North American Tungsten Corporation Limited

ISSUED FOR REVIEW

RESPONSE TO YESAB'S ADEQUACY REVIEW REPORT OF SUPPLEMENTARY INFORMATION RESPONSE FOR THE PROPOSED MACTUNG MINE, MACMILLAN PASS, YUKON (YESAB PROJECT NUMBER: 2008-0304)

ADDENDUM 2 OF THE MACTUNG PROJECT PROPOSAL

EBA FILE: W23101211.002

September 2009

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APPENDICES

1.0 INTRODUCTION

This document contains North American Tungsten Corporation's (NATC) response to the Yukon Environmental and Socio-economic Assessment Board's (YESAB) Adequacy Review Report of Supplementary Information Response dated September 2009 (YESAB Project #2008-0304). This document is Addendum 2 to the Project Proposal which was submitted to YESAB in December 2008. Although most of the information is contained within the Project Proposal and Addendum 1, the information contained within Addendum 2 supersedes the relevant sections of both the Project Proposal and the first Addendum.

To help the reader each follow the document, each of NATC's responses follows the text of each information requests issued by YESAB. These requests have been presented with a grey background in order to clearly separate the request from the response. Further, the responses presented below contain the same numbering presented in the Adequacy Review Report of Supplementary Information Response.

2.0 GENERAL INFORMATION

NATC has committed to the provision of results from its kinetic testing program. In keeping with this commitment, please find the humidity cell kinetic data, as an update to the information contained in the Supplementary Geochemical Information for Waste and Mineralized Rocks report submitted to the Board in July 2009, attached in Appendix A.

3.0 SUPPLEMENTARY INFORMATION REQUIRED

3.1 DESIGN OF THE ACCESS ROAD TO THE MINE

Additional Information Requirements

The Executive Committee is of the opinion that there remains insufficient information in order to understand the potential effects of the proposed access road to the mine. Please provide the following information.

a) A route map at an appropriate scale to show the location of the proposed access road relative to surrounding terrain features and topography, particularly those terrain units that could constrain routing (geo-hazards). An example of appropriate terrain mapping for linear developments can be found in the proposal for project #2006-0286 (Yukon Energy Corporation Carmacks-Stewart/Minto Spur Transmission Project).

Please refer to Figures 1.1-1.5 contained within Appendix B for mapping of the proposed mine road and associated terrain features. The Figures have been identified as "Preliminary" as they have been developed for assessment purposes only and are not suitable for site construction.

It should be noted that Figures 1.1-1.4 displays terrain hazard mapping based on an analysis of the area along the road route from the North Canol Road to approximately ten kilometres from the mine. Figure 1.5 presents the terrain mapping for the remaining ten kilometres in the immediate mine area with more detail, as a result of the extensive ground work conducted by NATC in the mine site area on the companies mining claims.

b) Provide the proposed access on the route map where additional access will need to be constructed for the borrow sources identified in Figures 3.1.1-1 and 3.4.1-2 (Response to Adequacy Review Report).

Please refer to Figures 1.6-1.7, contained within Appendix B, for a presentation of borrow sites and their proposed access routes. It should be noted that borrow sites 1, 2, 9, 10, 11, 12, and 13 overlap with the proposed road right-of-way and therefore will not require the development of access roads. Further, borrow sites 7, 14, and 15 may have more complex access requirements due to their physical location. For this reason NATC will consider these borrow sources as provisional. These sites will only be developed if the necessary material cannot be sourced from the other borrow pits in the area of road construction. As stated in Addendum 1, NATC has identified more borrow resources than it anticipates will be required.

As presented in Figure 1.7, access to borrow site 7 would be developed from borrow site 8. Access to borrow sites 14 and 15 would require a stream crossing across at Tributary A.. This would be done by installing the appropriate size culvert; the method for culvert sizing and installation has been outlined in the Project Proposal. The development of these sites would be done only if absolutely necessary and would be completed only after freshet. It is expected that these borrow sites would be utilized for one season after which the site would be reclaimed and the culvert removed.

3.2 MINE SITE GRANULAR RESOURCES AND QUARRY DEVELOPMENT

Additional Information Requirements

The Executive Committee is of the opinion that there remains insufficient information in order to understand the potential effects of developing the mine site granular resources and quarry. Please provide the following information.

a) Detail an estimate of the volumes of appropriate granular resources available for mine site engineering fill at each borrow sources.

It is understood that YESAB may have concerns regarding the amount of fill available at the site needed for the project. As stated, mine site development will require approximately 500,000 m^3 of fill.

Analyses of the material available at the mine site for construction was conducted by EBA using available information, including site photographs, aerial photographs, National Topographic Survey maps and anecdotal information as well as field data resulting from the 2007 geotechnical drilling program.

In order to determine the amount of material available at the mine site, EBA performed geotechnical drilling programs at the Mactung mine site. These investigations were undertaken in 2007 for the purpose of determining the soil and bedrock conditions of the proposed site and to provide preliminary geotechnical information in the vicinity of proposed infrastructure and borrow sites.

The mine site investigation consisted of drilling 42 vertical boreholes and excavating 42 testpits. Boreholes were drilled until a point of refusal and testpits were dug to a depth of 4.5-5.0 m, (the practical reach of the equipment used in the investigations). Borehole and testpit logs were maintained for each site of investigation. Further, this investigation resulted in the preparation of the "Mactung Preliminary Geotechnical Investigation - 2008".

For the delineation of fill for the project, EBA, used the results of the borehole and testpit logs and laboratory test results, specifically type and depth of material as well as the area of each site, determined through the use of maps. This information allowed for the determination of volume.

The volume of materials available at each borrow site is summarized as follows:

- Ravine Dam Reservoir Borrow Site – 81,000 m^3
- DSTF Borrow Site – 448,000 m^3

These volumes were determined by calculating the average thickness of sand and gravel overlying bedrock at the two locations then subtracting 0.5 m to account for loss during surface stripping. The remaining thickness of sand and gravel was 1.5 m and 2.3 m for the reservoir and DSTF locations, respectively. EBA then conservatively estimated, based on testhole logs and laboratory test results that, at a minimum, 50% of the remaining material would be suitable for use as engineered fill. The areas of the proposed borrow sites are 108,000 m^2 and 390,000 m^2, respectively. Therefore the usable volume in reservoir and DSTF borrow sites would be 81,000 m^3 and 448,000 m^3, respectively.

The 50% usable material estimate is a very conservative estimate, and based on the information available EBA believes that up to 75% of the available material may be usable. If 75% of the material is usable, then the volume of material available in the reservoir and DSTF borrow sites would be 121,000 m^3 and 663,000 m^3, respectively.

Based on these investigations as well as preliminary mine site designs, it is EBA's opinion that the site will offer more than the required material for the project.

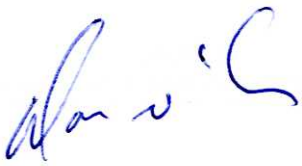
b) If there is not sufficient granular material available in the borrow pits to meet the engineered fill requirements for min site construction, please identify and detail sources of additional appropriate granular resources and/or non-acid generating bedrock.

It is believed that the sites identified for use will be sufficient for the purpose of this project and that no other borrow pits will be needed.

4.0 CLOSURE

We trust this report meets your present requirements. Should you have any questions or comments, please contact the undersigned at your convenience.

Sincerely
EBA Engineering Consultants Ltd.



