

#### ASSESSMENT REPORT TITLE PAGE AND SUMMARY

TITLE OF REPORT: The 2016 Radioactivity Survey on the BISSON Claim, Omineca Mining Division, British Columbia

TOTAL COST: \$7,370.28

AUTHOR(S): Glen Prior SIGNATURE(S):

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YEAR OF WORK: 2016 PROPERTY NAME: BISSON CLAIM NAME(S) (on which work was done): BISSON (Title Number 1042379)

COMMODITIES SOUGHT: Rare earth elements

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: MINFILE No 093O 059

MINING DIVISION: Omineca NTS / BCGS: NTS Map Sheet: 93O/12 LATITUDE: 55°32'56" LONGITUDE:123°58'12" (at centre of work area) UTM Zone: 10U EASTING: 438800 NORTHING: 6156300 (NAD 83)

OWNER(S): Glen Prior

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OPERATOR(S) [who paid for the work]: Glen Prior

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REPORT KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization,

size and attitude. Do not use abbreviations or codes)

Mount Bisson, Munro Creek, Bliss occurrence, Central occurrence, Cassiar terrane, Ingenika Group, Wolverine Metamorphic Complex, Wolverine Gneiss, allanite, rare earth elements

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: Assessment Report Numbers 28877, 29693, 30498, 31947, 32770. (see also History section of report).

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (in metric units)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping			
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric	561 m	BISSON (1042379)	\$7,370.28
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of sample	es analysed for)		
Soil			
Silt			
Rock			
Other			

DRILL	LING (total metres, number of holes, size, storage location)		
	Non-core		
RELA	TED TECHNICAL		
	Sampling / Assaying		
	Petrographic		
	Mineralographic		
	Metallurgic		
PROS	SPECTING (scale/area)		
PREF	PATORY / PHYSICAL		
	Line/grid (km)		
	Topo/Photogrammetric (scale, area)		
	Legal Surveys (scale, area)		
	Road, local access (km)/trail		
	Trench (number/metres)		
	Underground development (metres)		
	Other		
		TOTAL COST	\$7,370.2

# The 2016 Radioactivity Survey on the BISSON Claim, Omineca Mining Division, British Columbia

Claim: BISSON (Title Number 1042379)

Mining Division: Omineca

NTS Map Sheet: 930/12

Location: 55°32'56" N Latitude, 123°58'12" W Longitude

Owner: Glen Prior Sherwood Park, Alberta

Author: Glen Prior Sherwood Park, Alberta

Date Submitted: 2017-May-17

Event Number: 5639358

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#### Summary

The BISSON claim, which lies within map sheet 93O/12 in north-central British Columbia, was acquired in 2016 to cover previously identified rare earth element mineralization known as either the Bliss occurrence or the Central occurrence. The mineralization occurs as allanite-rich veins (or dikes) with elevated thorium contents that enable detection by radioactive means.

During the 2016 exploration program a hand held SRAT SPP2 scintillometer, which detects radiation across a wide energy spectrum including radiation from potassium, uranium and thorium, was used to collect measurements of radioactivity at ground level.

An orientation survey with a high density of radioactivity readings was completed over a small area where several trenches expose allanite mineralization. The orientation survey demonstrated the need for tightly spaced readings for effective exploration and also the desirability of collected data at ground level.

Upon completion of the orientation survey, radioactivity surveying with a moderate station density was undertaken over a larger area. This survey identified a number of areas of anomalous radioactivity that do not appear to have been previously recognized.

Recommended future exploration of the BISSON claim includes follow-up exploration near the radioactivity anomalies identified in the 2016 survey. Initial follow-up may be undertaken by scintillometer prospecting near the anomalies followed by hand trenching. It is also recommended that a survey with moderate station density with 50 m line spacing be completed across the BISSON claim.

## Introduction

#### **Location and Access**

The BISSON claim is located in north-central British Columbia in NTS map area 930/12. It lies west of the south end of Williston Lake approximately 60 km west-northwest of Mackenzie and 35 km east-southeast of Manson Creek. The Mount Milligan porphyry Cu-Au mine is located 47 km to the south.

The claim lies about 4 km northeast of the Munro forestry road, which follows the valley of Munro Creek. A cut block access road that connects with the Munro forestry road comes to within about 100 m of the southwestern part of the BISSON claim. In the summer of 2016 a 4x4 vehicle could be driven to within about 2 km of the BISSON claim with the remainder of the access road suitable for an ATV.



Figure 1. Location of the BISSON claim within British Columbia (black star). Base map from B.C. Ministry of Energy and Mines MapPlace.

#### **Claim Description**

The BISSON claim, title number 1042379, consists of 4 cells and covers an area of 73.20 hectares within the Omineca Mining Division. The recording date was February 27, 2016. The HAWK claim is owned (100%) by Glen Prior of Sherwood Park, Alberta. The name is derived from Mount Bisson, which lies about 5 km southeast of the claim.

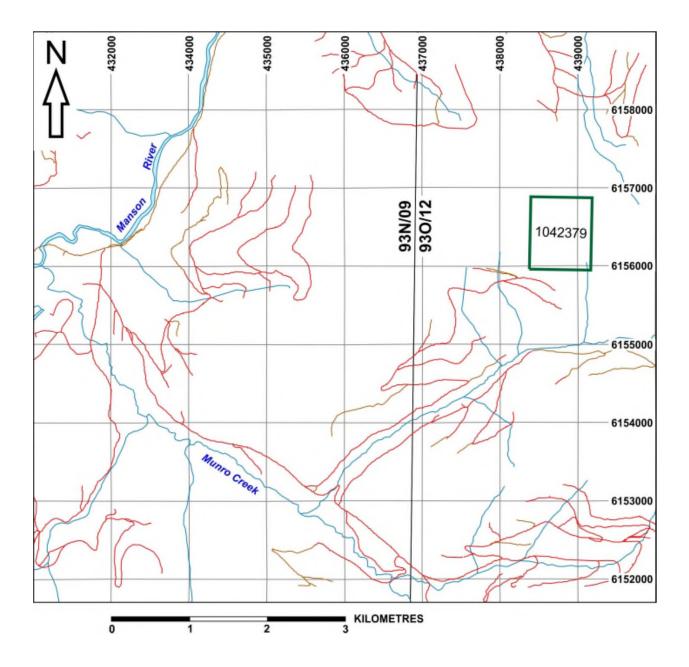


Figure 2. Boundary of the Bisson claim (green). Base map from B.C. Ministry of Energy and Mines MapPlace.

#### Physiography

The BISSON claim lies in an area of significant topographic relief on the western flank of the Swannell Ranges (part of the Omineca Mountains). Mount Bisson lines about 5 km to the southeast. Elevation across the claim varies from about 1420 m to 1580 m. Most of the claim is tree covered but there are significant areas of outcrop.

#### History

Exploration work in the area of the BISSON claim dates back to the mid-1980's when the Laura, Ursa and Will rare earth element (REE) occurrences were initially discovered. "Follow-up work described the showings as hosting rare earth mineralization within alkalic allanite-monazite pegmatite dykes but did very little systematic sampling to determine the true size of the zones. Only sporadic work was conducted until 2005, when the ground was restaked by Paget. Paget advanced exploration on the property by airborne geophysics, mapping and reconnaissance sampling over the course of several programs between 2006 and 2010. The most notable result of this period of work was the definition of a linear northwest-southeast trending magnetic high connecting several of the known anomalies, and the discovery of one very high grade rare earth sample at a new occurrence, termed Central" (Swanton, 2012, p. 3).

"A new zone of mineralization, termed the Central occurrence, was discovered during the course of a property-wide mapping and sampling program in the summer of 2010. One sample from the middle of a radiometric high on a previously unexplored portion of the property returned 8.6% rare earth elements. The sample was collected from quartzofeldspathic biotite gneiss along the margin of a fine-grained granitoid intrusion, and is composed of approximately 50% coarse-grained allanite in a matrix of diopside, quartz, apatite, magnetite, titanite and scheelite (Barresi 2010). Note that the pyroxene component of this rock is identified as green diopside as opposed the aegerine-augite previously described by Halleran" (Swanton, 2012, p. 8).

The last recorded exploration work occurred in 2011 and consisted of soil sampling, prospecting, rock sampling and hand trenching. In addition 1:5000 scale mapping was undertaken over the Central Occurrence (Swanton, 2012).

There is no mention of any drilling having occurred in the claim area (Swanton, 2012).

## **Regional Geology**

The BISSON claim lies within the Cassiar terrane (Figure 3). The Cassiar terrane is "... an Upper Proterozoic continental margin assemblage (Colpron et al. 2006) which is part of a larger belt of clastic metasedimentary rocks which stretches from southeastern BC to northwestern Yukon (Roots 1998). In the project area ... the Cassiar terrane is composed of lithologies subjected to complex deformation and regional metamorphism during the middle to late Jurassic (Ferri and Melville 1994). These units have been included in the Ingenika Group of the Omineca crystalline belt as defined by Gabrielse (1975)" (Swanton, 2012, p. 12).

Metamorphic grade throughout the Ingenika Group is variable and in an approximately150 km long belt that includes the Mount Bisson area the rocks have been subjected to high-grade metamorphism and severe deformation (including partial melting) such that recognition of protoliths is extremely difficult. "Locally, the terms Wolverine Metamorphic Complex and Wolverine Gneiss have been applied to these high-grade members of the Ingenika Group. Several kilometres to the west of the Mount Bisson area, the Wolverine Gneiss is in fault contact with much lower-grade metasedimentary rocks of the Slide Mountain terrane (Breaks, 2011)" (Swanton, 2012, p. 12).

"Several generations of igneous activity are present throughout the region surrounding the Mount Bisson claims. A set of leucocratic peraluminous granitic pegmatites are intruded generally subconcordant to regional foliation of the Wolverine Gneiss, locally exhibiting boudinage and strong mineral stretching lineations. Breaks (2011) suggests that these melts were generated from partial melting of the Wolverine Gneiss protolith during the Jurassic deformation. A suite of massive to weakly foliated biotite granite-granodiorite plutons, stocks and dykes has been termed the Wolverine Range intrusive suite. Pegmatite bodies interpreted to be related to the Wolverine Range intrusive suite commonly contain peraluminous minerals such as garnet and muscovite. The age of this suite has been termed the Cretaceous (Ferri and Melville 1994). The largest member of this group has been termed the Chamberland Creek Pluton (Breaks 2011) and yielded a U/Pb monazite age of 72.6  $\pm$  0.2 Ma (Ferri and Melville 1994).

