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THE BUCK LAKE PGE PROSPECT, NORTHWESTERN ONTARIO REPORT ON THE 2017 and 2018 GEOCHEMICAL SURVEYS

Thunder Bay Mining Division

Tib and Sharp Lake Townships, Senga Lake Armistice Lake Areas
NTS 52 H/4NW
N49°09’ 43.3’’ and W89°58’53.3’’
UTM Zones U15 and U16
282650E, 5449750N (U16)

for

Empire Metals Corp.
702-889 West Pender St.
Vancouver, B.C.
V6C 3B2

by

Bohumil (Boris) Molak, PhD., P. Geo (BC) and William J. Richmond

May 15, 2019
Amended: November 22, 2019

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SUMMARY

The Buck Lake PGE Prospect ("BLP") is a platinum group element ("PGE") target situated approximately 110 km northwest of Thunder Bay in Northwestern Ontario. The BLP consists of 168 contiguous cell claim units covering approximately 4,1790 hectares. The PGE mineralization is hosted by mafic to ultra-mafic intrusive rocks of Archean age.

In 2017 and 2018, Empire Metals Corp. continued to explore the BLP by outcrop mapping and sampling. The samples were submitted to accredited laboratories for analysis. Highly anomalous PGE values were confirmed in outcrops situated in the central and eastern portions of the BLP. Additionally, inversion modeling of 2011 and 2018 airborne geophysical surveys and a microprobe study of mineralized samples were conducted and the results are presented in this report.

Further work is warranted and should include outcrop mapping, stripping in anomalous areas, systematic sampling and further re-interpretation of historical geophysical surveys to identify conductor axes.

1. INTRODUCTION

This report has been prepared at the request of Empire Metals Corp., ("Empire"), which retained the writers in May 2017 and in June 2018 to conduct prospecting and litho-geochemical sampling on the BLP and to prepare a report for filing. The first writer is a consulting geologist residing in Vancouver, BC, and a Professional Geoscientist with over forty five years of experience in mineral exploration. He, together with the second writer conducted the field program on the BLP intermittently from May 10, 2017 to September 26, 2018. Subject to agreement with Empire, the writers consent to the filing of this report with the Provincial Mining Recorders Office, Ministry of Northern Development and Mines of Ontario.

1.1. Location and Access

The BLP is situated in Northwestern Ontario, approximately 110 kilometers north of Thunder Bay, within the Tib and Sharp Lake Townships, Thunder Bay Mining Division (Figs. 1, 2). The property straddles the UTM zones U15 and U16 (NAD83), its eastern part being centered at N49°09'43.3'' latitude and W89°58'53.3'' longitude, the UTM coordinates 282650 E and 5449750 N (U16) and the southwestern part being centered at about 717900E, 5446700N (U15), on the Map Sheet NTS 52 H/4.

The access from Thunder Bay is by Highway 17, then via all-weather Dog River Road and Wolf Tree Trail for 33.75 km to the junction with an old logging road and several new logging roads serving various parts of the property. Some parts of the prospect are accessible by boat along the Dog River and from Buck Lake. The western part of the claim block can be accessed via Sideen Road and a network of recently cut logging roads.

Fig. 1: Buck Lake PGE Project, location map.

1.2. The Claims

The BLP consists of 178 single cell and 74 boundary cell mining claims (total 248) covering 4,178.8 hectares. The claim information as of March 5, 2018 is listed in Appendix II.

1.3. Topography, Vegetation and Local Resources

Topographic relief is moderately flat ranging from 465 meters to 490 meters above sea level. Swampy areas or treed swamps characterize topographic lows, while the areas surrounding Dog River are floating bogs. Topographic highs are generally forested, rounded knolls with gentle slopes and elongated, north-east south-west trending scarps of various heights are also present.

The area belongs to boreal forest eco-region characterized by numerous lakes and swamps. The area is characterized by hot summers with a maximum temperatures of 38 º C and cold, snowy winters, with minimum temperature of - 40 º C. Mean annual precipitation is about 715 mm. The area is snow covered for up to 5.5 months per year. Relative humidity ranges from 50 per cent to 80 per cent and the prevailing winds in the area blow from the northwest.

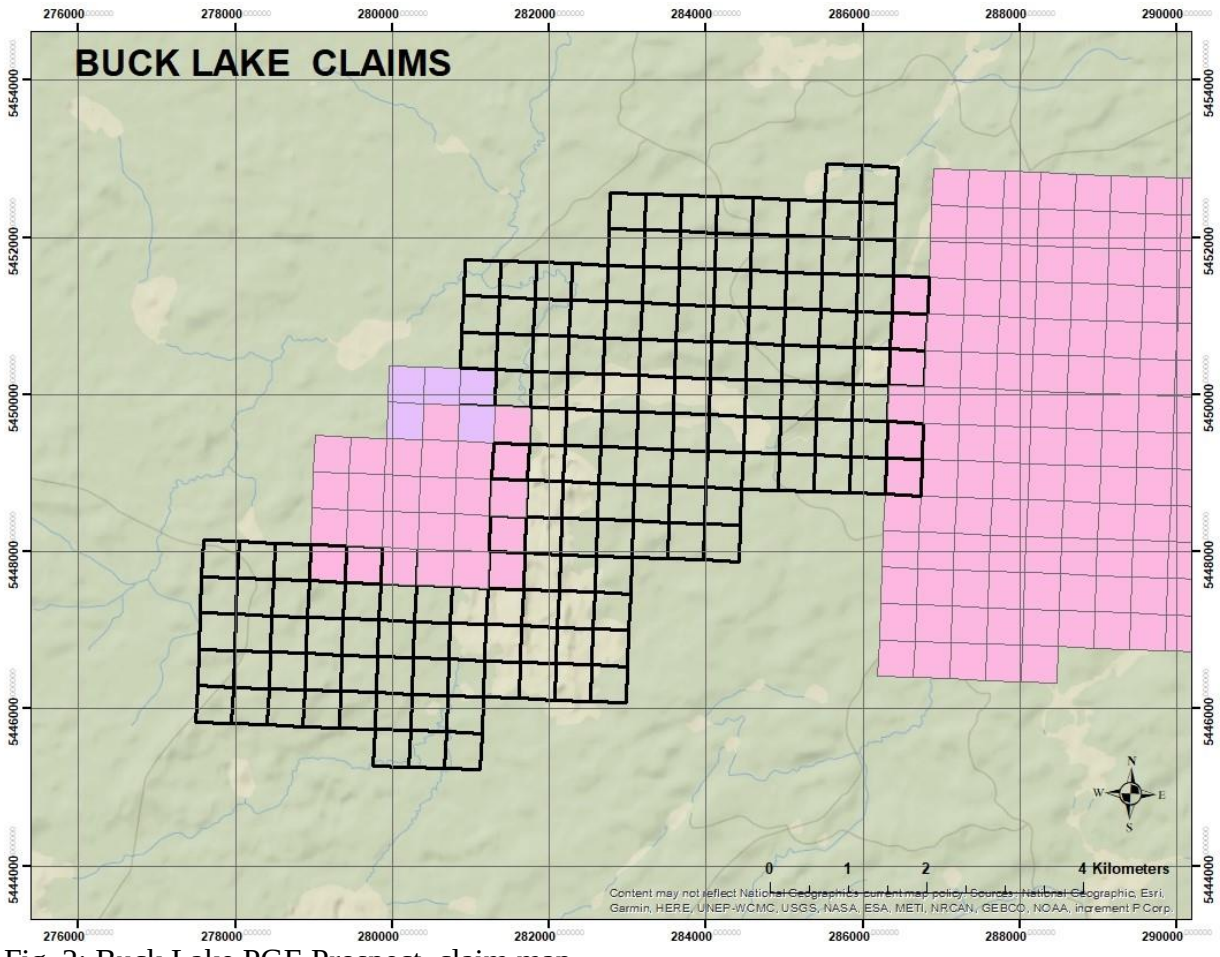


Fig. 2: Buck Lake PGE Prospect, claim map.

Vegetation consists of mature stands of black spruce, jack pine, poplar and birch with moss covered regolith and little underbrush composed mainly of willow and Labrador teeth. Swampy grounds are overgrown with dwarf cedar and alder underbrush. Patchy areas of thick willow bushes occur in lower elevated areas and along old logging roads. Active logging continues in the broader area. Outcrop is limited to topographic elevations and along the Dog River and Buck Lake shores.

The city of Thunder Bay is the closest main centre that provides all services required to conduct mineral exploration. It includes an airport with daily flights to major Canadian cities, the rail and the ocean connection via Great Lakes and St. Lawrence Seaway.

1.4. History

The mafic/ultra-mafic intrusions of Northwestern Ontario were targeted for copper – nickel - PGE mineralization since the 1950's. In 1962, the Ontario Department of Mines in conjunction with the Geological Survey of Canada conducted an aeromagnetic survey in the area (ODM-GSC 1962). In 1963, prospectors W. Baker and G. Moore discovered the copper-nickel mineralization south of the Lac des Iles. Further prospecting followed in the 1970's, culminating in a diamond drilling program in Lac des Iles area. In the late 1980s, economic PGE mineralization was delineated at the Roby zone and commercial, open pit production started in 1993.

A ground geophysical survey in the Lac des Iles area detected coincident magnetic and VLF-EM trends that were interpreted to relate to igneous layering in the mafic/ultramafic intrusives and with the sulfidic "reefs" (Sutcliffe, 1995). Concurrently, Ontario Geological Survey conducted geological mapping in the area, which resulted in the discovery of mafic/ultra-mafic rocks in the vicinity of Buck Lake (Sutcliffe, 1986). The area was staked by H. Watts, but no work was recorded and the claims lapsed in 1988.

In 1992 W. J. Richmond and W. D. Morehouse staked the Buck Lake prospect and conducted OPAP-funded projects over the next five years. Their work resulted in the discovery of the Main Showing, where selective grab and blast pit samples returned up to 2,030 ppb Pt and 2,276 ppb Pd and the small diameter drill cores returned up to 1.90 g/t Pd, 1.35 g/t Pt, 0.57 % Cu and 0.52 % Ni.

In 1998 W. J. Richmond and W. D. Morehouse optioned the BLP to Home Ventures Ltd., and the fieldwork continued with geochemical and ground magnetometer surveys (McKay, 1999). The magnetic highs were outlined, which in part coincided with the Main Showing area.

In 1998, North American Palladium Ltd. ("NAP") staked the area surrounding the Home Ventures Ltd. claims and carried out geochemical surveys. Anomalous to significant PGE values were detected in various parts of their claims and geological similarities with the the Lac des Iles complex were identified (Osmani, 2001).

The Ontario Geological Survey conducted an airborne magnetic and electromagnetic survey covering the area including the Buck Lake prospect (Ontario Geological Survey, 2000). Simoneau (2000) carried out a combined ground magnetic and induced polarization survey over both, the NAP and Home claims. Several northeast trending IP anomalies and several magnetic anomalies were detected and pseudo-sections constructed.

In 2000 Home Ventures Ltd. changed its name to Buck Lake Ventures Ltd. ("Buck") and in a joint venture with LMX Resources Ltd. continued to explore the BLP by stripping, trenching, outcrop mapping, rock, soil and humus sampling. A grid was cut with a baseline running on azimuth 45 º and perpendicular lines spaced 100 meters and 18 trenches were dug, but only 6 of them systematically logged and sampled (McKay, 2001). Selective grab samples from the blast pits on the Main Showing assayed up to 31.60 ppm Pd, 2.82 ppm Pt, 0.13 ppm Au, 1.53 per cent Cu and 9.96 per cent Ni. Other Pt-Pd occurrences were discovered west and southwest of the Main Showing and the assays returned as much as 420 ppb Pt and 588 ppb Pd.

In 2003 NAP conducted a drilling program to explore some of the geochemical and geophysical anomalies (Nelson, 2007). Four holes totaling 1,416 meters were drilled and each intersected PGE anomalous zones with values ranging up to 285 ppb platinum and 264 ppb palladium.

Encouraging NAP's results and geological similarities with the Lac des Iles Intrusion prompted Buck to conduct a drill-program to test the presumed breccia pipe mineralization at the Main Showing. The drilling comprised 14 holes ranging in depth from 49 to 250 meters, ten of which sunk into the Main Showing ("MS") and the rest into coincident geophysical anomalies. Two drill holes into the MS intersected a mineralized zone 1.7 to 3.5 meters wide at depth less than 10 meters. The best values included 0.32 ppm platinum and 0.49 ppm palladium in hole DDH-1. One drill hole sunk into a coincident IP - magnetic anomaly about 400 meters southwest of the MS encountered anomalous nickel, but no significant PGE mineralization was intersected (Brickner, 2005).

In 2008 F. A. Houghton staked the claims adjoining the Ultra's claim block that were let lapse by NAP. In 2011, 51% of the BLP was acquired briefly by Goldbank Mining Corp. ("Goldbank") but Goldbank ceded that percentage back to Ultra in 2014. Ultra then continued to work the claims in the following years using geochemical and airborne geophysical surveys (Molak, 2009, 2010, 2011, 2014, Molak & Richmond, 2015, 2016, Barrie, 2011).

In 2015 Ultra changed its name to Empire Rock Minerals Inc. ("Empire") and W. J. Richmond staked five claims TB4274916, 4277659, 4277660, 4282208 and 4282209 on behalf of Empire. On February 20, 2017, Empire changed its name to Empire Metals Corp. and the fieldwork included litho-geochemical sampling and airborne magnetic and VLF-EM surveys (Barrie, 2018). Inversion modeling was applied to 2011 and 2018 airborne geophysical survey results.

1.5. Regional Geology

The BLP is located in the Wabigoon Subprovince of Northwestern Ontario, within an Archean granite/gneiss terrain. The area is underlain predominantly by an earlier, gneissic to foliated tonalite to granodiorite suite and supracrustal rocks of the Bo Lake - Heaven Lake greenstone belt. The Quetico Fault, a large regional northeast trending fault that has been referred to as a zone of structural weakening, is a structure along which several mafic to ultra-mafic intrusions were emplaced (OGS, 1991). A relatively younger granitoid suite comprised of granodiorite, tonalite, quartz diorite and granite, intrudes both gneissic tonalite and supracrustal rocks, and is thought to be coeval with mafic to ultramafic intrusive rocks of the Lac des Iles - Buck Lake area (Smith and Sutcliffe, 1988). Middle Proterozoic diabase dikes and sills were emplaced during the Keweenawan rifting (1.1 Ga) and intrude all the above rock types (Osmani 1991).

The mafic-ultramafic intrusions in the area occur on a circular structure about 30 kilometers across and comprise the Lac des Iles Intrusion, the Tib Lake Intrusion, the Buck Lake Intrusion, the Dog River Intrusion, the Shelby Lake Intrusion, the Demars Lake Intrusion, the Wakinoo Lake Intrusion and the Taman Lake Intrusion. The largest of them, the Lac des Iles Intrusive Complex, hosts the Lac des Iles PGE deposit. The whole rock geochemistry indicates that the mafic/ultramafic rocks are of calc-alkaline to tholeiitic affinity, and as such probably formed in an island arc environment. The geological setting and rock association, such as the dominance of amphibole, clino-pyroxene-bearing cumulates in the Buck Lake intrusion indicates that the parental magma contained water, which probably became concentrated during fractional crystallization until hornblende appeared as a liquidus phase. Such parental magmas are typical of igneous provinces formed at destructive plate boundaries (Osmani, 2001). Representatives of this mineralization style are the Lac des Iles and East Bull Lake suite in Ontario and the foreign examples are in the Kola Peninsula, in the Fenno-scandinavian countries and in South Africa (Hattori & Cameron, 2004).

All these intrusions are similar in that they are late tectonic, emplaced into tonalite gneiss and commonly contain phases ranging from ultra-mafic peridotite and pyroxenitic cumulates to magnesium gabbronorite and iron-rich gabbro with hybrid marginal zones consisting of hornblendite intruded by hornblende diorite and are common to many intrusions thought to be contamination of the mafic magma by a granitoide component (Sutcliffe, 1986). Texturally, they are massive to varied with variable degrees of brecciation and hydrothermal alteration and the PGE mineralization occurs in most of them. The intrusions are characterized by magnetic and Bouguer gravity anomalies (Gupta and Sutcliffe 1990).

The economic palladium mineralization at the Lac des Iles Intrusive Complex is hosted by various rocks ranging from leucogabbro to pyroxenite that show complicated textures, such as brecciation, magma mingling, and pods and veins of pegmatite. The monolithic to heterolithic magmatic breccia comprises up to 90% angular to subrounded pyroxenitic clasts in a gabbroic matrix, which indicates a forceful intrusion of the gabbroic magma into a layered ultra-mafic

body. Economically important High-Grade zone has much higher concentrations of Pd than any other rocks and do not show correlations between sulfur and precious and base metals. Furthermore, the rocks are intensely and pervasively altered to actinolite, talc, anthophyllite, hornblende, chlorite, sericite, calcite and quartz suggesting a sub-solidus enrichment of Pd and mobility of sulphur. The lack of apparent fluid pathways within the High-Grade zone and the distribution of the zone are consistent with the enrichment of Pd at high temperatures by fluids that originated from the mafic magmas. The early leucocratic rocks are barren and much of the palladium was introduced by late melanocratic magmas. The concentrations of sulfur correlate positively with base metals, PGE and gold and the sulfide grains commonly show exsolution textures. The evidence suggests a magmatic origin of PGE mineralization and the origin of PGE minerals from the immiscible sulfide melt in the parental magma (Hinchey et al., 2005).

1.6. Local Geology

The Buck Lake Intrusion was described as a mafic to ultra-mafic body of Archean age, oval in shape, measuring approximately 5 km by 2 km and trending northeast – southwest (Sutcliffe, 1986). The intrusion was classified as syn-tectonic to post-tectonic in age with tholeiitic affinity that was emplaced within a convergent continental margin. The PGE mineralization was assigned to types I and IV sensu Lesher and Keays (2002), the type I representing stratiform basal mineralization that formed at early stages of crystallization and occurred as layers at or near the base of the host units and the type IV represented secondary mineralization associated with type I. Type IV included two sub-types to which Vaillancourt et al. (2003) added the hydrothermal, disseminated, sulphide-poor mineralization characterized by pegmatite pods, vari-textured lithologies, hydrous mineral alterations of silicates and intrusive breccias and enclaves. The Lac des Iles deposits was the best example of this mineralization style (Lavigne et al., 2002)

The BLP shows energetic, mafic and felsic magma intrusions forming conformable and cross-cutting dykes and veins, breccias and magma-mingling textures. Pegmatite dykes appear to be the latest intrusive phases and quartz veins are the products of hydrothermal activity. Based on a microprobe study, the rock-forming minerals include diopside pyroxene, pargasitic amphibole, actinolite, plagioclases ranging from albite to bytownite, biotite (eastonite), epidote, zoisite, chlorite, apatite, ilmenite, titanite, rutile and calcite. The rocks are affected by auto-metamorphic (deuteric) alterations and retrograde metamorphism including amphibolization of orthopyroxene, epidotization, zoisitization, feldspathization, biotitization, chloritization and albitization (Molak and Richmond, 2015, 2016).

Disseminated, blebby and vein-style sulphidic ± PGE mineralization occurs mainly in varied textured pyroxenitic and gabbroic rocks and breccias made of altered pyroxenite in gabbroic matrix. The most common sulphidic minerals include pyrrhotite, pyrite, chalcopyrite, millerite and pentlandite. The PGE minerals form minute inclusions in Ni and/or Cu sulphides ranging in size from a few microns to a few tens of microns. The PGE minerals include PtBiTe

(maslovite?), PdBiTe (michenerite and/or kotulskite), PdPtTeBi (merenskyite), telargpalite (?) and several unnamed alloys Pb-Ag-Fe-Cu, BiTeS, etc. Magnetite and ilmenite are frequently disseminated in retrograde chlorite and/or epidote. Subordinate minerals include molybdenite and barite. Late hydrothermal quartz and/or calcite veins or lenses locally contain pyrite and rare PGE ± Bi, Mo, W inclusions (Molak and Richmond, 2015, 2016).

Mafic and ultramafic rocks and breccias are cut by steeply dipping felsic dykes striking conformable or across the general north-easterly strike. These dykes were emplaced under brittle metamorphic conditions. Mafic diabase dykes of Proterozoic age occur locally in both, mafic/ultramafic and felsic rocks. These processes were followed by hydrothermal activity with precipitation of quartz, pyrite, calcite, titanite and other rare minerals.

2. LITHO-GEOCHEMICAL SAMPLING AND PROSPECTING

Empire's fieldwork on the BLP continued in May 2017 and in June and September 2018 by prospecting, outcrop mapping and sampling in four areas designated as A, B, C and D (Figs. 3 to 13). The rationale of the survey was mainly to locate and sample new outcrops that were exposed by latest logging operations, to cover to-date under-explored areas and to re-sample the previously detected anomalous zones. A total of 79 chip samples were collected from outcrops, and their locations are shown in Figs. 3 to 13. Legend to Figures is in Fig. 14 and sample descriptions are in Appendix I.

2.1. Itinerary

May 10, 2017: Geologist B. B. Molak (BM) arrives in Thunder Bay from Vancouver, BC. A beep mat is borrowed from the District Geologist's Office in Thunder Bay.

May 11, 2017: BM meets with W. J. Richmond (WR) in Thunder Bay and together they prepare materials and supplies for the fieldwork and they drive to Savanne River Resort where accommodation is provided. The fieldwork includes collection of five chip samples 619101 to 619105 from area D, the cell claims 119875 (Figs. 11, 12). The rocks are mafic (amphibole gabbro) and/or ultramafic (pyroxenite) in composition, with estimated 1 to 3 % disseminated sulphides.

May 12, 2017: BM and WR prospect the area C on the cell claims 342874. The outcrops are on small islands made up of gabbroic rocks (± biotite) with felsic veins along and across foliation. Three chip samples (619106 to 619108) with disseminated sulphides (<5%) were taken (Fig. 8).

May 13, 2017: WR and BM scan the Main Showing (area C) with beep mat. Four N- S trending lines spaced 10 m along 282620E through282650E run from 5449708N to 5449786N and four 10 m spaced E – W trending lines from 5449740N through 5449770N from 282608E to 282658E

(Fig. 10). No response was recorded even when running through areas with visible, blebby sulphidic mineralization.

May 14, 2017: WR and BM prospect historical trenches T1 and T4 (area C) and an outcrop west of T1 (Fig. 10). Chip samples 619109 to 619114 collected from cell claims 265793 and 191026. T1 trench is floored by altered pyroxenite cut by felsic dykes ± quartz (!) striking 45-60º NE and rare remobilized sulphidic lenses. The area around historical pack-sack drill hole (sample 619114) is floored by altered pyroxenites ± gabbros with disseminated sulphides up to 3%.

May 15, 2017: WR and BM prospect the area C (cell claim 200031) and collect 8 chip and float samples 619115 to 619122 from a sub-crop and an old trench about 130 m east of the Main Showing including one field duplicate. The outcrops are made up of mafic gabbroic and rare ultramafic, pyroxenite rocks with up to 10% disseminated sulphides (Fig. 10).

May 16, 2017: WR and BM prospect the southwestern portion of area A, cell claims 164620, 225243. A total of 6 chip samples 619123 to 619128 collected including one field duplicate (Fig. 4). The samples include gabbroic, ultra-mafic and/or granitoide rocks, the mafics are locally cut by felsic dykes and granitoide outcrops are frequent. Sulphidic disseminations range 1 to 3 %.

May 17, 2017: WR and BM prospect the eastern portion of the claim block (area D), cell claims 229209 and 141150, collect seven chip samples 619129 to 619135 including one field duplicate (Fig. 11). The samples include gabbroic, ultra-mafic and/or granitoide rocks, the mafics are cut by felsic dykes and rare quartz veins (~5cm) striking ~ 40º NE. Sulphidic disseminations and fracture fills range from 1 to 3 %.

May 19, 2017: WR and BM load samples and gear onto the truck and drive to Thunder Bay to submit samples to Activation Laboratories for analysis.

June 10, 2018: WR and BM prospect the southwestern portion of the claim block (Area A, U15), collect three chip samples 5560560 to 5560562 from cell claims 317555, 323862 and 140648 (Fig. 4). The sampled rocks are of granitoid, gabbroic to pyroxenite composition with disseminated sulphides up to 1%.

June 11, 2018: WR and BM prospect the central northern portion of the claim block (area B) and collect six chip samples 5560563 to 5560568 from cell claims 322475, 305971 and 109957 (Fig. 7). The rocks are gabbroic, pyroxenite and/or granitoide composition locally cut by felsic dykes, rare quartz and biotite and disseminated sulphides.

June 12, 2018: WR and BM prospect the central northern portion of the claim block (area D), collect six chip samples 5560573 to 5560578 from cell claims 326668 and 223747 (Fig. 11). The

sampled rocks are of granitoid, gabbroic to ultramafic composition, rare sulphidic mineralization either disseminated or on fracture planes.

June 15, 2018: WR and BM prospect in eastern portions of the claim block (area D), collect eleven chip samples 5560592 to 5560602 from cell claims 119875, 209851, 344556 and 326995 (Figs. 11, 12). The rocks are mostly gabbroic with disseminated sulphides up to 3%.

June 16, 2018: WR and BM prospect the southwestern portion of the claim block (area C), collect a single chip sample 5560603 from cell claim 237344 (Fig. 8), the rock is gabbroic in composition with sparse pyrite disseminations and/or thin veinlets.

June 17, 2018: WR and BM prospect the southwestern and eastern portions of the claim block (areas A and D), collect two chip samples 5560604, 5560605 from cell claim 317555 and 119875 (Figs. 4, 12). The rocks are a gabbro and a chloritized ultramafic with rare quartz, biotite and disseminated pyrite.

June 19, 2018: WR and BM load samples and field gear on a truck and drive to Thunder Bay to submit samples to Agat Laboratories.

September 24, 2018: fieldwork in south-central and eastern portions of the claim block (areas C and D), samples 1408555 to 1408557 collected from cell claims 235780 and 326995. Two boulders and a small outcrop made up of gabbroic and ultramafic rocks, disseminated pyrite up to 3%.

September 25, 2018: fieldwork in northeastern portion of the claim block (area C), samples 1408558 to 1408559 collected from cell claims 172493 and 235780 (Fig. 8). The sampled rocks are gabbroic at contact with felsics, disseminated sulphides up to 3%.

September 26, 2018: fieldwork in south-central portion of the claim block (area C), samples 1408560 to 1408562 and 5560860 to 5560865 collected from cell claims 221255, 235780, 191986 and 174647 (Fig. 8). The rocks are altered pyroxenites with plagioclases and up to 3% disseminated sulphides. Sample 1408561 is a dark mafic dyke cutting across older mafics and felsics. After fieldwork the samples were driven to ActLabs and/or to Agat Labs in Thunder Bay for analysis.

October 28 to 30, 2018: At Empire's request, Mr. Alan R. Doherty, MSc, PGeo visited the BLP property on October 28 - 30, 2018. Accompanied by William Richmond they collect six rock samples from known mineralized zones (areas C and D, locations in Figs. 10 to 12) and dispatch samples to ActLabs in Thunder Bay for analysis.

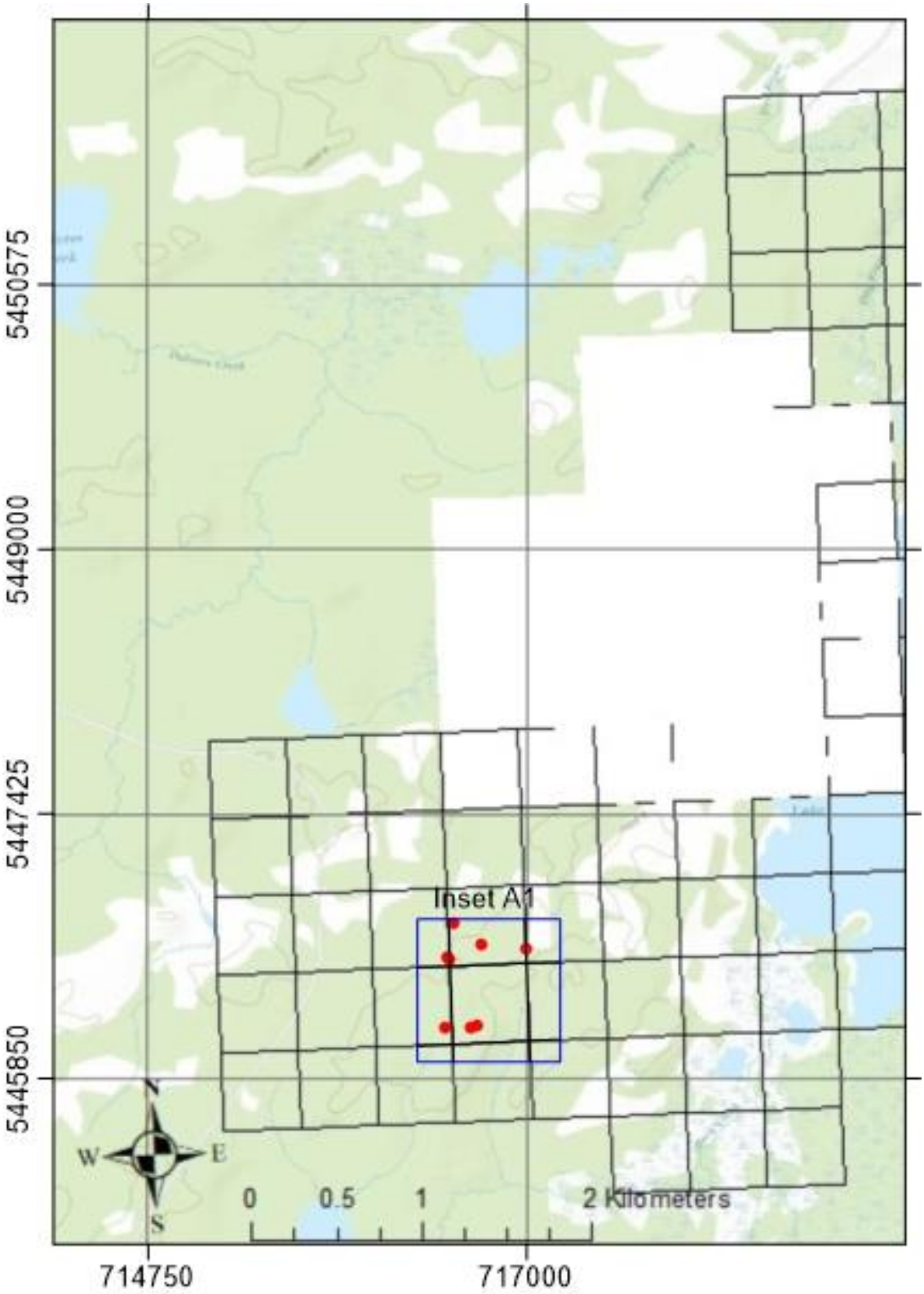


Fig. 3: Area A (zone U15) with inset A1.

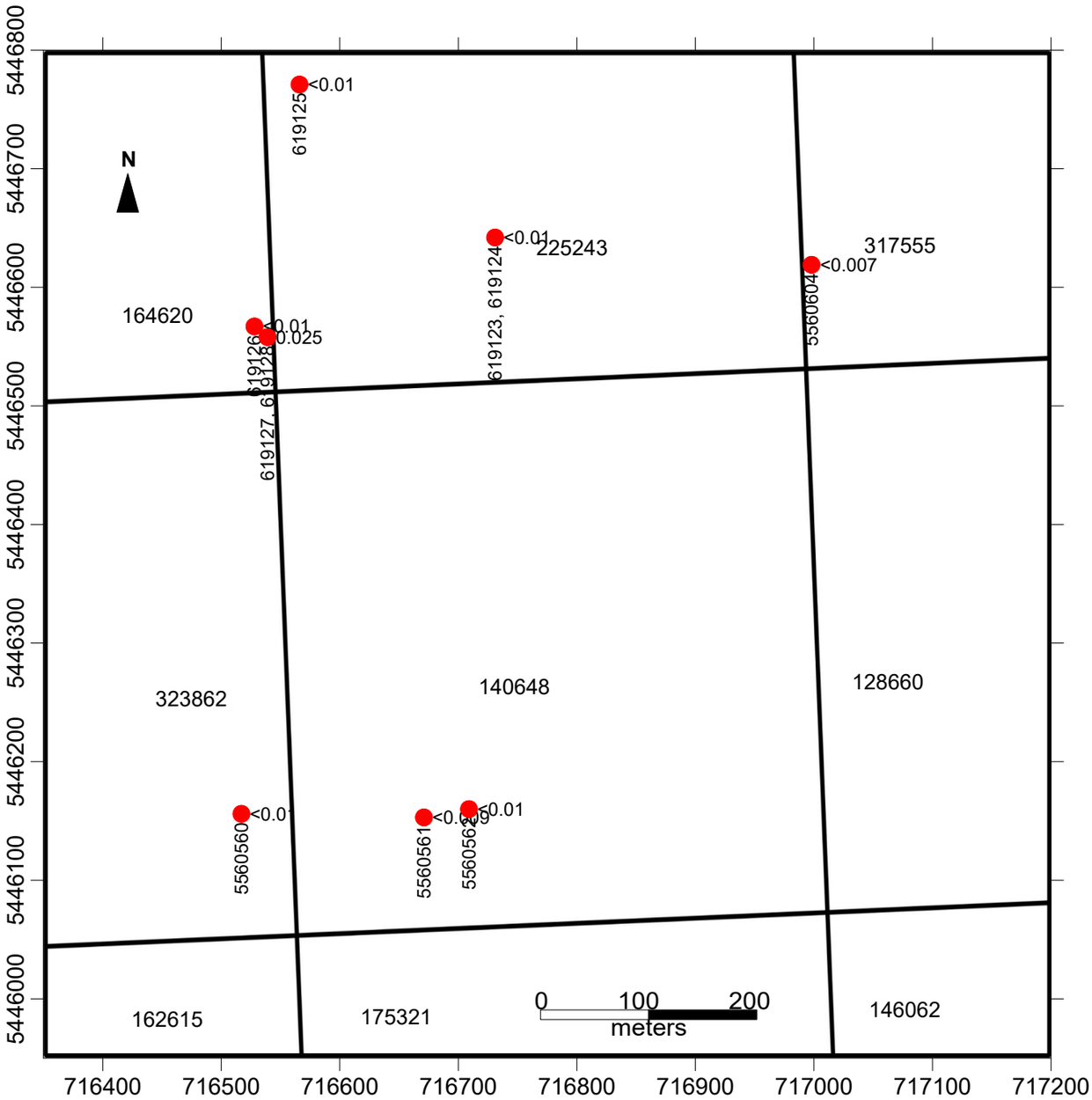


Fig. 4: Area A, inset A1 with sample locations (red circles with sample numbers (vertical) and Pt+Pd values (horizontal)).

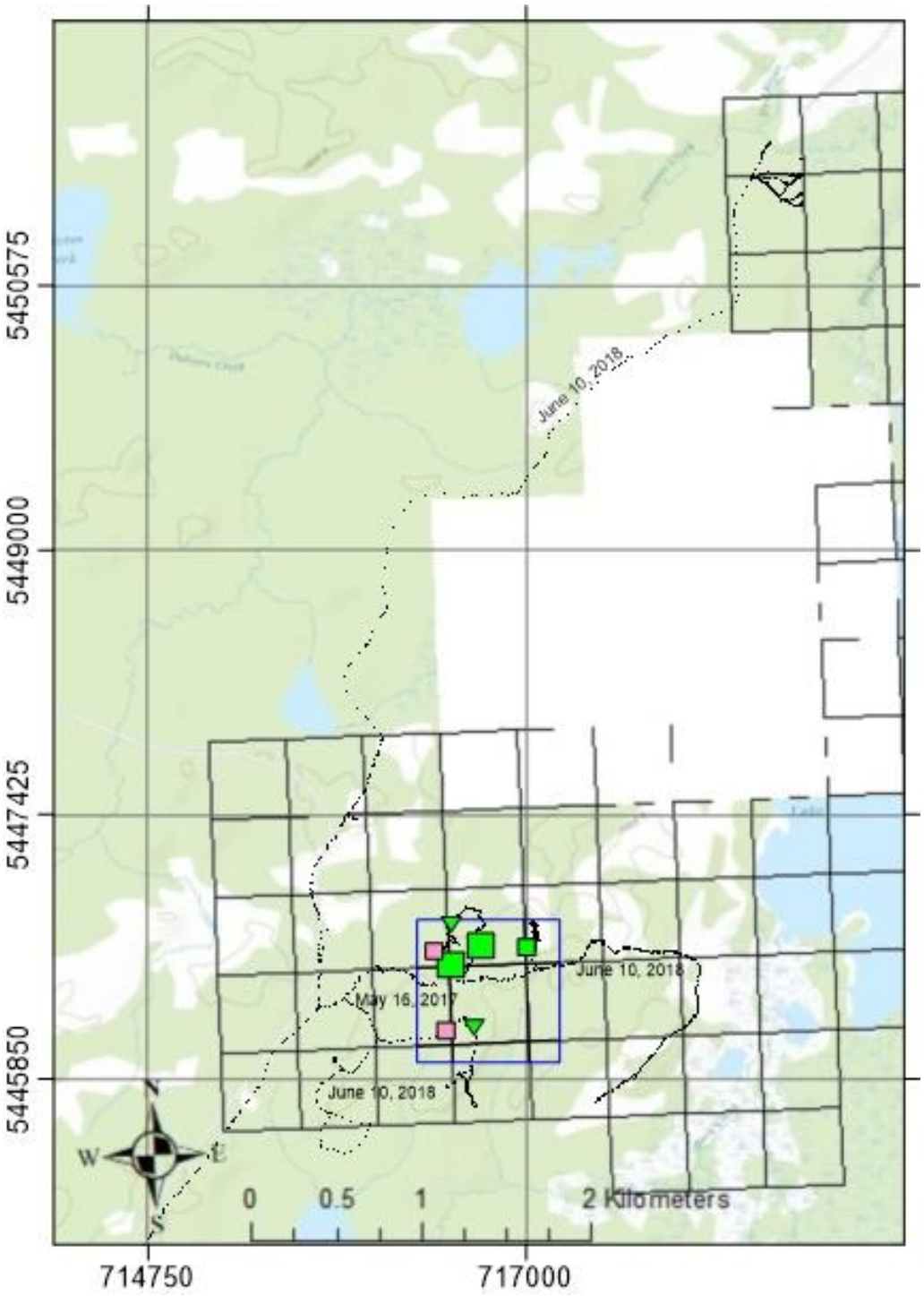


Fig. 5: Area A, traverses and outcrops.

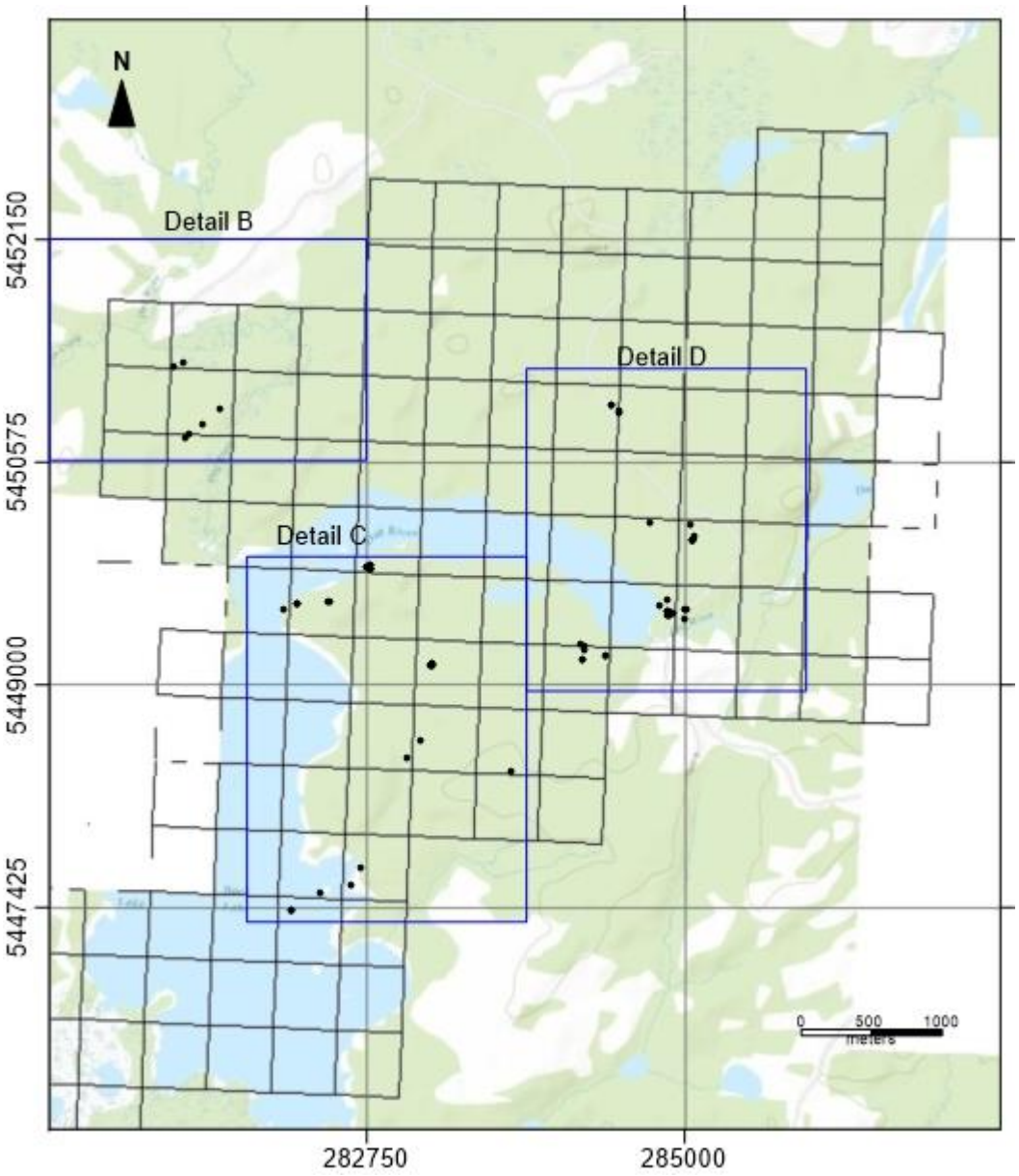


Fig. 6: Cell claims with outlines of detail maps B, C, D.

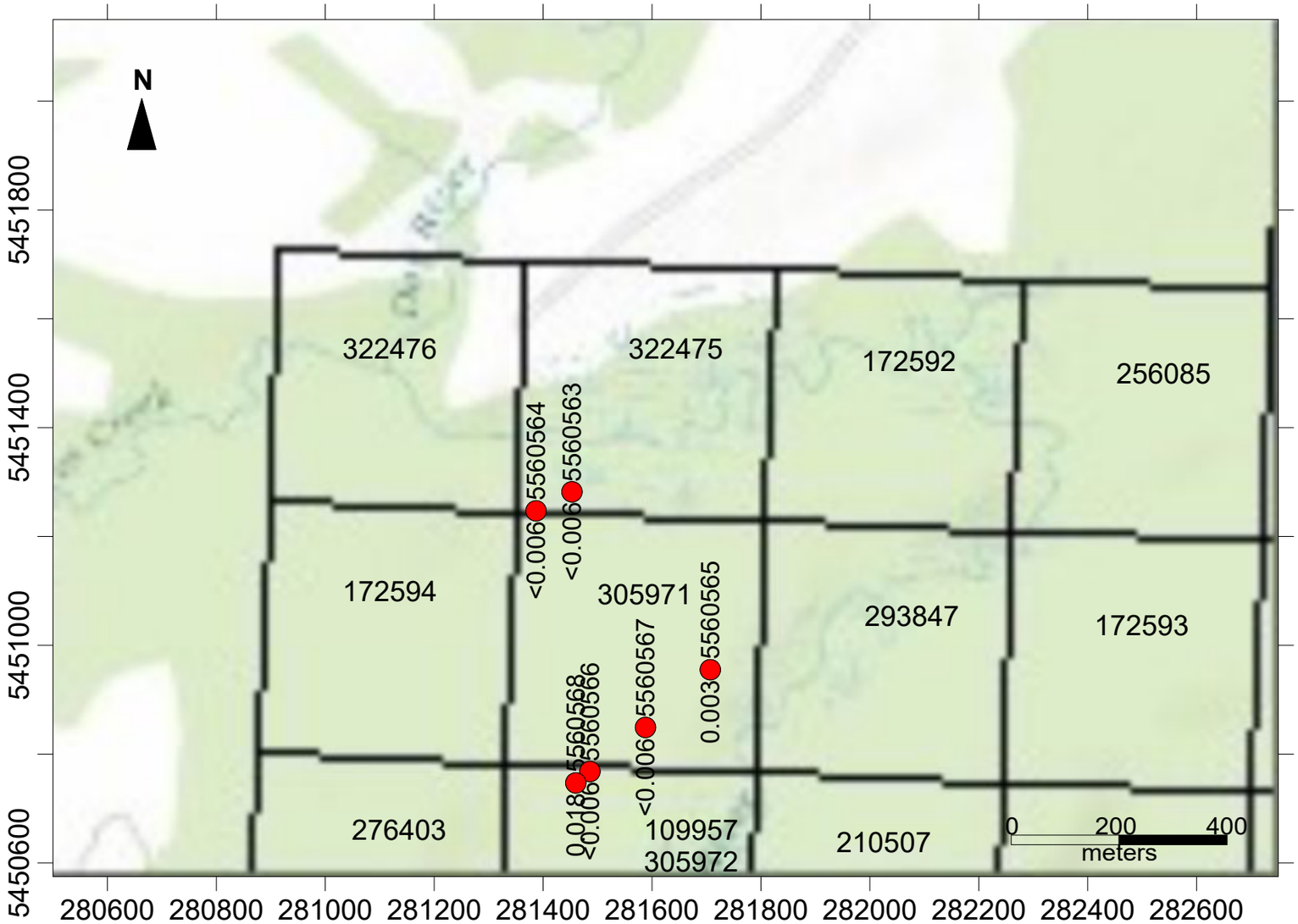


Fig. 7: Detail map B, sample sites (red dots with sample numbers and Pt+Pd values (in ppb)).

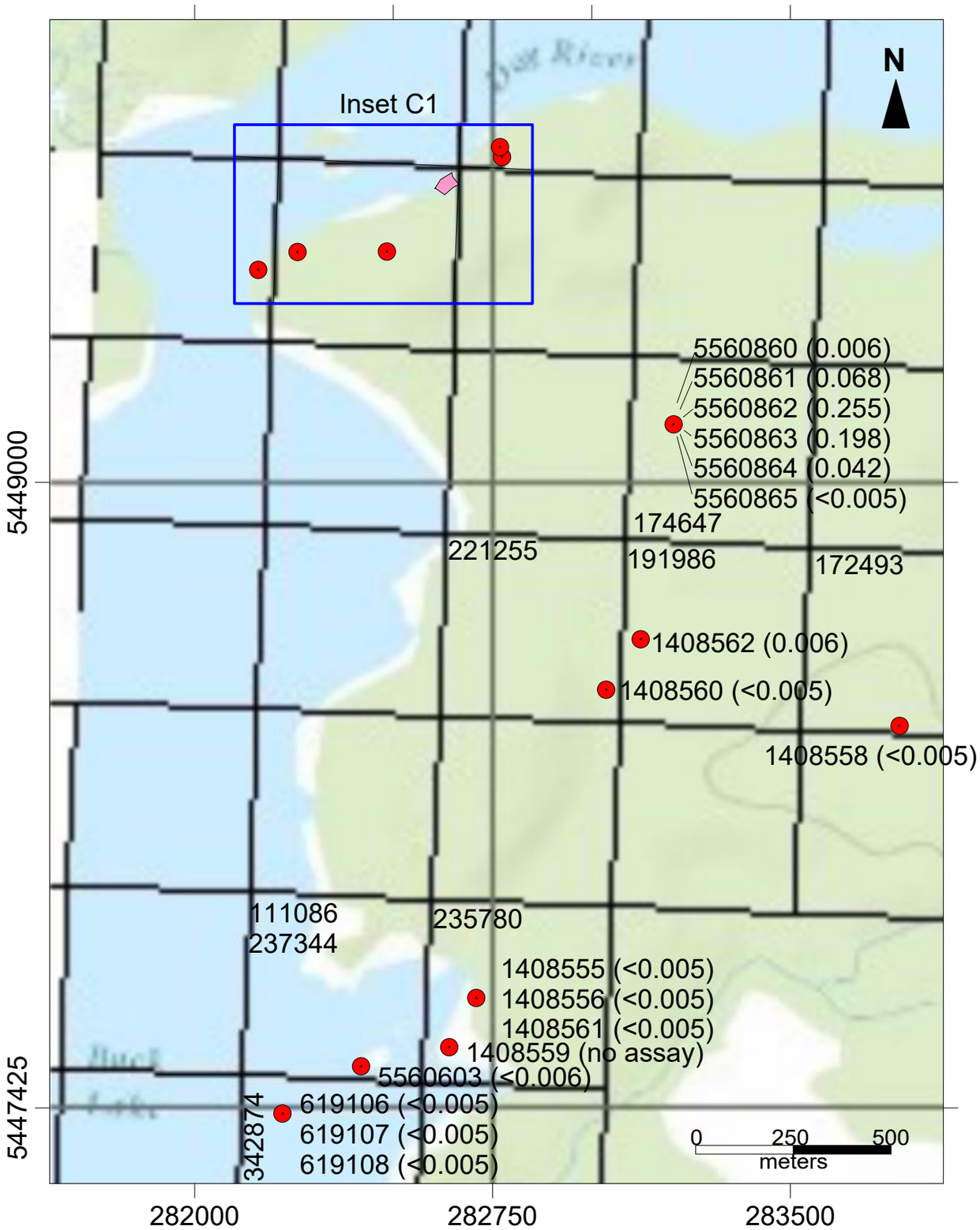


Fig. 8: Detail map C, sample sites (red, with sample numbers and Pt+Pd values (in ppb)).

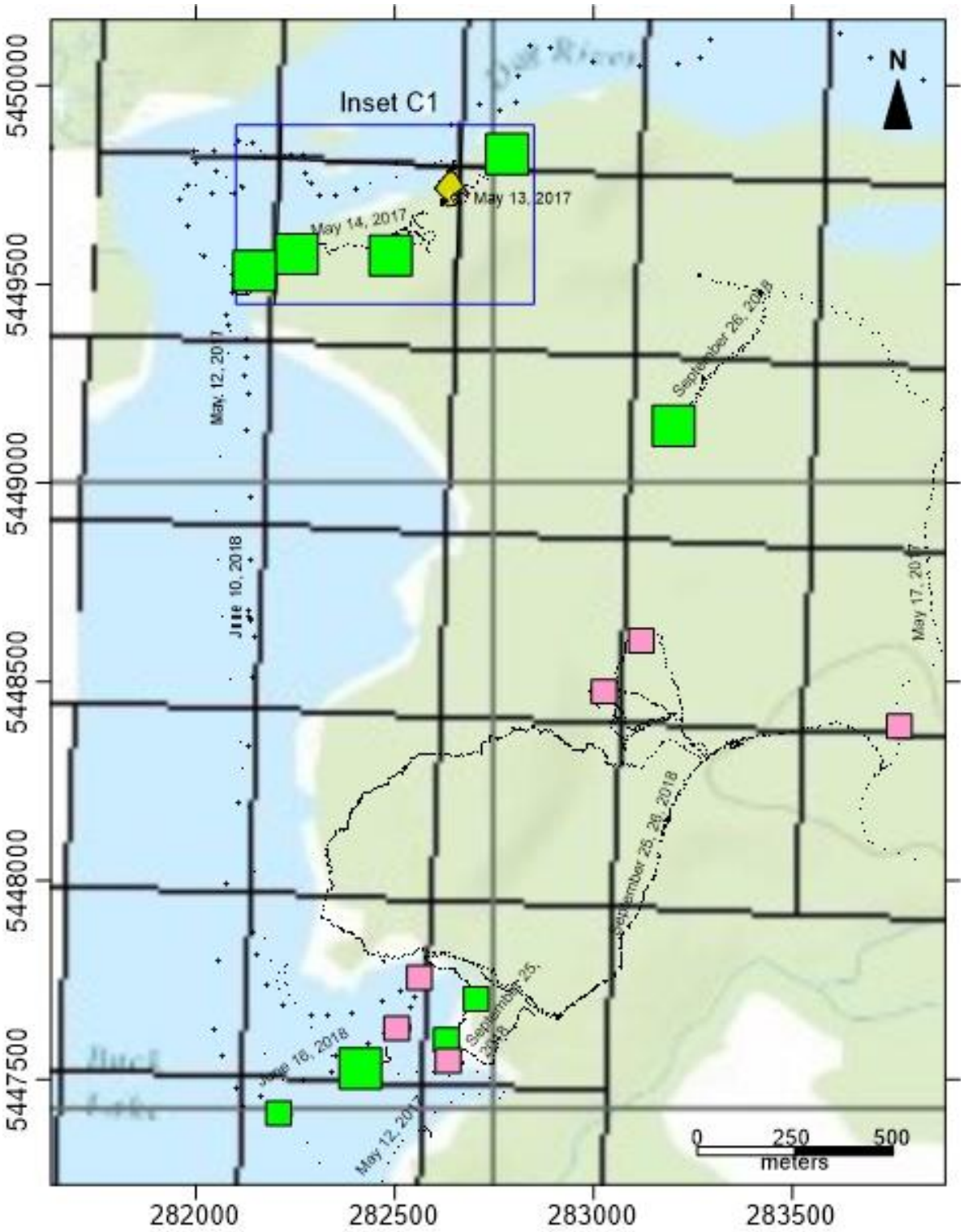


Fig. 9: Area C, traverses and outcrops.

