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GEOLOGICAL REPORT ON THE STAG PROJECT (NORTH WEST BUCK CLAIMS), NORTHWESTERN ONTARIO, CANADA

Thunder Bay Mining Division

Mooseland Lake Area
NTS 52 G/08A
N49° 15' 48.9'' and W90°01'51.5''
UTM Zone U15
716000E, 5461000N

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

November 25, 2020

Table of Contents

Figures

Table

Appendices

SUMMARY

The "Stag" Project ("SP") also named North West Buck Claims, represents a platinum group element ("PGE"), gold and/or base metal prospect situated approximately 95 km northwest of Thunder Bay in Northwestern Ontario. Empire acquired a 100% right, title and interest in and to the SP from W.J. Richmond in 2019 by making a cash payment of $10,850 and issuing 100,000 common shares in its capital to Mr. Richmond. The SP is subject to a 1.0% net smelter returns royalty in favor of Mr. Richmond.

In 2019, Empire Metals Corp. ("Empire") conducted a prospecting program on SP to locate and sample the alteration and/or oxidation zones within the greenstone, mafic and/or ultramafic outcrops. The collected samples were assayed in an accredited laboratory for PGE, gold, silver, base and other elements and the results indicate several anomalous zones occur on the SP and further rock geochemistry survey is recommended.

1. INTRODUCTION

Empire Metals Corp. ("Empire") acquired a 100% right, title and interest in and to the SP from W.J. Richmond in 2019 by making a cash payment of $10,850 and issuing 100,000 common shares in its capital to Mr. Richmond. The SP is subject to a 1.0% net smelter returns royalty in favor of Mr. Richmond.

Empire retained the writers on July 10, 2019 to conduct preliminary prospecting and outcrop mapping/sampling on the SP 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 years of experience in geology, mineral exploration and research. Together with the second writer who also is the claim holder and a field assistant they conducted the field program on the SP from July 14 to 17, 2019. Subject to agreement with Empire, the writers consent to the filing of this report with the Provincial Mining Recorder Office, Ministry of Northern Development and Mines of Ontario.

1.1. Location and Access

The SP is situated approximately 95 kilometers northwest of Thunder Bay in Northwestern Ontario. The prospect lies within the Thunder Bay Mining Division (Figs. 1, 2) on the Map Sheet NTS 52 G08A and is centered at N49°15'48.9'' latitude and W90°01'51.5'' longitude, the UTM coordinates 716000E and 5461000N, zones U15 (NAD83). The access from Thunder Bay is by Highway 17 and then via all-weather Dog River Road for about 50 km north to Mau Road junction and further west and southwest using a network of more or less maintained logging roads.

