



## ASSESSMENT REPORT TITLE PAGE AND SUMMARY

**TITLE OF REPORT: ASSESSMENT REPORT ON GEOCHEMICAL SAMPLING, TREASURE MOUNTAIN PROPERTY**

**TOTAL COST: \$43,043**

AUTHOR(S): A. Walus, P.Geo

SIGNATURE(S):

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S):

STATEMENT OF WORK EVENT NUMBER(S)/DATE(S): Event No: 5670543, October 23 2017

YEAR OF WORK:2017

PROPERTY NAME: Treasure Mountain Property

CLAIM NAME(S) (on which work was done): 505631, 505628, 510714, 510716

COMMODITIES SOUGHT: copper, silver

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 1031 090

MINING DIVISION: Skeena

NTS / BCGS:1031-050, 060; 931 041, 051

LATITUDE: 54° 30'

LONGITUDE: 128° 00' " (at centre of work)

UTM Zone:9

EASTING: 564000

NORTHING: 6040000

OWNER(S): Decade Resources

MAILING ADDRESS: 611 8th Street,  
PO Box 211  
Stewart, BC

OPERATOR(S) [who paid for the work]: Decade Resources

MAILING ADDRESS: Same

REPORT KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude. **Do not use abbreviations or codes**): copper-silver mineralization, chalcocite-bornite.

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS:  
28304, 29726, 30780

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			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for ...)			
Soil			
Silt			
Rock	47	28304, 29726 30780	43,043
Other			
DRILLING (total metres, number of holes, size, storage location)			
Core			
RELATED TECHNICAL			
Sampling / Assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale/area)			
PREPATORY / PHYSICAL			
Line/grid (km)			
Topo/Photogrammetric (scale, area)			
Legal Surveys (scale, area)			
Road, local access (km)/trail			
Trench (number/metres)			
Underground development (metres)			
Other			
<b>TOTAL COST</b>			<b>\$43,043</b>

# **ASSESSMENT REPORT ON GEOCHEMICAL SAMPLING TREASURE MOUNTAIN PROPERTY**

**Located 35 kilometres East of  
Terrace, British Columbia in  
Skeena Mining Division**

**NTS 103I 050, 060; 93I 041, 051  
Latitude 54° 30" W  
Longitude 128° 00' N**

**Event Number: 5670543**

**On Behalf of  
Decade Resources Ltd**

**Report by  
Alojzy A. Walus, P. Geo.  
alexwalus@hotmail.com**

**February 2018**

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## SUMMARY

The Treasure Mountain property lies approximately 35 kilometers east of Terrace, British Columbia within the Skeena Mining Division. The property is located in the Zymoetz River (locally known as the Copper River) Valley and extends from the Zymoetz River Valley bottom, along a north trending ridge line, to the Kleanza Creek Valley bottom. At the present time access to the property is only by helicopter from Terrace with flight time of approximately 15 minutes. Previous property operators used several access roads constructed in the 1960's. Some of them were used by pick-up trucks while others were only accessible to ATVs. Significant portion of them was cleared by Trade Wind Ventures during the 2005-2008 exploration programs. To access these roads a boat is required to get across the Zymoetz River at 29.5 km mark of the Zymoetz River FSR.

The Treasure Mountain property consists of 26 mineral claims totaling 9,950.6 hectares. Ownership of all 26 claims is presently registered with Randolph Kasum who hold them in trust for Decade Resources.

During the 2017 exploration program a total of 47 rock samples were collected. The author visited Purdex, Danee, Drill Stem, Trail and Switchback zones. The Purdex zone was mapped in the scale 1:5000. Rock sampling was supplemented by microscopic examination of 6 thin sections.

The Treasure Mountain property contains numerous copper-silver showings of which the Purdex and Danee zones are the most prominent. The copper mineralization observed within the Purdex zone has the following characteristics:

- 1) Mineralization is dominated by bornite and chalcocite with lesser covellite and minor chalcopyrite
- 2) A simple copper and silver geochemical signature
- 3) Mineralization is hosted in amygdaloidal basalt flow
- 4) Copper minerals form open-space fillings (mainly amygdales)
- 5) Mineralization is associated with quartz along with small amounts of actinolite, chlorite and sericite

The first four characteristics are indicative of the Volcanic Redbed mineralization as defined by Lefebvre, D. V. and Church, B.N. (1996) in the British Columbia Mineral Deposit Profiles. The fifth characteristic does not support this conclusion as this type of mineralization shows no associated alteration. The association of copper minerals with actinolite (which forms under high temperature) also does not support this conclusion as the genetic model for Volcanic Redbed deposits assumes the formation of copper minerals in a low-temperature environment. Alternatively, the Purdex copper-silver mineralization might have been formed in a high temperature hydrothermal environment.

The Danee zone represents the second most important copper-silver bearing occurrence examined during the 2017 program. The microscopic examination of sample A17-76 collected from one of the 2007 trenches indicates that copper mineralization of this zone is hosted within a portion of a large diabase intrusion at least 300 metres in size. Part of the mineralization is hosted in faults. Mineralization (dominated by bornite and chalcocite) and simple geochemical signature of copper and silver is similar to the Purdex zone. Two other areas with anomalous copper identified in 2007 (Lower Danee and North Danee Extension) situated in close proximity to the Danee zone indicate significant size of underlying copper bearing mineralization.

The Treasure Mountain property has a great potential to host copper-silver deposit. It features numerous copper showings of which only part have been examined recently. The main copper occurrences in this area appear to be associated with either basalt or its subvolcanic equivalent (diabase). Other occurrences are related to faults and fracture zones. Almost all showings in this area have a similar mineralogy (mostly bornite and chalcocite) and geochemical signature (copper-silver) which suggest the same source of mineralization.

Exploration on the Treasure Mountain property is limited by two major factors. The property is covered by lush vegetation and feature few outcrops. The outcrops are strongly leached of copper which makes copper mineralization very difficult to detect by prospecting or soil sampling. Outcrops are often so strongly leached that there is no sign of high grade copper mineralization on the surface which can only be found after removing the first 10-15 cm of barren rock.

Historical reports do not mention any IP survey conducted on the property. The IP method would be best suited for the environment observed in the Purdex and Danee zones. Disseminated nature of mineralization along with the accompanying silicification should produce a distinct IP signature of high chargeability and resistivity. During the field work on the Purdex and other Treasure Mountain property zones, the author did not observe any rocks which might give false IP anomalies such as graphite or pyrite bearing rocks.

An IP geophysical survey covering the Purdex and presumed location of the DF zone is recommended for the next exploration program.

## **INTRODUCTION**

### **Location and Access**

Treasure Mountain property lies approximately 35 kilometers east of Terrace, British Columbia within the Skeena Mining Division (see figure 1 for location).

The property is located in the Zymoetz River (locally known as the Copper River) Valley and extends from the Zymoetz River Valley bottom, along a north trending ridge line, to the Kleanza Creek Valley bottom. At the present time access to the property is only by helicopter from Terrace with flight time of approximately 15 minutes. Previous property operators used several access roads constructed in the 1960's. Some of them were used by pick-up trucks while others were only accessible to ATVs. Significant portion of them was cleared by Trade Wind Ventures during the 2005-2008 exploration programs. To access these roads a boat is required to get across the Zymoetz River at 29.5 km mark of the Zymoetz River FSR.

### **Topography & Physiography**

The low elevation portion of the property is primarily alluvial benches and unsorted glacial till. The property rises from the valley bottom to low and mid mountain slope. In these areas colluvial and glacial material cover the bedrock, sporadic outcrops can be seen in road cuts. In the mid to upper slope position, rock outcrops are common in bluffs and road cuts. The terrain is rounded due to glacial activity with some east/west trending hogs back ridge features. In the upper slope to mountain top areas, morphologic forms range from rounded ridgelines to precipitous cliffs.

Water courses appear to follow faulting patterns as well as along bedding planes. Salmon Run Creek is the dominant water feature on the western side of the property, with Mattock Creek being a significant drainage to the east and South Kleanza Creek and Peerless Creek to the North.



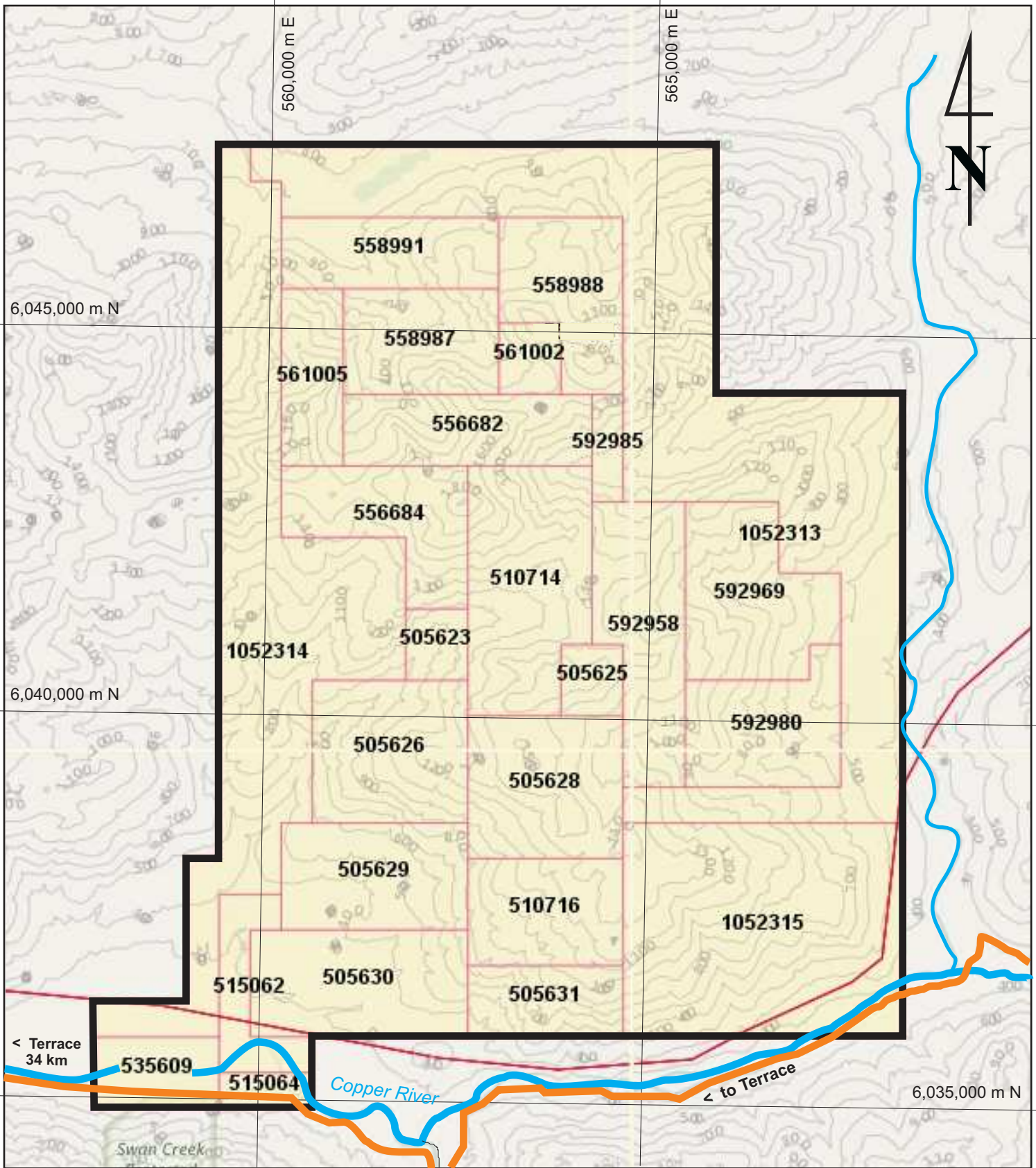


To accompany report by A. Walus

100 km





<b>DECADE RESOURCES LTD.</b>	
<b>TREASURE MOUNTAIN PROPERTY</b> OMINECA MINING DIVISION	
<b>LOCATION MAP</b>	
Date: January 2018	Figure 1 Scale as shown



To accompany report by A. Walus

**LEGEND:**

-  - all-season gravel road
-  - high-voltage power line

5 km



<b>DECADE RESOURCES LTD.</b>	
<b>TREASURE MOUNTAIN PROPERTY</b> OMINECA MINING DIVISION	
<b>CLAIM MAP</b>	
NTS 093L/05, 093L/12, 103I/08, 103I/09 Date: January 2018	<b>Figure 2</b> Scale as shown

## Property Ownership

The Treasure Mountain property consists of 26 mineral claims totaling 9,950.6 hectares located approximately 30 km east of Terrace, BC. Claims location copied from MINFILE database is presented on figure 2. Ownership of all 26 claims is presently registered with Randolph Kasum who hold them in trust for Decade Resources. Relevant claim information is summarized in the table below.

Title Number	Claim Name	Owner	Map	Good to Date	Area (ha)
505623	BF 5	245542 (100%)	103I	2018/DEC/05	75.1
505625	BF 6	245542 (100%)	103I	2018/DEC/05	75.1
505626	Treasure 1	245542 (100%)	103I	2018/DEC/05	375.6
505628	Treasure 2	245542 (100%)	103I	2018/DEC/05	375.7
505629	Treasure 3	245542 (100%)	103I	2018/DEC/05	338.2
505630	Treasure 4	245542 (100%)	103I	2018/DEC/05	394.6
505631	Treasure 5	245542 (100%)	103I	2018/DEC/05	187.9
510714		245542 (100%)	103I	2018/DEC/05	488.1
510716		245542 (100%)	103I	2018/DEC/05	281.8
515062	SALMON RUN	245542 (100%)	103I	2018/DEC/05	150.3
515064	SALMON RUN 2	245542 (100%)	103I	2018/DEC/05	56.4
535609	TREASURE	245542 (100%)	103I	2018/DEC/05	150.4
556682	WELLS2	245542 (100%)	103I	2018/DEC/05	300.2
556684	WELLS3	245542 (100%)	103I	2018/DEC/05	300.3
558987	KING1	245542 (100%)	103I	2018/DEC/05	281.4
558988	KING2	245542 (100%)	103I	2018/DEC/04	300.1
558991	KING3	245542 (100%)	103I	2018/DEC/04	262.6
561002	KING4	245542 (100%)	103I	2018/DEC/03	75.0
561005	KING5	245542 (100%)	103I	2018/DEC/03	187.6
592958	TWD1	245542 (100%)	103I	2018/DEC/03	375.5
592969	TWD3	245542 (100%)	093L	2018/DEC/03	375.5
592980	TWD4	245542 (100%)	093L	2018/DEC/03	300.5
592985	TWD2	245542 (100%)	103I	2018/DEC/03	56.3
1052313	TREASURE 50	245542 (100%)	093L	2018/JUN/02	1876.3
1052314	TREASURE 60	245542 (100%)	103I	2018/JUN/02	1295.4
1052315	TREASURE 70	245542 (100%)	093L	2018/JUN/02	1014.7

**Total 9,950.6 ha**

## HISTORY

### Early 1900's

The Treasure Mountain area was intensively explored in the early 1900's as it was thought that the Grand Trunk and Pacific Railroad would go through the Copper (Zymoetz) River Valley and open up the District. When the railway was routed along the Hazelton route

most exploration work died after 1915 when the camp was reported on in the B.C. Minister of Mines Annual Report. After that, there were periods of resurgent exploration on the various copper showings in the area which mostly represent veins with bornite and chalcocite.