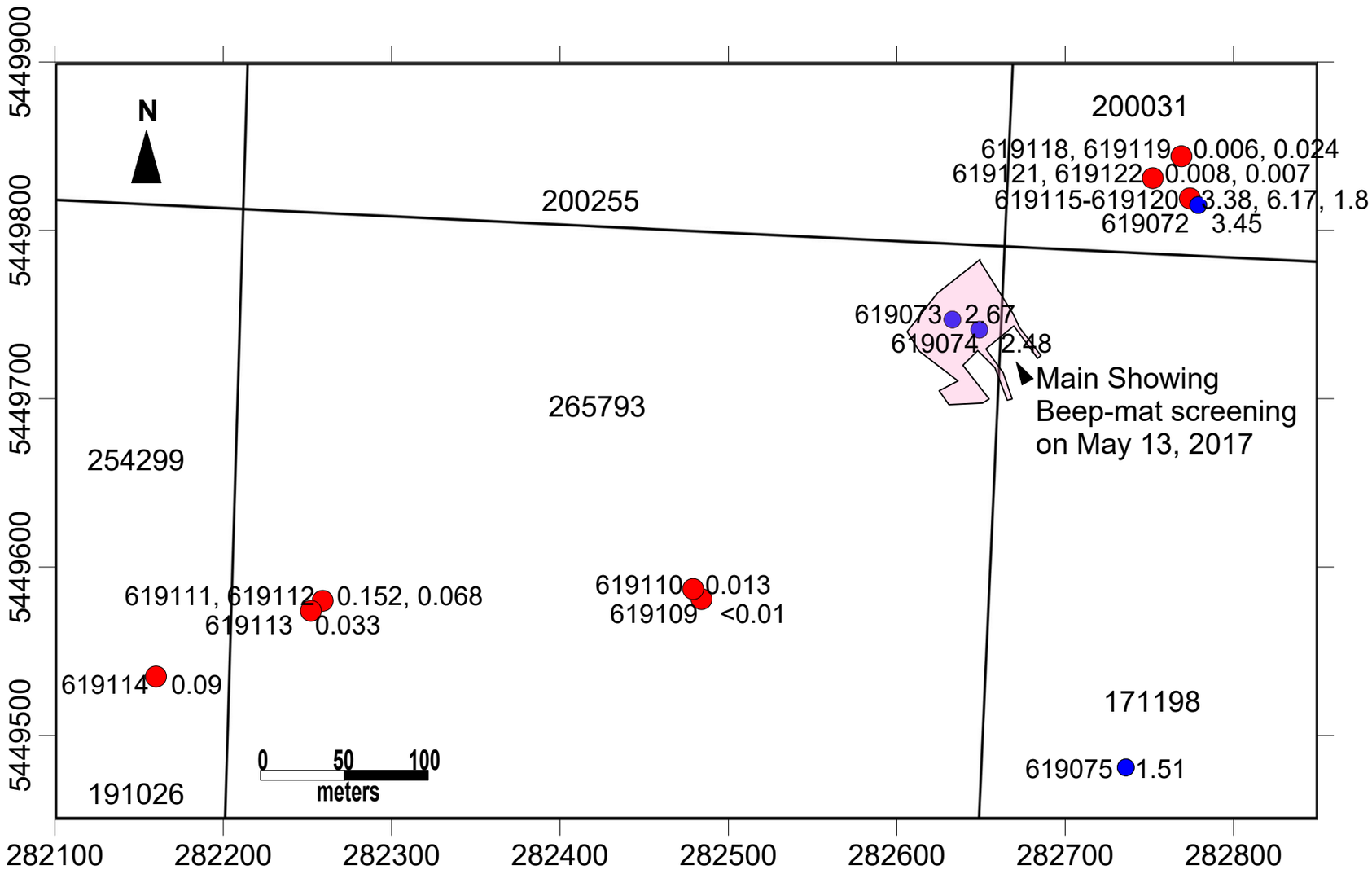


Fig. 10: Detail map C, inset C1 with sample sites (red circles with sample numers and Pt+Pd values: blue circles - samples taken by A. R. Doherty, PGeo).

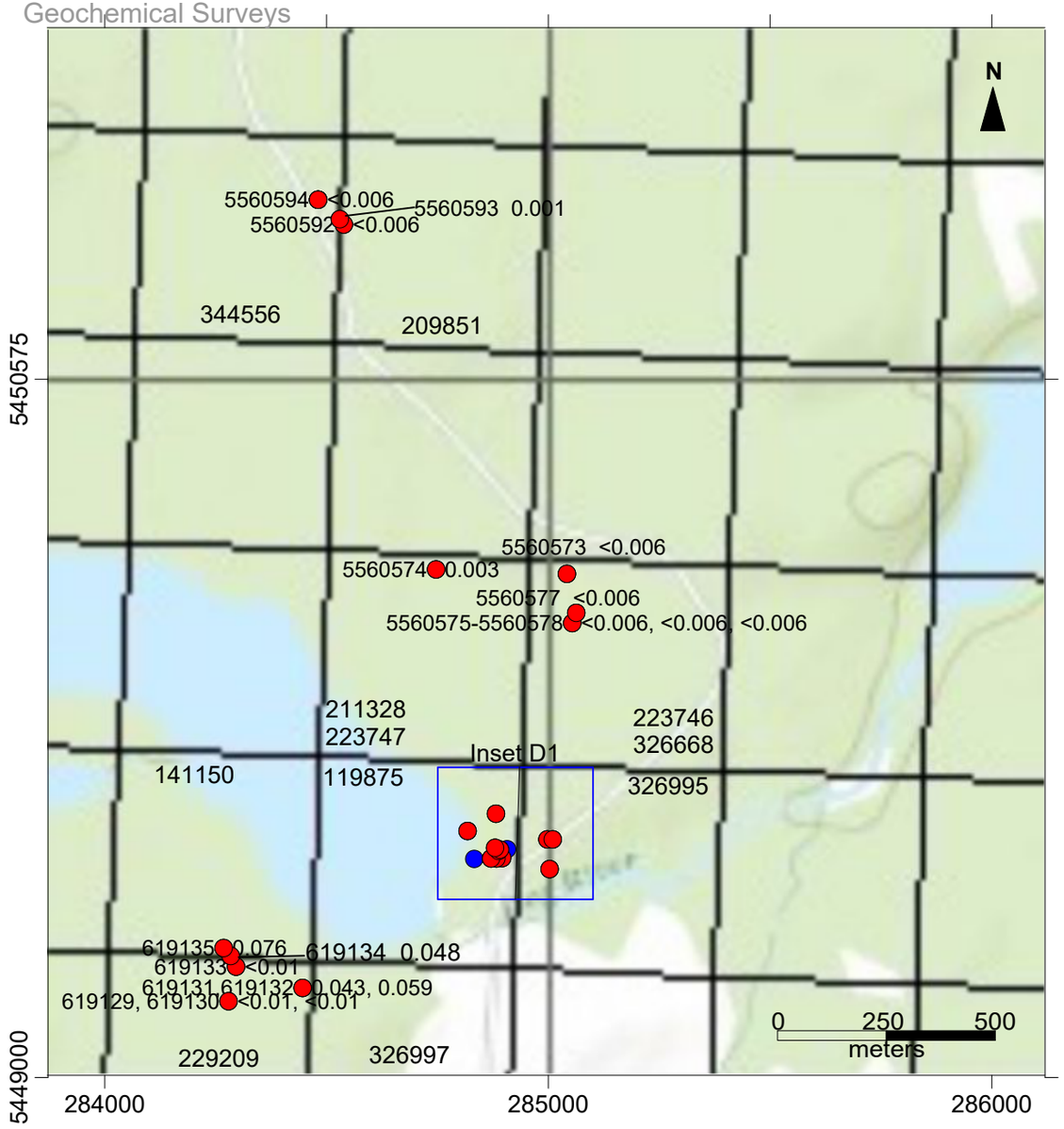


Fig. 11: Detail map D with Inset D1, sample sites (red and blue circles with sample numbers and Pt+Pd values (ppb); blue circles - samples taken by A.R. Doherty PGeo).

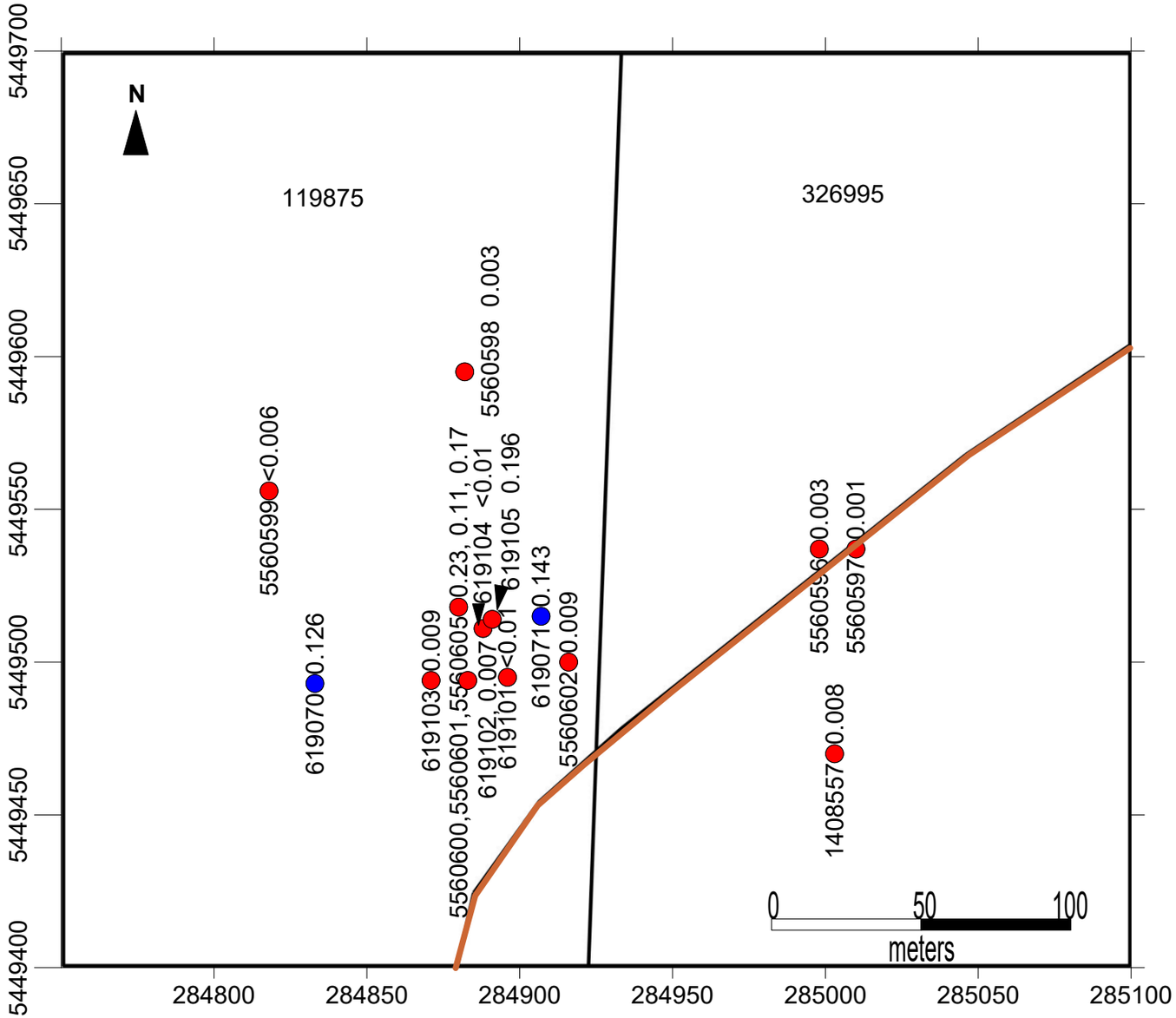


Fig. 12: Area D, inset D1, Bridge Zone, sample sites (red circles with sample numbers and Pt+Pd values (in ppb); blue circles - samples taken by A.R. Doherty, PGeo).

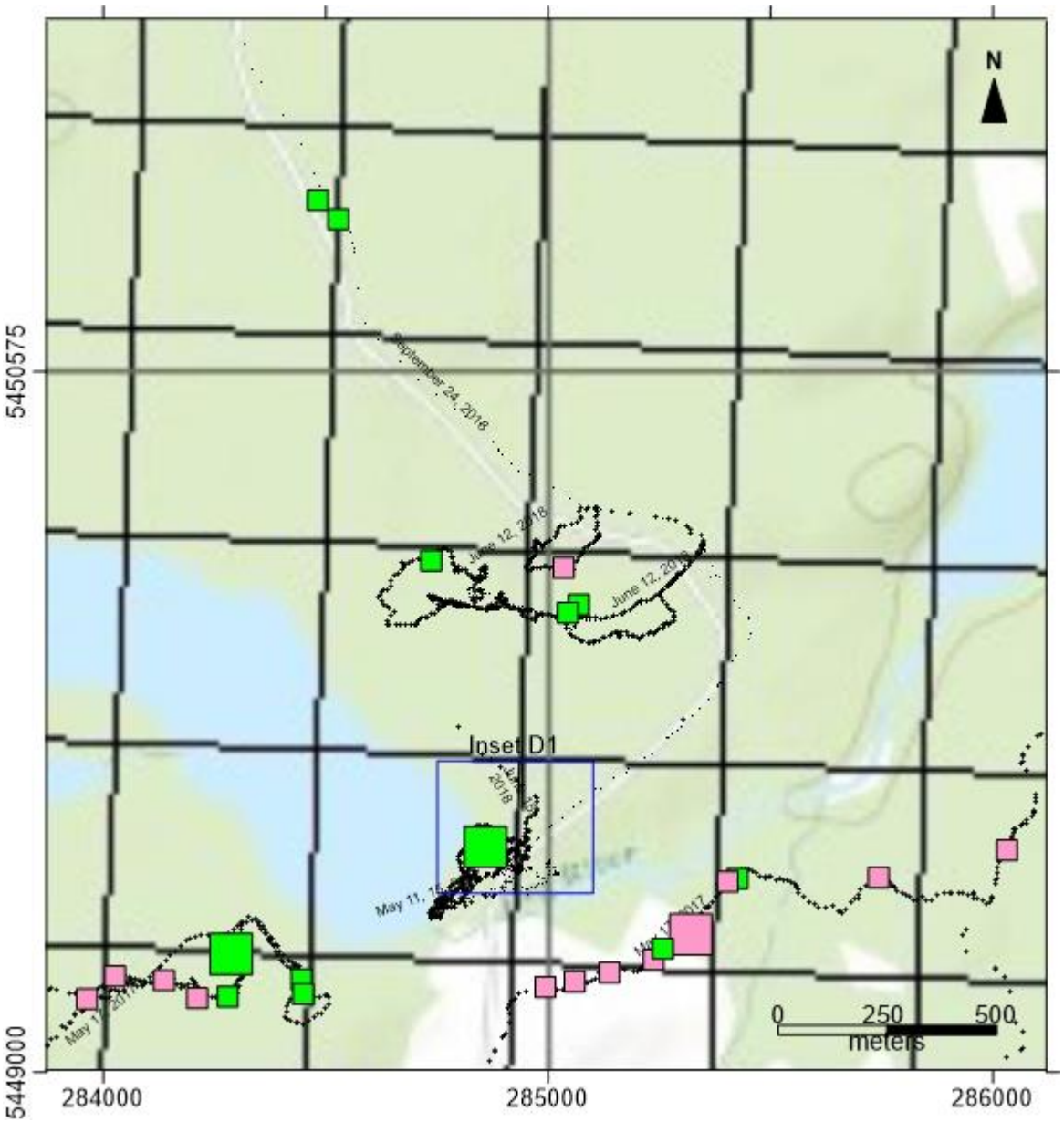


Fig. 13: Area D, traverses and outcrops.

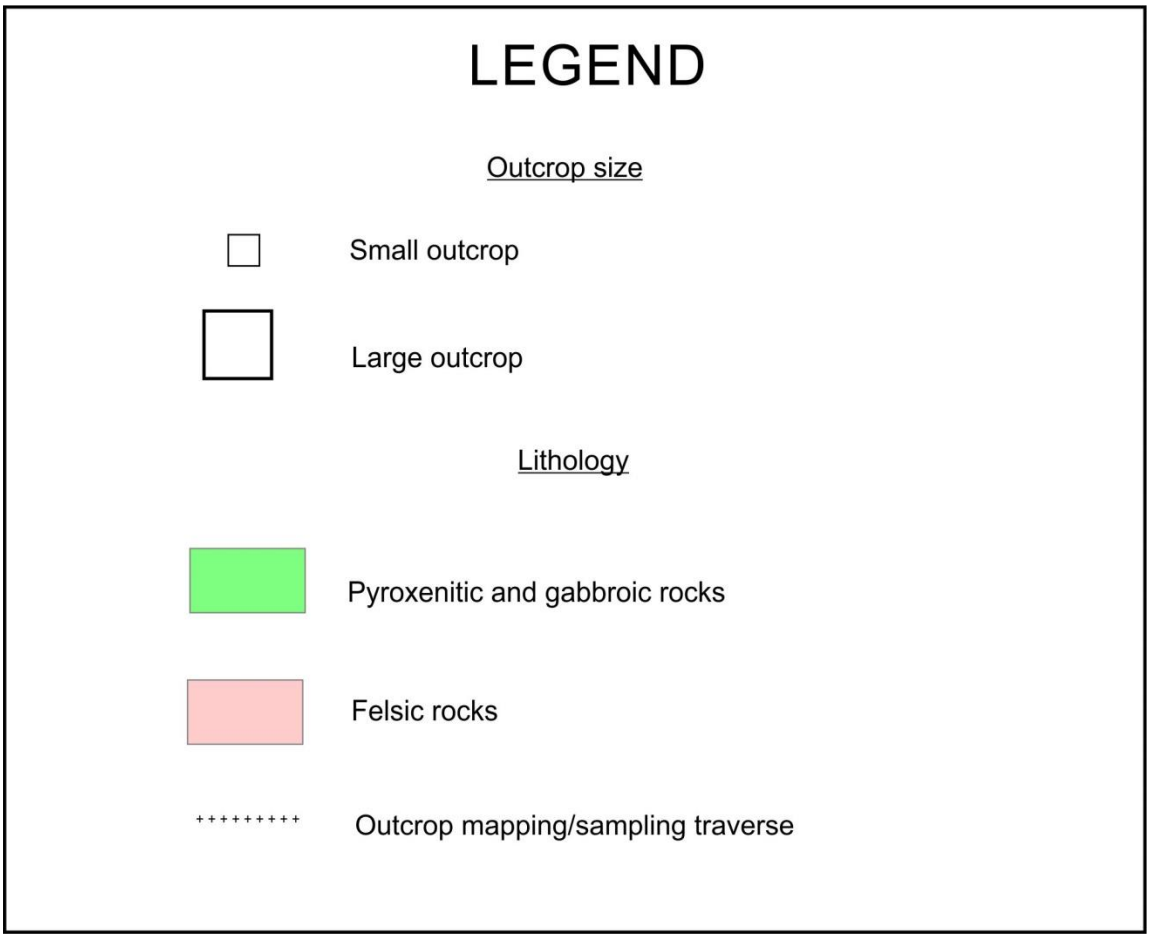


Fig. 14: Legend to Figures.

2.2. Sampling Method and Analysis

Chip and float samples with tags and sample numbers were placed in standard polypropylene bags and closed with flagging tape. The sample sites (Figs. 4, 6, 7, 10 to 12) were recorded using GPS (NAD 83, zones 15 and/or 16) (Appendix I). The samples were not modified after collection and the writers personally dispatched samples to Agat Laboratories ("Agat") and/or to Activation Laboratories ("ActLabs") in Thunder Bay. Agat is ISO/IEC 17025:2005 accredited and certified to the ISO 9001:2008 standard. Activation is ISO 17025 accredited for specific registered tests, ISO 9001:2008 certified and CAN-P-1579 accredited.

The sample preparation includes crushing to 90 % <2 mm, riffle splitting to obtain representative sample (250g), pulverizing and splitting to 95 % < 105 μm. The gold, platinum and palladium are assayed using fire assay and ICP-OES finish. The other elements (full scan) are tested using Agua regia digestion and AAS or ICP finish, Agat codes 201-378 and 202-052; Activation codes 1C-OES FA ICP-OES and 1E3 AR ICP.

Graphs for platinum, palladium, gold, copper and nickel assays are presented in Figs.15 and 16.

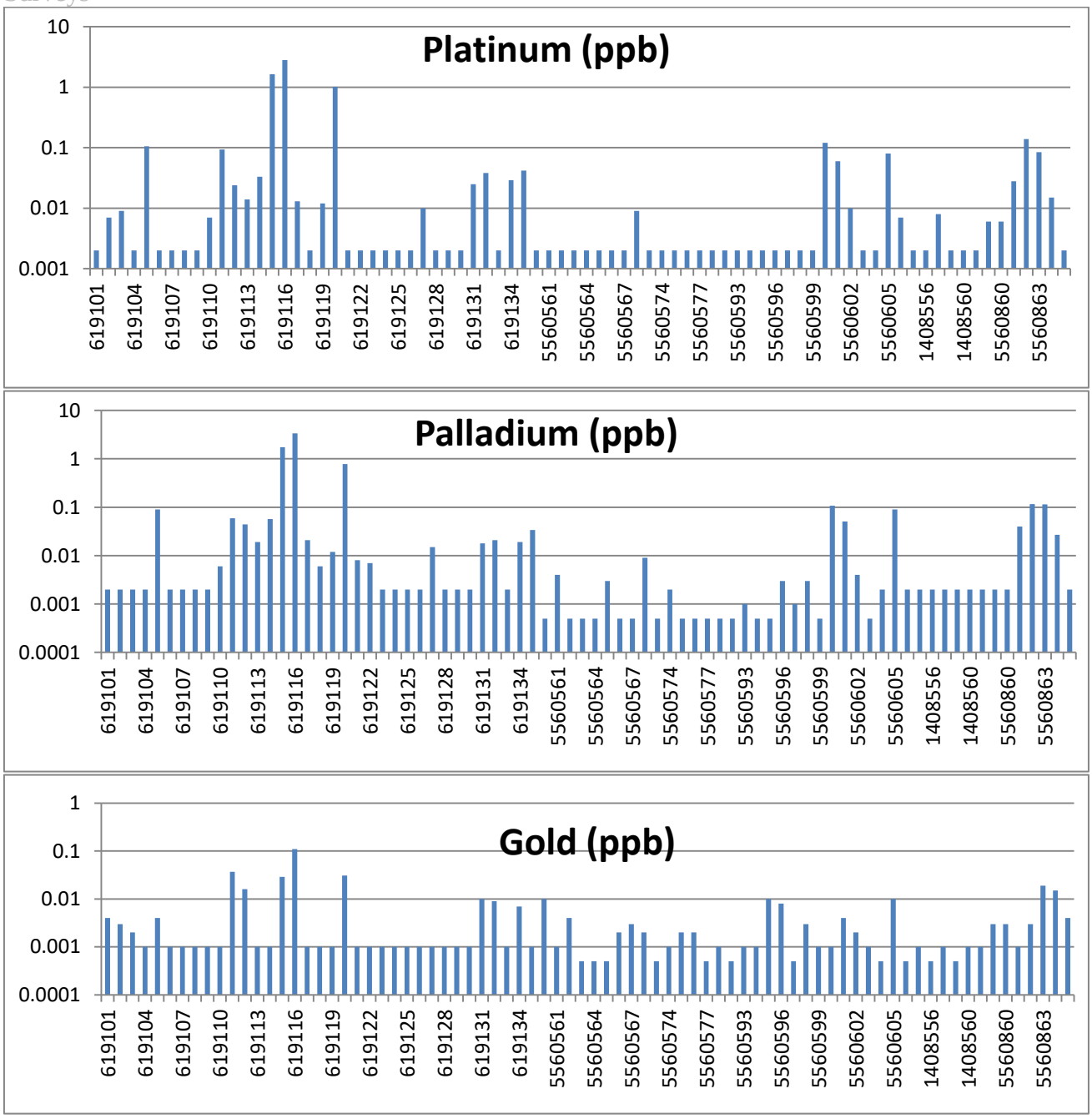


Fig. 15: Graphs for platinum, palladium and gold.

Correlation coefficients ("CC") for PGE, gold, copper and nickel in 26 assays from Buck Lake with all elements but gold above detection limit ("DL") are shown in Table 1 below. A few gold values below DL were replaced by a half DL value. For comparison, CCs for 84 (2008 – 2018) assays with all PGE, gold, copper and nickel above DL are shown in Table 2.

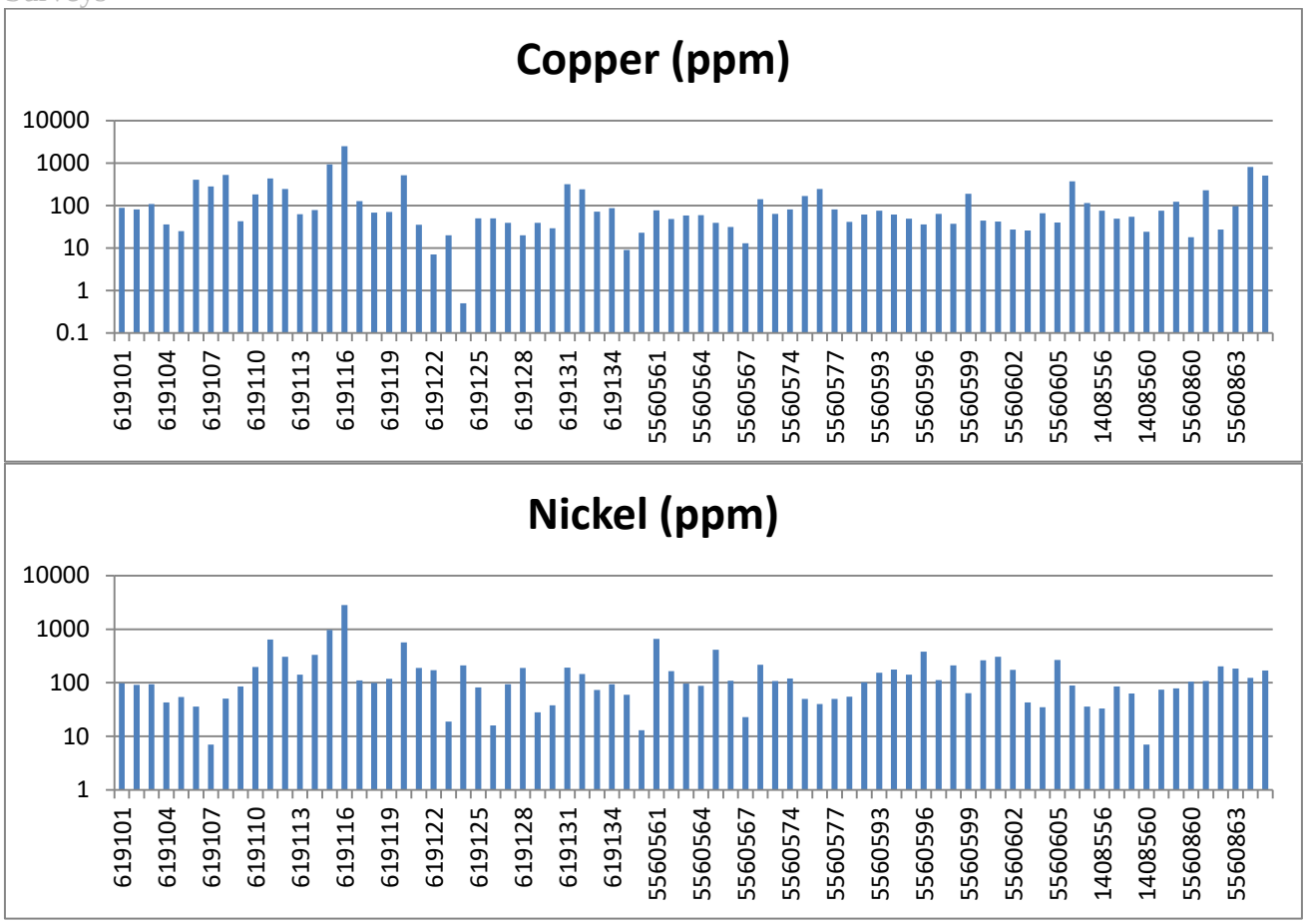


Fig. 16: Graphs for copper and nickel.

Table 1: Correlation matrix for 26 (2017, 2018) samples.

	Pt	*Pd*	*Au*	*Cu*	*Ni*
Pt	1.000				
Pd	0.993	1.000			
Au	0.890	0.903	1.000		
Cu	0.908	0.928	0.940	1.000	
Ni	0.938	0.959	0.957	0.938	1.000

Table. 2: Correlation matrix for 84 (2008 – 2018) samples.

	Pt	*Pd*	*Au*	*Cu*	*Ni*
Pt	1.000				
Pd	0.924	1.000			
Au	0.385	0.491	1.000		
Cu	0.324	0.444	0.383	1.000	
Ni	0.419	0.662	0.573	0.546	1.000

Although CCs in Table 1are generally higher than those in Table 2, they areless robust because of small number of entries. The CCs in Table 2 remain strong for Pt and Pd but decrease to moderate

and/or weak levels for Au, Cu and Ni. Pt and Pd correlate with Ni stronger than with Cu indicating an association of Pt and Pd minerals with pentlandite and/or millerite rather than with chalcopyrite.

2.3. Rare Earth Elements

Agat assayed rare earth elements in 29 samples. We normalized the values according to Nakamura (1974) and by chondrite after Sun and McDonough (1989) and the graphs are presented in Figs. 17 and 18. Of note are anomalous light rare earth elements ("LREE") in samples 5560576 and 5569575. LREE correlate with thorium, uranium, yttrium, phosphorus and zirconium, indicating the presence of minerals allanite, monazite, xenotime, thorite and zircon. Lanthanum and cerium are higher in samples that contain feldspars. These samples also contain epidote, biotite,quartz and pyrite. A large pyrite (up to 3cm) was observed in samples 5560575 to 5560578 from the claim 326668. Epidote may have been a product of feldspar alteration. Zircon values in samples with high LREE are higher than in average granitic rocks.

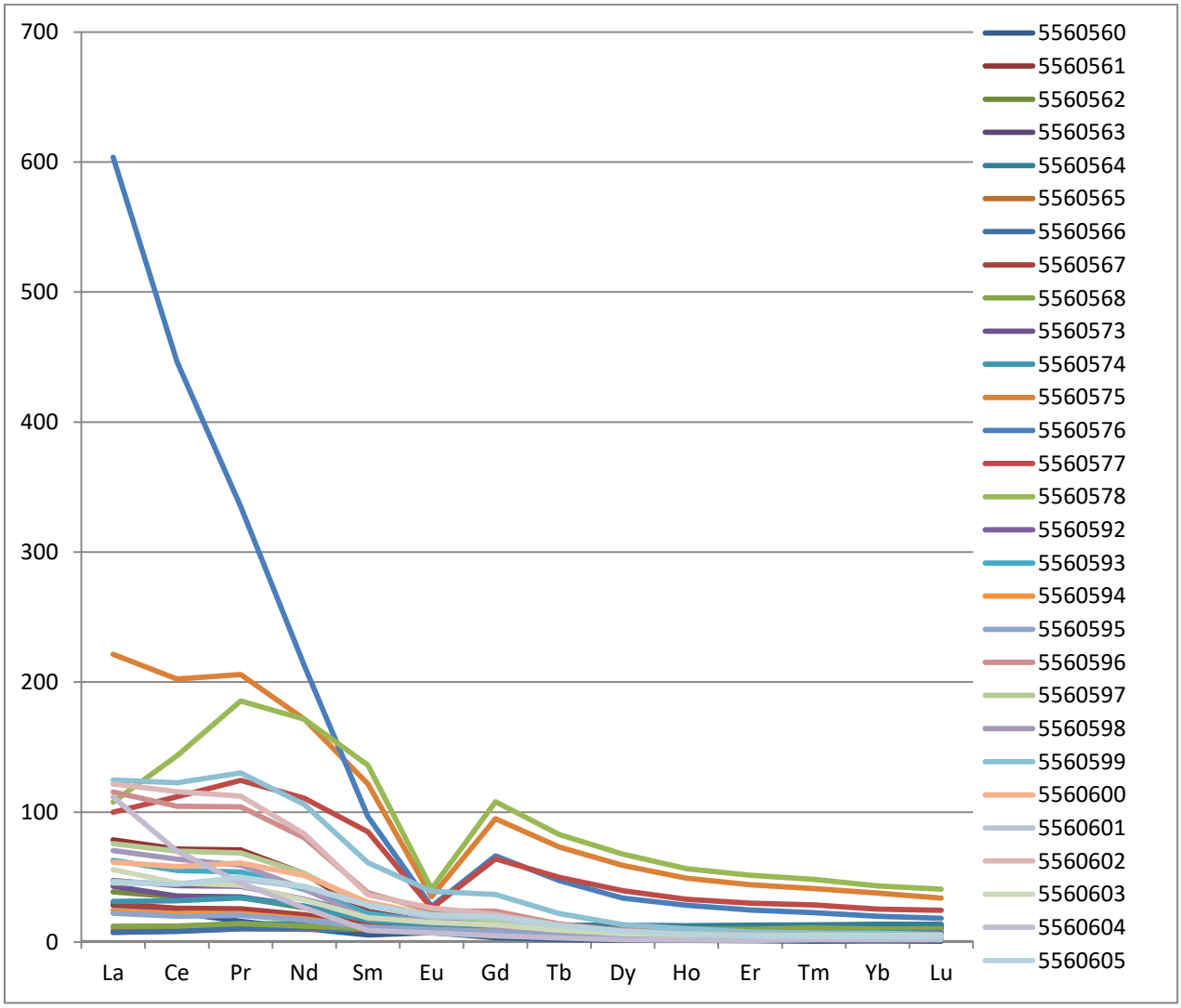


Fig. 17: Graph for rare earth elements (normalized after Nakamura, 1974).

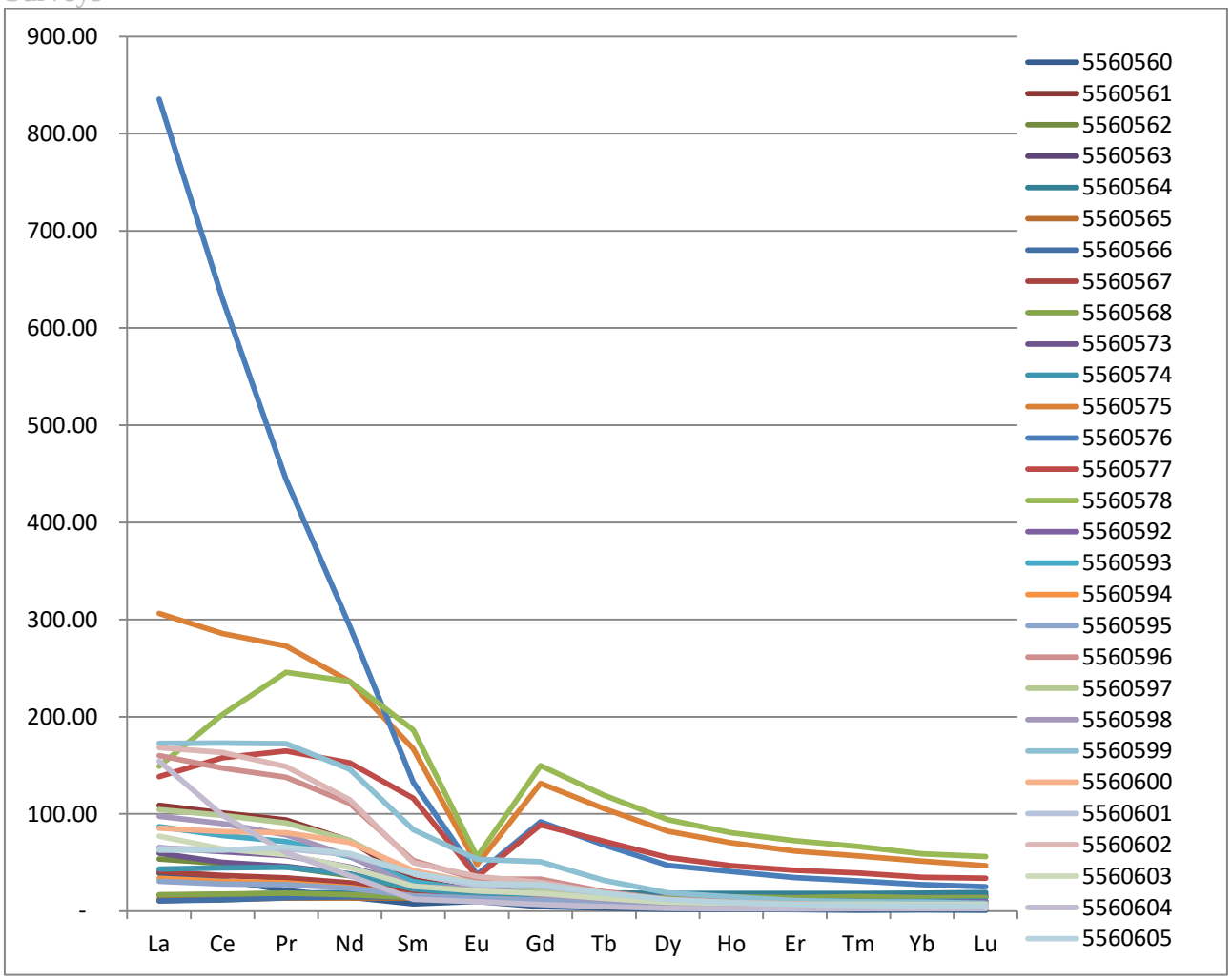


Fig. 18: Graph for rare earth elements (chondrite normalized after Sun & McDonough, 1989).

The mafic/ultramafic rocks are relatively depleted in LREE, which probably relates to crystallization of pyroxene. Hornblende controls the enrichment of medium rare elements compared to LREE, while depletion of heavy rare earth elements ("HREE") relative to LREE may be due to the presence of garnet and/or zircon, which preferably incorporate HREE in their crystal lattices. Negative europium anomalies in felsic or mixed rocks (samples 5560575 to 5560578) relate to crystallization of feldspars and/or their alteration and replacement by micas, epidote or other hydrous minerals. Correlations among rare earth elements depend on their difference in ionic radii, the smaller the difference the higher the correlation and *vice versa*.

3. QUALITY CONTROL

Both laboratories use LIMS program to monitor the progress of sample analysis throughout the laboratory process. All duplicate assays are reported on the certificate of analysis. All data generated for Quality Control standards, blanks and duplicates are retained and used in the validation of results.

Agat's Quality Control includes replicates, standards and blanks. A replicate was taken every 10 samples and all replicates were compared to their originals and differences within the 90 to 110 % range allowed. One standard is measured for each 20-sample batch. Agat used reference material PG129 and blanks for platinum, palladium and gold and reference material SY-4 blanks for 58 elements including REE.

Activation's Quality Control also includes duplicates every 10 samples, standards and blanks and charts are produced to monitor the analytical process. Activation used PK2 and CDM-PGMS-25 standards for gold, platinum and palladium and the performance graphs are presented in Figs. 19 - 23.

Platinum was below detection limit (DL) in both samples and palladium in one sample. In the originals and repeats, palladium in sample 5560596 was by 27.3% lower than its original. The reference material PG129 for PGE and gold was within 90 – 110% limits. The results for all other elements in reference material SY-4 fall within 90 – 110% limits except nickel (113%), tantalum (78%), thorium (86%), uranium (113%) and vanadium (74%). The repeat for sample 5560596 was within 90 – 110% for all elements except Sn (11.8), Tm (15.4%) and Zr (12%).

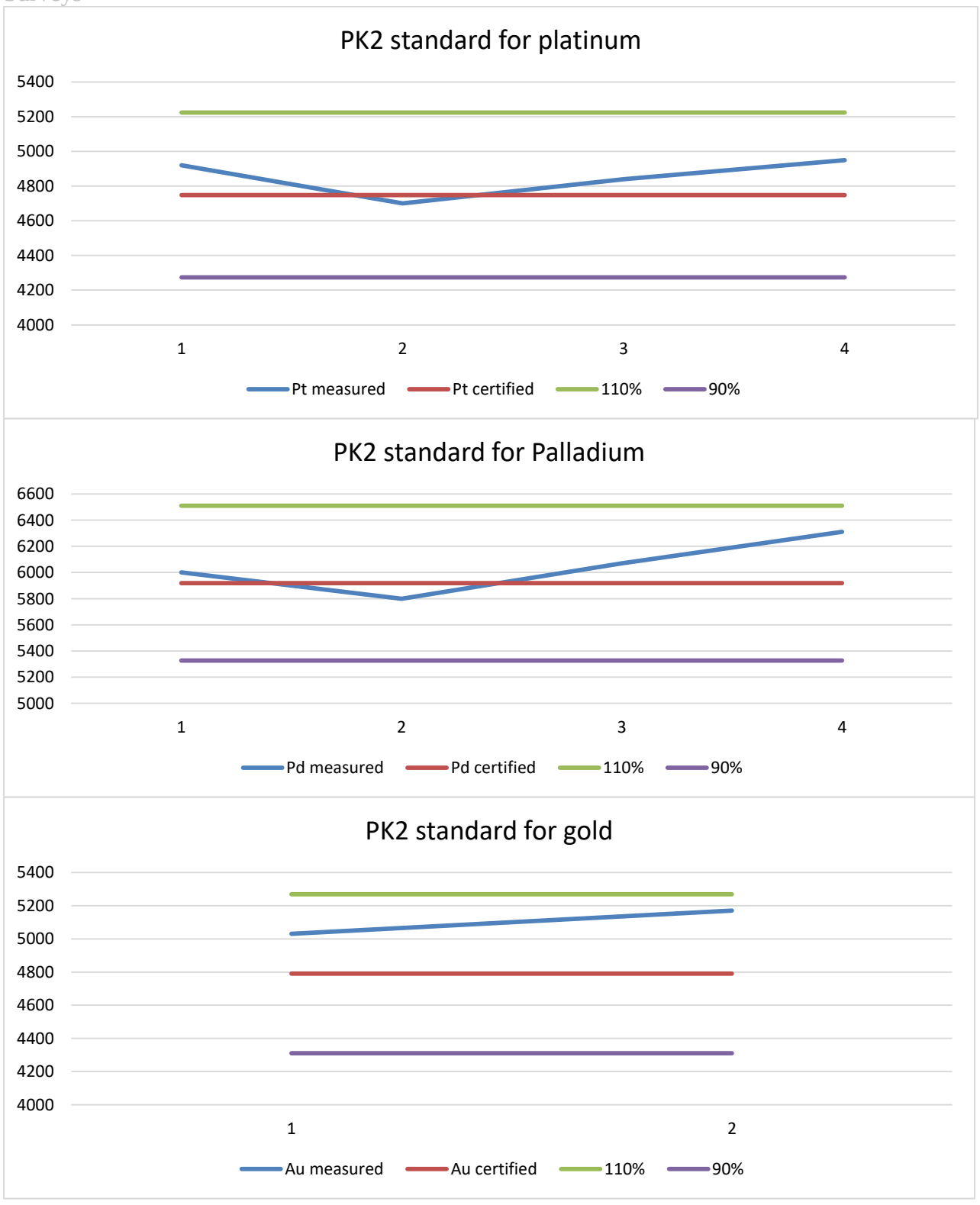


Fig. 19: PK2 standard for Pt, Pd and Au.

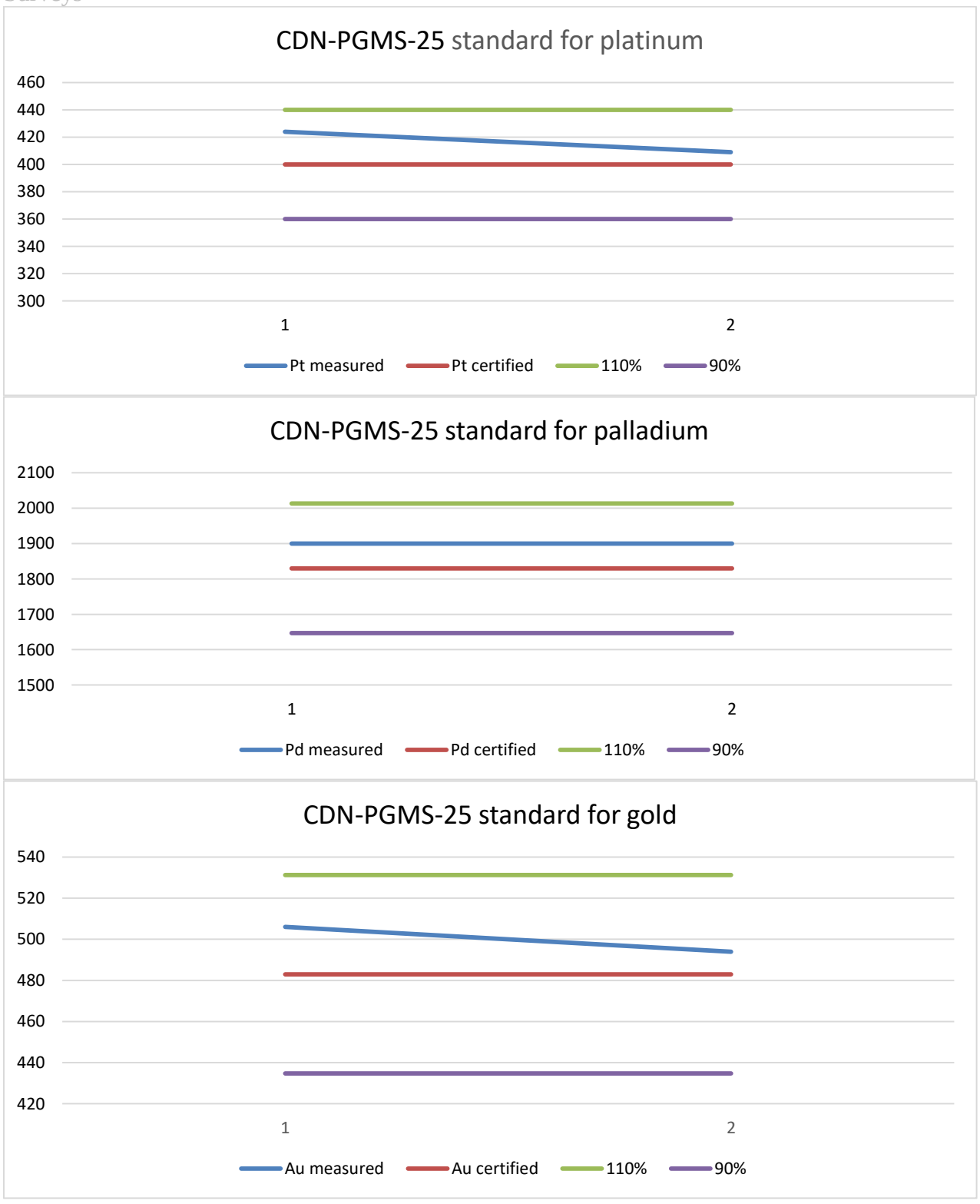
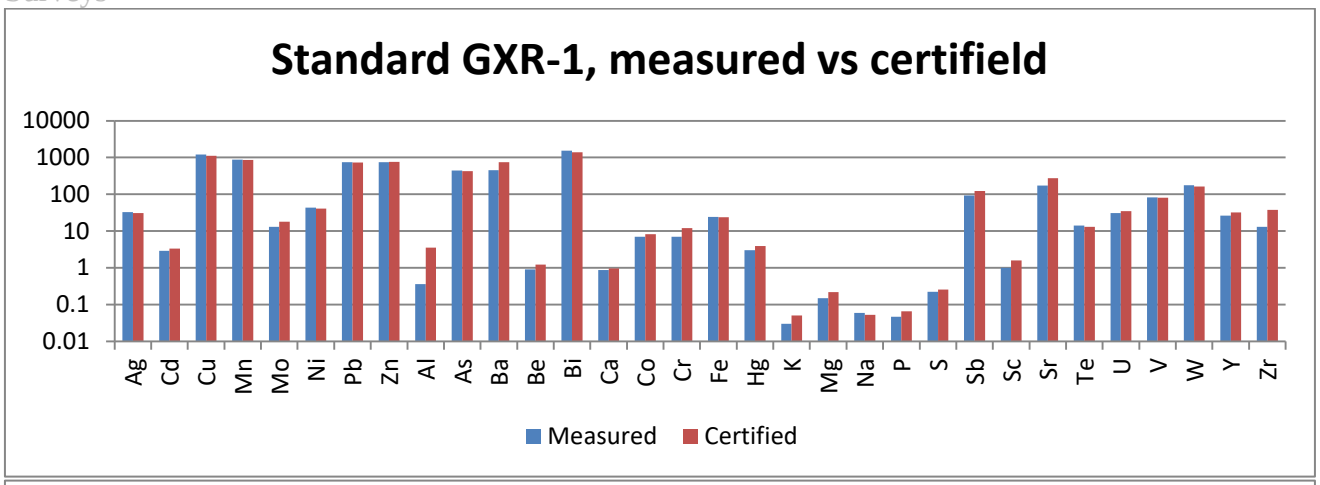
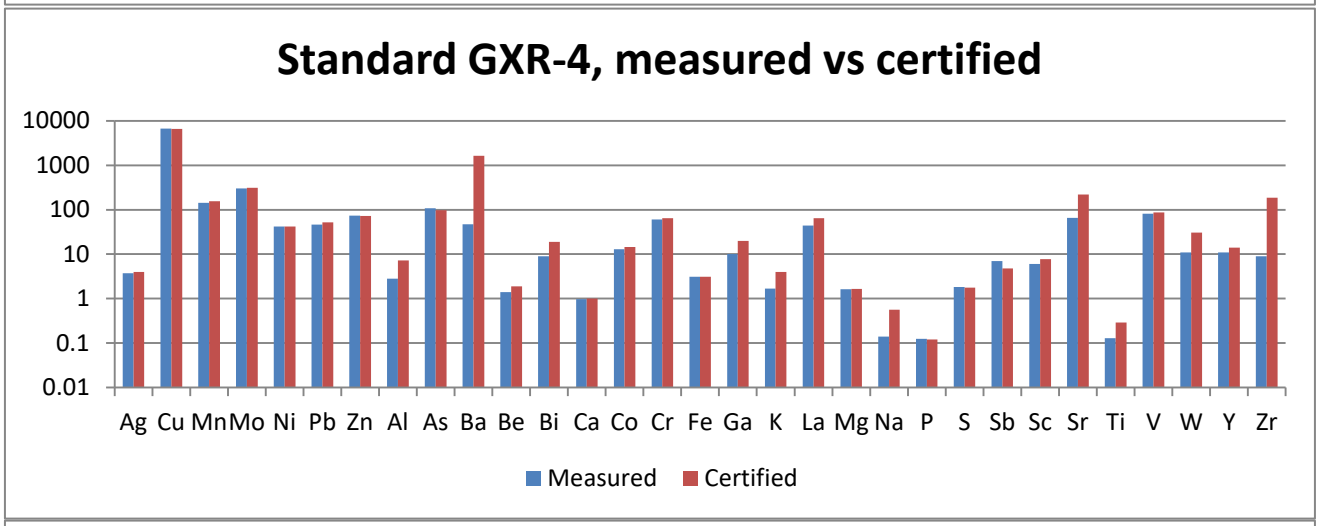


Fig. 20: CDN-PGMS-25 standard for Pt, Pd and Au.