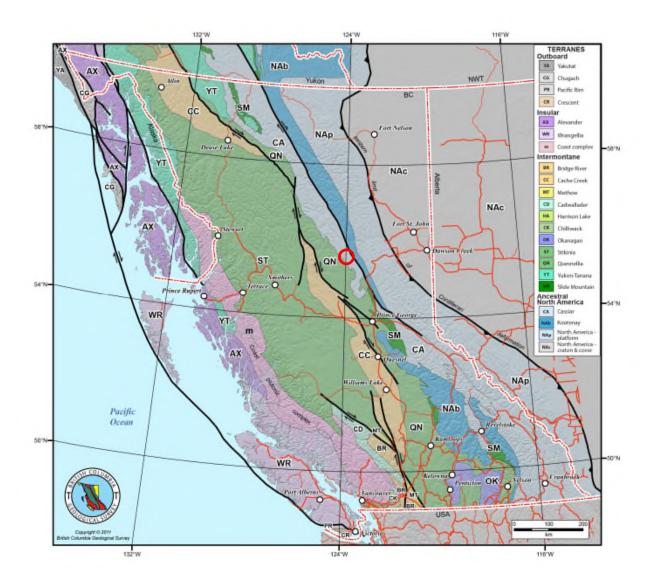


Figure 3. Geological terranes of British Columbia (from Colpron and Nelson, 2007). The BISSON claim lies near centre of red circle.

## **Property Geology and Mineralization**

A map showing the geology in the area of the BISSON claim is presented in Figure 4. The BISSON claim was positioned to cover the Central occurrence of Swanton (2012). Within the British Columbia MINFILE records the Central occurrence is identified as the Bliss occurrence (MINFILE No 093O 059).

"Bedrock geology of the Mt. Bisson property is dominated by high-grade metamorphic rocks of the Wolverine Gneiss and later intrusive units. A full description of the sub-units of the metamorphic suite is provided in Breaks (2011); at the property scale, the unit is extremely varied and thus it is pointless to attempt to sub-divide this larger gneiss unit on a large-scale map. However, the zones of the unit encompassed by the claim block consist mainly of highly deformed to migmatitic tonalite and quartz diorite accompanied by schist, gneiss, marble, calc-silicate and hornfels of sedimentary protolith" (Swanton, 2012, p. 13).

"Of more cryptic origin are a second set of coarse-grained to pegmatitic dykes composed of feldspar, quartz, amphibole (hornblende), and pyroxene (diopside) with varying amounts of allanite, magnetite, monazite and (fluoro)apatite. These bodies are generally aligned sub-parallel to the regional foliation and are often surrounded by a metasomatic halo. This halo can extend into the country rock several times the width of the dyke itself, and is identified by a fine-grained crystalline overprinting of white feldspar on top of the existing gneissic fabric, often to the extent of nearly destroying the original fabric" (Swanton, 2012, p. 14).

"The dykes are found only within the Wolverine Gneiss unit and are observed to be best developed at the Central and Laura occurrences, though extensive soil cover in the areas surrounding the topographic highs on which the occurrences are located allows for the possibility of as-yet undetected buried dykes. There is substantial variability in the width of the dykes along their length, ranging in size from several centimetres up to one metre. In length, the dykes can range from several metres to the full extent of an exposed outcrop, up to 10m (and potentially beyond, under soil cover). There is also compositional variability; many of the larger and thicker bodies are almost entirely lacking in allanite, monazite and magnetite, instead hosting large pyroxene and amphibole crystals within a coarse matrix of feldspar with subordinate quartz .... At the Central occurrence, some of these dykes are highly enriched in allanite and magnetite, to the point where the rock is up to 50% modal allanite, 10% magnetite, 10% diopside, 10% orange monazite, with the remainder composed of minor quartz and feldspar .... These rocks are highly radioactive, and host the REE mineralization which makes the Mount Bisson property an economically interesting exploration target. Similar dykes at the Laura occurrence tend to be lower in REE-bearing minerals but still display a significant alteration halo" (Swanton, 2012, p. 14).

Several high grade samples have been taken from the Central occurrence "...over a 550 m x 100 m area, with carefully selected samples having TREO+Y values of up to 11.4%. This mineralization "is hosted in multiple en-echelon tabular bodies which strike sub-parallel to the regional foliation. Note also that the zone is open at both ends, terminating against thick soil cover to the north and south" (Swanton, 2012, p. 31; TREO+Y = total rare earth oxides and yttrium).

"The same zones which show enrichment in rare earths also show, to a lesser degree, niobium mineralization. Most of the samples from the Central occurrence which host significant TREO+Y also have elevated niobium concentrations, most notably three samples from near the Barresi discovery zone which all host greater than 0.1% Nb<sub>2</sub>O<sub>3</sub>" (Swanton, 2012, p. 31).

"Thorium enrichment at high levels is almost entirely confined to the Central occurrence.... As would be expected from strong geochemical association between thorium and TREO+Y ... the samples with the higher thorium generally also have the highest rare earth content. The most likely host mineral for the thorium is monazite, abundant throughout the mineralized samples and in which Th can substitute for La, Ce or Nd" (Swanton, 2012, p. 31).

The most promising total rare earth oxides and yttrium (TREO+Y) results from the 2011 hand trenching and sampling on the Central zone (Swanton, 2012) include:

- 1.62% TREO+Y over 0.6 m in trench TR11-02
- 6.61% TREO+Y over 0.4 m in trench TR11-03
- 1.97% TREO+Y over 4.0 m in trench TR11-05 (including 7.56% TREO+Y over 1.0 m)
- 0.61% TREO+Y over 3.1 m in trench TR11-06
- 4.16% TREO+Y over 0.6 m in trench TR11-07
- 1.98% TREO+Y over 3.4 m in trench TR11-08 (including 8.08% TREO+Y over 0.5 m)
- 2.02% TREO+Y over 0.6 m in trench TR11-09
- 4.48% TREO+Y over 0.8 m in trench TR11-10
- 1.08% TREO+Y over 2.15 m in trench TR11-11

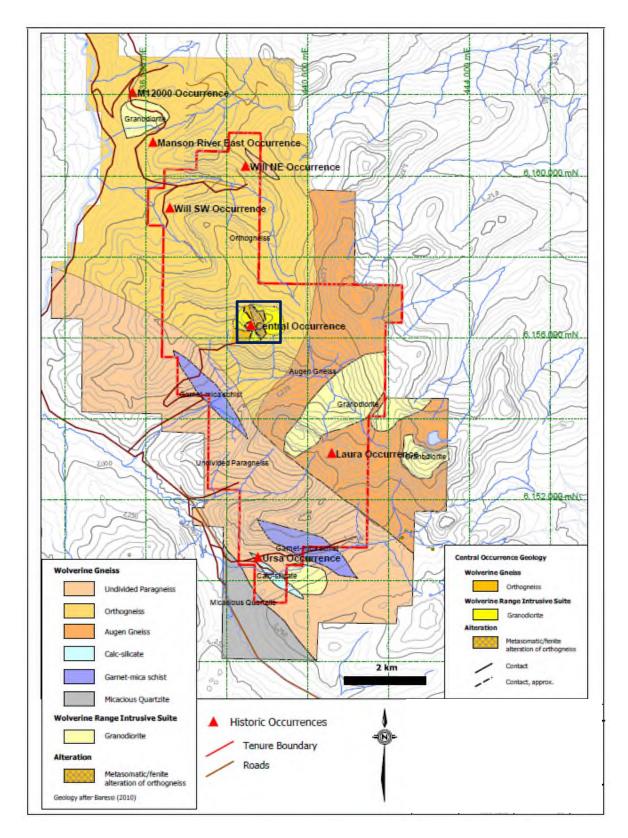


Figure 4. Geology of the BISSON claim area (from Swanton, 2012). Boundary of the former Mt. Bisson property (ca. 2011) shown in red. Boundary of BISSON claim shown in dark blue.

## **2016 Exploration**

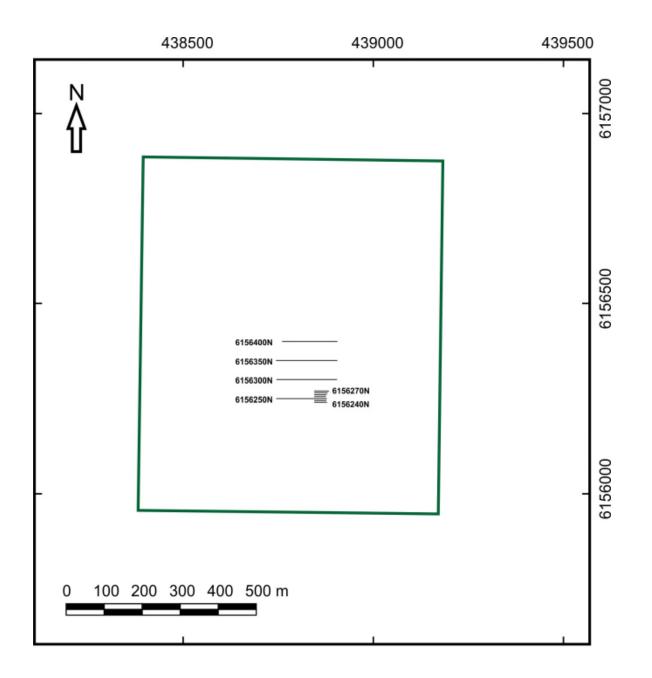
Analytical data presented by Swanton (2012) indicates that elevated REE values in the Central (Bliss) occurrence area are commonly accompanied by elevated thorium (Th) values. As thorium is radioactive this relationship suggests that radiation surveying may be effective in locating additional REE mineralization.

