Appendix 4-A

Brucejack Underground Preliminary Assessment – Leach Tailings Facility Site Selection

ERM

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Ian Chang, Vice President Project Development
Pretium Resources Inc.
1600 – 570 Granville Street
Vancouver, British Columbia, V6C 3P1

Dear Mr. Chang,

Re: Brucejack Underground Preliminary Assessment – Leach Tailings Facility Site Selection - FINAL

The following final report summarizes the site selection for the leach tailings storage facility for the Brucejack Undeground project. If you have any questions or comments, please do not hesitate to contact the undersigned.

Yours sincerely,

BGC ENGINEERING INC.
per:

Derek Kinakin, M.Sc., P. Geo.
Senior Engineering Geologist

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1.0 INTRODUCTION

Pretium Resources Inc. (Pretium) is currently undertaking a preliminary assessment of the Brucejack Underground project in northern British Columbia. The project is located approximately 60 km north of Stewart (Drawing 1).

The project consists of an underground gold mine situated near Brucejack Lake (Drawing 2). Primary processing of the ore will be completed at plant site facility adjacent to Brucejack Lake (referred to herein as the Brucejack mill), at 1,500 tpd. Flotation tailings from this mill will be deposited in Brucejack Lake. Concentrate produced at the Brucejack mill will be trucked across Knipple glacier, along Bowser River and Scott Creek and down Wildfire Creek to a leach facility (referred to herein as the Bell Irving leach facility) for processing at 300 tpd. Tailings from this facility will be deposited in a tailings storage facility (TSF) located adjacent to Highway 37.

BGC Engineering Inc. (BGC) has been retained by Pretium to provide conceptual level geotechnical design of the tailings storage facilities at the Brucejack project. Although the location of the flotation tailings storage facility (TSF) for tailings from the Brucejack mill has been previously selected by Pretium, the TSF for the tailings from the Bell Irving leach facility must be sited. The site selection for this TSF and the associated Bell Irving leach facility is presented herein.

2.0 CRITERIA AND BASIS

The site selection criteria for the leach tailings storage facility, along with the tailings deposition methodology, the Bell Irving leach facility water balance and the proposed tailings storage facility are described below.

2.1. Site Selection Criteria

The following criteria were used to evaluate the potential tailings facility sites:

1. *Storage Capacity* – Facilities must be able to store 3 Mt of tailings.
2. *Land title* – Facilities should be located on existing Pretium claims.
3. *Plant site* – A 200 m by 200 m approximately level area is required adjacent to the facility to construct the leach facility.
4. *Bowser Lake Impacts* – Sites should be outside of the Bowser Lake catchment and should not be visible from Bowser Lake.
5. *Access* – Distance and elevation gain from the proposed access road (shown on Drawings 2 and 3) should be minimized.
6. *Ease of water management* – The need for water diversions should be minimized by minimizing upstream catchment.

7. *Leak detection monitoring* – The downstream water quality monitoring system should be kept as simple as possible; sites where seepage would report to a single location for pumping to treatment, if required, are preferred.
8. *Geohazards* – Potential geohazards impacts should be minimized.
9. *Foundation conditions* – Sites with favourable dam foundation conditions (such as basal till or bedrock) are preferred.
10. *Constructability* – Sites with less complex construction (eg limited site grading and foundation preparation) are preferred.
11. *Expansion capability* – Expansion capability up to 20 Mt while maintaining storage efficiency is preferred.
12. *Ease of closure* – Monitoring and maintenance requirements during closure should be minimized.

Based on criteria 1 through 5, two general locations were evaluated for tailings storage facilities (Drawing 3): the headwaters of Wildfire Creek adjacent to the proposed access road or south of Wildfire Creek and adjacent to Highway 37 (referred to herein as the Bell Irving area). Both sites are located on existing Pretium claims and have one or more locations that could store 3 Mt while locating a plant site nearby. The drainage divide between Wildfire Creek and Bowser Lake is approximately 4 km to 5 km south of Wildfire Creek (Drawing 3). Facilities located north of this divide, or in Wildfire Creek headwaters, will avoid impacts to Bowser Lake.

Specific sites within these two locations were identified and are outlined in Section 3.0 and evaluated against the above criteria in Section 4.0.

2.2. Tailings Deposition and Water Balance

BGC understands that tailings will be deposited via pipeline as a slurry with approximately 50% solids content. Water in the impoundment will be used as reclaim for the mill. Any surplus water from the TSF or mill will be directed to a polishing pond where water will be treated prior to discharge.