### The 1960's

In the 1960's exploration on the present-day Treasure Mountain property was centered on Purdex zone. The property was explored by Glen Copper Mines Ltd. in 1966 which completed approximately 2,400 metres of drilling and 1,600 metres of trenching. In addition, 11.2 km of access roads were constructed (Ministry of Mines Annual Report 1966). The records of this work have not been published. It is postulated that this work was to develop the vein showings at the head waters of Salmon Run Creek. The Salmon Run road was constructed as part of this work along with significant trail building at the head waters of Mattock Creek.

### 1997 or 1998

Some drilling took place on Drill Stem zone. No records of this work are available.

### 2005-2008

In 2005 Trade Winds Ventures Inc. of Vancouver optioned the property from the owner Mr. W. H. McRae of Terrace, BC. Exploration work during this period included rehabilitation of old roads, mapping and drilling of Purdex zone, as well as property wide mapping, prospecting and sampling. Drilling of Purdex zone included 6 ATW holes. Extensive prospecting resulted in the discovery of Danee, Trail, Camp, Fundi and Switchback copper-silver bearing zones. In 2007, a total of 60 blasted pits were completed of which 51 were completed over the Danee zone.

## **REGIONAL GEOLOGY**

### **Introduction**

The property is located east of the Coast Range Intrusives and totally within what has been determined to be Jurassic Age Hazelton Volcanics (194 - 200Ma). Recent mapping carried out in 2007 and 2008 by J. Nelson et al, from British Columbia Geological Survey assigned the rocks of Treasure Mountain to the Lower Jurassic Telkwa Formation of the volcanoclastic dominated division (see figure 3).

The property falls into the northeast corner of the quadrant mapped by the British Columbia Geological Survey (BCGS) as Open File 2008-3, Geology of Chist Creek Map Area, B.C., 103I 08 and the south east corner of Open File 2007-4, Geology of Terrace

Map Area, B.C., 103I 09, 10, 15 and 16. East of Longitude 128 degrees, prior mapping (BCGS 2005), identifies only undifferentiated L JT or Lower Jurassic Telkwa Formation.

### **Lower Unit**

The western portion of the property is primarily the LJTax and on the property, this has been mapped as the Lower Unit which is described as: “Plagioclase-phyric andesite lapilli tuff. It is coarse to fine grained, compositionally monolithologic to polymictic. Minor hornblende and rare clinopyroxene phenocrysts. Also, plagioclase-phyric andesite flows and flow breccia; minor dacite, rhyolite and volcanic sedimentary rocks. Green, maroon and bright burgundy.” The main copper bearing units, the Purdex, and the Danee are located at the upper top portion of the lower unit.

### **Acidic Volcanic Unit**

The next higher stratigraphic unit found on the property is called the Acidic Volcanic Unit and is equivalent to BCGS’s Lower and intraflow felsic marker units called LJTr described as:

“Lower marker unit lies at base of flow dominated division: Upper marker unit lies both above and below andesite flows. Rhyolite and dacite distinguished by labels locally, but not separated.”

### **Red Bed Unit**

The uppermost unit mapped on the property is called the Red Bed Unit and is roughly equivalent to the LJTa Flow Dominated Division.

Faults cut all three major units. There appears to be little or no offset on most of the faults. with the possible exception of the pair of faults trending East - West just south of Goat Bed Peak and the Trail Showing and extending to Unnamed Creek 2.

## **PROPERTY GEOLOGY**

Description of property geology provided below is based in most part on Alex’s Burton description of geology provided in Assessment Report #30780. Property geology map based on BCGS work (Nelson J.L. et al, 2007, 2008) is presented on figure 3. The rocks found within the property are divided into three main units, Lower Unit, Acidic Volcanic Unit, and Red Bed Unit. (Burton A., 2009).

### Lower Unit

The Lower Unit is complex and has not been mapped in detail except near its top where Purdex sub-unit has been the subject of much exploration. The base of the Lower Unit is

not known, but it extends at least down to the 400 m elevation and up to 1200 meters at the Purdex zone. It strikes north-south consistently dipping 45 degrees east.

### Acid (felsic) Volcanic Unit

The Acidic Volcanic Unit appears to lie on an unconformable erosional surface of the Lower Unit. In this unit the volcanic bedding is uniform with North strike and gentle dip to the east. The individual beds in the Acidic Volcanic Unit are quite different from the Purdex Sub-Unit zone and can be individually identified and followed along dip for at least one kilometer. The beds are acidic, fine grained tuffs or crystal ash flows exhibiting welded crystal tuff features with occasional gas holes.

### Red Bed Unit

The Red Bed Unit is the youngest and appears to conformably overly the Acidic Volcanic Unit. Beds in the Red Bed Unit range from less than 1 m to more commonly half a dozen to a dozen meters thick. Often, certain beds will have patches of bright green 'celadonite' up to a centimeter across which have the appearance of replacing mafic minerals or fine particles in the matrix of the beds.

### Marker Horizons

The contacts between the Lower, Acidic Volcanic, and Red Bed units are relatively easily identified. The Lower Unit strikes N-S and dips about 45 degrees to the east. The Acid Volcanic Unit has the same strike, but dips more gently to the east, and there may be an erosional unconformity to account for the sharp dip change.

The ignimbrite flow in the Acidic Volcanic Unit has been traced from 1 km north of the Purdex Area to directly downslope from Camp 1.

### Pink syenitic flow

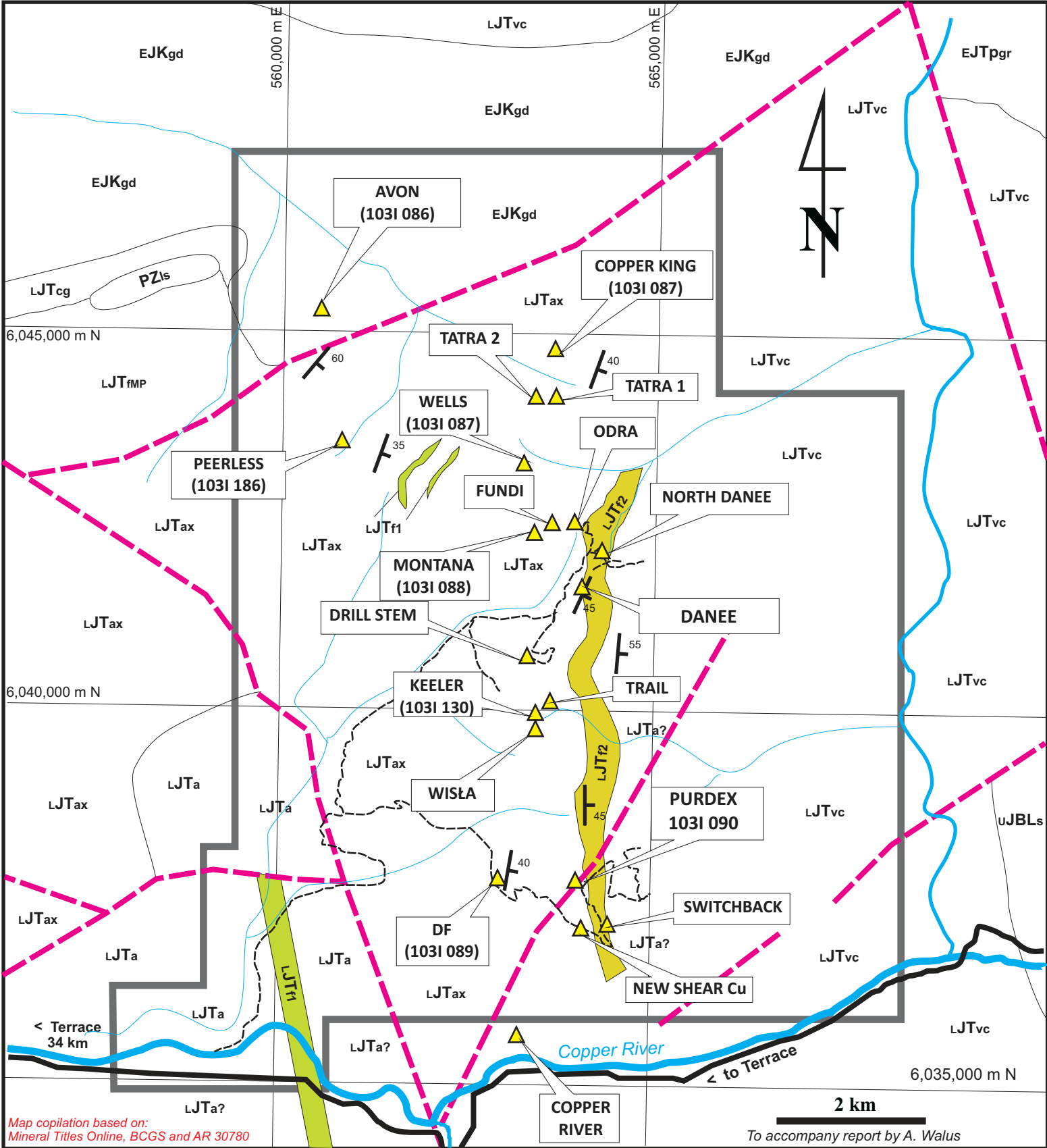
Stratigraphically above the ignimbrite in the Acidic Volcanic Unit a pink syenitic flow bed can be traced from a road outcrop south of Camp 1 to an outcrop along the Microwave Tower road just east of the Purdex switchback and then for another kilometer along the ATV trail leading to the Trail zone. It appears to extend further on the air photos, but has not been traced in the field beyond that point. The pink syenitic extrusive horizon is thinner with an approximate true thickness of 20 meters as exposed in a road cut below Camp 1. This strata is again exposed along the ATV trail some 1200 meters further north. Due to the definitive nature of this strata and its continuity, it is considered an important guide in defining the connectivity of the Purdex zone to the Danee zone. There are similar syenitic outcrops just east of the main Danee bluff showings which could mean a 4 km strike length for the Syenitic unit.

### Long Lath Feldspar Porphyry

Individual occurrences of the “Long Lath Feldspar Porphyry” can be traced over considerable distances. They can be found commonly throughout the Hazelton sequence in both the Lower and Acidic Volcanic units. A well-developed long lath porphyry is present from the southern slope of Goat Bed Peak to west of the Trail zone and further south to approximately 1500 meters north of the Purdex zone. The long lath porphyry has not been traced to date south of the Purdex zone due to the steep terrain. But a similar long lath porphyry is present to the south and west of the Purdex zone in the Microwave Tower road cut at the eastern end of the Northwest zone.

In assessment reports from 2007 and 2008 these rocks are described as flows (Burden A., 2007, 2008). However, under the microscope, a sample of long lath porphyry collected in 2017 one km south of Purdex zone displays ophitic texture (see microscopic description of sample 207 in Appendix III) which is characteristic of subvolcanic diabase.





Map compilation based on:  
 Mineral Titles Online, BCGS and AR 30780

To accompany report by A. Walus

**LEGEND:**

- Intrusive rocks:**
- EJKgd** - Kleanza Plutonic Suite; granodiorite, granite
  - EJTpgr** - Topley Plutonic Suite; granodiorite
- Stratified rocks:**
- UJBLs** - Bowser Lake Gp, sedimentary rocks
  - LJTVc** - Telkwa Gp, volcanic rocks, undivided
  - LJTa** - Telkwa Gp, mainly flow units: andesite, dacite, basalt, minor volcanics
  - LJTf2** - Telkwa Gp, upper felsic marker
  - LJTf1** - Telkwa Gp, lower felsic marker
  - LJTax** - Telkwa Gp, andesite volcanics, lapilli tuff to volcanic breccia
  - LJTfMP** - Telkwa Gp, Mt Pardek felsic unit
  - LJTcg** - Telkwa Gp, volcanogenic conglomerates
  - PZIs** - Zymoetz Gp (Permian), limestone
- - fault  
| / \ - stratification (strike and dip angle)  
▲ - mineral occurrence  
 - old access road/trail

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**TREASURE MOUNTAIN PROPERTY**  
**OMINECA MINING DIVISION**

**GEOLOGY**  
 AND  
**MINERAL OCCURRENCES**

NTS 093L/05, 093L/12, 1031/08, 1031/09

Date: January 2018

Figure 3  
 Scale as shown



## MINERALIZATION

The Treasure Mountain property features numerous mineralized occurrences which are shown on figure 3. In this report they are divided into the following three groups:

- 1) Mineral occurrences listed in the MINFILE Mineral Inventory.
- 2) Mineral zones discovered from 2006 to 2008 by Trade Wind Ventures and not yet listed in MINFILE
- 3) Mineral occurrences not listed in group 1 or 2 which include three new mineralized zones discovered during the 2017 work program.