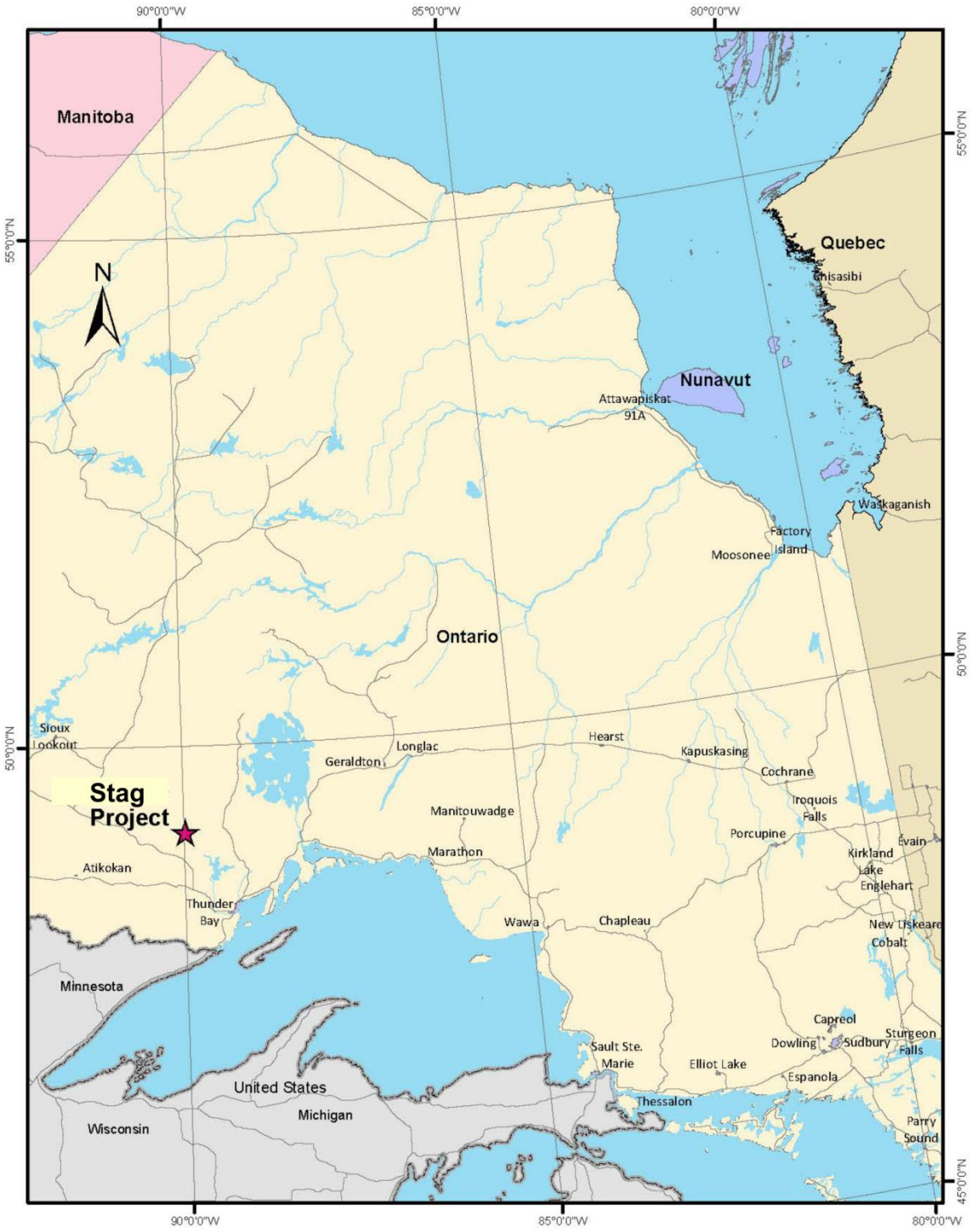


Fig. 1: Stag Project, location map.

1.2. The Claims

The SP consists of 38 cell claims covering approximately 7.56 sq. kms (756 hectares). The claim information as of July 20, 2019 is listed in Appendix 1. W. J. Richmond staked the SP claims in 2018 based on the occurrence of gossanous float and outcrops of altered greenstone

and mafic/ultramafic rocks with a potential to carry PGE, gold and/or base metal mineralization.

1.3. Topography, Vegetation and Local Resources

Topographic relief is moderately flat ranging from 475 meters to 490 meters above sea level. The area belongs to boreal forest eco-region characterized by numerous lakes and swamps. The area is characterized by hot summers with 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.

The 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. Patchy areas of thick willow, alder and dwarf cedar bushes are common and usually represent slightly lower elevated areas or along old logging roads. Large portions of the claim area are covered by glacial till and outcrops are poorly exposed.

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, rail and an ocean connection via Great Lakes and St. Lawrence Seaway.

1.4. History

The mafic/ultra-mafic intrusions of Northwestern Ontario were targeted for their copper – nickel - PGE potential 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).

Ontario Geological Survey released the Bedrock Geology of Ontario, a geological map at 1:1,000,000 scale (Map 2545) with Explanatory Notes and Legend. the Bedrock Geology of Ontario west-central sheet, Map 2542 (1991) and the Precambrian Geology Map P.2229 at 1:250,000 scale (Stone, 2010)

W. J. Richmond staked the SP claims in 2018 based on the occurrence of greenstone and mafic to ultra-mafic outcrops, alteration zones and oxidation products ("gossanous material") indicating a potential for significant PGE, gold and/or base metal mineralization.

1.5. Regional Geology

The SP is located in the central Wabigoon Subprovince of Northwestern Ontario (Stone, 2010) and nearly the whole block is floored by the Heaven Lake greenstone belt ("HLGB"). HLGB (colored green in Fig. 2) attains a width of up to 5 km and extends easterly over a distance of 60 km at the east side of the central Wabigoon Subprovince area. Eastward, the HLGB broadens and is extensively blanketed by Proterozoic diabase sills of the Nipigon sill complex (Hart, MacDonald and Lepine 2001a). Within the present area, the greenstone sequences of the HLGB are composed entirely of mafic metavolcanic flows with rare thin interflow iron formation. The mafic rocks are a mix of massive and pillowed flows with associated gabbro intrusions. Metamorphism is generally at amphibolite facies and the combination of metamorphism and deformation has promoted development of amphibole gneisses through most of the belt.