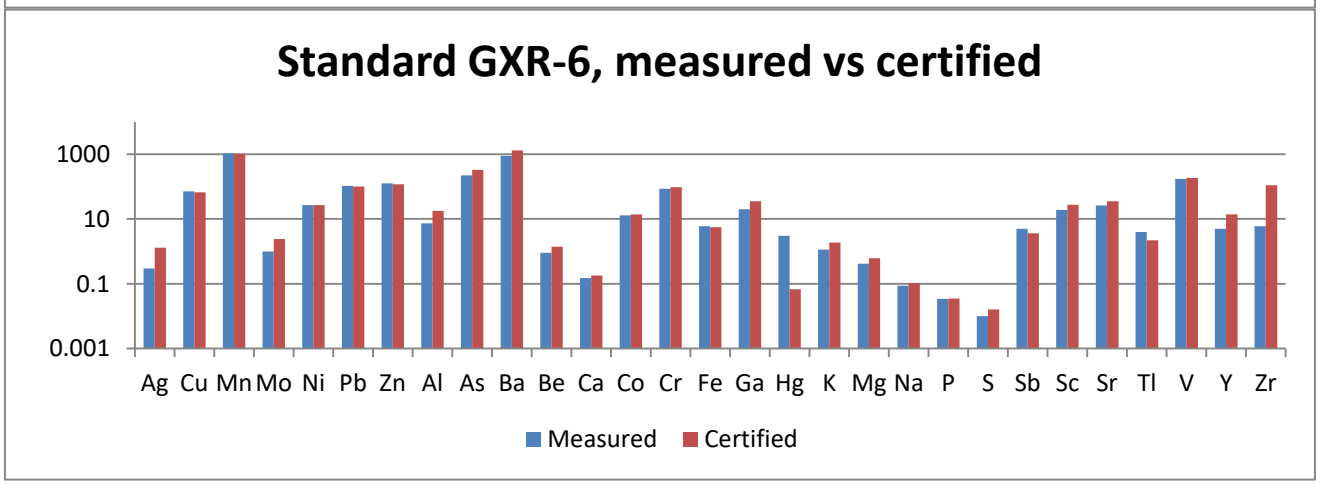


Fig. 21: Standards GXR-1, GXR-4 and GXR-6, measured vs certified.

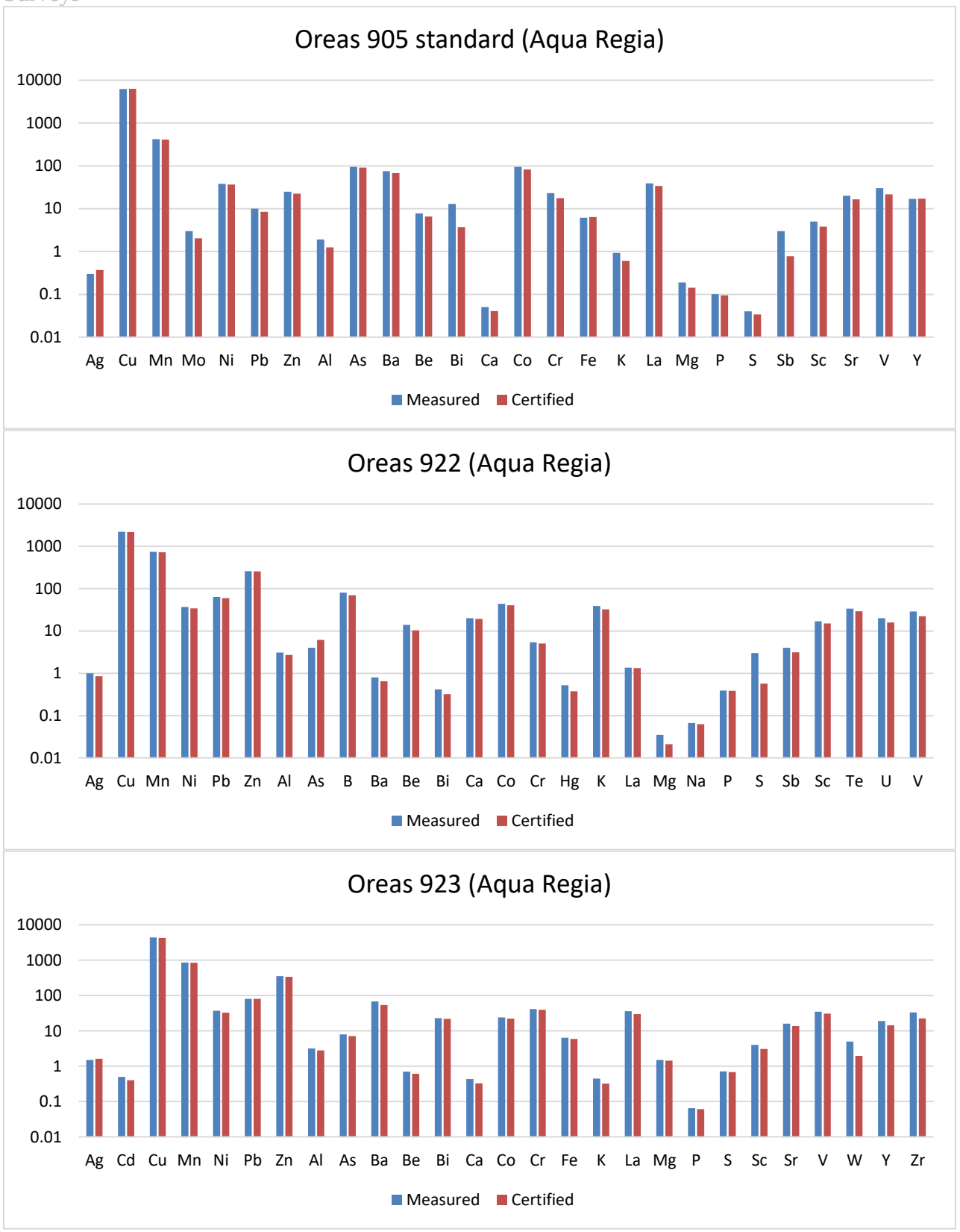


Fig. 22: Standards Oreas 905, 922 and 923.

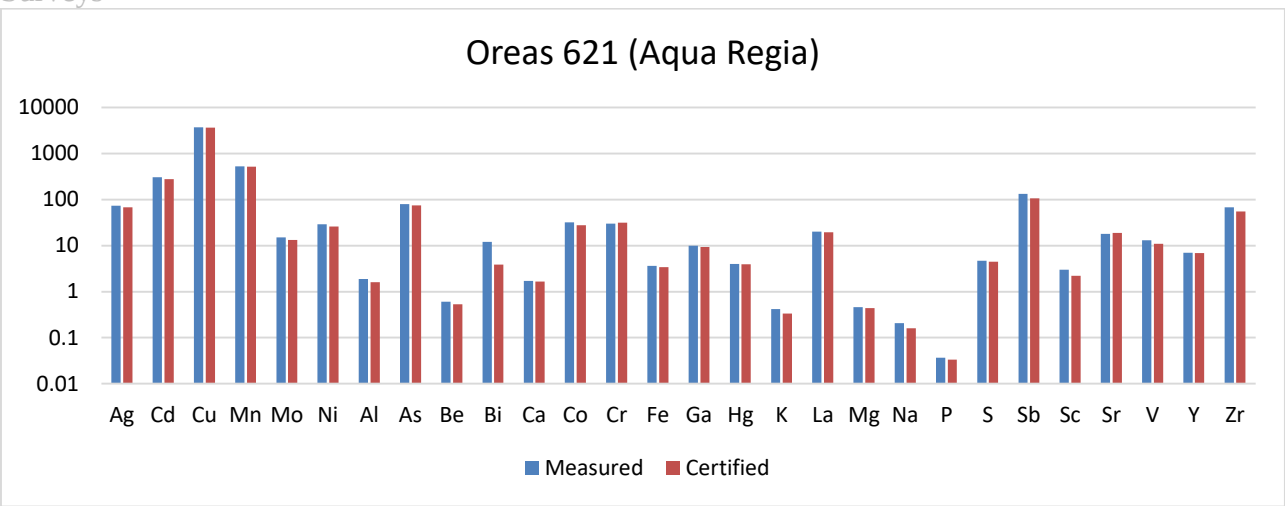


Fig. 23: Standard Oreas 621.

As shown, all measured Pt, Pd and Au values fall within 90 – 110 % limits. Agat tested two original samples 5560560 and 5560596 and the repeats for gold are shown in Fig. 24.

To independently check the laboratory performance, writers collected 4 field duplicates during the 2017 – 2018 fieldwork and one is compared in Fig. 25.

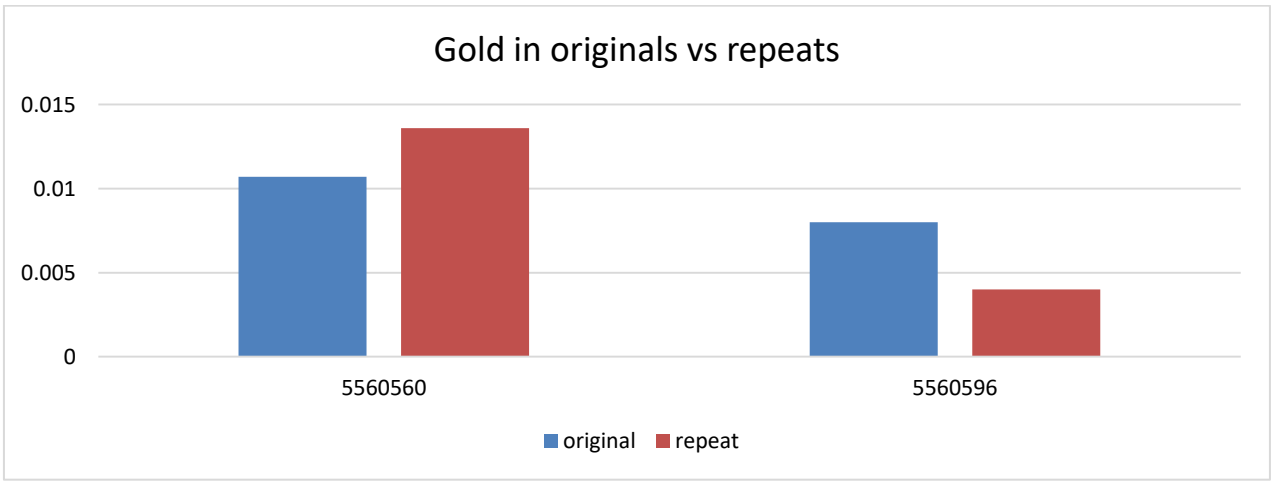


Fig.24: Comparison of gold values in originals vs repeats.

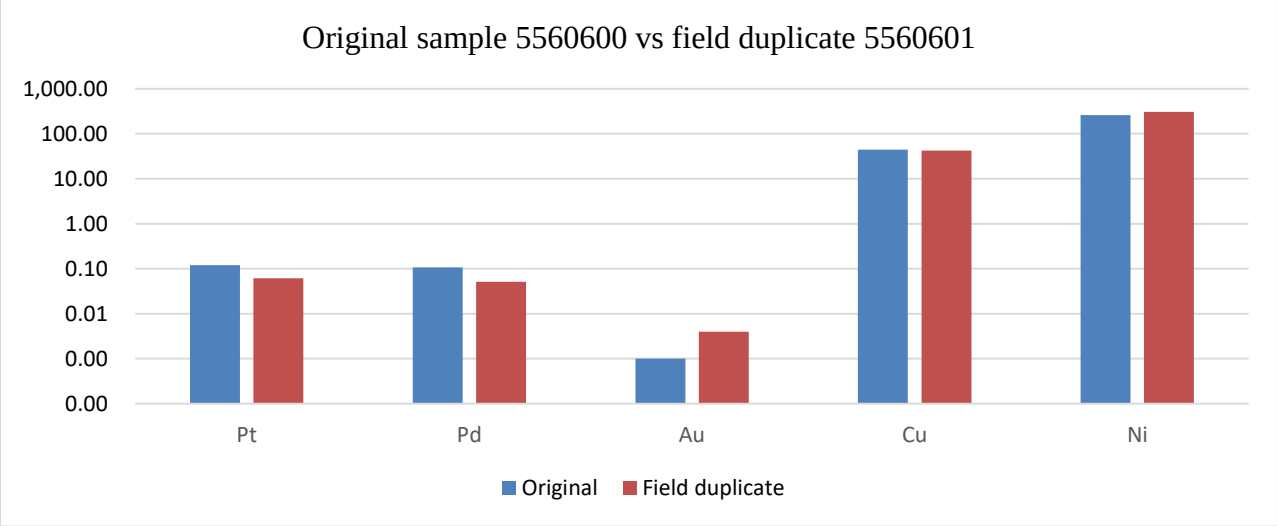


Fig. 25: Comparison of PGE, Au, Cu and Ni values in original vs field duplicate.

Our review of the assays and quality assurance did not detect any discrepancies although rare duplicate, repeat, blank or field duplicate values do exceed the lab's upper or lower limits or DL. Thus we can state that Agat and Activation assays and quality control for this survey comply with the industry standards and are sufficient for this stage of the project.

4. INVERSION MODELING

Measured lateral gradient map in Fig. 26 shows negative (blue) and positive (magenta) magnetic anomalies, the former ranging from -0.2200 to -0.9300 nT/m and the latter from 0.3800 to 1.1200 nT/m. We do not have a reasonable explanation for this feature, although it appears that Pt+Pd-anomalous rock samples frequently cluster within the negative mag anomalies or at the positive-negative contacts. The area surrounding the Main Showing is also a distinct negative mag anomaly coincident with several PGE anomalies. It is about 800 m long by 350 m wide, extending northeast-southwest and is limited by the Buck Lake Fault in the south and the Dog River fault in the north. The Main Showing area occupies an elongated bluff rising up to 25 m above the Dog River. The second coincident zone occurs about 2 km east of the Main Showing and just north of the old, sloughed bridge on the Dog River. This zone appears to be situated close to a northwest – southeast trending fault parallel to the Dog River. It is also indicated on the VLF-EM map (not shown in this report).

To obtain additional information on the shape and extent of the mafic/ultramafic body at depth, Empire sub-contracted in 2018 MPH Consulting Ltd. to perform an inversion modeling on the 2011 and 2018 airborne magnetic data. The work was conducted by J. Brett, MSc, PGeo., and the results are presented in Figs. 27 to 29.

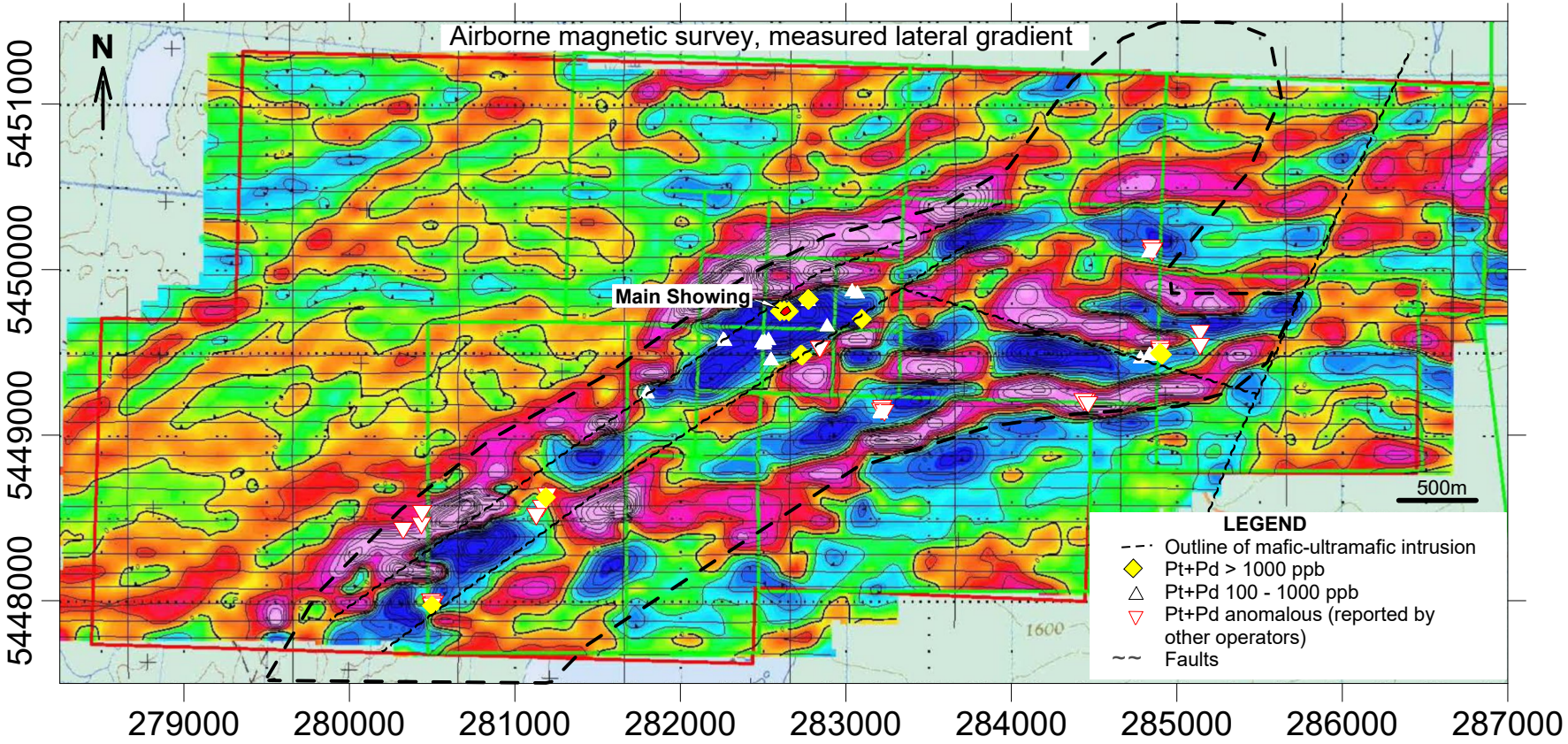


Fig. 26: 2011 airborne mag map with locations of PGE-anomalous samples; (mag anomalies: positive (magenta), negative (dark blue)).

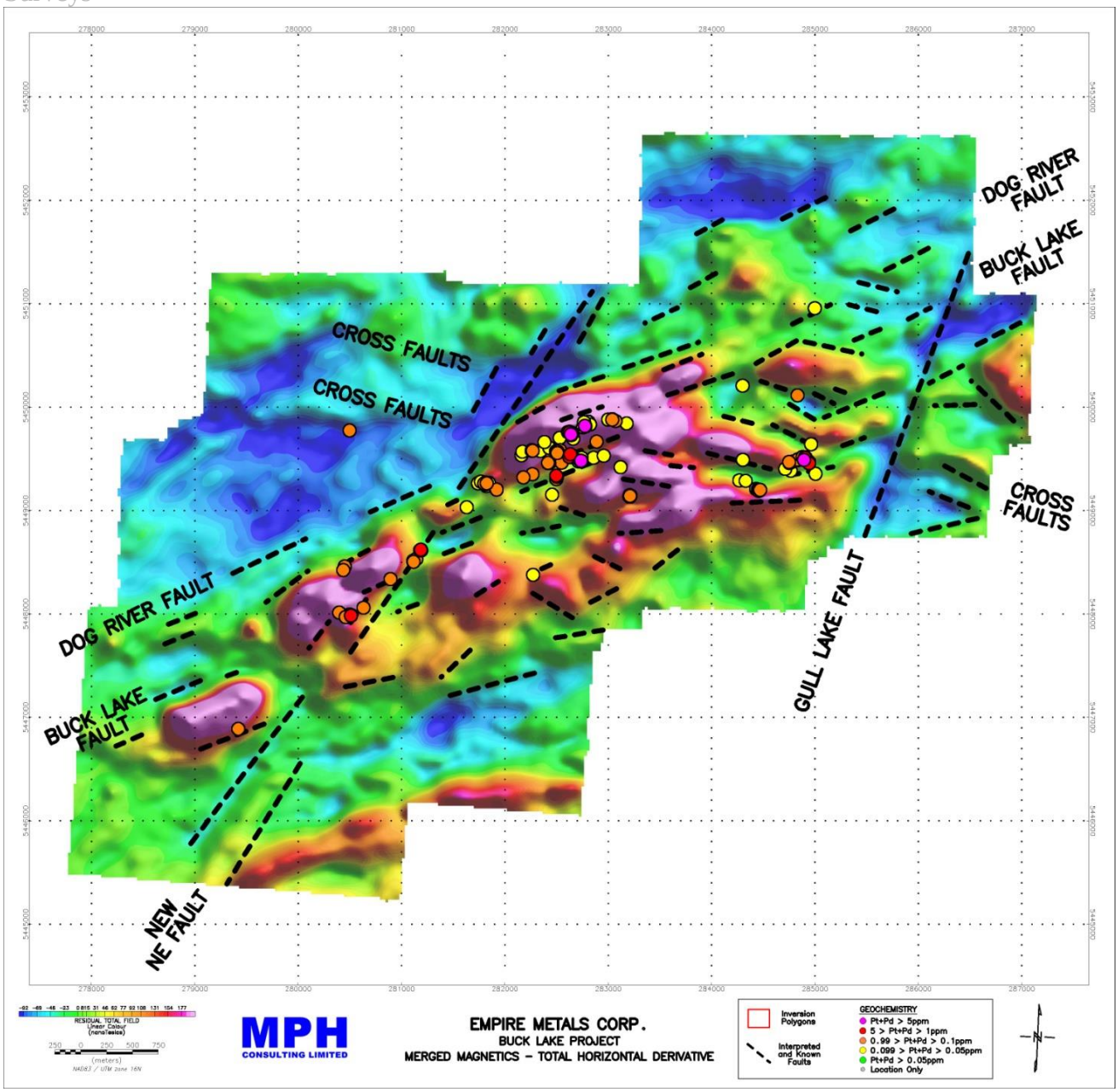


Fig. 27: Interpretation of structures from aeromagnetic data with geochemistry results.

In Figure 27, the Total Magnetic Intensity is displayed with a Linear Colour bar to emphasize the highest amplitude positive magnetic anomalies. These, in turn, emphasize the NE-SW striking belt of ultramafic rocks (>125 nanoTesla anomalies; red-magenta) in the centre of the data set, confirmed via fieldwork and mapping by Empire Metals (B. Molak, pers. comm., Empire Metals). These magnetic data have then been interpreted to identify the main structural controls on this belt, which include: (i) the ENE striking Dog River Fault, (ii) the roughly parallel ENE striking Buck Lake Fault that lies ~1km to the South, (iii) the NNE striking Gull Lake Fault which truncates and offsets the ultramafic belt at its East side, (iv) a "New NE Fault" which strikes NE and probably

creates a sinistral offset the ultramafic belt internally, plus (v) various Cross Faults with a WNW strike which offset parts of the ultramafic belt internally. It should be noted that the highest concentration of Platinum and Palladium from geochemistry lie at the intersection of the Dog River Fault / Buck Lake Fault and the Cross Faults, bounded to the West by the New NE Fault. The location and amplitude of PGE-anomalous samples are displayed over top of the geophysical interpretation. Other fault orientations are present, such as N-S and WNW, but there are less frequent and are not presented in this report.

(Magnetic data was compiled and faults interpreted by J.S.Brett, M.Sc., P.Geo., MPH Consulting Limited.)

Figure 28, below, shows a compilation of 3 inversions of the Aeromagnetic data for the project, viewed from above looking to the NE. These inversion voxels cover all of the most significant showings of PGE-anomalous rock samples based on geochemistry. The voxels have been windowed to display both (i) magnetic lows (cyan bodies) with magnetic susceptibilities in the range of 0 to 45 milli SI, and (ii) magnetic highs (magenta bodies) with magnetic susceptibilities in the range of 60 to 175 milli SI. This presentation style is for the ease of visualizing zones with both high and low magnetic susceptibility, simultaneously. The zone with the highest Pt + Pd geochemical results (1-5 ppm and >5ppm; orange, red and magenta symbols) coincides with a discrete ~750m long, NNE-SSW striking and ~vertically dipping discrete magnetic low. Most other Pt+Pd values coincide with contacts between the magnetic highs and lows. Most of the contacts between the magnetic highs and lows appear to be vertically dipping. This compilation of magnetic inversions also gives the impression of a rotation of the general strike of bodies with high magnetic susceptibility (magenta bodies), from NE towards ENE as one moves to the ENE along the belt of ultramafic rocks. The bodies with high magnetic susceptibility also tend to become thinner as we move towards the NNE. The dip of the Gull Lake Fault (NNE striking cyan signature at the East end of the inversions) appears to be vertical, as well, based on the inversion results.

(Magnetic Inversions were performed by J.S Brett, M.Sc., P.Geo., MPH Consulting Limited, using Geosoft VOXI Earth Modeling, for Empire Metals.).

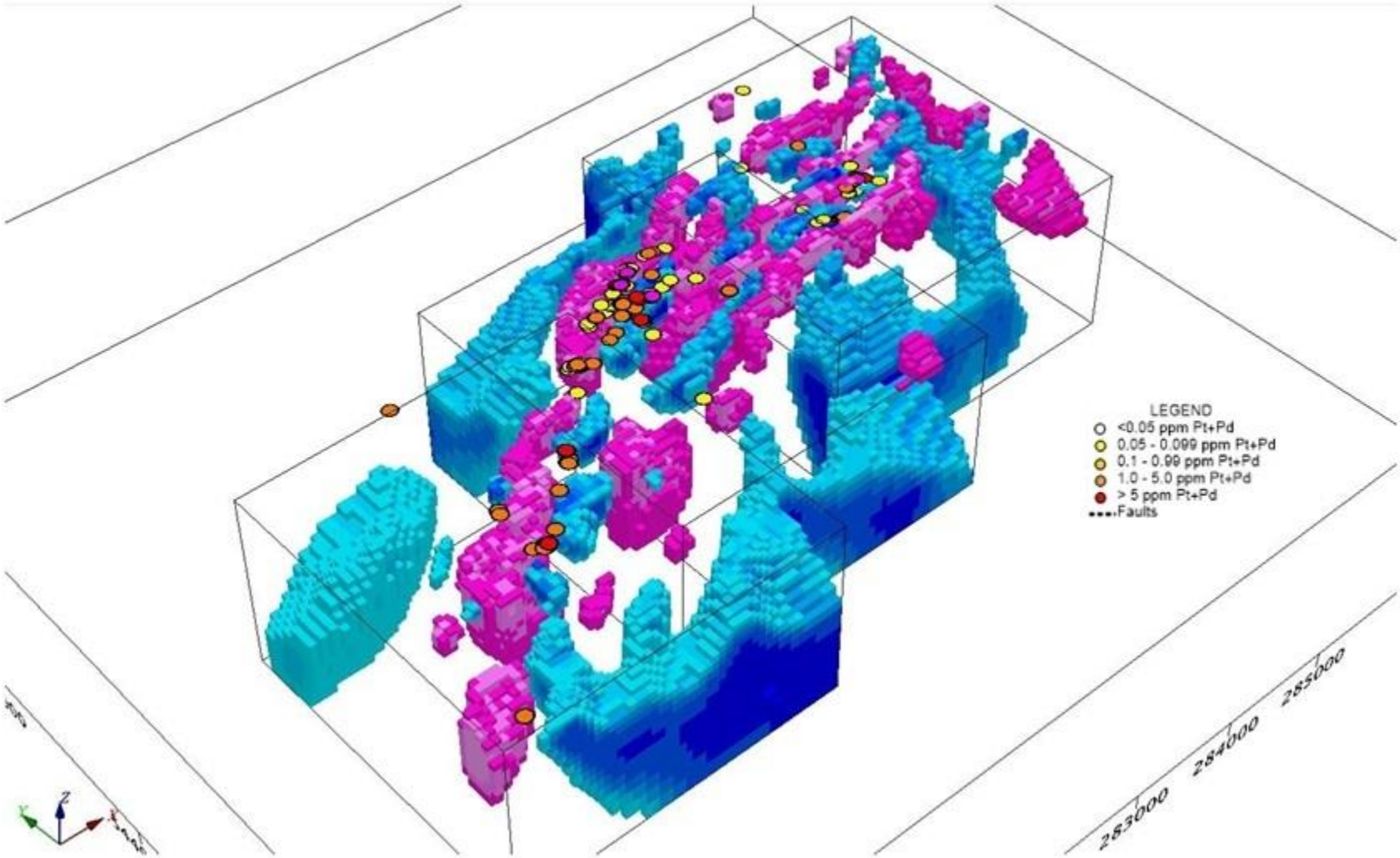


Fig. 28: Inversion of aeromagnetic data - 3D view (looking NE from above), with Pt+Pd geochemistry.

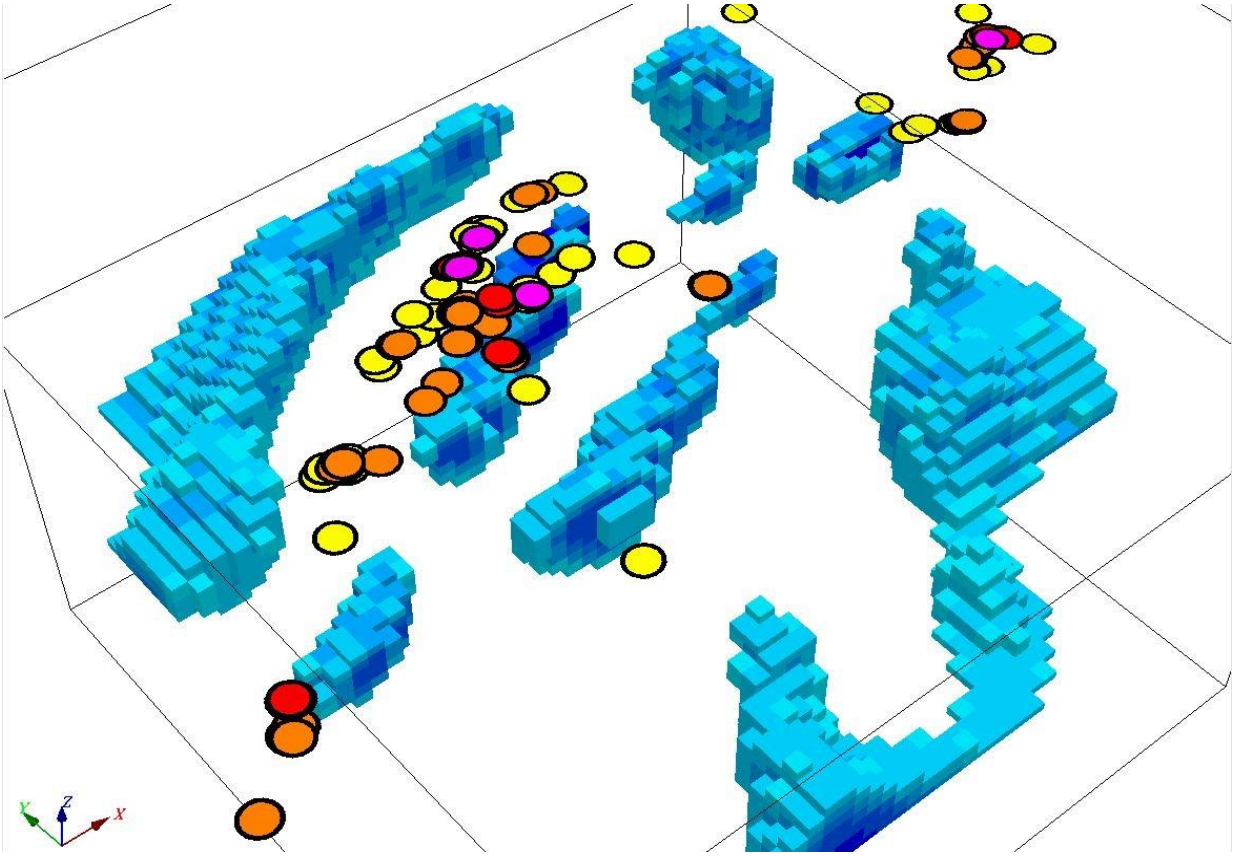


Fig. 29: Inversion of aeromagnetic data - 3D view (looking NE from above), with Pt+Pd geochemistry.

Figure 29, above, shows the single central inversion of the Aeromagnetic data for the project, again viewed from above looking to the NE. This inversion voxel is centered over the main showing of PGE-anomalous rock samples, which exhibited the highest values returned from geochemistry. The voxel has been windowed to display only magnetic lows (cyan bodies), with magnetic susceptibilities in the range of 0 to 45 milli SI. The zone with the highest Pt + Pd geochemical results (1-5 ppm and >5ppm; orange, red and magenta symbols) clearly coincides with a discrete ~750m long, NNE-SSW striking and ~vertically dipping discrete magnetic low. It is possible that this magnetic low represents a different phase of the ultramafic intrusion, a metasomatized contact zone, or a chemically altered part of the ultramafic belt. All of these scenarios could explain the drop in magnetic susceptibility / magnetite content for this body. Note that this magnetic low may extend further to depth than elucidated via this inversion, as the depth extent is limited by the wavelength of the magnetic anomaly.

(Magnetic Inversion performed by J.S Brett, M.Sc., P.Geo., MPH Consulting Limited, using Geosoft VOXI Earth Modeling, for Empire Metals.).

5. ELECTRON MICROPROBE STUDY

A microprobe study was conducted in 2017 on four samples from BLP using a Cameca SX-100 installed at the D. S. Geological Institute, Department of Electron Microanalysis in Bratislava, Slovak Republic, operators Dr. P. Konečný and Dr. I. Holický. All samples contained visible sulphidic mineralization (Figs. 30 to 33) and their locations are shown in Figs. 49 and 50. The WDS quantitative analyses were performed under the conditions: 25keV, 10nA and/or 20nA, and silicate and oxide mineral standards were used for calibration (Appendix III).

Table 3: Samples studied under electron microprobe

Sample #	Easting	Northing	Description
611409	282736	5449482	Gabbro, amph, chloritic, diss and blebby sulphides ~ 5%
611410	282773	5449820	Altered gabbro, disseminated and blebby sulphides >5%
619021	284888	5449495	Amphibole pyroxene gabbro, plagioclase, 3-5% sulphides
Main Showing, blast pit 1	282626	5449753	Gabbro and pyroxenite, chloritized, ~ 5% sulphide blebs

Abbreviations: amph – amphibole; diss – disseminated.

Fig. 30: Sample 611409 (from outcrop situated approximately 300 m south of the Main Showing).

Fig. 31: Sample 611410 (from outcrop situated approximately 150 m east-northeast of the Main Showing).

Fig. 32: Sample 619021 (from outcrop situated approximately 150 m north of the sloughed bridge over Dog River).

Fig. 33: Sample MS-BP1 (from the Main Showing, blast pit 1).

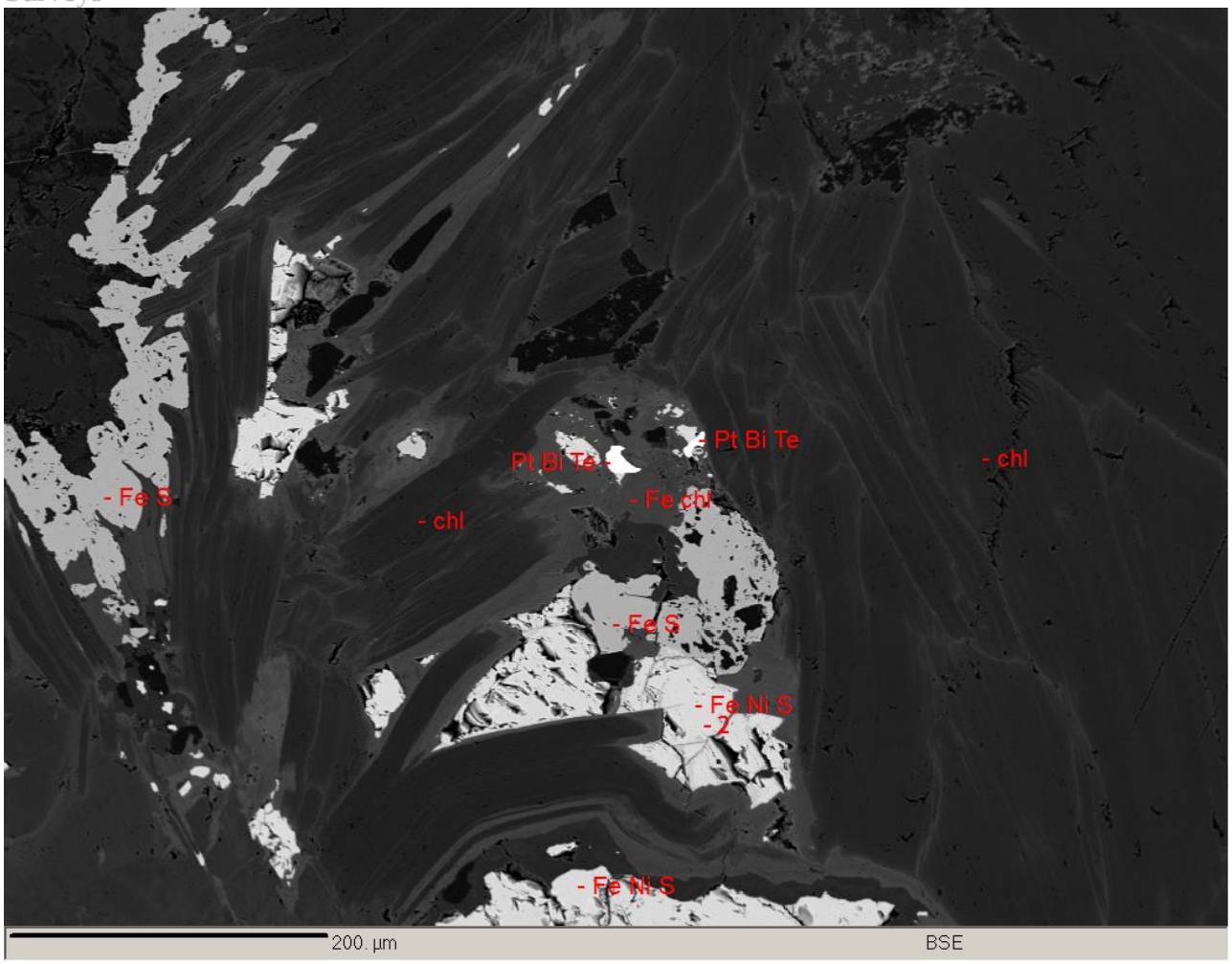


Fig. 34: sample 611409.

Minerals: FeS - pyrrhotite; FeNiS-pentlandite; PtBiTe-maslovite; chl-chlorite.
Pyrrhotite (< 0.2 mm) and pentlandite (< 0.1 mm) in Fig. 34 are surrounded by chlorite, probably an alteration product after amphibole and/or pyroxene; small maslovite inclusions (~ 0.02 mm).

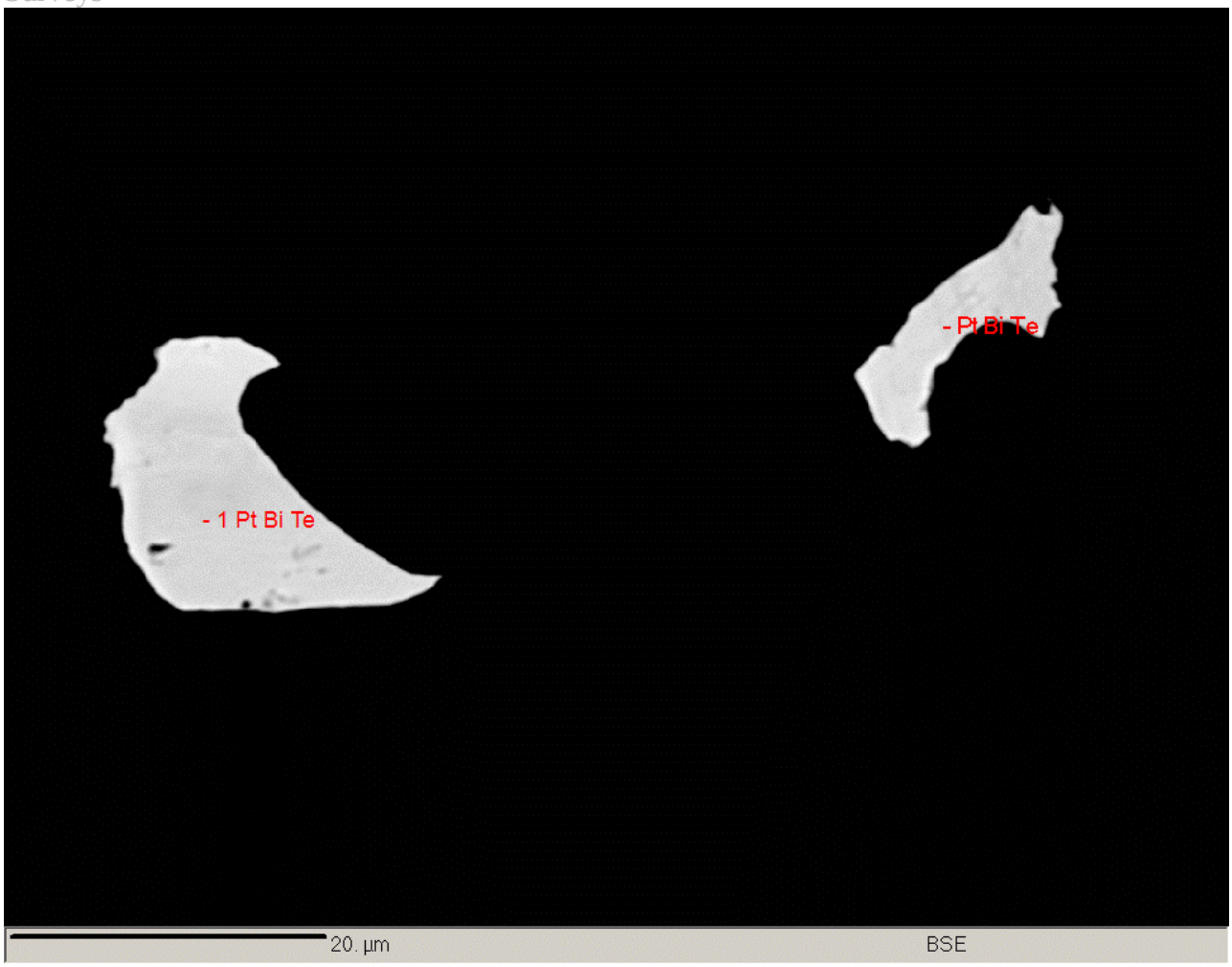


Fig. 35: sample 611409, detail.

Minerals: maslovite (PtBiTe) 0.02 to 0.03 mm inclusions (pale) surrounded by chlorite (black).

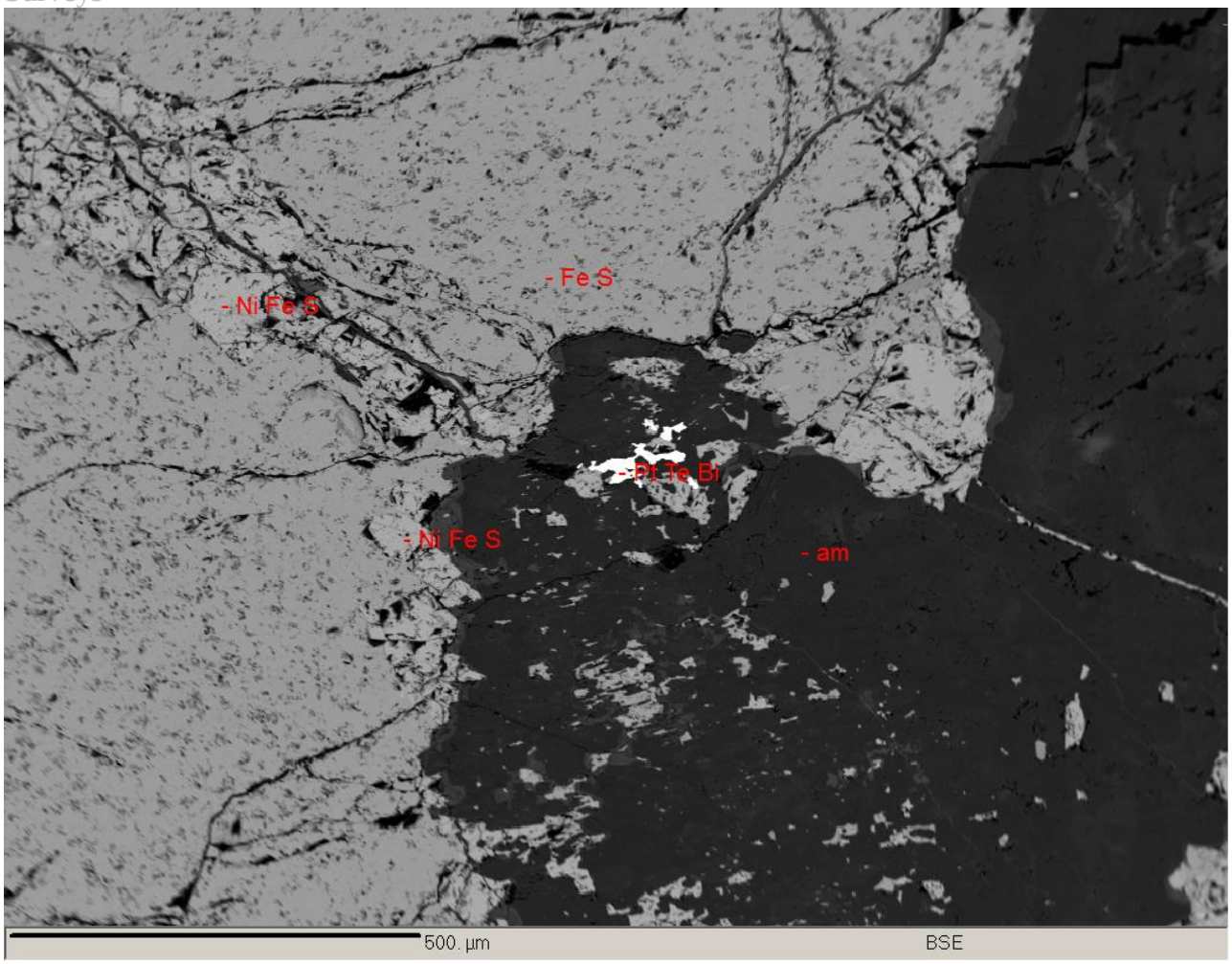


Fig. 36: sample 611409.

Minerals: FeS – pyrrhotite; NiFeS – pentlandite; maslovite (~ 0.1 mm), am – amphibole.
Large pyrite/pyrrhotite grain (grey) with pentlandite inclusions (< 0.5 mm), maslovite (white) associates with pentlandite, dark grey to black - amphibole.

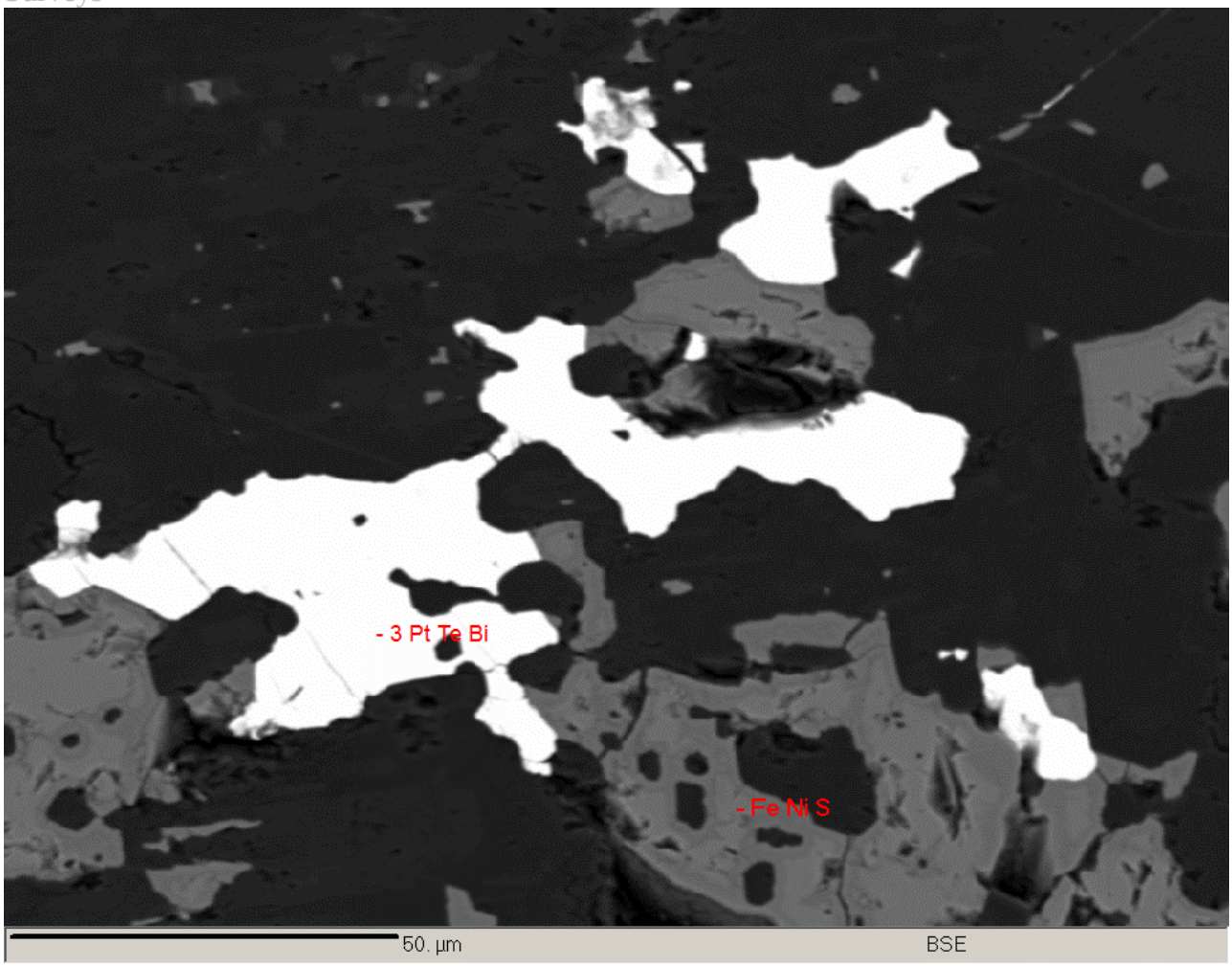


Fig. 37: sample 411409, detail.

Minerals: FeNiS – pentlandite (grey) and PtTeBi – maslovite (white, < 0.1 mm), both surrounded by amphibole (black).

