0002	0.0004	0.00160	< 0.00002	< 0.00001	0.0059	<0.000003	8.15	0.0007	0.000030	0.0009	0.009	0.00007	0.010	0.187	0.0052
1	MS157-260-1	0.0004	0.0011	0.00205	< 0.00002	< 0.00001	0.0091	<0.000003	5.96	<0.0005	0.000020	0.0010	0.027	0.00005	0.018	0.283	0.0034
1	MS157-288.7-1	0.0005	0.0015	0.00362	< 0.00002	< 0.00001	0.0083	<0.000003	12.20	<0.0005	0.000067	0.0010	0.010	0.00015	0.008	0.289	0.0040
1	MS160-258.5-1	0.0004	0.0003	0.00205	< 0.00002	< 0.00001	0.0110	<0.000003	5.09	<0.0005	0.000027	< 0.0005	0.020	0.00009	0.006	0.171	0.0019
AVERAGE		**0.0022**	**0.0044**	**0.0019**	**<0.00002**	**0.00004**	**0.011257**	**0.000006**	**9.82**	**0.0007**	**0.000059**	**0.0057**	**0.028**	**0.00109**	**0.01357**	**0.371**	**0.0063**
3C	MS170-106.8-3C	0.0005	0.0006	0.01310	< 0.00002	< 0.00001	0.0103	<0.000003	9.62	<0.0005	0.000052	0.0013	0.006	0.00008	0.003	0.416	0.0057
3C	MS206-259-3C	0.0023	**0.011**	0.00407	< 0.00002	< 0.00001	0.0181	<0.000003	10.40	<0.0005	0.000037	0.0006	0.010	< 0.00002	0.004	0.173	0.0012
3C	MS212-160.9-3C	0.0004	0.0006	0.02630	< 0.00002	0.00007	0.0167	<0.000003	6.09	<0.0005	0.000061	0.0010	0.014	0.00015	0.003	0.284	0.0168
3C	MWMT09-10-185.1-3C	0.0262	**0.278**	0.00108	< 0.00002	< 0.00001	0.0073	<0.000003	10.80	<0.0005	0.000032	< 0.0005	< 0.002	< 0.00002	0.003	0.072	0.0003
3C	MWMT09-10-197-3C	0.0006	0.0043	0.00614	< 0.00002	< 0.00001	0.0165	<0.000003	10.70	<0.0005	0.000037	< 0.0005	< 0.002	< 0.00002	0.004	0.128	0.0050
3C	MS142-185-3C/3D	0.0099	**0.0659**	0.00443	< 0.00002	0.00002	0.0124	<0.000003	24.00	<0.0005	0.000099	0.0012	< 0.002	< 0.00002	0.008	0.177	0.0019
3C	MS143-275.2-3C	0.0020	**0.0061**	0.00163	< 0.00002	0.00001	0.0109	<0.000003	14.90	0.0012	0.000064	0.0017	0.008	0.00004	0.006	0.170	0.0008
3C	MS144-269.8-3C	0.0025	0.0010	0.00565	< 0.00002	< 0.00001	0.0089	0.000005	13.70	<0.0005	0.000062	< 0.0005	0.032	0.00005	0.006	0.194	0.0012
3C	MS149-285.9-3C	0.0020	**0.0121**	0.00269	< 0.00002	< 0.00001	0.0046	<0.000003	7.15	<0.0005	0.000025	< 0.0005	< 0.002	0.00005	0.008	0.327	0.0002
3C	MS155-234.1-3C	0.0004	0.0007	0.01210	< 0.00002	< 0.00001	0.0232	0.000004	7.26	<0.0005	0.000033	< 0.0005	0.028	0.00003	0.008	0.486	0.0083
3C	MS157-112.2-3C	0.0002	0.0015	0.02730	< 0.00002	< 0.00001	0.0153	<0.000003	8.78	<0.0005	0.000029	< 0.0005	0.012	0.00004	0.008	0.536	0.0044
3C	MS160-182.1-3C	0.0015	**0.0155**	0.00121	0.00002	< 0.00001	0.0090	<0.000003	9.00	<0.0005	0.000035	< 0.0005	0.035	0.00006	0.019	0.076	0.0003
3C	MS160-183.5-3C	0.0005	0.0003	0.00129	< 0.00002	< 0.00001	0.0096	<0.000003	6.21	<0.0005	0.000039	< 0.0005	0.031	0.00005	0.025	0.190	0.0012
3C	MS163-35.1-3H*	0.0008	< 0.0002	0.00534	< 0.00002	< 0.00001	0.0080	<0.000003	6.99	<0.0005	0.000118	< 0.0005	0.031	0.00006	0.003	0.604	0.0014
3C	MS181-50.9-3C	0.0002	0.0039	0.00379	< 0.00002	< 0.00001	0.0178	<0.000003	8.31	<0.0005	0.000063	< 0.0005	0.004	0.00002	0.003	0.292	0.0051
3C	MS206-278.6-3C	0.0019	0.0015	0.00258	< 0.00002	< 0.00001	0.0067	<0.000003	11.70	<0.0005	0.000054	< 0.0005	0.003	0.00003	0.004	0.188	0.0008
3C	MS229-107.2-3C	0.0006	0.0008	0.00106	< 0.00002	0.00095	0.0304	<0.000003	11.40	<0.0005	0.000041	0.0007	< 0.002	< 0.00002	0.003	0.237	0.0021
AVERAGE		**0.0031**	**0.0252**	**0.00704**	**0.00002**	**0.00026**	**0.0133**	**0.000002**	**10.41**	**0.000306**	**0.000052**	**0.0011**	**0.018**	**0.00006**	**0.007**	**0.268**	**0.0033**
CCME Guidelines for the Protection of Aquatic Life			0.005					0.0096		0.0089		0.003	0.3	0.004			

Notes: Analytical values in **BOLD** indicate an exceedance of the Canadian Water Quality Guidelines for the Protection of aquatic Life
* Sample is from 3H and laboratory results are consistent with 3C samples
< indicates less than the laboratory's lower detection limit

Table 6: Shake Flask Analytical Results for Waste Rock in Neutral Conditions (2011 Analyses)