HLGB includes the Whitton and Whistle assemblages, the former occurring within the map area (Fig. 2). The Whitton assemblage, together with the Lumby North assemblage and Phyllis Lake greenstone belt, are the main components of the Whitton domain—a discontinuous strip of 2953 to 2963 Ma crust in the central Wabigoon Subprovince area. A felsic tuff and a quartz porphyritic dike from the Whitton assemblage have identical ages of 2953 Ma. Mafic metavolcanic rocks of the Whitton assemblage range compositionally from basaltic komatiite to basalt.

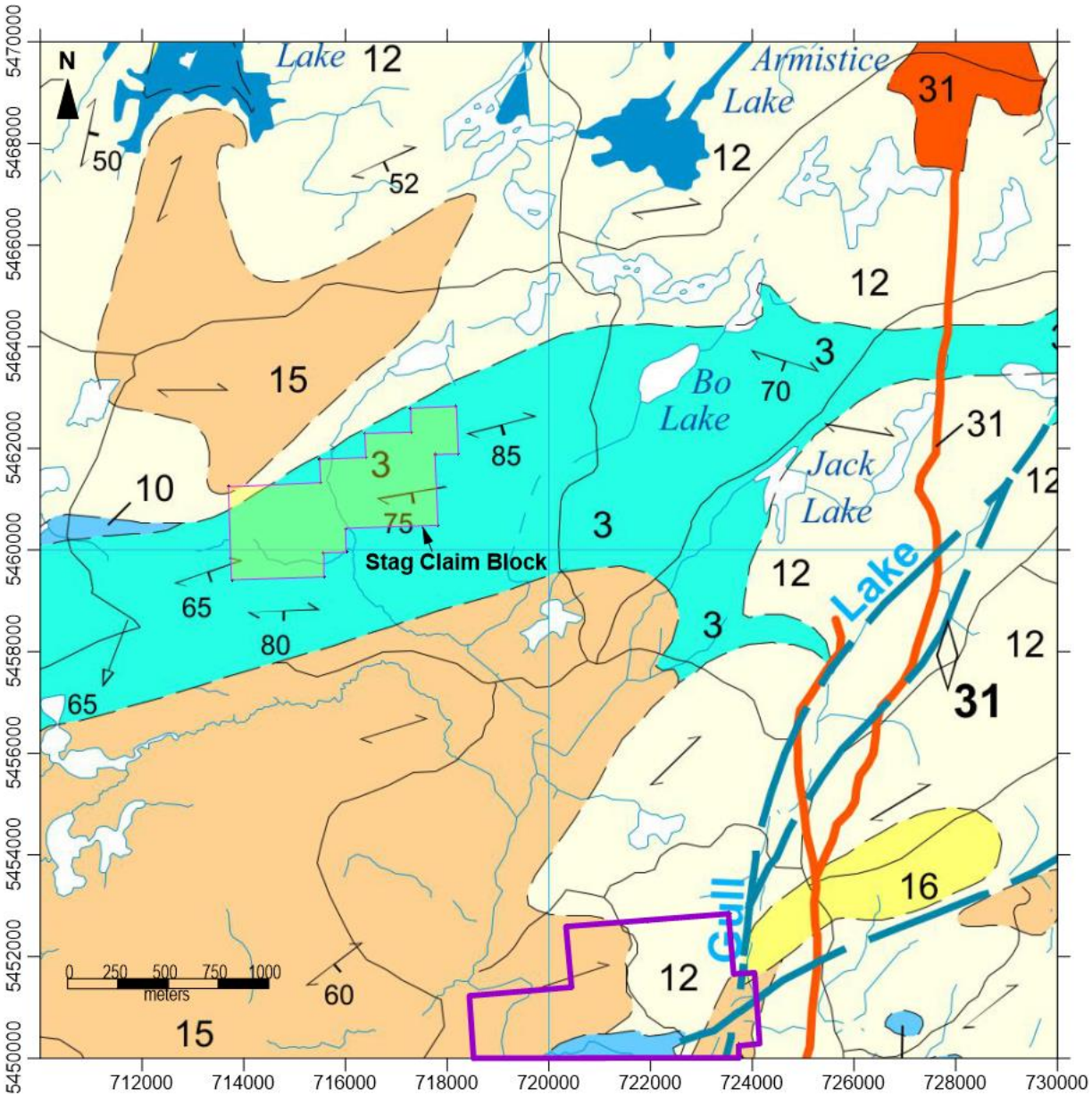


Fig. 2: Geological map with location of Stag Project.