### MINERAL OCCURENCES LISTED IN MINFILE

#### Purdex (MINFILE No: 103 I 090)

This is the main copper-silver zone within the Treasure Mountain property. In 2007 and 2008 assessment reports it is referred to as Purdex zone. In earlier reports as well as in MINFILE it is referred to as Northwest, Snow and Treasure Mt. zone. MINFILE gives the following description of the zone:

*“The area is underlain by volcanic rocks of the Jurassic Hazelton Group which include 020 degree north trending, 35 to 50 degree east dipping purple lapilli tuff and vitrophyre. A brown feldspar porphyry sill intrudes the volcanics. Chalcocite, bornite and minor chalcopyrite occur as disseminations and veinlets along a bed of the pyroclastic rock. The mineralized block is about 60 metres long, 10 metres true width and 36 metres down dip length. A gouge-filled shear zone cuts the zone to the east, with a continuation of the zone east of the fault (drill intersections).*

*A 26 metre surface chip sample assayed 2.44 per cent copper and 0.4 grams per tonne silver (Minister of Mines Annual Report 1965). The mineralized block is estimated to contain 40,820 tonnes of about 2 per cent copper (Property File: Campbell, 1964). Unclassified reserves are 28,120 tonnes grading 1.7 per cent copper (Statement of Material Facts June 19, 1973 - Spectroair Explorations Ltd., T. Sadlier-Brown, October 1972).*

*A parallel zone, similar in character and 60 metres to the west, measures 30 by 10 metres. Surface samples average 3.26 per cent copper (Property File: Campbell, 1964). “*

Alex Burton in 2007 and 2008 assessment reports gives the following description of the Purdex Zone:

*“Copper mineralization in the Purdex area is filling the matrix of the breccia beds with bornite and chalcocite, or in the lower outcropping Purdex beds near the collar of diamond drill hole 1-64, with hematite mineralization. No pyrite or pyrrhotite was seen and chalcopyrite is rare. The mineralization fills the matrix in the breccia or pepperite volcanic*

*beds, and appears almost as disseminations in 'porphyry' beds or flows or cross cutting dykes. New trenches in bedrock and cleaning out prior trenches reveal that better mineralized beds can be traced along strike for tens of meters at least and apparently down dip as well. There are at least three main beds and a couple more of lesser mineralized beds that have been identified by the Trade Wind Ventures Inc. work."*

Considerable work has been done on the zone which include trenching, drilling and construction of an adit. The latest drilling was done by Trade Wind Ventures of Vancouver in 2005 and 2007. In total, 6 ATW holes were completed.

In 2017 the author of this report spent two days mapping and sampling Purdex zone. Description of the zone based on this work is provided below:

The main zone can be traced for 45 metres along the north-south direction and is open to the south-west (see figure 4b). Its width ranges from 6 to 16 metres. Beside the main zone there is also a smaller zone located 70 metres to the west. Only 5-6 metres of this zone is exposed at the bottom of the cliff, below the main zone. It is not clear if this zone constitutes a part of the main zone. Purdex zone contains from 1 to 7 % of combined bornite and chalcocite along with abundant malachite. Rocks within the zone are often silicified. During the 2017 exploration program a total of nine chip samples ranging in length from 0.9 to 4.0 metres were collected. All samples except one were collected from old trenches. They assayed from 0.49 to 5.51 % copper and from 7.2 to 42.7 g/t silver (see figure 4b). Sample A17-43 returned 0.67% lead. They gave a weighted average of 3.37% copper and 30.68 g/t silver.

Under the microscope five samples derived from the zone were identified as amygdaloidal basalt containing xenoliths of coarser grained porphyritic diabase (see Petrographic Report in Appendix III). Copper minerals were identified as bornite, chalcocite, covellite and chalcopyrite. They are associated with quartz and small amounts of actinolite, chlorite and sericite. Copper sulphides and the associated minerals mostly form numerous amygdales within basalt. The bulk of sulphides occurs as scattered grains and patches ranging in size from 0.05 to 1.5 mm. Small part of sulphides occurs within quartz veinlets. All samples contain several percent of disseminated crystalline hematite. Staining the samples with sodium cobaltinitrite revealed the presence of 1 to 10% K- feldspar (one sample contained 30-40% K-feldspar). K-feldspar most likely is of a secondary origin. Timing of hematite and K-feldspar formation and their relationship to copper mineralization is uncertain.

#### DF (MINFILE No: 103 I 089)

In MINFILE, this copper occurrence is also named Northwest and Snow 31 zone. It is located about 700 metres west of Purdex zone. MINFILE provides the following description of the zone: *"Bornite, chalcocite, chalcopyrite and malachite occur as*

*disseminations, in vesicles and in fractures within the purple flow rocks and tuffs and, to a lesser degree, the porphyry sill. The best ore occurs along an east fault in the top of the trachytic porphyry and adjacent purple porphyry and tuff. The mineralized zone (No. 2 Zone) is about 120 metres long and 90 metres wide. A 13 metre sample from a trench assayed 1.54 per cent copper (Property File: Campbell, 1964)."*

There is no record of any exploration work conducted on the zone after the 1960's.

#### Keeler (MINFILE 103 I 130)

MINFILE provides the following description of the zone:

*"Chalcocite and lesser bornite, native copper, azurite and malachite occur as veinlets and disseminations within a 40 degree east dipping feldspar porphyry flow of the Jurassic Hazelton Group. The mineralization occurs discontinuously over 180 metres in a northwest direction. Sampling of a trench assayed 1.55 per cent copper and 12.34 grams per tonne silver over 10.7 metres (Property File - Bell, 1963)."*

Trade Wind Ventures was not able to locate this showing despite spending several days looking for it during the 2007 and 2008 field programs. In 2017, half a day was spent in unsuccessful attempt to locate the showing. It is postulated the location of the showing may be recorded incorrectly.

#### Montana (MINFILE No. 103I 088)

Description of this showing presented in MINFILE is as follows:

*"Shear zones with associated quartz-calcite veins cut andesitic volcanic rocks of the Jurassic Hazelton Group. Mineralization consists of stringers and disseminations of bornite and chalcocite. A quartz vein, up to 90 centimetres wide and 76 metres long returned a 71 centimetre channel sample assaying 1.18 per cent copper, 20 grams per tonne silver and trace gold (Geological Survey of Canada Memoir 212). A 6 metre sample of a shear zone assayed 1.1 per cent copper and 65 grams per tonne silver (Minister of Mines Annual Report 1917)."*

Alex Burden postulated the Montana location to be inaccurate and the showing is likely a ridge top vein at the crest of the headwall of Mattock Creek (A. Burden, 2007, AR 29726).

#### Wells (MINFILE No. 103I 087)

In MINFILE the zone is described as follows:

*"Mineralization consisting of bornite, chalcocite and cuprite occurs in three shear zones cutting andesitic volcanic rocks of the Jurassic Hazelton Group. The variably oriented shear zones are up to 1.2 metres wide and contain stringers of quartz, calcite and epidote, up to 20 centimetres wide."*

*A 1.2 metre sample from an adit assayed 9.5 per cent copper, 79 grams per tonne silver and trace gold (Minister of Mines Annual Report 1917). A sample of another shear zone assayed 4.2 per cent copper and 103 grams per tonne silver over 3 metres (Minister of Mines Annual Report 1917)."*

Copper King (MINFILE No. 103I 163)

Brief description of this zone copied from MINFILE is provided below:

*"The area is underlain by felsic to basic volcanic rocks of the Jurassic Hazelton Group.*

*Copper minerals, likely chalcocite and bornite, occur in the volcanics.*

*A 12 metre surface sample is reported to assay 1.35 per cent copper, 12 grams per tonne silver and 0.3 grams per tonne gold (National Mineral Inventory 103I9 Cu13). "*

Peerless (MINFILE No. 103I 186)

MINFILE provides the following description of the zone:

*"Andesitic volcanics of the Jurassic Hazelton Group are cut by intrusive dykes and northeast trending shear zones. A shear zone, dipping 75 degrees west and up to 2 metres wide, contains quartz- calcite veinlets mineralized with lenses of chalcocite, bornite, magnetite, and chalcopyrite. A 1.2 metre sample assayed 11.93 per cent copper, 157.7 grams per tonne silver, and 1.4 grams per tonne gold (Geological Survey of Canada, Summary Report 1925A)."*

Avon (MINFILE No. 103I 086)

MINFILE gives the following description of the zone:

*"Triassic age limestone and andesite of the Jurassic Hazelton Group are intruded by a granodiorite stock of the Cretaceous to Tertiary Coast Plutonic Complex. A wide band of limestone, striking north and dipping 45 degrees east is altered and silicified into a green banded skarn containing garnet, epidote, quartz and calcite. The rock is cut by several north striking, vertical faults resulting in brecciated zones up to 2 metres wide.*

*A zone is sparsely mineralized with chalcopyrite, pyrite, bornite and chalcocite. A 61 centimetre channel sample across the zone assayed 2.1 grams per tonne gold and 1.4 grams per tonne silver and a 25 centimetre sample of a nearby quartz vein with chalcopyrite assayed 0.04 per cent copper (Geological Survey of Canada Memoir 212)."*

## MINERAL OCCURENCES DISCOVERED IN 2006-2008 BY TRADE WINDS VENTURES AND NOT YET LISTED IN MINFILE

### Danee

Danee zone was discovered in 2006 by Trade Winds Ventures and according to A. Burden (Burden A., 2008; AR 30780) represents a large exhalate zone. In 2007, a few dozen blasted pits and trenches were completed within the zone. The average copper content of the 51 samples collected from them was 0.15% Cu. The average of the ten best mineralized samples was 0.64% Cu (Burden A., 2008; AR 30780).

The 2017 program consisted of resampling of the 2007 pits and trenches. Six chip samples (A17-74 to 78, A17-81 and one grab sample (A17-80) were collected from two trenches and two pits blasted within massive, reddish-brown rock which often contained pervasive limonite and locally malachite. Locally silicification, sericitization and carbonate alteration was noted. The samples averaged 0.2% Cu, five samples returned anomalous silver values ranging from 0.5 to 3.9 ppm. Sample A17-79, a composite grab collected from 15-20 cm wide fault assayed 4.01% Cu, 55.5 ppm Ag and 61 ppb Au. Sample A17-82, a grab derived from 10-20 cm wide quartz-chalcocite vein yielded 4.43 % Cu, 45 ppm Ag and 38 ppb Au. Sample A17-73, a grab from a diabase returned low values in copper and other metals. The zone strikes NE-SW, it is at least 70 m long and 30 m wide.

Microscopic examination of sample A17-76 (see Appendix III) collected from one of the trenches indicate copper mineralization is hosted within portion of a large diabase intrusion at least 300 metres in size.

### Lower Danee

According to the 2008 Assessment report (Burden A., 2008; AR 30780), the Lower Danee zone is a recessively weathering zone stratigraphically at the base of the main Danee zone. A 2007 sample from weathered material collected within this zone yielded 79.8 ppm Cu, a second sample from blasted hole returned 42.5 ppm Cu. These values are considered significant given the extensive surface leaching in Treasure Mountain area. This lower zone is not yet fully delineated and could mean a considerable enlargement of Danee Zone.

### North Danee Extension

Two samples collected in an area which possibly constitutes the northern extension of Danee zone assayed 508 and 79 ppm ppm Cu in rusty material similar to the Lower Danee.

### Trail

The Trail zone was discovered in 2006 as a result of excavator work opening up the old trail to the northern workings. No signs of mineralization were evident on the natural surface before digging with the excavator. Many of the samples are leached and show little sign of copper mineralization on or near the weathered surface. Copper results from 2007 samples derived from excavated trenches ranged from 50 to 17,200 ppm Cu.

During the 2017 program three old trenches were found and resampled in the area designated as Trail zone in the 2008 Assessment Report. Sample A17-68, a grab from one of the trenches returned 1.51% Cu and 9.98 g/t Au. The sample represent quartz-carbonate replacement of feldspar porphyritic andesite or basalt with 2-3% disseminated bornite and chalcopyrite. Samples from other trenches did not record anomalous values in copper or other metals.

### Switch Back

Approximately 600m south-east of the Purdex zone, a mineralized fault is exposed in a switch back road cut. A 1.4 m chip sample obtained in 2017 from 1.5-2.0 m wide fault zone returned 0.79 % Cu and 10.7 ppm Ag. The fault is comprised of strongly sheared and altered rocks locally containing pervasive malachite. Fault orientation is 80/v.

Another copper occurrence found in 2008 is located just below the Switch Back zone. A 1 meter chip across the shear returned 0.35% Cu while a 1 meter chip of the country rock returned 0.01% Cu (Burden A., 2008; AR 30780).

### Shear Veins

Shear veins show up as rusty linear zones on the surface above timberline to the north of the main Danee zone. There are no old obvious workings on them. They were sampled in 2007 from available surface rusty material. The northernmost of them assayed 393 ppm Cu and the southern one returned 940 ppm Cu. Both of these linear features warrant extensive excavator trenching.

### Camp and Fundi zones

The camp and Fundi zones are described as outcrops of exhalate similar to Danee zone (Burden A., 2008; AR 30780). However, there is no mention of any mineralization associated with these zones.

## MINERAL ZONES NOT LISTED IN GROUP ONE OR TWO

### Drill Stem

This showing is located at about 1400m elevation on an east/west trending ridge. Significant work was done at this location by Glen Copper Mines in 1966 and by unknown company in 1997-1998. No record of this work has been found to date. The work included drilling as indicated by 4 old drill pads located during the 2017 program. A cat trail was built to access the top of the ridge as well as to expose a near vertical fault which contains veins of remobilized copper mineralization. Samples collected in 2007/2008 exploration campaigns returned values of up to 3.5% copper and 26g/t silver.

The 2017 program identified a 3-4 metre wide fault zone with up to 2% bornite plus locally abundant malachite. This zone which can be traced for 20 metres (it is obscured on both ends by talus) seems to represent the main drilling target during the previous exploration programs. Two chip samples (A17-63 and 64) collected from the fault zone returned up to 1.54% copper, 51.9 ppm silver and 795 ppb gold.

In another place, a grab sample (A17-65) collected from a 1-2 m wide fault mineralized with malachite returned 1.29% Cu and 11.2 ppm Ag.

### Zymoetz (Copper) River

According to A. Burton (Burton A., AR 30780), "there is a verbal report of native copper being found to the east of the property along the north bank of the Zymoetz River, in a southern trend from the Purdex, probably in the 400m elevation range." Attempts to locate this showing during the 2007/2008 as well as 2017 exploration programs were unsuccessful.