Exploration activities on the BISSON claim in 2016 consisted primarily of ground radiometric surveying using a hand-held SRAT SPP2 scintillometer (Figure 5). The SPP2 is equipped with a NaI scintillator and is designed to detect radioactivity above an energy threshold of 30 keV (commonly referred to as total radioactivity and includes radioactivity associated with potassium, uranium and thorium). Units of measurement are counts per second (cps), which are shown on an analogue display. It is powered by 3 D cell batteries. In order to facilitate field work, a wooden handle approximately 70 cm long was taped to the detector to make it easier to obtain readings at ground level.

Field data is presented in Appendix 1, a map showing the survey lines relative to the BISSON claim boundaries is presented in Figure 5, and a map showing survey results is presented in Figure 6. Radioactivity readings were recorded at 504 stations during grid surveying.



Figure 5. SRAT SPP2 scintillometer with wooden handle taped to detector.

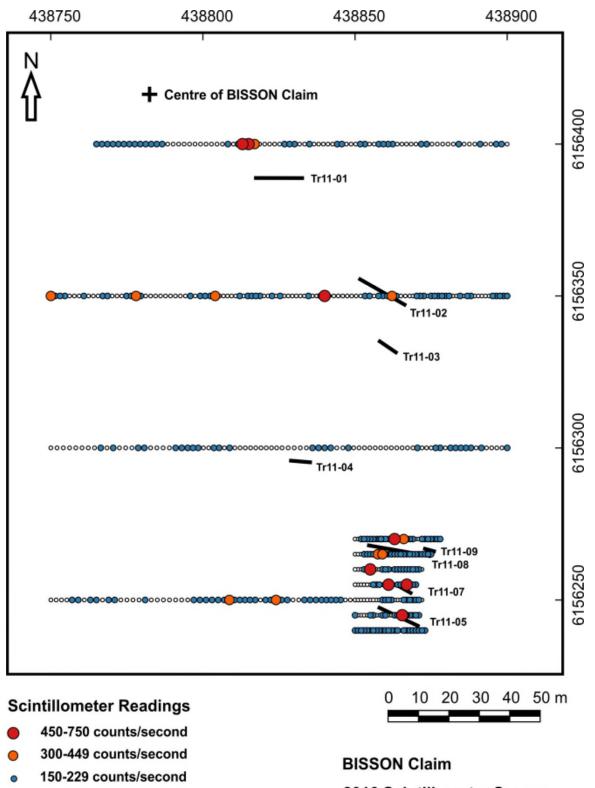


#### **BISSON Claim**

Location of 2016 Scintillometer Survey Relative to Boundary of BISSON Claim (shown in green)

Coordinates: UTM, NAD83, Zone 10U

Figure 6.



- 90-149 counts/second
- trench

## 2016 Scintillometer Survey

Coordinates: UTM, NAD83, Zone 10U

Figure 7.

In order to determine the effect of detector height above ground level on the strength of radioactive response to allanite mineralization a test was undertaken over an allanite-rich vein. The selected vein, at UTM coordinates 438867E, 6156245N (NAD 83, Zone 10U), is 70 cm wide, trends 020°, dips steeply, and composed predominantly of allanite with lesser amounts of epidote (this vein is exposed in trench 11-05 of Swanton, 2012). SPP2 scintillometer readings were collected over a vertical range of 0 to 100 cm above ground level at 10 cm increments (Table 1). Upon examining the results it was decided to collect readings at ground level rather than near waist level.

Height (cm above vein)	SPP2 Reading (cps)
0	750
10	550
20	450
30	400
40	400
50	350
60*	300
70	275
80	250
90	250
100	250

\*approximate hand-held height without handle extension

Table 1. SPP2 scintillometer readings taken above an allanite-rich vein (UTM coordinates 438867E, 6156245N, NAD 83, Zone 10U).



Figure 8. Close-up photo of vein containing abundant allanite (black crystals). Photo taken near UTM coordinates 438867E, 6156245N (close to trench 11-05). The blue intervals on the scale card on left side of photo are 1 cm long.

Surveying commenced with an orientation (high station density) survey over an area of 30 m (lines 6156240N to 6156270N) by up to 28 m that contains some of the best mineralization discovered to date. Survey lines were established 5 m apart using a hand-held GPS unit (Garmin Model GPSMAP 64st) with 1.0 m station (radioactivity reading) spacing along lines. The station spacing was locally reduced in areas of anomalous readings. Survey readings were collected with the detector at ground level. Station positions were recorded as UTM, NAD83, Zone 10U coordinates.

The necessity of tightly spaced station intervals is demonstrated by SPP2 readings over an exposure of allanite mineralization on line 6156245N within the orientation survey area. The radioactivity readings collected along this line area shown in Table 2 and demonstrate how quickly radioactivity drops to background levels on either side of the mineralization.

East	North	Radioactivity counts/second	Ground Composition	Rock Type
438850	6156245	160	rubble, vegetation	
438851	6156245	140	vegetation, rubble	
438852	6156245	130	vegetation	
438853	6156245	130	vegetation	
438854	6156245	140	vegetation	
438855	6156245	170	vegetation, rubble	
438856	6156245	150	vegetation, rubble	
438857	6156245	140	rubble, vegetation	
438858	6156245	130	rubble, vegetation	
438859	6156245	150	rubble, vegetation	
438860	6156245	160	rubble, vegetation	
438861	6156245	140	rubble (outcrop)	
438862	6156245	140	outcrop	pegmatite
438863	6156245	150	rubble (outcrop)	
438864	6156245	150	rubble	
438865	6156245	180	rubble (outcrop)	
438865.5	6156245	550	outcrop	allanite-rich vein
438866	6156245	320	outcrop	granitic rock
438867	6156245	260	rubble, vegetation (outcrop)	
438868	6156245	200	rubble, vegetation	
438869	6156245	180	rubble	
438870	6156245	230	outcrop	granitic rock
438871	6156245	210	outcrop	granitic rock

Table 2. SPP2 scintillometer readings taken across an allanite-rich vein (survey line 6156245N, coordinates: NAD 83, Zone 10U).

Following the orientation survey, a larger area to the north and west of the orientation survey area was surveyed with a moderate station density. The line spacing over the larger area was 50 m (from line 6156250N to 6156400N) and the survey was undertaken over an area of 150 m by 150 m. Readings were collected at ground level. Average recorded station spacing along the lines varied from 1.2 to 2.1 m. In addition, the detector was kept as close the ground as reasonably possible between recorded stations and monitored for increased radioactivity by listening to the audio alarm (the alarm was set so that radioactivity above background level would create a distinctive noise).

At each station the radioactivity in counts per second was recorded. In addition, information regarding the ground composition within about 1 to 2 m of the station was noted (e.g. vegetation, rock rubble, outcrop). Where the station occurred on outcrop a general rock type name was recorded based on visual observation of the outcrop surface (e.g. granitic rock, gneiss, pegmatite). At stations where high readings were recorded a quick examination of the area was undertaken to check for REE mineralization.

Forty-three readings were collected at sites characterised by vegetation (including marshy ground) with no nearby outcrop or rock rubble. SPP2 scintillometer readings at these stations ranged from 100 to 280 cps. Excluding one unusually high value, the range is from 100 to 160 cps. The median value is 120 cps.

Four stations along the survey lines were taken on outcrops at or near allanite mineralization. The readings at these stations ranged from 550 to 750 counts per second (cps). One hundred and thirty readings were collected on outcrop where allanite was not noted (note that detailed prospecting was not undertaken). The values at these stations ranged from 90 to 700 cps with a median of 180 cps. The value of 700 cps was obtained over a local "hot spot" within a small granitic outcrop (and may reflect visually undetected REE mineralization). The next highest reading was 420 cps and outcrop readings of over 300 cps are unusual (97% readings at outcrops with no visible REE mineralization returned 300 cps or less).

The generally lower SPP2 scintillometer readings in vegetated areas with no nearby outcrop or rubble (median of 120 cps with most values below 160 cps) compared to reading on outcrop with no REE mineralization noted (median of 180 cps with values up to 300 cps common) indicates a generally higher radioactive component within outcrop relative to overburden. This observation is supported by data from 19 readings taken within areas dominated by rock rubble (including talus) that have a range of 130 to 410 cps with a median of 190 cps. Thus the effect of overburden distribution must be considered when interpreting radioactive data – areas characterized by low ground surface radioactivity may reflect areas devoid of near-surface bedrock and rubble (rather than lithologic variation).

Most outcrops observed during the SPP2 scintillometer survey (excluding those with allanite mineralization) were classified as (1) gneiss (non-granitic), (2) granitic rock (including granitic gneiss) and (3) pegmatite (classification on the basis of outcrop surface appearance). Sixteen SPP2 readings on non-granitic gneiss outcrops ranged from 90 to 190 cps with a median of 145 cps. Fourteen SPP2 readings on pegmatite outcrops ranged from 130 to 240 cps with a median of 155 cps. One hundred and seven SPP2 readings on granitic rock and granitic gneiss ranged from 130 to 700 cps with a median of 190 cps (the second highest value was 340 cps suggesting that the 700 cps granitic rock may contain unobserved REE mineralization).

The map of SPP2 scintillometer readings (Figure 7) shows that most reading are either (a) less than 150 cps, which generally indicates areas of overburden cover, or (b) between 150 and 300 cps, which tends to reflect areas of outcrop and/or abundant rubble (including talus). Scintillometer readings of between 300 and 450 cps are interpreted as being possibly related to REE mineralization and values of greater than 450 cps are interpreted as being probably related to REE mineralization. Trenches shown in Figure 7 indicate locations where allanite mineralization has been previously identified and sampled (Swanton, 2012). Several of the trenches correspond to sites of high scintillometer readings, especially in the area of the orientation survey in the southeast part of the survey area.

All stations that yielded SPP2 scintillometer reading of greater than 300 cps that are not associated with known mineralization represent viable targets for follow-up investigation including scintillometer prospecting and hand trenching. Of particular interest are:

- the SPP2 scintillometer reading of 750 cps at 438840E, 6156350N, and
- the interval on survey line 6156400N between 438813E and 438817E where 3 of 5 stations returned SPP2 readings of 420, 600 and 700 cps.