During the Quaternary period, which lasted approximately one million years, four major glaciations (the Nebraskan. Kansan. Illinoian and Wisconsinan) occurred, each lasting about 100.000 years (Sims and Baldwin, 1991). During Wisconsinan, virtually all of Canada was covered by ice and the glacial climax took place about 20,000 years ago. In parts of northwestern Ontario the ice was as much as 4,000 m thick and deglaciation was accompanied by isostatic, rebound process that continues until today. The total uplift is estimated at about 100 m near the northwestern Lake Superior shoreline.

1.6. Local Geology

The Precambrian Geology Map P.2229 at 1:250,000 scale (Stone, 2010) shows nearly whole SP block is underlain by the Mesoarchean HLGB (colored green in Fig. 2), which attains a width of up to 5 km. It is comprised of mafic to ultramafic metavolcanic rocks including massive to pillowed flows, lapilli tuffs and minor intrusive rocks and derived schists and gneisses. Neo- to Mesoarchean biotite granodiorite to tonalite suite and granodiorite - granite suites (colored light yellow and brown in Fig. 2), both weakly foliated, occur in the northwestern corner of the HLGB.

2. LITHO-GEOCHEMICAL SAMPLING AND PROSPECTING

Fieldwork on the SP was carried out from July 13 to 17, 2019 and consisted of traversing and prospecting with a rationale to locate and sample the greenstone, mafic and ultramafic outcrops (Figs. 3, 4, 6, 7). In total, 29 rock samples were collected and their locations are shown in Figs. 3 to 11. Samples were submitted to Activation Laboratories in Thunder Bay on July 19, 2019 for analysis. Sample descriptions and selected assays are presented in Appendix I and assay certificates are in Appendix III.

2.1. Itinerary

July 13, 2019: Geologist B. B. Molak (BM), travels from Vancouver to Thunder Bay, contacts W. J. Richmond to prepare for the fieldwork.

July 14, 2019: BM and WR travel to SP and prospect the area on the claims 545769, 545775 and 546211 (Figs. 4, 6, 7). Outcrops are made up of foliated greenstone, composed of amphibole ± actinolite, chlorite, plagioclase, garnet (?) and disseminated sulphides, the rock is locally fractured and infiltrated by Fe oxides. Foliation: 270/80S. Chip samples 888801 and 888802 collected from outcrops.

July 15, 2019: BM, WR and SB prospects the claims 545772, 545773, 545774 and 545775 (Figs. 3, 4, 6 to 11). Outcrops form shallow, elongated ridges and scarps made of more or less folded greenstone, (chlorite, feldspar), with Fe-oxidic infiltrations along fractures, rare disseminated sulphides. Foliation ranges from 70/80SE, 90/80S to 120/70SW. Several conformable quartz – feldspar veins up to 20 cm wide, striking generally 120, dipping70-80 SW and micaceous shears observed. Minor gabbroic rocks also found and sampled. Four chip samples 888803 to 888806 collected.

July 16, 2019: BM, WR and SB prospect the claims 545770, 545771, 545773, 546209, 546211, 546455 and 546458 (Figs. 6 to 11). Outcrops of various sizes, shallow lying to flat or limited by scarps, comprised of foliated, fine to medium grained chloritic greenstone with feldspars

ranging from a few to 40%, in places grading to coarser amphibolite and/or dark gabbroic rock, quartz, feldspar, carbonate lenses or veins from cm to dm thick found locally, the rock is commonly fractured and infiltrated by Fe-oxides after sulphides, small pyrite or other sulphides up to 2-3% seen; foliation trends east – west, ranging from 90 to 120 and dips are close to vertical ±10°. Seven chip samples 888807 to 888813 collected from outcrops.

July 17, 2019: BM, WR and SB traverse and prospect the claim 545768, 545769, 545774, 545775, 546455, 546456, 546457 and 548581. Outcrops are shallow to flat-lying or scarpy, comprised of foliated, commonly folded, fine to medium grained chloritic greenstone, locally cut by steeply dipping diabase dykes trending 35-50 °, with feldspars ranging from a few to 40%, in places grading to coarser amphibolite and/or dark gabbroic rock, quartz, feldspar, carbonate lenses or veins from a few cm up to 1.2 m thick found locally, the rock is commonly fractured and infiltrated by Fe-oxides, locally turns all brown resembling gossan, as much as 10% sulphides seen at sample site 888815; foliation trends generally east-northeast to west-southwest and the dips are close to vertical ±10°. Sixteen chip samples 888814 to 888829 collected from outcrops and float (Figs. 6 to 11).

July 20, 2019: BM and WR demobilize and transport samples to Activation Laboratories in Thunder Bay for analysis. BM returns to Vancouver via Toronto.