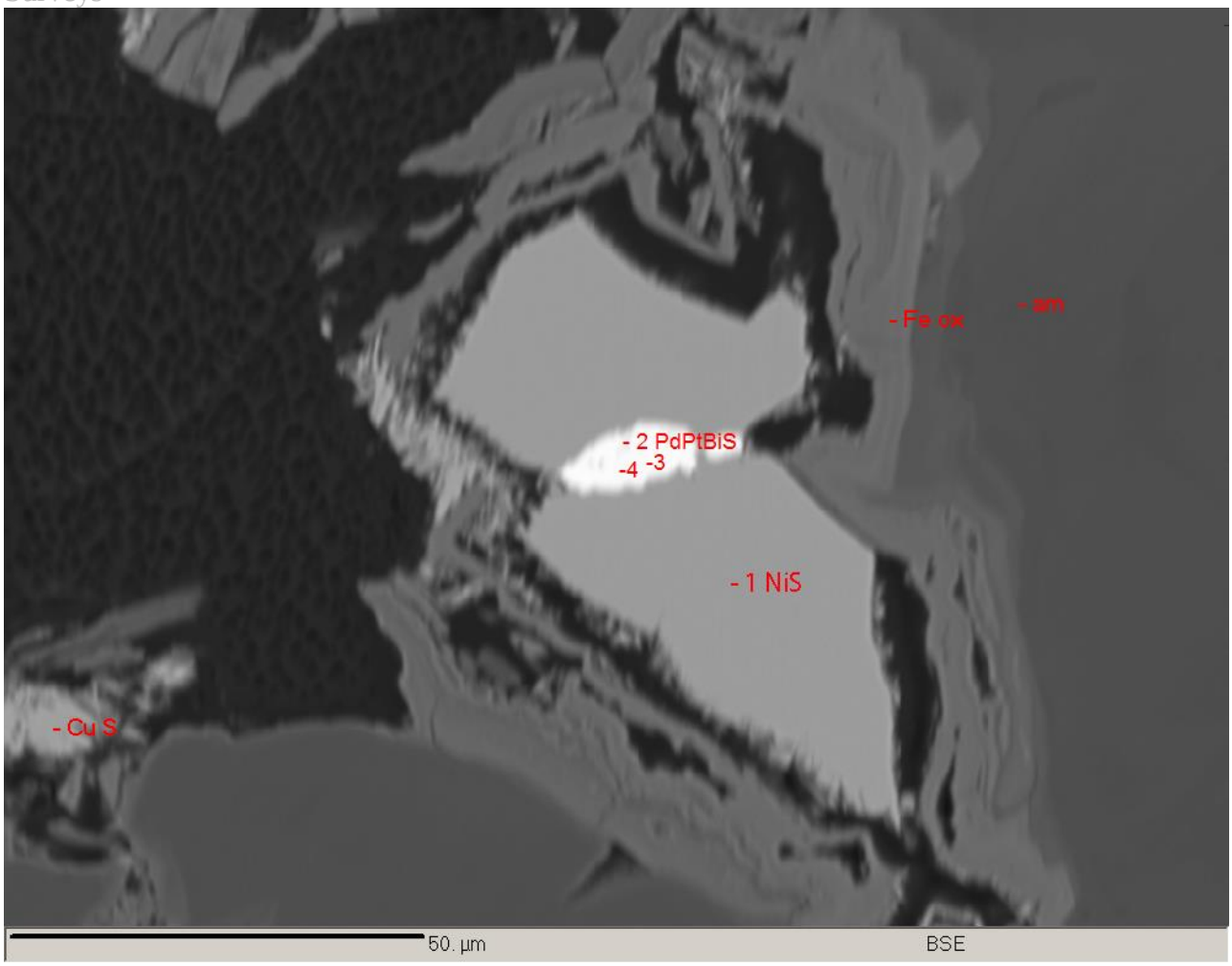


Fig. 38: Sample 611409, detail.

Minerals: NiS – millerite; CuS – covellite; PdPtBiS – un-named sulphide; millerite with un-named sulphide inclusion are surrounded by iron-oxidic envelopes at contacts with amphibole.

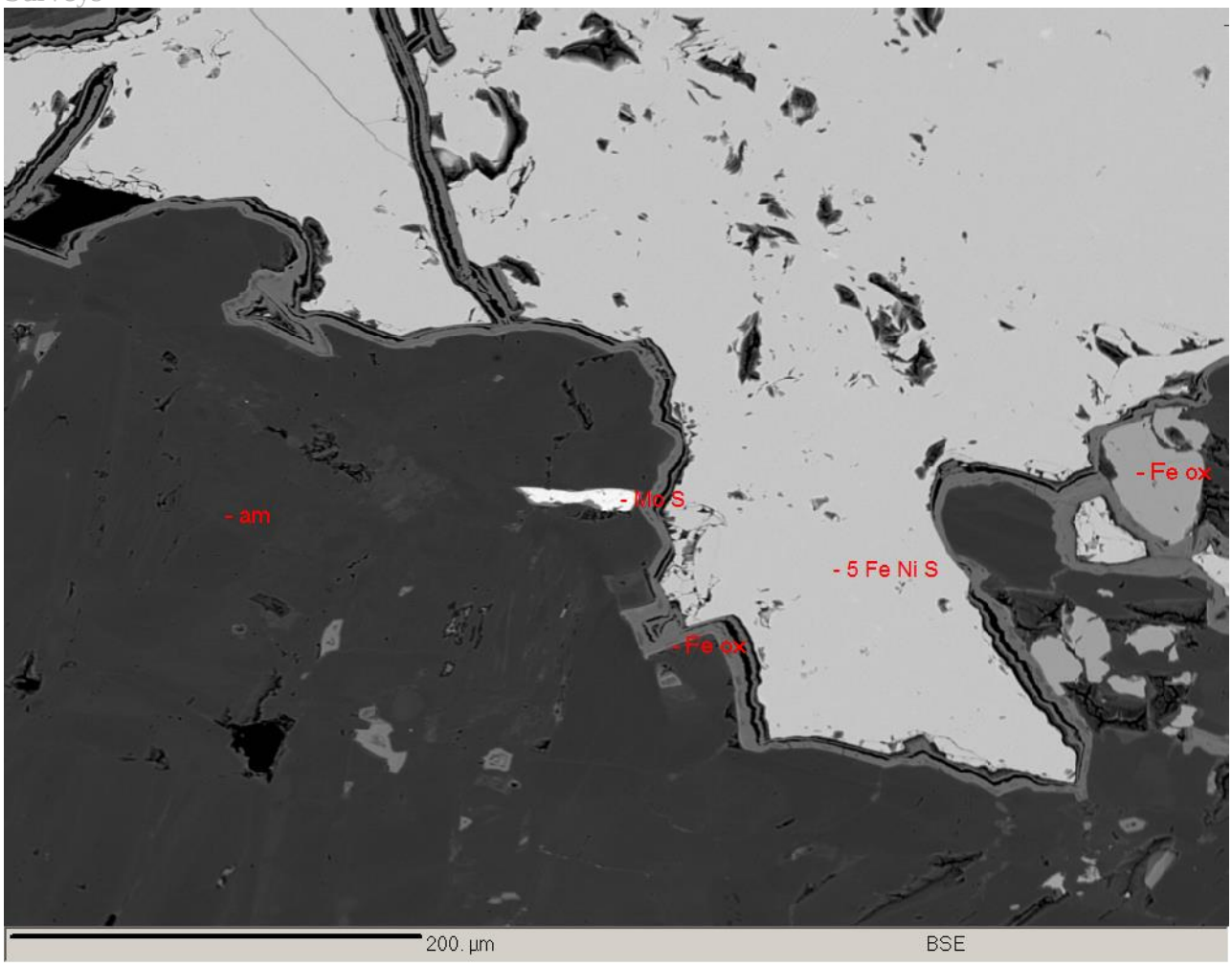


Fig. 39: Sample 611410.

Minerals: FeNiS – pentlandite; MoS – molybdenite; am – amphibole; Fe ox - Fe-oxidic envelope surrounds pentlandite.

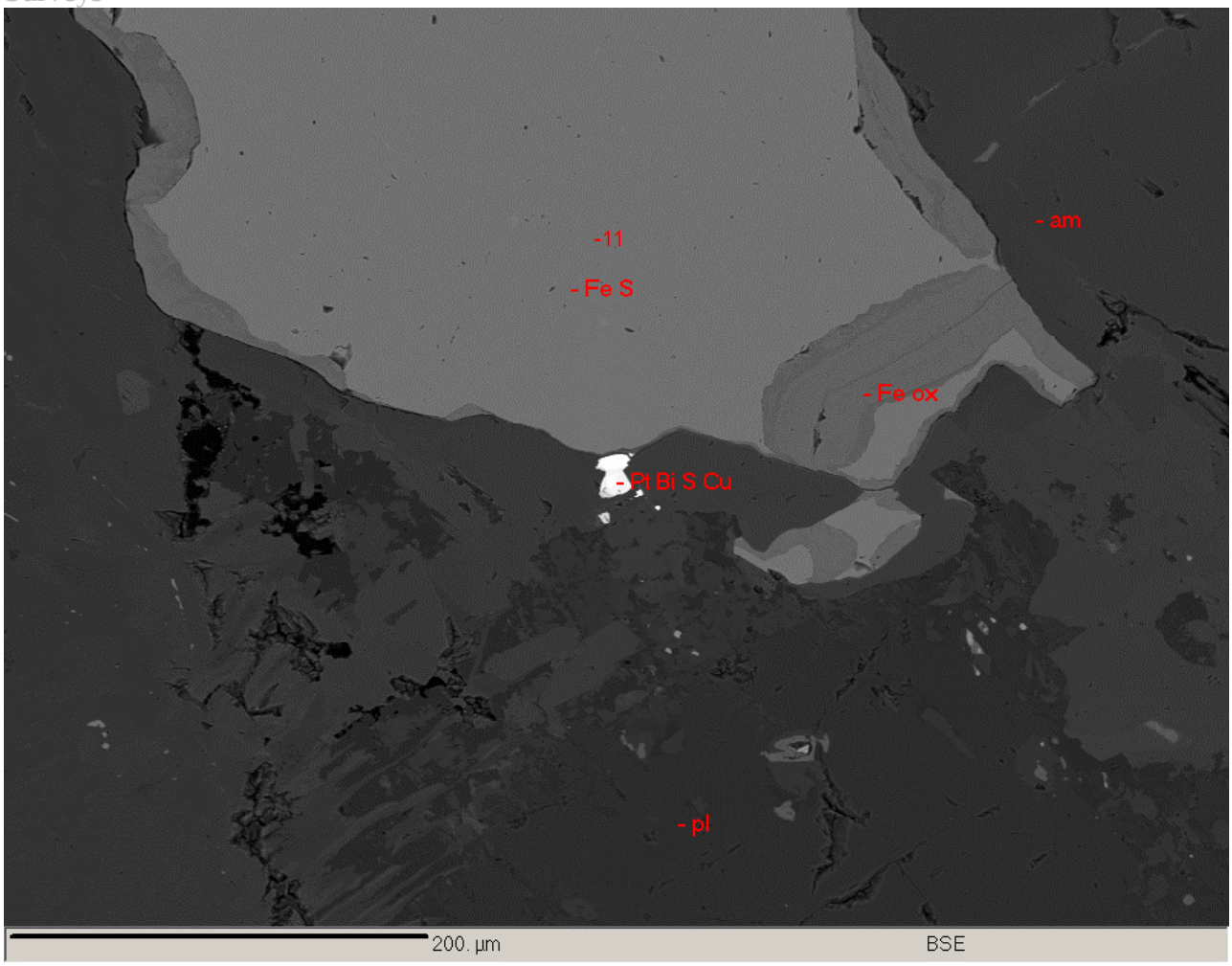


Fig. 40: Sample 611410, detail.

Fe-oxidic rims surround pyrrhotite; PtBiCuS; pl – plagioclase, am – amphibole; Fe-ox – iron – oxidic mineral.

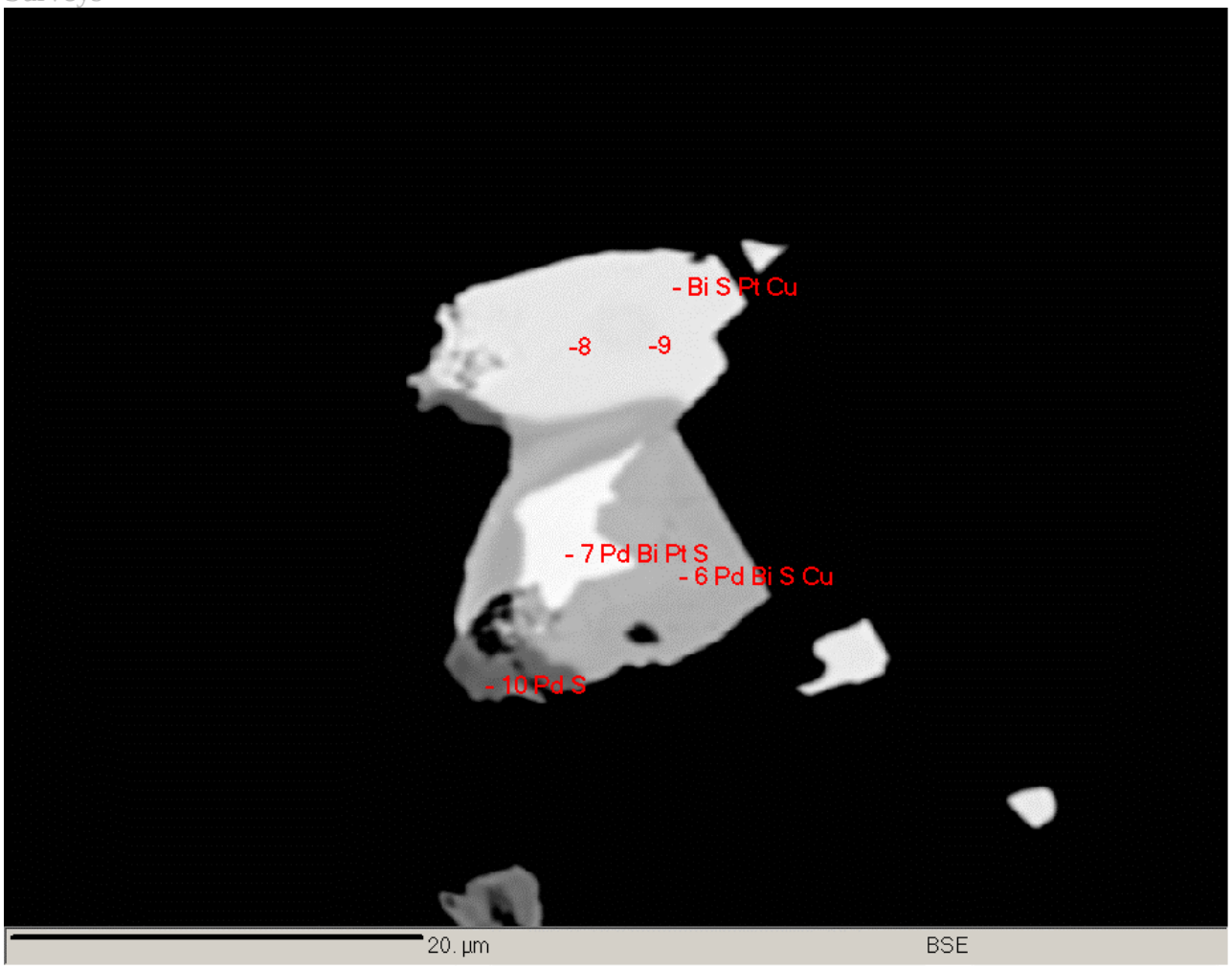


Fig. 41: Sample 611410, detail.

Minerals: PtBiCuS – unnamed, PdBiCuS - unnamed, PtPdBiS – unnamed, PdS – unnamed, pl – plagioclase.

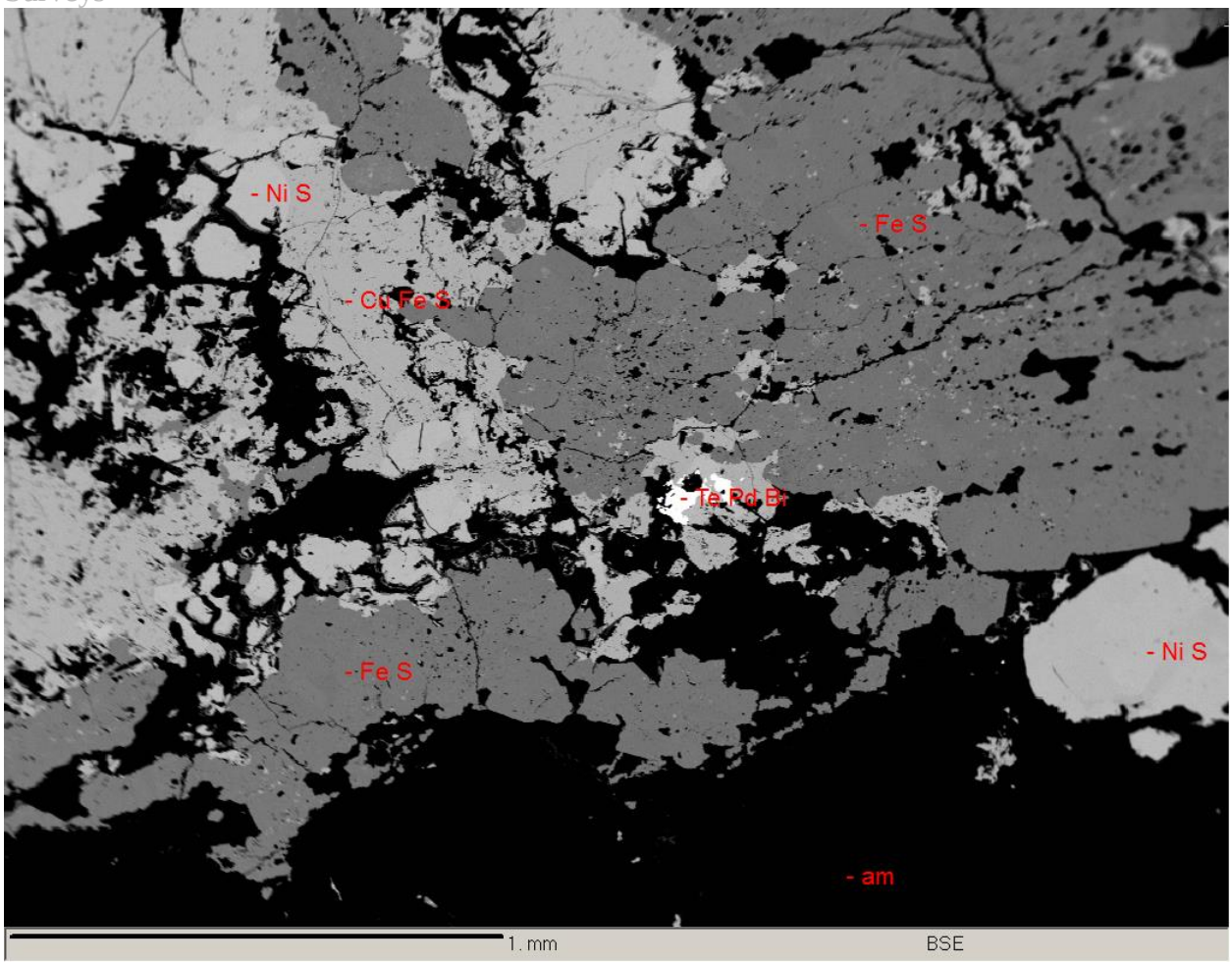


Fig. 42: selective sample from blast pit 1, Main Showing.

Minerals: FeS – pyrrhotite, NiS – millerite, CuFeS – chalcopyrite, PdTeBi – kotulskite/michenerite, am – amphibole.

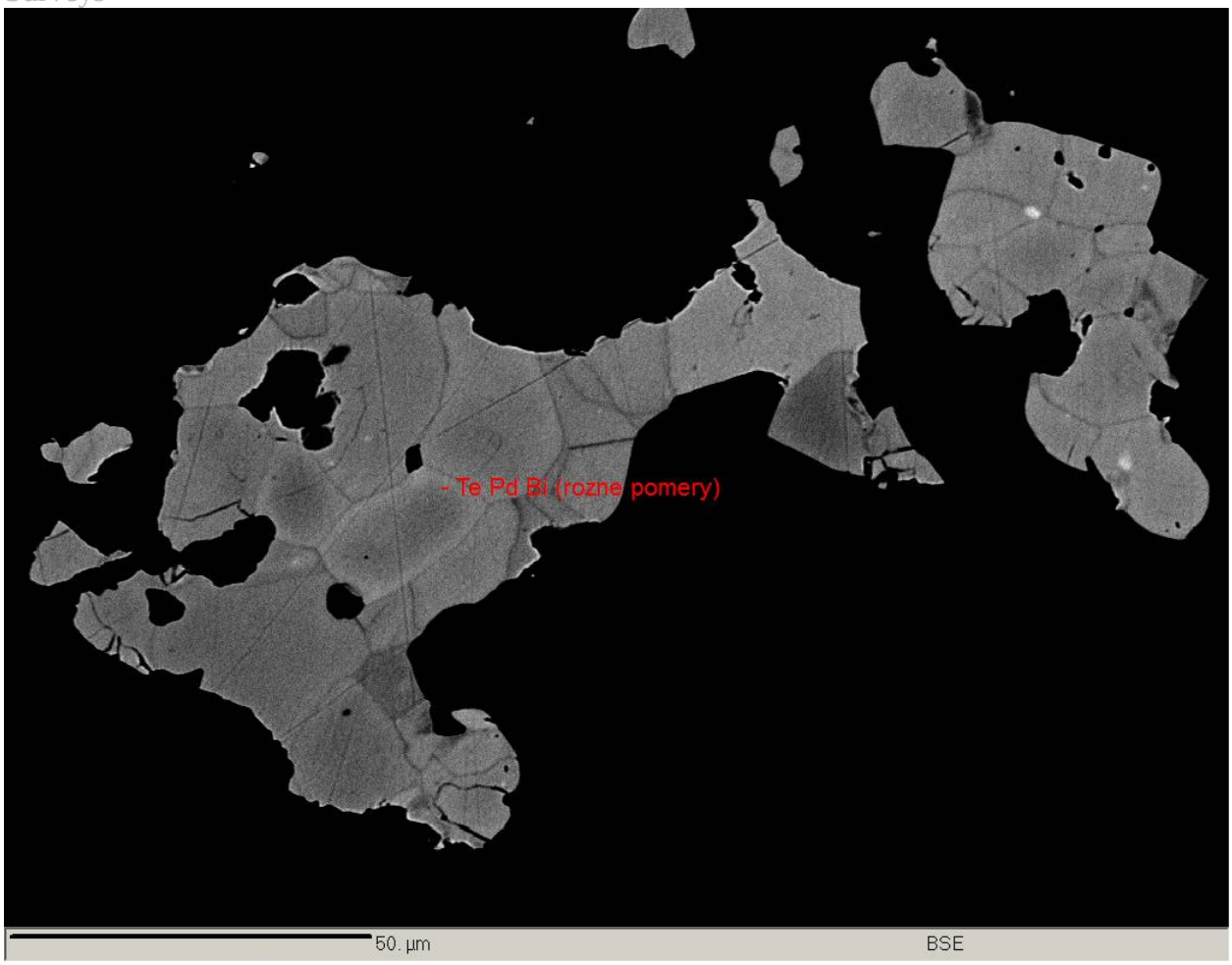


Fig. 43: Detail from Fig. 42.

Minerals: TePdBi – kotulskite/michenerite (various proportions).

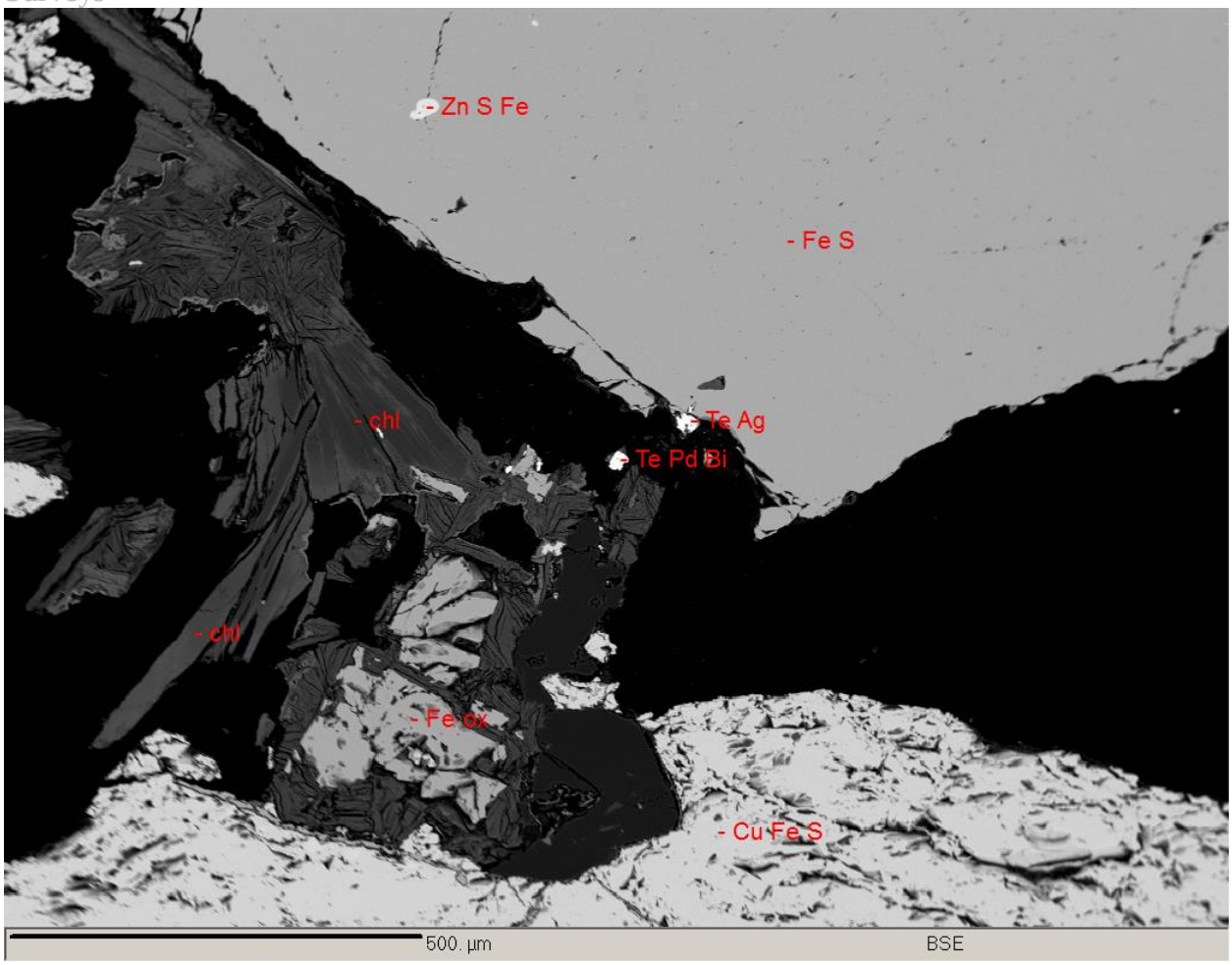


Fig. 44: Main Showing, blast pit, selective sample.

Minerals: FeS – pyrrhotite, CuFeS – chalcopyrite, ZnFeS – marmatite, TePdBi – unnamed; chl – chlorite, Fe-ox – iron oxide.

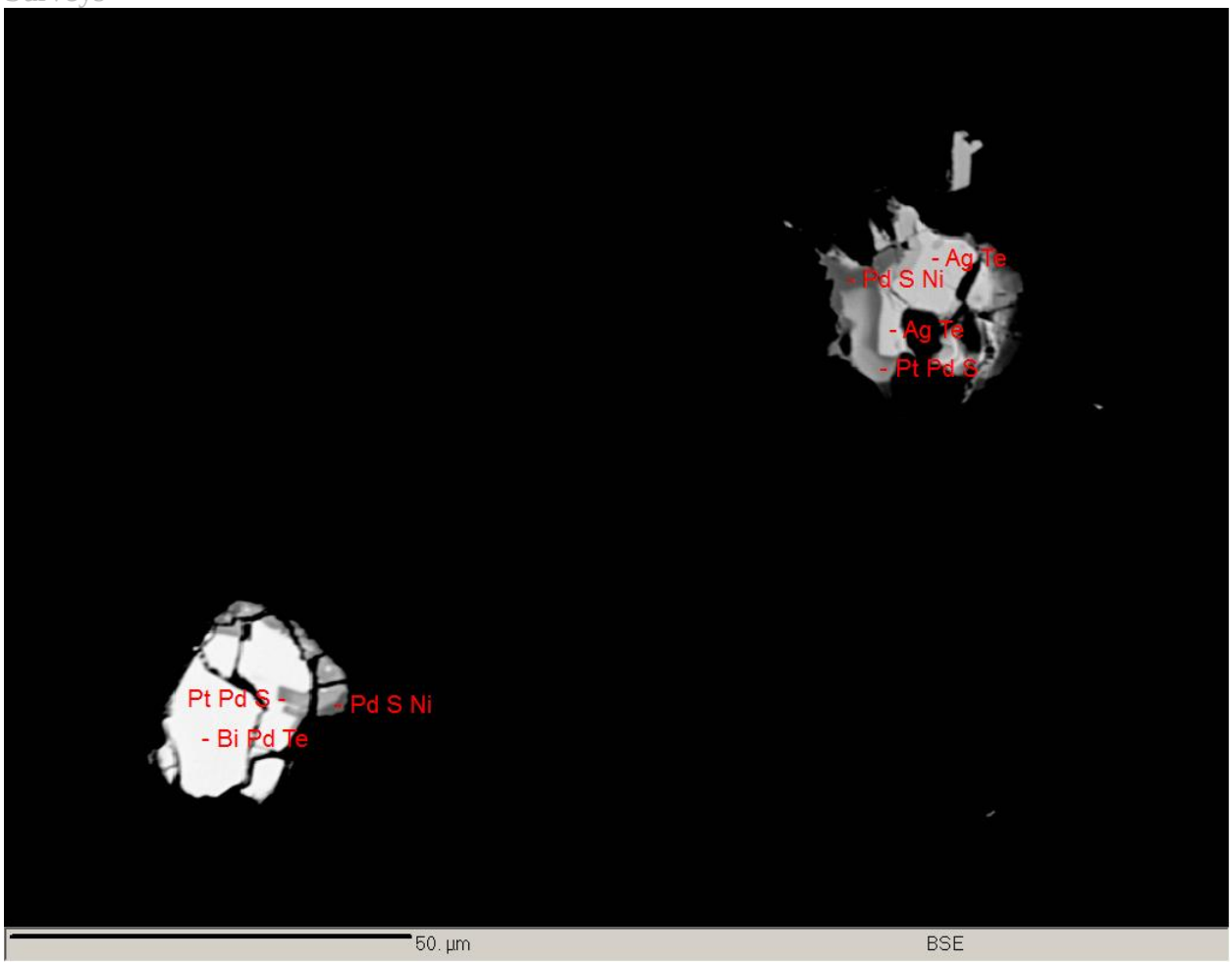


Fig. 45: Main Showing, blast pit, detail from Fig. 40.

PtPdS (braggite?), PdNiS , PdBiTe, AgTe minerals.

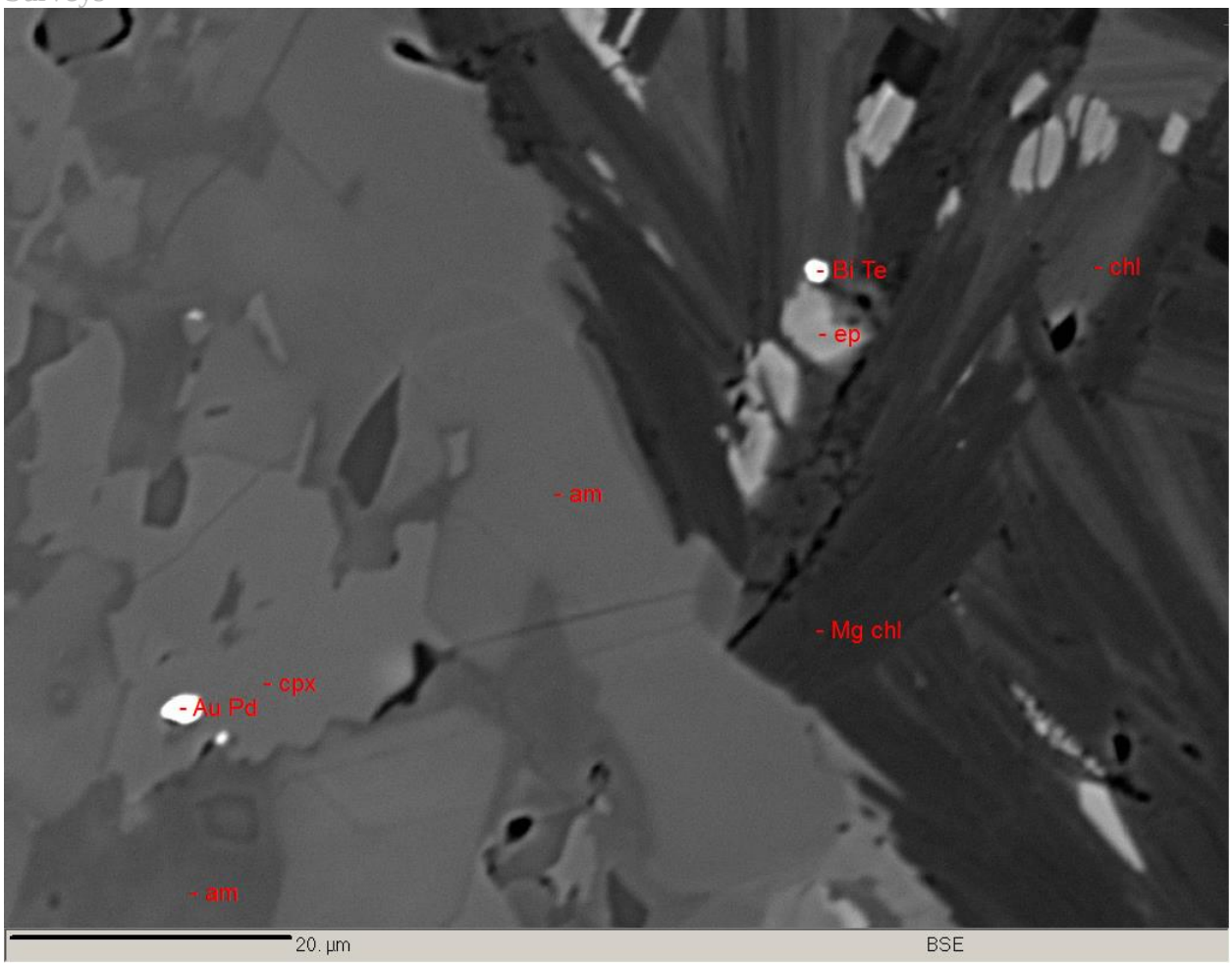


Fig. 46: Sample 619021.

Minerals: AuPd (unnamed) and BiTe (tsumoite) grains 5 to 8µm in diameter, the former hosted by diopside and the latter by chlorite; cpx – clinopyroxene, am – amphibole, chl – chlorite, ep – epidote.

Fig. 47: Sample 619021.

Rock forming minerals: di - diopside, amf – amphibole, act – actinolite; (diopside forms remnants in retrograde amphiboles).

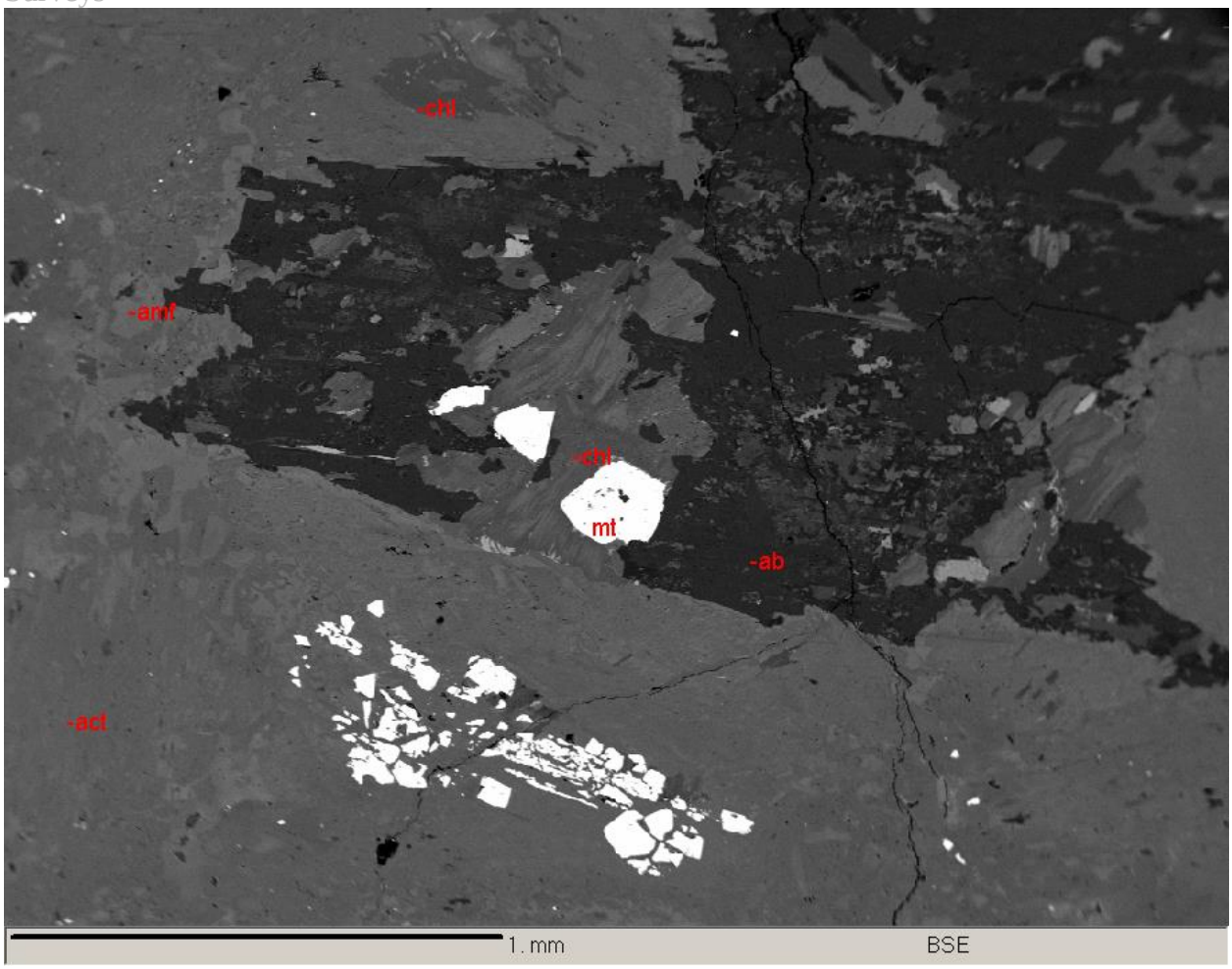


Fig. 48: sample 619021.

Minerals: amf – amphibole; act – actinolite, ab – albite, chl – chlorite, mt – magnetite.

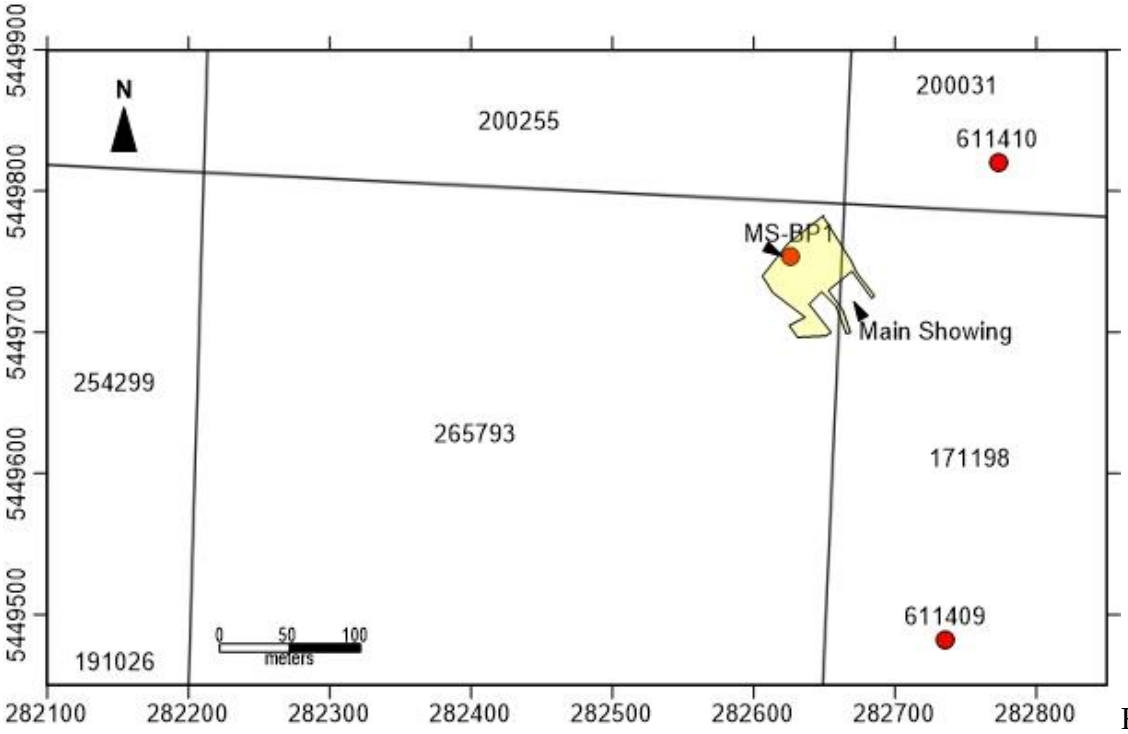


Fig. 49: Location of microprobe samples.

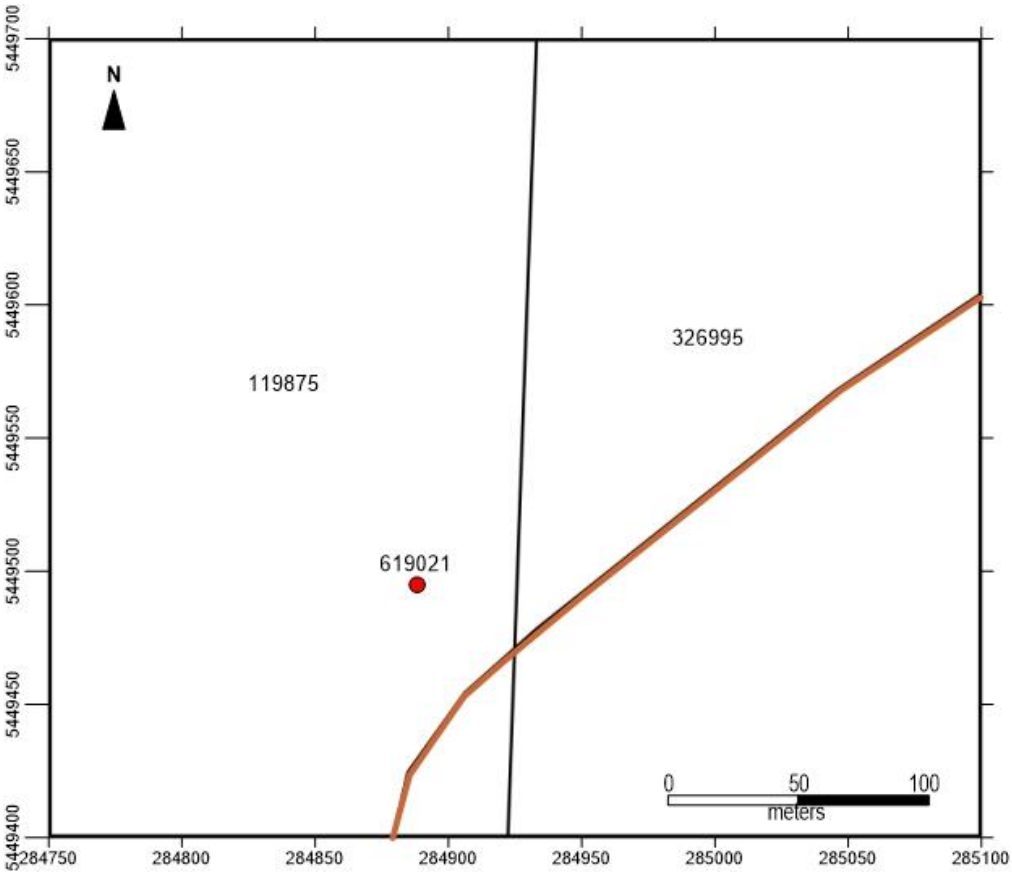


Fig. 50: Location of microprobe sample.

6. CONCLUSIONS AND RECOMMENDATIONS

Empire's 2017 and 2018 work on BLP consisted of outcrop mapping and sampling, re-interpretation of airborne magnetic surveys and a mineralogical study using a microprobe. The fieldwork was conducted mainly on to-date lightly-explored areas. A total of 79 chip and float samples were collected and their chemical analysis and interpretation is presented in this report. Chip samples from two locations in area B returned anomalous platinum ranging from 0.051 to 0.143 ppm and palladium from 0.048 to 0.167 ppm, respectively.

Re-interpretation of airborne geophysical data included plotting of geochemical results onto the measured lateral gradient map (Fig. 26). The compilation map shows anomalous to ore-grade Pt, Pd, Au ±Cu, Ni values commonly cluster within negative magnetic anomalies and/or at their contacts with positive mag anomalies and occur between two distinct, northeast-southwest striking faults, the Buck Lake Fault and the Dog River fault. The Main Showing occurs within a 800 m long by 350 m wide negative anomaly that includes an elongated bluff rising about 25 m above the Dog River. The second coincident zone, which we coin the East Zone here, occurs about 2 km east and just north of an old, sloughed bridge across the Dog River. This zone appears to be close to a northwest – southeast trending fault that parallels the Dog River. The association of high PGE values withnegative magnetic anomalies could be used as guides to PGE mineralization and for designing a future drilling program.

The airborne magnetic surveys confirmed the main structural controls on the BLP including the ENE striking Dog River and Buck Lake Faults, the NNE striking Gull Lake Fault which truncates and offsets the ultramafic belt at its East side and a "New NE Fault", which strikes NE and probably creates a sinistral offset of the ultramafic belt. Other cross faults with a WNW strike offseting parts of the ultramafic belt were also identified. Compilation of geophysical and geochemical data indicates that the highest concentration of Pt and Pd lies at the intersection of the Dog River and Buck Lake Faults with the Cross Faults, bounded to the West by the New NE Fault.

Inversion modeling further shows that most of the contacts between the magnetic highs and lows appear to be vertically dipping and also gives the impression of a rotation of the general strike of bodies with high magnetic susceptibility (magenta bodies), from NE towards ENE as one moves to the ENE along the belt of ultramafic rocks. The bodies with high magnetic susceptibility also tend to become thinner as we move towards the NNE. The dip of the Gull Lake Fault (NNE striking cyan signature a the East end of the inversions) appears to be vertical, as well, based on the inversion results.

The inversion voxel centered over the Main Showing (Fig. 29) shows the highest Pt+Pd values coincide with the magnetic lows (cyan colored) characterized by magnetic susceptibilities in the

range of 0 to 45 milli SI. It is possible that this magnetic low represents a different phase of the ultramafic intrusion, a metasomatized contact zone, or a chemically altered part of the ultramafic belt. All of these scenarios could explain the drop in magnetic susceptibility / magnetite content for this body. Note that this magnetic low may extend further to depth than elucidated via this inversion, as the depth extent is limited by the wavelength of the magnetic anomaly.

Inversion modeling of 2011 and 2018 airborne magnetic data also indicates that mafic/ultramafic body extends more than 1000 meters below the surface and as much as 2000 meters deep in the area to the east. The historical ground chargeability surveys indicated several discontinuous conductors striking northeast – southwest, which could be associated with sulphidic mineralization.

In analogy with Lac des Iles deposit, late magmatic (deuteric) alteration, retrograde metamorphism including amphibolization, biotitization, chloritization, epidotization and hydrothermal processes also took place at BLP. The effects these processes had on original magmatic layering and redistribution of PGE, Cu, Ni and S is still not fully understood. Some authors, e.g. Talkington & Watkinson (1984) stressed the role of these secondary, superimposed processes at Lac des Iles deposit, while other authors e.g. Hinchey et al. (2005) emphasize the role of primary magmatic processes and the origin of PGE mineralization as a result of crystallization from immiscible sulfide melt in the parental magma. The future work on BLP should address the genetic

Future work at BLP is recommended and should include further outcrop mapping, stripping of anomalous areas and systematic sampling. Representative rock samples from the outcrops and from the 2004 drill cores should be submitted for petrographic study to improve the knowledge of igneous, alteration and mineralization processes. A compilation of a new geological map based on the outcrop mapping and assay results should be conducted. The historical ground chargeability and airborne magnetic and VLF-EM surveys should be used for further modeling and identification of conductor axes.

Proposed Budget:

Geologist (15 days @ $900/day)	$13,500.00
Prospector (15 days @ $350/day)	$ 5,250.00
Assistant (15 days @ $250/day)	$ 3,750.00
Truck Rentals (15 days @ $70.00/day)	$ 2,300.00
Boat rental (5 days @ $50/day)	$ 250.00
Mob, demob	$ 2,000.00
Accommodation, food	$ 6,750.00
Gas	$ 500.00
Assays (100 samples)	$ 4,000.00
Miscellaneous	$ 2,000.00
Compilation, digitizing and report	$ 4,030.00
Total	**$44,330.00**

IN ACCOUNT WITH

XYQUEST MINING CORP.

Suite 702 • 889 West Pender Street • Vancouver BC • V6C 3B2 • Tel. 604 683.3288

Empire Metals Corp.
702-889 West Pender Street
Vancouver, BC V6C 3B2

June 12, 2017
Account #2017-022
GST#896269297

Re: Buck Lake Exploration (2017 Field Work)

	Days	Fees per Day	Amount
Senior Geologist, Dr. Bohumil B. Molak, PGeo			
Field work	7	$ 900.00	$ 6,300.00
Logistics, preparation, travel, mobilization and demobilization	1	$ 900.00	900.00
			$ 7,200.00
Prospector, William Richmond			
9 days @ $450/day			$ 4,050.00
			$ 4,050.00
Assays (28 samples - Accurasay Lab Bill)			$ 1,399.96
Expenses:			
Airfare			$ 759.52
Accommodation			908.71
Food (Meals, Groceries, etc)			506.60
Boat Rental (3 days @ $75/day)			225.00
Car Rental (9days @ $100/day, 150km @ $0.35/Km per day)			1,500.54
Fuel/ Transportation charges			344.79
Expense Administration Fee and Office Charge			636.77
Total Expenses			$ 4,881.93
Digitization, Preliminary Exploration Report (at 10% of costs)			$ 810.00
Subtotal			$ 18,341.89
GST			$ 917.09
Total			**$ 19,258.99**

This is our account herein

XYQUEST MINING CORP.

PER:

FOR ANTHONY J. BERUSCHI

• INTEREST OF 2% PER MONTH, COMPOUNDED MONTHLY,
OR 26.8% PER ANNUM CHARGED ON OVERDUE ACCOUNTS

IN ACCOUNT WITH

XYQUEST MINING CORP.