### Odra

The Odra zone was found in 2017 while looking for Fundi zone. The zone, exposed by excavator during a previous exploration program represents a 5-10 cm wide quartz-carbonate vein with minor pyrite and some malachite stain. Grab sample from the vein (A17-83) returned 1.14% Cu, 35.8 ppm Ag and 22.7 ppm Au. The vein is striking 340 degrees and dipping 80 degrees to SW. There is no mention of this vein in historical reports.

### Tatra-1

Tatra-1 zone was discovered during the 2017 program. It represents a carbonate-chlorite altered fracture zone with trace to minor malachite and locally minor chalcocite. The zone seems to strike NE-SW but the size of the zone was not possible to evaluate as it is mostly covered by overburden. Three grab samples taken from the zone assayed up to 2.42% Cu and 13.0 ppm Ag.

## Tatra-2

This zone was also discovered during the 2017 program. It is located approximately 100 metres west from Tatra-1 zone. The zone represents carbonate-quartz-epidote replaced rock with 1-2% chalcocite and some malachite hosted in red volcanics. Approximately 1.5x1.5 m of the zone is exposed, with the remainder covered by overburden. Two grab samples were collected from the zone. Sample A17-88 returned 4.40% Cu, 39.4 ppm Ag and 362 ppb Au. The second sample (A17-89) derived from a 5 cm wide quartz vein with 1-5% bornite assayed 2.39% Cu and 21.0 ppm Ag.

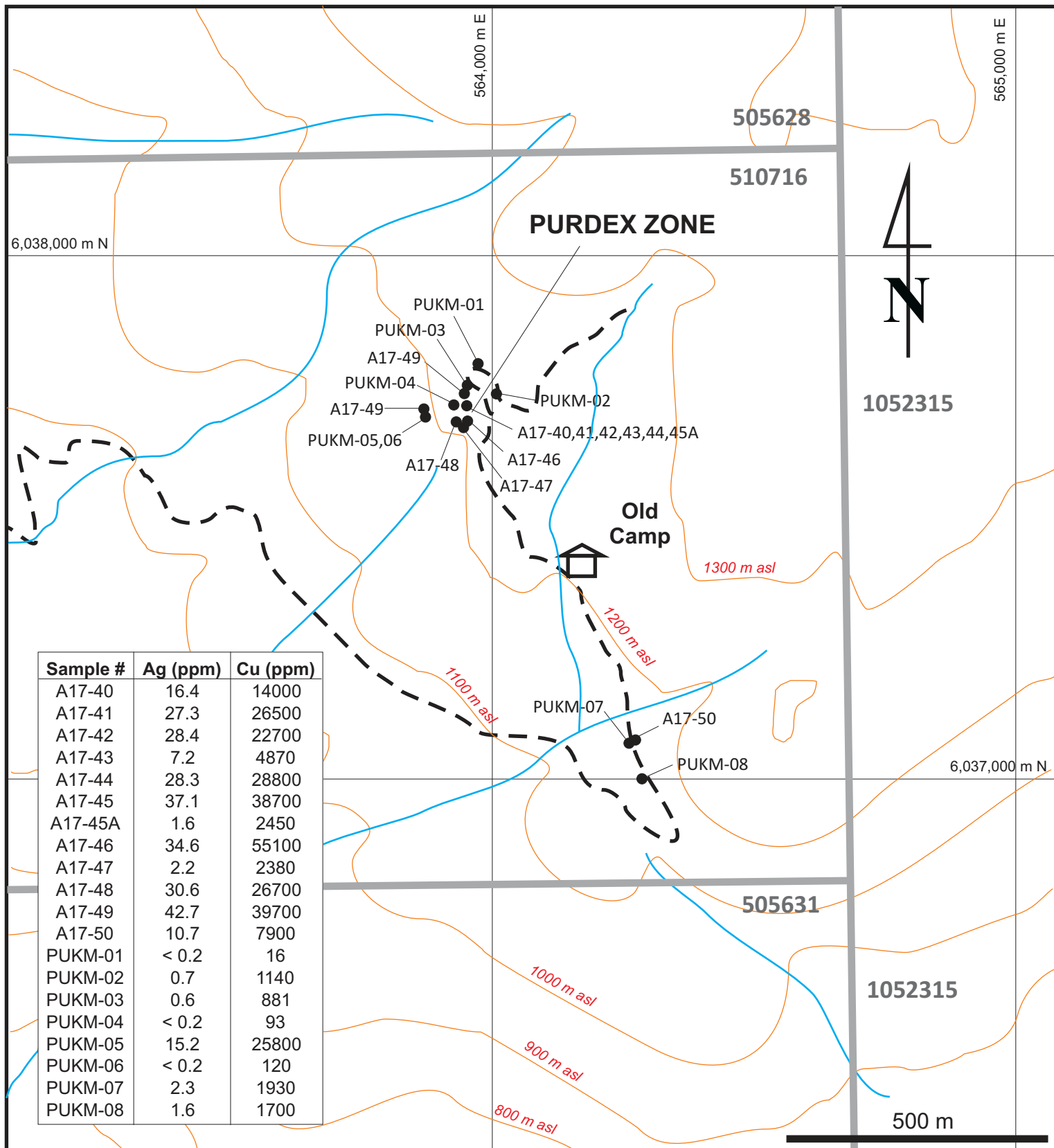
## Wisla

Approximately 80 m south from sample A17-68 (Trail zone), a new occurrence with copper mineralization was found. The occurrence forms a 2-3 m wide zone within 20-30 m wide NE-SW striking resistant horizon comprised of variably silicified pale reddish andesite tuff (?). The zone is cut by 1-3 mm wide quartz veinlets. Copper mineralization consists of malachite which occurs on fractures and sporadically also in veinlets. Grab samples A17-71 and 72 collected from the zone assayed 0.34 and 0.28 percent copper, and 2.8 and 1.8 ppm silver.

## **2017 WORK PROGRAM**

During the 2017 exploration program a total of 47 rock samples were collected. The author visited Purdex, Danee, Drill Stem, Trail and Switchback mineral occurrences. The Purdex zone was mapped in the scale 1:5000 (see figure 4b). Attempts to find Keeler and Zymoetz (Copper) River zones were not successful. Details of the 2017 sampling are included in description of specific copper bearing zones in chapter MINERALIZATION. Rock sampling was supplemented by microscopic examination of 6 thin sections (see Petrographic Report - Appendix III). Sample locations along with copper and silver results are presented on figures 4a, 4b and 4c. Sample descriptions along with their coordinates are presented in Appendix I. Full geochemical results are presented in Appendix II. All samples were analyzed by Actlabs – an ISO certified Laboratory in Kamloops, BC. All samples were analyzed for the 30 elements ICP. Samples which returned > 5,000 ppb gold and/or >100 ppm silver and/or > 5,000 ppm copper by ICP method were assayed for these elements.








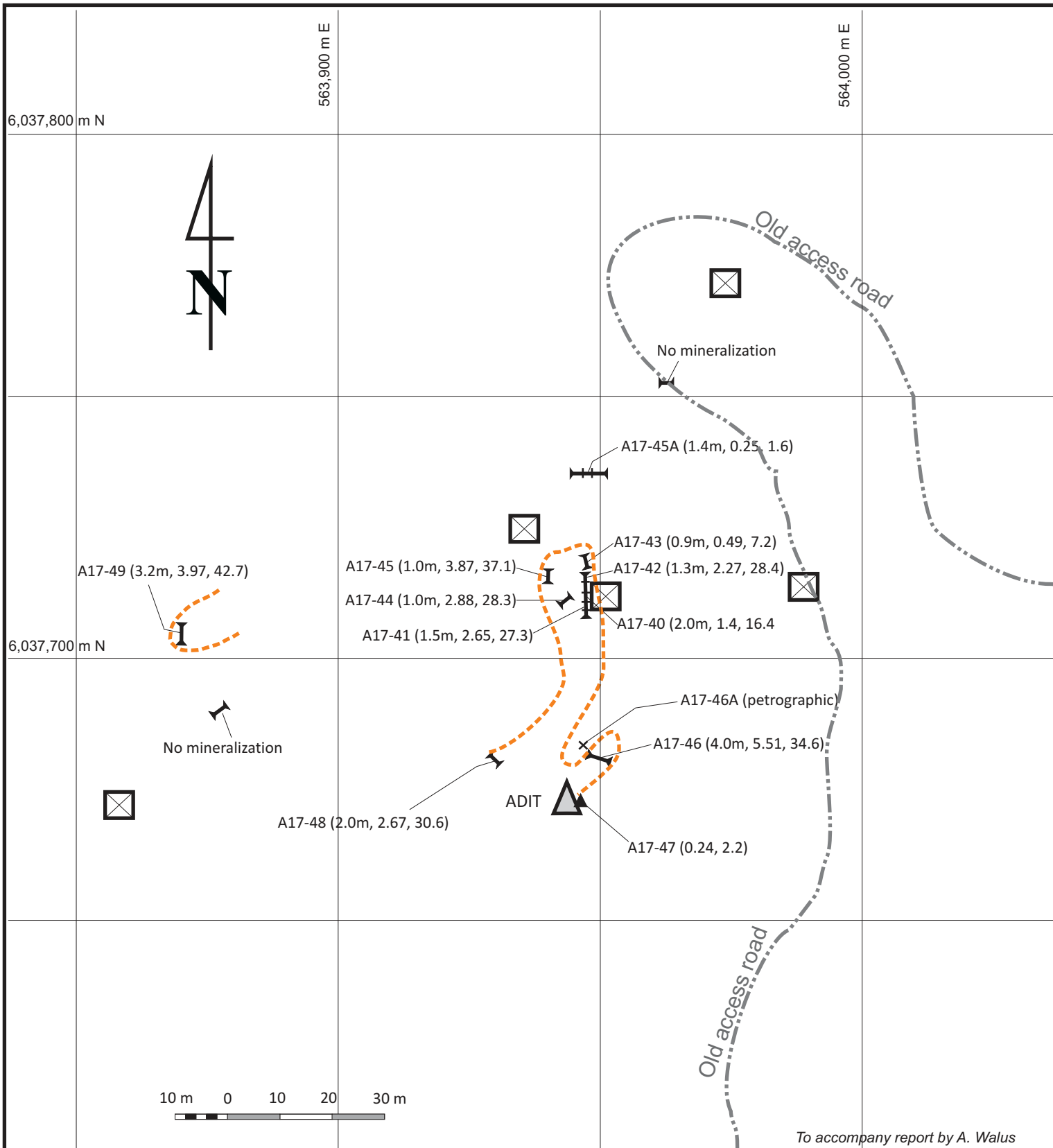
Sample #	Ag (ppm)	Cu (ppm)
A17-40	16.4	14000
A17-41	27.3	26500
A17-42	28.4	22700
A17-43	7.2	4870
A17-44	28.3	28800
A17-45	37.1	38700
A17-45A	1.6	2450
A17-46	34.6	55100
A17-47	2.2	2380
A17-48	30.6	26700
A17-49	42.7	39700
A17-50	10.7	7900
PUKM-01	< 0.2	16
PUKM-02	0.7	1140
PUKM-03	0.6	881
PUKM-04	< 0.2	93
PUKM-05	15.2	25800
PUKM-06	< 0.2	120
PUKM-07	2.3	1930
PUKM-08	1.6	1700

To accompany report by A. Walus

**LEGEND:**

-  PUKM-01 - rock sample location and label
-  - old access road/trail
-  510716 - mineral claim boundary and number

<b>DECADE RESOURCES LTD.</b>	
<b>TREASURE MOUNTAIN PROPERTY</b> OMINECA MINING DIVISION	
<b>SAMPLE LOCATION MAP</b>	
NTS 093L/05, 1031/08 Date: January 2018	Figure 4a Scale 1 : 10,000



**LEGEND:**

- Purdex Zone boundary
- old trench
- A17-46 (4.0m, 5.51, 34.6) - chip sample (2017): sample label (sample length, Cu [%], Ag [g/t])
- grab sample
- petrographic sample
- old drill pad