2.2. Sampling Method and Analysis

Chip samples were placed in standard polypropylene bags, provided with tags with sample numbers and closed with flagging tape. The sample locations (Figs. 5 to 11) were recorded using GPS (NAD 83, zone 15) and are presented with sample descriptions in Appendix I. The samples were not modified after collection. The writers personally dispatched samples from SP to Activation Laboratories ("Actlabs") in Thunder Bay for analysis.

Actlabs is ISO 17025 and CAN-P-1579 accredited for specific registered tests and their quality system complies with international standards. The protocol for sample preparation involves drying, crushing, splitting, pulverizing and matting. If necessary, the samples are placed in a drying oven prior to preparation (approximately 50 º C) until dry. The entire sample is prepared (RX1+1000) by crushing to a nominal minus 10 mesh (1.7 mm), mechanically split (riffle) to obtain a representative sample and then pulverized to at least 95% minus 150 mesh (106 microns).

Platinum, palladium and gold determinations are conducted by the fire assay and ICP method (FA-ICP). The basic procedure for fire assay involves mixing an aliquot of powdered sample (10g, 15g, 30g, or 50g) with sodium carbonate, sodium borate, litharge (PbO), baking flour, silica and potassium nitrate. To this mixture, Ag as a collector can be added in solution or as a foil. The well mixed material is fired at temperatures ranging from 1100° C to 1200° C. The

lead button is cupelled at 950° C in a magnesia cupel. A tiny Ag bead which contains Au, Pt and Pd can be dissolved and analyzed by ICP. The assay for 38 elements (AR-ICP) includes fusion with ICP.

The protocol for whole rock assay (FUS-ICP-WR) involves fusion, dilution and analysis by Perkin Elmer Sciex ELAN 6000, 6100 or 9000 ICP/MS. Three blanks and five controls are analyzed per group of samples. Duplicates are fused and analyzed every 15 samples. Instrument is recalibrated every 40 samples.

Empire's field program on SP in 2019 included traversing the claim area to locate outcrops and collecting 29 chip rock samples. The samples ranged from greenstone, amphibolite, gabbro, diabase, vein quartz ± carbonate material, and most were selective with various amounts of disseminated sulphides, or to various degrees weathered and oxidized and locally grading to gossanous material. Sample locations with palladium+platinum and gold values are presented in Figs. 5 to 11 and the Pd, Pt, Au, Cu and Ni values are shown in graphic form in Fig. 12. Sample descriptions with PGE, gold, copper and nickel values are included in Appendix II.