Suite 702 • 889 West Pender Street • Vancouver BC • V6C 3B2 • Tel. 604.683.3288

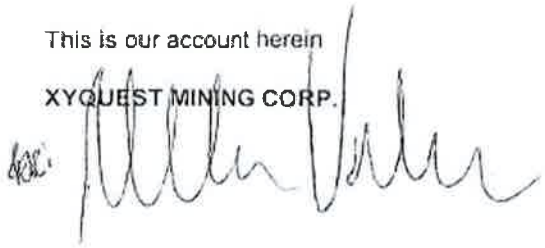
Empire Metals Corp.
702-889 West Pender Street
Vancouver, BC V6C 3B2

December 20, 2018
Account #2018-024
GST#896269297

Re: Buck Lake Exploration (2018Field Work)	Days	Fees per Day	Amount
Senior Geologist, Dr. Bohumil B. Molak, PGeo			
Field work	12	$ 900.00	$ 10,800.00
Logistics, preparation, travel, mobilization and demobilization	1	$ 900.00	900.00
Research, report preparation	5	$ 800.00	4,000.00
			$ 15,700.00
Prospector, William Richmond			
Field work 10 days @ $450/day			$ 4,500.00
			$ 4,500.00
Geological Assistant, David Siccia			
Field work	3	$ 350.00	$ 1,050.00
Preparation, travel, mobilization and demobilization	0.5	$ 350.00	175.00
			$ 1,225.00
Assays (51 samples)			$ 2,040.00
Expenses:			
Airfare			$ 1,349.30
Accommodation			1,137.24
Food (Meals, Groceries, etc)			1,227.85
Car Rental (19days @ $100/day, 150km @ $0.35/Km per day)			1,396.96
Fuel/ Transportation charges			343.74
Geophysical data inversion (MPH Consulting Ltd.)			2,737.25
Microprobe			500.00
Expense Administration Fee and Office Charge			667.08
Total Expenses			$ 9,359.42
Digitization			$ 1,332.50
Subtotal			$ 34,156.92
GST			$ 1,707.85
Total			**$ 35,864.77**

This is our account herein

XYQUEST MINING CORP.



• INTEREST OF 2% PER MONTH, COMPOUNDED MONTHLY,
OR 26.8% PER ANNUM CHARGED ON OVERDUE ACCOUNTS

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9. STATEMENT OF QUALIFICATIONS

I, Bohumil (Boris) Molak, Ph.D., P.Geo (BC) do hereby certify that:

I am a Professional Geoscientist residing at # 312, 9298 University Crescent, Burnaby, V5A 4X8, B.C., Canada.

I am a member of the Association of Professional Engineers and Geoscientists of British Columbia (License No. 28600) in good standing.

I graduated from the Comenius University, Czechoslovakia, with a Bachelor of Science (Mag.) in Economic Geology in 1970. From the same university I obtained in 1980 the title Master of Science in Economic Geology (RNDr.) and in 1990 the title Doctor of Philosophy (CSc.). I have practiced my profession continuously since 1970.

Since 1970 I have been involved in the geological, prospecting, exploration and research projects on precious, base and ferrous metals, industrial minerals and hydrocarbons in Czechoslovakia, Bulgaria, Zambia, Cuba, Guinea, Canada, Chile and Argentina.

Since 2003 until present I am a self-employed consulting geologist.

I conducted the litho-geochemical sampling program on the Buck Lake PGE Prospect on May 10 – 19, 2017, June 10 – 19, 2018 and September 24 – 26, 2018.

I am responsible for all sections of this report except the Item 4 Exploration Expenses, which was prepared by Xyquest Mining Corp. The sources of all information not based on personal examination are quoted in the report. The information provided by other parties is to the best of my knowledge correct.

As of the date of this Statement I am not aware of any material fact or material change with respect to the subject matter of this report that is not reflected in this report, the omission of which would make the report misleading.

I am independent of Empire Rock Minerals Inc.

Dated at Vancouver, BC, Canada, this the 15th day of May, 2019.

Amended: November 22. 2019

10. STATEMENT OF QUALIFICATIONS

I, William J. Richmond do hereby certify that:

I am a Prospector residing at # 413 Lillian Street, Thunder Bay, ON, Canada.

I am a holder of Permanent Prospector's License.

From 1970 to 1991 I completed the courses as follows: Natural Resources Course at Hammarskjold High School, Thunder Bay, Grades 11-12, Geology, Mineralogy; baseline cutting; claim staking; geophysics; mineral prospecting.

From 1988 to 1998 I optioned the following properties: Smiley Lake Property (to John North of Newnorth Exploration, Toronto, ON); Clive Brooks (to Home Ventures, Vancouver, BC); East Dog River Property; Mirage Lake Property.

From 1992 to 1997 I conducted the OPAP programs on the Dog River, Orbit Buck Lake, Mirage Lake and Buck Lake prospects.

I took part in the litho-geochemical sampling program on the Buck Lake PGE Prospect on May 10 – 19, 2017, June 10 – 19, 2018 and September 24 – 26, 2018.

Dated at Thunder Bay, ON, Canada, this the 15th day of May, 2019.

APPENDIX I

Sample Description with Gold, Platinum and Palladium Assays (in ppm)

#	Easting	Northing	Description	Pt	Pd	Au	Cu	Ni
619101	284896	5449495	SO gbbr with plg 20-30%, diss prt +/- chprt ~2%	< 0.005	< 0.005	0.004	88	98
619102	284883	5449494	SO gbbr with plg 20-30%, diss prt ~1%	0.007	< 0.005	0.003	81	92
619103	284871	5449494	SO gbbr with plg, loc micaceous, epidote, diss prt 1-2% often assoc with plg	0.009	< 0.005	0.002	108	94
619104	284888	5449511	Sub-crop, feldspathic prxnt,1-2% diss sulph	< 0.005	< 0.005	< 0.002	36	43
619105	284891	5449514	Sub-crop, feldspathic prxnt,2-3% diss sulph	0.106	0.09	0.004	25	54
619106	282221	5447411	Island outcrop, fine-med gr., grey to black gbbr (?), felsic veinlets along & across fol, f-275/80S, 195/60S, 2-3% prt	< 0.005	< 0.005	< 0.002	402	36
619107	282221	5447411	Island outcrop, fine-med gr., grey to black gbbr (?), felsic veinlets along & across fol, f-275/80S, 195/60S, 2-3% prt	< 0.005	< 0.005	< 0.002	280	7
619108	282221	5447411	Island outcrop, fine-med gr., grey to black gbbr (?), felsic veinlets along & across fol, f-275/80S, 195/60S, 5% prt	< 0.005	< 0.005	< 0.002	526	51
619109	282484	5449581	Alter M/UM rock plg ~20%, 5% diss sulph and along fractures	< 0.005	< 0.005	< 0.002	43	85
619110	282479	5449587	Grey-green med gr prxnt, ~5% plg, sulphides on fracture planes and diss	0.007	0.006	< 0.002	184	198
619111	282259	5449580	T-1 (old trench), Heavily altered prxnt, blebby diss sulpides, malachite	0.093	0.059	0.037	432	641
619112	282259	5449580	T-1 (old trench), Heavily altered prxnt, blebby sulpides on fractures	0.024	0.044	0.016	247	307
619113	282252	5449574	T-1 (old trench), Heavily altered prxnt, cut by felsic dykes +/- quartz, ~3% diss sulpides	0.014	0.019	< 0.002	62	141
619114	282160	5449535	Float, outcrop (pack-sack drill hole here), altered prxnt, diss sulph 2-3%	0.033	0.057	< 0.002	78	331
619115	282774	5449819	Outcrop, vari-textured fine - coarse gbbr, sulphides 10-20%	1.64	1.74	0.029	936	967
619116	282774	5449819	Outcrop, vari-textured fine - coarse gbbr, sulphides up to 10%	2.81	3.36	0.11	2510	2810
619117	282774	5449819	Outcrop, vari-textured fine - coarse gbbr, sulphides ~ 5%	0.013	0.021	< 0.002	126	111
619118	282769	5449844	Old trench, amph gbbr with diss sulph 2-3%	< 0.005	0.006	< 0.002	68	99
619119	282769	5449844	Old trench, amph gbbr with diss sulph 2-3%, FD of 619118	0.012	0.012	< 0.002	70	119
619120	282774	5449819	Outcrop, vari-textured fine - coarse gbbr, sulphides 10-20%	1.02	0.778	0.031	519	566
619121	282752	5449831	SO, med gr M/UM rock, plg ~10%, diss sulph 2-3%, up to 5mm	< 0.005	0.008	< 0.002	35	190
619122	282752	5449831	SO, med gr M/UM rock, plg ~10%, diss sulph 2-3%, up to 5mm, FD of 619121	< 0.005	0.007	< 0.002	7	172
619123	716731	5446642	LO, med gr gbbr, plg 40-50% cut by felsic dykes, tiny diss prt up to 3%	< 0.005	< 0.005	< 0.002	20	19
619124	716731	5446642	LO, sheared, almost black M/UM rock, cut by felsic dykes, tiny diss prt 1-2 3%	< 0.005	< 0.005	< 0.002	< 1	210
619125	716566	5446771	Boulder, coarse gbbr, ~20% feldspar, diss sulph ~ 3% often associate with flsp	< 0.005	< 0.005	< 0.002	50	82
619126	716528	5446567	SO, biotite granitoide, chloritic, feldspathic bands, sulph at contacts 1-2%	< 0.005	< 0.005	< 0.002	50	16
619127	716539	5446558	LO, fine gr, dark green gbbr, contacts felsic rocks, diss sulph 1-2%	0.01	0.015	< 0.002	39	94

619128	716539	5446558	LO, fine gr, dark green gbbr, contacts felsic rocks, diss sulph 1-2%	< 0.005	< 0.005	< 0.002	20	188
619129	284279	5449172	SO, fine gr - med gr feldspathic gbbr contact, forms an enclave in granitoide, diss sulph 2-3%	< 0.005	< 0.005	< 0.002	39	28
619130	284279	5449172	SO, fine gr - med gr feldspathic gbbr contact, forms an enclave in granitoide, diss sulph 2-3%, FD of 619129	< 0.005	< 0.005	< 0.002	29	38
619131	284446	5449202	SO, mafic rock with a quartz vein or lense up to 15 cm wide, strike ~40, dip 90+/-10, massive sulph nests	0.025	0.018	0.01	320	191
619132	284446	5449202	SO, mafic rock hosts a quartz vein or lense up to 15 cm wide, diss sulph	0.038	0.021	0.009	241	145
619133	284296	5449250	LO, hornblende gbbr with plg, diss sulph 2-3%	< 0.005	< 0.005	< 0.002	72	73
619134	284284	5449274	LO, altered prxnt cut by felsic veins/veinlets, diss sulph 2-3%	0.029	0.019	0.007	86	94
619135	284268	5449292	LO, brecciacciated M/UM rock cut by felsic veins/veinlets, diss sulph 2-3% on the fractures	0.042	0.034	< 0.002	9	60
5560560	716517	5446156	Outcrop, granitoids with abundant feldspa, little mica, mafic inclusions, some sulph ~ 1%	<0.005	<0.001	0.01	23	13
5560561	716671	5446153	Boulder, coarse gbbr, pyroxenite, some feldspar, epidote, rare diss sulph	<0.005	0.004	0.001	77	657
5560562	716709	5446160	Float, med gbbr, some diss prt	<0.005	<0.001	0.004	48	164
5560563	281453	5451282	Outcrop, fine gr dark grey gbbr, f-80/60-70S	<0.005	<0.001	<0.001	58	97
5560564	281387	5451247	Outcrop, fine gr hornblendite and/or gbbr, alternates and is cut by felsic bands, quartz, +/- biotite, f-360/80+/-10E	<0.005	<0.001	<0.001	59	88
5560565	281707	5450955	Outcrop, med - to fine gr mafic massive to foliated mafic rock, amphibolite	<0.005	0.003	<0.001	39	412
5560566	281486	5450768	Sub-crop, mafic rock of gabbroic composition	<0.005	<0.001	0.002	31	109
5560567	281588	5450849	Scarpy outcrop, granitoide, plg, biotite, epidote, some diss sulph	<0.005	<0.001	0.003	13	23
5560568	281460	5450747	Sub-crop, black, med gr UM rock made of amphibole, pyroxene, saprsely diss prt	0.01	0.01	0.002	141	218
5560573	285042	5450136	Outcrop, granitoids with schlieren “digested" mafic rock enclaves, slabs <15 cm thick, plg, epidote, prt at contacts	<0.005	<0.001	<0.001	63	108
5560574	284747	5450146	Outcrop, fine gr gbbr, plg, rare sulphides on fractures or disseminated	<0.005	0.002	0.001	81	120
5560575	285054	5450025	Boulder on logging road, mixed mafic rock, flsp, quartz, epidote, diss sulph or form lumps, crystals <3 cm	<0.005	<0.001	0.002	167	50
5560576	285054	5450025	Boulder mixed mafic rock, flsp, biotite, quartz lense <15 cm, diss sulph or form lumps, crystals <3 cm	<0.005	<0.001	0.002	246	40
5560577	285063	5450048	Float, mixed mafic rock, flsp, diss sulph or form lumps, crystals <3 cm	<0.005	<0.001	<0.001	81	50
5560578	285054	5450025	Float, mixed mafic rock, flsp, diss sulph or on fractures	<0.005	<0.001	0.00	41	55
5560592	284539	5450924	SO, (on road), med to fine gr gabbro, 30-40% plg, diss sulph 1-2%	<0.005	<0.001	<0.001	61	102
5560593	284530	5450936	SO, (on road), med to fine gr leucogabbro, plg, chlorite, biotite diss sulph 1-2%	<0.005	0.001	0.001	75	154
5560594	284481	5450980	SO, (on road), med to coarse gr gabbro, plg 20-30%, chlorite, diss pyrite and in thin veinlet, 1-2%, quartz veinlet	<0.005	<0.001	0.001	61	177
5560595	284481	5450980	SO, (on road), med to coarse gr gabbro, plg 20-30%, chlorite, diss pyrite up to 5cm in thin veinlet, quartz veinlet	<0.005	<0.001	0.01	49	142

5560596	284998	5449537	Float, pyroxenite (?) with diss sulph 2-3%	<0.005	0.003	0.01	36	379
5560597	285010	5449537	SO, varitextured gabbro, plg, hornblende, pyroxene	<0.005	0.001	<0.001	64	113
5560598	284882	5449595	Float, near felsic - gabbroic rock contact, diss sulph 2-3%	<0.005	0.003	0.003	37	210
5560599	284818	5449556	SO, gabbro, plg, amph, biotite, diss sulph 1-2%	<0.005	<0.001	0.001	189	64
5560600	284880	5449518	SO, gabbro, plg 10-20%, vuggy, brown Fe-oxides, sparse diss sulph 1-2%	0.12	0.11	0.001	44	261
5560601	284880	5449518	SO, gabbro, plg 10-20%, vuggy, brown Fe-oxides, sparse diss sulph 1-2%, FD of 5560600	0.06	0.05	0.004	42	307
5560602	284916	5449500	SO, coarse gr gabbro, plg ~30%, chloritization, sparse diss sulph 1-2%	0.01	0.004	0.002	27	175
5560603	282419	5447530	SO, (lake shore) leucogabbro, sparse pyrite is disseminated or in thin veinlets	<0.005	<0.001	0.001	26	43
5560604	716998	5446619	SO, mixed felsic and dark to black gabbroic rock forms bands, enclaves, streaks, biotite, prt diss or in thin veinlets	<0.005	0.002	<0.001	66	35
5560605	284878	5449518	Old trench, vuggy, chloritized M/UM rock with biotite and plg ± quartz	0.08	0.09	0.01	40	267
1408554	718774	5466247	Boulder, dark M/UM rock (gabbro, pyroxenite), plagioclases, brown Fe-oxidic infiltrations, diss sulph 2-3%	0.007	< 0.005	<0.002	369	89
1408555	285052	5450029	Boulder ~ 1x1m, dark green to black M/UM enclave in felsic (amphibole-pink flsp-biotite-qtz), diss sulph 1-2%	< 0.005	< 0.005	< 0.002	114	36
1408556	285052	5450029	Boulder ~ 1x1m, green-black M/UM enclave in felsic (amph-pink flsp-biot), crosscutting qtz veinlet diss sulph 1-2%	< 0.005	< 0.005	<0.002	76	33
1408557	285003	5449470	SO, med gr gabbro, plg diss pyrite ~ 1%	0.008	< 0.005	< 0.002	49	85
1408558	283775	5448387	Float, near felsic - gabbroic rock contact, diss sulph 2-3%	< 0.005	< 0.005	<0.002	54	63
1408560	283036	5448478	SO, felsic rock, diss sulph 2-3%	< 0.005	< 0.005	< 0.002	24	7
1408561	282709	5447702	SO, dark green mafic dyke (15-20 cm wide) cuts through felsics and mafics	< 0.005	< 0.005	<0.002	75	74
1408562	283123	5448605	SO, massive pyroxenite, no sulphides visible	0.006	< 0.005	0.003	123	79
5560860	283205	5449138	SO, massive pyroxenite with pink feldspar, diss sulphides 2-3%	0.006	< 0.005	0.003	18	105
5560861	283203	5449139	SO, coarse gr amphibolitized and chloritized pyroxenite with pink flsp, sparse diss sulph 2-3%	0.028	0.04	<0.002	228	108
5560862	283206	5449146	SO, coarse gr amphibolitized and chloritized pyroxenite with pink flsp <5%, sparse diss sulph 2-3%	0.139	0.116	0.003	27	202
5560863	283207	5449149	SO, dark green to black, coarse gr chloritized pyroxenite with <5% flsp, 2-3% diss sulph, brown Fe-ox patches	0.084	0.114	0.019	96	184
5560864	283206	5449139	SO, coarse gr pyroxenite, ~ 10% pink flsp, diss prt, cprt up to 1 cm across	0.015	0.027	0.015	805	124
5560865	283215	5449144	Old trench, dark, coarse gr pyroxenite, < 5% plg, rare diss sulph	< 0.005	< 0.005	0.004	505	170

Abbreviations: cprt –chalcopyrite; diss sulph–disseminated sulphides; encl-enclaves; FD -field duplicate gr.–grained; LO–large outcrop; plg–plagioclase; prt –pyrite; qtz–quartz; SO-small outcrop.

APPENDIX II

List of Cell Claims

	Legacy Claim Id	Hectares	Township / Area	Property	Tenure ID	Tenure Type	Anniversary Date
1	4266110	17.814	TIB LAKE	Buck Lake	103418	Boundary Cell Mining Claim	2022-07-11
2	4241579	2.359	TIB LAKE	Buck Lake	104846	Boundary Cell Mining Claim	2022-07-24
3	4277659	21.100	SHARP LAKE,TIB LAKE	Buck Lake	105014	Single Cell Mining Claim	2022-04-23
4	1238120	21.124	TIB LAKE	Buck Lake	105521	Single Cell Mining Claim	2022-03-15
5	1173922	6.003	TIB LAKE	Buck Lake	107652	Boundary Cell Mining Claim	2022-06-10
6	4274916	4.428	SHARP LAKE,TIB LAKE	Buck Lake	108927	Boundary Cell Mining Claim	2022-04-23
7	4274916	6.550	SHARP LAKE	Buck Lake	108928	Boundary Cell Mining Claim	2022-04-08
8	4282208	21.100	TIB LAKE	Buck Lake	109030	Single Cell Mining Claim	2022-07-27
9	4266104	6.792	TIB LAKE	Buck Lake	109957	Boundary Cell Mining Claim	2022-07-11
10	4241578	6.684	TIB LAKE	Buck Lake	110284	Boundary Cell Mining Claim	2022-07-24
11	4241578	18.976	TIB LAKE	Buck Lake	110285	Boundary Cell Mining Claim	2022-07-24
12	4266107	6.920	TIB LAKE	Buck Lake	111086	Boundary Cell Mining Claim	2022-07-11
13	4282209	21.100	TIB LAKE	Buck Lake	113061	Single Cell Mining Claim	2022-07-27
14	4282209	21.100	TIB LAKE	Buck Lake	113062	Single Cell Mining Claim	2022-07-27
15	1238122	21.125	TIB LAKE	Buck Lake	114580	Single Cell Mining Claim	2022-03-15
16	4266110	21.132	TIB LAKE	Buck Lake	119045	Single Cell Mining Claim	2022-07-11
17	4266110	21.131	TIB LAKE	Buck Lake	119874	Single Cell Mining Claim	2022-07-11
18	4241578	21.131	TIB LAKE	Buck Lake	119875	Single Cell Mining Claim	2022-07-24
19	4274916	21.140	SHARP LAKE	Buck Lake	120191	Single Cell Mining Claim	2022-04-08
20	4286109	21.100	TIB LAKE	Buck Lake	123945	Single Cell Mining Claim	2022-04-23
21	1238120	21.126	TIB LAKE	Buck Lake	125934	Single Cell Mining Claim	2022-03-15
22	1195849	0.876	TIB LAKE	Buck Lake	126688	Boundary Cell Mining Claim	2022-08-27
23	4274916	21.144	SHARP LAKE	Buck Lake	128660	Single Cell Mining Claim	2022-04-23
24	4277659	21.100	SHARP LAKE	Buck Lake	128661	Single Cell Mining Claim	2022-04-23
25	4274916	21.140	SHARP LAKE,TIB LAKE	Buck Lake	131025	Single Cell Mining Claim	2022-04-23
26	4281250	21.100	SHARP LAKE	Buck Lake	133478	Single Cell Mining Claim	2022-03-17
27	4281250	21.100	SHARP LAKE	Buck Lake	133479	Single Cell Mining Claim	2022-03-17
28	4282209	21.100	TIB LAKE	Buck Lake	135835	Single Cell Mining Claim	2022-07-27
29	1238122	21.123	TIB LAKE	Buck Lake	135836	Single Cell Mining Claim	2022-07-27
30	4241577	9.253	TIB LAKE	Buck Lake	135866	Boundary Cell Mining Claim	2022-07-24
31	4286109	21.100	TIB LAKE	Buck Lake	135947	Single Cell Mining Claim	2022-04-21
32	1238120	4.666	TIB LAKE	Buck Lake	137413	Boundary Cell Mining Claim	2022-03-15
33	1238121	4.600	TIB LAKE	Buck Lake	137721	Boundary Cell Mining Claim	2022-03-15
34	1174120	1.159	TIB LAKE	Buck Lake	138143	Boundary Cell Mining Claim	2022-05-31
35	4274916	21.143	SHARP LAKE	Buck Lake	140648	Single Cell Mining Claim	2022-04-23
36	4277659	21.100	SHARP LAKE	Buck Lake	140649	Single Cell Mining Claim	2022-04-23
37	4277659	21.100	SENGA LAKE,SHARP LAKE	Buck Lake	140650	Single Cell Mining Claim	2022-04-23
38	4241577	0.315	TIB LAKE	Buck Lake	141149	Boundary Cell Mining Claim	2022-07-24
39	4241578	21.131	TIB LAKE	Buck Lake	141150	Single Cell Mining Claim	2022-07-24

40	1238122	21.127	TIB LAKE	Buck Lake	144612	Single Cell Mining Claim	2022-03-15
41	1174119	0.885	TIB LAKE	Buck Lake	145278	Boundary Cell Mining Claim	2022-05-31
42	4274916	21.144	SHARP LAKE,TIB LAKE	Buck Lake	146058	Single Cell Mining Claim	2022-04-23
43	4274916	21.144	SHARP LAKE	Buck Lake	146059	Single Cell Mining Claim	2022-04-23
44	4277659	21.100	SHARP LAKE	Buck Lake	146060	Single Cell Mining Claim	2022-04-23
45	4277659	21.100	SHARP LAKE	Buck Lake	146061	Single Cell Mining Claim	2022-04-23
46	4277659	21.100	SHARP LAKE	Buck Lake	146062	Single Cell Mining Claim	2022-04-23
47	4274916	21.140	SHARP LAKE	Buck Lake	148241	Single Cell Mining Claim	2022-04-08
48	4282209	21.100	TIB LAKE	Buck Lake	148341	Single Cell Mining Claim	2022-07-27
49	4282208	21.100	TIB LAKE	Buck Lake	148342	Single Cell Mining Claim	2022-07-27
50	1238121	21.124	TIB LAKE	Buck Lake	148343	Single Cell Mining Claim	2022-03-15
51	4274916	21.140	SHARP LAKE	Buck Lake	149400	Single Cell Mining Claim	2022-04-08
52	4286109	21.100	TIB LAKE	Buck Lake	151840	Single Cell Mining Claim	2022-04-23
53	1238120	0.143	TIB LAKE	Buck Lake	153824	Boundary Cell Mining Claim	2022-03-15
54	4282209	21.100	TIB LAKE	Buck Lake	155364	Single Cell Mining Claim	2022-07-27
55	4282209	21.100	TIB LAKE	Buck Lake	155365	Single Cell Mining Claim	2022-07-27
56	4277660	5.573	TIB LAKE	Buck Lake	156537	Boundary Cell Mining Claim	2022-04-23
57	4277660	21.100	TIB LAKE	Buck Lake	156538	Single Cell Mining Claim	2022-04-23
58	1238121	21.126	TIB LAKE	Buck Lake	157868	Single Cell Mining Claim	2022-03-15
59	4266104	6.942	SHARP LAKE,TIB LAKE	Buck Lake	158517	Boundary Cell Mining Claim	2022-07-11
60	4277659	21.100	SHARP LAKE	Buck Lake	162615	Single Cell Mining Claim	2022-04-23
61	4277659	21.100	SHARP LAKE	Buck Lake	162616	Single Cell Mining Claim	2022-04-23
62	4281250	21.100	SHARP LAKE	Buck Lake	164620	Single Cell Mining Claim	2022-03-17
63	4241579	11.637	TIB LAKE	Buck Lake	167422	Boundary Cell Mining Claim	2022-07-24
64	4286109	21.100	TIB LAKE	Buck Lake	168467	Single Cell Mining Claim	2022-04-21
65	1238122	21.124	TIB LAKE	Buck Lake	170019	Single Cell Mining Claim	2022-07-27
66	1195849	2.910	TIB LAKE	Buck Lake	171198	Boundary Cell Mining Claim	2022-06-29
67	4266108	21.135	TIB LAKE	Buck Lake	172493	Single Cell Mining Claim	2022-07-11
68	4266107	21.137	TIB LAKE	Buck Lake	172494	Single Cell Mining Claim	2022-07-11
69	1238120	21.124	TIB LAKE	Buck Lake	172592	Single Cell Mining Claim	2022-03-15
70	1238120	21.126	TIB LAKE	Buck Lake	172593	Single Cell Mining Claim	2022-03-15
71	1238120	21.126	SHARP LAKE,TIB LAKE	Buck Lake	172594	Single Cell Mining Claim	2022-03-15
72	1238120	5.583	SHARP LAKE,TIB LAKE	Buck Lake	172595	Boundary Cell Mining Claim	2022-03-15
73	4266104	8.573	TIB LAKE	Buck Lake	172976	Boundary Cell Mining Claim	2022-07-11
74	4241578	21.133	TIB LAKE	Buck Lake	174647	Single Cell Mining Claim	2022-07-24
75	4277659	21.100	SHARP LAKE	Buck Lake	175321	Single Cell Mining Claim	2022-04-23
76	4266107	14.486	TIB LAKE	Buck Lake	176311	Boundary Cell Mining Claim	2022-07-11
77	4274916	5.730	SHARP LAKE	Buck Lake	176842	Boundary Cell Mining Claim	2022-04-08
78	4274916	21.140	SHARP LAKE	Buck Lake	176843	Single Cell Mining Claim	2022-04-08
79	4282208	21.100	TIB LAKE	Buck Lake	176935	Single Cell Mining Claim	2022-07-27
80	1238121	21.124	TIB LAKE	Buck Lake	176936	Single Cell Mining Claim	2022-03-15
81	4281250	21.100	SHARP LAKE	Buck Lake	178676	Single Cell Mining Claim	2022-03-17
82	1238121	10.237	TIB LAKE	Buck Lake	182912	Boundary Cell Mining Claim	2022-03-15

83	4266110	1.622	TIB LAKE	Buck Lake	183926	Boundary Cell Mining Claim	2022-07-11
84	4274916	7.370	SHARP LAKE	Buck Lake	184199	Boundary Cell Mining Claim	2022-04-08
85	4281250	21.100	SHARP LAKE	Buck Lake	185459	Single Cell Mining Claim	2022-03-17
86	1195849	0.493	TIB LAKE	Buck Lake	190661	Boundary Cell Mining Claim	2022-08-27
87	4266104	3.628	TIB LAKE	Buck Lake	191026	Boundary Cell Mining Claim	2022-07-11
88	4266104	2.730	SHARP LAKE,TIB LAKE	Buck Lake	191027	Boundary Cell Mining Claim	2022-07-11
89	4241578	21.133	TIB LAKE	Buck Lake	191985	Single Cell Mining Claim	2022-07-24
90	4266108	21.135	TIB LAKE	Buck Lake	191986	Single Cell Mining Claim	2022-07-11
91	4266107	3.828	TIB LAKE	Buck Lake	193698	Boundary Cell Mining Claim	2022-07-11
92	4282208	21.100	TIB LAKE	Buck Lake	196458	Single Cell Mining Claim	2022-07-27
93	4241577	8.939	TIB LAKE	Buck Lake	200031	Boundary Cell Mining Claim	2022-07-24
94	1173921	7.839	TIB LAKE	Buck Lake	200255	Boundary Cell Mining Claim	2022-06-10
95	4241578	21.131	TIB LAKE	Buck Lake	200399	Single Cell Mining Claim	2022-07-24
96	1238122	8.499	TIB LAKE	Buck Lake	203287	Boundary Cell Mining Claim	2022-03-15
97	1238122	18.703	TIB LAKE	Buck Lake	203303	Boundary Cell Mining Claim	2022-03-15
98	1238122	19.535	TIB LAKE	Buck Lake	203304	Boundary Cell Mining Claim	2022-03-15
99	4266104	21.130	TIB LAKE	Buck Lake	203723	Single Cell Mining Claim	2022-07-11
100	1238121	21.126	TIB LAKE	Buck Lake	209851	Single Cell Mining Claim	2022-03-15
101	4266104	2.949	TIB LAKE	Buck Lake	210507	Boundary Cell Mining Claim	2022-07-11
102	1238122	10.386	TIB LAKE	Buck Lake	211327	Boundary Cell Mining Claim	2022-03-15
103	1238122	2.425	TIB LAKE	Buck Lake	211328	Boundary Cell Mining Claim	2022-03-15
104	4274916	21.142	SHARP LAKE,TIB LAKE	Buck Lake	213071	Single Cell Mining Claim	2022-04-23
105	4266107	19.133	TIB LAKE	Buck Lake	213152	Boundary Cell Mining Claim	2022-07-11
106	4266107	21.137	TIB LAKE	Buck Lake	213153	Single Cell Mining Claim	2022-07-11
107	4286109	21.100	TIB LAKE	Buck Lake	217269	Single Cell Mining Claim	2022-04-21
108	4266108	21.135	TIB LAKE	Buck Lake	221255	Single Cell Mining Claim	2022-07-11
109	4274916	21.144	SHARP LAKE	Buck Lake	221901	Single Cell Mining Claim	2022-04-23
110	4266110	16.198	TIB LAKE	Buck Lake	223746	Boundary Cell Mining Claim	2022-07-11
111	4241578	12.123	TIB LAKE	Buck Lake	223747	Boundary Cell Mining Claim	2022-07-24
112	4266110	21.132	TIB LAKE	Buck Lake	223748	Single Cell Mining Claim	2022-07-11
113	4281250	21.100	SHARP LAKE	Buck Lake	225242	Single Cell Mining Claim	2022-03-17
114	4274916	21.142	SHARP LAKE	Buck Lake	225243	Single Cell Mining Claim	2022-04-08
115	4266109	21.133	TIB LAKE	Buck Lake	229209	Single Cell Mining Claim	2022-07-24
116	4266108	8.420	TIB LAKE	Buck Lake	229210	Boundary Cell Mining Claim	2022-07-11
117	4277659	21.100	SENGA LAKE,SHARP LAKE	Buck Lake	229880	Single Cell Mining Claim	2022-04-23
118	1174119	5.148	TIB LAKE	Buck Lake	230711	Boundary Cell Mining Claim	2022-05-31
119	4286109	21.100	TIB LAKE	Buck Lake	235780	Single Cell Mining Claim	2022-04-21
120	1238122	21.124	TIB LAKE	Buck Lake	237082	Single Cell Mining Claim	2022-07-27
121	4241577	6.830	TIB LAKE	Buck Lake	237117	Boundary Cell Mining Claim	2022-07-24
122	4286109	7.465	TIB LAKE	Buck Lake	237344	Boundary Cell Mining Claim	2022-04-21
123	1238122	3.308	TIB LAKE	Buck Lake	239121	Boundary Cell Mining Claim	2022-03-15
124	4282208	21.100	TIB LAKE	Buck Lake	243544	Single Cell Mining Claim	2022-07-27
125	1238121	21.124	TIB LAKE	Buck Lake	243545	Single Cell Mining Claim	2022-03-15

126	4281250	21.100	SHARP LAKE	Buck Lake	245412	Single Cell Mining Claim	2022-03-17
127	4281250	21.100	SHARP LAKE	Buck Lake	245413	Single Cell Mining Claim	2022-03-17
128	1173921	2.270	TIB LAKE	Buck Lake	247380	Boundary Cell Mining Claim	2024-08-27
129	4277659	21.100	SHARP LAKE	Buck Lake	248869	Single Cell Mining Claim	2022-04-23
130	4266107	6.120	TIB LAKE	Buck Lake	249880	Boundary Cell Mining Claim	2022-07-11
131	1173922	4.123	TIB LAKE	Buck Lake	254299	Boundary Cell Mining Claim	2022-06-29
132	1238120	21.124	TIB LAKE	Buck Lake	256086	Single Cell Mining Claim	2022-03-15
133	1238122	21.127	TIB LAKE	Buck Lake	259342	Single Cell Mining Claim	2022-03-15
134	4266110	21.132	TIB LAKE	Buck Lake	261067	Single Cell Mining Claim	2022-07-11
135	4266107	6.084	TIB LAKE	Buck Lake	261850	Boundary Cell Mining Claim	2022-07-11
136	4274916	21.142	SHARP LAKE	Buck Lake	263020	Single Cell Mining Claim	2022-04-08
137	4282208	21.100	TIB LAKE	Buck Lake	263114	Single Cell Mining Claim	2022-07-27
138	1238121	21.124	TIB LAKE	Buck Lake	263115	Single Cell Mining Claim	2022-03-15
139	1173926	21.131	TIB LAKE	Buck Lake	265793	Single Cell Mining Claim	2022-06-29
140	4266110	21.130	TIB LAKE	Buck Lake	268427	Single Cell Mining Claim	2022-07-11
141	1173926	0.874	TIB LAKE	Buck Lake	273086	Boundary Cell Mining Claim	2022-06-29
142	4241577	0.426	TIB LAKE	Buck Lake	273123	Boundary Cell Mining Claim	2022-07-24
143	4282209	21.100	TIB LAKE	Buck Lake	274001	Single Cell Mining Claim	2022-07-27
144	4266104	2.211	SHARP LAKE,TIB LAKE	Buck Lake	276403	Boundary Cell Mining Claim	2022-07-11
145	4282208	21.100	TIB LAKE	Buck Lake	280099	Single Cell Mining Claim	2022-07-27
146	4282208	21.100	TIB LAKE	Buck Lake	280100	Single Cell Mining Claim	2022-07-27
147	4274916	3.917	SHARP LAKE	Buck Lake	281268	Boundary Cell Mining Claim	2022-04-08
148	4286109	21.100	TIB LAKE	Buck Lake	283240	Single Cell Mining Claim	2022-04-21
149	1238120	21.126	TIB LAKE	Buck Lake	285237	Single Cell Mining Claim	2022-03-15
150	1238120	11.867	TIB LAKE	Buck Lake	285238	Boundary Cell Mining Claim	2022-03-15
151	4277660	21.100	TIB LAKE	Buck Lake	291297	Single Cell Mining Claim	2022-04-23
152	1174120	0.576	TIB LAKE	Buck Lake	293478	Boundary Cell Mining Claim	2022-05-31
153	1238120	21.126	TIB LAKE	Buck Lake	293847	Single Cell Mining Claim	2022-03-15
154	4266108	21.134	TIB LAKE	Buck Lake	295926	Single Cell Mining Claim	2022-07-11
155	4266108	21.136	TIB LAKE	Buck Lake	295927	Single Cell Mining Claim	2022-07-11
156	4266110	17.006	TIB LAKE	Buck Lake	298375	Boundary Cell Mining Claim	2022-07-11
157	4241578	11.697	TIB LAKE	Buck Lake	303597	Boundary Cell Mining Claim	2022-07-24
158	4282209	21.100	TIB LAKE	Buck Lake	303862	Single Cell Mining Claim	2022-07-27
159	4277660	21.100	TIB LAKE	Buck Lake	304387	Single Cell Mining Claim	2022-04-23
160	4277660	21.100	TIB LAKE	Buck Lake	304388	Single Cell Mining Claim	2022-04-23
161	1238120	21.126	TIB LAKE	Buck Lake	305971	Single Cell Mining Claim	2022-03-15
162	1238120	14.328	TIB LAKE	Buck Lake	305972	Boundary Cell Mining Claim	2022-03-15
163	1238122	21.125	TIB LAKE	Buck Lake	307147	Single Cell Mining Claim	2022-03-15
164	1238122	21.125	TIB LAKE	Buck Lake	307148	Single Cell Mining Claim	2022-03-15
165	4266108	10.518	TIB LAKE	Buck Lake	308024	Boundary Cell Mining Claim	2022-07-11
166	4266108	21.136	TIB LAKE	Buck Lake	308025	Single Cell Mining Claim	2022-07-11
167	4266108	21.136	TIB LAKE	Buck Lake	308026	Single Cell Mining Claim	2022-07-11
168	4277659	21.100	SENGA LAKE,SHARP LAKE,TIB LAKE	Buck Lake	308731	Single Cell Mining Claim	2022-04-23

169	4241578	10.883	TIB LAKE	Buck Lake	310442	Boundary Cell Mining Claim	2022-07-24
170	4241578	21.129	TIB LAKE	Buck Lake	310443	Single Cell Mining Claim	2022-07-24
171	4241578	21.129	TIB LAKE	Buck Lake	310444	Single Cell Mining Claim	2022-07-24
172	4241577	6.175	TIB LAKE	Buck Lake	310638	Boundary Cell Mining Claim	2022-07-24
173	1238122	4.116	TIB LAKE	Buck Lake	313911	Boundary Cell Mining Claim	2022-03-15
174	4274916	21.100	SHARP LAKE	Buck Lake	317554	Single Cell Mining Claim	2022-04-08
175	4274916	21.100	SHARP LAKE	Buck Lake	317555	Single Cell Mining Claim	2022-04-08
176	4281250	21.100	SHARP LAKE	Buck Lake	318162	Single Cell Mining Claim	2022-03-17
177	1238120	21.124	TIB LAKE	Buck Lake	322475	Single Cell Mining Claim	2022-03-15
178	1238120	21.124	SHARP LAKE,TIB LAKE	Buck Lake	322476	Single Cell Mining Claim	2022-03-15
179	4277659	21.100	SHARP LAKE	Buck Lake	323862	Single Cell Mining Claim	2022-04-23
180	1238121	9.423	TIB LAKE	Buck Lake	325760	Boundary Cell Mining Claim	2022-03-15
181	4266104	9.028	TIB LAKE	Buck Lake	326430	Boundary Cell Mining Claim	2022-07-11
182	1238122	21.127	TIB LAKE	Buck Lake	326667	Single Cell Mining Claim	2022-03-15
183	1238122	4.923	TIB LAKE	Buck Lake	326668	Boundary Cell Mining Claim	2022-03-15
184	4266110	2.653	TIB LAKE	Buck Lake	326994	Boundary Cell Mining Claim	2022-07-11
185	4266110	21.131	TIB LAKE	Buck Lake	326995	Single Cell Mining Claim	2022-07-11
186	4266110	2.445	TIB LAKE	Buck Lake	326996	Boundary Cell Mining Claim	2022-07-11
187	4241578	21.133	TIB LAKE	Buck Lake	326997	Single Cell Mining Claim	2022-07-24
188	4277660	4.260	TIB LAKE	Buck Lake	331027	Boundary Cell Mining Claim	2022-04-23
189	1174119	7.818	TIB LAKE	Buck Lake	331858	Boundary Cell Mining Claim	2022-05-31
190	4282209	21.100	TIB LAKE	Buck Lake	334086	Single Cell Mining Claim	2022-07-27
191	4266108	21.136	TIB LAKE	Buck Lake	336159	Single Cell Mining Claim	2022-07-11
192	4282208	21.100	TIB LAKE	Buck Lake	338499	Single Cell Mining Claim	2022-07-27
193	4286109	21.100	TIB LAKE	Buck Lake	342874	Single Cell Mining Claim	2022-04-21
194	4286109	21.100	TIB LAKE	Buck Lake	342875	Single Cell Mining Claim	2022-04-21
195	1173925	1.593	TIB LAKE	Buck Lake	344364	Boundary Cell Mining Claim	2022-06-29
196	1173925	21.133	TIB LAKE	Buck Lake	344365	Single Cell Mining Claim	2022-06-29
197	1238121	21.126	TIB LAKE	Buck Lake	344556	Single Cell Mining Claim	2022-03-15
198	1237739	2.260	TIB LAKE	Buck Lake	344893	Boundary Cell Mining Claim	2022-03-15
199	T CLAIMS	21.100	TIB LAKE	Buck Lake	514671	Single Cell Mining Claim	2020-04-12
200	T CLAIMS	21.100	TIB LAKE	Buck Lake	514672	Single Cell Mining Claim	2020-04-12
201	T CLAIMS	21.100	TIB LAKE	Buck Lake	514673	Single Cell Mining Claim	2020-04-12
202	T CLAIMS	21.100	ARMISTICE LAKE,TIB LAKE	Buck Lake	514674	Single Cell Mining Claim	2020-04-12
203	T CLAIMS	21.100	TIB LAKE	Buck Lake	514675	Single Cell Mining Claim	2020-04-12
204	T CLAIMS	21.100	ARMISTICE LAKE,TIB LAKE	Buck Lake	514676	Single Cell Mining Claim	2020-04-12
205	T CLAIMS	21.100	TIB LAKE	Buck Lake	514677	Single Cell Mining Claim	2020-04-12
206	T CLAIMS	21.100	ARMISTICE LAKE,TIB LAKE	Buck Lake	514678	Single Cell Mining Claim	2020-04-12
207	T CLAIMS	21.100	TIB LAKE	Buck Lake	514679	Single Cell Mining Claim	2020-04-12
208	T CLAIMS	21.100	TIB LAKE	Buck Lake	514680	Single Cell Mining Claim	2020-04-12
209	T CLAIMS	21.100	TIB LAKE	Buck Lake	514681	Single Cell Mining Claim	2020-04-12
210	T CLAIMS	21.100	TIB LAKE	Buck Lake	514682	Single Cell Mining Claim	2020-04-12
211	T CLAIMS	21.100	TIB LAKE	Buck Lake	514683	Single Cell Mining Claim	2020-04-12

212	T CLAIMS	21.100	TIB LAKE	Buck Lake	514684	Single Cell Mining Claim	2020-04-12
213	T CLAIMS	21.100	TIB LAKE	Buck Lake	514685	Single Cell Mining Claim	2020-04-12
214	T CLAIMS	21.100	TIB LAKE	Buck Lake	514686	Single Cell Mining Claim	2020-04-12
215	T CLAIMS	21.100	TIB LAKE	Buck Lake	514687	Single Cell Mining Claim	2020-04-12
216	T CLAIMS	21.100	ARMISTICE LAKE,TIB LAKE	Buck Lake	514688	Single Cell Mining Claim	2020-04-12
217	T CLAIMS	21.100	TIB LAKE	Buck Lake	514689	Single Cell Mining Claim	2020-04-12
218	T CLAIMS	21.100	TIB LAKE	Buck Lake	514690	Single Cell Mining Claim	2020-04-12
219	T CLAIMS	21.100	TIB LAKE	Buck Lake	514691	Single Cell Mining Claim	2020-04-12
220	T CLAIMS	21.100	TIB LAKE	Buck Lake	514692	Single Cell Mining Claim	2020-04-12
221	T CLAIMS	21.100	TIB LAKE	Buck Lake	514693	Single Cell Mining Claim	2020-04-12
222	T CLAIMS	21.100	ARMISTICE LAKE,TIB LAKE	Buck Lake	514694	Single Cell Mining Claim	2020-04-12
223	T CLAIMS	21.100	TIB LAKE	Buck Lake	514695	Single Cell Mining Claim	2020-04-12
224	T CLAIMS	21.100	TIB LAKE	Buck Lake	514696	Single Cell Mining Claim	2020-04-12
225	T CLAIMS	21.100	ARMISTICE LAKE,TIB LAKE	Buck Lake	514697	Single Cell Mining Claim	2020-04-12
226	T CLAIMS	21.100	TIB LAKE	Buck Lake	514698	Single Cell Mining Claim	2020-04-12
227	T CLAIMS	21.100	TIB LAKE	Buck Lake	514699	Single Cell Mining Claim	2020-04-12
228	T CLAIMS	21.100	TIB LAKE	Buck Lake	514700	Single Cell Mining Claim	2020-04-12
229	T CLAIMS	21.100	TIB LAKE	Buck Lake	514941	Single Cell Mining Claim	2020-04-12
230	T CLAIMS	21.100	TIB LAKE	Buck Lake	514942	Single Cell Mining Claim	2020-04-12
231	T CLAIMS	21.100	TIB LAKE	Buck Lake	514943	Single Cell Mining Claim	2020-04-12
232	T CLAIMS	21.100	TIB LAKE	Buck Lake	514944	Single Cell Mining Claim	2020-04-12
233	T CLAIMS	21.100	TIB LAKE	Buck Lake	514945	Single Cell Mining Claim	2020-04-12
234	T CLAIMS	21.100	TIB LAKE	Buck Lake	514946	Single Cell Mining Claim	2020-04-12
235	T CLAIMS	21.100	TIB LAKE	Buck Lake	514947	Single Cell Mining Claim	2020-04-12
236	T CLAIMS	21.100	TIB LAKE	Buck Lake	514948	Single Cell Mining Claim	2020-04-12
237	T CLAIMS	21.100	TIB LAKE	Buck Lake	514949	Single Cell Mining Claim	2020-04-12
238	T CLAIMS	21.100	TIB LAKE	Buck Lake	514950	Single Cell Mining Claim	2020-04-12
239	T CLAIMS	21.100	TIB LAKE	Buck Lake	514951	Single Cell Mining Claim	2020-04-12
240	T CLAIMS	21.100	TIB LAKE	Buck Lake	514952	Single Cell Mining Claim	2020-04-12
241	T CLAIMS	21.100	TIB LAKE	Buck Lake	514953	Single Cell Mining Claim	2020-04-12
242	T CLAIMS	21.100	TIB LAKE	Buck Lake	514954	Single Cell Mining Claim	2020-04-12
243	T CLAIMS	21.100	TIB LAKE	Buck Lake	514955	Single Cell Mining Claim	2020-04-12
244	T CLAIMS	21.100	TIB LAKE	Buck Lake	514956	Single Cell Mining Claim	2020-04-12
245	T CLAIMS	21.100	TIB LAKE	Buck Lake	514957	Single Cell Mining Claim	2020-04-12
246	T CLAIMS	21.100	TIB LAKE	Buck Lake	514958	Single Cell Mining Claim	2020-04-12
247	T CLAIMS	21.100	TIB LAKE	Buck Lake	514959	Single Cell Mining Claim	2020-04-12
248	T CLAIMS	21.100	TIB LAKE	Buck Lake	514960	Single Cell Mining Claim	2020-04-12
	TOTAL (ha)	**4,178.803**					
	TOTAL (Acres)	**10,326.047**					

APPENDIX III

Microprobe Analysis and Quality Assurance

Results of WDS quantitative analyses, microprobe Cameca SX-100, Dept of Electron Microanalysis, Geological Institute of Dionyz Stur, Bratislava, Slovak Republic

Elements, weight %

Analyses sorted by analysis number

No	Sample Name	S	Co	Ni	As	Sb	Fe	Cu	Ag	Cd	Zn	Mn	In	Ru	Rh	Pd	Pt	Au	Bi	Ir	Se	Te	Total
16 / 1	611410_an1	35.7522	0.0185	64.3	0	0	1.1	0.2	0														101
17 / 1	611410_an2	18.9059	0.0000	2.18	0	0	0.5	12	7.5					0	0.0404458	20.1237	1.36	0.0038	33.7958	0			96.8
18 / 1	611410_an3	18.5596	0.0000	2.21	0		0.5	13	6.3					0	0.0528872	21.24231	1.25	0	38.6841	0			102
19 / 1	611410_an4	18.076	0.0000	2.31	0		0.5	13	8.5					0	0.0090956	19.93147	1.26	0	37.402	0.0115			101
20 / 1	611410_an5	34.8326	0.0147	0	0	0	30	35	0														99.6
21 / 1	611410_an6	19.0734	0.0014	0.05	0		0.8	13	2					0	0.0761194	21.6383	2.1	0	41.6673	0.0095			101
22 / 1	611410_an7	7.6573	0.0000	0.09	0		0.7	0.4	3.8					0	0.0205048	39.77653	1.04	0	50.081	0.0235			104
23 / 1	611410_an8	18.1386	0.0226	0.04	0		1.3	12	0.1					0	0.0458873	1.363606	33.2	0	35.6062	0			101
24 / 1	611410_an9	18.1441	0.0287	0.02	0		1.3	12	0.1					0	0.0310244	1.410228	33	0	35.4002	0			101
25 / 1	611410_an10	18.5696		4.17			2.6									57.9793							83.3
26 / 1	611410_an10	21.1876	0.0000	4	0.2		2	1.1	6.7					0	0	60.7833	0.23	0.001					
27 / 1	611410_an11	54.434					47																
28 / 1	611409_an1	0.0225	0.0000	0.12	0		0.8	0	0					0	0.0515569	0.013332	38.1	0					
29 / 1	611409_an2	33.1724	0.2024	36.8	0		30	0	0					0	0.0096115	0	0.27	0					
30 / 1	611409_an3	0.0284	0.0099	0.17	0	0	0.2	0	0.2					0	0.0327963	2.181887	35.5	0					

1.55341	0	8.0202		106
				102
30.3908	0	0	31.138	101
0	0			100
25.8052	0	0.0766	36.635	101

Remarks:

1. The oxygen is NOT corrected to equivalent of F and Cl giving higher total

2. Red numbers indicate interference correction

Results of WDS quantitative analyses, microprobe Cameca SX-100, Dept of Electron Microanalysis, Geological Institute of Dionyz Stur, Bratislava, Slovak Republic

Atomic proportins calculated from weight % of elements

Sample Name	S	Co	Ni	As	Sb	Fe	Cu	Ag	Cd	Zn	Mn	In	Ru	Rh	Pd	Pt	Au	Bi
611410_an1	49.9055	0.0141	49.0484	0	0.011	0.8901	0.1306	0										
611410_an5	50.0322	0.0115	0	0.013	0	24.746	25.1872	0.01										
611410_an2	46.8452	0	2.9486	0	0	0.7413	15.4616	5.5421					0	0.0312	15.0263	0.554	0.0015	12.8482
611410_an3	45.2461	0	2.9473	0		0.6738	15.9225	4.5935					0	0.0402	15.606	0.501	0	14.4696
611410_an4	44.6579	0	3.1182	0		0.7021	15.7759	6.2066					0	0.007	14.8392	0.5107	0	14.1776
611410_an6	47.6026	0.0019	0.0627	0		1.1373	16.5273	1.5143					0	0.0592	16.2743	0.8609	0	15.9555
611410_an7	26.115	0	0.1756	0		1.46	0.6894	3.8539					0	0.0218	40.8807	0.5842	0	26.206
611410_an8	50.1755	0.0339	0.0625	0		2.0742	16.1672	0.1231					0	0.0396	1.1367	15.0751	0	15.1122
611410_an9	50.31	0.0432	0.0376	0		2.0861	16.1531	0.0857					0	0.0268	1.1784	15.0186	0	15.0605
611409_an2	46.9514	0.1557	28.4176	0.002		24.363	0.0351	0.007					0	0.0042	0	0.0633	0	0
611410_an10	46.6401		5.7221			3.7539									43.8839			
611410_an10	43.2661	0	4.4628	0.131		2.3526	1.1064	4.0599					0	0	37.4047	0.0784	0.0003	0.4867
611410_an11	66.7512					33.249												
611409_an1	0.1163	0	0.3363	0		2.4688	0.0386	0.0198					0	0.0831	0.0208	32.3543	0	24.1079
611409_an3	0.1417	0.0269	0.4636	0	0	0.7043	0.0698	0.2519					0	0.051	3.2813	29.1554	0	19.7585