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APPENDIX A

APPENDIX A HUMIDITY CELL KINETIC UPDATE

Table 1.0: Summary Information for Mactung Tailings Composit Humidity Cells

Cell No.	Sample ID	Sample Type	Method Reference	Column Dimensions			Column Packing			Pore Volume	Total Volume of Initial Flushings	Flushing Rate / Weekly Input*	Temp	Sampling Frequency	Start-up Date	Sampling Day	Operation Procedure	Sample Prep for Flushings
				Inner Diameter (cm)	Length (cm)	Distance from Top of Column to Sample (cm)	Dry Wt. of Sample (kg)	Other Materials Used	Column Material	(mL)	(mL)	(mL)	(°C)		**2009**			
T1	50051-001 Drill Core Composite Mill Tailings	Tailings	MEND	21.00	20.50		1.00	Plexiglas perforated disk & nylon mesh	Plexiglas		750	500	20-22 °C	Weekly	23-Jun	Tuesday	Flood Leach	Stirred
T2	50051-001 Tailings 2005 Drill Core Composite	Tailings	MEND	21.00	20.50		1.00	Plexiglas perforated disk & nylon mesh	Plexiglas		750	500	20-22 °C	Weekly	30-Jun	Tuesday	Flood Leach	Stirred

Table: T1 Leachate Chemistry Results for 2008 Drill Core Composite Tailings

Sample = 50051-001 Drill Core Composite Mill Tailings

Date	Cycle No.	Volume mL		pH	ORP	Cond.	Acidity (pH 4.5)	Acidity (pH 8.3)	Alkalinity	Sulphate	Hardness CaCO3	Al	Sb	As	Ba	Be	Bi	B	Cd	Ca	Cr	Co	Cu	Fe	Pb
		Input	Output		mV	umhos/cm	mgCaCO3/L	mgCaCO3/L	mgCaCO3/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
23-Jun-09	1	750	250	8.96	315	861	#N/A	#N/A	224.8	314	6.5	0.244	0.0098	0.0958	0.0029	0.0001	0.00445	<0.5	0.00025	2.28	<0.001	0.00104	0.0364	0.705	0.00814
30-Jun-09	2	500	440	8.60	291	1037																			
7-Jul-09	3	500	380	8.37	329	1214	#N/A	#N/A	233.7	293	11	0.176	0.0258	0.183	0.0016	0.0001	0.00931	<0.5	0.00007	3.88	<0.001	0.0006	0.0204	0.521	0.00294
14-Jul-09	4	500	440	8.45	304	1050																			
21-Jul-09	5	500	460	8.40	299	961	#N/A	#N/A	228.9	193	17.2	0.387	0.0201	0.0802	0.0022	0.00023	0.0286	<0.3	0.00026	6.02	<0.0005	0.0003	0.0138	1.21	0.00673
28-Jul-09	6	500	455	8.23	329	783																			
4-Aug-09	7	500	485	8.21	336	655	#N/A	2.1	160.3	175	36.4	0.138	0.0151	0.0841	0.00181	0.00007	0.0092	<0.05	0.00011	13	0.0005	0.000163	0.00855	0.368	0.00243
11-Aug-09	8	500	465	8.15	308	625																			
18-Aug-09	9	500	475	7.83	281	588	#N/A	4.2	92.8	181	125	0.0277	0.0126	0.039	0.00309	0.00002	0.000791	<0.05	0.000186	44.7	<0.0001	0.000198	0.00423	0.035	0.000238
25-Aug-09	10	500	485	8.10	333	521																			
1-Sep-09	11	500	440																						

Table: T1 Leachate Chemistry Results for 2008 Drill Core Composite Tailings

Sample = 50051-001 Drill Core Composite Mill Tailings

Date	Cycle No.	Volume mL		Li	Mg	Mn	Hg	Mo	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr	Major Anions	Major Cations	Diff	Diff (%)
		Input	Output	mg/L	mg/L	mg/L	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				
23-Jun-09	1	750	250	<0.005	0.2	0.0171	<0.1	0.0382	0.0023	0.698	4.12	0.0086	13.7	0.00087	211	0.0152	176	0.00003	0.0024	<0.005	0.00624	0.02	0.004	<0.001	11.04	9.41	-1.63	-8.0%
30-Jun-09	2	500	440																									
7-Jul-09	3	500	380	<0.005	0.32	0.0241	<0.1	0.0252	0.0029	<0.02	4.07	0.016	9.53	0.00013	227	0.0319	229	0.00002	0.0004	<0.005	0.0117	0.004	0.005	<0.001	10.78	10.19	-0.58	-2.8%
14-Jul-09	4	500	440																									
21-Jul-09	5	500	460	0.006	0.54	0.0479	<0.05	0.0065	0.0022	0.021	5.09	0.0075	10.4	0.00005	205	0.039	82	0.00003	0.00034	0.006	0.0055	0.002	0.0068	<0.0005	8.60	9.39	0.79	4.4%
28-Jul-09	6	500	455																									
4-Aug-09	7	500	485	0.0063	0.99	0.0642	<0.01	0.00527	0.00068	0.008	5.84	0.00309	9.14	0.000011	127	0.0643	66	0.000032	0.00028	0.002	0.0031	0.0013	0.0032	<0.0001	6.85	6.40	-0.45	-3.4%
11-Aug-09	8	500	465																									
18-Aug-09	9	500	475	0.0095	3.18	0.149	<0.01	0.00499	0.00072	0.004	8.38	0.00175	8.37	<0.000005	79.3	0.164	82	0.000045	0.00016	<0.0005	0.00164	0.0004	0.0063	<0.0001	5.63	6.15	0.53	4.5%
25-Aug-09	10	500	485																									
1-Sep-09	11	500	440																									

Table T2: Leachate Chemistry Results for 2005 Drill Core Composite Tailings

Sample = 50051-001 Tailings 2005 Drill Core Composite

Date	Cycle No.	Volume mL		pH	ORP	Cond.	Acidity (pH 4.5)	Acidity (pH 8.3)	Alkalinity	Sulphate	Hardness CaCO3	Al	Sb	As	Ba	Be	Bi	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Li	Mg	Mn	Hg
		Input	Output		mV	umhos/cm	mgCaCO3/L	mgCaCO3/L	mgCaCO3/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	ug/L
30-Jun-09	1	750	235	8.81	295	740	#N/A	#N/A	248.0	32	27	0.28	0.0034	0.0347	0.0181	<0.0001	0.00005	<0.5	0.00085	7.6	<0.001	0.00055	0.0114	0.566	0.00077	<0.005	1.94	0.0154	<0.5
7-Jul-09	2	500	460	9.02	292	967																							
14-Jul-09	3	500	455	8.87	267	912	#N/A	#N/A	316.8	66	5.3	0.083	0.0201	0.195	0.0007	<0.0002	0.0002	<1	<0.0001	2.1	<0.002	0.0002	0.016	0.099	0.0008	<0.01	<0.2	0.006	<0.2
21-Jul-09	4	500	435	8.56	287	845																							
28-Jul-09	5	500	475	8.32	316	770	#N/A	#N/A	199.4	179	14.8	0.064	0.0182	0.13	0.0014	<0.00005	0.00028	<0.3	0.00008	5.33	<0.0005	0.00012	0.008	0.063	0.00071	0.009	0.37	0.0137	0.07
4-Aug-09	6	500	425	8.11	338	754																							
11-Aug-09	7	500	460	8.09	312	719	#N/A	4.0	102.9	274	98.8	0.026	0.0104	0.0898	0.0049	<0.00005	<0.00003	<0.3	0.00004	35.6	<0.0005	0.00021	0.0031	0.008	0.00029	0.018	2.39	0.0771	<0.05
18-Aug-09	8	500	460	7.93	296	625																							
25-Aug-09	9	500	425	8.08	336	606	#N/A	3.4	74.9																				
1-Sep-09	10	500	490																										