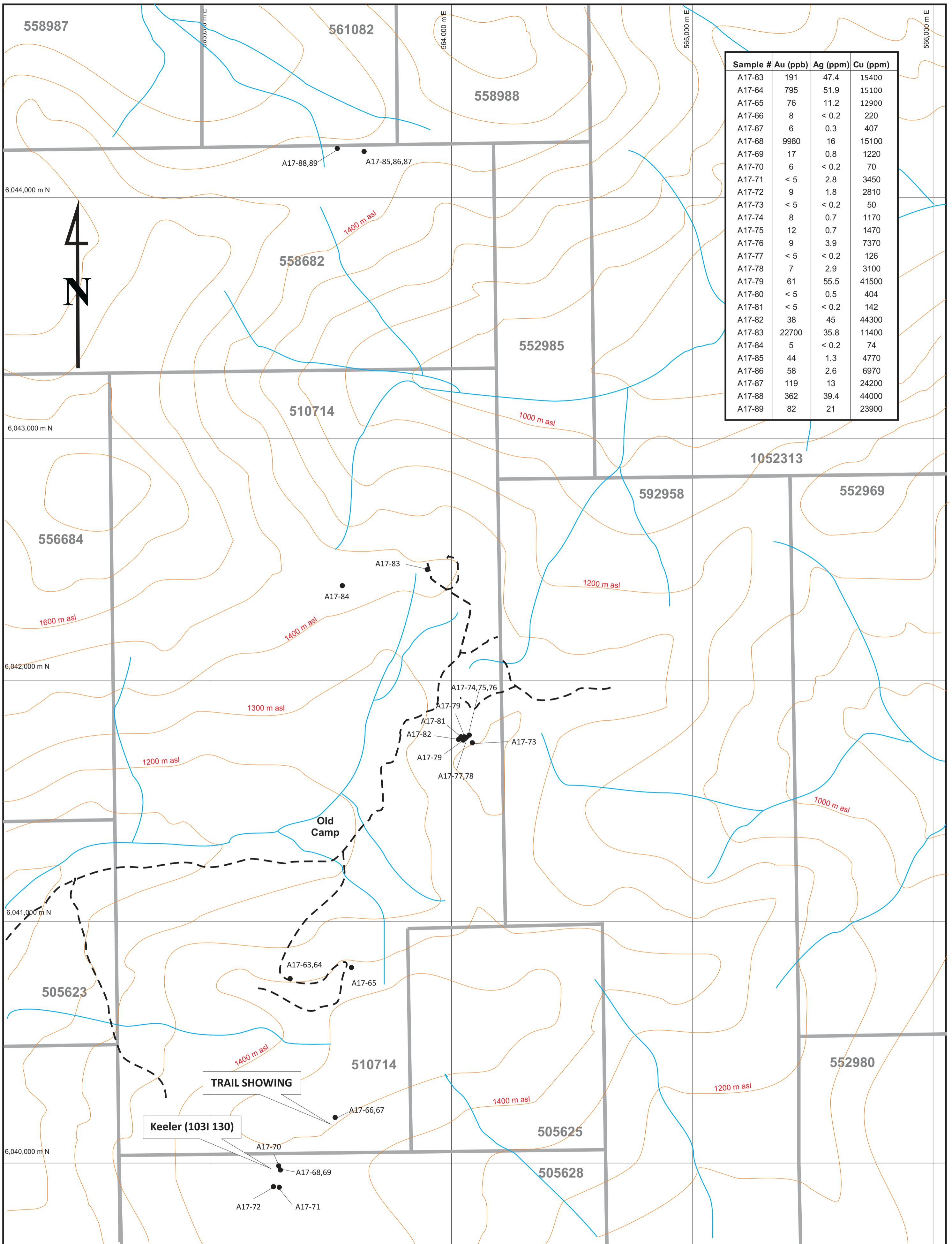
**DECADE RESOURCES LTD.**

**TREASURE MOUNTAIN PROPERTY  
OMINECA MINING DIVISION**

**PURDEX ZONE  
SAMPLE LOCATION MAP**




NTS 093L/05, 103I/08  
Date: January 2018

**Figure 4b**  
Scale 1 : 1,000



Sample #	Au (ppb)	Ag (ppm)	Cu (ppm)
A17-63	191	47.4	15400
A17-64	795	51.9	15100
A17-65	76	11.2	12900
A17-66	8	< 0.2	220
A17-67	6	0.3	407
A17-68	9980	16	15100
A17-69	17	0.8	1220
A17-70	6	< 0.2	70
A17-71	< 5	2.8	3450
A17-72	9	1.8	2810
A17-73	< 5	< 0.2	50
A17-74	8	0.7	1170
A17-75	12	0.7	1470
A17-76	9	3.9	7370
A17-77	< 5	< 0.2	126
A17-78	7	2.9	3100
A17-79	61	55.5	41500
A17-80	< 5	0.5	404
A17-81	< 5	< 0.2	142
A17-82	38	45	44300
A17-83	22700	35.8	11400
A17-84	5	< 0.2	74
A17-85	44	1.3	4770
A17-86	58	2.6	6970
A17-87	119	13	24200
A17-88	362	39.4	44000
A17-89	82	21	23900

**LEGEND:**

-  A17-72 - rock sample location and label
-  - old access road/trail
-  510716 - mineral claim boundary and number

To accompany report by A. Walus

<b>DECADE RESOURCES LTD.</b>	
<b>TREASURE MOUNTAIN PROPERTY</b> OMINECA MINING DIVISION	
<b>SAMPLE LOCATION MAP</b>	
NTS 093L/05, 1031/08 Date: January 2018	Figure 4c Scale 1 : 10,000

500 m

## INTERPRETATION AND CONCLUSIONS

The Treasure Mountain property contains numerous copper-silver showings of which the Purdex and Danee zones are the most prominent. The copper-silver mineralization observed within the Purdex zone has the following characteristics:

- 1) Mineralization is dominated by bornite and chalcocite with lesser covellite and minor chalcopyrite.
- 2) A simple copper and silver geochemical signature.
- 3) Mineralization is hosted in amygdaloidal basalt flow.
- 4) Copper minerals form open-space fillings (mainly amygdales).
- 5) Mineralization is associated with quartz along with small amounts of actinolite, chlorite and sericite.

The first four characteristics are indicative of the Volcanic Redbed mineralization as defined by Lefebvre, D. V. and Church, B.N. (1996) in the British Columbia Mineral Deposit Profiles. The fifth characteristic does not support this conclusion as this type of copper mineralization shows no associated alteration. The association of copper minerals with actinolite (which form under high temperature) also does not support this conclusion as the genetic model for Volcanic Redbed deposits assumes the formation of copper minerals in a low-temperature environment. Alternatively, the Purdex copper-silver mineralization might have been formed in a high temperature hydrothermal environment.

The Danee zone represents the second most important copper-silver bearing occurrence examined during the 2017 program. The microscopic examination of sample A17-76 collected from one of the 2007 trenches indicates that copper mineralization is hosted within a portion of a large diabase intrusion at least 300 metres in size. Part of the mineralization is hosted in faults. Mineralization (dominated by bornite and chalcocite) and simple geochemical signature of copper and silver is similar to the Purdex zone. Two other areas with anomalous copper identified in 2007 (Lower Danee and North Danee Extension) situated in close proximity to the Danee zone indicate significant size of underlying copper bearing mineralization.

Other copper occurrences examined during the 2017 program are related to faults and fracture zones.

The Treasure Mountain property has a great potential to host copper-silver deposit. It features numerous copper showings of which only part have been examined recently. The main copper occurrences appear to be associated either with basalt or its subvolcanic equivalent (diabase). Other copper occurrences are related to faults and fracture zones. Almost all showings in this area have a similar mineralogy (mostly bornite

and chalcocite) and geochemical signature (copper-silver) which suggest the same source of mineralization.

Exploration on the Treasure Mountain property is limited by two major factors. The property is covered by lush vegetation and features few outcrops. The outcrops are strongly leached of copper which makes copper mineralization very difficult to detect by prospecting or soil sampling. Outcrops are often so strongly leached that there is no sign of high grade copper mineralization on the surface which can only be found after removing the first 10-15 cm of barren rock. A. Burden report that “several times plugger holes were drilled into apparently barren fresh outcrop, and after blasting discovered high-grade copper mineralization at shallow depths.” (A. Burden, 2008).

## **RECOMMENDATIONS AND BUDGET**

Historical reports do not mention any IP survey conducted on the property. The IP method would be best suited for the environment observed in the Purdex and Daneee zones. Disseminated nature of mineralization along with the accompanying silicification should produce a distinct IP signature of high chargeability and resistivity. During the field work on the Purdex and other Treasure Mountain property zones, the author did not observe any rocks which might give false IP anomalies such as graphite or pyrite bearing rocks.

An IP geophysical survey covering the Purdex and presumed location of the DF zone is recommended for the next exploration program.

### **Estimated Cost of the Program**

A total of 10-line kilometers of IP survey.....\$50,000  
(the price includes all IP and helicopter costs)

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Property Report, Treasure Mountain, A. Randall, 1997

## CERTIFICATE OF AUTHORS' QUALIFICATIONS

I, Alojzy Walus, residing at 8577 165 Street in Surrey, BC, hereby certify that:

1. I received a Master of Science degree in Geology from the University of Wroclaw, Poland in 1985.
2. I have been practicing my profession continuously since graduation.
3. I am a member of the Association of Professional Engineers and Geoscientists of British Columbia.
4. I am a consulting geologist working on behalf of Decade Resources Ltd.
5. This report is based on my 2017 field work as well as historical reports from this area.
6. I am familiar with this type of deposit having conducted exploration programs on similar mineral occurrences in the Terrace region.

Date: February 7, 2017

"Alojzy Walus"  
Alojzy Walus, P. Geo.

## STATEMENT OF EXPENDITURES FOR 2017 PROGRAM

ITEM	Quantity	Units	Rate	Subtotal	Totals
<b>Field Personnel</b>					15,600
Alex Walus - geologist	12	days @	\$650.00	7800	
Dates worked: Aug. 8-11					
August 29 – Sept. 05					
Krzysztof Mastalerz - geologist	12	days @	\$650.00	7800	
Dates worked: Aug. 8-11					
August 30 – Sept. 05					
<b>Helicopter</b>					7,799
Lakelse Air Helicopter Services based in Terrace; R-44 helicopter	9.7	hours @	\$804	7799	
<b>Field Expenses</b>					7,339
4x4 vehicle rental plus gas	12	days @	\$150.00	1800	
Accommodation	12	days @	\$123.00	1476	
Food	24	man/days @	\$90.00	2160	
Shipment of samples				453	
Field equipment and supplies				1450	
<b>Assay Costs</b>					1,645
Rock samples	47	samples @	\$35	1645	
<b>Office Work</b>					10,660
Data compilation, Alex Walus	5	days @	\$650.00	3250	
Thin sections preparation	6	sections @	\$35	210	
Thin section descriptions, A. Walus	6	sections @	\$200	1200	
Report preparation, Alex Walus				6000	
<b>Grand Total</b>					<b>\$43,043</b>



**APPENDIX I**  
**ROCK SAMPLES DESCRIPTIONS**

Sample #	Coordinates (NAD 83)		Sample type	Description
	Easting	Northing		
A17-40	563948	6037711	chip 2.0 m	Maroon epiclastic breccia composed of semiangular fragments of intermediate volcanic rocks 1 to 5 cm across. The sample contains up to 2 % disseminated chalcocite and bornite plus abundant malachite. In many places the rock is strongly silicified.
A17-41	563948	6037711	chip 1.6 m	Same description as A17-40
A17-42	563948	6037711	chip 1.3 m	Same description as A17-40
A17-43	563948	6037711	chip 0.9 m	Same description as A17-40
A17-44	563948	6037711	chip 1.0 m	Same description as A17-40
A17-45	563947	6037735	chip 2.0 m	Same description as A17-40
A17-45A	563948	6037711	chip 2.0 m	Maroon epiclastic breccia composed of semiangular fragments of intermediate volcanic rocks 1 to 5 cm across. Locally, the rock contains weak malachite stain.
A17-46	563950	6037680	chip 4.0 m	Maroon epiclastic breccia composed of semiangular fragments of intermediate volcanic rocks 1 to 5 cm across. The sample contains up to 2-5% disseminated bornite and chalcocite plus abundant malachite. The rock is strongly silicified.
A17-47	563945	6037672	composite grab	The samples consists of several grabs collected by the entrance to an old tunnel. No visible mineralization.
A17-48	563930	6037679	chip 2.0 m	Maroon feldspar porphyritic basalt (?) with abundant malachite and locally 2 to 5 % disseminated bornite and chalcocite. The rock is strongly fractured and often silicified.
A17-49	563870	6037704	chip 3.2 m	Maroon epiclastic breccia composed of semiangular fragments of intermediate volcanic rocks 1 to 5 cm across. The sample contains 2 - 5% disseminated bornite and lesser chalcocite plus abundant malachite. The rock is strongly silicified.
A17-50	564270	6037073	chip 1.4 m	Chip across fault zone 1.5-2.0 m wide composed of strongly sheared and altered rocks, locally fault gouge. In places pervasive malachite, fault orientation - 80/v.
A17-63	563333	6040763	chip 2.4 m	The sample was collected from 3-4 m wide fault zone which carry up to 2% bornite plus locally abundant malachite and limonite. It is hosted within relatively fresh andesite or basalt. Fault orientation - 80/v.
A17-64	563333	6040763	chip 1.0 m	Very strongly sericite-carbonate altered rock with abundant malachite. It came from the same fault sampled by previous sample.
A17-65	563588	6040811	grab	Fault zone 1-2 m wide, fault breccia is locally cemented by calcite which in a few places is accompanied by abundant malachite. Fault is striking 110 degrees. Only 2 meters of fault is exposed.
A17-66	563520	6040189	chip 1.0 m	Irregular zone composed mostly of pervasive greenish mineral (mariposite ?). The zone is at least 1.0 m wide.
A17-67	563520	6040189	chip 0.5 m	Same zone as above.



Sample #	Coordinates (NAD 83)		Sample type	Description
	Easting	Northing		
A17-68	563291	6039970	grab	Old trench. Quartz-carbonate replaced feldspar porphyritic andesite with 2-3 % bornite and chalcopyrite plus malachite stain. Copper mineralization is restricted to an area approximately 1.0 m across and seems to be fracture controlled. The sample represent the most mineralized portion of the trench.
A17-69	563291	6039970	chip 1.0 m	Same old trench. The chip was taken across a section of the trench which contains copper mineralization.
A17-70	563285	6039980	grab	The sample came from old trench located 7-8 metres above the previous trench. The sample consisted of strongly altered limonitic rock with minor greenish mineral (mariposite?).
A17-71	563285	6039897	grab	Moderately silicified intermediate volcanic tuff cut by quartz veins 1-3 mm wide, Mineralization consists of malachite which occurs mostly on fractures and sporadically in quartz veinlets. Mineralization is restricted to 2-3 m wide zone within silicified rocks.
A17-72	563265	6039897	grab	Same as A17-71
A17-73	564086	6041740	grab	Grab from old blasted pit. Feldspar porphyry with minor chalcocite ?
A17-74	564068	6041773	chip 1.2 m	Reddish-brown volcanic tuff or fine grained andesite/basalt. Locally pervasive malachite and limonite. Massive texture, no visible sulphides.
A17-75	564068	6041773	chip 2.4 m	Same as A17-74
A17-76	564068	6041773	chip 1.6 m	Same as A17-74
A17-77	564056	6041762	chip 1.5 m	Old trench. Reddish-brown very fine grained volcanic (?) rock. Massive texture, no visible sulphides or malachite.
A17-78	564056	6041762	chip 1.0 m	Same trench as above. Interval with abundant pervasive malachite. It is accompanied by sericite, carbonate and limonite
A17-79	564048	6041752	composite grab	15-20 cm wide fault with abundant pervasive malachite. Fault orientation 80/80S.
A17-80	564048	6041763	grab	Old blasted pit. Reddish-brown very fine grained volcanic (?) silicified rock with minor malachite.
A17-81	564037	6041763	chip 0.8 m	
A17-82	564030	6041754	grab	Old blasted pit. 10-20 cm wide quartz-chalcocite vein. Orientation 260/80S.
A17-83	563900	6042460	grab	5-10 cm wide quartz-carbonate vein containing minor malachite and pyrite. Orientation 340/80S.
A17-84	563548	6042390	grab	Reddish-brown volcanic volcanic rock with trace greenish mineral (malachite ?)
A17-85	563638	6044186	grab	Carbonate-chlorite altered fracture zone, trace to minor malachite.
A17-86	563638	6044186	grab	Carbonate altered fracture zone with pervasive malachite stain and minor chalcocite.
A17-87	563638	6044186	grab	Carbonate altered fracture zone with pervasive malachite stain and minor chalcocite.
A17-88	563530	6044200	grab	Zone of carbonate-quartz-epidote replaced rock with 1-2% chalcocite and some malachite. It is hosted by red volcanics. Exposed portion of the zone measure 1.5 x 1.5 m.
A17-89	563530	6044200	grab	Fault zone 0.3 m wide containing quartz veins up to 5 cm wide. Veins contain 1-5% bornite and malachite. Fault (veins) orientation - 140/v.