2.3. Proposed Tailings Storage Facility

A ring dyke is proposed for storage of tailings from the Bell Irving leach facility since the storage tonnage required is small. The proposed tailings storage facility will consist of a fully double high density polyethylene (HDPE) lined containment system. A drainage layer will be placed between the two liners to provide leak detection and collection. Below the second liner will be a layer of low permeability bedding material. The site will be graded to facilitate seepage collection. The dam will be constructed of rockfill or till depending on the availability of borrow.

3.0 POTENTIAL TAILINGS FACILITY LOCATIONS

As noted above, potential tailings facilities are located in two general areas. Potential tailings facilities are shown on Drawing 3 and outlined in Table 1.

3.1. Bell Irving Area

The Bell Irving area is the area south of Wildfire Creek, west of Highway 37 and north of the drainage divide between Wildfire Creek and Bowser Lake. Five sites were identified in this area; four potential ring dyke locations and one utilizing the natural containment of a small lake (Drawing 3).

Bell Irving 1 – This site is located on a ridge and a ring dyke constructed here would require minimal to no water diversions. It is approximately 3 km southeast of the mouth of Wildfire Creek. The proposed location has been previously logged. There is sufficient space to locate a plant site within 500 m of the proposed facility.

Bell Irving 2 – This site is located on a ridge and a ring dyke constructed here would require minimal to no water diversions. It is approximately 2 km south of the mouth of Wildfire Creek. The proposed location has been previously logged. There is sufficient space to locate a plant site within 500 m of the proposed facility.

Bell Irving 3 – This site is located downstream of one small lake and upstream of the lake evaluated for drainage. It is approximately 5 km south of the mouth of Wildfire Creek. A ring dyke constructed here would require some diversion of the upstream catchment. There is sufficient space to locate a plant site within 500 m of the proposed facility.

Bell Irving 4 – This site is located west of the lake evaluated for drainage. It is approximately 3.5 km south of the mouth of Wildfire Creek. A ring dyke constructed here would require some diversion of the upstream catchment. There is sufficient space to locate a plant site within 500 m of the proposed facility.

Bell Irving 5 – There are several small lakes south of Wildfire Creek. The lake evaluated is at the headwaters of a small creek that drains into Wildfire Creek and is approximately 2.5 km south of Wildfire Creek. The proposed facility would require of draining the lake, preparing the foundation for the liner which would include stripping lacustrine sediments, and placing a network of under drains and placing the liner. Liner placement will be challenging at this location as there is the potential for uplift seepage pressures in the basin of the drained lake. A cross valley dam may be needed at the outlet of the lake to provide the required storage. The necessity for a cross valley dam would have to be evaluated based on bathymetry of the lake. There is sufficient space to locate a plant site within 1 km of the lake.

3.2. Wildfire Creek Area

Wildfire 1 - This location is approximately 50 km along the proposed access road from the mine site at Brucejack Lake. It is in the headwaters of Wildfire Creek with Wildfire Creek draining to the east and another un-named creek draining to the west into the north end of Scott Creek. The proposed facility is in the valley bottom with steep mountainous terrain to the south and more gently sloping hills to the north.

Table 1 Tailings Facility Site Characterization.