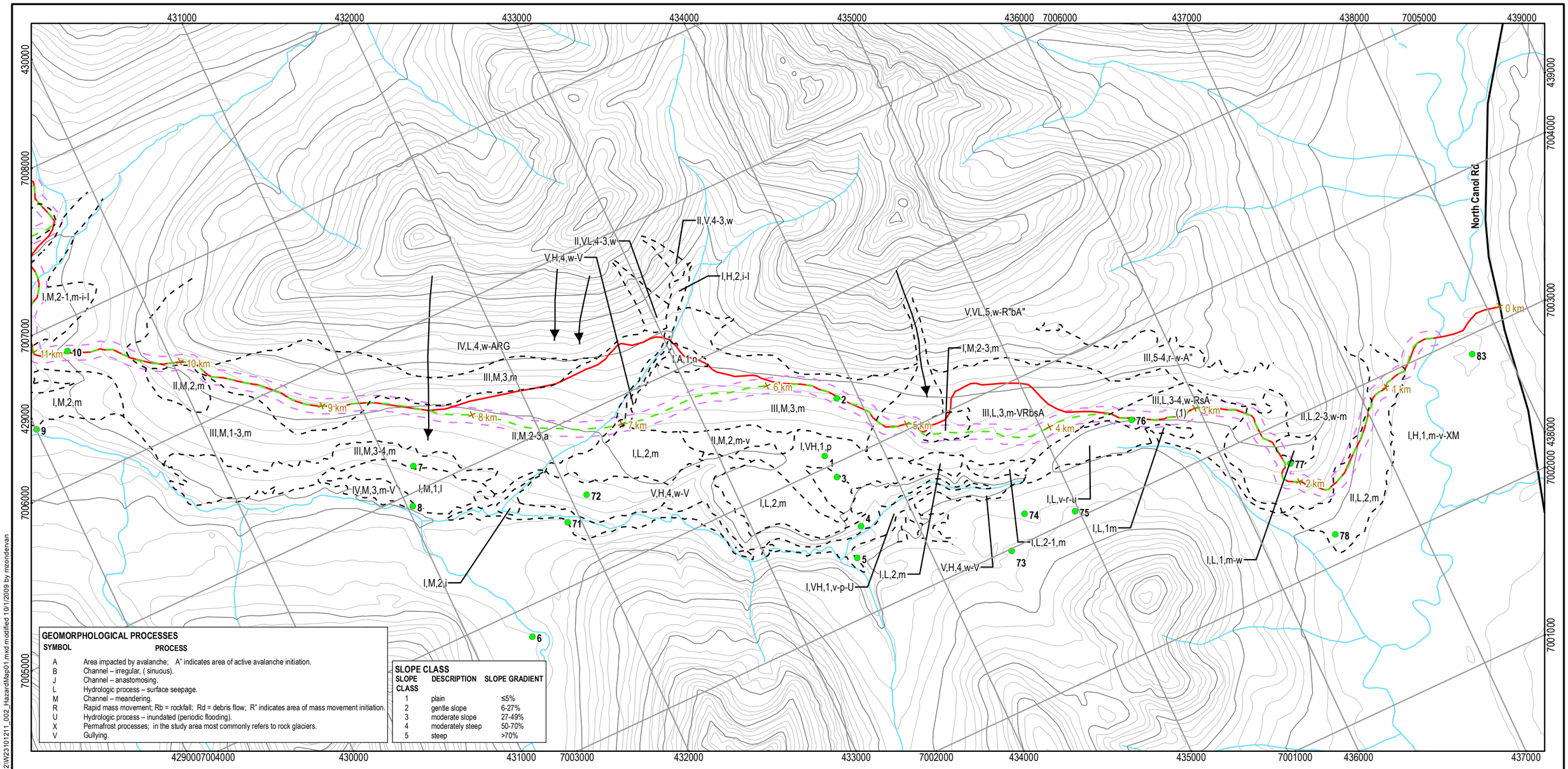
Table T2: Leachate Chemistry Results for 2005 Drill Core Composite Tailings

Sample = 50051-001 Tailings 2005 Drill Core Composite

Date	Cycle No.	Volume mL		Mo	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr	Major Anions	Major Cations	Diff	Diff (%)
		Input	Output	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				
30-Jun-09	1	750	235	0.0215	0.0049	0.067	0.85	0.0025	6.5	0.00009	85.6	0.0529	49	0.00013	0.0004	0.008	0.00438	0.006	0.064	<0.001	5.63	4.28	-1.34	-13.6%
7-Jul-09	2	500	460																					
14-Jul-09	3	500	455	0.017	0.0036	0.085	2.7	0.0089	11.2	<0.0001	206	0.016	157	0.00006	0.0002	<0.01	0.00875	0.008	0.006	<0.002	7.71	9.13	1.42	8.4%
21-Jul-09	4	500	435																					
28-Jul-09	5	500	475	0.0066	0.0015	0.014	3.62	0.0063	8.93	0.00004	150	0.036	111	0.00014	0.00026	<0.003	0.00353	0.003	0.0119	<0.0005	7.72	6.91	-0.81	-5.5%
4-Aug-09	6	500	425																					
11-Aug-09	7	500	460	0.0044	0.0018	<0.01	6.29	0.002	8.03	<0.00003	111	0.154	90	0.00006	0.00009	<0.003	0.00135	<0.001	0.0029	<0.0005	7.77	6.96	-0.81	-5.5%
18-Aug-09	8	500	460																					
25-Aug-09	9	500	425																					
1-Sep-09	10	500	490																					

APPENDIX B

APPENDIX B ROAD AND BORROW ACCCESS MAPS



GEOMORPHOLOGICAL PROCESSES

SYMBOL	PROCESS
A	Area impacted by avalanche; A" indicates area of active avalanche initiation.
B	Channel – irregular, (sinuous).
J	Channel – anastomosing.
L	Hydrologic process – surface seepage.
M	Channel – meandering.
R	Rapid mass movement; Rb = rockfall; Rd = debris flow; R" indicates area of mass movement initiation.
U	Hydrologic process – inundated (periodic flooding).
X	Permafrost processes; in the study area most commonly refers to rock glaciers.
V	Gullying.

SLOPE CLASS

SLOPE CLASS	DESCRIPTION	SLOPE GRADIENT
1	plain	≤5%
2	gentle slope	6-27%
3	moderate slope	27-49%
4	moderately steep	50-70%
5	steep	>70%

LEGEND

- Terrain Field Stations
- Terrain Hazard Polygons
- Avalanche Boundary
- Proposed New Road Route
- Existing Trail
- Proposed New Road Route 100m Swath
- Kilometer Marking
- Existing Roads
- Contours (20m)
- Contours (100m)
- Watercourse

Terrain Stability Mapping symbols (e.g., III,M,4-5,w – A"Rb) indicate Terrain Stability Class, Soil Erosion Class, Slope Class, and Drainage, respectively, followed by a dash and Geomorphological Processes. Two symbols together (e.g., 4-5) indicate a range of values that could not be practically separated within the terrain polygon, with the first value being the most dominant.

PRELIMINARY

NOTES

Base data source: NTDB 1:50,000

TERRAIN STABILITY

TERRAIN STABILITY CLASS	CRITERIA
I	No significant stability problems exist; Floodplains; most terrain with slopes <20%. Exceptions are noted in higher classes.
II	Very low likelihood of landslides following road construction; Minor slumping may be expected along road cuts, especially for 1 or 2 years following construction; Includes most gently sloping (20-40%), poorly to well-drained lower slope landforms. Exceptions are noted in higher classes; Includes moderately sloping (40-60%), well-to rapidly drained surficial deposits.
III	Minor stability problems can develop; Minor slumping is expected along road cuts, especially for 1 or 2 years following construction. There is a low likelihood of landslide initiation following road construction; Includes moderately sloping (40-60%), imperfectly to poorly drained surficial deposits that are not glaciomarine or glaciolacustrine; Includes moderately sloping, deeply gullied surficial deposits that are not glaciomarine or glaciolacustrine.
IV	Expected to contain areas with a moderate likelihood of landslide initiation following road construction; Includes steeply sloping (>60%), well drained, deeply gullied surficial deposits; steeply sloping, poorly drained surficial deposits; and, moderately sloping, deeply gullied or imperfectly to poorly drained glaciolacustrine or glaciomarine deposits.
V	Expected to contain areas with a high likelihood of landslide initiation following road construction; Includes any areas where natural landslide scars are visible on air-photographs or in the field; Includes very steeply sloping (>70%), imperfectly to poorly drained, deeply gullied surficial deposits.