Sample #	Coordinates (NAD 83)		Sample type	Description
	Easting	Northing		
PUKM-01	563,973	6,037,790	Grab	Maroon porphyritic andesite flow with thin silica veinlets and rhodochrosite-carbonate veins.
PUKM-02	564,007	6,037,734	Grab	Zone of strong fracturing in a maroon andesite (melaphyre) flow, no visible sulphides.
PUKM-03	563,951	6,037,748	Grab	Dark maroon andesitic tuff breccia to lapilli tuff, thick bedded; no visible sulphides, tr. malachite
PUKM-04	563,924	6,037,715	Grab	Dark maroon andesitic lapilli tuff to tuff breccia, moderately fractured; no visible sulphides
PUKM-05	563,873	6,037,690	Grab	Dark maroon, fine-crystalline to porphyritic andesite flow, tr.-1% malachite walls, tr-2% bornite chalcocite.
PUKM-06	563,873	6,037,690	Grab	Andesite with thin veinlets of quartz and pinkish rhodochrosite?, weak silicification; tr. cpy
PUKM-07	564,262	6,037,069	Grab	Fault zone cutting through vesicular andesite(?) flow, large laths of plagioclase, with some rhodochrosite and chalcedony veinlets; no visible sulphides.
PUKM-08	564,287	6,036,999	Grab	Veinlets and wallrock material of beige porphyritic lava flow - numerous large laths of no visible sulphides.

**APPENDIX II**  
**ASSAY RESULTS**



Results

Activation Laboratories Ltd.

Report: A17-08672

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm
Lower Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10
Method Code	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
A17-40	< 5	16.4	< 0.5	> 10000	1540	< 1	15	391	204	1.77	3	< 10	96	< 0.5	6	1.19	18	26	4.89	< 10	< 1	0.19	11
A17-41	< 5	27.3	1.4	> 10000	1320	< 1	14	35	197	1.50	< 2	< 10	76	< 0.5	12	0.39	20	26	5.31	< 10	< 1	0.14	13
A17-42	< 5	28.4	< 0.5	> 10000	1640	< 1	17	109	232	1.45	< 2	< 10	43	< 0.5	< 2	0.26	24	31	5.52	10	< 1	0.08	< 10
A17-43	< 5	7.2	< 0.5	4870	2210	< 1	18	> 5000	338	1.87	< 2	< 10	60	< 0.5	2	0.27	23	38	5.14	10	< 1	0.10	< 10
A17-44	< 5	28.3	< 0.5	> 10000	567	1	13	25	68	0.55	< 2	< 10	86	< 0.5	11	0.20	9	42	4.92	< 10	< 1	0.12	< 10
A17-45	< 5	37.1	< 0.5	> 10000	745	1	12	95	86	0.71	< 2	< 10	45	< 0.5	13	0.21	9	40	3.96	< 10	< 1	0.11	< 10
A17-45A	< 5	1.6	< 0.5	2450	2030	< 1	12	7	412	1.57	< 2	< 10	61	< 0.5	< 2	0.92	21	18	5.32	< 10	< 1	0.09	15
A17-46	6	34.6	2.8	> 10000	735	< 1	15	106	132	1.35	< 2	< 10	19	< 0.5	< 2	0.25	17	20	4.34	< 10	< 1	0.34	< 10
A17-47	< 5	2.2	< 0.5	2380	1680	< 1	19	51	374	1.70	< 2	< 10	109	< 0.5	< 2	0.71	21	38	5.84	10	< 1	0.06	11
A17-48	32	30.6	1.5	> 10000	1290	< 1	23	19	214	1.42	< 2	< 10	60	< 0.5	9	0.32	18	34	4.57	< 10	< 1	0.10	11
A17-49	16	42.7	0.8	> 10000	1760	< 1	19	479	228	1.55	< 2	< 10	47	< 0.5	15	0.26	19	25	5.37	< 10	< 1	0.12	10
A17-50	< 5	10.7	< 0.5	7900	4380	< 1	80	20	561	2.66	3	< 10	125	0.7	3	0.71	33	82	6.17	< 10	3	0.29	10
A17-51	> 5000	77.1	9.8	> 10000	98	8	41	> 5000	74	0.22	< 2	< 10	< 10	< 0.5	7	0.03	86	22	10.4	< 10	< 1	0.11	< 10
A17-52	52	1.2	1.8	4280	1720	4	21	100	129	2.70	< 2	< 10	253	0.6	4	1.26	37	21	4.17	< 10	< 1	0.52	< 10
A17-53	590	5.2	1.0	248	391	7	11	> 5000	27	0.97	9	< 10	11	< 0.5	< 2	0.27	27	18	3.34	< 10	< 1	0.41	< 10
A17-54	224	12.3	< 0.5	782	66	19	5	32	13	0.30	3	< 10	61	< 0.5	5	0.02	8	37	1.57	< 10	< 1	0.17	< 10
A17-55	246	7.3	< 0.5	229	61	4	6	93	7	0.31	< 2	< 10	113	< 0.5	7	0.01	4	33	1.15	< 10	< 1	0.17	< 10
A17-56	16	< 0.2	< 0.5	14	41	11	2	8	4	0.05	< 2	< 10	14	< 0.5	< 2	0.59	< 1	30	0.34	< 10	< 1	0.02	< 10
A17-57	4140	63.1	27.2	104	62	3	3	1680	533	0.21	< 2	< 10	42	< 0.5	< 2	0.02	1	27	1.79	< 10	< 1	0.12	< 10
A17-58	49	2.0	< 0.5	82	83	3	2	694	17	0.07	< 2	< 10	17	< 0.5	< 2	0.02	2	30	0.54	< 10	< 1	0.04	< 10
A17-59	729	4.4	0.8	297	137	4	6	336	28	0.32	2	< 10	50	< 0.5	< 2	0.04	17	52	1.98	< 10	< 1	0.14	< 10
A17-60	16	0.2	< 0.5	26	92	3	5	40	22	0.16	< 2	< 10	26	< 0.5	< 2	0.01	3	42	0.80	< 10	< 1	0.08	< 10
A17-61	77	0.2	< 0.5	20	452	4	5	10	21	0.37	8	< 10	74	< 0.5	3	0.03	4	33	1.91	< 10	< 1	0.13	< 10
A17-62	395	16.1	0.6	137	377	3	4	139	90	0.22	6	< 10	44	< 0.5	< 2	0.01	6	24	1.66	< 10	< 1	0.09	< 10
A17-63	15	0.5	< 0.5	36	92	4	5	14	11	0.33	< 2	< 10	77	< 0.5	< 2	0.04	6	39	0.97	< 10	< 1	0.17	< 10
PUKM-01	5	< 0.2	< 0.5	16	524	3	2	7	70	0.43	< 2	< 10	48	< 0.5	3	0.15	5	38	1.78	< 10	< 1	0.14	32
PUKM-02	6	0.7	< 0.5	1140	3810	< 1	216	11	462	3.89	< 2	< 10	57	1.4	< 2	0.34	58	328	8.92	20	< 1	0.06	17
PUKM-03	< 5	0.6	< 0.5	881	1310	< 1	23	5	294	1.25	10	< 10	69	< 0.5	< 2	0.23	24	42	6.36	< 10	< 1	0.13	< 10
PUKM-04	< 5	< 0.2	< 0.5	93	1330	< 1	8	7	188	1.36	3	< 10	89	< 0.5	< 2	0.15	7	15	4.19	10	< 1	0.16	< 10
PUKM-05	11	15.2	< 0.5	> 10000	1590	< 1	8	5	277	1.05	< 2	< 10	31	< 0.5	12	2.19	12	18	4.30	< 10	< 1	0.03	11
PUKM-06	7	< 0.2	< 0.5	120	1340	1	10	8	90	0.78	< 2	< 10	87	< 0.5	< 2	0.21	16	29	5.15	< 10	< 1	0.21	12
PUKM-07	< 5	2.3	< 0.5	1930	1820	< 1	53	13	224	3.69	< 2	26	68	0.6	< 2	4.47	20	81	5.86	10	3	0.12	11
PUKM-08	< 5	1.6	< 0.5	1700	2130	< 1	59	15	276	3.40	5	20	75	0.6	< 2	3.67	22	85	6.10	10	3	0.19	11
DAKM-01	< 5	< 0.2	< 0.5	815	922	< 1	21	5	77	2.83	4	< 10	110	0.6	< 2	1.89	20	29	4.81	< 10	< 1	0.26	< 10
DAKM-02	< 5	< 0.2	< 0.5	45	882	< 1	14	6	105	2.72	2	< 10	32	< 0.5	< 2	3.90	12	25	2.75	< 10	< 1	0.08	< 10
DAKM-03	110	2.6	< 0.5	1380	71	3	3	6	7	0.27	< 2	< 10	48	< 0.5	< 2	0.05	2	35	0.60	< 10	< 1	0.15	< 10
DAKM-04	161	7.1	0.6	1850	305	2	1	8480	37	0.71	< 2	< 10	223	< 0.5	7	0.09	< 1	15	0.80	< 10	< 1	0.39	< 10
DAKM-05	197	6.2	0.6	1800	296	1	< 1	3140	36	0.64	< 2	< 10	212	< 0.5	4	0.07	< 1	15	0.75	< 10	< 1	0.36	< 10
DAKM-06	321	3.0	< 0.5	427	108	14	7	72	6	0.53	4	< 10	52	< 0.5	< 2	0.01	8	37	1.61	< 10	< 1	0.29	< 10
DAKM-07	288	5.2	< 0.5	1250	58	6	3	283	8	1.58	< 2	< 10	21	< 0.5	3	0.06	2	23	0.99	< 10	< 1	0.45	< 10
DAKM-08	> 5000	60.7	662	1640	143	3	7	> 5000	9490	0.11	57	< 10	< 10	< 0.5	3	0.06	4	31	3.02	< 10	< 1	0.04	< 10
DAKM-09	81	2.8	2.7	184	753	2	3	98	84	1.21	< 2	< 10	457	< 0.5	< 2	0.44	7	26	2.04	< 10	< 1	0.21	< 10



Results

Activation Laboratories Ltd.