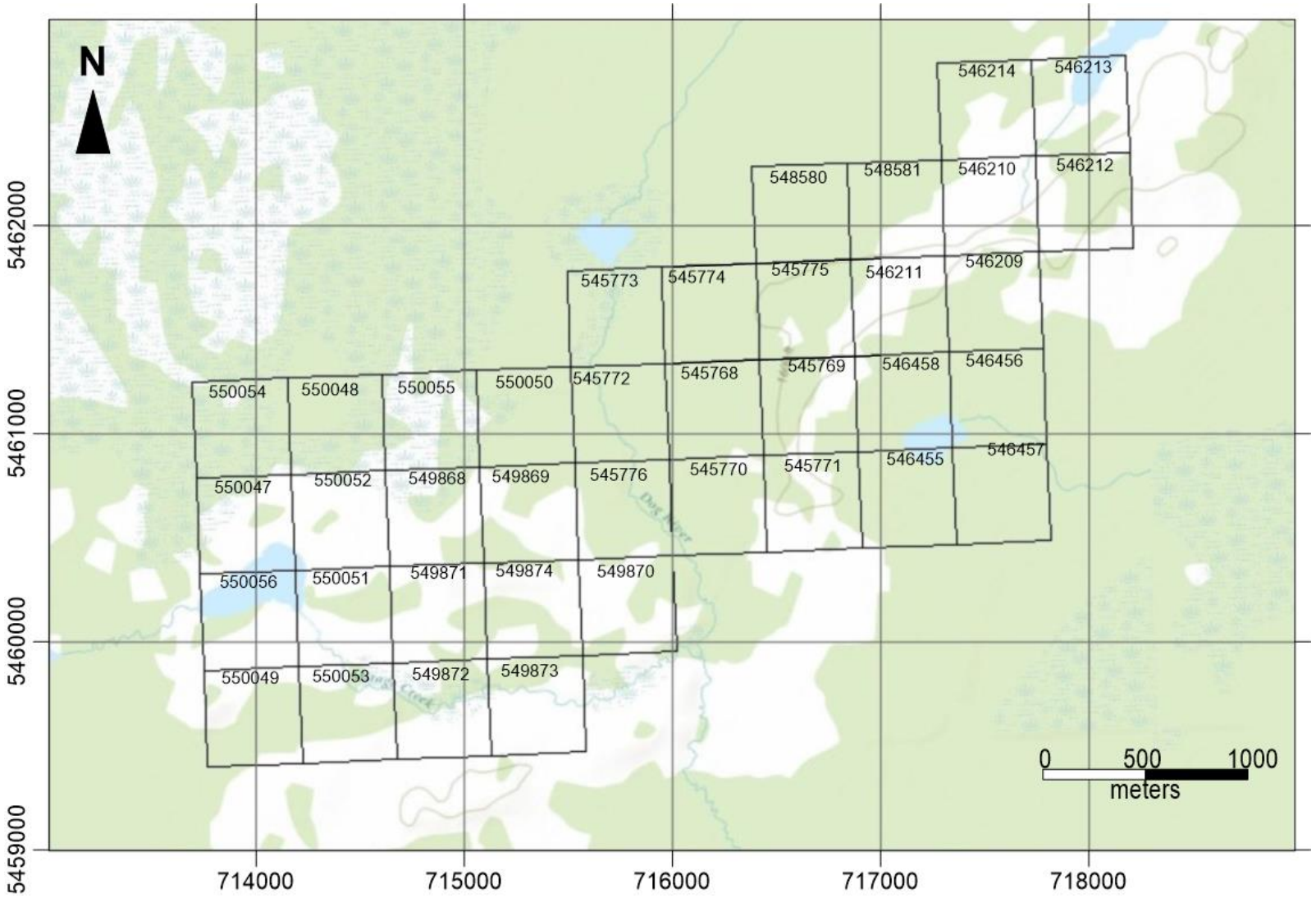


Fig.3: Stag claim block.