#### **Discussion and Conclusions**

The association of elevated thorium values with elevated REE contents in allanite-bearing mineralized zones within the BISSON claim enables the application of radioactivity surveying as an REE exploration method. A hand held SRAT SPP2 scintillometer, which detects radiation across a wide energy spectrum including radiation from potassium, uranium and thorium, was used to collect measurements of radioactivity at ground level.

An orientation survey with a high density of radioactivity readings was completed over a small area where several trenches expose allanite mineralization. The orientation survey demonstrated the need for tightly spaced readings for effective exploration and also the desirability of collected data at ground level.

Upon completion of the orientation survey, a survey with moderate station density was undertaken to the north and west of the orientation area. This survey identified a number of areas of anomalous radioactivity that do not appear to have been previously recognized.

#### Recommendations

Recommended future exploration of the BISSON claim includes follow-up exploration near the radioactivity anomalies identified in the 2016 survey. Initial follow-up may be undertaken by scintillometer prospecting near the anomalies followed by hand trenching. It is also recommended that a survey with moderate station density with 50 m line spacing be completed across the BISSON claim.

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#### Qualifications

I, Glen Prior, of 793 Birch Avenue, Sherwood Park, Alberta do hereby certify that:

- I graduated from Laurentian University in Sudbury, Ontario, with a B.Sc. (Honours) degree in geology in 1982, from Laurentian University in Sudbury, Ontario, with a M.Sc. degree in geology in 1987 and from Carleton University in Ottawa, Ontario, with a Ph.D. degree in geology in 1996.
- I practiced my profession full-time from 1986 to 1991 and continuously since 1996.
- I am a Professional Geologist registered with the Association of Professional Engineers and Geoscientists of Alberta.
- I am the sole owner of the BISSON claim (Title Number 1042379).
- This report is based upon field work that I undertook during the 2016 field season.

May 17, 2017

Sherwood Park, Alberta

Elu 1

**Glen Prior** 

# Expenditures

Item	Comment	Cost	Subtotal
4x4 pick-up (Ram 3/4	Dawson Creek to BISSON claim (return)	816 km @ \$0.68/km	\$554.88
ton)			
ATV (Yamaha Kodiak	Claim access	4 days @ \$123.35	\$493.40
4x4)			
InReach	Communication device	6 days @ \$10.00/day	\$60.00
Forestry road radio	Rental	6 days @ \$2.00/day	\$12.00
Field work	G. Prior	4 days @ \$700.00/day	\$2,800.00
Travel	G. Prior	2 days @ \$700.00/day	\$1,400.00
Report writing	G. Prior	2.5 days @ \$700.00/day	\$1,750.00
Food and camp costs	G. Prior (field work)	4 days @ \$50.00/day	\$200.00
Food and lodging	G. Prior (travel)	2 days @ \$50.00/day	\$100.00
Total:			\$7,370.28

# Appendix 1

# Scintillometer Readings and Station Observations

Instrument: SRAT SPP2 Scintillometer

Coordinates: UTM, NAD 1983, Zone 10U

East	North	Grid Line Spacing (m)	Scintillometer Reading (counts/second)	Ground Composition	Rock Type	Date	Comment
438850.00	6156240.00	5	220	rubble, vegetation (outcrop)		2016_08_31	
438851.00	6156240.00	5	240	rubble, vegetation (outcrop)		2016_08_31	
438852.00	6156240.00	5	250	outcrop	granitic rock	2016_08_31	
438853.00	6156240.00	5	240	outcrop	granitic rock	2016_08_31	
438854.00	6156240.00	5	190	vegetation (outcrop)		2016_08_31	
438855.00	6156240.00	5	160	vegetation		2016_08_31	
438856.00	6156240.00	5	180	vegetation (rubble)		2016_08_31	
438857.00	6156240.00	5	170	vegetation, rubble		2016_08_31	
438858.00	6156240.00	5	160	rubble, vegetation		2016_08_31	
438859.00	6156240.00	5	150	rubble, vegetation		2016_08_31	
438860.00	6156240.00	5	170	rubble, vegetation		2016_08_31	
438861.00	6156240.00	5	180	rubble, vegetation		2016_08_31	
438862.00	6156240.00	5	160	rubble, vegetation		2016_08_31	
438863.00	6156240.00	5	150	rubble, vegetation		2016_08_31	
438864.00	6156240.00	5	150	rubble, vegetation		2016_08_31	
438865.00	6156240.00	5	140	rubble, vegetation		2016_08_31	
438866.00	6156240.00	5	160	rubble, vegetation		2016_08_31	
438867.00	6156240.00	5	150	rubble, vegetation		2016_08_31	
438868.00	6156240.00	5	160	rubble, vegetation		2016_08_31	
438869.00	6156240.00	5	160	rubble, vegetation		2016_08_31	
438870.00	6156240.00	5	190	rubble, vegetation		2016_08_31	
438871.00	6156240.00	5	200	rubble, vegetation		2016_08_31	
438872.00	6156240.00	5	240	outcrop	granitic rock	2016_08_31	
438873.00	6156240.00	5	230	outcrop	granitic rock	2016_08_31	
438850.00	6156245.00	5	160	rubble, vegetation		2016_08_31	
438851.00	6156245.00	5	140	vegetation, rubble		2016_08_31	
438852.00	6156245.00	5	130	vegetation		2016_08_31	
438853.00	6156245.00	5	130	vegetation		2016_08_31	
438854.00	6156245.00	5	140	vegetation		2016_08_31	
438855.00	6156245.00	5	170	vegetation, rubble		2016_08_31	
438856.00	6156245.00	5	150	vegetation, rubble		2016_08_31	
438857.00	6156245.00	5	140	rubble, vegetation		2016_08_31	

East	North	Grid Line Spacing (m)	Scintillometer Reading (counts/second)	Ground Composition	Rock Type	Date	Comment
438858.00	6156245.00	5	130	rubble, vegetation		2016_08_31	
438859.00	6156245.00	5	150	rubble, vegetation		2016_08_31	
438860.00	6156245.00	5	160	rubble, vegetation		2016_08_31	
438861.00	6156245.00	5	140	rubble (outcrop)		2016_08_31	
438862.00	6156245.00	5	140	outcrop	pegmatite	2016_08_31	
438863.00	6156245.00	5	150	rubble (outcrop)		2016_08_31	
438864.00	6156245.00	5	150	rubble		2016_08_31	
438865.00	6156245.00	5	180	rubble (outcrop)		2016_08_31	
438865.50	6156245.00	5	550	outcrop	allanite mineralization	2016_08_31	allanite-rich vein apx. 2m south of trench
438866.00	6156245.00	5	320	outcrop	granitic rock	2016_08_31	· · · · · · · · · · · · · · · · · · ·
438867.00	6156245.00	5	260	rubble, vegetation (outcrop)		2016_08_31	
438868.00	6156245.00	5	200	rubble, vegetation		2016_08_31	
438869.00	6156245.00	5	180	rubble		2016_08_31	
438870.00	6156245.00	5	230	outcrop	granitic rock	2016_08_31	outcrop at east end of trench
438871.00	6156245.00	5	210	outcrop	granitic rock	2016_08_31	top of cliff is 1 m to east
438850.00	6156250.00	5	100	vegetation		2016_08_30	
438851.00	6156250.00	5	110	vegetation		2016_08_30	
438852.00	6156250.00	5	125	vegetation		2016_08_30	
438853.00	6156250.00	5	125	vegetation		2016_08_30	
438854.00	6156250.00	5	145	vegetation		2016_08_30	
438855.00	6156250.00	5	125	vegetation		2016_08_30	
438856.00	6156250.00	5	125	vegetation		2016_08_30	
438857.00	6156250.00	5	120	vegetation (rubble)		2016_08_30	
438858.00	6156250.00	5	130	vegetation, rubble		2016_08_30	
438859.00	6156250.00	5	160	vegetation, rubble		2016_08_30	
438860.00	6156250.00	5	160	rubble, vegetation (outcrop)		2016_08_31	
438861.00	6156250.00	5	180	outcrop	granitic rock	2016_08_31	apx. 1 m north of west end of trench
438862.00	6156250.00	5	150	rubble, vegetation (outcrop)		2016_08_31	
438863.00	6156250.00	5	140	rubble		2016_08_31	
438864.00	6156250.00	5	130	rubble		2016_08_31	
438865.00	6156250.00	5	140	rubble (outcrop)		2016_08_31	
438866.00	6156250.00	5	240	outcrop	pegmatite	2016_08_31	20 cm wide pegmatite in granite (may be narrow end of pegmatite that truncates allanite vein)