Ir	Se	Te	Total
			99.9999
			99.9999

0			100
0			100
0.0047			99.9999
0.004			100
0.0134			100
0			100
0			100
0			99.9998
			100
0	6.6506		99.9999
			100
0	0	40.454	100
0	0.1552	45.941	100

Results of WDS quantitative analyses, microprobe Cameca SX-100, Dept of Electron Microanalysis, Geological Institute of Dionyz Stur, Bratislava, Slovak Republic

Absolute standard deviations ±1sigma in wt %

Sample Name	S	Co	Ni	As	Sb	Fe	Cu	Ag	Cd	Zn	Mn	In	Ru	Rh	Pd	Pt	Au	Bi
611410_an1	0.6149	0.0382	0.8273	0	0.066	0.0671	0.0532	0										
611410_an5	0.512	0.0254	-0.0001	0.041	0	0.6575	0.49	0.0417										
611410_an2	0.3084	0	0.0704	0	0	0.0435	0.2106	0.2179					0.1	0.0608	0.4682	0.1086	0.0721	1.2357
611410_an3	0.3036	0	0.0705	0		0.0426	0.2173	0.2012					0.1	0.0592	0.4868	0.1067	0	1.4094
611410_an4	0.2977	-0.0001	0.072	0		0.0429	0.2138	0.2313					0.1	0.0585	0.465	0.1067	-2E-04	1.3636
611410_an6	0.3104	0.0326	0.0349	0		0.0504	0.2194	0.1232					0.1	0.0618	0.4981	0.1254	0	1.519
611410_an7	0.1585	-0.0002	0.0375	0		0.0498	0.0482	0.1575					0.1	0.0606	0.7688	0.1006	0	1.8152
611410_an8	0.3216	0.0329	0.0348	0		0.062	0.1974	0.0693					0.1	0.0803	0.1227	0.4682	0	1.4017
611410_an9	0.3216	0.0331	0.0346	0		0.0616	0.1969	0.0665					0.1	0.0771	0.1237	0.4662	0	1.3938
611409_an2	0.4963	0.0333	0.4675	0.042		0.6584	0.0335	0.0419					0	0.0473	-0.0001	0.0753	0	0.0643
611410_an10	0.2961		0.0958			0.0891									1.0123			
611410_an10	0.3327	0	0.0931	0.048		0.0755	0.0557	0.1833					0	0	1.0467	0.071	0.062	0.102
611410_an11	1.0221					0.6184												
611409_an1	0.03	-0.0001	0.0371	0		0.0522	0.0411	0.059					0.1	0.0771	0.065	0.5163	0	1.2219
611409_an3	0.0293	0.0343	0.0385	0	0	0.0385	0.0408	0.0657					0.1	0.0711	0.1359	0.4978	0	1.0524

Ir	Se	Te

0		
0		
0.0601		
0.059		
0.0602		
0		
-0.0001		
0		
0	0.1729	
0	0	1.3995
0	0.0936	1.6313

Results of WDS quantitative analyses, microprobe Cameca SX-100, Dept of Electron Microanalysis, Geological Institute of Dionyz Stur, Bratislava, Slovak Republic

Average atomic number, after interf. correction

Sample Name	Avg at numb	Pb lin-exp%
611410_an1	49.3044	0
611410_an5	50.2393	0
611410_an2	122.246	0
611410_an3	126.3	0
611410_an4	125.7	0
611410_an6	130.686	0
611410_an7	150.878	0
611410_an8	152.555	0
611410_an9	152.393	0
611409_an2	49.4388	0
611410_an10	85.8669	0
611410_an10	87.9728	0
611410_an11	43.1168	0
611409_an1	176.98	0
611409_an3	171.306	0

Results of WDS quantitative analyses, microprobe Cameca SX-100, Dept of Electron Microanalysis, Geological Institute of Dionyz Stur, Bratislava, Slovak Republic

Z

Sample Name	S	Co	Ni	As	Sb	Fe	Cu	Ag	Cd	Zn	Mn	In	Ru	Rh	Pd	Pt	Au	Bi
611410_an1	0.5499	1.1942	1.165	0.838	0.834	1.2071	1.1288	0.5207										
611410_an5	0.5842	1.2202	1.0608	0.859	0.858	1.234	1.0435	0.5391										
611410_an2	0.6886	1.1243	1.1399	0.99	0.496	1.087	1.1271	0.4528					0.5	0.4088	0.389	0.5406	0.9134	0.8471
611410_an3	0.688	1.1273	1.1441	0.996		1.0888	1.1317	0.4424					0.6	0.4041	0.3791	0.5374	0.919	0.8528
611410_an4	0.6859	1.1265	1.1433	0.996		1.0879	1.131	0.4482					0.6	0.4084	0.3844	0.5357	0.9187	0.8525
611410_an6	0.6853	1.1286	1.1449	1.003		1.0893	1.1329	0.4182					0.5	0.3841	0.3564	0.5483	0.9253	0.8583
611410_an7	0.7336	1.1227	1.1522	1.067		1.0691	1.1476	0.4614					0.7	0.4479	0.3946	0.5736	0.986	0.9147
611410_an8	0.3763	1.1612	1.1758	1.036		1.1207	1.1632	0.3178					0.4	0.262	0.264	0.5921	0.957	0.8879
611410_an9	0.3766	1.1611	1.1756	1.036		1.1207	1.1629	0.3179					0.4	0.2619	0.2641	0.5923	0.9566	0.8876
611409_an2	0.5859	1.2108	1.0543	0.85		1.2259	1.0358	0.5535					0.4	0.4249	0.4889	0.4336	0.7803	0.7243

611410_an10	0.7987		1.0992			1.0595							0.7085			
611410_an10	0.696	1.1092	1.1176	0.986		1.0746	1.1053	0.7303			0.5	0.5947	0.6599	0.5267	0.9132	0.8396
611410_an11	0.808					1.1785										
611409_an1	0.3164	1.1474	1.1852	1.123		1.0835	1.1854	0.3725			0.4	0.3047	0.3109	0.5247	1.0366	0.9671
611409_an3	0.325	1.137	1.1781	1.118	0.609	1.0723	1.1789	0.4022			0.4	0.3266	0.3379	0.5108	1.0315	0.9625

Ir	Se	Te
0.4446		
0.4416		
0.4402		
0.4522		
0.4745		
0.4939		
0.4941		
0.3446		
0.4296	0.1708	
0.4288	0.134	0.5536
0.4159	0.128	0.5791

Results of WDS quantitative analyses, microprobe Cameca SX-100, Dept of Electron Microanalysis, Geological Institute of Dionyz Stur, Bratislava, Slovak Republic

A

Sample Name	S	Co	Ni	As	Sb	Fe	Cu	Ag	Cd	Zn	Mn	In	Ru	Rh	Pd	Pt	Au	Bi
611410_an1	1.9235	1.0634	1.052	1.079	1.368	1.0813	1.0431	1.7948										
611410_an5	1.885	1.0625	1.1134	1.076	1.363	1.0801	1.0957	1.7817										
611410_an2	1.8153	1.1652	1.1318	1.063	1.88	1.2104	1.112	2.037					1.9	2.1708	2.2117	1.9479	1.0766	1.0537
611410_an3	1.8216	1.1677	1.1336	1.064		1.2134	1.1136	2.0674					1.9	2.1904	2.2477	1.9598	1.0774	1.0543

611410_an4	1.8243	1.168	1.1339	1.064		1.2138	1.1138	2.0539		1.9	2.1787	2.2319	1.9626	1.0775	1.0544
611410_an6	1.8291	1.1696	1.1358	1.063		1.2159	1.1156	2.1312		1.9	2.2516	2.3231	1.9443	1.0764	1.0537
611410_an7	1.8094	1.2036	1.1626	1.061		1.2592	1.1386	2.0793		1.7	2.1364	2.2626	1.9473	1.074	1.052
611410_an8	2.4999	1.1692	1.1367	1.062		1.2153	1.1168	2.4772		2.4	2.7621	2.7349	1.8955	1.0751	1.0529
611410_an9	2.4987	1.1691	1.1366	1.062		1.2151	1.1167	2.4764		2.4	2.7625	2.7342	1.895	1.075	1.0529
611409_an2	1.8709	1.0601	1.1101	1.075		1.0771	1.0931	1.7477		2.2	2.0205	1.8716	2.0653	1.0906	1.0627
611410_an10	1.6612		1.1341			1.2069						1.6148			
611410_an10	1.7865	1.1594	1.1294	1.051		1.2032	1.1095	1.5867		1.9	1.7805	1.6798	1.9524	1.0625	1.0434
611410_an11	1.5798					1.0876									
611409_an1	2.8339	1.2273	1.182	1.069		1.2889	1.1557	2.3825		2.3	2.6668	2.6243	2.0956	1.0832	1.0588
611409_an3	2.7922	1.2309	1.1837	1.069	1.798	1.2936	1.157	2.2895		2.2	2.5718	2.5133	2.1207	1.0838	1.0592

Ir	Se	Te
2.1628		
2.1768		
2.1802		
2.156		
2.1559		
2.0898		
2.0891		
2.3333		
2.1767	3.5477	
2.3341	4.2898	1.8915
2.3665	4.3816	1.8465

Results of WDS quantitative analyses, microprobe Cameca SX-100, Dept of Electron Microanalysis, Geological Institute of Dionyz Stur, Bratislava, Slovak Republic

F

Sample Name	S	Co	Ni	As	Sb	Fe	Cu	Ag	Cd	Zn	Mn	In	Ru	Rh	Pd	Pt	Au	Bi
611410_an1	1.002	1.0347	1	1	1.017	1.2142	1	1.0057										

611410_an5	1.0023	1.086	1.0107	1	1.018	1.0596	1	1.0063							
611410_an2	1.0138	1.0344	1.0216	1.04	1.002	1.0264	1.0269	1.001	1	1.0033	1.0008	1.0096	1.0165	1.0001	
611410_an3	1.0138	1.0349	1.0227	1.043		1.0265	1.0286	1.001	1	1.0027	1.0008	1.0095	1.0178	1.0001	
611410_an4	1.014	1.0344	1.0223	1.042		1.0264	1.028	1.001	1	1.0034	1.0008	1.0094	1.0174	1.0001	
611410_an6	1.0132	1.0363	1.0253	1.047		1.0246	1.0322	1.0009	1	1.0013	1.0007	1.0098	1.0195	1.0001	
611410_an7	1.0204	1.0163	1.0233	1.057		1.0109	1.0341	1.0005	1	1.0015	1.0004	1.0097	1.0237	1.0001	
611410_an8	1.005	1.0497	1.049	1.035		1.0337	1.0674	1.0012	1	1.0008	1.0009	1.0056	1.0147	1	
611410_an9	1.0049	1.0497	1.049	1.035		1.0337	1.0674	1.0012	1	1.0008	1.0009	1.0056	1.0147	1	
611409_an2	1.0026	1.0133	1.0003	1		1.0824	1.0004	1.0072	1	1.0045	1.0057	1.0066	1	1	
611410_an10	1.0304		1			1.0077					1.0006				
611410_an10	1.0257	1.0067	1.0062	1.006		1.0098	1.0087	1.0006	1	1.0035	1.0005	1.0097	1.0024	1.0003	
611410_an11	1.0029					1									
611409_an1	1.0072	1.0292	1.0427	1.028		1.0198	1.0623	1.0076	1	1.0059	1.0071	1.0035	1.0119	1	
611409_an3	1.0078	1.0264	1.0387	1.025	1.002	1.018	1.0564	1.009	1	1.0071	1.0085	1.0035	1.0103	1	

Ir	Se	Te
1.0077		
1.0076		
1.0076		
1.0079		
1.0078		
1.0068		
1.0068		
1.0052		
1.0077	1.0067	
1.0052	1.0065	1.0021
1.005	1.0061	1.0018

Results of WDS quantitative analyses, microprobe Cameca SX-100, Dept of Electron Microanalysis, Geological Institute of Dionyz Stur, Bratislava, Slovak Republic

Detection limit in ppm

Sample Name	S	Co	Ni	As	Sb	Fe	Cu	Ag	Cd	Zn	Mn	In	Ru	Rh	Pd	Pt	Au	Bi
611410_an1	278	449	547	0	779	342	561	0										
611410_an5	183	287	-1	486	0	277	412	486										
611410_an2	230	0	407	0	0	362	489	708					722	702	722	834	866	1035
611410_an3	217	0	401	0		362	481	731					687	673	713	848	0	917
611410_an4	215	-1	403	0		362	480	706					706	695	709	842	-2	922
611410_an6	215	392	407	0		368	480	721					693	687	733	847	0	922
611410_an7	225	-2	428	0		381	493	792					682	716	739	857	0	952
611410_an8	308	388	408	0		380	485	748					791	855	805	880	0	952
611410_an9	317	390	410	0		370	486	740					822	823	796	882	0	951
611409_an2	189	317	365	502		278	386	493					0	562	-1	765	0	771
611410_an10	185		356			307									689			
611410_an10	182	0	357	554		306	417	710					591	0	574	749	745	881
611410_an11	417					297												
611409_an1	346	-1	418	0		400	491	703					774	819	774	1073	0	959
611409_an3	334	409	424	0	0	392	485	704					731	760	735	1101	0	951

Ir	Se	Te
0		
0		
717		
704		
712		
0		
-1		
0		
-1	867	

0	0	893
0	1109	899

Results of WDS quantitative analyses, microprobe Cameca SX-100, Dept of Electron Microanalysis, Geological Institute of Dionyz Stur, Bratislava, Slovak Republic

File, Measuring program, Date, Conditions KV & nA, XY coordinates

Sample Name	File	Analysis program	Date	Analysis Conditions	Pos X	Pos Y
611410_an1	2017-06-02 Molak sulfidy.qtiDat	kobaltin_03_25KV Ag.qtiSet	6/2/2017 9:15:51 AM	Cond 1 : 25keV 10nA	-3323	-19117
611410_an5	2017-06-02 Molak sulfidy.qtiDat	kobaltin_03_25KV Ag.qtiSet	6/2/2017 9:15:51 AM	Cond 1 : 25keV 10nA	15891	-33335
611410_an2	2017-06-02 Molak sulfidy.qtiDat	Pd Pt Molak ver 1.qtiSet	6/2/2017 12:24:27 PM	Cond 1 : 25keV 20nA	-3337	-19108
611410_an3	2017-06-02 Molak sulfidy.qtiDat	Pd Pt Molak ver 1 bez Sb ine por.qtiSet	6/2/2017 2:03:31 PM	Cond 1 : 25keV 20nA	-3334	-19107
611410_an4	2017-06-02 Molak sulfidy.qtiDat	Pd Pt Molak ver 1 bez Sb ine por.qtiSet	6/2/2017 2:03:31 PM	Cond 1 : 25keV 20nA	-3335	-19108
611410_an6	2017-06-02 Molak sulfidy.qtiDat	Pd Pt Molak ver 1 bez Sb ine por.qtiSet	6/2/2017 2:03:31 PM	Cond 1 : 25keV 20nA	10532	-36606
611410_an7	2017-06-02 Molak sulfidy.qtiDat	Pd Pt Molak ver 1 bez Sb ine por.qtiSet	6/2/2017 2:03:31 PM	Cond 1 : 25keV 20nA	10527	-36604
611410_an8	2017-06-02 Molak sulfidy.qtiDat	Pd Pt Molak ver 1 bez Sb ine por.qtiSet	6/2/2017 2:03:31 PM	Cond 1 : 25keV 20nA	10527	-36594
611410_an9	2017-06-02 Molak sulfidy.qtiDat	Pd Pt Molak ver 1 bez Sb ine por.qtiSet	6/2/2017 2:03:31 PM	Cond 1 : 25keV 20nA	10528	-36594
611409_an2	2017-06-02 Molak sulfidy.qtiDat	Pd Pt Molak ver 1 bez Sb ine por.qtiSet	6/2/2017 2:03:31 PM	Cond 1 : 25keV 20nA	#####	21736
611410_an10	2017-06-02 Molak sulfidy.qtiDat	PdSFeNi.qtiSet	6/2/2017 2:18:29 PM	Cond 1 : 25keV 20nA	10523	-36611
611410_an10	2017-06-02 Molak sulfidy.qtiDat	Pd Pt Molak ver 1 bez Sb plus Se.qtiSet	6/2/2017 2:24:25 PM	Cond 1 : 25keV 20nA	10523	-36611
611410_an11	2017-06-02 Molak sulfidy.qtiDat	pyrit vs pyrotin.qtiSet	6/2/2017 2:38:19 PM	Cond 1 : 25keV 20nA	10532	-36460
611409_an1	2017-06-02 Molak sulfidy.qtiDat	Pd Pt Molak ver 1 bez Sb plus SeTe.qtiSet	6/2/2017 2:57:32 PM	Cond 1 : 25keV 20nA	#####	21899
611409_an3	2017-06-02 Molak sulfidy.qtiDat	Pd Pt Molak ver 1 Sb SeTe.qtiSet	6/2/2017 3:29:09 PM	Cond 1 : 25keV 20nA	-1350	18191

Results of WDS quantitative analyses, microprobe Cameca SX-100, Dept of Electron Microanalysis, Geological Institute of Dionyz Stur, Bratislava, Slovak Republic

Measured lines, crystals an spectrometers used

Sample Name	S	Co	Ni	As	Sb	Fe	Cu	Ag	Cd	Zn	Mn	In	Ru	Rh
	Ka LPET	Ka LLIF	Ka LLIF	Ka LLIF	Lb LLIF	Ka LLIF	Ka LLIF	La LPET						
611410_an1	Sp3	Sp4	Sp4	Sp4	Sp4	Sp4	Sp4	Sp3						
	Ka LPET	Ka LLIF	Ka LLIF	Ka LLIF	Lb LLIF	Ka LLIF	Ka LLIF	La LPET						
611410_an5	Sp3	Sp4	Sp4	Sp4	Sp4	Sp4	Sp4	Sp3						
	Ka LPET	Ka LLIF	Ka LLIF	Ka LLIF	Lb LLIF	Ka LLIF	Ka LLIF	La LPET					La LPET	La LPET
611410_an2	Sp3	Sp4	Sp4	Sp4	Sp4	Sp4	Sp4	Sp3					Sp3	Sp3
	Ka LPET	Ka LLIF	Ka LLIF	Ka LLIF		Ka LLIF	Ka LLIF	La LPET					La LPET	La LPET
611410_an3	Sp3	Sp4	Sp4	Sp4		Sp4	Sp4	Sp3					Sp3	Sp3
	Ka LPET	Ka LLIF	Ka LLIF	Ka LLIF		Ka LLIF	Ka LLIF	La LPET					La LPET	La LPET
611410_an4	Sp3	Sp4	Sp4	Sp4		Sp4	Sp4	Sp3					Sp3	Sp3

611410_an6	Ka LPET Sp3	Ka LLIF Sp4	Ka LLIF Sp4	Ka LLIF Sp4		Ka LLIF Sp4	Ka LLIF Sp4	La LPET Sp3			La LPET Sp3	La LPET Sp3
611410_an7	Ka LPET Sp3	Ka LLIF Sp4	Ka LLIF Sp4	Ka LLIF Sp4		Ka LLIF Sp4	Ka LLIF Sp4	La LPET Sp3			La LPET Sp3	La LPET Sp3
611410_an8	Ka LPET Sp3	Ka LLIF Sp4	Ka LLIF Sp4	Ka LLIF Sp4		Ka LLIF Sp4	Ka LLIF Sp4	La LPET Sp3			La LPET Sp3	La LPET Sp3
611410_an9	Ka LPET Sp3	Ka LLIF Sp4	Ka LLIF Sp4	Ka LLIF Sp4		Ka LLIF Sp4	Ka LLIF Sp4	La LPET Sp3			La LPET Sp3	La LPET Sp3
611409_an2	Ka LPET Sp3	Ka LLIF Sp4	Ka LLIF Sp4	Ka LLIF Sp4		Ka LLIF Sp4	Ka LLIF Sp4	La LPET Sp3			La LPET Sp3	La LPET Sp3
611410_an10	Ka LPET Sp3		Ka LLIF Sp4			Ka LLIF Sp4						
611410_an10	Ka LPET Sp3	Ka LLIF Sp4	Ka LLIF Sp4	Ka LLIF Sp4		Ka LLIF Sp4	Ka LLIF Sp4	La LPET Sp3			La LPET Sp3	La LPET Sp3
611410_an11	Ka LPET Sp3					Ka LLIF Sp4						
611409_an1	Ka LPET Sp3	Ka LLIF Sp4	Ka LLIF Sp4	Ka LLIF Sp4		Ka LLIF Sp4	Ka LLIF Sp4	La LPET Sp3			La LPET Sp3	La LPET Sp3
611409_an3	Ka LPET Sp3	Ka LLIF Sp4	Ka LLIF Sp4	Ka LLIF Sp4	Lb LLIF Sp4	Ka LLIF Sp4	Ka LLIF Sp4	La LPET Sp3			La LPET Sp3	La LPET Sp3

Pd	Pt	Au	Bi	Ir	Se	Te
La LPET Sp3	Mb LPET Sp3	La LLIF Sp4	La LLIF Sp4	Ma LPET Sp3		
La LPET Sp3	Mb LPET Sp3	La LLIF Sp4	La LLIF Sp4	Ma LPET Sp3		
La LPET Sp3	Mb LPET Sp3	La LLIF Sp4	La LLIF Sp4	Ma LPET Sp3		
La LPET Sp3	Mb LPET Sp3	La LLIF Sp4	La LLIF Sp4	Ma LPET Sp3		
La LPET Sp3	Mb LPET Sp3	La LLIF Sp4	La LLIF Sp4	Ma LPET Sp3		
La LPET Sp3	Mb LPET Sp3	La LLIF Sp4	La LLIF Sp4	Ma LPET Sp3		
La LPET Sp3	Mb LPET Sp3	La LLIF Sp4	La LLIF Sp4	Ma LPET Sp3		
La LPET Sp3	Mb LPET Sp3	La LLIF Sp4	La LLIF Sp4	Ma LPET Sp3	Lb TAP Sp1	
La LPET Sp3						
La LPET Sp3	Mb LPET Sp3	La LLIF Sp4	La LLIF Sp4	Ma LPET Sp3	Lb TAP Sp1	
					Lb TAP Sp1	

La LPET Sp3	Mb LPET Sp3	La LLIF Sp4	La LLIF Sp4	Ma LPET Sp3	La LLIF Sp4
La LPET Sp3	Mb LPET Sp3	La LLIF Sp4	La LLIF Sp4	Ma LPET Sp3	La LLIF Sp4

Results of WDS quantitative analyses, microprobe Cameca SX-100, Dept of Electron Microanalysis, Geological Institute of Dionyz Stur, Bratislava, Slovak Republic

Calibration standards

Sample Name	S	Co	Ni	As	Sb	Fe	Cu	Ag	Cd	Zn	Mn	In	Ru	Rh	Pd	Pt	Au	Bi	Ir	Se	Te
611410_an1	pyrit	Co	Ni	GaAs	InSb_1	pyrit	Cu	Ag													
611410_an5	pyrit	Co	Ni	GaAs	InSb_1	pyrit	Cu	Ag													
611410_an2	pyrit	Co	Ni	GaAs	InSb_1	pyrit	Cu	Ag					Ru	Rh	Pd	Pt	Au	Bi	Ir		
611410_an3	pyrit	Co	Ni	GaAs		pyrit	Cu	Ag					Ru	Rh	Pd	Pt	Au	Bi	Ir		
611410_an4	pyrit	Co	Ni	GaAs		pyrit	Cu	Ag					Ru	Rh	Pd	Pt	Au	Bi	Ir		
611410_an6	pyrit	Co	Ni	GaAs		pyrit	Cu	Ag					Ru	Rh	Pd	Pt	Au	Bi	Ir		
611410_an7	pyrit	Co	Ni	GaAs		pyrit	Cu	Ag					Ru	Rh	Pd	Pt	Au	Bi	Ir		
611410_an8	pyrit	Co	Ni	GaAs		pyrit	Cu	Ag					Ru	Rh	Pd	Pt	Au	Bi	Ir		
611410_an9	pyrit	Co	Ni	GaAs		pyrit	Cu	Ag					Ru	Rh	Pd	Pt	Au	Bi	Ir		
611409_an2	pyrit	Co	Ni	GaAs		pyrit	Cu	Ag					Ru	Rh	Pd	Pt	Au	Bi	Ir		
611410_an10	pyrit		Ni			pyrit									Pd						
611410_an10	pyrit	Co	Ni	GaAs		pyrit	Cu	Ag					Ru	Rh	Pd	Pt	Au	Bi	Ir	Bi2Se3	
611410_an11	pyrit					fayalit															
611409_an1	pyrit	Co	Ni	GaAs		pyrit	Cu	Ag					Ru	Rh	Pd	Pt	Au	Bi	Ir	Bi2Se3	Bi2Te3
611409_an3	pyrit	Co	Ni	GaAs	InSb_1	pyrit	Cu	Ag					Ru	Rh	Pd	Pt	Au	Bi	Ir	Bi2Se3	Bi2Te3

Results of WDS quantitative analyses, microprobe Cameca SX-100, Dept of Electron Microanalysis, Geological Institute of Dionyz Stur, Bratislava, Slovak Republic

Table with empirically derived interfereces

No	Meas el	Spectrometer	Crystal	Line	Interf el	Interf cal line	Standard	IunkstdposMeas(cps/nA)		KV	nA	Interf yes/no
1	Pb	Sp3	LPET	Ma	Y	La	YPO4		0.6893	15	20	no
2	Pb	Sp3	LPET	Mb	Ce	La	CePO4		0	15	20	no

3	Pb	Sp3	LPET	Ma	Th	Ma	ThO2	0.283759	15	20	no
4	U	Sp3	LPET	Mb	Th	Ma	ThO2	3.968495	15	20	no
5	Nd	Sp4	LLIF	La	Ce	La	CePO4	1.453924	15	40	no
6	Gd	Sp4	LLIF	La	Ce	La	CePO4	15.40389	15	20	no
7	Gd	Sp4	LLIF	La	La	La	LaPO4	3.00988	15	20	no
8	Gd	Sp4	LLIF	La	Nd	La	NdPO4	2.230645	15	20	no
9	Lu	Sp4	LLIF	Lb	Dy	Lb	DyPO4	3.414269	15	20	no
10	Lu	Sp4	LLIF	Lb	Ho	Lb	HoPO4	5.577183	15	20	no
11	Lu	Sp4	LLIF	Lb	Yb	Lb	YbPO4	3.384236	15	20	no
12	Eu	Sp4	LLIF	Lb	Dy	Lb	DyPO4	25.95181	15	20	no
13	Er	Sp4	LLIF	Lb	Eu	Lb	EuPO4	2.356732	15	20	no
14	Er	Sp4	LLIF	Lb	Gd	Lb	GdPO4	3.422081	15	20	no
15	Er	Sp4	LLIF	Lb	Lu	Lb	LuPO4	0.938854	15	20	no
16	Sm	Sp4	LLIF	La	Ce	La	CePO4	1.747406	15	20	no
17	Tm	Sp4	LLIF	La	Sm	La	SmPO4	19.38497	15	20	no
18	Hf	Sp4	LLIF	Lb	Lu	Lb	LuPO4	0.283366	15	20	no
19	As	Sp1	TAP	La	Nd	La	NdPO4	0.801318	15	20	no
20	As	Sp1	TAP	La	Sm	La	SmPO4	0.874103	15	20	no
21	As	Sp1	TAP	La	Tb	La	TbPO4	3.782107	15	20	no
22	As	Sp1	TAP	La	Dy	Lb	DyPO4	5.774508	15	20	no
23	Ba	Sp3	LPET	La	Ti	Ka	TiO2	23.40785	15	6	no
24	V	Sp4	LLIF	Ka	Ti	Ka	TiO2	2.464186	15	20	no
25	V	Sp4	LLIF	Ka	Ba	La	barit	0.555238	15	20	no
26	Cr	Sp4	LLIF	Ka	V	Ka	V	20.30208	15	20	no
27	F	Sp2	LPC0	Ka	Ce	La	CePO4	5.716014	15	20	no
28	Hf	Sp4	LLIF	La	Ho	Lb	HoPO4	40.46895	15	40	no
29	Rb	Sp1	TAP	La	Si	Ka	SiO2	0.958096	15	20	no
30	U	Sp3	LPET	Mb	K	Ka	ortoklas	7.795499	15	50	no
31	Si	Sp1	TAP	Ka	Ta	La	LiTaO3	5.78543	15	15	no
32	Zr	Sp3	LPET	La	P	Ka	apatit	0.173966	15	20	no

33	Ca	Sp3	LPET	Ka	Sn	La	SnO2	9.29575	15	20	no
34	V	Sp4	LLIF	Kb	Cr	Kb	Cr	35.13153	15	40	no
35	Ta	Sp4	LLIF	La	Er	Lb	ErPO4	5.083898	15	20	no
36	W	Sp4	LLIF	La	Dy	Lb	DyPO4	12.87207	15	20	no
37	Nb	Sp1	TAP	La	Dy	Lb	DyPO4	4.14476	15	20	no
38	Ce	Sp4	LLIF	La	W	La	CaWO4	2.20547	15	40	no
39	F	Sp4	LPC0	Ka	Fe	Ka	hematit	0	15	20	no
40	As	Sp4	LLIF	Kb	Au	La	Au	0	20	10	no
41	As	Sp4	LLIF	Kb	Hg	La	HgS	0	20	20	no
42	Cd	Sp4	LLIF	Ka	Ag	La	Ag	0	20	10	no
43	Cd	Sp3	LPET	La	Ag	La	Ag	20.98333	25	10	yes
44	Bi	Sp3	LPET	Ma	Au	La	Au	0	25	20	no
45	Co	Sp4	LLIF	Ka	Fe	Ka	CuFeS2	1.599332	25	10	yes
46	As	Sp1	TAP	La	Sb	Lb	Sb	11.83428	25	10	no
47	As	Sp1	TAP	La	Sb	Lb	InSb	0	25	10	no
48	Ru	Sp3	LPET	La	Bi	La	Bi	1.623502	25	10	yes
49	Rh	Sp3	LPET	La	Ru	La	Ru	14.69266	25	10	yes
50	Rh	Sp3	LPET	La	Pt	Mb	Pt	1.833318	25	10	yes
51	Pd	Sp3	LPET	La	Rh	La	Rh	6.858925	25	10	yes
52	Ta	Sp4	LLIF	La	Ir	Ma	Ir	2.194839	25	10	no
53	Ta	Sp4	LLIF	La	Ni	Ka	Ni	6.644329	25	10	no
54	Ir	Sp3	LPET	Ma	Os	La	Os	57.27591	25	10	no
55	Bi	Sp4	LLIF	La	Pt	Mb	Pt	52.36926	25	10	yes

Results of WDS quantitative analyses, microprobe Cameca SX-100, Dept of Electron Microanalysis, Geological Institute of Dionyz Stur, Bratislava, Slovak Republic

Wt % of oxides subtracted by interference correction

Analyses sorted by analysis program

Sample Name

611410_an1

611410_an5

611410_an2
611410_an3
611410_an4
611410_an6
611410_an7
611410_an8
611410_an9
611409_an2
611410_an10
611410_an10
611410_an11
611409_an1
611409_an3

Results of WDS quantitative analyses, microprobe Cameca SX-100, Dept of Electron Microanalysis, Geological Institute of Dionyz Stur, Bratislava, Slovak Republic

Wt % of elements subtracted by interference correction

Sample Name	S	Co	Ni	As	Sb	Fe	Cu	Ag	Cd	Zn	Mn	In	Ru	Rh	Pd	Pt	Au
611410_an1		Co(Fe)0.00125															
611410_an5		Co(Fe)0.03537															
611410_an2													Ru(Bi)0.045	Rh(Ru)0:Rh(Pt)0.00445	Pd(Rh)0.0006		
611410_an3													Ru(Bi)0.0698	Rh(Ru)0:Rh(Pt)0.00411	Pd(Rh)0.00079		
611410_an4													Ru(Bi)0.028	Rh(Ru)0:Rh(Pt)0.0041	Pd(Rh)0.00013		
611410_an6		Co(Fe)0.001											Ru(Bi)0.0878	Rh(Ru)0:Rh(Pt)0.00698	Pd(Rh)0.0012		
611410_an7													Ru(Bi)0.0677	Rh(Ru)0:Rh(Pt)0.003	Pd(Rh)0.00027		
611410_an8		Co(Fe)0.00153											Ru(Bi)0.1061	Rh(Ru)0:Rh(Pt)0.12581	Pd(Rh)0.00099		
611410_an9		Co(Fe)0.00153											Ru(Bi)0.0354	Rh(Ru)0:Rh(Pt)0.12508	Pd(Rh)0.00067		
611409_an2		Co(Fe)0.03779												Rh(Ru)0:Rh(Pt)0.00109			
611410_an10																	
611410_an10													Ru(Bi)0.0028		Pd(Rh)0		

611410_an11				
611409_an1		Ru(Bi)0.0465	Rh(Ru)0:Rh(Pt)0.13094	Pd(Rh)0.00087
611409_an3	Co(Fe)0.00028	Ru(Bi)0.0631	Rh(Ru)0:Rh(Pt)0.1199	Pd(Rh)0.00051

Continued

Bi	Ir	Se	Te	Total	Interference used
					> Co(Fe)
					> Co(Fe)
Bi(Pt)0.13771					> Ru(Bi) > Rh(Ru) > Rh(Pt) > Pd(Rh) > Bi(Pt)
Bi(Pt)0.12515					> Ru(Bi) > Rh(Ru) > Rh(Pt) > Pd(Rh) > Bi(Pt)
Bi(Pt)0.12627					> Ru(Bi) > Rh(Ru) > Rh(Pt) > Pd(Rh) > Bi(Pt)
Bi(Pt)0.20643					> Co(Fe) > Ru(Bi) > Rh(Ru) > Rh(Pt) > Pd(Rh) > Bi(Pt)
Bi(Pt)0.09176					> Ru(Bi) > Rh(Ru) > Rh(Pt) > Pd(Rh) > Bi(Pt)
Bi(Pt)3.00278					> Co(Fe) > Ru(Bi) > Rh(Ru) > Rh(Pt) > Pd(Rh) > Bi(Pt)
Bi(Pt)2.98636					> Co(Fe) > Ru(Bi) > Rh(Ru) > Rh(Pt) > Pd(Rh) > Bi(Pt)
Bi(Pt)0.0154					> Co(Fe) > Rh(Ru) > Rh(Pt) > Bi(Pt)
Bi(Pt)0.02459					> Ru(Bi) > Pd(Rh) > Bi(Pt)
Bi(Pt)3.22827					> Ru(Bi) > Rh(Ru) > Rh(Pt) > Pd(Rh) > Bi(Pt)
Bi(Pt)3.0727					> Co(Fe) > Ru(Bi) > Rh(Ru) > Rh(Pt) > Pd(Rh) > Bi(Pt)

Sample Name	S	Co	Ni	As	Sb	Fe	Cu	Ag	Cd	Zn	Mn	In	Ru	Rh	Pd	Pt	Au	Bi	Ir	Se	Te	Total
611410_an1		0.5029																				
611410_an5		0.4284																				
611410_an2													0	0	144.485			211.7				
611410_an3													0	0	151.803			245.1				

611410_an4		0	0	143.231	236.7
611410_an6	0.0394	0	1	150.108	265.3
611410_an7		0	0	299.728	340.1
611410_an8	0.6638	0	0	8.24572	234.9
611410_an9	0.844	0	0	8.52643	233.4
611409_an2	5.4419		0		0
611410_an10					
611410_an10		0		573.328	9.578
611410_an11					
611409_an1		0	0	0.09189	219
611409_an3	0.2943	0	0	15.6365	185.2

Interference used
> Co(Fe)
> Co(Fe)
> Ru(Bi) > Rh(Ru) > Rh(Pt) > Pd(Rh) > Bi(Pt)
> Ru(Bi) > Rh(Ru) > Rh(Pt) > Pd(Rh) > Bi(Pt)
> Ru(Bi) > Rh(Ru) > Rh(Pt) > Pd(Rh) > Bi(Pt)
> Co(Fe) > Ru(Bi) > Rh(Ru) > Rh(Pt) > Pd(Rh) > Bi(Pt)
> Ru(Bi) > Rh(Ru) > Rh(Pt) > Pd(Rh) > Bi(Pt)
> Co(Fe) > Ru(Bi) > Rh(Ru) > Rh(Pt) > Pd(Rh) > Bi(Pt)
> Co(Fe) > Ru(Bi) > Rh(Ru) > Rh(Pt) > Pd(Rh) > Bi(Pt)
> Co(Fe) > Rh(Ru) > Rh(Pt) > Bi(Pt)
> Ru(Bi) > Pd(Rh) > Bi(Pt)
> Ru(Bi) > Rh(Ru) > Rh(Pt) > Pd(Rh) > Bi(Pt)
> Co(Fe) > Ru(Bi) > Rh(Ru) > Rh(Pt) > Pd(Rh) > Bi(Pt)

Results of WDS quantitative analyses, microprobe Cameca SX-100, Dept of Electron Microanalysis, Geological Institute of Dionyz Stur, Bratislava, Slovak Republic

Sample Name	S	Co	Ni	As	Sb	Fe	Cu	Ag	Cd	Zn	Mn	In	Ru	Rh	Pd	Pt	Au	Bi	Ir	Se	Te	Total
611410_an1	35.7522	0.0198	64.339	0	0	1.1	0.2	0														101.4
611410_an5	34.8326	0.0501	0	0.02	0	30	35	0														99.68
611410_an2	18.9059	0	2.1789	0	0	0.5	12	7.5					0	0	20.1243	1.3605	0	33.934	0			97.01
611410_an3	18.5596	0	2.2136	0		0.5	13	6.3					0	0.1	21.2431	1.2505	0	38.809	0			102
611410_an4	18.076	0	2.311	0		0.5	13	8.5					0	0	19.9316	1.2578	0	37.528	0.0115			100.8
611410_an6	19.0734	0.0024	0.046	0		0.8	13	2					0	0.1	21.6395	2.0989	0	41.874	0.0095			100.9
611410_an7	7.6573	0	0.0943	0		0.7	0.4	3.8					0	0	39.7768	1.0422	0	50.173	0.0235			103.8
611410_an8	18.1386	0.0241	0.0414	0		1.3	12	0.1					0	0.2	1.3646	33.158	0	38.609	0			104.7
611410_an9	18.1441	0.0302	0.0248	0		1.3	12	0.1					0	0.2	1.4109	32.9554	0	38.387	0			104.1
611409_an2	33.1724	0.2402	36.763	0		30	0	0					0	0	0	0.2722	0	0.0154	0			100.5
611410_an10	18.5696		4.1715			2.6									57.9793							83.32
611410_an10	21.1876	0	4.0016	0.15		2	1.1	6.7					0	0	60.7833	0.2335	0	1.578	0	8.02		105.7
611410_an11	54.434					47																101.7
611409_an1	0.0225	0	0.1191	0		0.8	0	0					0	0.2	0.0142	38.0754	0	33.619	0	0	31	104.1
611409_an3	0.0284	0.0102	0.1701	0	0	0.2	0	0.2					0	0.2	2.1824	35.547	0	28.878	0	0.08	37	104.2

Microprobe analyses of mineral phases, spot size 1-5 microns, accelerating voltage 25 KV, sample current 10 nA

Laboratory in State Geological Institute of Dionyz Stur, Bratislava, Mlynska dol. 1., Slovak Republic, microprobe CAMECA SX100

analyses in wt. %

Sample name	**611410**	**611410**	**611410**	**611410**	**611410**	**611410**	**611410**	**611410**	**611410**	**611410**	**611410**	**611410**	**611409**	**611409**	**611409**
Analysis No.	**an1**	**an2**	**an3**	**an4**	**an5**	**an6**	**an7**	**an8**	**an9**	**an10**	**an10**	**an11**	**an1**	**an2**	**an3**
S	35.752	18.906	18.560	18.076	34.833	19.073	7.657	18.139	18.144	18.570	21.188	54.434	0.023	33.172	0.028
Co	b.d.l	0	0	0	b.d.l.	b.d.l.	0	b.d.l.	b.d.l.		0		0	b.d.l.	b.d.l.
Ni	64.339	2.179	2.214	2.311	0	0.046	0.094	0.041	0.025	4.172	4.002		0.119	36.763	0.170
As	0	0	0	0	b.d.l.	0	0	0	0		b.d.l.		0	b.d.l.	0

Sb	b.d.l.	0			0										0
Fe	1.111	0.521	0.481	0.495	30.007	0.794	0.746	1.306	1.310	2.603	2.007	47.225	0.832	29.981	0.246
Cu	0.185	12.366	12.943	12.654	34.749	13.123	0.401	11.582	11.544		1.074		0.015	0.049	0.028
Ag	0	7.525	6.339	8.452	b.d.l.	2.041	3.802	0.150	0.104		6.689		b.d.l.	b.d.l.	b.d.l.
Ru		0	0	0		0	0	0	0		0		0	0	0
Rh		b.d.l.	b.d.l.	b.d.l.		b.d.l.	b.d.l.	b.d.l.	b.d.l.		0		b.d.l.	b.d.l.	b.d.l.
Pd		20.124	21.242	19.931		21.638	39.777	1.364	1.410	57.979	60.783		b.d.l.	0	2.182
Pt		1.361	1.251	1.258		2.099	1.042	33.158	32.955		0.234		38.075	0.272	35.547
Au		b.d.l.	0	0		0	0	0	0		b.d.l.		0	0	0
Bi		33.796	38.684	37.402		41.667	50.081	35.606	35.400		1.553		30.391	0	25.805
Ir		0	0	b.d.l.		b.d.l.	b.d.l.	0	0		0		0	0	0
Se											8.020		0		b.d.l.
Te													31.138		36.635
Total	**101.436**	**96.820**	**101.766**	**100.600**	**99.648**	**100.569**	**103.643**	**101.414**	**100.953**	**83.324**	**105.700**	**101.659**	**100.670**	**100.470**	**100.930**
						detection limit 3 sigma in ppm									
Sample name	**611410**	**611410**	**611410**	**611410**	**611410**	**611410**	**611410**	**611410**	**611410**	**611410**	**611410**	**611410**	**611409**	**611409**	**611409**
Analysis No.	**an1**	**an2**	**an3**	**an4**	**an5**	**an6**	**an7**	**an8**	**an9**	**an10**	**an10**	**an11**	**an1**	**an2**	**an3**
S	278	230	217	215	183	215	225	308	317	185	182	417	346	189	334
Co	449	0	0	0	287	392	0	388	390		0		0	317	409
Ni	547	407	401	403	0	407	428	408	410	356	357		418	365	424
As	0	0	0	0	486	0	0	0	0		554		0	502	0
Sb	779	0			0										0
Fe	342	362	362	362	277	368	381	380	370	307	306	297	400	278	392
Cu	561	489	481	480	412	480	493	485	486		417		491	386	485
Ag	0	708	731	706	486	721	792	748	740		710		703	493	704
Ru		722	687	706		693	682	791	822		591		774	0	731
Rh		702	673	695		687	716	855	823		0		819	562	760
Pd		722	713	709		733	739	805	796	689	574		774	-1	735
Pt		834	848	842		847	857	880	882		749		1073	765	1101
Au		866	0	0		0	0	0	0		745		0	0	0

Bi	1035	917	922	922	952	952	951	881	959	771	951
Ir	0	0	717	704	712	0	0	0	0	0	0
Se								867	0		1109
Te									893		899

b.d.l. below detection limit 3 sigma

APPENDIX IV

Assay Certificates

AGAT Laboratories

5623 McADAM ROAD
MISSISSAUGA, ONTARIO
CANADA L4Z 1N9
TEL (905)501-9998
FAX (905)501-0589
http://www.agatlabs.com

CLIENT NAME: MISC AGAT CLIENT ON, ON

ATTENTION TO: Molak B (Boris)

PROJECT:

AGAT WORK ORDER: 18B353265

SOLID ANALYSIS REVIEWED BY: Adel Mina, Mining Chief Chemist

DATE REPORTED: Jul 31, 2018

PAGES (INCLUDING COVER): 9

Should you require any information regarding this analysis please contact your client services representative at (905) 501-9998

*NOTES

All samples are stored at no charge for 90 days. Please contact the lab if you require additional sample storage time.

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 18B353265

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Molak B (Boris)

(200-) Sample Login Weight

DATE SAMPLED: Jun 20, 2018 | DATE RECEIVED: Jun 20, 2018 | DATE REPORTED: Jul 31, 2018 | SAMPLE TYPE: Rock

Analyte:	Sample Login Weight
Unit:	kg
Sample ID (AGAT ID) RDL:	0.01
5560560 (9347848)	1.026
5560561 (9347849)	1.038
5560562 (9347850)	1.83
5560563 (9347851)	1.09
5560564 (9347852)	1.316
5560565 (9347853)	1.506
5560566 (9347854)	1.21
5560567 (9347855)	.696
5560568 (9347856)	1.968
5560569 (9347857)	1.052
5560570 (9347858)	1.192
5560571 (9347859)	1.532
5560573 (9347860)	1.388
5560574 (9347861)	1.228
5560575 (9347862)	1.034
5560576 (9347863)	.822
5560577 (9347864)	1.184
5560578 (9347865)	1.35
5560579 (9347866)	1.448
5560580 (9347867)	1.144
5560581 (9347868)	1.18
5560582 (9347869)	1.462
5560583 (9347870)	2.1
5560584 (9347871)	1.082
5560585 (9347872)	1.116
5560586 (9347873)	1.096
5560587 (9347874)	1.982
5560588 (9347875)	1.194
5560589 (9347876)	.83
5560590 (9347877)	1.482
5560591 (9347878)	1.468

Certified By:

AGAT Laboratories

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http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 18B353265
PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Molak B (Boris)

(200-) Sample Login Weight

DATE SAMPLED: Jun 20, 2018 | DATE RECEIVED: Jun 20, 2018 | DATE REPORTED: Jul 31, 2018 | SAMPLE TYPE: Rock

Analyte:	Sample Login Weight
Unit:	kg
Sample ID (AGAT ID) RDL:	0.01
5560592 (9347879)	1.504
5560593 (9347880)	1.428
5560594 (9347881)	1.32
5560595 (9347882)	.638
5560596 (9347883)	1.573
5560597 (9347884)	1.684
5560598 (9347885)	1.444
5560599 (9347886)	1.58
5560600 (9347887)	1.522
5560601 (9347888)	1.254
5560602 (9347889)	1.396
5560603 (9347890)	1.2
5560604 (9347891)	1.552
5560605 (9347892)	1.532
5560606 (9347893)	.99
5560607 (9347894)	1.276
5560608 (9347895)	1.694
5560609 (9347896)	1.628
5560910 (9347897)	1.57
5560911 (9347898)	1.45
5560912 (9347899)	1.42
5560913 (9347900)	1.548

Comments: RDL - Reported Detection Limit

Certified By:

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 18B353265

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Molak B (Boris)

(202-055) Fire Assay - Au, Pt, Pd Trace Levels, ICP-OES finish

DATE SAMPLED: Jun 20, 2018 | DATE RECEIVED: Jun 20, 2018 | DATE REPORTED: Jul 31, 2018 | SAMPLE TYPE: Rock

Analyte:	Au	Pd	Pt
Unit:	ppm	ppm	ppm
Sample ID (AGAT ID) RDL:	0.001	0.001	0.005
5560560 (9347848)	0.011	<0.001	<0.005
5560561 (9347849)	0.001	0.004	<0.005
5560562 (9347850)	0.004	<0.001	<0.005
5560563 (9347851)	<0.001	<0.001	<0.005
5560564 (9347852)	<0.001	<0.001	<0.005
5560565 (9347853)	<0.001	0.003	<0.005
5560566 (9347854)	0.002	<0.001	<0.005
5560567 (9347855)	0.003	<0.001	<0.005
5560568 (9347856)	0.002	0.009	0.009
5560569 (9347857)	<0.001	<0.001	<0.005
5560570 (9347858)	<0.001	<0.001	<0.005
5560571 (9347859)	<0.001	<0.001	<0.005
5560573 (9347860)	<0.001	<0.001	<0.005
5560574 (9347861)	0.001	0.002	<0.005
5560575 (9347862)	0.002	<0.001	<0.005
5560576 (9347863)	0.002	<0.001	<0.005
5560577 (9347864)	<0.001	<0.001	<0.005
5560578 (9347865)	0.001	<0.001	<0.005
5560579 (9347866)	<0.001	0.007	0.009
5560580 (9347867)	<0.001	0.013	0.013
5560581 (9347868)	0.003	0.013	0.013
5560582 (9347869)	<0.001	0.016	0.018
5560583 (9347870)	0.011	0.002	<0.005
5560584 (9347871)	0.061	0.003	<0.005
5560585 (9347872)	<0.001	<0.001	<0.005
5560586 (9347873)	0.001	0.010	0.007
5560587 (9347874)	0.002	0.007	0.010
5560588 (9347875)	0.001	<0.001	<0.005
5560589 (9347876)	0.020	<0.001	<0.005
5560590 (9347877)	0.002	<0.001	<0.005
5560591 (9347878)	0.001	0.001	<0.005
5560592 (9347879)	<0.001	<0.001	<0.005

Certified By:

AGAT Laboratories

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CANADA L4Z 1N9
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Certificate of Analysis

AGAT WORK ORDER: 18B353265

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Molak B (Boris)

(202-055) Fire Assay - Au, Pt, Pd Trace Levels, ICP-OES finish

DATE SAMPLED: Jun 20, 2018 | DATE RECEIVED: Jun 20, 2018 | DATE REPORTED: Jul 31, 2018 | SAMPLE TYPE: Rock

Analyte:	Au	Pd	Pt
Unit:	ppm	ppm	ppm
Sample ID (AGAT ID) RDL:	0.001	0.001	0.005
5560593 (9347880)	0.001	0.001	<0.005
5560594 (9347881)	0.001	<0.001	<0.005
5560595 (9347882)	0.010	<0.001	<0.005
5560596 (9347883)	0.008	0.003	<0.005
5560597 (9347884)	<0.001	0.001	<0.005
5560598 (9347885)	0.003	0.003	<0.005
5560599 (9347886)	0.001	<0.001	<0.005
5560600 (9347887)	0.001	0.107	0.121
5560601 (9347888)	0.004	0.051	0.061
5560602 (9347889)	0.002	0.004	0.005
5560603 (9347890)	0.001	<0.001	<0.005
5560604 (9347891)	<0.001	0.002	<0.005
5560605 (9347892)	0.005	0.087	0.075
5560606 (9347893)	0.009	0.018	0.014
5560607 (9347894)	<0.001	0.002	<0.005
5560608 (9347895)	0.002	0.013	0.012
5560609 (9347896)	<0.001	0.002	<0.005
5560910 (9347897)	<0.001	<0.001	<0.005
5560911 (9347898)	0.001	<0.001	<0.005
5560912 (9347899)	<0.001	<0.001	<0.005
5560913 (9347900)	<0.001	0.002	<0.005

Comments: RDL - Reported Detection Limit

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Certificate of Analysis

AGAT WORK ORDER: 18B353265

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Molak B (Boris)

Sieving - % Passing (Pulverizing)

DATE SAMPLED: Jun 20, 2018 | DATE RECEIVED: Jun 20, 2018 | DATE REPORTED: Jul 31, 2018 | SAMPLE TYPE: Rock

	Analyte:	Pass %
	Unit:	%
Sample ID (AGAT ID)	RDL:	0.01
5560591 (9347878)		91.1

Comments: RDL - Reported Detection Limit

Certified By:

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Quality Assurance - Replicate

AGAT WORK ORDER: 18B353265

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Molak B (Boris)

(202-055) Fire Assay - Au, Pt, Pd Trace Levels, ICP-OES finish

	REPLICATE #1				REPLICATE #2				REPLICATE #3				REPLICATE #4			
Parameter	Sample ID	Original	Replicate	RPD	Sample ID	Original	Replicate	RPD	Sample ID	Original	Replicate	RPD	Sample ID	Original	Replicate	RPD
Au	9347848	0.0107	0.0136	23.9%	9347859	< 0.001	< 0.001	0.0%	9347872	< 0.001	< 0.001	0.0%	9347883	0.008	0.004	
Pd	9347848	< 0.001	< 0.001	0.0%	9347859	< 0.001	< 0.001	0.0%	9347872	< 0.001	< 0.001	0.0%	9347883	0.0025	0.0019	27.3%
Pt	9347848	< 0.005	< 0.005	0.0%	9347859	< 0.005	< 0.005	0.0%	9347872	< 0.005	< 0.005	0.0%	9347883	< 0.005	< 0.005	0.0%
	REPLICATE #5															
Parameter	Sample ID	Original	Replicate	RPD												
Au	9347899	< 0.001	0.001													
Pd	9347899	< 0.001	< 0.001	0.0%												
Pt	9347899	< 0.005	< 0.005	0.0%												

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Quality Assurance - Certified Reference materials

AGAT WORK ORDER: 18B353265

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Molak B (Boris)

(202-055) Fire Assay - Au, Pt, Pd Trace Levels, ICP-OES finish

	CRM #1 (ref.PG129)				CRM #2 (ref.PG129)				CRM #3 (ref.PG129)							
Parameter	Expect	Actual	Recovery	Limits	Expect	Actual	Recovery	Limits	Expect	Actual	Recovery	Limits				
Au	1.1	1.1	103%	90% - 110%	1.1	1.2	108%	90% - 110%	1.1	1.1	100%	90% - 110%				
Pd	0.115	0.115	100%	90% - 110%	0.115	0.123	107%	90% - 110%	0.115	0.12	104%	90% - 110%				
Pt	0.239	0.248	104%	90% - 110%	0.239	0.254	106%	90% - 110%	0.239	0.243	102%	90% - 110%				

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Method Summary

CLIENT NAME: MISC AGAT CLIENT ON

AGAT WORK ORDER: 18B353265

PROJECT:

ATTENTION TO: Molak B (Boris)

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Solid Analysis			
Sample Login Weight	MIN-12009		BALANCE
Au	MIN-200-12006	BUGBEE, E: A Textbook of Fire Assaying	ICP/OES
Pd	MIN-200-12006	BUGBEE, E: A Textbook of Fire Assaying	ICP/OES
Pt	MIN-200-12006	BUGBEE, E: A Textbook of Fire Assaying	ICP/OES
Pass %			BALANCE

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CLIENT NAME: MISC AGAT CLIENT ON, ON

ATTENTION TO: Molak B (Boris)

PROJECT:

AGAT WORK ORDER: 18B353265

SOLID ANALYSIS REVIEWED BY: Sherin Moussa, Senior Technician

DATE REPORTED: Oct 29, 2018

PAGES (INCLUDING COVER): 24

Should you require any information regarding this analysis please contact your client services representative at (905) 501-9998

*NOTES

All samples are stored at no charge for 90 days. Please contact the lab if you require additional sample storage time.