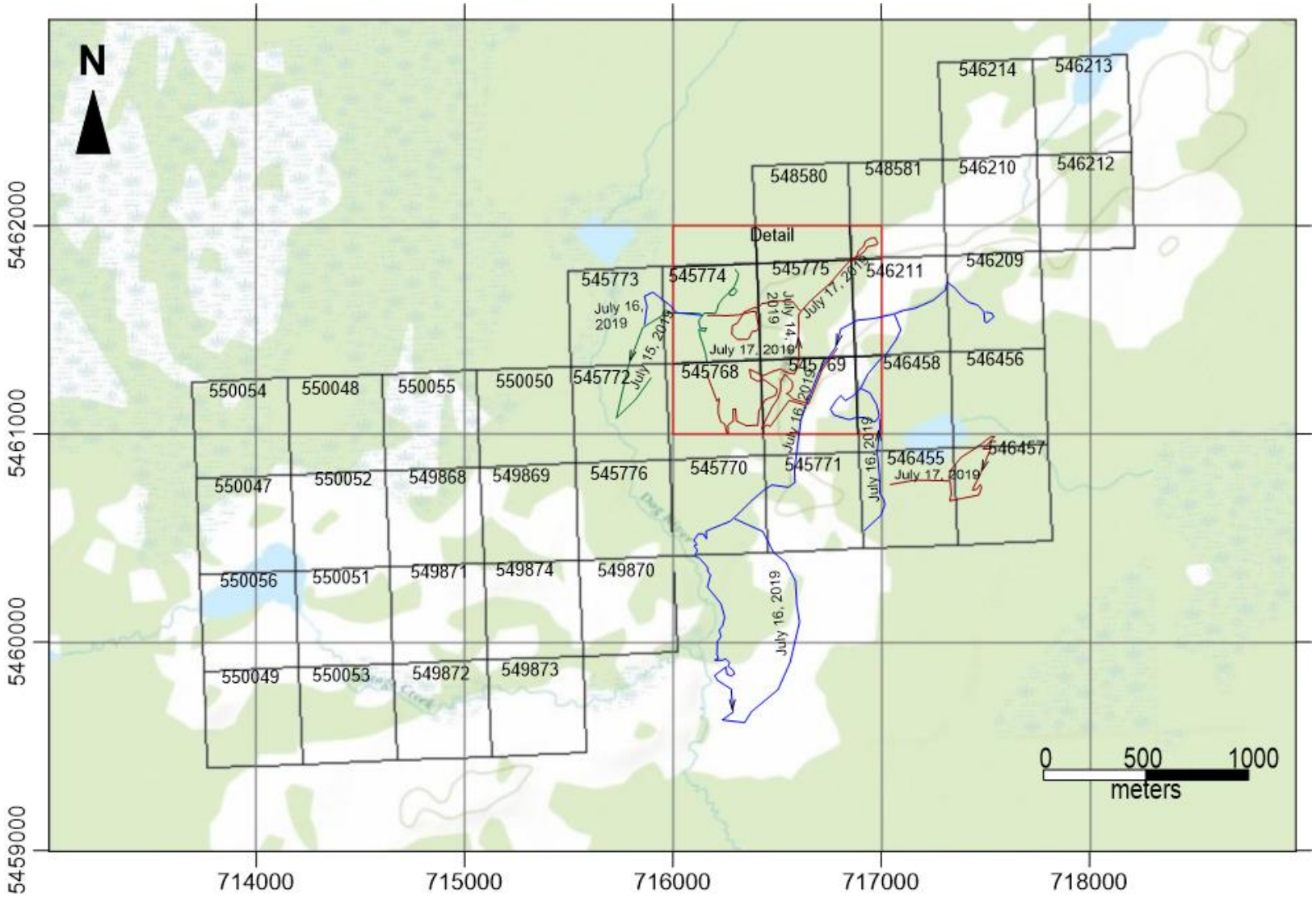


Fig. 4: Stag claims, traverse map.

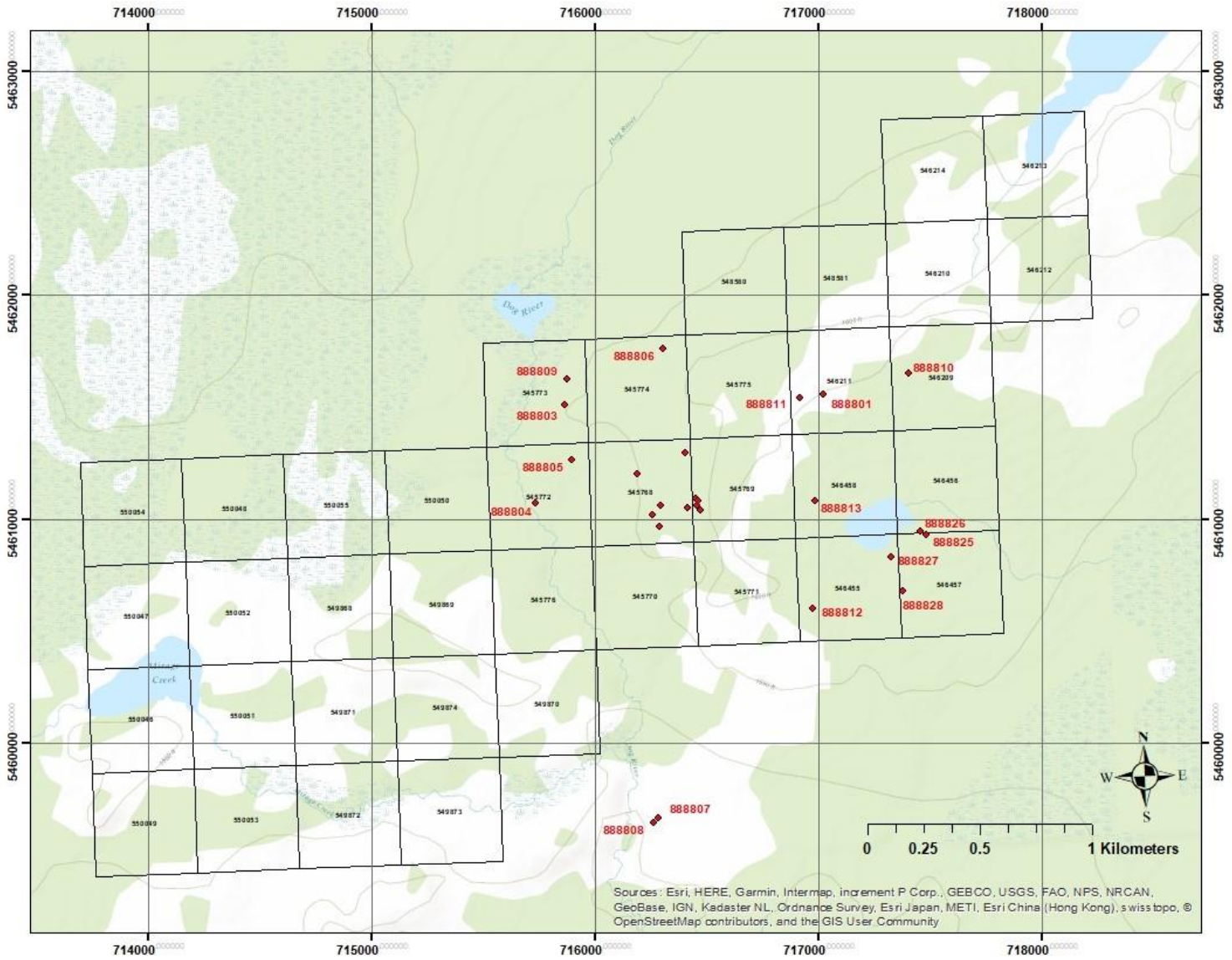


Fig. 5: Stag claims, sample locations (red dots).