East	North	Grid Line Spacing (m)	Scintillometer Reading (counts/second)	Ground Composition	Rock Type	Date	Comment
438867.00	6156250.00	5	170	rubble, vegetation (outcrop)		2016_08_31	
438868.00	6156250.00	5	240	outcrop	pegmatite	2016_08_31	this is pegmatite that truncates allanite vein about 2 m to south
438869.00	6156250.00	5	230	rubble, vegetation (outcrop)		2016_08_31	
438870.00	6156250.00	5	240	outcrop	granitic rock	2016_08_31	
438871.00	6156250.00	5	260	outcrop	granitic rock	2016_08_31	
438872.00	6156250.00	5	120	outcrop	gneiss	2016_08_31	gneiss (not granitic)
438850.00	6156255.00	5	125	vegetation		2016_08_29	
438851.00	6156255.00	5	105	vegetation		2016_08_29	
438852.00	6156255.00	5	110	vegetation		2016_08_29	
438853.00	6156255.00	5	130	vegetation		2016_08_29	
438854.00	6156255.00	5	130	vegetation		2016_08_29	
438855.00	6156255.00	5	125	vegetation		2016_08_29	
438856.00	6156255.00	5	180	rubble, vegetation		2016_08_29	
438857.00	6156255.00	5	160	vegetation, rubble		2016_08_29	
438858.00	6156255.00	5	170	rubble, vegetation		2016_08_29	
438859.00	6156255.00	5	130	vegetation		2016_08_29	
438860.00	6156255.00	5	190	vegetation, rubble		2016_08_29	
438861.00	6156255.00	5	450	vegetation (rubble)		2016_08_29	
438862.00	6156255.00	5	150	vegetation (rubble)		2016_08_29	
438863.00	6156255.00	5	140	vegetation (rubble)		2016_08_29	
438864.00	6156255.00	5	160	vegetation, rubble		2016_08_29	
438865.00	6156255.00	5	190	outcrop	granitic rock	2016_08_29	
438866.00	6156255.00	5	230	outcrop	granitic rock	2016_08_29	
438867.00	6156255.00	5	600	outcrop	allanite mineralization	2016_08_29	apx. 15 cm wide black allanite vein in outcrop
438868.00	6156255.00	5	270	outcrop (trench)	granitic rock	2016_08_29	exposure of granitic rock (with mafic clots) in shallow trench
438869.00	6156255.00	5	210	outcrop	pegmatite	2016_08_29	
438870.00	6156255.00	5	190	rubble		2016_08_29	
438850.00	6156260.00	5	135	vegetation		2016_08_30	
438851.00	6156260.00	5	125	vegetation		2016_08_30	
438852.00	6156260.00	5	125	vegetation (rubble)		2016_08_30	
438853.00	6156260.00	5	150	vegetation, rubble		2016_08_30	
438854.00	6156260.00	5	200	rubble, vegetation		2016_08_30	

East	North	Grid Line Spacing (m)	Scintillometer Reading (counts/second)	Ground Composition	Rock Type	Date	Comment
438854.50	6156260.00	5	260	rubble, vegetation		2016_08_30	
438855.00	6156260.00	5	700	outcrop (trench/pit)	allanite mineralization	2016_08_30	apx 5 cm wide black allanite zone exposed on side of small pit; metal tag: "E004360 DS Sept 14, 2011"
438855.50	6156260.00	5	210	rubble, vegetation		2016_08_30	
438856.00	6156260.00	5	160	rubble, vegetation		2016_08_30	
438857.00	6156260.00	5	130	rubble, vegetation		2016_08_30	
438858.00	6156260.00	5	140	rubble, vegetation		2016_08_30	
438859.00	6156260.00	5	150	rubble, vegetation		2016_08_30	
438860.00	6156260.00	5	170	rubble, vegetation		2016_08_30	
438861.00	6156260.00	5	160	rubble, vegetation		2016_08_30	
438862.00	6156260.00	5	140	rubble, vegetation		2016_08_30	
438863.00	6156260.00	5	150	rubble, vegetation		2016_08_30	
438864.00	6156260.00	5	150	rubble, vegetation		2016_08_30	
438865.00	6156260.00	5	160	rubble, vegetation (outcrop)		2016_08_30	
438866.00	6156260.00	5	210	outcrop	granitic rock	2016_08_30	
438867.00	6156260.00	5	210	outcrop	granitic rock	2016_08_30	
438868.00	6156260.00	5	220	outcrop	granitic rock	2016_08_30	
438869.00	6156260.00	5	240	outcrop	granitic rock	2016_08_30	
438870.00	6156260.00	5	200	rubble, vegetation		2016_08_30	
438871.00	6156260.00	5	180	outcrop	granitic rock	2016_08_30	
438872.00	6156260.00	5	140	rubble, vegetation (outcrop)		2016_08_30	
438850.00	6156265.00	5	115	vegetation		2016_08_30	
438851.00	6156265.00	5	120	vegetation (rubble)		2016_08_30	
438852.00	6156265.00	5	140	rubble, vegetation (outcrop)		2016_08_30	
438853.00	6156265.00	5	160	rubble, vegetation (outcrop)		2016_08_30	
438854.00	6156265.00	5	170	outcrop	granitic rock	2016_08_30	
438855.00	6156265.00	5	190	rubble, vegetation (outcrop)		2016_08_30	
438856.00	6156265.00	5	210	rubble, vegetation		2016_08_30	
438857.00	6156265.00	5	240	rubble, vegetation		2016_08_30	
438857.50	6156265.00	5	380	rubble, vegetation		2016_08_30	apx. 4 m south of and on trend with black allanite exposure apx. 40 cm wide in trench
438858.00	6156265.00	5	160	rubble, vegetation		2016_08_30	

East	North	Grid Line Spacing (m)	Scintillometer Reading (counts/second)	Ground Composition	Rock Type	Date	Comment
438859.00	6156265.00	5	380	rubble, vegetation		2016_08_30	boulder of black allanite-bearing rock ~25 cm to north
438860.00	6156265.00	5	270	rubble, vegetation		2016_08_30	boulder of black allanite-bearing rock ~25 cm to west
438861.00	6156265.00	5	150	rubble, vegetation		2016_08_30	
438862.00	6156265.00	5	160	rubble, vegetation		2016_08_30	
438863.00	6156265.00	5	200	rubble, vegetation (outcrop)		2016_08_30	
438864.00	6156265.00	5	240	outcrop	granitic rock	2016_08_30	
438865.00	6156265.00	5	250	outcrop	granitic rock	2016_08_30	
438866.00	6156265.00	5	220	outcrop	granitic rock	2016_08_30	
438867.00	6156265.00	5	210	outcrop	granitic rock	2016_08_30	
438868.00	6156265.00	5	270	outcrop	granitic rock	2016_08_30	
438869.00	6156265.00	5	200	rubble, vegetation (outcrop)		2016_08_30	
438870.00	6156265.00	5	160	rubble, vegetation		2016_08_30	
438871.00	6156265.00	5	150	rubble, vegetation		2016_08_30	
438872.00	6156265.00	5	200	rubble, vegetation		2016_08_30	apx. 1 m north of east end of trench
438873.00	6156265.00	5	210	rubble, vegetation		2016_08_30	
438874.00	6156265.00	5	240	outcrop	granitic rock	2016_08_30	
438875.00	6156265.00	5	230	outcrop	granitic rock	2016_08_30	1 m west of top of distinct cliff
438850.00	6156270.00	5	130	rubble, vegetation		2016_08_30	
438851.00	6156270.00	5	140	rubble, vegetation (outcrop)		2016_08_30	
438852.00	6156270.00	5	200	outcrop	granitic rock	2016_08_30	
438853.00	6156270.00	5	220	outcrop	granitic rock	2016_08_30	
438854.00	6156270.00	5	180	outcrop	granitic rock	2016_08_30	
438855.00	6156270.00	5	170	outcrop	granitic rock	2016_08_30	
438856.00	6156270.00	5	160	outcrop	pegmatite	2016_08_30	white pegmatite
438857.00	6156270.00	5	150	rubble, vegetation (outcrop)		2016_08_30	apx. 2 m north of west end of trench
438858.00	6156270.00	5	150	rubble, vegetation		2016_08_30	
438858.50	6156270.00	5	200	rubble, vegetation		2016_08_30	apx. 2 m north of trench exposing apx. 40 cm wide black allanite-bearing rock (20 cm of overburden stripped to expose bedrock in trench)
438859.00	6156270.00	5	160	rubble, vegetation		2016_08_30	
438860.00	6156270.00	5	180	rubble, vegetation		2016_08_30	
438861.00	6156270.00	5	150	rubble, vegetation		2016_08_30	

East	North	Grid Line Spacing (m)	Scintillometer Reading (counts/second)	Ground Composition	Rock Type	Date	Comment
438862.00	6156270.00	5	150	rubble, vegetation		2016_08_30	
438862.50	6156270.00	5	170	rubble, vegetation		2016_08_30	
438863.00	6156270.00	5	700	rubble, vegetation		2016_08_30	
438863.50	6156270.00	5	240	rubble, vegetation (outcrop)		2016_08_30	
438864.00	6156270.00	5	220	outcrop	granitic rock	2016_08_30	
438865.00	6156270.00	5	200	outcrop	granitic rock	2016_08_30	
438866.00	6156270.00	5	300	outcrop	granitic rock	2016_08_30	
438867.00	6156270.00	5	270	outcrop	granitic rock	2016_08_30	
438868.00	6156270.00	5	190	rubble, vegetation (outcrop)		2016_08_30	
438869.00	6156270.00	5	180	rubble, vegetation (outcrop)		2016_08_30	
438870.00	6156270.00	5	90	outcrop	gneiss	2016_08_30	gneiss (not granitic)
438871.00	6156270.00	5	115	rubble, vegetation (outcrop)		2016_08_30	
438872.00	6156270.00	5	250	rubble, vegetation (outcrop)		2016_08_30	
438873.00	6156270.00	5	200	outcrop	granitic rock	2016_08_30	
438874.00	6156270.00	5	230	outcrop	granitic rock	2016_08_30	
438875.00	6156270.00	5	170	rubble, vegetation (outcrop)		2016_08_30	
438876.00	6156270.00	5	160	outcrop	granitic rock	2016_08_30	coarse grained granitic rock
438877.00	6156270.00	5	240	outcrop	granitic rock	2016_08_30	coarse grained granitic rock
438878.00	6156270.00	5	260	outcrop	granitic rock	2016_08_30	coarse grained granitic rock; 1 m to east = top of steep cliff
438750.00	6156250.00	50	110	vegetation, rubble		2016_08_31	
438751.75	6156250.00	50	100	vegetation, rubble		2016_08_31	
438753.50	6156250.00	50	100	rubble, vegetation		2016_08_31	
438755.25	6156250.00	50	110	rubble, vegetation		2016_08_31	
438757.00	6156250.00	50	180	outcrop	granitic rock	2016_08_31	not foliated
438759.00	6156250.00	50	190	outcrop	pegmatite or granitic rock	2016_08_31	pegmatite or very coarse grained granitic rock
438761.00	6156250.00	50	140	outcrop	pegmatite	2016_08_31	pegmatite to very coarse grained granitic rock; no foliation; sharp contact with "gneiss"
438763.00	6156250.00	50	180	outcrop	gneiss	2016_08_31	moderate-strongly foliated, medium-coarse grained, weakly rusty weathering gneiss; some metamorphic layering