	Area Number	Bell Irving 1	Bell Irving 2	Bell Irving 3	Bell Irving 4	Bell Irving 5	Wildfire 1
Location	Location	NE Bowser Lake, S Wildfire, W Hwy 37	NE Bowser Lake, S Wildfire, W Hwy 37	NE Bowser Lake, S Wildfire, W Hwy 37	NE Bowser Lake, S Wildfire, W Hwy 37	NE Bowser Lake, S Wildfire, W Hwy 37	Wildfire Creek Headwaters
	Approximate Facility Elevation (masl)	760	680	620 – 635	620	610 (lake elevation)	960 – 980
Water Handling	Approximate Catchment (ha)	25	25	300	850	1500	400
	Approximate Potential Diversion Length (m)	None	None	2000	1400	5500	3500
	Approximate Catchment with Diversions in Place (ha)	n/a	n/a	50	50	50	50
	Leak Detection Monitoring	Multiple monitoring locations	Multiple monitoring locations	Single monitoring location (existing lake)	Single monitoring location (existing lake)	Tailings in basin, difficult to direct under drain to a single location	Multiple monitoring locations
Access	Straight Line Distance from Access Road[1] (m)	3000	2000	4400 – 5300	3600	3600	<250
	Approximate Distance Along Historic Logging Roads from Access Road[1] (m)	4500	2500	5000	7000	5000	n/a
	Approximate Net Elevation Gain (m)	285	205	145 – 160	145	135	<25
	Approximate Max Elevation Gain Along Historic Logging Roads (m)	285	205	200	200	200	n/a
Storage, Geohazards, Constructability	Maximum Practical Dimensions (m x m)	400 x 500	400 x 550	400 x 1200	450 x 500	Lake size is approximately 200,000 m^2	400 x 1200
	Ability to Store Base Case (3 Mt) and Site a Plant Site Nearby	yes	yes	yes	yes	Yes – would require network of under drains/seepage control measures and cross valley dam if lake volume is insufficient	yes
	Expansion Potential (to 20 Mt)	Only by increasing dam height (to the point of very low storage efficiencies)	Only by increasing dam height (to the point of very low storage efficiencies)	By increasing dam height, by adding up to two additional cells, by expanding to location 4	By increasing dam height, by expanding to location 3	By building/raising cross valley dam	By increasing dam height, by adding up to two additional cells, by building cross valley dam(s)
	Geohazards	None observed on air photos	None observed on air photos	None observed on air photos	None observed on air photos, avalanche impact from west has not recently reached as far as proposed facility (trees are intact)	None observed on air photos, avalanche impact from west has not recently reached as far as proposed facility (trees are intact)	Potential avalanche impact from south, historic debris flow from the south
	Foundation Conditions[2]	Till, rock likely within 2 m to 5 m of surface	Till, rock likely within 2 m of surface	Till, rock likely within 2 m of surface	Till, rock likely within 2 m to 5 m of surface	Lacustrine deposits in basin, till/rock in dam location	Bog, sands and gravels
	Ease of Closure	Multiple seepage monitoring locations, minimal water handling	Multiple seepage monitoring locations, minimal water handling	Single seepage monitoring location, some long term water handling issues	Single seepage monitoring location, some long term water handling issues	Long term water handling difficulties (large catchment), single seepage monitoring location	Long term water handling difficulties (large catchment), multiple seepage monitoring locations, ongoing geohazards impacts

Notes:
[1]Start of access road taken as mouth of Wildfire Creek at elevation 475 m, except for Wildfire Creek headwaters location where the access road passes immediately adjacent to proposed facilities.
[2]Foundation conditions interpreted from air photos.

4.0 TAILINGS STORAGE FACILITY SITE RANKING

To compare the six potential tailings storage facility locations, a matrix was developed using the criteria discussed in Section 2.1. Four of the criteria: storage capacity, location of the facility on Pretium claims, ability to locate a plant site adjacent and no impacts to Bowser Lake, were used to screen candidate sites and the following remaining criteria were used to rate the sites for their suitability for use as tailings disposal.

The following criteria were used to develop the matrix:

1. *Ease of water management* – A measure of the size of the catchment reporting to the TSF and the length of diversions required to divert water around the TSF. Smaller catchments are preferred as this reduces the amount of water that needs to be diverted and the size of diversions required.
2. *Leak detection monitoring* – The TSF will be constructed as a double lined facility with a leak detection system. This criterion is a measure of the ease of monitoring seepage from the facility. Facilities where seepage pathways are known or where seepage reports to a single location are preferred.
3. *Access* – Sites located closer to the proposed access road (shown on Drawing 2) and at less elevation gain from the proposed access road are preferred.
4. *Geohazards* – Sites with few to no potential or historical geohazards impacts (such as rock fall or avalanches) are preferred.
5. *Foundation conditions* – Sites with favourable foundation conditions for dam construction (such as till or rock) are preferred to sites with less suitable foundation conditions (such as lacustrine deposits or sands and gravels).
6. *Constructability* – Facilities with complex construction (eg. the potential for uplift seepage pressures or challenging foundation preparation requirements) are less favourable.
7. *Expansion capability* – Sites with potential for expansion by raising ring dyke elevations while keeping storage efficiencies reasonable or by building contiguous cells to existing ring dykes are preferred to sites where large dam heights or cross valley dams would be required.
8. *Ease of closure* – Sites with less water management considerations, simpler seepage monitoring and the least ongoing geohazards impacts are preferred.