Rock Unit	Sample ID	Mercury Hg	Molybdenum Mo	Nickel Ni	Phosphorus P	Potassium K	Selenium Se	Silicon Si	Silver Ag	Sodium Na	Strontium Sr	Sulphur (S)	Thallium Tl	Tin Sn	Titanium Ti	Uranium U	Vanadium V	Zinc Zn	Zirconium Zr
		ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS
		ug/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
1	MS147-330.3-1	< 0.01	0.00143	0.0005	<0.009	5.50	0.00139	4.08	< 0.00001	11.0	0.0177	1.38	< 0.0002	0.00029	0.0007	0.000025	0.00116	0.001	0.00004
1	MS155-312.4-1	< 0.01	0.00043	0.0008	0.022	5.32	0.00114	3.51	< 0.00001	1.29	0.0073	0.65	< 0.0002	0.00012	0.0005	0.000075	0.00142	< 0.001	< 0.00001
1	MS163-351.4-1	< 0.01	0.03440	0.0007	<0.009	1.51	0.00120	3.30	< 0.00001	1.40	0.0197	1.84	< 0.0002	0.00012	0.0002	0.000109	0.00058	0.004	0.00001
1	MS163-384.7-1	< 0.01	0.01680	0.0010	0.012	2.06	0.00014	3.71	< 0.00001	1.84	0.0709	20.0	< 0.0002	0.00011	0.0005	0.000439	0.00023	0.002	0.00003
1	MS163-386.2-1	< 0.01	0.01640	0.0008	0.009	2.21	0.00104	3.64	< 0.00001	1.74	0.0568	14.5	< 0.0002	0.00010	0.0004	0.000234	0.00024	0.003	0.00002
1	MS170-177.7-1	< 0.01	0.00272	0.0006	0.010	4.27	0.00083	2.18	< 0.00001	0.64	0.0216	1.64	< 0.0002	0.00013	0.0019	0.000324	0.00068	0.002	0.00001
1	MS181-177.9-1	< 0.01	0.00720	0.0006	0.019	3.48	0.00099	2.22	< 0.00001	1.22	0.0274	0.91	< 0.0002	0.00007	0.0001	0.00178	0.00132	< 0.001	< 0.00001
1	MS206-380.1-1	< 0.01	0.00478	0.0007	0.052	1.42	0.00013	2.47	< 0.00001	3.18	0.0087	0.73	< 0.0002	0.00008	0.0035	0.000192	0.00171	0.003	0.00002
1	MWMT09-10-331.5-1	< 0.01	0.01230	0.0015	<0.009	1.62	0.00088	1.74	0.00006	1.65	0.0275	12.0	< 0.0002	0.00004	0.0003	0.000042	0.00041	0.002	0.00001
1	MS149-336.2-1	< 0.01	0.00034	0.0007	<0.009	2.61	0.00007	1.41	< 0.00001	0.63	0.0023	1.06	< 0.00002	0.00042	0.0009	0.000011	0.00129	0.158	0.00002
1	MS151-256.8-1	< 0.01	0.00045	0.0005	0.009	5.46	0.00006	1.85	< 0.00001	1.03	0.0059	0.34	< 0.00002	0.00014	0.0014	0.000185	0.00247	< 0.001	0.00002
1	MS157-260-1	< 0.01	0.00126	0.0005	0.018	7.47	0.00008	1.83	< 0.00001	1.16	0.0056	0.41	< 0.00002	0.00006	0.0019	0.000094	0.00238	0.002	0.00002
1	MS157-288.7-1	< 0.01	0.00113	0.0008	<0.009	3.47	0.00006	1.94	< 0.00001	2.01	0.0121	2.33	< 0.00002	0.00008	0.0014	0.000168	0.00135	< 0.001	0.00004
1	MS160-258.5-1	< 0.01	0.00016	0.0004	<0.009	6.18	< 0.00004	1.97	< 0.00001	0.87	0.0035	5.10	< 0.00002	0.00007	0.0025	0.000071	0.00291	0.003	0.00003
AVERAGE		**<0.01**	**0.00713**	**0.00072**	**0.01888**	**3.75571**	**0.00062**	**2.56**	**0.00006**	**2.12**	**0.0205**	**4.49214286**	**-**	**0.0001307**	**0.0011571**	**0.0002678**	**0.00130**	**0.018**	**0.00002**
3C	MS170-106.8-3C	< 0.01	0.00308	0.0006	0.022	1.24	0.00129	1.81	< 0.00001	0.37	0.0125	0.82	< 0.0002	0.00011	0.0005	0.000611	0.00134	0.003	0.00001
3C	MS206-259-3C	0.01	0.00391	0.0010	0.030	2.17	0.00208	2.27	< 0.00001	0.64	0.0160	1.33	< 0.0002	0.00011	0.0005	0.000667	0.01008	0.002	< 0.00001
3C	MS212-160.9-3C	< 0.01	0.01730	0.0011	0.026	0.93	0.00053	1.12	< 0.00001	0.70	0.0063	0.69	< 0.0002	0.00004	0.0003	0.000079	0.00063	0.001	< 0.00001
3C	MWMT09-10-185.1-3C	< 0.01	0.00558	0.0011	< 0.009	0.44	0.00606	2.34	< 0.00001	1.37	0.0122	1.92	< 0.0002	0.00005	0.0001	0.000586	0.00713	0.003	0.00001
3C	MWMT09-10-197-3C	< 0.01	0.00153	0.0005	0.016	0.82	0.00059	1.99	< 0.00001	0.61	0.0096	0.63	< 0.0002	0.00005	< 0.0001	0.000270	0.00295	< 0.001	0.00006
3C	MS142-185-3C/3D	< 0.01	0.02640	0.0020	< 0.009	0.90	0.02460	2.13	0.00003	2.53	0.0334	13.8	< 0.00002	0.00008	0.0004	0.002320	0.00482	0.001	0.00007
3C	MS143-275.2-3C	< 0.01	0.00405	0.0019	< 0.009	0.84	0.03910	2.48	0.00004	2.10	0.0401	20.3	< 0.00002	0.00019	0.0009	0.002540	0.01140	< 0.001	0.00004
3C	MS144-269.8-3C	< 0.01	0.00688	0.0009	< 0.009	4.28	0.01410	2.15	0.00005	0.94	0.0138	21.9	< 0.00002	0.00005	0.0020	0.002150	0.00207	< 0.001	0.00003
3C	MS149-285.9-3C	< 0.01	0.00362	0.0006	0.044	2.91	0.00347	2.21	< 0.00001	0.65	0.0164	0.85	< 0.00002	0.00006	0.0008	0.000645	0.03030	0.008	0.00002
3C	MS155-234.1-3C	< 0.01	0.00343	0.0006	0.009	3.37	0.00160	2.20	< 0.00001	0.36	0.0071	0.69	< 0.00002	0.00005	0.0030	0.000213	0.02740	0.002	< 0.00001
3C	MS157-112.2-3C	< 0.01	0.00093	0.0005	0.034	2.77	0.00068	2.18	< 0.00001	1.31	0.0138	0.74	< 0.00002	0.00010	0.0017	0.000375	0.01250	0.002	< 0.00001
3C	MS160-182.1-3C	< 0.01	0.00603	0.0005	0.023	2.18	0.00046	2.70	0.00001	5.47	0.0068	6.91	< 0.00002	0.00010	0.0032	0.000657	0.00452	0.003	0.00006
3C	MS160-183.5-3C	< 0.01	0.00039	0.0005	0.017	5.32	< 0.00004	2.01	< 0.00001	2.11	0.0053	0.44	< 0.00002	0.00015	0.0027	0.000175	0.00368	0.005	0.00001
3C	MS163-35.1-3H	< 0.01	0.00027	0.0015	< 0.009	4.15	0.00111	1.93	< 0.00001	0.69	0.0082	9.47	< 0.00002	0.00005	0.0026	0.000470	0.00071	0.002	0.00010
3C	MS181-50.9-3C	0.01	0.00080	0.0006	0.025	0.51	0.00007	2.04	< 0.00001	0.55	0.0079	1.41	< 0.00002	0.00010	0.0003	0.000184	0.00372	< 0.001	< 0.00001
3C	MS206-278.6-3C	< 0.01	0.00391	0.0006	< 0.009	1.55	0.00798	1.84	0.00001	0.68	0.0060	23.0	< 0.00002	0.00010	0.0006	0.001240	0.00753	0.002	0.00001
3C	MS229-107.2-3C	< 0.01	0.00452	0.0002	0.098	0.76	0.00013	2.36	< 0.00001	0.59	0.0166	2.24	< 0.00002	0.00007	< 0.0001	0.000109	0.00201	< 0.001	< 0.00001
AVERAGE		**0.01**	**0.00545**	**0.0009**	**0.031**	**2.07**	**0.00649**	**2.10**	**0.000028**	**1.27**	**0.0136**	**6.30**	**<0.0002**	**0.00009**	**0.0013**	**0.000782**	**0.00781**	**0.0028**	**0.00004**
CCME Guidelines for the Protection of Aquatic Life			0.073	0.11			0.001		0.0001				0.0008					0.03	