SOIL EROSION

CLASS		CRITERIA	MANAGEMENT IMPLICATIONS
VL	Very Low	Blocky colluvial deposits Terrain dominated by competent bedrock	No or only very minor surface erosion.
L	Low	Morainal veneers; most rubbly colluvial deposits with high coarse fragment content	Expect minor erosion of fines in ditch lines and disturbed soils.
M	Moderate	Morainal blankets (depends on texture andcoarse fragment content); Glaciofluvial gravels; Soft, friable bedrock	Expect moderate erosion when water is channeled down road surfaces or ditches.
H	High	Some morainal blankets steeper than 60%, or steeper than 30% if gullied or poorly drained (depends on texture and coarse fragment content;) Fine textured lacustrine (silts & clays), glaciolacustrine, glaciomarine, glaciofluvial or aeolian silts, slopes less than 15% Glaciofluvial or fluvial sands with low bulk density, slopes less than 30% Colluvial deposits derived from the above materials with the same slope or moisture criteria Colluvium derived from soft, friable rock (e.g., soft phyllites, some pyroclastics), steeper than 60% or steeper than 30% if gullied	Significant erosion problems can be created when water is channeled onto or over exposed soil on these sites.
VH	Very High	Fine textured lacustrine (silts & clays), glaciolacustrine, glaciomarine, glaciofluvial or aeolian silts, slopes steeper than 15%, or gullied or poorly drained; Glaciofluvial or fluvial sands with low bulk density, steeper than 30% or gullied or poorly drained Peat, organic soils or tufa on sloping ground Colluvial deposits derived from the above materials with the same slope or moisture criteria.	Severe surface and gully erosion problems can be created when water is channeled onto or over these sites.

DRAINAGE

SYMBOL	DESCRIPTION
v	Very poorly drained
p	Poorly drained
i	Imperfectly drained
m	Moderately well drained
w	Well drained
r	Rapidly drained

MACTUNG

Terrain Hazard Mapping

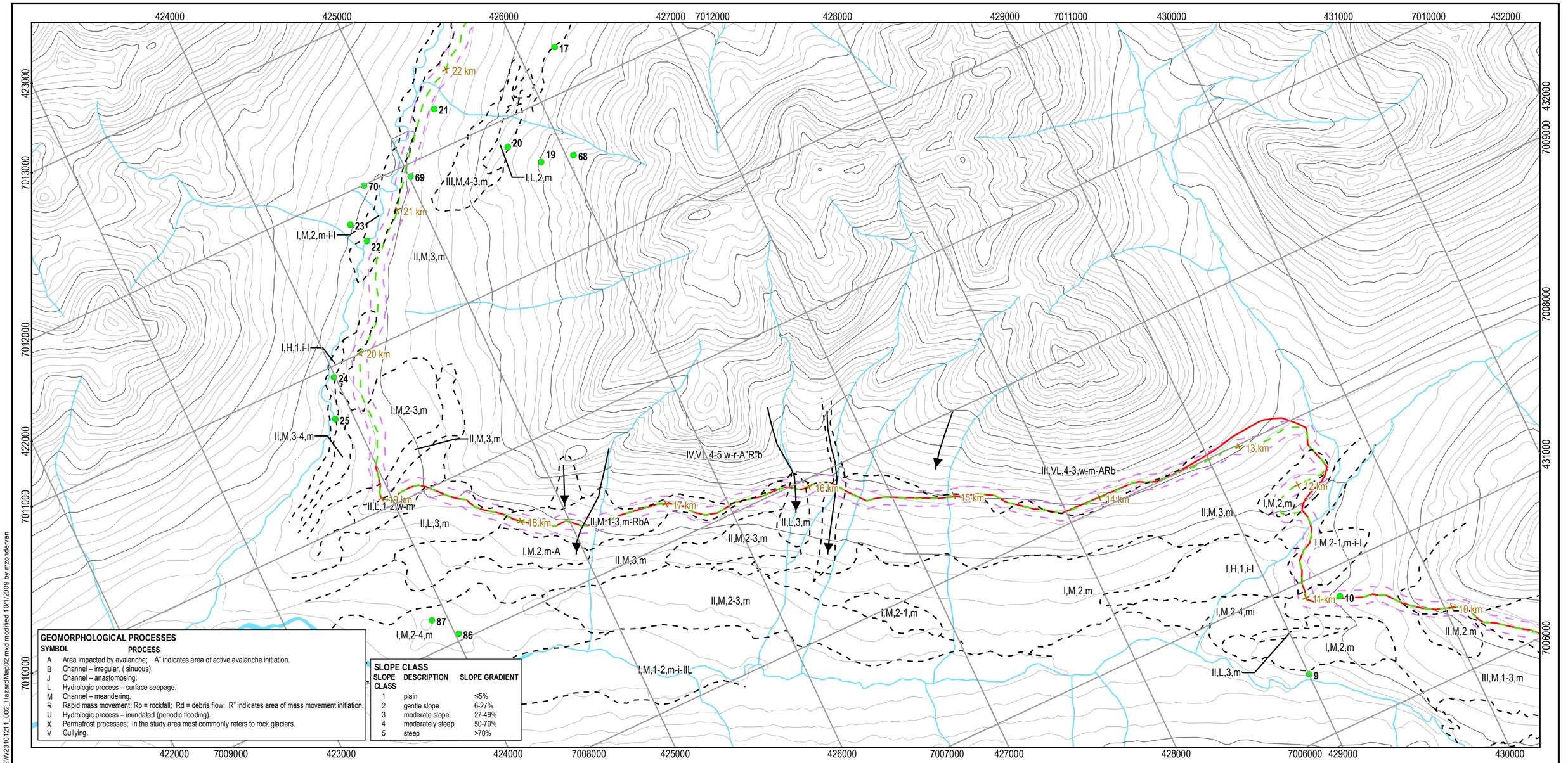
PROJECTION	UTM Zone 9
DATUM	NAD83
Scale:	1:25,000
	500 250 0 500 Meters
FILE NO.	W23101211_002_HazardMap01.mxd
PROJECT NO.	W23101211.002
DWN	MEZ
CKD	JD
REV	1
OFFICE	EBA-VANC
DATE	October 1, 2009

NORTH AMERICAN TUNGSTEN CORPORATION LTD

EBA Engineering Consultants Ltd.

Figure 1.1

Q:\Vancouver\GIS\ENVIRONMENTAL\W2311\W23101211_Mactung\Maps\002\W23101211_002_HazardMap01.mxd modified 10/12/2009 by mzondervan



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- Waterbody

Terrain Stability Mapping symbols (e.g., III,M,4-5,w – A"Rb) indicate Terrain Stability Class, Soil Erosion Class, Slope Class, and Drainage, respectively, followed by a dash and Geomorphological Processes. Two symbols together (e.g., 4-5) indicate a range of values that could not be practically separated within the terrain polygon, with the first value being the most dominant.

PRELIMINARY

NOTES
Base data source:
NTDB 1:50,000

TERRAIN STABILITY

TERRAIN STABILITY CLASS	CRITERIA
I	No significant stability problems exist; Floodplains; most terrain with slopes <20%. Exceptions are noted in higher classes.
II	Very low likelihood of landslides following road construction; Minor slumping may be expected along road cuts, especially for 1 or 2 years following construction; Includes most gently sloping (20-40%), poorly to well-drained lower slope landforms. Exceptions are noted in higher classes; Includes moderately sloping (40-60%), well-to rapidly drained surficial deposits.
III	Minor stability problems can develop; Minor slumping is expected along road cuts, especially for 1 or 2 years following construction. There is a low likelihood of landslide initiation following road construction; Includes moderately sloping (40-60%), imperfectly to poorly drained surficial deposits that are not glaciomarine or glaciolacustrine; Includes moderately sloping, deeply gullied surficial deposits that are not glaciomarine or glaciolacustrine.
IV	Expected to contain areas with a moderate likelihood of landslide initiation following road construction; Includes steeply sloping (>60%), well drained, deeply gullied surficial deposits; steeply sloping, poorly drained surficial deposits; and, moderately sloping, deeply gullied or imperfectly to poorly drained glaciolacustrine or glaciomarine deposits.
V	Expected to contain areas with a high likelihood of landslide initiation following road construction; Includes any areas where natural landslide scars are visible on air-photographs or in the field; Includes very steeply sloping (>70%), imperfectly to poorly drained, deeply gullied surficial deposits.