East	North	Grid Line Spacing (m)	Scintillometer Reading (counts/second)	Ground Composition	Rock Type	Date	Comment
438765.00	6156250.00	50	170	outcrop	gneiss	2016_08_31	moderate-strongly foliated, medium-coarse grained, weakly rusty weathering gneiss; some metamorphic layering
438767.00	6156250.00	50	130	rubble, vegetation (outcrop)		2016_08_31	
438769.00	6156250.00	50	270	outcrop	granitic rock	2016_08_31	white, very coarse grained granitic rock, not foliated
438771.00	6156250.00	50	170	outcrop	granitic rock	2016_08_31	weak foliation
438773.00	6156250.00	50	110	vegetation (outcrop)		2016_08_31	
438775.00	6156250.00	50	110	vegetation, rubble		2016_08_31	
438777.00	6156250.00	50	120	vegetation, rubble		2016_08_31	
438779.00	6156250.00	50	130	rubble, vegetation (outcrop)		2016_08_31	
438781.00	6156250.00	50	180	outcrop	granitic rock	2016_08_31	very weak foliation
438783.00	6156250.00	50	120	vegetation, rubble		2016_08_31	
438785.00	6156250.00	50	130	vegetation, rubble		2016_08_31	
438787.00	6156250.00	50	120	vegetation, rubble		2016_08_31	
438789.00	6156250.00	50	140	outcrop	granitic rock	2016_08_31	foliated granitic rock
438791.00	6156250.00	50	130	rubble, vegetation		2016_08_31	
438793.00	6156250.00	50	120	vegetation, rubble		2016_08_31	
438795.00	6156250.00	50	130	vegetation, rubble		2016_08_31	
438797.00	6156250.00	50	200	outcrop	granitic rock	2016_08_31	foliated white granitic rock
438799.00	6156250.00	50	180	rubble, vegetation		2016_08_31	
438801.00	6156250.00	50	240	rubble, vegetation		2016_08_31	
438803.00	6156250.00	50	160	rubble, vegetation		2016_08_31	
438805.00	6156250.00	50	180	rubble, vegetation		2016_08_31	
438807.00	6156250.00	50	190	rubble, vegetation (outcrop)		2016_08_31	
438808.70	6156250.00	50	340	outcrop	granitic rock	2016_08_31	
438810.40	6156250.00	50	200	outcrop	granitic rock	2016_08_31	
438812.10	6156250.00	50	200	outcrop	granitic rock	2016_08_31	
438813.80	6156250.00	50	160	outcrop	pegmatite	2016_08_31	
438815.50	6156250.00	50	170	outcrop	pegmatite	2016_08_31	
438817.20	6156250.00	50	150	outcrop	pegmatite	2016_08_31	
438818.90	6156250.00	50	140	outcrop	pegmatite	2016_08_31	
438820.60	6156250.00	50	150	outcrop	pegmatite	2016_08_31	
438822.30	6156250.00	50	160	outcrop	pegmatite	2016_08_31	
438824.00	6156250.00	50	300	rubble, vegetation		2016_08_31	nearby granitic outcrop = 380 cps

East	North	Grid Line Spacing (m)	Scintillometer Reading (counts/second)	Ground Composition	Rock Type	Date	Comment
				(outcrop)			
438825.84	6156250.00	50	150	vegetation, rubble (outcrop)		2016_08_31	
438827.72	6156250.00	50	150	rubble, vegetation (outcrop)		2016_08_31	
438829.60	6156250.00	50	130	vegetation (outcrop)		2016_08_31	
438831.48	6156250.00	50	140	rubble, vegetation		2016_08_31	
438833.36	6156250.00	50	150	rubble, vegetation		2016_08_31	
438835.24	6156250.00	50	150	rubble, vegetation		2016_08_31	
438837.12	6156250.00	50	160	rubble, vegetation		2016_08_31	
438839.00	6156250.00	50	180	rubble, vegetation		2016_08_31	
438840.58	6156250.00	50	250	rubble, vegetation		2016_08_31	
438842.15	6156250.00	50	260	rubble, vegetation		2016_08_31	
438843.72	6156250.00	50	190	rubble, vegetation		2016_08_31	
438845.29	6156250.00	50	160	vegetation, rubble		2016_08_31	
438846.86	6156250.00	50	140	vegetation		2016_08_31	
438848.43	6156250.00	50	130	vegetation, rubble		2016_08_31	
438850.00	6156250.00	50	110	vegetation		2016_08_31	
438750.00	6156300.00	50	100	vegetation		2016_08_31	
438752.05	6156300.00	50	140	outcrop	gneiss	2016_08_31	
438754.10	6156300.00	50	130	outcrop	gneiss	2016_08_31	
438756.15	6156300.00	50	140	outcrop	gneiss	2016_08_31	
438758.20	6156300.00	50	140	outcrop	gneiss	2016_08_31	
438760.25	6156300.00	50	110	rubble, vegetation (outcrop)		2016_08_31	
438762.30	6156300.00	50	120	rubble, vegetation		2016_08_31	
438764.35	6156300.00	50	100	vegetation, rubble (outcrop)		2016_08_31	
438766.40	6156300.00	50	150	outcrop	gneiss	2016_08_31	
438768.45	6156300.00	50	140	outcrop	gneiss	2016_08_31	
438770.50	6156300.00	50	180	rubble, vegetation (outcrop)		2016_08_31	
438772.55	6156300.00	50	110	rubble, vegetation		2016_08_31	
438774.60	6156300.00	50	110	vegetation, rubble		2016_08_31	
438776.65	6156300.00	50	130	rubble, vegetation		2016_08_31	
438778.70	6156300.00	50	180	outcrop	granitic rock	2016_08_31	
438780.75	6156300.00	50	190	outcrop	gneiss	2016_08_31	

East	North	Grid Line Spacing (m)	Scintillometer Reading (counts/second)	Ground Composition	Rock Type	Date	Comment
438782.80	6156300.00	50	130	rubble, vegetation (outcrop)		2016_08_31	
438784.85	6156300.00	50	120	vegetation (rubble)		2016_08_31	
438786.90	6156300.00	50	140	rubble, vegetation (outcrop)		2016_08_31	
438788.95	6156300.00	50	140	outcrop	gneiss	2016_08_31	
438791.00	6156300.00	50	150	outcrop	gneiss	2016_08_31	
438793.05	6156300.00	50	150	rubble, vegetation (outcrop)		2016_08_31	
438795.00	6156300.00	50	170	outcrop	gneiss	2016_08_31	weak rusty weathering
438796.72	6156300.00	50	170	outcrop	gneiss	2016_08_31	
438798.44	6156300.00	50	150	outcrop	gneiss	2016_08_31	
438800.16	6156300.00	50	130	outcrop	pegmatite	2016_08_31	
438801.88	6156300.00	50	140	outcrop	pegmatite	2016_08_31	
438803.60	6156300.00	50	160	outcrop	pegmatite or granitic rock	2016_08_31	pegmatite or very coarse grained granitic rock
438805.32	6156300.00	50	150	outcrop	granitic rock and pegmatite	2016_08_31	very coarse grained granitic rock and subordinate pegmatite
438807.04	6156300.00	50	140	rubble, vegetation (outcrop)		2016_08_31	
438808.76	6156300.00	50	180	outcrop	granitic rock	2016_08_31	very coarse grained granitic rock
438810.48	6156300.00	50	110	rubble, vegetation (outcrop)		2016_08_31	
438812.20	6156300.00	50	130	rubble, vegetation		2016_08_31	
438813.92	6156300.00	50	120	vegetation, rubble		2016_08_31	
438815.64	6156300.00	50	110	vegetation (rubble)		2016_08_31	
438817.36	6156300.00	50	110	vegetation, rubble		2016_08_31	
438819.08	6156300.00	50	100	vegetation (rubble)		2016_08_31	
438820.80	6156300.00	50	120	vegetation		2016_08_31	
438822.52	6156300.00	50	120	vegetation (rubble)		2016_08_31	
438824.24	6156300.00	50	100	vegetation, rubble		2016_08_31	
438826.00	6156300.00	50	110	rubble, vegetation (outcrop)		2016_08_31	
438828.00	6156300.00	50	130	outcrop	granitic rock	2016_08_31	moderate foliation
438830.00	6156300.00	50	130	rubble, vegetation (outcrop)		2016_08_31	
438832.00	6156300.00	50	140	rubble, vegetation		2016_08_31	
438834.00	6156300.00	50	140	rubble, vegetation		2016_08_31	
438836.00	6156300.00	50	240	rubble		2016_08_31	

East	North	Grid Line Spacing (m)	Scintillometer Reading (counts/second)	Ground Composition	Rock Type	Date	Comment
438838.00	6156300.00	50	220	rubble (vegetation)		2016_08_31	
438840.00	6156300.00	50	270	rubble (vegetation)		2016_08_31	
438842.00	6156300.00	50	190	rubble (vegetation)		2016_08_31	
438844.00	6156300.00	50	130	rubble (vegetation)		2016_08_31	
438846.00	6156300.00	50	130	rubble (vegetation)		2016_08_31	
438847.77	6156300.00	50	190	rubble, vegetation		2016_08_31	
438849.54	6156300.00	50	110	rubble, vegetation		2016_08_31	
438851.31	6156300.00	50	110	rubble, vegetation		2016_08_31	
438853.08	6156300.00	50	110	vegetation, rubble		2016_08_31	
438854.85	6156300.00	50	120	vegetation (rubble)		2016_08_31	
438856.62	6156300.00	50	110	vegetation		2016_08_31	
438858.39	6156300.00	50	120	rubble, vegetation		2016_08_31	
438860.16	6156300.00	50	120	rubble, vegetation		2016_08_31	
438861.93	6156300.00	50	130	rubble, vegetation (outcrop)		2016_08_31	
438863.70	6156300.00	50	110	outcrop	granitic rock	2016_08_31	very coarse grained granitic rock; no foliation
438865.47	6156300.00	50	110	outcrop	granitic rock and pegmatite	2016_08_31	very coarse grained granitic rock and subordinate pegmatite
438867.24	6156300.00	50	140	outcrop	granitic rock	2016_08_31	very coarse grained granitic rock
438869.00	6156300.00	50	140	outcrop	granitic rock or pegmatite	2016_08_31	very coarse grained granitic rock or pegmatite
438870.50	6156300.00	50	150	outcrop	granitic rock or pegmatite	2016_08_31	very coarse grained granitic rock or pegmatite
438872.00	6156300.00	50	130	outcrop	granitic rock or pegmatite	2016_08_31	very coarse grained granitic rock or pegmatite
438873.50	6156300.00	50	140	rubble		2016_08_31	
438875.00	6156300.00	50	140	rubble		2016_08_31	
438876.50	6156300.00	50	200	rubble (vegetation)		2016_08_31	
438878.00	6156300.00	50	160	rubble (vegetation)		2016_08_31	
438879.69	6156300.00	50	140	rubble, vegetation		2016_08_31	
438881.38	6156300.00	50	150	vegetation, rubble		2016_08_31	
438883.07	6156300.00	50	200	rubble, vegetation		2016_08_31	
438884.76	6156300.00	50	260	rubble, vegetation		2016_08_31	
438886.45	6156300.00	50	240	rubble (vegetation)		2016_08_31	
438888.14	6156300.00	50	210	rubble (vegetation)		2016_08_31	
438889.83	6156300.00	50	140	rubble, vegetation		2016_08_31	
438891.52	6156300.00	50	150	vegetation, rubble		2016_08_31	