Costs are not considered directly in the ranking as the ring dyke geometry is likely to be similar at all locations (except Bell Irving 5). Costs are considered indirectly in the foundation conditions, leak detection monitoring, water handling and constructability criteria.

The site ranking is summarized in Table 2. A rating of 1 (best case among the existing options) to 4 (worst case among the existing options) was applied to each criterion for each

facility. The rating for each criterion is summed for each site; the lower the sum of the ranking, the more suitable the site.

Table 2 TSF Site Ranking.

Criteria	Potential TSF Sites					
	Bell Irving (South of Wildfire Creek, West of Highway 37)					Wildfire Creek
	1	2	3	4	5	1
Ease of Water Management	1	1	2	3	4	3
Leak Detection Monitoring	3	3	1	1	4	3
Ease of Access	4	2	3	3	3	1
Geohazards Impacts	1	1	1	2	2	4
Foundation Conditions	1	1	1	1	3	4
Constructability	1	1	1	1	4	3
Expansion Capability	4	4	1	2	3	1
Ease of Closure	2	2	1	2	3	4
TOTAL	**17**	**15**	**11**	**15**	**26**	**23**

Bell Irving 5, which involves draining a lake and placement of a liner in the lake basin where there is potential for uplift seepage pressures, presents significant construction challenges. Seepage collection and monitoring will be challenging since the tailings will be deposited in an existing basin. Water management will be challenging at this site as the lake has a large catchment. For these reasons, Bell Irving 5 is the least favourable option.

In general, Bell Irving sites 1 through 4 are preferred to the Wildfire Creek site. The Wildfire Creek site has a large catchment area, is impacted by previous debris flows and current avalanches, which are challenges during operations and closure, and has poor foundation conditions consisting of sands, gravels or bog. The Bell Irving sites have less complex water management since they generally have smaller catchments. Additionally, they have more favourable foundation conditions (till over rock) and are not impacted by geohazards.

Bell Irving 1 and 2 have minimal water handling issues, but have seepage monitoring and closure challenges since seepage would likely report to more than one location. Additionally, contiguous cells cannot be constructed and dam heights which result in low storage efficiencies would be required to store the expansion volume. Bell Irving 2 has the best access of all Bell Irving sites, while a significant elevation gain from the proposed access road means that Bell Irving 1 has the worst access of all Bell Irving sites.

Bell Irving 3 and 4 have some water handling issues, but seepage monitoring is less complex than Bell Irving 1 and 2 as seepage from sites 3 and 4 would report to an existing lake. The expansion capacity of Bell Irving 3 and 4 is greater than Bell Irving 1 and 2. Bell Irving 3 is preferable to Bell Irving 4 as expansion is simpler at Bell Irving 3. Contiguous cells can be built at Bell Irving 3, but expansion at Bell Irving 4 is possible only by raising the dyke or by expanding to Bell Irving 3. Additionally, closure will be simpler at Bell Irving 3 than Bell Irving 4 as Bell Irving 3 has a smaller catchment and therefore less water handling considerations.

Based the on the ranking described above, Bell Irving 3 is the preferred location with a site ranking score of 11, which is the best among the sites considered. It has the least complex seepage monitoring, closure and foundation conditions. It is the most amenable to expansion and is not impacted by geohazards. Although access and water handling are somewhat more complex than other sites, they are still practical. The next closest ranked site is a tie between Bell Irving 2 and Bell Irving 4 with a ranking of 15.

5.0 RECOMMENDATIONS

As discussed in the previous section, Bell Irving 3 is recommended as the location for storage of tailings from the Bell Irving leach facility for the basis of Pretium's current preliminary assessment. It should be noted that the ranking is simple (no parameters are weighted) and does not directly consider environmental, socio-economic, operating cost and some capital cost parameters. These other parameters should be considered prior to final selection of the leach tailings facility site.

The proposed facility is a ring dyke that will be double lined and the site graded for seepage collection and monitoring. Bell Irving 3 is located within the Wildfire Creek catchment, close to the watershed divide between Bowser Lake and Wildfire Creek (Drawing 3). At the next stage of design, the elevation of the regional groundwater table and seepage pathways in the area surrounding Bell Irving 3 must be determined to demonstrate that seepage will report to Wildfire Creek and not Bowser Lake. This can be accomplished with the installation and monitoring of piezometers on the ridges south of Bell Irving 3 and completion of groundwater modeling.