SOIL EROSION

CLASS		CRITERIA	MANAGEMENT IMPLICATIONS
VL	Very Low	Blocky colluvial deposits Terrain dominated by competent bedrock	No or only very minor surface erosion.
L	Low	Morainal veneers; most rubbly colluvial deposits with high coarse fragment content	Expect minor erosion of fines in ditch lines and disturbed soils.
M	Moderate	Morainal blankets (depends on texture andcoarse fragment content); Glaciofluvial gravels; Soft, friable bedrock	Expect moderate erosion when water is channeled down road surfaces or ditches.
H	High	Some morainal blankets steeper than 60%, or steeper than 30% if gullied or poorly drained (depends on texture and coarse fragment content;) Fine textured lacustrine (silts & clays), glaciolacustrine, glaciomarine, glaciofluvial or aeolian silts, slopes less than 15% Glaciofluvial or fluvial sands with low bulk density, slopes less than 30% Colluvial deposits derived from the above materials with the same slope or moisture criteria Colluvium derived from soft, friable rock (e.g., soft phyllites, some pyroclastics), steeper than 60% or steeper than 30% if gullied	Significant erosion problems can be created when water is channeled onto or over exposed soil on these sites.
VH	Very High	Fine textured lacustrine (silts & clays), glaciolacustrine, glaciomarine, glaciofluvial or aeolian silts, slopes steeper than 15%, or gullied or poorly drained; Glaciofluvial or fluvial sands with low bulk density, steeper than 30% or gullied or poorly drained Peat, organic soils or tufa on sloping ground Colluvial deposits derived from the above materials with the same slope or moisture criteria.	Severe surface and gully erosion problems can be created when water is channeled onto or over these sites.

DRAINAGE

SYMBOL	DESCRIPTION
v	Very poorly drained
p	Poorly drained
i	Imperfectly drained
m	Moderately well drained
w	Well drained
r	Rapidly drained

Terrain Hazard Mapping

PROJECTION: UTM Zone 9		DATUM: NAD83	
Scale: 1:25,000 (500 250 0 500 Meters)			
FILE NO.: W23101211_002_HazardMap02.mxd			
PROJECT NO.: W23101211.002	DWN: MEZ	CKD: JD	REV: 1
OFFICE: EBA-VANC	DATE: October 1, 2009		

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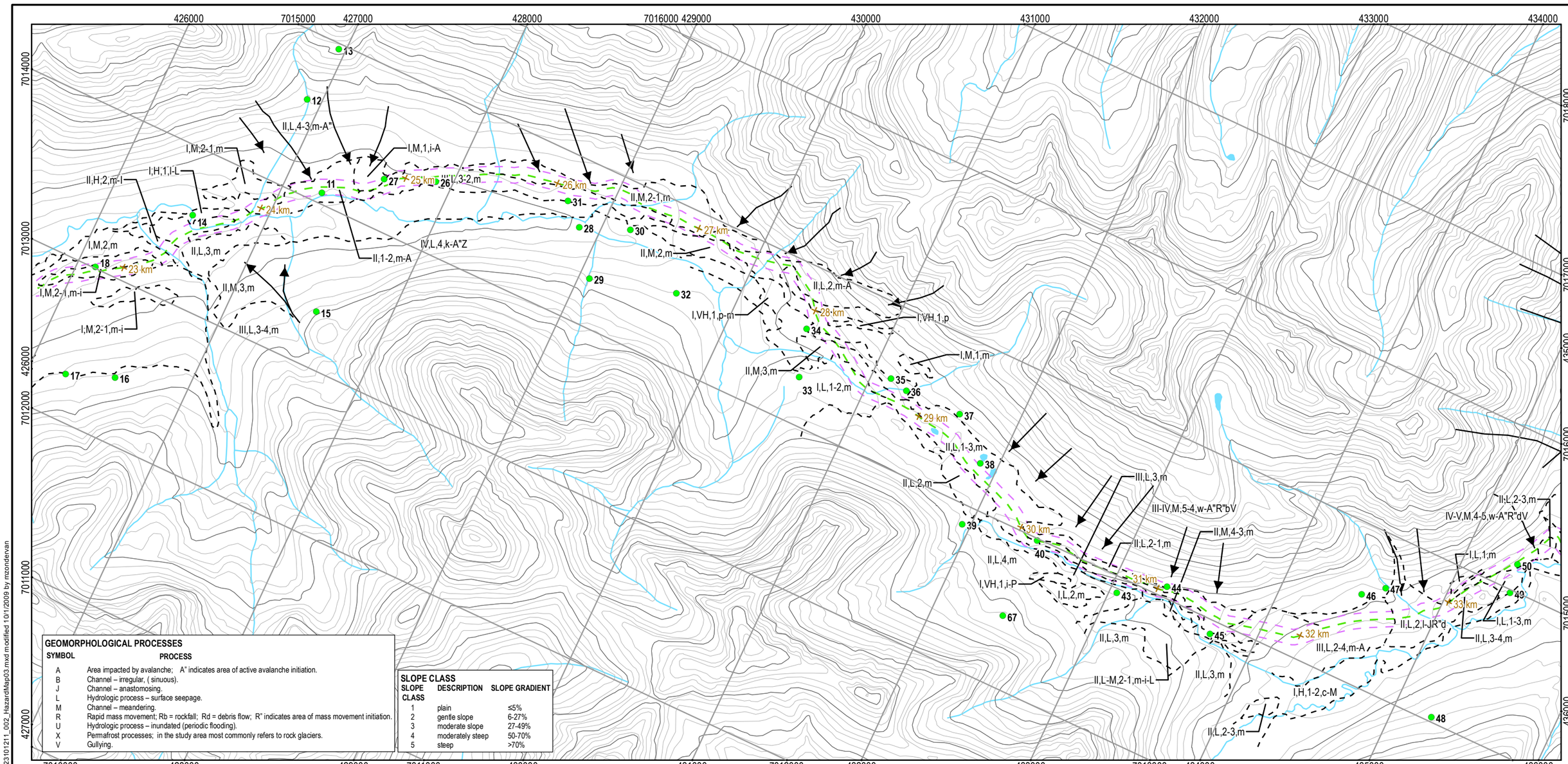
Figure 1.2

Q:\Vancouver\GIS\ENVIRONMENTAL\W23101211_MactungMaps\002\W23101211_002_HazardMap02.mxd modified 10/1/2009 by mzondervan



GEOMORPHOLOGICAL PROCESSES

SYMBOL	PROCESS
A	Area impacted by avalanche; A" indicates area of active avalanche initiation.
B	Channel – irregular, (sinuous).
J	Channel – anastomosing.
L	Hydrologic process – surface seepage.
M	Channel – meandering.
R	Rapid mass movement; Rb = rockfall; Rd = debris flow; R" indicates area of mass movement initiation.
U	Hydrologic process – inundated (periodic flooding).
X	Permafrost processes; in the study area most commonly refers to rock glaciers.
V	Gullying.

SLOPE CLASS

SLOPE CLASS	DESCRIPTION	SLOPE GRADIENT
1	plain	≤5%
2	gentle slope	6-27%
3	moderate slope	27-49%
4	moderately steep	50-70%
5	steep	>70%

LEGEND

- Terrain Field Checking Stations
- Terrain Hazard Polygons
- Avalanche Boundary
- Proposed New Road Route
- Existing Trail
- Proposed New Road Route 100m Swath
- Kilometer Marker
- Existing Roads
- Contours (20m)
- Contours (100m)
- Watercourse
- Waterbody

Terrain Stability Mapping symbols (e.g., III,M,4-5,w – A"Rb) indicate Terrain Stability Class, Soil Erosion Class, Slope Class, and Drainage, respectively, followed by a dash and Geomorphological Processes. Two symbols together (e.g., 4-5) indicate a range of values that could not be practically separated within the terrain polygon, with the first value being the most dominant.