East	North	Grid Line Spacing (m)	Scintillometer Reading (counts/second)	Ground Composition	Rock Type	Date	Comment
438893.21	6156300.00	50	140	rubble, vegetation		2016_08_31	
438894.90	6156300.00	50	110	outcrop	granitic rock and pegmatite	2016_08_31	very coarse grained granitic rock and subordinate pegmatite
438896.59	6156300.00	50	140	outcrop	granitic rock and pegmatite	2016_08_31	very coarse grained granitic rock and subordinate pegmatite
438898.28	6156300.00	50	140	rubble, vegetation (outcrop)		2016_08_31	
438900.00	6156300.00	50	150	rubble, vegetation (outcrop)		2016_08_31	
438750.00	6156350.00	50	410	rubble		2016_09_01	angular medium grained granite boulder in rubble field below outcrop
438751.48	6156350.00	50	190	rubble		2016_09_01	
438753.04	6156350.00	50	190	rubble		2016_09_01	
438754.60	6156350.00	50	150	rubble		2016_09_01	
438756.16	6156350.00	50	110	rubble, vegetation		2016_09_01	
438757.72	6156350.00	50	140	vegetation (rubble)		2016_09_01	
438759.28	6156350.00	50	140	vegetation (rubble)		2016_09_01	
438760.84	6156350.00	50	190	vegetation, rubble		2016_09_01	
438762.40	6156350.00	50	120	vegetation (rubble)		2016_09_01	
438763.96	6156350.00	50	130	vegetation (rubble)		2016_09_01	
438765.52	6156350.00	50	130	vegetation, rubble		2016_09_01	
438767.08	6156350.00	50	150	rubble, vegetation (outcrop)		2016_09_01	
438768.64	6156350.00	50	180	outcrop	granitic rock	2016_09_01	very coarse grained granitic rock
438770.20	6156350.00	50	140	vegetation (outcrop)		2016_09_01	
438771.76	6156350.00	50	130	vegetation (rubble)		2016_09_01	
438773.32	6156350.00	50	120	vegetation, rubble		2016_09_01	
438774.88	6156350.00	50	150	rubble, vegetation (outcrop)		2016_09_01	
438776.44	6156350.00	50	280	outcrop	granitic gneiss	2016_09_01	
438778.00	6156350.00	50	420	outcrop	granitic gneiss	2016_09_01	moderately foliated gneiss/granitic rock; moderately large outcrop with readings of up to 500 cps nearby
438779.55	6156350.00	50	160	vegetation, rubble (outcrop)		2016_09_01	
438781.18	6156350.00	50	120	vegetation, rubble		2016_09_01	
438782.81	6156350.00	50	130	vegetation, rubble		2016_09_01	
438784.44	6156350.00	50	120	vegetation, rubble		2016_09_01	
438786.07	6156350.00	50	140	vegetation, rubble		2016_09_01	

East	North	Grid Line Spacing (m)	Scintillometer Reading (counts/second)	Ground Composition	Rock Type	Date	Comment
438787.70	6156350.00	50	130	vegetation, rubble		2016_09_01	
438789.33	6156350.00	50	120	vegetation, rubble		2016_09_01	
438790.96	6156350.00	50	130	vegetation, rubble		2016_09_01	
438792.59	6156350.00	50	140	vegetation, rubble		2016_09_01	
438794.22	6156350.00	50	130	vegetation, rubble		2016_09_01	
438795.85	6156350.00	50	150	rubble, vegetation		2016_09_01	
438797.48	6156350.00	50	130	rubble, vegetation		2016_09_01	
438799.11	6156350.00	50	150	rubble, vegetation		2016_09_01	
438800.74	6156350.00	50	160	rubble, vegetation		2016_09_01	
438802.37	6156350.00	50	150	vegetation, rubble		2016_09_01	
438804.00	6156350.00	50	370	rubble		2016_09_01	selected "hot spot" along line; medium grained granite boulder apx. 1.0x0.5 m across
438805.42	6156350.00	50	120	vegetation (rubble)		2016_09_01	
438806.75	6156350.00	50	130	vegetation (rubble)		2016_09_01	
438808.08	6156350.00	50	120	vegetation, rubble (outcrop)		2016_09_01	
438809.41	6156350.00	50	140	outcrop	granitic rock	2016_09_01	weak foliation
438810.74	6156350.00	50	120	vegetation, rubble (outcrop)		2016_09_01	
438812.07	6156350.00	50	150	rubble, vegetation		2016_09_01	
438813.40	6156350.00	50	110	vegetation		2016_09_01	
438814.73	6156350.00	50	150	rubble, vegetation		2016_09_01	
438816.06	6156350.00	50	180	rubble (outcrop)		2016_09_01	
438817.39	6156350.00	50	220	outcrop	granitic gneiss	2016_09_01	
438818.72	6156350.00	50	170	outcrop	granitic gneiss	2016_09_01	
438820.05	6156350.00	50	140	outcrop	granitic gneiss	2016_09_01	
438821.38	6156350.00	50	130	outcrop	granitic gneiss	2016_09_01	
438822.71	6156350.00	50	150	rubble (outcrop)		2016_09_01	
438824.04	6156350.00	50	140	rubble		2016_09_01	
438825.37	6156350.00	50	150	rubble, vegetation		2016_09_01	
438826.70	6156350.00	50	140	vegetation, rubble		2016_09_01	
438828.03	6156350.00	50	120	vegetation, rubble		2016_09_01	
438829.36	6156350.00	50	110	vegetation, rubble		2016_09_01	
438830.69	6156350.00	50	120	vegetation, rubble (outcrop)		2016_09_01	
438832.02	6156350.00	50	110	vegetation (rubble)		2016_09_01	

East	North	Grid Line Spacing (m)	Scintillometer Reading (counts/second)	Ground Composition	Rock Type	Date	Comment
438833.35	6156350.00	50	120	vegetation, rubble		2016_09_01	
438834.68	6156350.00	50	190	rubble, vegetation (outcrop)		2016_09_01	
438836.01	6156350.00	50	120	outcrop	granitic rock	2016_09_01	very coarse grained granitic rock
438837.34	6156350.00	50	120	rubble, vegetation (outcrop)		2016_09_01	
438838.67	6156350.00	50	170	outcrop	granitic rock	2016_09_01	very coarse grained granitic rock
438840.00	6156350.00	50	750	outcrop	granitic rock (+/- allanite)	2016_09_01	granitic rock with possible disseminated allanite; selected "hot spot" along line; seems localized
438841.54	6156350.00	50	130	vegetation		2016_09_01	
438843.01	6156350.00	50	120	vegetation		2016_09_01	
438844.48	6156350.00	50	110	vegetation		2016_09_01	
438845.95	6156350.00	50	110	vegetation (rubble)		2016_09_01	
438847.42	6156350.00	50	120	vegetation (rubble)		2016_09_01	
438848.89	6156350.00	50	130	vegetation		2016_09_01	
438850.36	6156350.00	50	120	vegetation (rubble)		2016_09_01	
438851.83	6156350.00	50	120	vegetation (outcrop)		2016_09_01	
438853.30	6156350.00	50	150	vegetation (rubble)		2016_09_01	
438854.77	6156350.00	50	180	rubble, vegetation (outcrop)		2016_09_01	
438856.24	6156350.00	50	140	outcrop	granitic rock	2016_09_01	nil to very weak foliation, medium grained
438857.71	6156350.00	50	200	outcrop	granitic rock	2016_09_01	nil to very weak foliation, medium grained
438859.18	6156350.00	50	160	rubble, vegetation (outcrop)		2016_09_01	
438860.65	6156350.00	50	180	vegetation, rubble (outcrop)		2016_09_01	
438862.12	6156350.00	50	310	rubble, vegetation		2016_09_01	selected "hot spot" along line; ~1.5 m south of very small trench/pit with allanite vein apx. 20 cm wide (850 c/s when scintillometer placed on vein); overburden apx 30 cm deep at near side of trench/pit
438863.59	6156350.00	50	200	outcrop	granitic rock	2016_09_01	nil to weak foliation
438865.06	6156350.00	50	140	rubble, vegetation (outcrop)		2016_09_01	
438866.53	6156350.00	50	130	rubble, vegetation (outcrop)		2016_09_01	
438868.00	6156350.00	50	120	outcrop	granitic rock	2016_09_01	apx. 8 m to north is east end of trench
438869.06	6156350.00	50	130	rubble, vegetation (outcrop)		2016_09_01	