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AGAT WORK ORDER: 18B353265

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Molak B (Boris)

(200-) Sample Login Weight

DATE SAMPLED: Jun 20, 2018 | DATE RECEIVED: Jun 20, 2018 | DATE REPORTED: Oct 29, 2018 | SAMPLE TYPE: Rock

Analyte:	Sample Login Weight
Unit:	kg
Sample ID (AGAT ID) RDL:	0.01
5560560 (9347848)	1.026
5560561 (9347849)	1.038
5560562 (9347850)	1.83
5560563 (9347851)	1.09
5560564 (9347852)	1.316
5560565 (9347853)	1.506
5560566 (9347854)	1.21
5560567 (9347855)	.696
5560568 (9347856)	1.968
5560569 (9347857)	1.052
5560570 (9347858)	1.192
5560571 (9347859)	1.532
5560573 (9347860)	1.388
5560574 (9347861)	1.228
5560575 (9347862)	1.034
5560576 (9347863)	.822
5560577 (9347864)	1.184
5560578 (9347865)	1.35
5560579 (9347866)	1.448
5560580 (9347867)	1.144
5560581 (9347868)	1.18
5560582 (9347869)	1.462
5560583 (9347870)	2.1
5560584 (9347871)	1.082
5560585 (9347872)	1.116
5560586 (9347873)	1.096
5560587 (9347874)	1.982
5560588 (9347875)	1.194
5560589 (9347876)	.83
5560590 (9347877)	1.482
5560591 (9347878)	1.468

Certified By: Sherin Moussa

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AGAT WORK ORDER: 18B353265

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Molak B (Boris)

(200-) Sample Login Weight

DATE SAMPLED: Jun 20, 2018 | DATE RECEIVED: Jun 20, 2018 | DATE REPORTED: Oct 29, 2018 | SAMPLE TYPE: Rock

Analyte:	Sample Login Weight
Unit:	kg
Sample ID (AGAT ID) RDL:	0.01
5560592 (9347879)	1.504
5560593 (9347880)	1.428
5560594 (9347881)	1.32
5560595 (9347882)	.638
5560596 (9347883)	1.573
5560597 (9347884)	1.684
5560598 (9347885)	1.444
5560599 (9347886)	1.58
5560600 (9347887)	1.522
5560601 (9347888)	1.254
5560602 (9347889)	1.396
5560603 (9347890)	1.2
5560604 (9347891)	1.552
5560605 (9347892)	1.532
5560606 (9347893)	.99
5560607 (9347894)	1.276
5560608 (9347895)	1.694
5560609 (9347896)	1.628
5560910 (9347897)	1.57
5560911 (9347898)	1.45
5560912 (9347899)	1.42
5560913 (9347900)	1.548

Comments: RDL - Reported Detection Limit

Certified By: Sherin Moussa

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AGAT WORK ORDER: 18B353265

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Molak B (Boris)

(201-378) Sodium Peroxide Fusion - ICP-OES/ICP-MS Finish

DATE SAMPLED: Jun 20, 2018 | DATE RECEIVED: Jun 20, 2018 | DATE REPORTED: Oct 29, 2018 | SAMPLE TYPE: Rock

Analyte:	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu
Unit:	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm
Sample ID (AGAT ID) RDL:	1	0.01	5	20	0.5	5	0.1	0.05	0.2	0.1	0.5	0.005	0.1	5
5560560 (9347848)	<1	8.22	17	<20	427	<5	<0.1	2.22	<0.2	19.6	5.7	<0.005	1.6	23
5560561 (9347849)	<1	4.81	<5	<20	191	<5	0.2	8.70	<0.2	61.9	66.3	0.132	0.9	77
5560562 (9347850)	<1	6.21	9	<20	198	<5	0.4	6.53	<0.2	30.1	58.8	0.130	0.9	48
5560563 (9347851)	<1	8.06	<5	<20	72.6	<5	<0.1	7.52	<0.2	7.6	48.4	0.026	0.5	58
5560564 (9347852)	<1	7.33	<5	<20	48.9	<5	0.1	8.83	<0.2	10.3	48.4	0.021	0.3	59
5560565 (9347853)	<1	6.09	<5	<20	13.1	<5	<0.1	6.87	<0.2	7.4	68.1	0.136	0.2	39
5560566 (9347854)	<1	8.61	<5	<20	45.8	<5	0.1	8.11	<0.2	7.2	47.0	0.021	0.6	31
5560567 (9347855)	<1	8.13	<5	<20	219	<5	3.3	4.83	<0.2	22.5	26.2	<0.005	1.6	13
5560568 (9347856)	<1	7.44	<5	<20	216	<5	0.3	7.07	<0.2	10.7	65.0	0.097	2.4	141
5560569 (9347857)	<1	7.19	<5	30	335	<5	0.1	5.81	<0.2	54.1	66.6	0.010	1.8	121
5560570 (9347858)	<1	7.13	<5	28	315	<5	<0.1	5.98	<0.2	51.9	61.4	0.007	1.0	106
5560571 (9347859)	<1	6.90	<5	30	382	<5	<0.1	5.70	<0.2	61.0	61.5	0.005	0.7	60
5560573 (9347860)	<1	8.50	<5	21	324	<5	0.1	5.25	<0.2	30.7	35.2	0.020	1.4	63
5560574 (9347861)	<1	9.47	<5	<20	131	<5	0.2	7.73	<0.2	27.4	55.5	0.006	1.4	81
5560575 (9347862)	<1	5.84	<5	<20	231	<5	0.6	5.77	<0.2	175	61.9	0.009	0.6	167
5560576 (9347863)	<1	6.85	<5	<20	275	<5	0.2	4.63	<0.2	386	28.8	0.006	0.6	246
5560577 (9347864)	<1	5.90	<5	<20	368	<5	0.1	5.14	<0.2	96.8	41.7	0.009	0.5	81
5560578 (9347865)	<1	6.00	5	<20	164	<5	0.4	7.02	0.2	124	47.7	0.009	0.5	41
5560579 (9347866)	<1	7.10	<5	25	201	<5	0.2	6.20	<0.2	11.8	51.3	<0.005	1.5	38
5560580 (9347867)	<1	7.92	<5	<20	279	<5	1.7	8.01	<0.2	7.1	47.7	0.012	2.1	205
5560581 (9347868)	<1	7.17	<5	<20	100	<5	0.2	5.62	<0.2	10.4	51.3	<0.005	1.0	59
5560582 (9347869)	<1	7.05	<5	<20	201	<5	0.5	9.64	<0.2	11.7	22.1	<0.005	1.2	75
5560583 (9347870)	<1	6.37	<5	<20	162	<5	1.5	6.90	<0.2	29.3	63.9	<0.005	0.6	257
5560584 (9347871)	<1	6.77	<5	<20	553	7	12.0	8.90	<0.2	26.2	40.5	0.015	2.4	149
5560585 (9347872)	<1	7.12	<5	<20	54.5	<5	0.4	7.45	<0.2	8.1	49.8	0.027	0.3	24
5560586 (9347873)	<1	6.44	<5	23	175	<5	0.3	6.33	<0.2	9.7	50.4	<0.005	1.9	49
5560587 (9347874)	<1	7.26	<5	<20	147	<5	0.1	6.32	<0.2	8.8	50.4	<0.005	0.7	38
5560588 (9347875)	<1	7.35	<5	34	351	<5	0.1	5.95	<0.2	51.7	66.7	0.009	1.6	115
5560589 (9347876)	<1	8.98	<5	<20	96.1	<5	0.2	6.71	<0.2	15.6	62.3	0.007	1.0	301
5560590 (9347877)	<1	6.92	<5	24	327	<5	<0.1	5.86	<0.2	65.7	56.2	0.005	1.5	66
5560591 (9347878)	<1	7.10	<5	34	451	<5	<0.1	5.75	0.2	53.8	58.2	0.008	2.1	101
5560592 (9347879)	<1	9.72	<5	21	275	<5	0.2	6.28	<0.2	37.5	43.5	<0.005	2.9	61

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AGAT WORK ORDER: 18B353265

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Molak B (Boris)

(201-378) Sodium Peroxide Fusion - ICP-OES/ICP-MS Finish

DATE SAMPLED: Jun 20, 2018 | DATE RECEIVED: Jun 20, 2018 | DATE REPORTED: Oct 29, 2018 | SAMPLE TYPE: Rock

Analyte:	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu
Unit:	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm
Sample ID (AGAT ID) RDL:	1	0.01	5	20	0.5	5	0.1	0.05	0.2	0.1	0.5	0.005	0.1	5
5560593 (9347880)	<1	8.63	<5	<20	222	<5	0.1	5.72	<0.2	47.7	39.2	0.027	1.7	75
5560594 (9347881)	<1	7.60	<5	22	231	<5	0.5	7.21	<0.2	18.9	48.3	0.022	3.4	61
5560595 (9347882)	<1	7.68	<5	30	252	<5	0.3	7.22	<0.2	17.2	48.5	0.016	4.4	49
5560596 (9347883)	<1	3.75	<5	<20	106	<5	0.1	8.53	<0.2	90.3	65.1	0.146	0.6	36
5560597 (9347884)	<1	8.81	<5	<20	312	<5	<0.1	7.59	<0.2	60.5	44.3	0.006	2.2	64
5560598 (9347885)	<1	7.96	<5	<20	259	<5	<0.1	6.39	<0.2	55.2	55.3	0.030	0.9	37
5560599 (9347886)	<1	8.90	<5	<20	786	<5	0.1	6.71	<0.2	106	54.8	<0.005	2.3	189
5560600 (9347887)	<1	4.32	<5	<20	189	<5	0.1	9.53	<0.2	50.2	54.1	0.050	0.8	44
5560601 (9347888)	<1	3.63	7	<20	147	<5	<0.1	9.67	<0.2	38.8	62.6	0.040	0.8	42
5560602 (9347889)	<1	7.30	<5	<20	426	<5	<0.1	8.10	<0.2	100	47.9	0.019	1.7	27
5560603 (9347890)	<1	8.71	<5	<20	513	<5	<0.1	4.10	<0.2	39.3	20.5	0.005	2.3	26
5560604 (9347891)	<1	7.19	<5	<20	416	<5	0.2	2.63	<0.2	60.5	11.2	0.006	2.7	66
5560605 (9347892)	<1	3.78	<5	<20	148	<5	<0.1	9.73	<0.2	38.5	60.6	0.039	0.6	40
5560606 (9347893)	<1	6.94	<5	<20	136	<5	0.1	6.10	<0.2	7.4	74.6	0.022	1.0	229
5560607 (9347894)	<1	7.66	<5	<20	44.7	<5	0.6	4.56	<0.2	9.4	37.9	0.008	2.2	146
5560608 (9347895)	<1	7.01	<5	22	77.6	<5	0.3	8.90	<0.2	12.3	54.6	<0.005	1.4	146
5560609 (9347896)	<1	3.23	<5	<20	41.1	11	8.4	4.64	0.3	12.2	61.6	0.006	0.9	735
5560910 (9347897)	<1	6.91	<5	<20	87.5	<5	0.4	6.59	<0.2	11.7	48.5	0.008	0.8	38
5560911 (9347898)	<1	6.82	<5	<20	81.4	<5	<0.1	6.81	<0.2	10.6	60.1	<0.005	0.9	177
5560912 (9347899)	<1	6.74	<5	<20	78.5	<5	<0.1	6.98	<0.2	12.5	60.1	<0.005	0.8	157
5560913 (9347900)	<1	7.58	<5	<20	182	<5	0.5	4.15	<0.2	16.8	30.1	0.011	3.1	79

Certified By: Sherin Moussa

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AGAT WORK ORDER: 18B353265

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Molak B (Boris)

(201-378) Sodium Peroxide Fusion - ICP-OES/ICP-MS Finish

DATE SAMPLED: Jun 20, 2018 | DATE RECEIVED: Jun 20, 2018 | DATE REPORTED: Oct 29, 2018 | SAMPLE TYPE: Rock

Analyte:	Dy	Er	Eu	Fe	Ga	Gd	Ge	Hf	Ho	In	K	La	Li	Lu
Unit:	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
Sample ID (AGAT ID) RDL:	0.05	0.05	0.05	0.01	0.01	0.05	1	1	0.05	0.2	0.05	0.1	10	0.05
5560560 (9347848)	0.49	0.26	0.56	1.63	18.8	0.93	<1	3	0.10	<0.2	0.78	9.2	11	<0.05
5560561 (9347849)	2.36	1.24	1.18	7.95	11.2	4.06	2	1	0.47	<0.2	0.73	25.8	<10	0.17
5560562 (9347850)	1.95	1.02	0.85	6.43	14.8	2.94	1	2	0.39	<0.2	0.62	12.7	14	0.14
5560563 (9347851)	3.99	2.67	0.90	9.58	18.2	3.49	2	2	0.91	<0.2	0.51	2.5	19	0.41
5560564 (9347852)	4.48	2.92	1.02	9.77	17.9	3.86	2	2	0.99	<0.2	0.58	3.9	13	0.47
5560565 (9347853)	3.37	2.17	0.75	9.41	14.8	2.99	2	1	0.78	<0.2	0.37	3.0	<10	0.35
5560566 (9347854)	3.74	2.26	0.82	9.13	19.5	3.11	3	1	0.81	<0.2	0.83	2.5	12	0.36
5560567 (9347855)	1.45	0.61	0.97	4.53	26.8	2.46	1	4	0.27	<0.2	1.05	9.7	27	0.10
5560568 (9347856)	3.40	2.23	0.78	9.81	16.3	2.85	2	2	0.80	<0.2	1.27	4.0	38	0.35
5560569 (9347857)	5.04	2.57	2.17	12.7	22.7	6.67	2	4	0.98	<0.2	0.78	24.2	35	0.33
5560570 (9347858)	4.70	2.44	2.04	12.4	21.8	6.37	2	4	0.97	<0.2	0.78	22.8	32	0.33
5560571 (9347859)	5.45	2.76	2.24	12.5	23.5	7.16	2	5	1.05	<0.2	0.98	27.2	33	0.36
5560573 (9347860)	2.17	1.09	1.01	5.80	19.4	3.36	1	2	0.42	<0.2	1.12	14.1	<10	0.14
5560574 (9347861)	2.59	1.70	0.98	7.33	18.4	3.37	1	2	0.58	<0.2	0.48	10.3	10	0.26
5560575 (9347862)	20.2	9.91	2.70	11.7	26.0	26.2	3	14	3.84	0.2	0.93	72.6	10	1.15
5560576 (9347863)	11.6	5.54	2.12	6.94	22.7	18.3	2	10	2.22	<0.2	0.93	198	13	0.62
5560577 (9347864)	13.6	6.74	2.00	10.6	23.9	17.7	2	15	2.56	<0.2	1.00	32.8	14	0.83
5560578 (9347865)	23.2	11.6	3.15	13.1	32.2	29.8	4	18	4.41	0.3	0.98	35.3	<10	1.38
5560579 (9347866)	4.36	2.78	0.88	10.4	19.2	3.92	2	3	0.96	<0.2	0.65	4.6	28	0.46
5560580 (9347867)	2.82	1.83	0.77	6.63	16.2	2.41	1	2	0.61	<0.2	1.75	2.7	17	0.29
5560581 (9347868)	4.36	2.74	0.94	10.0	18.7	3.84	2	3	1.00	<0.2	0.44	3.9	16	0.44
5560582 (9347869)	3.97	2.61	1.08	6.81	16.7	3.54	1	2	0.91	<0.2	0.95	4.8	29	0.40
5560583 (9347870)	6.76	4.49	1.39	16.1	20.3	6.10	2	4	1.49	<0.2	0.74	12.5	59	0.75
5560584 (9347871)	5.56	3.56	1.47	12.0	21.9	5.28	3	3	1.25	<0.2	1.52	13.0	55	0.57
5560585 (9347872)	5.06	3.23	1.06	10.1	19.8	4.29	2	2	1.12	<0.2	0.29	2.5	25	0.51
5560586 (9347873)	3.48	2.26	0.75	11.0	17.6	3.10	2	2	0.78	<0.2	0.74	3.5	30	0.34
5560587 (9347874)	4.03	2.61	0.93	9.22	18.7	3.62	2	2	0.92	<0.2	0.49	3.1	36	0.41
5560588 (9347875)	4.69	2.40	2.11	11.9	22.9	6.13	2	4	0.95	<0.2	0.96	23.0	30	0.31
5560589 (9347876)	1.54	0.79	0.89	9.68	19.7	2.07	1	<1	0.31	<0.2	0.19	6.8	<10	0.10
5560590 (9347877)	5.73	2.79	2.35	11.5	23.6	7.69	2	5	1.08	<0.2	0.73	29.7	28	0.40
5560591 (9347878)	4.86	2.44	2.09	11.6	22.1	6.33	2	4	0.96	<0.2	1.05	24.0	31	0.32
5560592 (9347879)	2.69	1.56	1.16	6.35	18.6	3.77	1	2	0.53	<0.2	0.88	15.5	19	0.24

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Certificate of Analysis

AGAT WORK ORDER: 18B353265

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Molak B (Boris)

(201-378) Sodium Peroxide Fusion - ICP-OES/ICP-MS Finish

DATE SAMPLED: Jun 20, 2018 | DATE RECEIVED: Jun 20, 2018 | DATE REPORTED: Oct 29, 2018 | SAMPLE TYPE: Rock

Analyte:	Dy	Er	Eu	Fe	Ga	Gd	Ge	Hf	Ho	In	K	La	Li	Lu
Unit:	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
Sample ID (AGAT ID) RDL:	0.05	0.05	0.05	0.01	0.01	0.05	1	1	0.05	0.2	0.05	0.1	10	0.05
5560593 (9347880)	2.59	1.23	1.21	5.37	20.4	4.15	1	2	0.50	<0.2	0.70	20.6	<10	0.16
5560594 (9347881)	1.72	0.92	0.73	6.18	16.3	2.26	1	1	0.37	<0.2	0.84	8.0	13	0.14
5560595 (9347882)	1.60	0.89	0.74	6.48	17.3	2.24	2	1	0.36	<0.2	0.94	7.3	13	0.14
5560596 (9347883)	3.03	1.40	1.85	7.53	11.4	6.58	2	2	0.57	<0.2	0.37	37.9	<10	0.18
5560597 (9347884)	2.33	1.03	1.60	4.88	15.2	4.68	1	1	0.43	<0.2	0.56	24.8	<10	0.13
5560598 (9347885)	2.14	1.14	1.33	9.20	22.1	3.37	2	1	0.42	<0.2	0.53	23.1	12	0.13
5560599 (9347886)	4.62	1.76	3.01	7.15	20.9	10.1	1	3	0.81	<0.2	1.61	40.9	16	0.20
5560600 (9347887)	2.80	1.21	1.60	5.82	10.6	5.53	2	2	0.50	<0.2	0.31	20.2	<10	0.13
5560601 (9347888)	2.75	1.10	1.49	5.97	9.21	5.15	2	1	0.48	<0.2	0.27	15.3	<10	0.14
5560602 (9347889)	2.56	1.05	2.02	5.67	14.1	5.89	1	2	0.46	<0.2	0.80	39.9	11	0.13
5560603 (9347890)	2.20	1.08	1.17	4.10	21.3	3.64	1	3	0.44	<0.2	1.50	18.3	22	0.17
5560604 (9347891)	0.66	0.33	0.54	2.26	16.4	1.35	<1	6	0.13	<0.2	0.86	36.6	17	0.06
5560605 (9347892)	2.93	1.08	1.61	5.87	9.32	5.44	2	1	0.48	<0.2	0.27	14.9	<10	0.13
5560606 (9347893)	3.37	2.15	0.75	9.10	15.9	2.71	2	2	0.78	<0.2	0.74	2.8	22	0.34
5560607 (9347894)	3.49	2.32	0.87	8.30	18.7	3.30	2	3	0.80	<0.2	0.28	4.0	70	0.35
5560608 (9347895)	4.01	2.75	0.88	9.25	17.7	3.56	2	2	0.92	<0.2	0.19	4.8	54	0.41
5560609 (9347896)	1.18	0.86	0.31	15.1	9.50	1.28	4	1	0.26	<0.2	0.34	6.3	<10	0.14
5560910 (9347897)	5.37	3.52	1.16	12.4	20.0	4.58	2	3	1.25	<0.2	0.39	4.3	46	0.56
5560911 (9347898)	3.43	2.23	0.85	11.6	18.6	3.19	2	2	0.79	<0.2	0.25	4.3	39	0.35
5560912 (9347899)	3.59	2.35	0.82	11.9	18.3	3.28	2	2	0.77	<0.2	0.26	5.3	40	0.36
5560913 (9347900)	2.05	1.32	0.68	5.38	17.0	2.15	1	2	0.46	<0.2	1.05	7.4	38	0.21

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Certificate of Analysis

AGAT WORK ORDER: 18B353265

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Molak B (Boris)

(201-378) Sodium Peroxide Fusion - ICP-OES/ICP-MS Finish

DATE SAMPLED: Jun 20, 2018 | DATE RECEIVED: Jun 20, 2018 | DATE REPORTED: Oct 29, 2018 | SAMPLE TYPE: Rock

Analyte:	Mg	Mn	Mo	Nb	Nd	Ni	P	Pb	Pr	Rb	S	Sb	Sc	Si
Unit:	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	%
Sample ID (AGAT ID) RDL:	0.01	10	2	1	0.1	5	0.01	5	0.05	0.2	0.01	0.1	5	0.01
5560560 (9347848)	0.47	181	4	3	6.6	13	0.04	7	1.97	24.2	0.12	0.4	<5	37.0
5560561 (9347849)	8.09	1820	<2	12	33.1	657	0.07	<5	8.71	14.8	0.11	0.1	40	23.6
5560562 (9347850)	6.13	1350	2	3	16.6	164	0.04	<5	4.23	18.7	0.18	<0.1	27	26.9
5560563 (9347851)	4.28	1740	2	3	7.3	97	0.03	<5	1.40	13.8	0.01	<0.1	42	23.1
5560564 (9347852)	3.40	1840	2	3	8.8	88	0.04	<5	1.73	12.7	0.06	<0.1	40	24.5
5560565 (9347853)	7.95	1550	2	2	6.2	412	0.03	<5	1.26	3.9	0.02	<0.1	35	23.1
5560566 (9347854)	3.41	1710	2	3	6.7	109	0.05	<5	1.27	13.2	0.01	<0.1	50	23.3
5560567 (9347855)	0.98	541	5	8	13.3	23	0.09	16	3.16	34.4	0.57	<0.1	8	30.7
5560568 (9347856)	7.69	1570	2	4	7.8	218	0.04	<5	1.73	38.9	0.25	<0.1	42	20.4
5560569 (9347857)	3.42	1870	3	28	31.4	80	0.14	<5	7.55	42.3	0.14	<0.1	32	22.4
5560570 (9347858)	3.13	1900	<2	25	29.1	60	0.13	10	7.23	33.7	0.17	<0.1	35	22.8
5560571 (9347859)	2.97	1880	2	31	33.9	47	0.15	<5	8.30	45.0	0.14	<0.1	35	22.2
5560573 (9347860)	3.35	954	<2	4	17.5	108	0.10	8	4.27	33.2	0.13	<0.1	21	26.2
5560574 (9347861)	4.55	1250	<2	2	17.3	120	0.05	<5	4.18	7.4	0.11	<0.1	30	22.8
5560575 (9347862)	3.96	2140	2	14	108	50	0.21	<5	25.3	18.5	1.02	<0.1	71	24.0
5560576 (9347863)	2.42	1200	2	9	134	40	0.23	9	41.2	22.7	0.42	<0.1	39	28.8
5560577 (9347864)	4.28	1970	<2	15	69.7	50	0.24	<5	15.3	20.6	0.16	<0.1	63	26.7
5560578 (9347865)	4.68	2710	<2	17	108	55	0.24	<5	22.8	16.7	0.14	<0.1	81	22.4
5560579 (9347866)	3.06	1760	<2	4	9.1	32	0.05	<5	1.86	21.8	0.04	0.1	38	26.3
5560580 (9347867)	2.34	1920	5	2	5.5	65	0.03	7	1.16	69.1	0.61	<0.1	48	25.0
5560581 (9347868)	2.92	1980	<2	4	8.1	32	0.04	6	1.76	16.6	0.04	<0.1	38	26.6
5560582 (9347869)	3.35	3470	10	3	8.6	30	0.04	<5	1.88	25.4	0.09	0.1	37	24.6
5560583 (9347870)	2.16	3570	<2	6	17.9	54	0.07	<5	4.13	20.5	0.69	<0.1	37	24.1
5560584 (9347871)	1.89	3730	4	7	16.1	56	0.06	7	3.91	103	0.44	<0.1	32	24.3
5560585 (9347872)	3.84	1820	<2	3	8.1	77	0.03	<5	1.54	5.6	<0.01	0.2	53	24.8
5560586 (9347873)	3.65	2510	<2	4	7.4	40	0.03	<5	1.63	36.7	0.05	<0.1	37	24.7
5560587 (9347874)	3.28	1680	<2	4	7.1	40	0.04	<5	1.39	10.9	0.02	<0.1	35	26.2
5560588 (9347875)	3.18	1930	2	26	28.9	68	0.13	93	7.12	42.7	0.18	<0.1	32	22.3
5560589 (9347876)	2.99	1350	<2	2	9.2	80	0.22	<5	2.19	4.7	0.45	<0.1	31	23.9
5560590 (9347877)	2.74	1810	2	32	35.5	43	0.17	<5	9.05	34.6	0.18	<0.1	32	22.8
5560591 (9347878)	3.15	1920	3	27	29.9	67	0.14	6	7.39	44.9	0.10	<0.1	32	22.9
5560592 (9347879)	3.71	1070	3	4	20.8	102	0.07	<5	5.29	31.2	0.12	<0.1	22	25.0

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Certificate of Analysis

AGAT WORK ORDER: 18B353265

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Molak B (Boris)

(201-378) Sodium Peroxide Fusion - ICP-OES/ICP-MS Finish

DATE SAMPLED: Jun 20, 2018 | DATE RECEIVED: Jun 20, 2018 | DATE REPORTED: Oct 29, 2018 | SAMPLE TYPE: Rock

Analyte:	Mg	Mn	Mo	Nb	Nd	Ni	P	Pb	Pr	Rb	S	Sb	Sc	Si
Unit:	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	%
Sample ID (AGAT ID) RDL:	0.01	10	2	1	0.1	5	0.01	5	0.05	0.2	0.01	0.1	5	0.01
5560593 (9347880)	3.63	872	3	3	25.5	154	0.07	<5	6.65	22.0	0.17	<0.1	19	27.2
5560594 (9347881)	5.51	1120	2	2	11.2	177	0.02	<5	2.71	35.5	0.09	<0.1	31	25.2
5560595 (9347882)	5.21	1080	3	2	10.7	142	0.02	<5	2.54	40.4	0.09	<0.1	31	24.8
5560596 (9347883)	8.79	1580	<2	2	50.6	379	0.21	<5	12.8	6.2	0.14	<0.1	32	24.7
5560597 (9347884)	4.53	1030	3	3	33.3	113	0.08	<5	8.43	12.2	0.09	<0.1	21	25.3
5560598 (9347885)	4.53	1250	2	3	25.8	210	0.05	<5	7.28	10.2	0.10	<0.1	24	23.4
5560599 (9347886)	4.67	944	2	6	66.7	64	0.30	9	16.0	47.0	0.25	<0.1	19	21.9
5560600 (9347887)	7.79	1350	<2	2	32.2	261	0.05	<5	7.48	6.4	0.05	<0.1	43	26.3
5560601 (9347888)	8.67	1400	<2	2	26.6	307	0.04	<5	5.94	6.4	0.03	<0.1	43	25.3
5560602 (9347889)	6.39	1140	<2	4	52.4	175	0.13	<5	13.8	17.4	0.05	<0.1	27	24.5
5560603 (9347890)	2.02	790	3	4	20.5	43	0.07	<5	5.38	53.9	0.11	<0.1	12	28.9
5560604 (9347891)	0.73	258	5	3	16.6	35	0.04	6	5.60	40.1	0.11	<0.1	<5	36.4
5560605 (9347892)	8.23	1360	3	2	27.1	267	0.04	<5	6.13	5.1	0.06	<0.1	45	25.9
5560606 (9347893)	4.59	1460	5	2	6.4	100	0.03	<5	1.26	39.3	1.31	<0.1	44	23.8
5560607 (9347894)	3.80	1310	4	5	7.2	42	0.05	<5	1.48	26.1	0.08	<0.1	32	26.2
5560608 (9347895)	2.62	1680	2	4	9.0	57	0.03	<5	1.95	9.6	0.10	0.2	37	25.1
5560609 (9347896)	2.44	4410	9	3	5.5	95	0.01	7	1.51	6.3	6.20	0.1	6	25.9
5560910 (9347897)	2.73	1960	3	4	10.2	51	0.07	<5	2.04	19.0	0.03	<0.1	40	23.8
5560911 (9347898)	3.34	1820	<2	3	7.7	47	0.04	<5	1.63	11.3	0.11	0.1	43	24.0
5560912 (9347899)	3.34	1810	<2	3	8.4	46	0.04	<5	1.93	12.1	0.09	0.2	43	24.6
5560913 (9347900)	0.85	1700	3	4	8.3	63	0.04	<5	2.20	43.0	0.61	<0.1	19	31.0

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Certificate of Analysis

AGAT WORK ORDER: 18B353265

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Molak B (Boris)

(201-378) Sodium Peroxide Fusion - ICP-OES/ICP-MS Finish

DATE SAMPLED: Jun 20, 2018 | DATE RECEIVED: Jun 20, 2018 | DATE REPORTED: Oct 29, 2018 | SAMPLE TYPE: Rock

Analyte:	Sm	Sn	Sr	Ta	Tb	Th	Ti	Tl	Tm	U	V	W	Y	Yb
Unit:	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Sample ID (AGAT ID) RDL:	0.1	1	0.1	0.5	0.05	0.1	0.01	0.5	0.05	0.05	5	1	0.5	0.1
5560560 (9347848)	1.1	8	448	<0.5	0.11	1.6	0.17	<0.5	<0.05	0.25	25	<1	2.7	0.2
5560561 (9347849)	4.8	12	424	<0.5	0.52	1.8	0.29	<0.5	0.19	0.36	183	<1	11.9	1.1
5560562 (9347850)	3.2	12	332	<0.5	0.38	1.6	0.26	<0.5	0.15	0.32	142	1	10.2	1.0
5560563 (9347851)	2.4	12	153	<0.5	0.64	0.2	0.67	<0.5	0.40	0.07	331	<1	23.3	2.5
5560564 (9347852)	2.6	13	132	<0.5	0.68	0.4	0.73	<0.5	0.45	0.09	335	<1	27.0	3.0
5560565 (9347853)	2.0	12	68.3	<0.5	0.51	0.2	0.51	<0.5	0.34	0.09	259	<1	19.6	2.2
5560566 (9347854)	2.2	12	56.5	<0.5	0.55	0.2	0.79	<0.5	0.37	0.06	385	<1	20.4	2.3
5560567 (9347855)	2.7	19	478	<0.5	0.32	0.8	0.41	<0.5	0.11	1.11	90	<1	7.2	0.6
5560568 (9347856)	2.1	16	36.3	<0.5	0.50	0.8	0.53	<0.5	0.37	0.29	300	<1	20.3	2.2
5560569 (9347857)	6.1	14	292	1.0	0.93	2.3	1.77	<0.5	0.37	0.48	409	<1	25.0	2.2
5560570 (9347858)	5.8	16	274	0.9	0.86	2.3	1.82	<0.5	0.38	0.50	409	<1	24.0	2.2
5560571 (9347859)	6.8	<1	314	1.1	0.98	2.6	2.01	<0.5	0.39	0.56	385	<1	27.7	2.4
5560573 (9347860)	3.5	<1	547	<0.5	0.45	1.2	0.63	<0.5	0.16	0.30	164	<1	11.3	1.0
5560574 (9347861)	3.4	1	379	<0.5	0.49	0.5	0.32	<0.5	0.25	0.10	190	<1	16.1	1.6
5560575 (9347862)	24.7	5	151	<0.5	3.81	6.9	0.58	<0.5	1.40	0.81	223	<1	102	8.3
5560576 (9347863)	19.6	3	272	<0.5	2.46	24.0	0.39	<0.5	0.77	1.05	127	<1	57.6	4.4
5560577 (9347864)	17.2	3	136	<0.5	2.59	5.0	0.68	<0.5	0.97	0.91	237	<1	70.2	5.6
5560578 (9347865)	27.6	6	116	0.6	4.31	2.4	0.61	<0.5	1.64	1.29	276	<1	120	9.5
5560579 (9347866)	2.7	3	141	<0.5	0.66	1.2	0.65	<0.5	0.45	0.34	303	<1	26.8	2.7
5560580 (9347867)	1.6	1	235	<0.5	0.42	0.3	0.53	<0.5	0.30	0.12	318	1	16.4	1.9
5560581 (9347868)	2.6	2	249	<0.5	0.69	1.4	0.64	<0.5	0.45	0.39	297	<1	26.0	2.8
5560582 (9347869)	2.6	1	250	<0.5	0.59	0.4	0.65	<0.5	0.40	0.38	324	2	24.0	2.5
5560583 (9347870)	4.4	2	70.3	<0.5	1.03	2.0	0.85	<0.5	0.72	0.51	347	2	40.5	4.5
5560584 (9347871)	3.9	7	164	<0.5	0.88	1.5	0.66	0.6	0.57	0.52	278	44	35.4	3.4
5560585 (9347872)	2.9	5	104	<0.5	0.74	0.3	0.83	<0.5	0.48	0.08	399	<1	29.7	3.0
5560586 (9347873)	2.1	5	61.8	<0.5	0.53	1.0	0.50	<0.5	0.35	0.30	253	<1	21.4	2.2
5560587 (9347874)	2.4	4	162	<0.5	0.63	1.0	0.55	<0.5	0.39	0.27	265	<1	24.6	2.6
5560588 (9347875)	5.9	157	321	0.9	0.90	2.1	1.71	<0.5	0.34	0.48	405	<1	24.0	2.1
5560589 (9347876)	2.0	7	348	<0.5	0.29	0.3	0.84	<0.5	0.11	0.07	253	<1	8.2	0.7
5560590 (9347877)	7.1	7	283	1.2	1.05	2.8	1.75	<0.5	0.43	0.57	346	<1	28.8	2.5
5560591 (9347878)	6.1	8	305	1.0	0.91	2.4	1.73	<0.5	0.35	0.50	400	<1	24.0	2.1
5560592 (9347879)	4.1	6	379	<0.5	0.52	2.3	0.33	<0.5	0.24	0.62	162	<1	15.3	1.4

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Certificate of Analysis

AGAT WORK ORDER: 18B353265

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Molak B (Boris)

(201-378) Sodium Peroxide Fusion - ICP-OES/ICP-MS Finish

DATE SAMPLED: Jun 20, 2018 | DATE RECEIVED: Jun 20, 2018 | DATE REPORTED: Oct 29, 2018 | SAMPLE TYPE: Rock

Analyte:	Sm	Sn	Sr	Ta	Tb	Th	Ti	Tl	Tm	U	V	W	Y	Yb
Unit:	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Sample ID (AGAT ID) RDL:	0.1	1	0.1	0.5	0.05	0.1	0.01	0.5	0.05	0.05	5	1	0.5	0.1
5560593 (9347880)	4.5	4	478	<0.5	0.53	1.2	0.33	<0.5	0.18	0.28	121	<1	13.0	1.1
5560594 (9347881)	2.3	6	301	<0.5	0.31	1.1	0.26	<0.5	0.14	0.25	169	2	9.4	0.9
5560595 (9347882)	2.3	7	283	<0.5	0.32	1.1	0.26	<0.5	0.14	0.27	178	3	9.3	0.8
5560596 (9347883)	7.7	9	476	<0.5	0.73	1.0	0.28	<0.5	0.21	0.24	151	<1	14.9	1.2
5560597 (9347884)	5.7	7	1120	<0.5	0.57	1.3	0.22	<0.5	0.13	0.28	102	<1	11.3	0.8
5560598 (9347885)	3.7	10	779	<0.5	0.43	0.7	0.59	<0.5	0.16	0.11	275	<1	10.9	1.0
5560599 (9347886)	12.4	8	816	<0.5	1.14	0.8	0.62	<0.5	0.24	0.37	179	<1	21.1	1.5
5560600 (9347887)	6.2	6	427	<0.5	0.68	1.6	0.21	<0.5	0.16	0.25	143	<1	13.4	0.9
5560601 (9347888)	5.7	4	322	<0.5	0.63	1.5	0.20	<0.5	0.15	0.26	140	<1	12.1	0.9
5560602 (9347889)	7.4	5	1080	<0.5	0.68	1.3	0.32	<0.5	0.14	0.39	133	<1	11.5	0.9
5560603 (9347890)	3.8	6	472	<0.5	0.48	2.7	0.30	<0.5	0.18	0.71	101	<1	12.3	1.1
5560604 (9347891)	1.8	6	267	<0.5	0.17	8.1	0.20	<0.5	0.06	0.38	38	<1	3.7	0.4
5560605 (9347892)	5.8	7	329	<0.5	0.67	1.6	0.21	<0.5	0.14	0.28	143	<1	12.9	0.9
5560606 (9347893)	2.0	4	202	<0.5	0.49	0.4	0.48	<0.5	0.37	0.12	254	698	21.3	2.1
5560607 (9347894)	2.5	7	151	<0.5	0.56	1.5	0.62	<0.5	0.37	0.53	217	6	22.2	2.3
5560608 (9347895)	2.5	6	133	<0.5	0.61	0.8	0.57	<0.5	0.41	0.25	274	2	25.1	2.6
5560609 (9347896)	1.1	6	52.9	<0.5	0.20	1.3	0.13	<0.5	0.13	0.40	56	2	10.3	0.9
5560910 (9347897)	3.3	5	163	<0.5	0.77	1.1	0.86	<0.5	0.53	0.31	325	<1	32.7	3.5
5560911 (9347898)	2.2	4	109	<0.5	0.51	0.8	0.88	<0.5	0.35	0.19	467	<1	20.7	2.1
5560912 (9347899)	2.3	5	109	<0.5	0.57	0.8	0.82	<0.5	0.37	0.21	427	<1	21.7	2.2
5560913 (9347900)	1.9	5	155	<0.5	0.35	1.5	0.40	<0.5	0.20	0.47	141	<1	12.3	1.3

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AGAT WORK ORDER: 18B353265

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Molak B (Boris)

(201-378) Sodium Peroxide Fusion - ICP-OES/ICP-MS Finish

DATE SAMPLED: Jun 20, 2018 | DATE RECEIVED: Jun 20, 2018 | DATE REPORTED: Oct 29, 2018 | SAMPLE TYPE: Rock

Analyte:	Zn	Zr
Unit:	ppm	ppm
Sample ID (AGAT ID) RDL:	5	0.5
5560560 (9347848)	21	107
5560561 (9347849)	118	40.7
5560562 (9347850)	90	55.2
5560563 (9347851)	96	48.5
5560564 (9347852)	104	67.0
5560565 (9347853)	90	45.0
5560566 (9347854)	101	45.0
5560567 (9347855)	71	164
5560568 (9347856)	117	57.5
5560569 (9347857)	126	158
5560570 (9347858)	146	151
5560571 (9347859)	130	180
5560573 (9347860)	80	76.1
5560574 (9347861)	79	53.3
5560575 (9347862)	201	535
5560576 (9347863)	129	372
5560577 (9347864)	202	562
5560578 (9347865)	248	645
5560579 (9347866)	101	94.6
5560580 (9347867)	70	50.4
5560581 (9347868)	105	93.6
5560582 (9347869)	60	62.8
5560583 (9347870)	143	126
5560584 (9347871)	132	109
5560585 (9347872)	109	77.1
5560586 (9347873)	104	79.7
5560587 (9347874)	92	82.1
5560588 (9347875)	157	153
5560589 (9347876)	79	14.7
5560590 (9347877)	110	186
5560591 (9347878)	150	159
5560592 (9347879)	76	68.7

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AGAT WORK ORDER: 18B353265

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Molak B (Boris)

(201-378) Sodium Peroxide Fusion - ICP-OES/ICP-MS Finish

DATE SAMPLED: Jun 20, 2018 | DATE RECEIVED: Jun 20, 2018 | DATE REPORTED: Oct 29, 2018 | SAMPLE TYPE: Rock

Analyte:	Zn	Zr
Unit:	ppm	ppm
Sample ID (AGAT ID) RDL:	5	0.5
5560593 (9347880)	80	51.3
5560594 (9347881)	69	38.3
5560595 (9347882)	71	36.1
5560596 (9347883)	103	46.9
5560597 (9347884)	62	46.5
5560598 (9347885)	119	47.9
5560599 (9347886)	74	96.2
5560600 (9347887)	62	50.3
5560601 (9347888)	60	42.0
5560602 (9347889)	65	57.4
5560603 (9347890)	52	110
5560604 (9347891)	38	230
5560605 (9347892)	55	43.8
5560606 (9347893)	82	50.1
5560607 (9347894)	144	103
5560608 (9347895)	89	73.5
5560609 (9347896)	98	45.3
5560910 (9347897)	125	105
5560911 (9347898)	106	60.4
5560912 (9347899)	110	60.5
5560913 (9347900)	93	88.5

Comments: RDL - Reported Detection Limit

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AGAT WORK ORDER: 18B353265

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Molak B (Boris)

(202-055) Fire Assay - Au, Pt, Pd Trace Levels, ICP-OES finish

DATE SAMPLED: Jun 20, 2018 | DATE RECEIVED: Jun 20, 2018 | DATE REPORTED: Oct 29, 2018 | SAMPLE TYPE: Rock

Analyte:	Au	Pd	Pt
Unit:	ppm	ppm	ppm
Sample ID (AGAT ID) RDL:	0.001	0.001	0.005
5560560 (9347848)	0.011	<0.001	<0.005
5560561 (9347849)	0.001	0.004	<0.005
5560562 (9347850)	0.004	<0.001	<0.005
5560563 (9347851)	<0.001	<0.001	<0.005
5560564 (9347852)	<0.001	<0.001	<0.005
5560565 (9347853)	<0.001	0.003	<0.005
5560566 (9347854)	0.002	<0.001	<0.005
5560567 (9347855)	0.003	<0.001	<0.005
5560568 (9347856)	0.002	0.009	0.009
5560569 (9347857)	<0.001	<0.001	<0.005
5560570 (9347858)	<0.001	<0.001	<0.005
5560571 (9347859)	<0.001	<0.001	<0.005
5560573 (9347860)	<0.001	<0.001	<0.005
5560574 (9347861)	0.001	0.002	<0.005
5560575 (9347862)	0.002	<0.001	<0.005
5560576 (9347863)	0.002	<0.001	<0.005
5560577 (9347864)	<0.001	<0.001	<0.005
5560578 (9347865)	0.001	<0.001	<0.005
5560579 (9347866)	<0.001	0.007	0.009
5560580 (9347867)	<0.001	0.013	0.013
5560581 (9347868)	0.003	0.013	0.013
5560582 (9347869)	<0.001	0.016	0.018
5560583 (9347870)	0.011	0.002	<0.005
5560584 (9347871)	0.061	0.003	<0.005
5560585 (9347872)	<0.001	<0.001	<0.005
5560586 (9347873)	0.001	0.010	0.007
5560587 (9347874)	0.002	0.007	0.010
5560588 (9347875)	0.001	<0.001	<0.005
5560589 (9347876)	0.020	<0.001	<0.005
5560590 (9347877)	0.002	<0.001	<0.005
5560591 (9347878)	0.001	0.001	<0.005
5560592 (9347879)	<0.001	<0.001	<0.005

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AGAT WORK ORDER: 18B353265

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Molak B (Boris)

(202-055) Fire Assay - Au, Pt, Pd Trace Levels, ICP-OES finish

DATE SAMPLED: Jun 20, 2018 | DATE RECEIVED: Jun 20, 2018 | DATE REPORTED: Oct 29, 2018 | SAMPLE TYPE: Rock

Analyte:	Au	Pd	Pt
Unit:	ppm	ppm	ppm
Sample ID (AGAT ID) RDL:	0.001	0.001	0.005
5560593 (9347880)	0.001	0.001	<0.005
5560594 (9347881)	0.001	<0.001	<0.005
5560595 (9347882)	0.010	<0.001	<0.005
5560596 (9347883)	0.008	0.003	<0.005
5560597 (9347884)	<0.001	0.001	<0.005
5560598 (9347885)	0.003	0.003	<0.005
5560599 (9347886)	0.001	<0.001	<0.005
5560600 (9347887)	0.001	0.107	0.121
5560601 (9347888)	0.004	0.051	0.061
5560602 (9347889)	0.002	0.004	0.005
5560603 (9347890)	0.001	<0.001	<0.005
5560604 (9347891)	<0.001	0.002	<0.005
5560605 (9347892)	0.005	0.087	0.075
5560606 (9347893)	0.009	0.018	0.014
5560607 (9347894)	<0.001	0.002	<0.005
5560608 (9347895)	0.002	0.013	0.012
5560609 (9347896)	<0.001	0.002	<0.005
5560910 (9347897)	<0.001	<0.001	<0.005
5560911 (9347898)	0.001	<0.001	<0.005
5560912 (9347899)	<0.001	<0.001	<0.005
5560913 (9347900)	<0.001	0.002	<0.005

Comments: RDL - Reported Detection Limit

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AGAT WORK ORDER: 18B353265

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Molak B (Boris)

Sieving - % Passing (Pulverizing)

DATE SAMPLED: Jun 20, 2018 | DATE RECEIVED: Jun 20, 2018 | DATE REPORTED: Oct 29, 2018 | SAMPLE TYPE: Rock

Analyte:	Pass %
Unit:	%
Sample ID (AGAT ID) RDL:	0.01
5560591 (9347878)	91.1

Comments: RDL - Reported Detection Limit

Certified By: Sherin Moussa

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Quality Assurance - Replicate

AGAT WORK ORDER: 18B353265

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Molak B (Boris)

(201-378) Sodium Peroxide Fusion - ICP-OES/ICP-MS Finish

	REPLICATE #1				REPLICATE #2				REPLICATE #3				REPLICATE #4			
Parameter	Sample ID	Original	Replicate	RPD	Sample ID	Original	Replicate	RPD	Sample ID	Original	Replicate	RPD	Sample ID	Original	Replicate	RPD
Ag	9347848	< 1	< 1	0.0%	9347859	< 1	< 1	0.0%	9347872	< 1	< 1	0.0%	9347883	< 1	< 1	0.0%
Al	9347848	8.22	8.03	2.3%	9347859	6.90	6.97	1.0%	9347872	7.12	6.95	2.4%	9347883	3.75	3.68	1.9%
As	9347848	17	15	12.5%	9347859	< 5	< 5	0.0%	9347872	< 5	< 5	0.0%	9347883	< 5	< 5	0.0%
B	9347848	< 20	< 20	0.0%	9347859	30	30	0.0%	9347872	< 20	< 20	0.0%	9347883	< 20	< 20	0.0%
Ba	9347848	427	412	3.6%	9347859	382	389	1.8%	9347872	54.5	53.5	1.9%	9347883	106	105	0.9%
Be	9347848	< 5	< 5	0.0%	9347859	< 5	< 5	0.0%	9347872	< 5	< 5	0.0%	9347883	< 5	< 5	0.0%
Bi	9347848	< 0.1	< 0.1	0.0%	9347859	< 0.1	< 0.1	0.0%	9347872	0.4	0.2		9347883	0.1	0.1	0.0%
Ca	9347848	2.22	2.19	1.4%	9347859	5.70	5.79	1.6%	9347872	7.45	7.11	4.7%	9347883	8.53	8.36	2.0%
Cd	9347848	< 0.2	< 0.2	0.0%	9347859	< 0.2	< 0.2	0.0%	9347872	< 0.2	< 0.2	0.0%	9347883	< 0.2	< 0.2	0.0%
Ce	9347848	19.6	19.7	0.5%	9347859	61.0	59.4	2.7%	9347872	8.1	8.0	1.2%	9347883	90.3	86.1	4.8%
Co	9347848	5.68	5.63	0.9%	9347859	61.5	58.0	5.9%	9347872	49.8	49.9	0.2%	9347883	65.1	63.6	2.3%
Cr	9347848	< 0.005	< 0.005	0.0%	9347859	0.005	0.005	0.0%	9347872	0.0269	0.0263	2.3%	9347883	0.146	0.144	1.4%
Cs	9347848	1.6	1.6	0.0%	9347859	0.7	0.7	0.0%	9347872	0.3	0.3	0.0%	9347883	0.56	0.53	5.5%
Cu	9347848	23	24	4.3%	9347859	60	60	0.0%	9347872	24	24	0.0%	9347883	36	34	5.7%
Dy	9347848	0.495	0.516	4.2%	9347859	5.45	5.36	1.7%	9347872	5.06	4.86	4.0%	9347883	3.03	3.01	0.7%
Er	9347848	0.261	0.254	2.7%	9347859	2.76	2.78	0.7%	9347872	3.23	3.19	1.2%	9347883	1.40	1.34	4.4%
Eu	9347848	0.556	0.510	8.6%	9347859	2.24	2.35	4.8%	9347872	1.06	1.03	2.9%	9347883	1.85	1.74	6.1%
Fe	9347848	1.63	1.60	1.9%	9347859	12.5	12.7	1.6%	9347872	10.1	9.67	4.4%	9347883	7.53	7.36	2.3%
Ga	9347848	18.8	18.2	3.2%	9347859	23.5	22.6	3.9%	9347872	19.8	19.7	0.5%	9347883	11.4	11.0	3.6%
Gd	9347848	0.934	0.935	0.1%	9347859	7.16	6.98	2.5%	9347872	4.29	4.05	5.8%	9347883	6.58	6.12	7.2%
Ge	9347848	< 1	< 1	0.0%	9347859	2	2	0.0%	9347872	2	2	0.0%	9347883	2	2	0.0%
Hf	9347848	3	3	0.0%	9347859	5	5	0.0%	9347872	2	2	0.0%	9347883	2	2	0.0%
Ho	9347848	0.10	0.10	0.0%	9347859	1.05	1.07	1.9%	9347872	1.12	1.14	1.8%	9347883	0.57	0.55	3.6%
In	9347848	< 0.2	< 0.2	0.0%	9347859	< 0.2	< 0.2	0.0%	9347872	< 0.2	< 0.2	0.0%	9347883	< 0.2	< 0.2	0.0%
K	9347848	0.78	0.73	6.6%	9347859	0.98	1.01	3.0%	9347872	0.29	0.25	14.8%	9347883	0.37	0.37	0.0%
La	9347848	9.23	9.36	1.4%	9347859	27.2	26.5	2.6%	9347872	2.5	2.5	0.0%	9347883	37.9	35.9	5.4%
Li	9347848	11	15		9347859	33	32	3.1%	9347872	25	21	17.4%	9347883	< 10	< 10	0.0%
Lu	9347848	< 0.05	< 0.05	0.0%	9347859	0.358	0.366	2.2%	9347872	0.506	0.475	6.3%	9347883	0.18	0.18	0.0%
Mg	9347848	0.47	0.47	0.0%	9347859	2.97	3.07	3.3%	9347872	3.84	3.75	2.4%	9347883	8.79	8.52	3.1%
Mn	9347848	181	180	0.6%	9347859	1880	1900	1.1%	9347872	1820	1780	2.2%	9347883	1580	1600	1.3%
Mo	9347848	4	4	0.0%	9347859	2	2	0.0%	9347872	< 2	< 2	0.0%	9347883	< 2	< 2	0.0%