Notes: Analytical values in **BOLD** indicate an exceedance of the Canadian Water Quality Guidelines for the Protection of aquatic Life
* Sample is from 3H and laboratory results are consistent with 3C samples
< indicates less than the laboratory's lower detection limit

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TECHNICAL MEMO

ISSUED FOR USE

TO:	Rod Ambrosie	**DATE:**	December 6, 2013
C:		**MEMO NO.:**	
FROM:	Jonathon Dixon, P. Eng.	**EBA FILE:**	W23101211

SUBJECT: Mactung – December 2, 2013 YESAB Supplementary Information Request Response to R4 a Through e

This technical memo summarizes responses to a request for additional information received by North American Tungsten Corp. Ltd (NATCL) from the Yukon Environmental and Socio-economic Assessment Board (YESAB) regarding the Mactung Mine project proposal (YESAB Project No. 2008-0304). The request was sent in response to NATCL's January 2013 response to an earlier request for information from YESAB. Specifically, this memo responds to question R4. For clarity, we have inserted the text from the information request in this memo in bold and indented from the response text.

R4. Additional information to evaluate the geotechnical aspects of the ravine dam, the DSTF as proposed in the 2008 Project Proposal, and the expanded DSTF as proposed in the 2013 Adaptive Management Plat. Information should include:

a. Ground characterization, including at a minimum soil and ground water conditions and / or rock types, faults, joints, strength parameters of the ravine dam and DSTF;

In response to item a, digital copies of two geotechnical reports are included with this memo:

- "Mactung Preliminary Geotechnical Investigation" prepared by EBA Engineering Consultants Ltd. dated January 2008 (EBA File no. W14101014.002); and
- "Mactung Supplemental Geotechnical Investigation Near MacMillan Pass, Yukon" prepared by EBA Engineering Consultants Ltd., dated June 2009 (EBA File no. W14101014.005)

b. Geotechnical stability analyses of the ravine dam demonstrating that the required factors of safety can be achieved.

In response to item b, preliminary level stability analysis results are for the Ravine Dam are presented here. The analysis and results are summarized below and detailed stability cross sections are presented in Appendix A. The analysis was completed using the commercially available two-dimensional, limit equilibrium software SLOPE/W. (GEO-SLOPE International Ltd. version 7.22)

Assumed material properties used for the analysis are summarized in the following Table 1.

Table 1: Summary of Ravine Dam Assumed Material Properties

Material	Unit Weight (kN/m^3)	Internal Angle of Friction (°)	Cohesion (kPa)
Sand and Gravel (base)	22	35	0
Sand and Gravel (construction)	22	33	0
Toe Berm Fill	22	33	0
Liner Bedding	20	14	0
Shale (bedrock)	N/A	N/A	N/A

The properties in Table 1 are typical values for similar materials; site specific strength testing on granular materials for dam construction has not been completed. We consider these values to be conservative estimates for the proposed construction materials, but they should be confirmed during the detailed design phase with shear strength tests completed on materials collected from site. The bedrock was modelled as impenetrable as we don't expect a frictional failure to occur through the bedrock once the weathered and fractured cap material is removed, as described in the project proposal.

For the purpose of the analysis, we have modelled two cases, the pond at the maximum operating level (called full in the results summary) and the pond at the minimum operating level (called empty in the results summary). For the full case, we have assumed that the phreatic surface will be at the maximum pond elevation on the upstream side of the liner and the downstream side of the liner. For the empty case, we have assumed that the phreatic surface will be at the minimum operating pond level on the upstream side of the liner and will remain at the maximum operating level on the downstream side of the liner. While this effectively ignores the effects the liner will have on the phreatic surface within the dam, we consider it to be a very conservative case. We expect the phreatic surface to be much lower on the downstream side of the liner; however, without completing a seepage analysis, it is difficult to estimate where the phreatic surface will be. A complete seepage analysis is outside the scope of preliminary design and should be completed as part of detailed design, prior to dam construction.

For pseudo-static analyses, the Canadian Dam Association (CDA) Guidelines[1] recommend that seismic stability should be evaluated using a pseudo-static horizontal ground motions that correspond 1:1000 year event. Earthquakes Canada reports and interpolated peak ground acceleration of 0.179 g for this site for a 1:1000 year event.

The calculated factors of safety and the CDA recommended minimum factors of safety are presented in the following Table 2.

[1] Technical Bulletin: Geotechnical Considerations for Dam Safety, Canadian Dam Association, 2007

Table 2: Summary of Ravine Dam Stability Results

Case	Minimum Recommended Factor of Safety (CDA, 2007)	Calculated Factor of Safety
Static Upstream Empty – Shallow Failure	1.3	2.4
Static Downstream Empty – Shallow Failure	1.3	1.5
Static Upstream Full – Shallow Failure	1.5	2.0
Static Downstream Full – Shallow Failure	1.5	1.4
Static Upstream Empty – Deep Failure	1.3	2.6
Static Downstream Empty – Deep Failure	1.3	1.5
Static Upstream Full – Deep Failure	1.5	2.5
Static Downstream Full – Deep Failure	1.5	1.5
Pseudo-static Upstream Full	1.0	1.0
Pseudo-static Downstream Full	1.0	1.0
Psuedo-static Upstream Empty	1.0	1.3
Pseudo-static Downstream Empty	1.0	1.0

The preliminary design meets the minimum recommended factors of safety presented in the CDA Guidelines; however, further analyses will be required during the detailed design phase. In particular, seepage and rapid drawdown analyses have not been completed. These cases may impact construction and/or operational practices, but should not be determining factors in overall stability of the dam.

c. Characterization of the tailings properties to be used in design of the DSTF;

d. Details of assumptions regarding the ground water table within the DSTF for stability analysis purposes;

e. Geotechnical stability analyses demonstrating that the required factors of safety can be achieved for both the overall slope and the individual 10 m high benches of the DSTF;

Responses the items c, d, and e, are presented below.