PRELIMINARY

NOTES
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N W E S

MACTUNG

Terrain Hazard Mapping

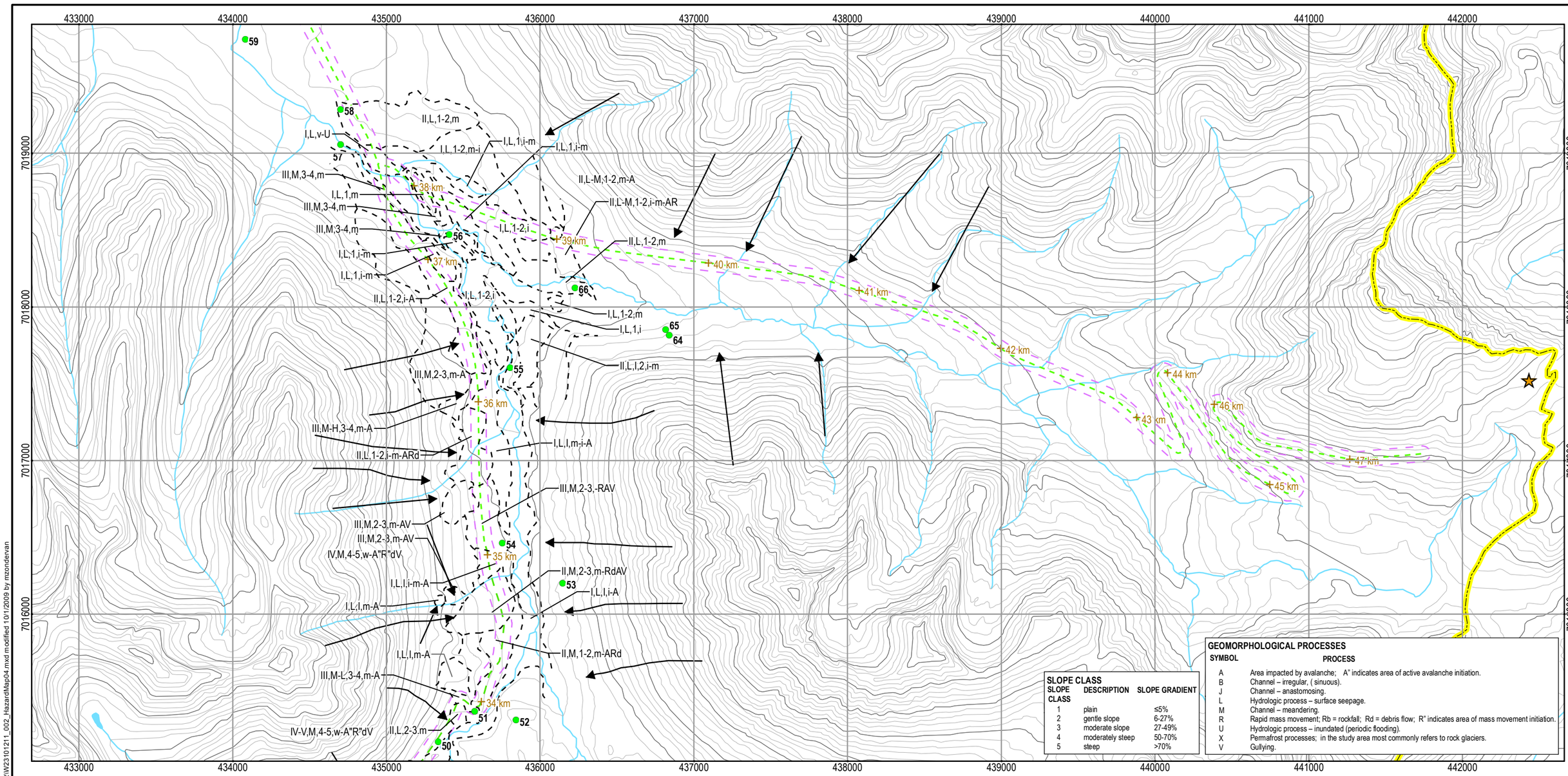
PROJECTION	UTM Zone 9
DATUM	NAD83
Scale:	1:25,000
	500 250 0 500
	Meters
FILE NO.	W23101211_002_HazardMap03.mxd
PROJECT NO.	W23101211.002
DWN	MEZ
CKD	JD
REV	1
OFFICE	EBA-VANC
DATE	October 1, 2009

NORTH AMERICAN TUNGSTEN CORPORATION LTD

EBA Engineering Consultants Ltd.

Figure 1.3

Q:\Vancouver\GIS\ENVIRONMENTAL\W2311\W23101211_Mactung\Maps\002\W23101211_002_HazardMap03.mxd modified 10/12/2009 by mzondervan



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X	Permafrost processes; in the study area most commonly refers to rock glaciers.
V	Gullying.

LEGEND

- Terrain Field Stations
- Terrain Hazard Polygons
- Avalanche Boundary
- Proposed New Road Route
- Proposed New Road Route 100m Swath
- Kilometer Marker
- Mactung Site
- NWT - Yukon Border
- Watercourse
- Waterbody

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PRELIMINARY

NOTES

Base data source: NTDB 1:50,000

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N W E S

DRAINAGE

SYMBOL	DESCRIPTION
v	Very poorly drained
p	Poorly drained
i	Imperfectly drained
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w	Well drained
r	Rapidly drained

MACTUNG

Terrain Hazard Mapping

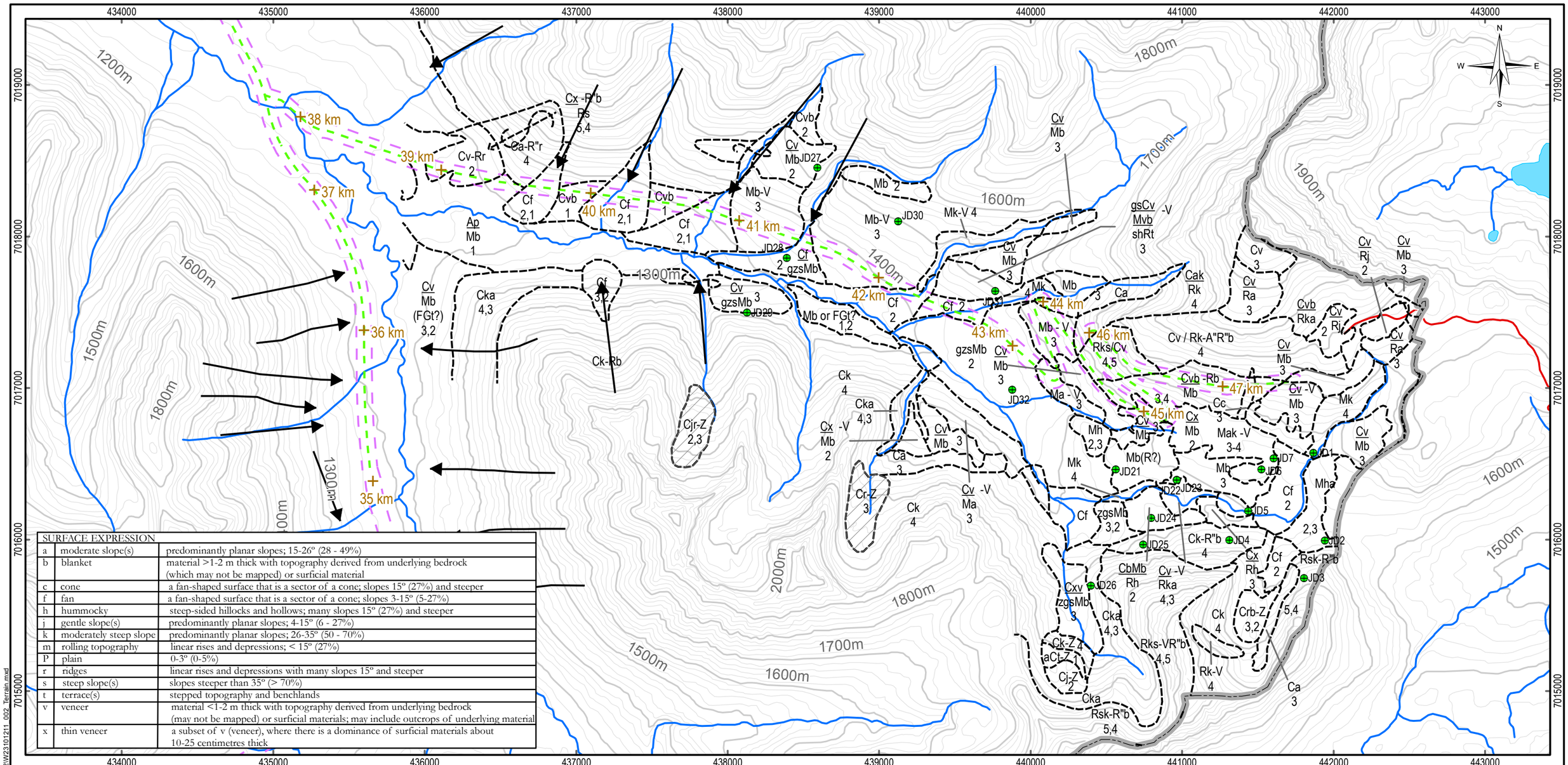
PROJECTION: UTM Zone 9	DATUM: NAD83
Scale: 1:25,000 (500 250 0 500 Meters)	
FILE NO.: W23101211_002_HazardMap04.mxd	
PROJECT NO.: W23101211.002	DWN: MEZ; CKD: SD; REV: 1
OFFICE: EBA-VANC	DATE: October 1, 2009