Report: A17-08672

Analyte Symbol	Mg	Na	P	S	Sb	Sc	Sr	Ti	Th	Te	Tl	U	V	W	Y	Zr	Au
Unit Symbol	%	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne
Lower Limit	0.01	0.001	0.001	0.01	2	1	1	0.01	20	1	2	10	1	10	1	1	0.03
Method Code	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	FA- GRA
A17-40	1.27	0.144	0.104	0.33	5	12	32	0.13	< 20	1	< 2	< 10	133	< 10	10	6	
A17-41	0.99	0.167	0.097	0.57	5	15	9	0.12	< 20	2	< 2	< 10	146	< 10	11	6	
A17-42	1.20	0.121	0.103	0.42	3	14	5	0.12	< 20	3	< 2	< 10	105	< 10	10	5	
A17-43	1.63	0.137	0.090	0.12	2	15	10	0.10	< 20	3	< 2	< 10	144	< 10	10	5	
A17-44	0.25	0.119	0.080	0.48	4	11	6	0.12	< 20	3	< 2	< 10	87	< 10	10	7	
A17-45	0.38	0.140	0.081	0.74	2	9	4	0.08	< 20	3	< 2	< 10	95	< 10	6	6	
A17-45A	1.96	0.130	0.098	0.02	3	16	13	0.29	< 20	< 1	< 2	< 10	258	< 10	18	5	
A17-46	0.62	0.078	0.107	1.12	3	9	5	0.07	< 20	1	< 2	< 10	80	< 10	13	4	
A17-47	1.79	0.143	0.102	0.04	4	14	11	0.08	< 20	3	< 2	< 10	193	< 10	16	4	
A17-48	1.09	0.075	0.088	0.46	4	9	9	0.05	< 20	< 1	< 2	< 10	156	< 10	15	6	
A17-49	1.12	0.121	0.106	0.86	4	12	6	0.06	< 20	8	< 2	< 10	87	< 10	11	5	
A17-50	2.78	0.068	0.125	0.01	2	16	13	0.36	< 20	< 1	< 2	< 10	204	< 10	17	6	
<del>A17-51</del>	<del>0.02</del>	<del>0.010</del>	<del>0.000</del>	<del>11.8</del>	<del>6</del>	<del>&lt; 1</del>	<del>4</del>	<del>0.02</del>	<del>&lt; 20</del>	<del>0</del>	<del>&lt; 2</del>	<del>&lt; 10</del>	<del>10</del>	<del>&lt; 10</del>	<del>&lt; 1</del>	<del>2</del>	<del>6.42</del>
A17-52	1.60	0.041	0.074	0.09	4	6	43	0.06	< 20	< 1	< 2	< 10	60	< 10	13	1	
A17-53	0.17	0.018	0.034	1.87	3	2	11	0.08	< 20	< 1	< 2	< 10	27	< 10	6	1	
A17-54	0.03	0.020	0.005	0.70	< 2	< 1	3	< 0.01	< 20	7	< 2	< 10	9	< 10	< 1	< 1	
A17-55	0.02	0.021	0.004	0.10	< 2	< 1	4	< 0.01	< 20	6	< 2	< 10	7	< 10	< 1	< 1	
A17-56	< 0.01	0.023	< 0.001	< 0.01	5	< 1	46	< 0.01	< 20	< 1	< 2	< 10	< 1	278	10	< 1	
A17-57	< 0.01	0.021	0.003	0.57	17	< 1	4	< 0.01	< 20	< 1	< 2	< 10	5	153	< 1	< 1	
A17-58	< 0.01	0.018	< 0.001	0.21	4	< 1	2	< 0.01	< 20	< 1	< 2	< 10	2	258	< 1	< 1	
A17-59	0.06	0.020	0.004	0.79	2	< 1	4	< 0.01	< 20	1	< 2	< 10	11	13	< 1	< 1	
A17-60	< 0.01	0.018	0.001	0.04	< 2	< 1	2	< 0.01	< 20	< 1	< 2	< 10	3	45	< 1	< 1	
A17-61	0.12	0.021	0.014	0.18	< 2	1	2	< 0.01	< 20	3	< 2	< 10	8	< 10	2	< 1	
A17-62	0.05	0.017	0.012	0.07	6	< 1	1	< 0.01	< 20	< 1	< 2	< 10	5	< 10	< 1	< 1	
<del>A17-63</del>	<del>0.02</del>	<del>0.021</del>	<del>0.010</del>	<del>0.06</del>	<del>2</del>	<del>&lt; 1</del>	<del>4</del>	<del>&lt; 0.01</del>	<del>&lt; 20</del>	<del>2</del>	<del>&lt; 2</del>	<del>&lt; 10</del>	<del>8</del>	<del>&lt; 10</del>	<del>2</del>	<del>&lt; 1</del>	
PUKM-01	0.20	0.115	0.041	< 0.01	< 2	3	7	0.04	< 20	1	< 2	< 10	27	< 10	14	4	
PUKM-02	3.95	0.053	0.056	< 0.01	6	32	9	0.16	< 20	< 1	< 2	< 10	350	< 10	22	7	
PUKM-03	1.62	0.170	0.069	< 0.01	3	11	6	0.16	< 20	< 1	< 2	< 10	63	< 10	8	5	
PUKM-04	0.42	0.164	0.101	< 0.01	2	9	6	0.04	< 20	< 1	< 2	< 10	53	< 10	12	3	
PUKM-05	1.03	0.144	0.079	0.38	3	8	18	0.05	< 20	< 1	< 2	< 10	143	< 10	13	4	
PUKM-06	0.34	0.196	0.080	< 0.01	2	11	12	0.08	< 20	3	< 2	< 10	212	< 10	11	4	
PUKM-07	1.48	0.112	0.115	< 0.01	5	18	31	0.41	< 20	2	< 2	< 10	191	< 10	17	9	
PUKM-08	1.81	0.125	0.111	< 0.01	3	18	26	0.41	< 20	5	< 2	< 10	209	< 10	17	5	
<del>DAKM-01</del>	<del>2.20</del>	<del>0.180</del>	<del>0.072</del>	<del>0.06</del>	<del>0</del>	<del>14</del>	<del>204</del>	<del>0.00</del>	<del>&lt; 20</del>	<del>4</del>	<del>&lt; 2</del>	<del>&lt; 10</del>	<del>140</del>	<del>&lt; 10</del>	<del>9</del>	<del>5</del>	
DAKM-02	1.15	0.023	0.059	< 0.01	4	7	380	0.21	< 20	< 1	< 2	< 10	67	< 10	7	3	
DAKM-03	0.03	0.026	0.001	0.14	< 2	< 1	6	< 0.01	< 20	< 1	< 2	< 10	9	< 10	< 1	< 1	
DAKM-04	0.03	0.105	0.007	0.22	< 2	< 1	15	< 0.01	< 20	3	< 2	< 10	4	< 10	7	6	
DAKM-05	0.02	0.099	0.007	0.18	< 2	< 1	12	< 0.01	< 20	2	< 2	< 10	3	< 10	7	6	
DAKM-06	0.02	0.023	0.003	0.40	< 2	< 1	3	< 0.01	< 20	3	< 2	< 10	11	< 10	< 1	< 1	
DAKM-07	0.01	0.967	0.003	0.41	< 2	< 1	4	< 0.01	< 20	< 1	< 2	< 10	3	< 10	< 1	< 1	
<del>DAKM-08</del>	<del>0.03</del>	<del>0.022</del>	<del>0.001</del>	<del>2.04</del>	<del>114</del>	<del>&lt; 1</del>	<del>7</del>	<del>&lt; 0.01</del>	<del>&lt; 20</del>	<del>&lt; 1</del>	<del>&lt; 2</del>	<del>&lt; 10</del>	<del>2</del>	<del>&lt; 10</del>	<del>1</del>	<del>&lt; 1</del>	<del>18.0</del>

**Final Report**  
**Activation Laboratories**

Report Number: A17-08672

Report Date: 12/9/2017

Analyte Symbol	Cu	Pb
Unit Symbol	%	%
Detection Limit	0.001	0.003
Analysis Method	ICP-OES	ICP-OES
A17-40	1.4	
A17-41	2.65	
A17-42	2.27	
A17-43		0.668
A17-44	2.88	
A17-45	3.87	
A17-46	5.51	
A17-48	2.67	
A17-49	3.97	
A17-51	1.36	1.12
A17-53		1.91
PUKM-05	2.58	
<del>DAKM-08</del>		<del>0.898</del>



Results

Activation Laboratories Ltd.

Report: A17-10632

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm
Lower Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10
Method Code	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
A17-63	191	47.4	1.6	>10000	1080	1	15	5	130	2.85	5	<10	146	<0.5	<2	0.76	17	20	3.88	<10	<1	0.49	<10
A17-64	795	51.9	0.8	>10000	597	<1	6	8	78	1.16	2	<10	157	<0.5	<2	1.13	6	12	1.83	<10	<1	0.34	<10
A17-65	76	11.2	<0.5	>10000	319	<1	3	5	15	7.36	<2	<10	72	<0.5	<2	4.79	2	12	3.07	10	1	0.17	<10
A17-66	8	<0.2	<0.5	220	1610	<1	29	<2	90	4.81	4	<10	90	<0.5	<2	0.54	23	11	3.49	10	<1	0.44	<10
A17-67	6	0.3	<0.5	407	1470	<1	30	<2	80	4.62	3	<10	107	<0.5	<2	0.52	22	12	3.60	10	<1	0.66	<10
A17-68	>5000	16.0	2.2	>10000	2270	<1	<1	27	205	0.82	29	<10	40	0.6	<2	0.41	6	5	4.23	<10	<1	0.27	<10
A17-69	17	0.8	0.6	1220	1980	1	4	10	160	1.29	4	<10	835	0.8	<2	0.34	6	11	4.03	<10	<1	0.39	<10
A17-70	6	<0.2	<0.5	70	1320	<1	4	5	57	1.85	<2	<10	188	0.7	<2	1.31	12	7	4.16	<10	<1	0.78	10
A17-71	<5	2.8	<0.5	3450	530	2	3	10	55	0.67	<2	<10	778	<0.5	<2	0.64	2	25	1.11	<10	<1	0.32	<10
A17-72	9	1.8	<0.5	2810	367	1	2	5	34	0.66	<2	<10	584	<0.5	3	0.43	2	12	1.12	<10	<1	0.33	<10
A17-73	<5	<0.2	<0.5	50	1000	<1	7	3	83	0.74	<2	<10	81	<0.5	<2	1.33	14	12	3.87	<10	<1	0.12	<10
A17-74	8	0.7	<0.5	1170	1160	<1	19	12	158	0.60	<2	<10	169	<0.5	<2	2.63	19	14	4.60	<10	<1	0.17	<10
A17-75	12	0.7	<0.5	1470	867	<1	17	10	122	0.98	<2	<10	478	<0.5	<2	2.12	14	15	3.27	<10	<1	0.21	<10
A17-76	9	3.9	<0.5	7370	1080	<1	20	16	153	0.60	<2	<10	274	<0.5	<2	3.08	16	11	3.78	<10	<1	0.16	<10
A17-77	<5	<0.2	<0.5	126	976	<1	16	11	117	1.12	<2	<10	136	<0.5	<2	2.72	17	13	4.47	<10	<1	0.33	<10
A17-78	7	2.9	0.6	3100	2670	<1	32	9	281	0.51	<2	<10	449	<0.5	<2	7.29	30	5	4.23	<10	<1	0.15	<10
A17-79	61	55.5	1.0	>10000	920	<1	10	18	117	0.91	<2	<10	16	<0.5	<2	3.47	10	9	2.12	<10	<1	0.22	<10
A17-80	<5	0.5	<0.5	404	830	<1	15	10	84	0.60	<2	<10	130	<0.5	<2	3.32	12	11	3.13	<10	<1	0.19	<10
A17-81	<5	<0.2	<0.5	142	997	<1	27	9	146	0.96	6	<10	109	<0.5	<2	2.09	19	16	4.19	<10	<1	0.25	<10
A17-82	38	45.0	<0.5	>10000	323	1	2	11	40	0.55	5	<10	18	<0.5	<2	0.79	4	18	1.21	<10	1	0.13	<10
A17-83	>5000	35.8	<0.5	>10000	276	2	8	10	37	1.20	<2	<10	20	<0.5	5	0.16	5	24	2.54	<10	<1	0.37	<10
A17-84	5	<0.2	<0.5	74	1000	<1	29	3	63	3.72	<2	<10	119	<0.5	<2	1.72	17	38	4.41	10	<1	0.17	11
A17-85	44	1.3	<0.5	4770	856	<1	7	<2	49	8.35	<2	<10	49	<0.5	7	3.47	11	6	3.47	20	2	0.06	<10
A17-86	58	2.6	1.2	6970	943	<1	8	<2	54	7.84	2	<10	56	<0.5	2	4.06	13	5	3.75	20	2	0.03	<10
A17-87	119	13.0	1.7	>10000	1190	<1	5	<2	87	6.80	2	<10	153	<0.5	<2	3.52	13	2	3.61	10	<1	0.04	<10
A17-88	362	39.4	<0.5	>10000	1120	<1	12	2	110	3.37	<2	<10	29	<0.5	<2	5.28	16	6	2.77	<10	1	0.05	<10
A17-89	82	21.0	<0.5	>10000	852	<1	3	<2	37	1.23	<2	<10	30	<0.5	<2	>10.0	5	3	0.98	<10	<1	0.10	<10
<del>A17-95</del>	<del>7</del>	<del>0.8</del>	<del>0.5</del>	<del>250</del>	<del>80</del>	<del>0</del>	<del>7</del>	<del>114</del>	<del>139</del>	<del>1.03</del>	<del>66</del>	<del>&lt;10</del>	<del>17</del>	<del>0.7</del>	<del>&lt;2</del>	<del>0.30</del>	<del>4</del>	<del>10</del>	<del>2.37</del>	<del>&lt;10</del>	<del>&lt;1</del>	<del>0.64</del>	<del>13</del>
A17-96	8	<0.2	<0.5	156	501	2	2	4	56	0.43	302	<10	89	<0.5	<2	0.59	3	17	1.36	<10	<1	0.22	15
A17-97	18	1.1	<0.5	42	1680	1	3	216	52	0.47	138	<10	64	<0.5	4	3.69	2	13	3.19	<10	<1	0.24	<10
A17-98	<5	0.3	<0.5	55	467	2	9	11	31	1.49	<2	<10	42	<0.5	<2	0.56	5	36	2.71	<10	<1	0.79	<10
A17-99	<5	<0.2	<0.5	84	382	2	5	6	59	1.38	3	<10	166	<0.5	<2	0.36	8	23	3.82	<10	<1	0.34	14
A17-100	26	<0.2	1.5	93	349	1	3	12	169	1.25	<2	<10	53	<0.5	<2	1.27	6	8	2.50	<10	<1	0.09	<10
A17-101	<5	0.4	<0.5	68	583	1	14	4	89	2.10	<2	<10	78	<0.5	<2	0.33	7	14	3.04	<10	<1	0.92	<10
A17-102	<5	7.8	<0.5	17	47	3	<1	2880	50	0.54	13	<10	88	<0.5	<2	0.18	1	16	0.84	<10	<1	0.43	24
A17-103	<5	30.9	32.5	14	89	3	1	>5000	2670	0.64	23	<10	55	<0.5	<2	0.17	2	12	1.32	<10	3	0.46	16
A17-109	<5	2.0	4.9	80	1360	11	3	661	732	1.35	642	<10	14	<0.5	<2	0.78	<1	32	7.25	<10	2	<0.01	<10
A17-110	2380	5.9	24.7	13	2810	<1	3	311	3080	0.31	>10000	<10	<10	<0.5	6	0.68	2	11	5.27	<10	<1	0.21	<10
A17-111	>5000	>100	59.5	695	4070	2	4	1560	5380	0.08	>10000	<10	<10	<0.5	22	0.04	<1	25	7.60	<10	<1	0.06	<10
A17-112	2020	5.0	1.6	19	8490	1	4	104	103	0.17	>10000	<10	15	<0.5	5	0.31	2	15	6.54	<10	<1	0.12	<10
A17-113	8	3.3	5.7	136	269	8	4	881	3070	0.45	158	<10	120	<0.5	<2	0.21	10	16	0.96	<10	6	0.38	28
<del>A17-114</del>	<del>9</del>	<del>1.6</del>	<del>8.8</del>	<del>34</del>	<del>243</del>	<del>4</del>	<del>3</del>	<del>115</del>	<del>1010</del>	<del>0.19</del>	<del>199</del>	<del>&lt;10</del>	<del>46</del>	<del>&lt;0.5</del>	<del>&lt;2</del>	<del>0.04</del>	<del>3</del>	<del>45</del>	<del>1.52</del>	<del>&lt;10</del>	<del>&lt;1</del>	<del>0.12</del>	<del>&lt;10</del>



Results

Activation Laboratories Ltd.