The assumed material properties for the stability analysis are presented in Table 3.

Table 3: Summary of DSTF Assumed Material Properties

Material	Unit Weight (kN/m^3)	Internal Angle of Friction (°)	Cohesion (kPa)
Sand and Gravel (base)	22	35	0
Tailings	17.5	28	0
Bedrock	N/A	N/A	N/A

The sand and gravel was assumed to be similar to the material at the Ravine Dam. Tailings properties were assumed based on previous experience with dry stack tailings in Yukon, at both the Minto Mine and the Belkeno Mine. Test results from those two sites has shown that the tailings typically have an internal angle of friction of approximately 35° and a unit weight between 17.3 and 23.0 kN/m^3. As the nature of the final grind of the tailings is not yet known, we have assumed a lower value for internal angle of friction to maintain a conservative design. The actual internal angle of friction of the tailings will be confirmed with soil testing during detailed design, prior to construction.

The analysis has been conducted in a similar manner to that of the Ravine Dam; however, the recommended factors of safety and the design ground motions have been adopted from the British Columbia Interim Guidelines for Investigation and Design of Mine Dumps (Waste Rock Design Manual) prepared by Piteau Associates Engineering Ltd[2].

We have assumed that the ground water table will be at the contact between the tailings and the existing ground. While in practice we don't expect the ground water to contact the tailings, this is a conservative estimate for the purpose of stability modelling.

For pseudo-static analyses, the Waste Rock Design Manual recommends that seismic stability should be evaluated using a pseudo-static horizontal ground motion that corresponds to a 10% probability of exceedance in 50 years (1:500 year event). Earthquakes Canada reports an interpolated peak ground acceleration of 0.137 g for this site for a 1:500 year event.

Results of the stability analysis are summarized in Table 4; plots of the results are presented in Appendix B.

Table 4: Summary of DSTF Stability Results

Case	Minimum Recommended Factor of Safety[1]	Calculated Factor of Safety
Static – Bench Failure	1.2	1.6
Static – Deep Seated Failure	1.1	2.1
Pseudo-static – Bench Failure	1.0	1.1
Pseudo-static – Deep Seated Failure	1.0	1.3

[1] Recommended factors of safety from Waste Rock Design Manual

The preliminary design meets the minimum recommended factors of safety presented in the Waste Rock Design Manual. The analyses will be updated when site specific data are available during detailed design. However, due to the conservative nature of the preliminary analysis assumptions, it is likely that the final design will meet or exceed the minimum recommended factors of safety.

LIMITATIONS OF MEMO

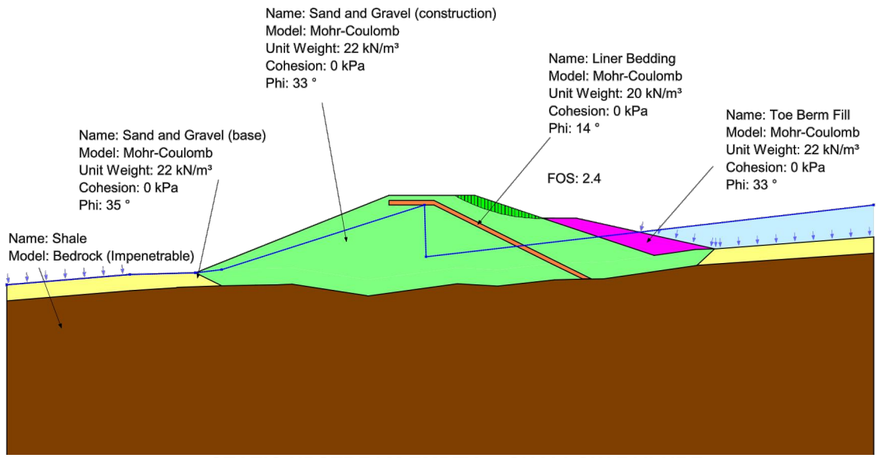
This memo and its contents are intended for the sole use of North American Tungsten Corp. Ltd. and their agents. EBA Engineering Consultants Ltd. does not accept any responsibility for the accuracy of any of the data, the analysis, or the recommendations contained or referenced in the memo when the report is used or relied upon by any Party other than North American Tungsten Corp. Ltd., or for any Project other than the proposed development at the subject site. Any such unauthorized use of this memo is at the sole risk of the user. Use of this memo is subject to the terms and conditions stated in EBA's Services Agreement. EBA's General Conditions are attached to this memo.

[2] Investigation and Design of Mine Dups Interim Guidelines, Piteau Associated Engineering Ltd., May 1991

APPENDIX A

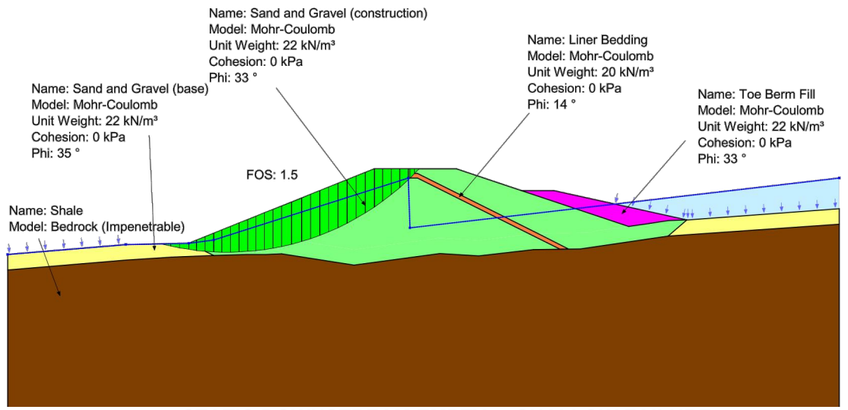
RAVINE DAM STABILTY ANALYSIS PLOTS

Mactung Ravine Dam Stability Analysis
Analysis Case: Static
Method: Morgenstern-Price
PWP Conditions Source: Piezometric Line
Length(L) Units: meters
Minimum Slip Surface Depth: 3 m
Horizontal Seismic Load: 0