NORTH AMERICAN TUNGSTEN CORPORATION LTD

EBA Engineering Consultants Ltd.

Figure 1.4

Q:\Vancouver\GIS\ENVIRONMENTAL\W2311\W23101211_Mactung\Maps\002\W23101211_002_HazardMap04.mxd modified 10/1/2009 by mzondervan



SURFACE EXPRESSION		
a	moderate slope(s)	predominantly planar slopes; 15-26º (28 - 49%)
b	blanket	material >1-2 m thick with topography derived from underlying bedrock (which may not be mapped) or surficial material
c	cone	a fan-shaped surface that is a sector of a cone; slopes 15º (27%) and steeper
f	fan	a fan-shaped surface that is a sector of a cone; slopes 3-15º (5-27%)
h	hummocky	steep-sided hillocks and hollows; many slopes 15º (27%) and steeper
j	gentle slope(s)	predominantly planar slopes; 4-15º (6 - 27%)
k	moderately steep slope	predominantly planar slopes; 26-35º (50 - 70%)
m	rolling topography	linear rises and depressions; < 15º (27%)
P	plain	0-3º (0-5%)
r	ridges	linear rises and depressions with many slopes 15º and steeper
s	steep slope(s)	slopes steeper than 35º (> 70%)
t	terrace(s)	stepped topography and benchlands
v	veneer	material <1-2 m thick with topography derived from underlying bedrock (may not be mapped) or surficial materials; may include outcrops of underlying material
x	thin veneer	a subset of v (veneer), where there is a dominance of surficial materials about 10-25 centimetres thick

LEGEND

- Proposed New Road Route
- Proposed New Road Route
- 100m Swath
- Kilometer Marker
- Terrain Boundary
- Avalanche Boundary
- NWT - Yukon Border
- Existing Road
- 100m Contour
- 20m Contour
- Field Stations
- Rock glacier
- Streams
- Waterbody

Terrain Unit Symbols

surficial material texture → aCk- Rb 2,3 ← slope class

surface expression ↑ geomorphological process

Composite Units: Up to 3 letters may be used to describe any characteristic. Processes follow the dash "-" symbol.

Cb-Mb indicates "Cb" and "Mb" are roughly equal in extent

Mv/Rk indicates "Mv" is more extensive than "Rk" (about 2/1 or 3/2)

Stratigraphic Units: when one or more surficial materials overlie a different material or bedrock

e.g. Mw / Rr indicates that "Mw" overlies "Rr"

SLOPE CLASS	Description	Slope Gradient
1	plain	≤5%
2	gentle slope	6-27%
3	moderate Slope	27-49%
4	moderately steep	50-70%
5	steep	>70%

TEXTURE	Specific Clastic Terms	
c	clay	< 2 µm
z	silt	2 - 62.5 µm
s	sand	62.5 µm - 2 mm
a	blocks	> 256 mm; angular particles

GEOMORPHOLOGICAL PROCESSES		
V	Gullying	Slope affected by gully erosion
W	Washing	Winnowing of fines by flowing water resulting in development of lag deposits.
Xp	Permafrost processes	Processes related to the presence of permafrost, permafrost aggradation and degradation. (p= palsa)
Z	Periglacial Processes	Solifluction, cryoturbation and nivation occurring within the same unit. Most Z processes noted in the terrain study area indicate rock glaciers.
Rb	Rapid Mass Movement	Slope or parts of slope affected by rockfall
Rr	Rapid Mass Movement	Slope or parts of slope affected by rockslide.

MATERIALS		
C	Colluvium	Products of gravitational slope movements; materials derived from local bedrock and major deposits derived from drift; includes talus and landslide deposits. Includes up to 20% bedrock.
FG	Glaciofluvial sediments	Sands and gravels transported and deposited by meltwater streams; includes kames, eskers and outwash plains.
M	Till	Material deposited by glaciers without modification by flowing water. Typically consists of a mixture of pebbles, cobbles and boulders in a matrix of sand, silt and clay; diamicton. Includes up to 20% bedrock and/or colluvium.
O	Organic materials	Material resulting from the accumulation of decaying vegetative matter; includes peat and organic soils.
R	Bedrock	Outcrops and bedrock within a few centimetres of the surface. Includes up to 20% colluvium.

NOTES:
Base Data Source: NTS 1:50,000,
Site Plan Design adapted from original provided by Wardrop