6.0 CLOSURE

We trust the above satisfies your requirements at this time. Should you have any questions or comments, please do not hesitate to contact us.

Yours sincerely,

BGC ENGINEERING INC.
per:

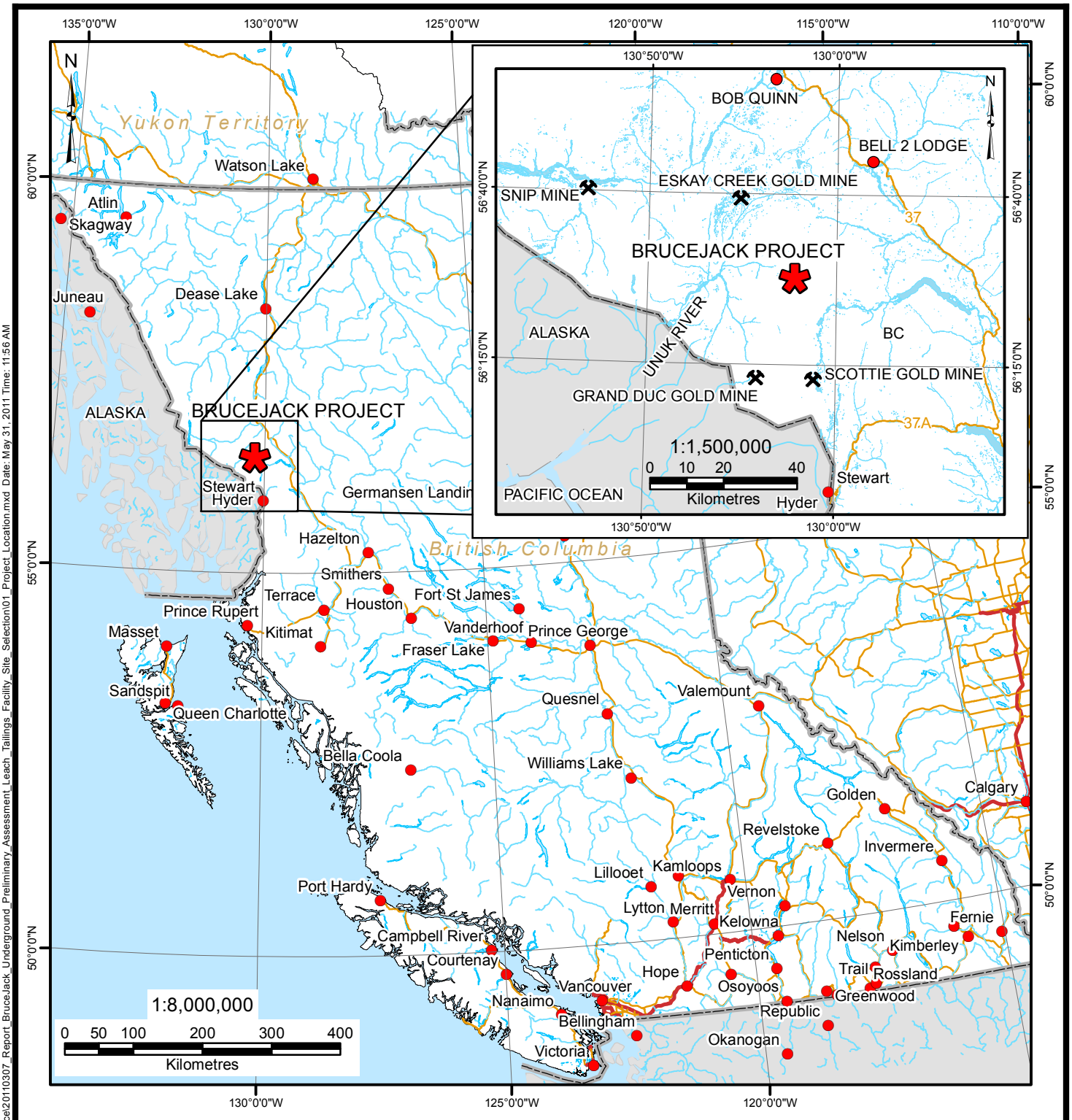
Kathleen Hanley, P. Eng.
Geotechnical Engineer

Clint Logue, P. Eng., P. Geo.
Senior Geotechnical Engineer

Reviewed by:

Vinod Garga, Ph.D., MBA., P. Eng., F.E.I.C.
Senior Reviewer

DRAWINGS



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CLIENT:
PRETIUM RESOURCES INC.