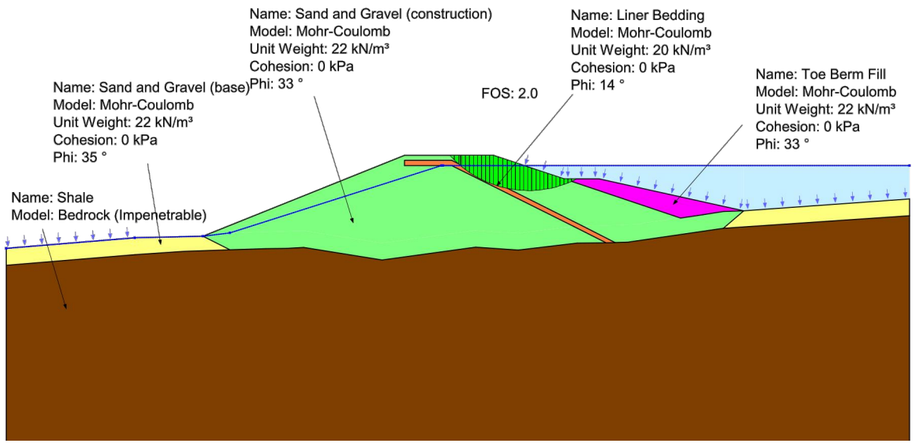
STATIC UPSTREAM EMPTY - SHALLOW FAILURE

Mactung Ravine Dam Stability Analysis
Analysis Case: Static
Method: Morgenstern-Price
PWP Conditions Source: Piezometric Line
Length(L) Units: meters
Minimum Slip Surface Depth: 3 m
Horizontal Seismic Load: 0



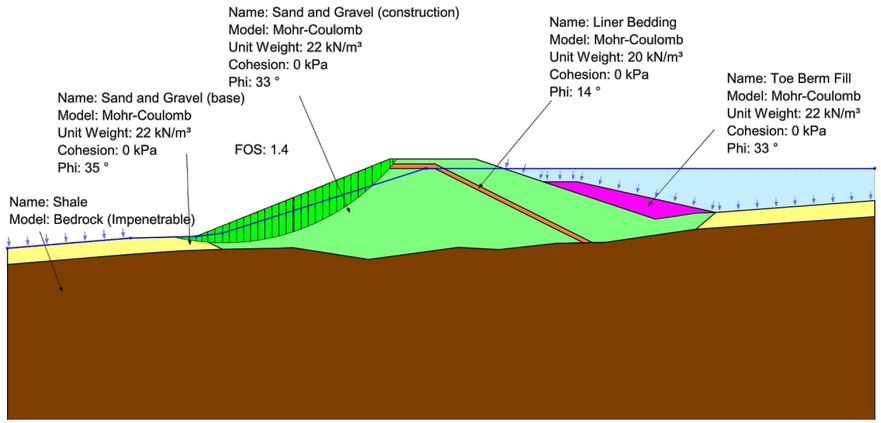
STATIC DOWNSTREAM EMPTY - SHALLOW FAILURE

Mactung Ravine Dam Stability Analysis
Analysis Case: Static
Method: Morgenstern-Price
PWP Conditions Source: Piezometric Line
Length(L) Units: meters
Minimum Slip Surface Depth: 3 m
Horizontal Seismic Load: 0



STATIC UPSTREAM FULL - SHALLOW FAILURE

Mactung Ravine Dam Preliminary Stability Analysis
Analysis Case: Static
Method: Morgenstern-Price
PWP Conditions Source: Piezometric Line
Length(L) Units: meters
Minimum Slip Surface Depth: 3 m
Horizontal Seismic Load: 0



STATIC DOWNSTREAM FULL - SHALLOW FAILURE

CLIENT
NORTH AMERICAN TUNGSTEN CORPORATION LTD

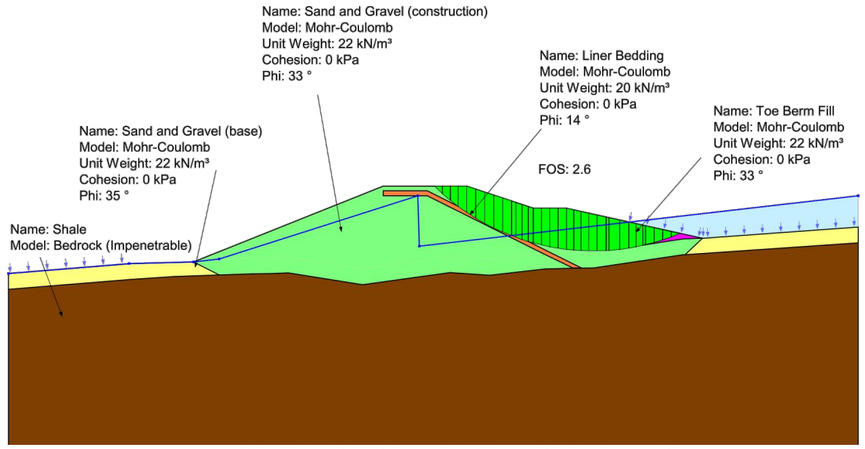
MACTUNG - DECEMBER 2, 2013
YESAB SUPPLEMENTARY INFORMATION REQUEST RESPONSE TO R4

RAVINE DAM MODELS

A TETRA TECH COMPANY

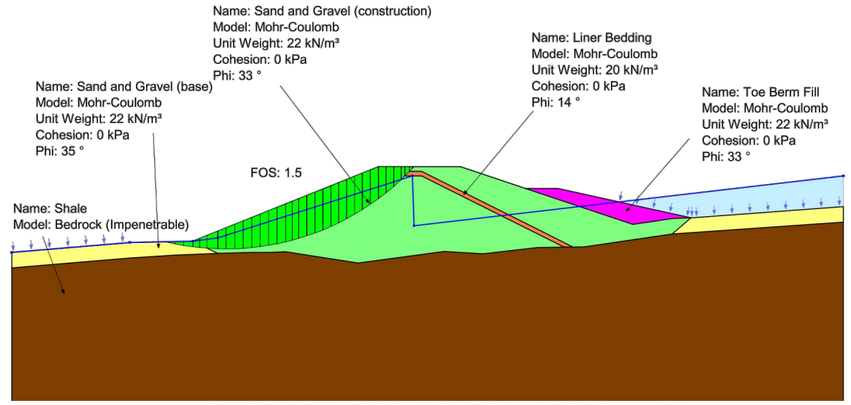
PROJECT NO.	DWN	CKD	REV	
W23101211.004	CB	JGD	0	A1
OFFICE	DATE			
EBA-WHSE	December 6, 2013			

Mactung Ravine Dam Preliminary Stability Analysis
Analysis Case: Static Deep Seated
Method: Morgenstern-Price
PWP Conditions Source: Piezometric Line
Length(L) Units: meters
Minimum Slip Surface Depth: 3 m
Horizontal Seismic Load: 0