East	North	Grid Line Spacing (m)	Scintillometer Reading (counts/second)	Ground Composition	Rock Type	Date	Comment
438870.25	6156350.00	50	220	outcrop	granitic rock	2016_09_01	nil to very weak foliation, medium grained granitic rock
438871.44	6156350.00	50	200	rubble, vegetation (outcrop)		2016_09_01	
438872.63	6156350.00	50	170	outcrop	granitic rock	2016_09_01	nil to very weak foliation
438873.82	6156350.00	50	140	rubble, vegetation (outcrop)		2016_09_01	
438875.01	6156350.00	50	160	outcrop	granitic rock	2016_09_01	
438876.20	6156350.00	50	190	outcrop	granitic rock	2016_09_01	nil to very weak foliation
438877.39	6156350.00	50	150	rubble, vegetation		2016_09_01	
438878.58	6156350.00	50	170	rubble, vegetation		2016_09_01	
438879.77	6156350.00	50	150	rubble, vegetation		2016_09_01	
438880.96	6156350.00	50	150	rubble, vegetation		2016_09_01	
438882.15	6156350.00	50	130	rubble, vegetation		2016_09_01	
438883.34	6156350.00	50	140	rubble, vegetation		2016_09_01	
438884.53	6156350.00	50	150	rubble, vegetation		2016_09_01	
438885.72	6156350.00	50	140	rubble, vegetation (outcrop)		2016_09_01	
438886.91	6156350.00	50	180	outcrop	granitic rock	2016_09_01	not foliated
438888.10	6156350.00	50	150	rubble, vegetation (outcrop)		2016_09_01	
438889.29	6156350.00	50	130	rubble, vegetation (outcrop)		2016_09_01	
438890.48	6156350.00	50	140	rubble, vegetation		2016_09_01	
438891.67	6156350.00	50	130	rubble, vegetation		2016_09_01	
438892.86	6156350.00	50	140	rubble, vegetation		2016_09_01	
438894.05	6156350.00	50	130	rubble, vegetation		2016_09_01	
438895.24	6156350.00	50	190	rubble, vegetation		2016_09_01	
438896.43	6156350.00	50	170	rubble, vegetation		2016_09_01	
438897.62	6156350.00	50	170	vegetation, rubble		2016_09_01	
438898.81	6156350.00	50	160	rubble		2016_09_01	
438900.00	6156350.00	50	160	vegetation, rubble		2016_09_01	
438765.00	6156400.00	50	220	outcrop	granitic gneiss	2016_09_01	at base of cliff (shorten line by 15 m); granitic rock/gneiss (medium grained); moderately foliated; moderate mineral layering
438766.80	6156400.00	50	290	outcrop	granitic gneiss	2016_09_01	granitic rock/gneiss; moderately foliated; moderate mineral layering; weak rusty weathering

East	North	Grid Line Spacing (m)	Scintillometer Reading (counts/second)	Ground Composition	Rock Type	Date	Comment
438768.60	6156400.00	50	190	rubble		2016_09_01	
438770.40	6156400.00	50	220	outcrop	granitic gneiss	2016_09_01	
438772.20	6156400.00	50	210	rubble		2016_09_01	
438774.00	6156400.00	50	210	rubble		2016_09_01	
438775.80	6156400.00	50	190	rubble		2016_09_01	
438777.60	6156400.00	50	200	rubble, vegetation		2016_09_01	
438779.40	6156400.00	50	180	rubble, vegetation		2016_09_01	
438781.20	6156400.00	50	200	rubble, vegetation		2016_09_01	
438783.00	6156400.00	50	190	rubble, vegetation		2016_09_01	
438784.80	6156400.00	50	170	vegetation, rubble		2016_09_01	
438786.60	6156400.00	50	160	vegetation, rubble		2016_09_01	
438788.40	6156400.00	50	110	rubble, trees, marsh		2016_09_01	
438790.20	6156400.00	50	120	trees, marsh		2016_09_01	
438792.00	6156400.00	50	110	marsh		2016_09_01	
438793.80	6156400.00	50	120	marsh		2016_09_01	
438795.60	6156400.00	50	110	marsh		2016_09_01	
438797.40	6156400.00	50	120	marsh		2016_09_01	
438799.20	6156400.00	50	110	marsh (rubble)		2016_09_01	
438801.00	6156400.00	50	110	marsh (rubble)		2016_09_01	
438802.80	6156400.00	50	120	marsh (rubble)		2016_09_01	
438804.60	6156400.00	50	120	marsh, trees (rubble)		2016_09_01	
438806.40	6156400.00	50	110	vegetation (rubble, outcrop)		2016_09_01	
438808.20	6156400.00	50	160	outcrop	granitic gneiss	2016_09_01	
438810.00	6156400.00	50	110	vegetation (rubble, outcrop)		2016_09_01	
438811.50	6156400.00	50	160	vegetation (rubble, outcrop)		2016_09_01	
438813.00	6156400.00	50	700	outcrop	granitic rock	2016_09_01	selected "hot spot" reading; small outcrop
438814.00	6156400.00	50	240	rubble, vegetation (outcrop)		2016_09_01	
438815.00	6156400.00	50	600	rubble, vegetation (outcrop)		2016_09_01	at base of small outcrop near pegmatite but highest readings on soil near outcrop
438816.00	6156400.00	50	130	vegetation, rubble (outcrop)		2016_09_01	
438817.00	6156400.00	50	420	vegetation, rubble		2016_09_01	selected "hot spot" reading
438818.64	6156400.00	50	120	vegetation, rubble		2016_09_01	

East	North	Grid Line Spacing (m)	Scintillometer Reading (counts/second)	Ground Composition	Rock Type	Date	Comment
438820.28	6156400.00	50	130	vegetation, rubble		2016_09_01	
438821.92	6156400.00	50	120	vegetation, rubble		2016_09_01	
438823.56	6156400.00	50	130	vegetation, rubble		2016_09_01	
438825.20	6156400.00	50	140	vegetation, rubble (outcrop)		2016_09_01	
438826.84	6156400.00	50	210	outcrop	granitic rock	2016_09_01	weak foliation
438828.48	6156400.00	50	210	outcrop	granitic rock	2016_09_01	weak foliation
438830.12	6156400.00	50	150	vegetation (outcrop)		2016_09_01	
438831.76	6156400.00	50	120	vegetation (rubble)		2016_09_01	
438833.40	6156400.00	50	130	vegetation		2016_09_01	
438835.00	6156400.00	50	280	vegetation		2016_09_01	selected "hot spot"; local - possible buried boulder
438836.52	6156400.00	50	110	vegetation		2016_09_01	
438838.04	6156400.00	50	110	vegetation		2016_09_01	
438839.56	6156400.00	50	100	vegetation		2016_09_01	
438841.08	6156400.00	50	110	vegetation		2016_09_01	
438842.60	6156400.00	50	110	vegetation		2016_09_01	
438844.12	6156400.00	50	150	vegetation, rubble		2016_09_01	
438845.64	6156400.00	50	200	rubble, vegetation		2016_09_01	
438847.16	6156400.00	50	140	vegetation, rubble		2016_09_01	
438848.68	6156400.00	50	120	vegetation (rubble)		2016_09_01	
438850.20	6156400.00	50	130	vegetation (outcrop)		2016_09_01	
438851.72	6156400.00	50	180	outcrop	granitic rock	2016_09_01	medium grained granitic rock
438853.24	6156400.00	50	170	outcrop	granitic rock	2016_09_01	very coarse grained granitic rock
438854.76	6156400.00	50	130	rubble, vegetation (outcrop)		2016_09_01	
438856.28	6156400.00	50	130	rubble, vegetation		2016_09_01	
438857.80	6156400.00	50	150	rubble, vegetation (outcrop)		2016_09_01	
438859.32	6156400.00	50	210	outcrop	granitic rock	2016_09_01	medium grained granitic rock; nil to very weak foliation
438860.84	6156400.00	50	200	outcrop	granitic rock	2016_09_01	medium grained granitic rock; nil to very weak foliation
438862.36	6156400.00	50	180	rubble, vegetation (outcrop)		2016_09_01	
438863.88	6156400.00	50	110	vegetation, rubble		2016_09_01	
438865.40	6156400.00	50	130	rubble, vegetation		2016_09_01	
438866.92	6156400.00	50	110	vegetation, rubble		2016_09_01	

East	North	Grid Line Spacing (m)	Scintillometer Reading (counts/second)	Ground Composition	Rock Type	Date	Comment
438868.44	6156400.00	50	140	rubble, vegetation		2016_09_01	
438870.00	6156400.00	50	120	vegetation, rubble (outcrop)		2016_09_01	
438871.76	6156400.00	50	210	outcrop	granitic rock	2016_09_01	medium grained granitic rock; no foliation
438873.52	6156400.00	50	160	outcrop	granitic rock	2016_09_01	medium grained granitic rock; no foliation
438875.28	6156400.00	50	120	outcrop	granitic rock	2016_09_01	medium grained granitic rock; weak foliation
438877.04	6156400.00	50	140	outcrop	granitic rock	2016_09_01	medium grained granitic rock; weak foliation
438878.80	6156400.00	50	120	outcrop	granitic rock	2016_09_01	medium grained granitic rock; weak foliation
438880.56	6156400.00	50	120	vegetation (outcrop)		2016_09_01	
438882.32	6156400.00	50	110	vegetation (outcrop)		2016_09_01	
438884.08	6156400.00	50	180	outcrop	granitic rock	2016_09_01	medium grained granitic rock; weak foliation
438885.84	6156400.00	50	130	vegetation, rubble (outcrop)		2016_09_01	
438887.60	6156400.00	50	130	vegetation, rubble		2016_09_01	
438889.36	6156400.00	50	120	vegetation, rubble (outcrop)		2016_09_01	
438891.12	6156400.00	50	150	outcrop	granitic rock	2016_09_01	medium grained granitic rock; weak foliation
438892.88	6156400.00	50	120	vegetation, rubble (outcrop)		2016_09_01	
438894.64	6156400.00	50	130	vegetation, rubble		2016_09_01	
438896.40	6156400.00	50	160	vegetation (rubble, outcrop)		2016_09_01	
438898.16	6156400.00	50	160	outcrop	granitic gneiss	2016_09_01	weak rusty weathering
438900.00	6156400.00	50	120	vegetation, rubble (outcrop)		2016_09_01	