PROJECT:
BRUCEJACK UNDERGROUND PRELIMINARY ASSESSMENT
LEACH TAILINGS FACILITY SITE SELECTION

TITLE:
PROJECT LOCATION

PROJECT No.:	DWG No.:	REV.:
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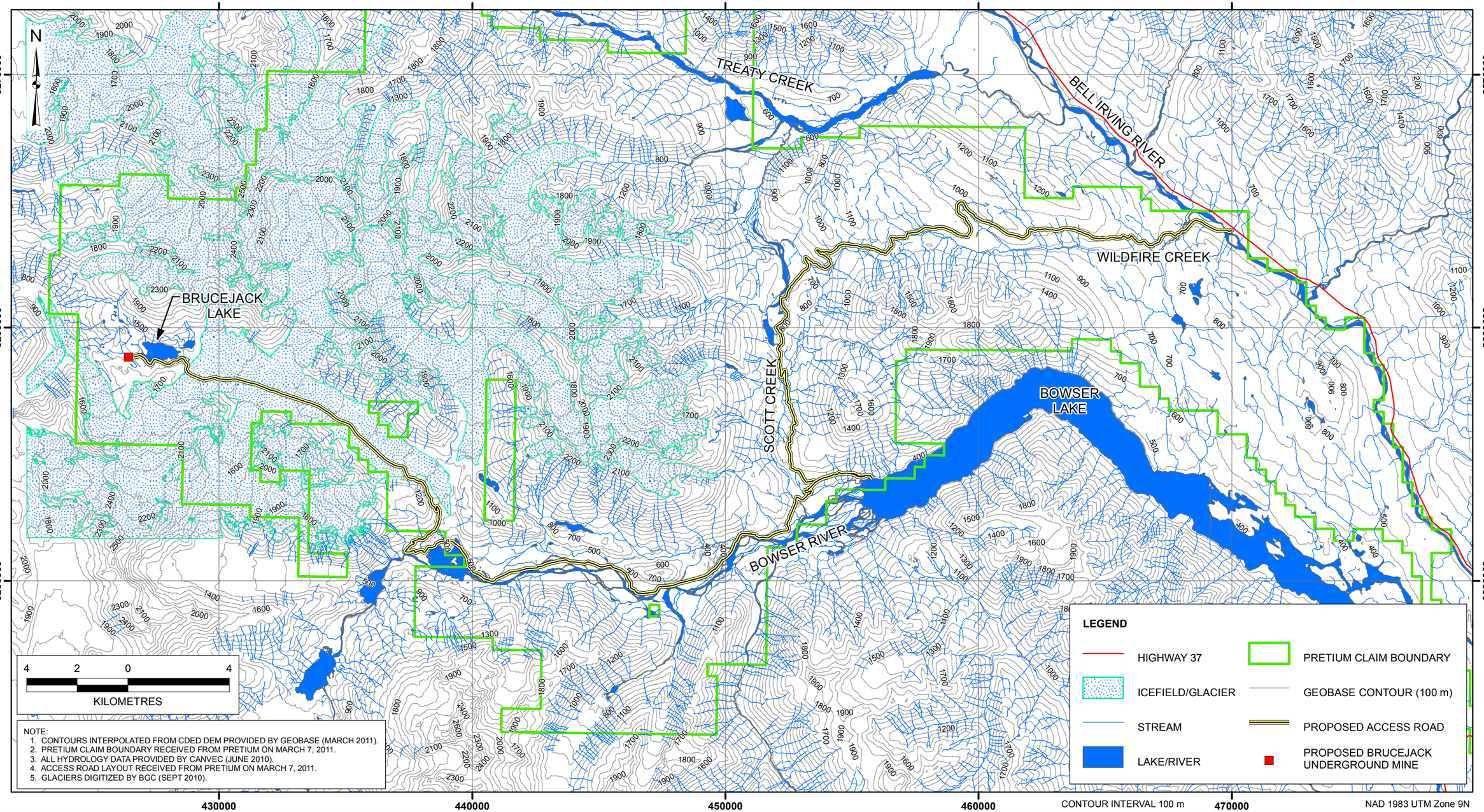

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PRETIUM RESOURCES INC.