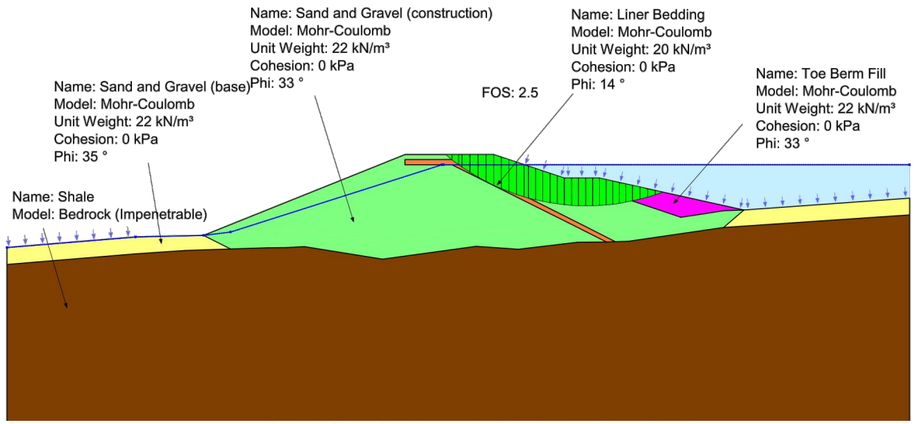
STATIC UPSTREAM EMPTY - DEEP FAILURE

Mactung Ravine Dam Stability Analysis
Analysis Case: Static Deep Seated
Method: Morgenstern-Price
PWP Conditions Source: Piezometric Line
Length(L) Units: meters
Minimum Slip Surface Depth: 3 m
Horizontal Seismic Load: 0



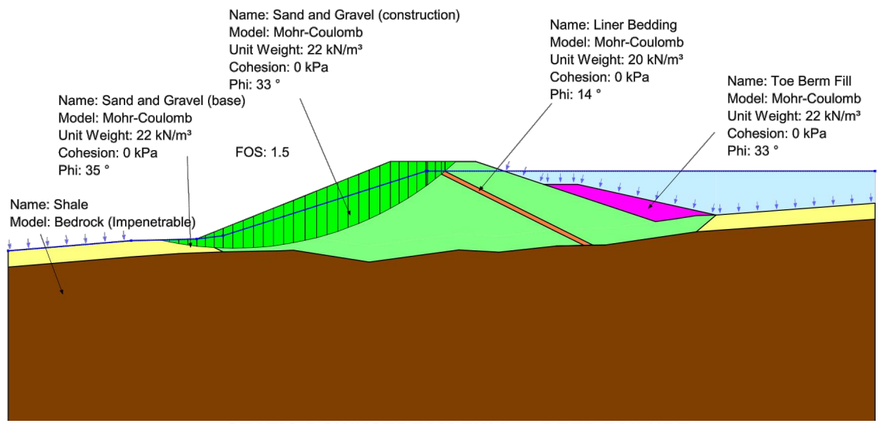
STATIC DOWNSTREAM EMPTY - DEEP FAILURE

Mactung Ravine Dam Preliminary Stability Analysis
Analysis Case: Static Deep Seated
Method: Morgenstern-Price
PWP Conditions Source: Piezometric Line
Length(L) Units: meters
Minimum Slip Surface Depth: 3 m
Horizontal Seismic Load: 0



STATIC UPSTREAM FULL - DEEP FAILURE

Mactung Ravine Dam Preliminary Stability Analysis
Analysis Case: Static Deep Seated
Method: Morgenstern-Price
PWP Conditions Source: Piezometric Line
Length(L) Units: meters
Minimum Slip Surface Depth: 3 m
Horizontal Seismic Load: 0



STATIC DOWNSTREAM FULL - DEEP FAILURE

CLIENT
NORTH AMERICAN TUNGSTEN CORPORATION LTD

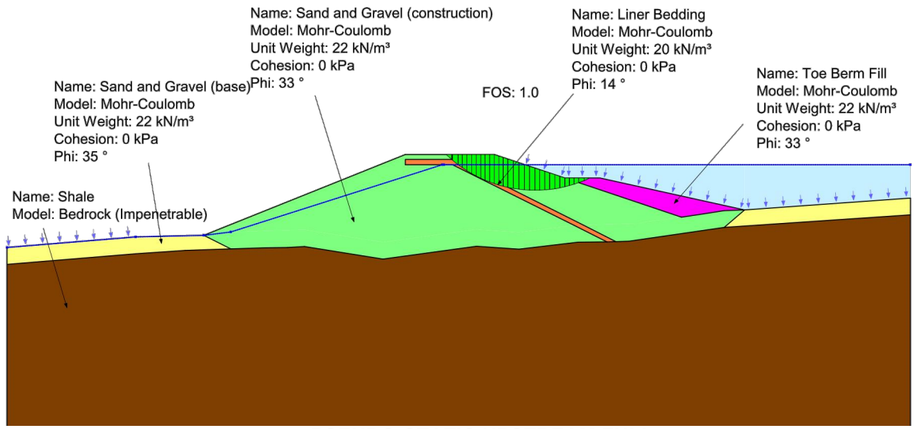
MACTUNG - DECEMBER 2, 2013
YESAB SUPPLEMENTARY INFORMATION REQUEST RESPONSE TO R4

RAVINE DAM MODELS

eba A TETRA TECH COMPANY

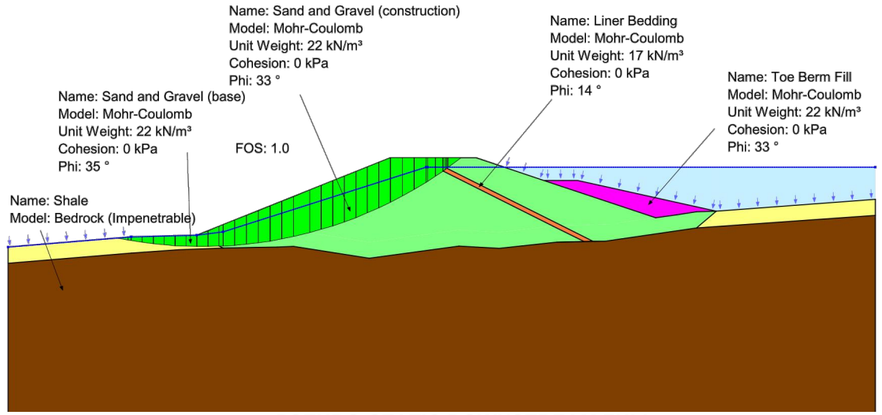
PROJECT NO.	DWN	CKD	REV	
W23101211.004	CB	JGD	0	A2
OFFICE	DATE			
EBA-WHSE	December 6, 2013			

Mactung Ravine Dam Preliminary Stability Analysis
Analysis Case: Dynamic 1:1000
Method: Morgenstern-Price
PWP Conditions Source: Piezometric Line
Length(L) Units: meters
Minimum Slip Surface Depth: 3 m
Horizontal Seismic Load: 0.179