PRELIMINARY

MACTUNG

Terrain Map

PROJECTION	DATUM
UTM Zone 9	NAD83

Scale: 1:25,000
0.5 0.25 0 0.5
Kilometers

FILE NO.
W23101211_002_Terrain.mxd

PROJECT NO.	DWN	CKD	REV
W23101211.002	MEZ	PR	1

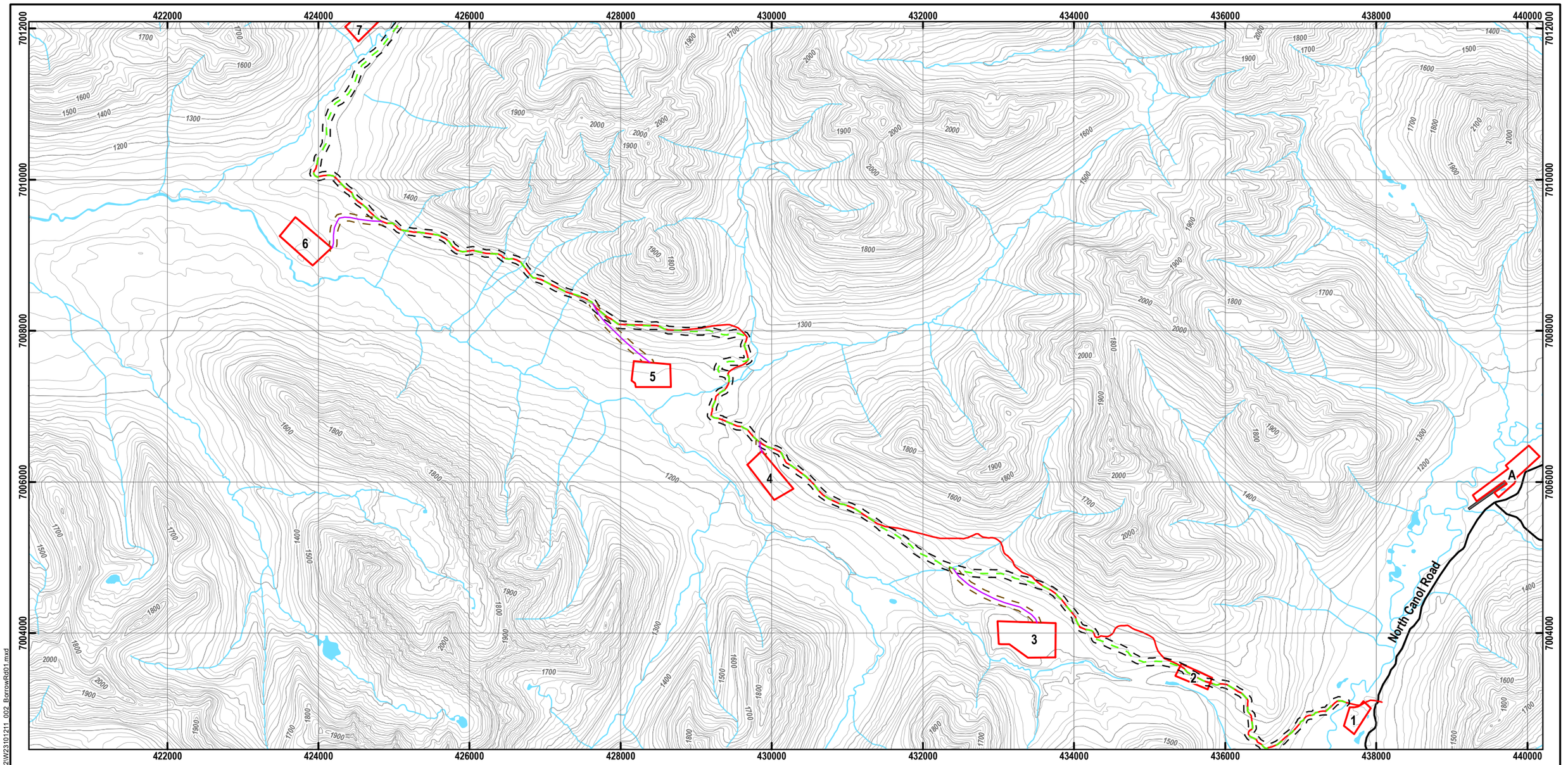
OFFICE: EBA-VANC
DATE: October 1, 2009

NORTH AMERICAN TUNGSTEN CORPORATION LTD

EBA Engineering Consultants Ltd.

Figure 1.5

Q:\Vancouver\GIS\ENVIRONMENTAL\W23\W23101211_Mactung\Maps\002\W23101211_002_Terrain.mxd



LEGEND

- Potential Borrow Areas
- Borrow Site Access Alignment
- Borrow Site Access Alignment 100m Swath
- Proposed New Road Route
- Existing Trail
- Existing Road
- Proposed New Road Route 100m Swath
- Macmillan Pass Aerodrome
- Contours (20m)
- Contours (100m)
- Watercourse
- Waterbody

N W E S

PRELIMINARY

NOTES
Base data source: NTDB 1:50,000

MACTUNG

Potential Borrow Site Locations
Mactung Access Road

PROJECTION	DATUM
UTM Zone 9	NAD83

Scale: 1:50,000
1 0.5 0 1
Kilometers

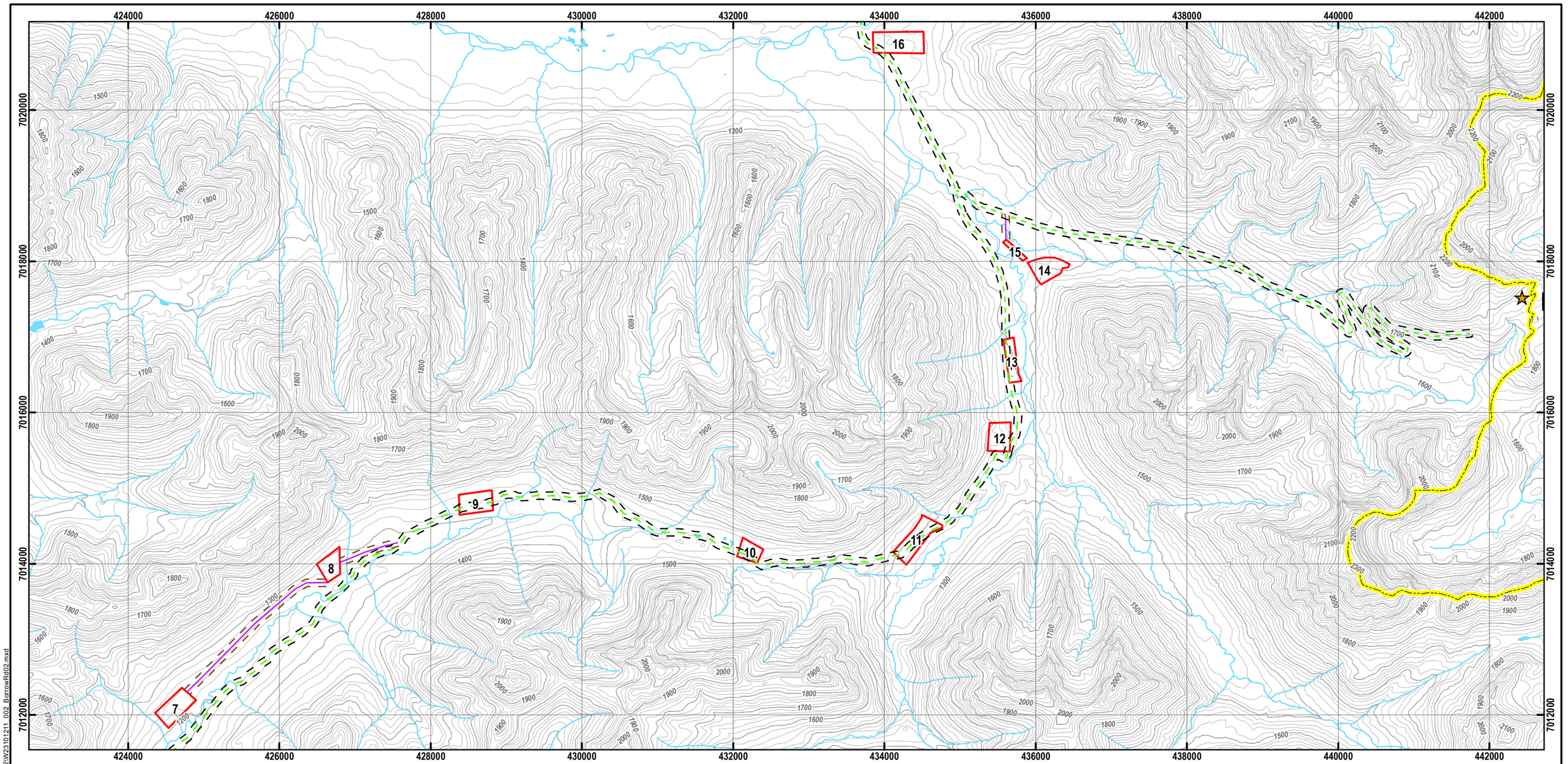
FILE NO.			
W23101211_002_BorrowRd01.mxd			
PROJECT NO.	DWN	CKD	REV
W23101211.002	MEZ	CD	2
OFFICE	DATE		
EBA-VANC	September 21, 2009		

NORTH AMERICAN TUNGSTEN CORPORATION LTD

EBA Engineering Consultants Ltd.

Figure 1.6

Q:\Vancouver\GIS\ENVIRONMENTAL\W231\W23101211 Mactung\Maps\002\W23101211_002_BorrowRd01.mxd



LEGEND

- Potential Borrow Areas
- Borrow Site Access Alignment
- Borrow Site Access Alignment 100m Swath
- Proposed New Road Route
- Proposed New Road Route 100m Swath
- Mactung Site
- Contours (20m)
- Contours (100m)
- Watercourse
- Waterbody

N
W E
S

PRELIMINARY

NOTES
Base data source: NTDB 1:50,000

MACTUNG

Potential Borrow Site Locations Mactung Access Road

PROJECTION	DATUM
UTM Zone 9	NAD83

Scale: 1:50,000
1 0.5 0 1
Kilometers

FILE NO.
W23101211_002_BorrowRd02.mxd

PROJECT NO.	DWN	CKD	REV
W23101211.002	MEZ	CD	2

OFFICE	DATE
EBA-VANC	September 21, 2009

NORTH AMERICAN TUNGSTEN CORPORATION LTD

EBA Engineering Consultants Ltd.

Figure 1.7

Q:\Vancouver\GIS\ENVIRONMENTAL\W231\W23101211_Mactung\Maps\002\W23101211_002_BorrowRd02.mxd