Report: A17-10632

Analyte Symbol	Mg	Na	P	S	Sb	Sc	Sr	Ti	Th	Te	Tl	U	V	W	Y	Zr	Ag	Cu	Pb	Zn	Au
Unit Symbol	%	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne	%	%	%	g/tonne
Lower Limit	0.01	0.001	0.001	0.01	2	1	1	0.01	20	1	2	10	1	10	1	1	3	0.001	0.003	0.001	0.03
Method Code	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	FA- GRA	ICP- OES	ICP- OES	ICP- OES	FA- GRA
A17-63	1.06	0.035	0.078	0.06	3	9	10	< 0.01	< 20	< 1	< 2	< 10	74	< 10	7	2		1.54			
A17-64	0.17	0.024	0.036	0.15	< 2	4	10	< 0.01	< 20	< 1	< 2	< 10	47	< 10	4	< 1		1.51			
A17-65	0.12	0.036	0.068	0.06	4	10	508	0.17	< 20	3	< 2	< 10	146	< 10	6	6		1.29			
A17-66	4.08	0.037	0.038	< 0.01	3	9	19	0.22	< 20	< 1	< 2	< 10	117	< 10	5	5					
A17-67	3.64	0.041	0.054	< 0.01	< 2	10	12	0.28	< 20	< 1	< 2	< 10	136	< 10	6	12					
A17-68	0.12	0.094	0.115	0.41	4	8	25	< 0.01	< 20	< 1	< 2	< 10	36	< 10	20	1		1.51			9.98
A17-69	0.18	0.133	0.120	0.06	2	9	24	< 0.01	< 20	< 1	< 2	< 10	42	< 10	18	2					
A17-70	0.52	0.053	0.083	< 0.01	3	15	74	0.04	< 20	< 1	< 2	< 10	67	< 10	22	4					
A17-71	0.14	0.114	0.008	0.07	< 2	3	31	< 0.01	< 20	< 1	< 2	< 10	22	< 10	6	2					
A17-72	0.13	0.061	0.009	0.04	< 2	2	30	< 0.01	< 20	< 1	< 2	< 10	17	< 10	5	2					
A17-73	0.53	0.188	0.061	< 0.01	3	8	69	0.03	< 20	4	< 2	< 10	107	< 10	5	2					
A17-74	1.13	0.083	0.061	0.01	4	8	59	0.04	< 20	< 1	< 2	< 10	146	< 10	6	3					
A17-75	0.94	0.106	0.032	0.03	< 2	6	87	0.02	< 20	< 1	< 2	< 10	82	< 10	4	2					
A17-76	1.43	0.070	0.025	0.14	3	7	95	0.03	< 20	< 1	< 2	< 10	104	< 10	3	3					
A17-77	1.16	0.090	0.072	< 0.01	3	9	57	0.03	< 20	2	< 2	< 10	109	< 10	7	3					
A17-78	3.69	0.052	0.019	0.05	3	4	138	< 0.01	< 20	< 1	< 2	< 10	69	< 10	5	2					
A17-79	1.65	0.057	0.019	0.74	3	4	128	< 0.01	< 20	< 1	< 2	< 10	47	< 10	2	1		4.15			
A17-80	1.51	0.128	0.055	< 0.01	3	9	92	0.02	< 20	< 1	< 2	< 10	92	< 10	5	2					
A17-81	1.03	0.145	0.066	< 0.01	3	8	58	0.05	< 20	< 1	< 2	< 10	87	< 10	5	3					
A17-82	0.32	0.021	0.018	1.16	4	3	111	< 0.01	< 20	< 1	< 2	< 10	72	< 10	< 1	< 1		4.43			
A17-83	0.38	0.039	0.044	0.88	< 2	4	19	< 0.01	< 20	< 1	< 2	< 10	29	< 10	4	2		1.14			22.7
A17-84	2.08	0.068	0.057	< 0.01	3	13	41	0.09	< 20	2	< 2	< 10	115	< 10	6	6					
A17-85	1.15	1.08	0.051	< 0.01	3	9	134	0.20	< 20	< 1	< 2	< 10	162	< 10	5	7					
A17-86	1.26	1.00	0.057	0.05	4	10	153	0.23	< 20	< 1	< 2	< 10	114	< 10	6	7					
A17-87	2.29	0.451	0.063	0.19	< 2	9	97	0.21	< 20	< 1	< 2	< 10	506	< 10	6	10		2.42			
A17-88	1.35	0.028	0.077	0.61	2	8	161	0.13	< 20	< 1	2	< 10	98	< 10	6	5		4.40			
A17-89	0.47	0.025	0.023	0.29	2	2	94	0.06	< 20	3	< 2	< 10	45	< 10	2	2		2.39			
<del>A17-95</del>	<del>0.09</del>	<del>0.055</del>	<del>0.008</del>	<del>1.00</del>	<del>10</del>	<del>9</del>	<del>22</del>	<del>&lt; 0.01</del>	<del>&lt; 20</del>	<del>&lt; 1</del>	<del>&lt; 2</del>	<del>&lt; 10</del>	<del>28</del>	<del>&lt; 10</del>	<del>6</del>	<del>2</del>					
A17-96	0.06	0.086	0.038	0.01	< 2	2	26	< 0.01	< 20	1	< 2	< 10	8	< 10	5	1					
A17-97	0.72	0.674	0.046	0.01	4	3	407	< 0.01	< 20	4	< 2	< 10	14	< 10	7	3					
A17-98	0.75	0.149	0.051	0.87	< 2	3	41	0.19	< 20	5	< 2	< 10	67	< 10	7	3					
A17-99	0.75	0.067	0.096	0.07	3	4	67	0.04	< 20	< 1	< 2	< 10	50	< 10	5	3					
A17-100	0.91	0.108	0.120	0.32	3	3	121	< 0.01	< 20	1	< 2	< 10	30	< 10	6	2					
A17-101	1.57	0.154	0.068	0.40	< 2	5	44	0.24	< 20	3	< 2	< 10	112	< 10	7	4					
A17-102	0.02	0.024	0.077	0.36	11	1	12	< 0.01	< 20	< 1	< 2	< 10	12	< 10	5	< 1					
A17-103	0.04	0.030	0.082	0.80	26	2	16	< 0.01	< 20	2	< 2	< 10	17	< 10	5	1		0.836			
A17-109	0.37	0.017	0.008	2.25	22	< 1	32	< 0.01	< 20	< 1	< 2	< 10	41	< 10	3	3					
A17-110	0.11	0.023	0.023	2.83	56	1	4	< 0.01	< 20	< 1	< 2	< 10	7	< 10	1	2					
A17-111	0.12	0.017	0.003	4.15	351	< 1	2	< 0.01	< 20	< 1	< 2	< 10	2	< 10	< 1	2	136				5.69
A17-112	0.28	0.019	0.006	1.92	30	< 1	21	< 0.01	< 20	3	< 2	< 10	2	1880	4	3					
<del>A17-113</del>	<del>0.02</del>	<del>0.049</del>	<del>0.034</del>	<del>0.11</del>	<del>7</del>	<del>3</del>	<del>13</del>	<del>&lt; 0.01</del>	<del>&lt; 20</del>	<del>&lt; 1</del>	<del>&lt; 2</del>	<del>&lt; 10</del>	<del>8</del>	<del>24</del>	<del>9</del>	<del>&lt; 1</del>					

## **APPENDIX III**

# **PETROGRAPHIC REPORT ON PURDEX ZONE**

# **PETROGRAPHIC REPORT ON PURDEX ZONE**

## **TREASURE MOUNTAIN PROPERTY**

**Report for:**  
**Decade Resources**  
**Stewart, BC**

November 12, 2017

**Report by:**  
**Alojzy A. Walus, P. Geo**  
**Surrey, BC**

Under the microscope all four examined samples were identified as amygdaloidal basalt containing xenoliths of coarser grained porphyritic diabase. Copper minerals were identified as bornite, chalcocite, covellite and chalcopyrite. They are associated with quartz and small amounts of actinolite, chlorite and sericite. Copper sulphides and the associated minerals mostly form numerous amygdales within basalt. The bulk of sulphides occurs as scattered grains and patches ranging in size from 0.05 to 1.5 mm. Small part of sulphides occurs within quartz veinlets. All samples contain several percent of disseminated crystalline hematite. Staining the samples with sodium cobaltinitrite revealed the presence of 1 to 10% K-feldspar in samples A17-40, 46, 49 and 30-40% K-feldspar in sample 46A (taken just a few metres from the zone). K-feldspar most likely is of a secondary origin. Timing of hematite and K-feldspar formation and their relationship to copper mineralization is uncertain.

Respectfully Submitted  
Alojzy Walus

## MICROSCOPIC DESCRIPTIONS

### Sample A17-40, Moderately silicified basalt with copper mineralization

<u>Mineral Composition:</u>			
Plagioclase	70-80%	Hematite	3-5%
Quartz	10-20%	Dusty opaque	3-5%
K-feldspar	1-2%	Bornite	2-3%
Actinolite	<1%	Chalcocite	1-2%
Chlorite	<0.5%	Covellite	0.5-1.0%
Sericite	<0.5%	Chalcopyrite	<0.5%
Epidote	<0.5%	Limonite	<1%

The bulk of the sample consists of porphyritic amygdaloidal basalt comprised of 5-10% plagioclase phenocrysts set in a fine-grained groundmass dominated by plagioclase. The sample also contains 10-15% xenoliths of coarser grained, porphyritic diabase. Staining with sodium cobaltinitrite revealed the presence of 1-2% K-feldspar. Its origin is uncertain. Hematite occurs as small subhedral to euhedral grains disseminated throughout the rock. Bornite, chalcocite, covellite and chalcopyrite along with associated quartz plus minor actinolite, chlorite and sericite represent later mineralization-alteration event. They form irregular patches scattered throughout the rock. Covellite is concentrated in a large patch comprised mostly of actinolite and sericite. Sulphides occur as grains and patches ranging in size from 0.05 to 1.7 mm. They mostly fill vesicles within basalt. Small portion of sulphides form quartz-sulphide veins 0.2-0.5 mm wide.

### Sample A17-46, Strongly silicified basalt with copper mineralization

<u>Mineral Composition:</u>			
Quartz	65-75%	Hematite	5-7%
Plagioclase	20-25%	Dusty opaque	2-3%
K-feldspar	3-5%	Bornite	2-3%
Actinolite	<1%	Chalcocite	0.5-1%
Sericite	<0.5%	Covellite	0.5-1.0%
Chlorite	<0.5%	Chalcopyrite	<0.5%
Epidote	<0.5%	Goethite	<0.5%

The primary rock is represented by diffused patches of basalt composed of plagioclase phenocrysts set in a fine grained plagioclase groundmass. There are also patches composed of coarser grained porphyritic diabase which most likely constitute xenoliths within basalt. The sample contains 3-5% of K-feldspar, which most likely is of secondary origin. The primary rock is in most part replaced by mineral assemblage comprised of quartz with lesser bornite, chalcocite, covellite, chalcopyrite and actinolite. They form irregular patches scattered throughout the rock. Very often, they resemble amygdales indicating the presence of vesicles within primary rock. In one instance they form quartz-bornite vein 0.3-0.4 mm wide. Sulphides occur as grains and patches ranging in

size from 0.02 to 1.5 mm in size. Actinolite forms several radiating aggregates associated with quartz. Hematite occurs as small subhedral to euhedral grains disseminated throughout the rock

**Sample A17-49, Moderately silicified basalt with copper mineralization**

<u>Mineral Composition:</u>			
Plagioclase	60-70%	Hematite	1-2%
Quartz	10-20%	Dusty opaque	2-3%
Chlorite	10-15%	Bornite	3-5%
K-feldspar	5-10%	Chalcocite	1-2%
Actinolite	<0.5%	Covellite	0.5-1.0%
		Chalcopyrite	<0.5%
		Goethite/limonite	<1%

The bulk of the sample consists of porphyritic amygdaloidal basalt comprised of 10-15% plagioclase phenocrysts set in a fine-grained groundmass dominated by plagioclase. The sample also contains 10-15% xenoliths of coarser grained, porphyritic diabase. Staining with sodium cobaltinitrite revealed the presence of 5-10% K-feldspar, which most likely is of secondary origin. Hematite occurs mostly as small subhedral to euhedral grains of crystalline hematite disseminated throughout the rock, small part of hematite occurs as dust giving the rock red colour. Bornite, chalcocite, covellite and chalcopyrite accompanied by quartz, chlorite and small amount of actinolite represent later mineralization-alteration event. They mostly form numerous amygdales within basalt. The bulk of sulphides form scattered grains and patches ranging in size from 0.05 to 1.5 mm. Small part of sulphides occurs within thin quartz veins. Part of actinolite was subsequently altered to chlorite.

**Sample A17-46A, Strongly K-feldspar altered basalt.**

<u>Mineral Composition:</u>	
Plagioclase	50-55%
K-feldspar	30-35%
Quartz	5-10%
Secondary biotite	5-7%
Opaque minerals	5-7%
Carbonate	<1%

The rock is an amygdaloidal basalt composed of 3-5% plagioclase phenocrysts set in a groundmass dominated by fine-grained plagioclase. Amygdales are composed of quartz. The sample contains a few xenoliths of coarser grained, porphyritic diabase. Basalt is in large part replaced by very fine-grained secondary K-feldspar. The rock contains 5-7% of secondary biotite which form scattered, poorly defined small patches.

### **Sample A17-76, Diabase**

#### Mineral Composition:

Plagioclase	75-80%
Carbonate	7-10%
Sericite	3-5%
Opaque	8-12%

The rock consists of anhedral to euhedral crystals of plagioclase. They range in size from 0.05 to 1.5 mm showing a full gradation between smallest and largest grain sizes (seriate texture). In places plagioclase crystals are intergrown. Secondary minerals include carbonate, sericite and opaque. Opaque minerals are dominated by hematite.

### **Sample 207, Plagioclase porphyritic diabase**

#### Mineral Composition:

Plagioclase (phenocrysts)	10-15%
Plagioclase (groundmass)	70-75%
Chlorite	15-20%
Carbonate	3-5%
Sericite	1-2%
Opaque	8-12%

The sample consists of plagioclase phenocrysts 0.7 to 1.5 cm long set in a groundmass composed of smaller plagioclase laths 0.2 to 0.4 mm long. Phenocrysts are weakly to moderately carbonate-sericite altered. Groundmass often displays ophitic texture with chlorite and opaque minerals occurring in interstices between plagioclase laths instead of pyroxene. Chlorite and carbonate occur as scattered patches up to 0.5 cm in size.