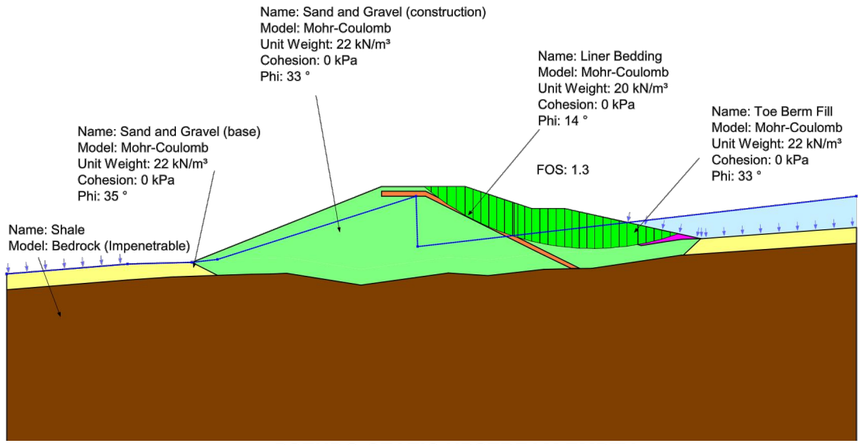
PSEUDO-STATIC UPSTREAM FULL

Mactung Ravine Dam Preliminary Stability Analysis
Analysis Case: Dynamic 1:1000
Method: Morgenstern-Price
PWP Conditions Source: Piezometric Line
Length(L) Units: meters
Minimum Slip Surface Depth: 3 m
Horizontal Seismic Load: 0.179



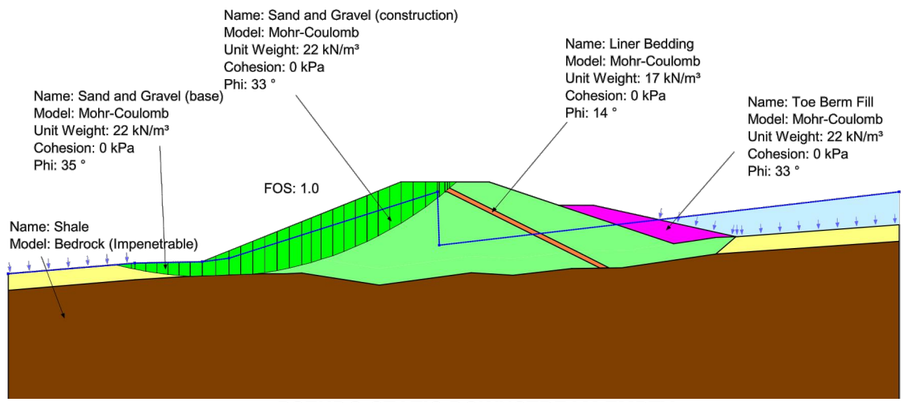
PSEUDO-STATIC DOWNSTREAM FULL

Mactung Ravine Dam Preliminary Stability Analysis
Analysis Case: Dynamic 1:1000
Method: Morgenstern-Price
PWP Conditions Source: Piezometric Line
Length(L) Units: meters
Minimum Slip Surface Depth: 3 m
Horizontal Seismic Load: 0.179



PSEUDO-STATIC UPSTREAM EMPTY

Mactung Ravine Dam Stability Analysis
Analysis Case: Dynamic 1:1000
Method: Morgenstern-Price
PWP Conditions Source: Piezometric Line
Length(L) Units: meters
Minimum Slip Surface Depth: 3 m
Horizontal Seismic Load: 0.179



PSEUDO-STATIC DOWNSTREAM EMPTY

CLIENT
NORTH AMERICAN TUNGSTEN CORPORATION LTD

MACTUNG - DECEMBER 2, 2013
YESAB SUPPLEMENTARY INFORMATION REQUEST RESPONSE TO R4

RAVINE DAM MODELS

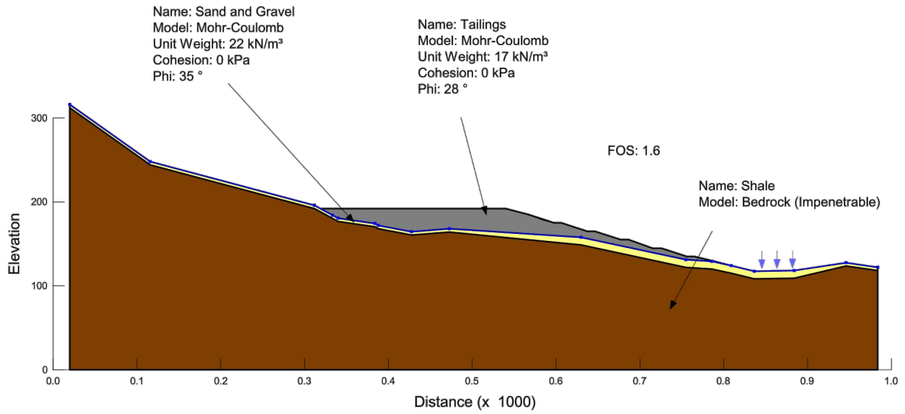
eba A TETRA TECH COMPANY

PROJECT NO.	DWN	CKD	REV	
W23101211.004	CB	JGD	0	A3
OFFICE: EBA-WHSE	DATE: December 6, 2013			

APPENDIX B

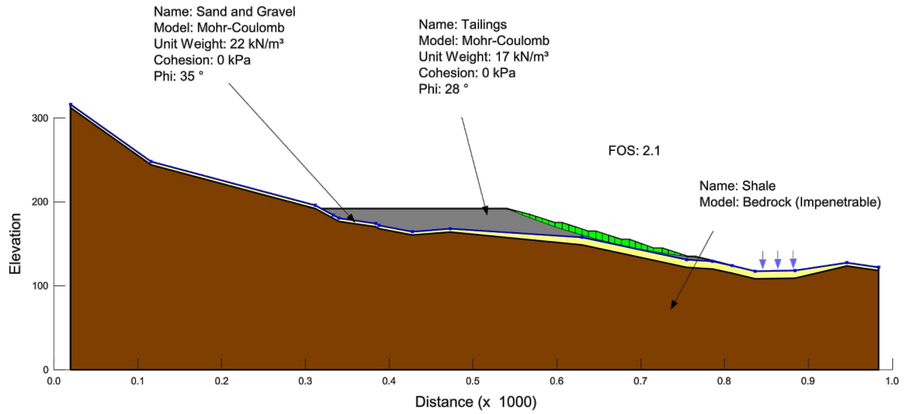
DSTF STABILITY ANALYSIS PLOTS

Mactung DSTF Conceptual Stability Analysis
Analysis Case: Static Bench
Method: Morgenstern-Price
PWP Conditions Source: Piezometric Line
Length(L) Units: meters
Minimum Slip Surface Depth: 1 m
Horizontal Seismic Load: 0