PROJECT:
BRUCEJACK UNDERGROUND PRELIMINARY ASSESSMENT
LEACH TAILINGS FACILITY SITE SELECTION

TITLE:
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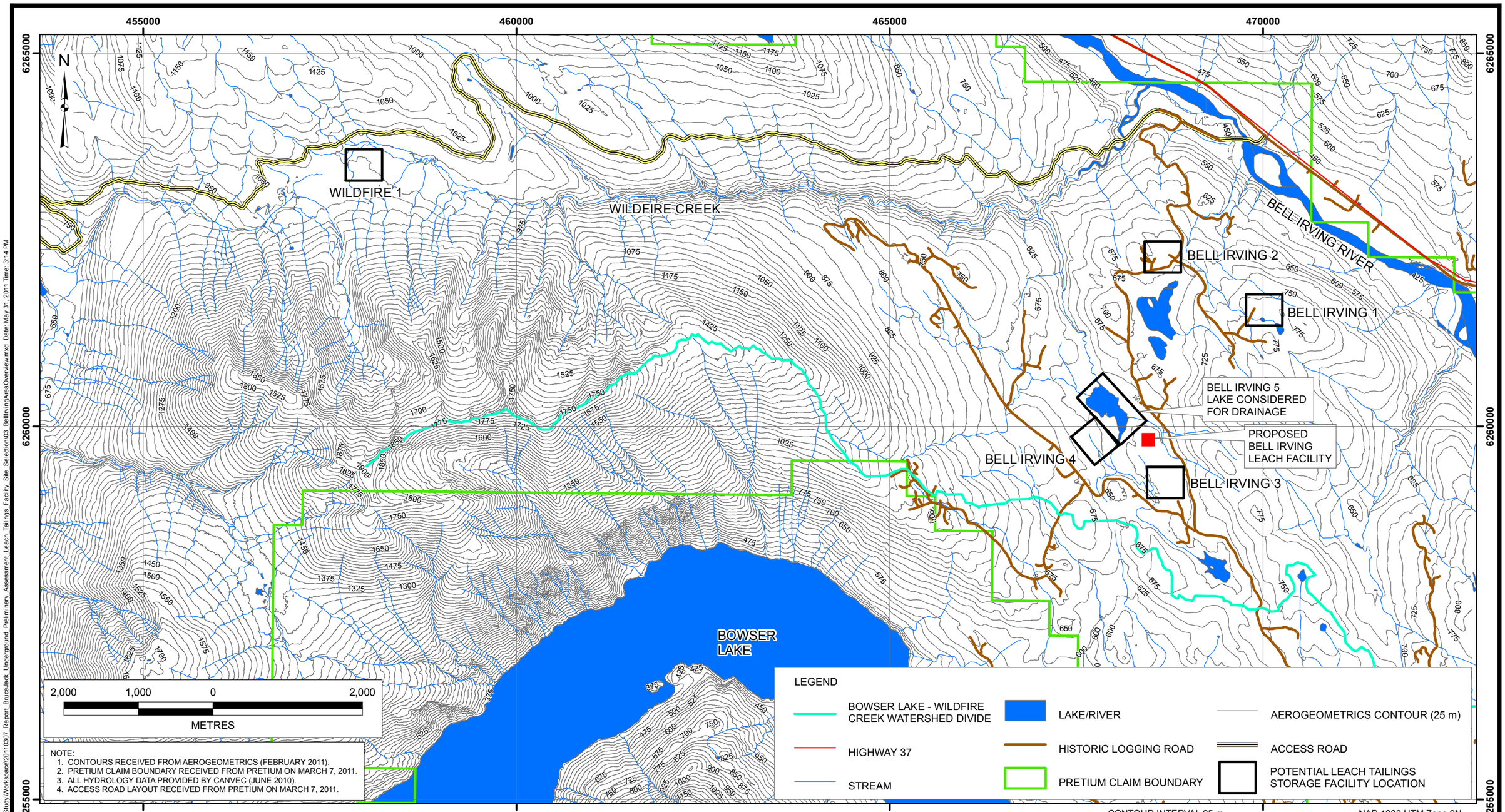

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PRETIUM RESOURCES INC.

PROJECT:
BRUCEJACK UNDERGROUND PRELIMINARY ASSESSMENT
LEACH TAILINGS FACILITY SITE SELECTION

TITLE:
BELL IRVING AREA
POTENTIAL LEACH TAILINGS STORAGE FACILITY LOCATIONS

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