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CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Molak B (Boris)

Nb	9347848	3	3	0.0%	9347859	31	31	0.0%	9347872	3	3	0.0%	9347883	2	2	0.0%
Nd	9347848	6.61	6.68	1.1%	9347859	33.9	32.9	3.0%	9347872	8.1	8.2	1.2%	9347883	50.6	47.8	5.7%
Ni	9347848	13	13	0.0%	9347859	47	44	6.6%	9347872	77	74	4.0%	9347883	379	373	1.6%
P	9347848	0.04	0.04	0.0%	9347859	0.15	0.15	0.0%	9347872	0.03	0.03	0.0%	9347883	0.21	0.21	0.0%
Pb	9347848	7	6	15.4%	9347859	< 5	< 5	0.0%	9347872	< 5	< 5	0.0%	9347883	< 5	< 5	0.0%
Pr	9347848	1.97	1.98	0.5%	9347859	8.30	8.14	1.9%	9347872	1.54	1.50	2.6%	9347883	12.8	12.5	2.4%
Rb	9347848	24.2	23.8	1.7%	9347859	45.0	44.0	2.2%	9347872	5.56	5.41	2.7%	9347883	6.2	6.2	0.0%
S	9347848	0.12	0.12	0.0%	9347859	0.136	0.130	4.5%	9347872	< 0.01	< 0.01	0.0%	9347883	0.14	0.15	6.9%
Sb	9347848	0.38	0.33	14.1%	9347859	< 0.1	< 0.1	0.0%	9347872	0.2	0.2	0.0%	9347883	< 0.1	< 0.1	0.0%
Sc	9347848	< 5	< 5	0.0%	9347859	35	35	0.0%	9347872	53	51	3.8%	9347883	32	32	0.0%
Si	9347848	37.0	36.0	2.7%	9347859	22.2	22.4	0.9%	9347872	24.8	24.2	2.4%	9347883	24.7	24.3	1.6%
Sm	9347848	1.1	1.1	0.0%	9347859	6.78	6.86	1.2%	9347872	2.87	2.74	4.6%	9347883	7.70	7.51	2.5%
Sn	9347848	8	10	22.2%	9347859	< 1	1		9347872	5	4	22.2%	9347883	9	8	11.8%
Sr	9347848	448	438	2.3%	9347859	314	318	1.3%	9347872	104	102	1.9%	9347883	476	476	0.0%
Ta	9347848	< 0.5	< 0.5	0.0%	9347859	1.1	1.1	0.0%	9347872	< 0.5	< 0.5	0.0%	9347883	< 0.5	< 0.5	0.0%
Tb	9347848	0.113	0.128	12.4%	9347859	0.98	1.02	4.0%	9347872	0.738	0.731	1.0%	9347883	0.733	0.741	1.1%
Th	9347848	1.6	1.6	0.0%	9347859	2.6	2.6	0.0%	9347872	0.28	0.24	15.4%	9347883	1.00	0.93	7.3%
Ti	9347848	0.17	0.17	0.0%	9347859	2.01	2.06	2.5%	9347872	0.83	0.81	2.4%	9347883	0.275	0.270	1.8%
Tl	9347848	< 0.5	< 0.5	0.0%	9347859	< 0.5	< 0.5	0.0%	9347872	< 0.5	< 0.5	0.0%	9347883	< 0.5	< 0.5	0.0%
Tm	9347848	< 0.05	< 0.05	0.0%	9347859	0.39	0.41	5.0%	9347872	0.48	0.48	0.0%	9347883	0.21	0.18	15.4%
U	9347848	0.248	0.239	3.7%	9347859	0.555	0.519	6.7%	9347872	0.08	0.08	0.0%	9347883	0.241	0.251	4.1%
V	9347848	25	26	3.9%	9347859	385	390	1.3%	9347872	399	385	3.6%	9347883	151	151	0.0%
W	9347848	< 1	< 1	0.0%	9347859	< 1	< 1	0.0%	9347872	< 1	< 1	0.0%	9347883	< 1	< 1	0.0%
Y	9347848	2.7	2.6	3.8%	9347859	27.7	27.3	1.5%	9347872	29.7	29.2	1.7%	9347883	14.9	14.5	2.7%
Yb	9347848	0.2	0.2	0.0%	9347859	2.4	2.4	0.0%	9347872	3.0	3.0	0.0%	9347883	1.2	1.2	0.0%
Zn	9347848	21	20	4.9%	9347859	130	132	1.5%	9347872	109	107	1.9%	9347883	103	99	4.0%
Zr	9347848	107	104	2.8%	9347859	180	177	1.7%	9347872	77.1	74.7	3.2%	9347883	46.9	52.9	12.0%
	REPLICATE #5															
Parameter	Sample ID	Original	Replicate	RPD												
Ag	9347899	< 1	< 1	0.0%												
Al	9347899	6.74	6.73	0.1%												
As	9347899	< 5	< 5	0.0%												
B	9347899	< 20	< 20	0.0%												
Ba	9347899	78.5	79.3	1.0%												

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CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Molak B (Boris)

Be	9347899	< 5	< 5	0.0%												
Bi	9347899	< 0.1	< 0.1	0.0%												
Ca	9347899	6.98	6.71	3.9%												
Cd	9347899	< 0.2	< 0.2	0.0%												
Ce	9347899	12.5	12.5	0.0%												
Co	9347899	60.1	60.5	0.7%												
Cr	9347899	< 0.005	< 0.005	0.0%												
Cs	9347899	0.8	0.8	0.0%												
Cu	9347899	157	165	5.0%												
Dy	9347899	3.59	3.57	0.6%												
Er	9347899	2.35	2.36	0.4%												
Eu	9347899	0.82	0.91	10.4%												
Fe	9347899	11.9	11.3	5.2%												
Ga	9347899	18.3	18.9	3.2%												
Gd	9347899	3.28	3.30	0.6%												
Ge	9347899	2	2	0.0%												
Hf	9347899	2	2	0.0%												
Ho	9347899	0.775	0.852	9.5%												
In	9347899	< 0.2	< 0.2	0.0%												
K	9347899	0.26	0.27	3.8%												
La	9347899	5.3	5.3	0.0%												
Li	9347899	40	43	7.2%												
Lu	9347899	0.36	0.36	0.0%												
Mg	9347899	3.34	3.31	0.9%												
Mn	9347899	1810	1800	0.6%												
Mo	9347899	< 2	< 2	0.0%												
Nb	9347899	3	3	0.0%												
Nd	9347899	8.4	8.3	1.2%												
Ni	9347899	46	45	2.2%												
P	9347899	0.04	0.04	0.0%												
Pb	9347899	< 5	< 5	0.0%												
Pr	9347899	1.93	1.90	1.6%												
Rb	9347899	12.1	12.4	2.4%												
S	9347899	0.090	0.109	19.1%												

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Quality Assurance - Replicate

AGAT WORK ORDER: 18B353265

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Molak B (Boris)

Sb	9347899	0.2	0.2	0.0%												
Sc	9347899	43	43	0.0%												
Si	9347899	24.6	24.3	1.2%												
Sm	9347899	2.3	2.3	0.0%												
Sn	9347899	5	5	0.0%												
Sr	9347899	109	109	0.0%												
Ta	9347899	< 0.5	< 0.5	0.0%												
Tb	9347899	0.57	0.57	0.0%												
Th	9347899	0.8	0.8	0.0%												
Ti	9347899	0.821	0.811	1.2%												
Tl	9347899	< 0.5	< 0.5	0.0%												
Tm	9347899	0.371	0.362	2.5%												
U	9347899	0.210	0.219	4.2%												
V	9347899	427	431	0.9%												
W	9347899	< 1	< 1	0.0%												
Y	9347899	21.7	21.9	0.9%												
Yb	9347899	2.19	2.36	7.5%												
Zn	9347899	110	110	0.0%												
Zr	9347899	60.5	63.5	4.8%												

(202-055) Fire Assay - Au, Pt, Pd Trace Levels, ICP-OES finish

	REPLICATE #1				REPLICATE #2				REPLICATE #3				REPLICATE #4			
Parameter	Sample ID	Original	Replicate	RPD	Sample ID	Original	Replicate	RPD	Sample ID	Original	Replicate	RPD	Sample ID	Original	Replicate	RPD
Au	9347848	0.0107	0.0136	23.9%	9347859	< 0.001	< 0.001	0.0%	9347872	< 0.001	< 0.001	0.0%	9347883	0.008	0.004	
Pd	9347848	< 0.001	< 0.001	0.0%	9347859	< 0.001	< 0.001	0.0%	9347872	< 0.001	< 0.001	0.0%	9347883	0.0025	0.0019	27.3%
Pt	9347848	< 0.005	< 0.005	0.0%	9347859	< 0.005	< 0.005	0.0%	9347872	< 0.005	< 0.005	0.0%	9347883	< 0.005	< 0.005	0.0%

	REPLICATE #5			
Parameter	Sample ID	Original	Replicate	RPD
Au	9347899	< 0.001	0.001	
Pd	9347899	< 0.001	< 0.001	0.0%
Pt	9347899	< 0.005	< 0.005	0.0%

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Quality Assurance - Certified Reference materials

AGAT WORK ORDER: 18B353265

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Molak B (Boris)

(201-378) Sodium Peroxide Fusion - ICP-OES/ICP-MS Finish

	CRM #1 (ref.SY-4)				CRM #2 (ref.Till-2)				CRM #3 (ref.PG129)							
Parameter	Expect	Actual	Recovery	Limits	Expect	Actual	Recovery	Limits	Expect	Actual	Recovery	Limits				
Al	10.95	10.48	96%	90% - 110%	8.47	8.31	98%	90% - 110%								
As					26	25	96%	90% - 110%	25	26	102%	90% - 110%				
Ba	340	335	99%	90% - 110%	540	540	100%	90% - 110%								
Be	2.6	2.6	101%	90% - 110%	4.0	3.6	91%	90% - 110%								
Ca	5.72	5.61	98%	90% - 110%	0.907	0.946	104%	90% - 110%								
Ce	122	117	96%	90% - 110%	98	107	110%	90% - 110%								
Co	2.8	2.6	92%	90% - 110%	15	15	103%	90% - 110%	1202	1310	109%	90% - 110%				
Cs	1.5	1.6	106%	90% - 110%												
Cu					150	164	110%	90% - 110%	15414	14795	96%	90% - 110%				
Dy	18.2	19	104%	90% - 110%												
Er	14.2	14.6	103%	90% - 110%	3.7	4	109%	90% - 110%								
Eu	2.0	2	98%	90% - 110%												
Fe	4.34	4.14	95%	90% - 110%	3.77	3.82	101%	90% - 110%								
Ga	35	35	100%	90% - 110%												
Gd	14	15	109%	90% - 110%												
Hf	10.6	11.7	110%	90% - 110%	11	10	92%	90% - 110%								
Ho	4.3	4.7	109%	90% - 110%												
K	1.37	1.46	106%	90% - 110%	2.55	2.68	105%	90% - 110%								
La	58	55	95%	90% - 110%	44	48	110%	90% - 110%								
Li	37	36	98%	90% - 110%	47	52	110%	90% - 110%								
Lu	2.1	2.3	107%	90% - 110%	0.6	0.6	102%	90% - 110%								
Mg	0.325	0.304	93%	90% - 110%	1.1	1.1	97%	90% - 110%								
Mn	836	830	99%	90% - 110%	780	786	101%	90% - 110%								
Mo					14	14	97%	90% - 110%								
Nb	13	13	100%	90% - 110%	20	19	97%	90% - 110%								
Nd	57	57	100%	90% - 110%												
Ni	9	10	113%	90% - 110%	32	36	114%	90% - 110%	23610	22253	94%	90% - 110%				
Pb	10	10	99%	90% - 110%	31	32	102%	90% - 110%	41	41	99%	90% - 110%				
Pr	15.0	15.3	102%	90% - 110%												
Rb	55	53	97%	90% - 110%	144	150	104%	90% - 110%								
Sb					0.8	0.8	96%	90% - 110%								

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AGAT WORK ORDER: 18B353265

PROJECT:

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Molak B (Boris)

Sc					12	12	101%	90% - 110%								
Si	23.3	23.6	101%	90% - 110%	28.4	30.5	107%	90% - 110%								
Sm	12.7	12.1	95%	90% - 110%	7.4	8.1	110%	90% - 110%								
Sr	1191	1195	100%	90% - 110%	144	149	104%	90% - 110%								
Ta	0.9	0.7	78%	90% - 110%												
Tb	2.6	2.8	109%	90% - 110%	1.2	1.3	107%	90% - 110%								
Th	1.4	1.2	86%	90% - 110%	18.4	19.6	107%	90% - 110%								
Ti	0.172	0.164	95%	90% - 110%	0.527	0.522	99%	90% - 110%								
Tm	2.3	2.5	108%	90% - 110%												
U	0.8	0.9	113%	90% - 110%	5.7	5.8	101%	90% - 110%								
V	8	6	74%	90% - 110%	77	80	104%	90% - 110%								
W					5	5	102%	90% - 110%								
Y	119	120	101%	90% - 110%	40	40	100%	90% - 110%								
Yb	14.8	15.2	103%	90% - 110%												
Zn	93	95	102%	90% - 110%	130	124	95%	90% - 110%	90	86	96%	90% - 110%				
Zr	517	565	109%	90% - 110%	390	368	94%	90% - 110%								

(202-055) Fire Assay - Au, Pt, Pd Trace Levels, ICP-OES finish

	CRM #1 (ref.PG129)				CRM #2 (ref.PG129)				CRM #3 (ref.PG129)							
Parameter	Expect	Actual	Recovery	Limits	Expect	Actual	Recovery	Limits	Expect	Actual	Recovery	Limits				
Au	1.1	1.1	103%	90% - 110%	1.1	1.2	108%	90% - 110%	1.1	1.1	100%	90% - 110%				
Pd	0.115	0.115	100%	90% - 110%	0.115	0.123	107%	90% - 110%	0.115	0.12	104%	90% - 110%				
Pt	0.239	0.248	104%	90% - 110%	0.239	0.254	106%	90% - 110%	0.239	0.243	102%	90% - 110%				

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Method Summary

CLIENT NAME: MISC AGAT CLIENT ON

AGAT WORK ORDER: 18B353265

PROJECT:

ATTENTION TO: Molak B (Boris)

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Solid Analysis			
Sample Login Weight	MIN-12009		BALANCE
Ag			ICP/MS
Al	MIN-200-12001		ICP/OES
As	MIN-200-12001		ICP/MS
B	MIN-200-12001		ICP/OES
Ba	MIN-200-12001		ICP/OES
Be	MIN-200-12001		ICP/OES
Bi	MIN-200-12001		ICP-MS
Ca	MIN-200-12001		ICP/OES
Cd	MIN-200-12001		ICP-MS
Ce	MIN-200-12001		ICP-MS
Co	MIN-200-12001		ICP/MS
Cr	MIN-200-12001		ICP/OES
Cs	MIN-200-12001		ICP-MS
Cu	MIN-200-12001		ICP/OES
Dy	MIN-200-12001		ICP-MS
Er	MIN-200-12001		ICP-MS
Eu	MIN-200-12001		ICP-MS
Fe	MIN-200-12001		ICP/OES
Ga	MIN-200-12001		ICP-MS
Gd	MIN-200-12001		ICP-MS
Ge	MIN-200-12001		ICP-MS
Hf	MIN-200-12001		ICP-MS
Ho	MIN-200-12001		ICP-MS
In	MIN-200-12001		ICP-MS
K	MIN-200-12001		ICP/OES
La	MIN-200-12001		ICP-MS
Li	MIN-200-12001		ICP/OES
Lu	MIN-200-12001		ICP-MS
Mg	MIN-200-12001		ICP/OES
Mn	MIN-200-12001		ICP/OES
Mo	MIN-200-12001		ICP/MS
Nb	MIN-200-12001		ICP-MS
Nd	MIN-200-12001		ICP-MS
Ni	MIN-200-12001		ICP/OES
P			ICP/OES
Pb	MIN-200-12001		ICP/MS
Pr	MIN-200-12001		ICP-MS
Rb	MIN-200-12001		ICP/MS
S	MIN-200-12001		ICP/OES
Sb	MIN-200-12001		ICP-MS
Sc	MIN-200-12001		ICP/OES
Si	MIN-200-12001		ICP/OES
Sm	MIN-200-12001		ICP-MS
Sn	MIN-200-12001		ICP/MS
Sr	MIN-200-12001		ICP-OES
Ta	MIN-200-12001		ICP-MS
Tb	MIN-200-12001		ICP-MS
Th	MIN-200-12001		ICP-MS

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Method Summary

CLIENT NAME: MISC AGAT CLIENT ON

AGAT WORK ORDER: 18B353265

PROJECT:

ATTENTION TO: Molak B (Boris)

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Ti	MIN-200-12001		ICP/OES
Tl	MIN-200-12001		ICP-MS
Tm	MIN-200-12001		ICP-MS
U	MIN-200-12001		ICP-MS
V	MIN-200-12001		ICP/OES
W	MIN-200-12001		ICP-MS
Y	MIN-200-12001		ICP-MS
Yb	MIN-200-12001		ICP-MS
Zn	MIN-200-12001		ICP/OES
Zr	MIN-200-12001		ICP-MS
Au	MIN-200-12006	BUGBEE, E: A Textbook of Fire Assaying	ICP/OES
Pd	MIN-200-12006	BUGBEE, E: A Textbook of Fire Assaying	ICP/OES
Pt	MIN-200-12006	BUGBEE, E: A Textbook of Fire Assaying	ICP/OES
Pass %			BALANCE

Quality Analysis ... *Innovative Technologies*

Date Submitted: 19-May-17
Invoice No.: A17-04997
Invoice Date: 02-Jun-17
Your Reference:

Boris Molak
702-889 W. Pender St
Vancouver BC
Canada

ATTN: Boris Molak

CERTIFICATE OF ANALYSIS

40 Rock samples were submitted for analysis.

The following analytical package(s) were requested: Code 1C-OES-Tbay Fire Assay ICPOES (QOP Fire Assay Tbay)

Code 1E3-Tbay Aqua Regia ICP(AQUAGEO)

REPORT **A17-04997**

Notes:

Values which exceed the upper limit should be assayed for accurate numbers.

CERTIFIED BY:

Emmanuel Eseme , Ph.D.
Quality Control

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Analyte Symbol	Au	Pd	Pt	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg
Unit Symbol	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm
Lower Limit	2	5	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
Method Code	FA-ICP	FA-ICP	FA-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
619101	4	< 5	< 5	< 0.2	< 0.5	88	245	< 1	98	2	16	4.81	< 2	< 10	146	< 0.5	< 2	4.20	21	34	1.80	< 10	1
619102	3	< 5	7	< 0.2	< 0.5	81	186	< 1	92	2	13	4.15	< 2	< 10	92	< 0.5	< 2	3.44	17	22	1.44	< 10	< 1
619103	2	< 5	9	< 0.2	< 0.5	108	313	< 1	94	6	20	4.49	< 2	< 10	170	< 0.5	< 2	4.08	19	41	1.95	< 10	1
619104	< 2	< 5	< 5	< 0.2	< 0.5	36	191	< 1	43	< 2	17	3.51	< 2	< 10	184	< 0.5	< 2	2.69	13	9	1.23	< 10	2
619105	4	90	106	< 0.2	< 0.5	25	200	< 1	54	< 2	14	0.90	< 2	< 10	73	< 0.5	< 2	2.38	12	47	0.75	< 10	1
619106	< 2	< 5	< 5	< 0.2	< 0.5	402	812	< 1	36	< 2	52	1.31	< 2	< 10	35	< 0.5	< 2	2.11	31	31	3.65	< 10	< 1
619107	< 2	< 5	< 5	< 0.2	< 0.5	280	957	< 1	7	3	127	2.64	< 2	< 10	85	< 0.5	< 2	3.47	32	8	8.25	< 10	< 1
619108	< 2	< 5	< 5	< 0.2	< 0.5	526	1290	< 1	51	< 2	37	1.89	< 2	< 10	38	< 0.5	< 2	2.29	27	50	3.78	< 10	< 1
619109	< 2	< 5	< 5	< 0.2	< 0.5	43	421	< 1	85	5	48	3.83	< 2	< 10	141	0.7	< 2	2.92	57	13	3.71	< 10	< 1
619110	< 2	6	7	< 0.2	< 0.5	184	228	< 1	198	< 2	17	1.06	< 2	< 10	37	< 0.5	< 2	1.35	47	620	1.80	< 10	< 1
619111	37	59	93	0.4	< 0.5	432	177	< 1	641	4	13	0.86	< 2	< 10	22	< 0.5	< 2	2.04	36	162	1.35	< 10	< 1
619112	16	44	24	1.5	< 0.5	247	278	2	307	8	18	1.15	3	< 10	34	< 0.5	2	1.63	148	304	8.20	< 10	< 1
619113	< 2	19	14	< 0.2	< 0.5	62	558	< 1	141	< 2	36	3.75	< 2	< 10	93	< 0.5	< 2	4.11	36	379	5.45	< 10	3
619114	< 2	57	33	< 0.2	< 0.5	78	278	< 1	331	< 2	18	1.83	< 2	< 10	74	< 0.5	< 2	1.19	35	719	2.82	< 10	< 1
619115	29	1740	1640	0.3	< 0.5	936	199	< 1	967	2	15	3.26	< 2	< 10	35	< 0.5	< 2	2.39	192	126	5.48	< 10	3
619116	110	3360	2810	0.4	< 0.5	2510	212	< 1	2810	11	17	3.27	< 2	< 10	41	< 0.5	2	2.57	120	109	3.54	< 10	1
619117	< 2	21	13	< 0.2	< 0.5	126	389	< 1	111	< 2	22	3.36	< 2	< 10	55	< 0.5	< 2	3.42	35	21	2.67	< 10	< 1
619118	< 2	6	< 5	< 0.2	< 0.5	68	271	< 1	99	3	28	3.14	< 2	< 10	43	< 0.5	< 2	2.16	26	60	2.53	< 10	< 1
619119	< 2	12	12	< 0.2	< 0.5	70	260	< 1	119	< 2	27	2.61	< 2	< 10	40	< 0.5	< 2	1.99	26	101	2.41	< 10	< 1
619120	31	778	1020	< 0.2	< 0.5	519	170	< 1	566	< 2	12	3.41	2	< 10	32	< 0.5	< 2	2.54	89	104	2.70	< 10	< 1
619121	< 2	8	< 5	< 0.2	< 0.5	35	358	< 1	190	< 2	30	3.38	< 2	< 10	89	< 0.5	< 2	3.23	29	208	2.68	< 10	1
619122	< 2	7	< 5	< 0.2	< 0.5	7	570	< 1	172	< 2	41	3.86	< 2	< 10	99	< 0.5	< 2	4.33	28	333	3.96	< 10	< 1
619123	< 2	< 5	< 5	< 0.2	< 0.5	20	475	< 1	19	< 2	82	1.51	< 2	< 10	121	< 0.5	< 2	1.77	15	30	4.47	< 10	1
619124	< 2	< 5	< 5	< 0.2	< 0.5	< 1	573	< 1	210	< 2	57	2.62	< 2	< 10	242	0.7	< 2	2.41	24	586	3.66	< 10	< 1
619125	< 2	< 5	< 5	< 0.2	< 0.5	50	228	< 1	82	< 2	19	4.62	< 2	< 10	71	< 0.5	< 2	3.67	20	26	1.77	< 10	1
619126	< 2	< 5	< 5	< 0.2	< 0.5	50	311	< 1	16	2	34	1.86	< 2	< 10	114	< 0.5	< 2	2.06	5	30	1.61	< 10	< 1
619127	< 2	15	10	< 0.2	< 0.5	39	785	< 1	94	< 2	46	3.38	< 2	< 10	128	< 0.5	< 2	4.12	27	236	4.63	< 10	< 1
619128	< 2	< 5	< 5	< 0.2	< 0.5	20	544	< 1	188	< 2	48	2.73	< 2	< 10	324	< 0.5	< 2	2.19	28	544	3.53	< 10	< 1
619129	< 2	< 5	< 5	< 0.2	< 0.5	39	304	< 1	28	5	43	1.75	< 2	< 10	403	< 0.5	< 2	1.98	20	16	3.50	< 10	< 1
619130	< 2	< 5	< 5	< 0.2	< 0.5	29	449	< 1	38	5	51	2.92	< 2	< 10	559	< 0.5	< 2	2.98	24	17	4.63	< 10	< 1
619131	10	18	25	0.5	< 0.5	320	121	7	191	3	12	0.66	< 2	< 10	17	< 0.5	4	0.95	734	47	5.90	< 10	< 1
619132	9	21	38	0.2	< 0.5	241	193	< 1	145	< 2	14	1.21	< 2	< 10	31	< 0.5	< 2	1.48	354	60	3.75	< 10	< 1
619133	< 2	< 5	< 5	< 0.2	< 0.5	72	209	< 1	73	2	20	3.14	< 2	< 10	182	< 0.5	< 2	2.99	19	12	1.47	< 10	< 1
619134	7	19	29	< 0.2	< 0.5	86	150	< 1	94	< 2	13	0.95	< 2	< 10	82	< 0.5	< 2	1.38	15	52	1.11	< 10	< 1
619135	< 2	34	42	< 0.2	< 0.5	9	221	< 1	60	< 2	17	1.13	< 2	< 10	48	< 0.5	< 2	1.69	11	72	1.13	< 10	< 1

Analyte Symbol	K	La	Mg	Na	P	S	Sb	Sc	Sr	Ti	Th	Te	Tl	U	V	W	Y	Zr
Unit Symbol	%	ppm	%	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	10	0.01	0.001	0.001	0.01	2	1	1	0.01	20	1	2	10	1	10	1	1
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	AR-ICP	AR-ICP
619101	0.20	< 10	1.58	0.555	0.045	0.18	< 2	4	434	0.07	< 20	< 1	< 2	< 10	32	< 10	2	4
619102	0.11	< 10	1.19	0.469	0.036	0.11	< 2	3	397	0.04	< 20	3	2	< 10	21	< 10	1	3
619103	0.22	12	1.95	0.566	0.046	0.11	< 2	6	420	0.06	< 20	< 1	< 2	< 10	34	< 10	2	6
619104	0.16	10	1.02	0.456	0.038	0.05	3	2	310	0.04	< 20	< 1	< 2	< 10	19	< 10	1	3
619105	0.04	10	0.76	0.077	0.050	0.04	< 2	3	105	0.07	< 20	1	< 2	< 10	21	< 10	3	5
619106	0.15	< 10	0.79	0.179	0.080	0.61	< 2	11	11	0.30	< 20	2	< 2	< 10	101	< 10	14	5
619107	0.27	< 10	1.27	0.445	0.119	0.66	4	22	14	0.39	< 20	6	< 2	< 10	135	< 10	32	7
619108	0.10	< 10	0.45	0.190	0.023	0.91	< 2	6	17	0.18	< 20	< 1	< 2	< 10	75	< 10	9	4
619109	0.32	19	2.65	0.157	0.133	0.25	< 2	6	102	0.25	< 20	< 1	< 2	< 10	89	< 10	9	9
619110	0.03	< 10	1.67	0.086	0.022	0.39	2	4	19	0.06	< 20	< 1	< 2	< 10	33	< 10	2	6
619111	0.03	< 10	1.38	0.053	0.014	0.26	< 2	3	24	0.03	< 20	2	< 2	< 10	20	< 10	1	4
619112	0.12	< 10	2.37	0.116	0.026	2.42	3	9	25	0.07	< 20	< 1	< 2	< 10	50	< 10	2	9
619113	0.31	< 10	2.94	0.405	0.012	0.31	3	17	97	0.29	< 20	< 1	< 2	< 10	118	< 10	4	6
619114	0.31	< 10	2.56	0.145	0.023	0.15	3	5	22	0.11	< 20	6	< 2	< 10	60	< 10	3	5
619115	0.07	< 10	1.11	0.359	0.028	2.09	3	4	141	0.03	< 20	3	< 2	< 10	26	< 10	1	4
619116	0.09	< 10	1.08	0.417	0.046	1.50	3	4	166	0.04	< 20	4	< 2	< 10	31	< 10	2	4
619117	0.16	< 10	1.96	0.364	0.022	0.23	< 2	11	106	0.07	< 20	4	< 2	< 10	61	< 10	2	4
619118	0.09	< 10	1.85	0.287	0.051	0.09	< 2	4	82	0.07	< 20	< 1	< 2	< 10	41	< 10	1	4
619119	0.09	< 10	1.69	0.261	0.065	0.08	< 2	4	76	0.08	< 20	5	< 2	< 10	40	< 10	2	4
619120	0.04	< 10	0.96	0.363	0.015	0.80	< 2	3	124	0.02	< 20	1	< 2	< 10	18	< 10	< 1	2
619121	0.24	< 10	2.63	0.262	0.017	0.09	2	8	84	0.06	< 20	4	< 2	< 10	45	< 10	2	4
619122	0.35	< 10	2.89	0.440	0.038	0.20	< 2	11	95	0.19	< 20	5	< 2	< 10	89	< 10	5	8
619123	0.38	19	0.99	0.136	0.158	0.03	< 2	7	15	0.22	< 20	2	< 2	< 10	71	< 10	9	5
619124	1.39	31	3.52	0.210	0.133	0.02	3	8	54	0.29	< 20	4	< 2	< 10	83	< 10	9	8
619125	0.10	< 10	1.42	0.524	0.018	0.07	< 2	3	303	0.07	< 20	3	< 2	< 10	29	< 10	1	3
619126	0.27	11	0.78	0.109	0.021	0.12	< 2	3	28	0.13	< 20	< 1	< 2	< 10	41	< 10	4	2
619127	0.63	10	3.05	0.345	0.058	0.05	< 2	17	57	0.19	< 20	4	< 2	< 10	128	< 10	7	7
619128	1.40	15	3.15	0.246	0.084	0.07	3	8	45	0.24	< 20	3	< 2	< 10	83	< 10	5	16
619129	0.37	34	1.27	0.126	0.217	0.23	3	3	82	0.14	< 20	8	< 2	< 10	86	< 10	5	5
619130	0.49	40	1.92	0.337	0.224	0.22	< 2	7	159	0.19	< 20	< 1	2	< 10	114	< 10	7	7
619131	0.03	< 10	0.64	0.053	0.033	6.90	3	3	45	0.07	< 20	7	3	< 10	24	< 10	3	7
619132	0.09	< 10	1.28	0.111	0.040	3.09	< 2	5	85	0.08	< 20	4	< 2	< 10	32	< 10	3	7
619133	0.15	13	1.23	0.276	0.059	0.14	< 2	2	260	0.06	< 20	< 1	< 2	< 10	27	< 10	2	3
619134	0.10	< 10	1.11	0.094	0.028	0.08	< 2	4	68	0.05	< 20	< 1	< 2	< 10	25	< 10	2	4
619135	0.09	13	1.22	0.095	0.053	< 0.01	< 2	5	75	0.09	< 20	2	< 2	< 10	28	< 10	3	5
[illegible]	0.73	< 10	3.77	0.468	0.017	< 0.01	< 2	18	82	0.36	< 20	3	< 2	< 10	190	< 10	5	8

Analyte Symbol	Au	Pd	Pt	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg
Unit Symbol	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm
Lower Limit	2	5	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
Method Code	FA-ICP	FA-ICP	FA-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
GXR-1 Meas				32.5	2.9	1210	882	13	43	740	748	0.36	446	< 10	451	0.9	1530	0.87	7	7	24.4	< 10	3
GXR-1 Cert				31.0	3.30	1110	852	18.0	41.0	730	760	3.52	427	15.0	750	1.22	1380	0.960	8.20	12.0	23.6	13.8	3.90
GXR-4 Meas				3.7	< 0.5	6690	142	301	42	46	74	2.82	108	< 10	47	1.4	9	0.97	13	60	3.09	10	< 1
GXR-4 Cert				4.0	0.860	6520	155	310	42.0	52.0	73.0	7.20	98.0	4.50	1640	1.90	19.0	1.01	14.6	64.0	3.09	20.0	0.110
GXR-6 Meas				0.3	< 0.5	72	1070	1	27	106	126	7.30	223	< 10	889	0.9	< 2	0.15	13	85	6.03	20	3
GXR-6 Cert				1.30	1.00	66.0	1010	2.40	27.0	101	118	17.7	330	9.80	1300	1.40	0.290	0.180	13.8	96.0	5.58	35.0	0.0680
PK2 Meas	5030	6070	4840																				
PK2 Cert	4790	5918.000	4749.000																				
PK2 Meas	5170	6310	4950																				
PK2 Cert	4790	5918.000	4749.000																				
CDN-PGMS-25 Meas	506	1900	424																				
CDN-PGMS-25 Cert	483	1830	400																				
CDN-PGMS-25 Meas	494	1900	409																				
CDN-PGMS-25 Cert	483	1830	400																				
619111 Orig	38	57	89																				
619111 Dup	37	60	97																				
619113 Orig				< 0.2	< 0.5	62	560	< 1	142	< 2	37	3.71	< 2	< 10	93	< 0.5	< 2	4.09	36	376	5.39	< 10	4
619113 Dup				< 0.2	< 0.5	62	557	< 1	141	< 2	36	3.80	< 2	< 10	93	< 0.5	< 2	4.14	36	381	5.51	< 10	1
619121 Orig	< 2	8	8																				
619121 Dup	< 2	7	< 5																				
619127 Orig				< 0.2	< 0.5	39	772	< 1	94	< 2	45	3.35	< 2	< 10	129	< 0.5	< 2	4.04	27	231	4.62	< 10	< 1
619127 Dup				< 0.2	< 0.5	40	798	1	93	2	47	3.41	< 2	< 10	127	< 0.5	< 2	4.20	28	240	4.63	< 10	1
619132 Orig	8	20	36																				
619132 Dup	9	21	39																				
619136 Orig	9	< 5	< 5																				
619136 Dup	< 2	< 5	< 5																				
619140 Orig				< 0.2	< 0.5	7	496	< 1	96	3	41	3.15	< 2	< 10	140	< 0.5	2	3.52	32	38	4.58	< 10	< 1
619140 Dup				< 0.2	< 0.5	7	471	< 1	91	< 2	40	2.97	< 2	< 10	136	< 0.5	< 2	3.34	31	37	4.28	< 10	< 1
Method Blank				< 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
Method Blank	< 2	< 5	< 5																				
Method Blank	< 2	< 5	< 5																				
Method Blank	< 2	< 5	< 5																				

Analyte Symbol	K	La	Mg	Na	P	S	Sb	Sc	Sr	Ti	Th	Te	Tl	U	V	W	Y	Zr
Unit Symbol	%	ppm	%	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	10	0.01	0.001	0.001	0.01	2	1	1	0.01	20	1	2	10	1	10	1	1
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	AR-ICP	AR-ICP
GXR-1 Meas	0.03	< 10	0.15	0.059	0.046	0.22	92	1	173	< 0.01	< 20	14	< 2	31	83	178	26	13
GXR-1 Cert	0.050	7.50	0.217	0.0520	0.0650	0.257	122	1.58	275	0.036	2.44	13.0	0.390	34.9	80.0	164	32.0	38.0
GXR-4 Meas	1.69	44	1.64	0.141	0.124	1.82	7	6	66	0.13	< 20	< 1	< 2	< 10	82	11	11	9
GXR-4 Cert	4.01	64.5	1.66	0.564	0.120	1.77	4.80	7.70	221	0.29	22.5	0.970	3.20	6.20	87.0	30.8	14.0	186
GXR-6 Meas	1.14	< 10	0.42	0.086	0.034	0.01	5	19	26		< 20	< 1	4	< 10	172	< 10	5	6
GXR-6 Cert	1.87	13.9	0.609	0.104	0.0350	0.0160	3.60	27.6	35.0		5.30	0.0180	2.20	1.54	186	1.90	14.0	110
PK2 Meas																		
PK2 Cert																		
PK2 Meas																		
PK2 Cert																		
CDN-PGMS-25 Meas																		
CDN-PGMS-25 Cert																		
CDN-PGMS-25 Meas																		
CDN-PGMS-25 Cert																		
619111 Orig																		
619111 Dup																		
619113 Orig	0.31	< 10	2.93	0.402	0.012	0.30	3	17	97	0.29	< 20	< 1	< 2	< 10	117	< 10	4	6
619113 Dup	0.31	< 10	2.95	0.408	0.012	0.31	3	17	98	0.29	< 20	< 1	< 2	< 10	118	< 10	4	6
619121 Orig																		
619121 Dup																		
619127 Orig	0.63	10	3.03	0.347	0.058	0.05	< 2	17	56	0.19	< 20	6	< 2	< 10	125	< 10	7	7
619127 Dup	0.63	11	3.06	0.343	0.059	0.05	< 2	18	58	0.20	< 20	3	< 2	< 10	132	< 10	7	7
619132 Orig																		
619132 Dup																		
619136 Orig																		
619136 Dup																		
619140 Orig	0.75	< 10	3.88	0.484	0.018	< 0.01	< 2	19	85	0.36	< 20	2	< 2	< 10	195	< 10	6	8
619140 Dup	0.72	< 10	3.66	0.451	0.016	< 0.01	3	18	79	0.36	< 20	3	< 2	< 10	185	< 10	5	8
Method Blank	< 0.01	< 10	< 0.01	0.012	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 20	< 1	< 2	< 10	< 1	< 10	< 1	< 1
Method Blank																		
Method Blank																		
Method Blank																		

Quality Analysis ... *Innovative Technologies*

Date Submitted: 27-Sep-18
Invoice No.: A18-14030
Invoice Date: 12-Oct-18
Your Reference:

Empire Metals Corp.
702-889 W. Pender St
Vancouver BC
Canada

ATTN: Boris Molak

CERTIFICATE OF ANALYSIS

17 Rock samples were submitted for analysis.

The following analytical package(s) were requested: Code 1C-OES-Tbay Fire Assay ICPOES (QOP Fire Assay Tbay)

Code 1E3-Tbay Aqua Regia ICP(AQUAGEO)

REPORT **A18-14030**

Notes:

Values which exceed the upper limit should be assayed for accurate numbers.

CERTIFIED BY:

Emmanuel Eseme , Ph.D.
Quality Control

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Analyte Symbol	Au	Pd	Pt	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg
Unit Symbol	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm
Lower Limit	2	5	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
Method Code	FA-ICP	FA-ICP	FA-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
1408551	30	< 5	< 5	< 0.2	< 0.5	115	1080	13	35	3	69	1.60	4	< 10	31	3.3	7	1.59	10	31	5.55	< 10	< 1
1408552	7	< 5	< 5	0.7	1.3	377	896	3	102	5	136	1.38	3	< 10	11	1.0	6	0.77	47	80	11.9	< 10	1
1408553	7	< 5	< 5	< 0.2	2.6	50	295	< 1	22	3	165	1.18	< 2	< 10	43	< 0.5	< 2	0.30	6	38	2.76	< 10	< 1
1408554	< 2	< 5	7	< 0.2	< 0.5	369	2070	< 1	89	< 2	120	2.85	< 2	< 10	93	< 0.5	< 2	2.65	32	159	9.19	10	2
1408555	< 2	< 5	< 5	< 0.2	< 0.5	114	1060	< 1	36	2	120	2.55	< 2	< 10	119	< 0.5	< 2	3.13	30	52	8.32	20	2
1408556	< 2	< 5	< 5	< 0.2	< 0.5	76	990	< 1	33	< 2	119	2.46	< 2	< 10	118	< 0.5	< 2	2.96	24	47	6.89	20	1
1408557	2	< 5	8	< 0.2	< 0.5	49	375	< 1	85	< 2	27	3.18	< 2	< 10	181	< 0.5	< 2	3.21	19	58	1.91	< 10	< 1
1408558	< 2	< 5	< 5	< 0.2	< 0.5	54	549	< 1	63	< 2	59	2.03	< 2	< 10	130	< 0.5	< 2	2.28	19	100	3.30	< 10	< 1
1408560	< 2	< 5	< 5	< 0.2	< 0.5	24	237	< 1	7	< 2	62	1.65	< 2	< 10	329	< 0.5	< 2	0.78	10	14	3.64	< 10	< 1
1408561	< 2	< 5	< 5	< 0.2	< 0.5	75	602	< 1	74	< 2	44	2.62	< 2	< 10	236	0.5	< 2	3.35	34	200	3.72	< 10	< 1
1408562	3	< 5	6	< 0.2	< 0.5	123	809	< 1	79	< 2	57	3.10	< 2	< 10	168	2.1	< 2	4.20	34	168	5.08	< 10	< 1
5560860	3	< 5	6	< 0.2	< 0.5	18	328	< 1	105	< 2	29	1.70	< 2	< 10	56	< 0.5	< 2	1.87	45	126	2.58	< 10	< 1
5560861	< 2	40	28	< 0.2	< 0.5	228	279	< 1	108	3	23	1.51	< 2	< 10	59	< 0.5	< 2	2.03	17	543	1.72	< 10	< 1
5560862	3	116	139	< 0.2	< 0.5	27	423	< 1	202	< 2	31	2.09	< 2	< 10	35	< 0.5	< 2	3.00	32	938	3.04	< 10	< 1
5560863	19	114	84	< 0.2	< 0.5	96	371	< 1	184	< 2	27	1.48	< 2	< 10	80	< 0.5	< 2	1.78	43	572	2.84	< 10	< 1
5560864	15	27	15	< 0.2	< 0.5	805	349	< 1	124	< 2	24	1.33	< 2	< 10	106	< 0.5	2	2.86	17	342	1.87	< 10	< 1
5560865	4	< 5	< 5	< 0.2	< 0.5	505	334	< 1	170	< 2	21	1.39	< 2	< 10	123	< 0.5	2	2.54	37	218	2.36	< 10	< 1

Analyte Symbol	K	La	Mg	Na	P	S	Sb	Sc	Sr	Ti	Th	Te	Tl	U	V	W	Y	Zr
Unit Symbol	%	ppm	%	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	10	0.01	0.001	0.001	0.01	2	1	1	0.01	20	1	2	10	1	10	1	1
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	AR-ICP	AR-ICP
1408551	0.23	12	0.66	0.103	0.017	2.28	< 2	2	33	0.12	< 20	< 1	< 2	< 10	22	28	4	16
1408552	0.08	< 10	0.72	0.040	0.020	6.14	5	3	33	0.14	< 20	1	< 2	< 10	29	< 10	4	13
1408553	0.39	< 10	0.44	0.214	0.019	1.20	< 2	2	22	0.10	< 20	< 1	< 2	< 10	18	< 10	2	29
1408554	0.54	< 10	1.80	0.454	0.023	0.65	3	21	9	0.24	< 20	< 1	< 2	< 10	169	< 10	11	7
1408555	0.57	51	2.36	0.348	0.198	0.54	2	40	22	0.32	< 20	3	< 2	< 10	140	< 10	48	13
1408556	0.53	82	2.22	0.336	0.218	0.17	< 2	36	26	0.28	< 20	2	< 2	< 10	129	< 10	44	5
1408557	0.28	29	1.89	0.303	0.139	0.03	< 2	9	301	0.12	< 20	< 1	< 2	< 10	46	< 10	4	7
1408558	0.47	22	2.06	0.281	0.097	0.05	< 2	9	44	0.19	< 20	< 1	< 2	< 10	56	< 10	9	13
1408560	0.80	14	0.69	0.256	0.091	0.15	< 2	4	31	0.30	< 20	2	< 2	< 10	70	< 10	6	4
1408561	0.63	43	2.29	0.283	0.213	0.31	< 2	15	262	0.28	< 20	1	2	< 10	99	< 10	10	5
1408562	0.56	39	2.73	0.465	0.222	0.21	< 2	14	186	0.26	< 20	< 1	< 2	< 10	125	< 10	12	5
5560860	0.16	25	2.23	0.131	0.103	0.37	< 2	9	51	0.26	< 20	< 1	< 2	< 10	73	< 10	8	9
5560861	0.22	14	2.04	0.126	0.089	0.10	3	7	49	0.09	< 20	< 1	< 2	< 10	41	< 10	4	6
5560862	0.02	11	3.18	0.045	0.036	0.43	5	8	54	0.07	< 20	3	< 2	< 10	54	< 10	3	6
5560863	0.05	11	2.74	0.081	0.035	0.52	2	8	30	0.10	< 20	1	< 2	< 10	50	< 10	3	8
5560864	0.15	12	2.14	0.121	0.042	0.10	4	9	54	0.11	< 20	2	< 2	< 10	44	< 10	4	8
5560865	0.17	< 10	2.52	0.148	0.040	0.41	4	10	45	0.10	< 20	3	< 2	< 10	44	< 10	3	9

Analyte Symbol	Au	Pd	Pt	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg
Unit Symbol	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm
Lower Limit	2	5	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
Method Code	FA-ICP	FA-ICP	FA-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
PK2 Meas	4870	6000	4920																				
PK2 Cert	4785	5918	4749																				
PK2 Meas	4710	5800	4700																				
PK2 Cert	4785	5918	4749																				
OREAS 904 (Aqua Regia) Meas				0.3	< 0.5	6240	418	3	38	10	25	1.91	95		75	7.7	13	0.05	95	23	6.16	< 10	
OREAS 904 (Aqua Regia) Cert				0.366	0.0580	6300	410	2.02	36.6	8.49	22.4	1.25	91.0		68.0	6.54	3.74	0.0404	82.0	17.5	6.40	3.40	
OREAS 922 (AQUA REGIA) Meas				1.0	< 0.5	2230	743	< 1	37	64	261	3.10	4		81	0.8	14	0.42	20	44	5.40	< 10	
OREAS 922 (AQUA REGIA) Cert				0.851	0.28	2176	730	0.69	34.3	60	256	2.72	6.12		70	0.65	10.3	0.324	19.4	40.7	5.05	7.62	
OREAS 923 (AQUA REGIA) Meas				1.5	0.5	4400	860	< 1	37	81	355	3.16	8		68	0.7	23	0.43	24	41	6.37	< 10	
OREAS 923 (AQUA REGIA) Cert				1.62	0.40	4248	850	0.84	32.7	81	335	2.80	7.07		54	0.61	21.8	0.326	22.2	39.4	5.91	8.01	
Oreas 621 (Aqua Regia) Meas				74.0	305	3740	529	15	29	> 5000	> 10000	1.87	80			0.6	12	1.71	32	30	3.61	10	4
Oreas 621 (Aqua Regia) Cert				68.0	278	3660	520	13.3	25.8	13600	51700	1.60	75.0			0.530	3.85	1.65	27.9	31.3	3.43	9.29	3.93
1408562 Orig	3	< 5	5																				
1408562 Dup	2	< 5	6																				
5560860 Orig				< 0.2	< 0.5	18	335	< 1	107	< 2	29	1.73	< 2	< 10	58	< 0.5	< 2	1.90	46	128	2.66	< 10	< 1
5560860 Dup				< 0.2	< 0.5	18	321	< 1	103	< 2	30	1.68	< 2	< 10	54	< 0.5	2	1.85	45	125	2.51	< 10	< 1
Method Blank	< 2	< 5	< 5																				
Method Blank				< 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

Analyte Symbol	K	La	Mg	Na	P	S	Sb	Sc	Sr	Ti	Th	Te	Tl	U	V	W	Y	Zr
Unit Symbol	%	ppm	%	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	10	0.01	0.001	0.001	0.01	2	1	1	0.01	20	1	2	10	1	10	1	1
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	AR-ICP	AR-ICP
PK2 Meas																		
PK2 Cert																		
PK2 Meas																		
PK2 Cert																		
OREAS 904 (Aqua Regia) Meas	0.93	39	0.19		0.101	0.04	3	5	20		< 20		< 2	< 10	30		17	
OREAS 904 (Aqua Regia) Cert	0.603	33.9	0.143		0.0950	0.0340	0.780	3.83	16.5		7.56		0.150	5.20	21.7		17.2	
OREAS 922 (AQUA REGIA) Meas	0.52	39	1.36	0.035	0.067	0.39	3	4	17		< 20		< 2	< 10	34	< 10	20	29
OREAS 922 (AQUA REGIA) Cert	0.376	32.5	1.33	0.021	0.063	0.386	0.57	3.15	15.0		14.5		0.14	1.98	29.4	1.12	16.0	22.3
OREAS 923 (AQUA REGIA) Meas	0.45	36	1.51		0.065	0.71	< 2	4	16		< 20		< 2	< 10	35	< 10	19	33
OREAS 923 (AQUA REGIA) Cert	0.322	30.0	1.43		0.061	0.684	0.58	3.09	13.6		14.3		0.12	1.80	30.6	1.96	14.3	22.5
Oreas 621 (Aqua Regia) Meas	0.42	20	0.46	0.207	0.037	4.70	132	3	18		< 20		< 2	< 10	13	< 10	7	68
Oreas 621 (Aqua Regia) Cert	0.333	19.4	0.436	0.160	0.0335	4.50	107	2.20	18.9		5.91		0.770	1.63	10.9	1.00	6.87	55.0
1408562 Orig																		
1408562 Dup																		
5560860 Orig	0.17	26	2.30	0.134	0.105	0.38	< 2	9	51	0.26	< 20	4	< 2	< 10	75	< 10	8	10
5560860 Dup	0.16	24	2.17	0.127	0.101	0.36	3	9	51	0.26	< 20	< 1	< 2	< 10	72	< 10	8	9
Method Blank																		
Method Blank	< 0.01	< 10	< 0.01	0.013	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 20	< 1	< 2	< 10	< 1	< 10	< 1	< 1