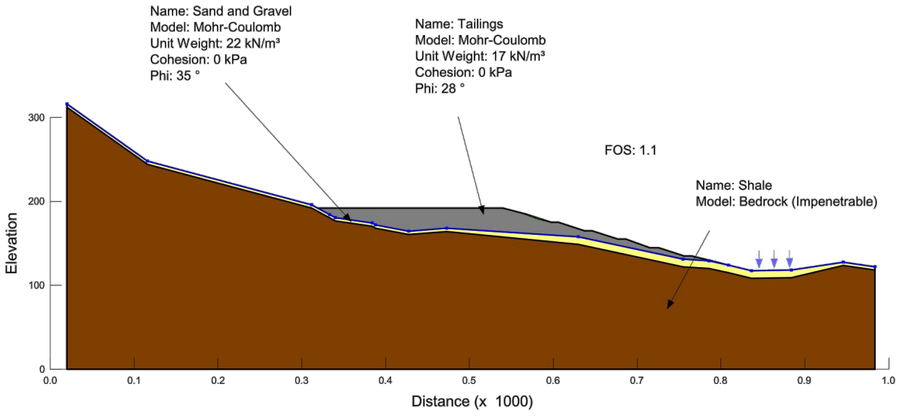
STATIC - BENCH FAILURE

Mactung DSTF Conceptual Stability Analysis
Analysis Case: Static Deep Seated
Method: Morgenstern-Price
PWP Conditions Source: Piezometric Line
Length(L) Units: meters
Minimum Slip Surface Depth: 2 m
Horizontal Seismic Load: 0



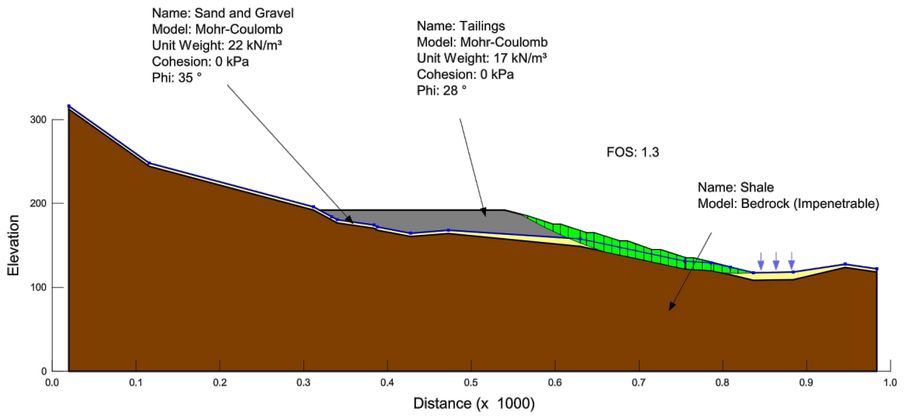
STATIC - DEEP SEATED FAILURE

Mactung DSTF Conceptual Stability Analysis
Analysis Case: Dynamic Bench
Method: Morgenstern-Price
PWP Conditions Source: Piezometric Line
Length(L) Units: meters
Minimum Slip Surface Depth: 1 m
Horizontal Seismic Load: 0.137



PSEUDO-STATIC - BENCH FAILURE

Mactung DSTF Conceptual Stability Analysis
Analysis Case: Deep Seated Dynamic
Method: Morgenstern-Price
PWP Conditions Source: Piezometric Line
Length(L) Units: meters
Minimum Slip Surface Depth: 1 m
Horizontal Seismic Load: 0.137



PSEUDO-STATIC - DEEP SEATED FAILURE

CLIENT
NORTH AMERICAN TUNGSTEN CORPORATION LTD

MACTUNG - DECEMBER 2, 2013
YESAB SUPPLEMENTARY INFORMATION REQUEST RESPONSE TO R4

DRY STACK TAILINGS FACILITY MODELS

eba A TETRA TECH COMPANY

PROJECT NO.	DWN	CKD	REV	
W23101211.004	CB	JGD	0	B1
OFFICE	DATE			
EBA-WHSE	December 6, 2013			

APPENDIX C
EBA'S GENERAL CONDITIONS

GENERAL CONDITIONS

DESIGN REPORT

This report incorporates and is subject to these “General Conditions”.

1.0 USE OF REPORT AND OWNERSHIP

This Design Report pertains to a specific site, a specific development, and a specific scope of work. The Design Report may include plans, drawings, profiles and other support documents that collectively constitute the Design Report. The Report and all supporting documents are intended for the sole use of EBA’s Client. EBA does not accept any responsibility for the accuracy of any of the data, analyses or other contents of the Design Report when it is used or relied upon by any party other than EBA’s Client, unless authorized in writing by EBA. Any unauthorized use of the Design Report is at the sole risk of the user.

All reports, plans, and data generated by EBA during the performance of the work and other documents prepared by EBA are considered its professional work product and shall remain the copyright property of EBA.

2.0 ALTERNATIVE REPORT FORMAT

Where EBA submits both electronic file and hard copy versions of reports, drawings and other project-related documents and deliverables (collectively termed EBA’s instruments of professional service), only the signed and/or sealed versions shall be considered final and legally binding. The original signed and/or sealed version archived by EBA shall be deemed to be the original for the Project.

Both electronic file and hard copy versions of EBA’s instruments of professional service shall not, under any circumstances, no matter who owns or uses them, be altered by any party except EBA. EBA’s instruments of professional service will be used only and exactly as submitted by EBA.

Electronic files submitted by EBA have been prepared and submitted using specific software and hardware systems. EBA makes no representation about the compatibility of these files with the Client’s current or future software and hardware systems.

3.0 ENVIRONMENTAL AND REGULATORY ISSUES

Unless so stipulated in the Design Report, EBA was not retained to investigate, address or consider, and has not investigated, addressed or considered any environmental or regulatory issues associated with the project specific design.

4.0 CALCULATIONS AND DESIGNS

EBA has undertaken design calculations and has prepared project specific designs in accordance with terms of reference that were previously set out in consultation with, and agreement of, EBA’s client. These designs have been prepared to a standard that is consistent with industry practice. Notwithstanding, if any error or omission is detected by EBA’s Client or any party that is authorized to use the Design Report, the error or omission should be immediately drawn to the attention of EBA.

5.0 GEOTECHNICAL CONDITIONS

A Geotechnical Report is commonly the basis upon which the specific project design has been completed. It is incumbent upon EBA’s Client, and any other authorized party, to be knowledgeable of the level of risk that has been incorporated into the project design, in consideration of the level of the geotechnical information that was reasonably acquired to facilitate completion of the design.

If a Geotechnical Report was prepared for the project by EBA, it will be included in the Design Report. The Geotechnical Report contains General Conditions that should be read in conjunction with these General Conditions for the Design Report.

6.0 INFORMATION PROVIDED TO EBA BY OTHERS

During the performance of the work and the preparation of the report, EBA may rely on information provided by persons other than the Client. While EBA endeavours to verify the accuracy of such information when instructed to do so by the Client, EBA accepts no responsibility for the accuracy or the reliability of such information which may affect the report.