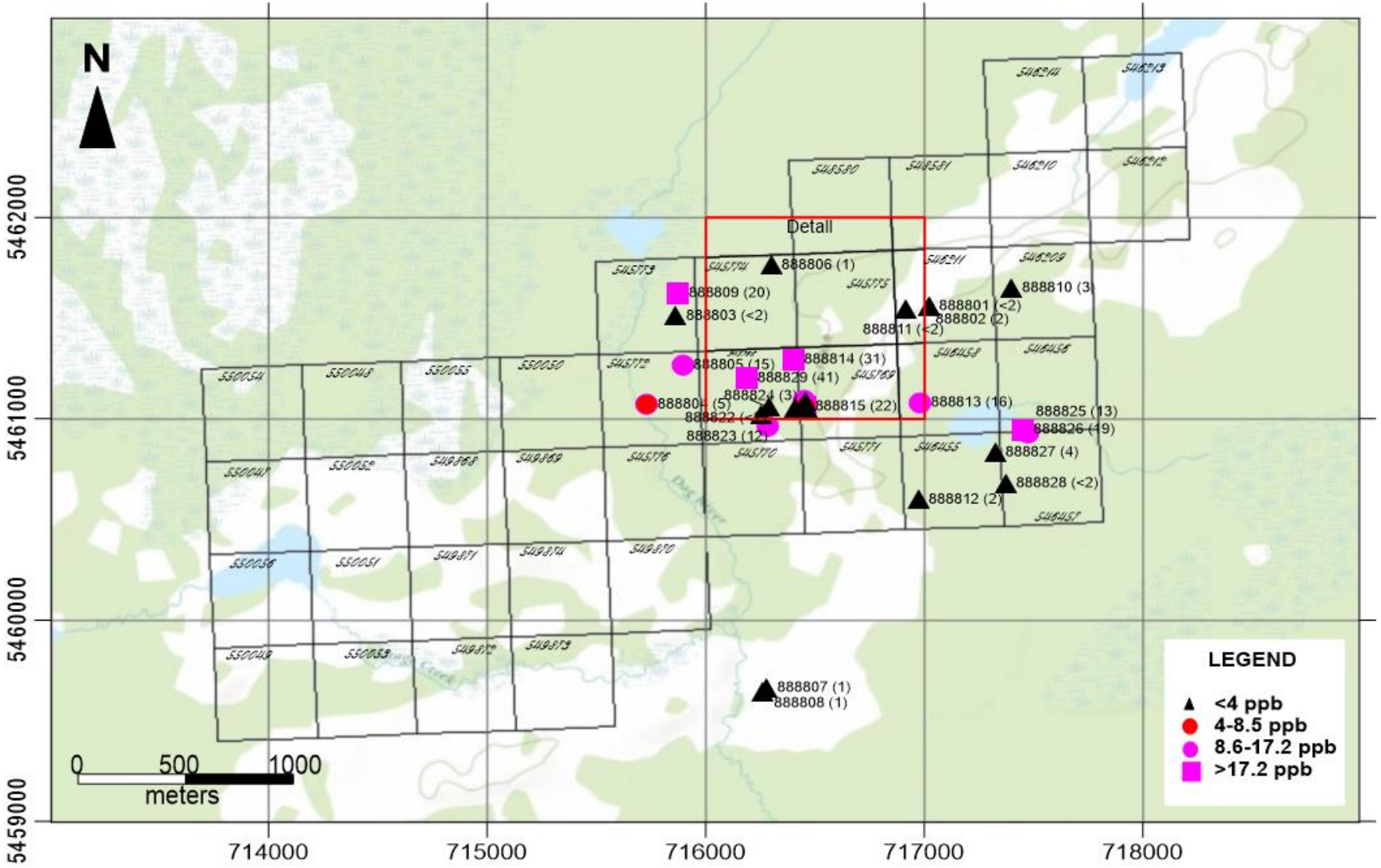


Fig. 6: Palladium and platinum in samples (Pd+Pt values in brackets).

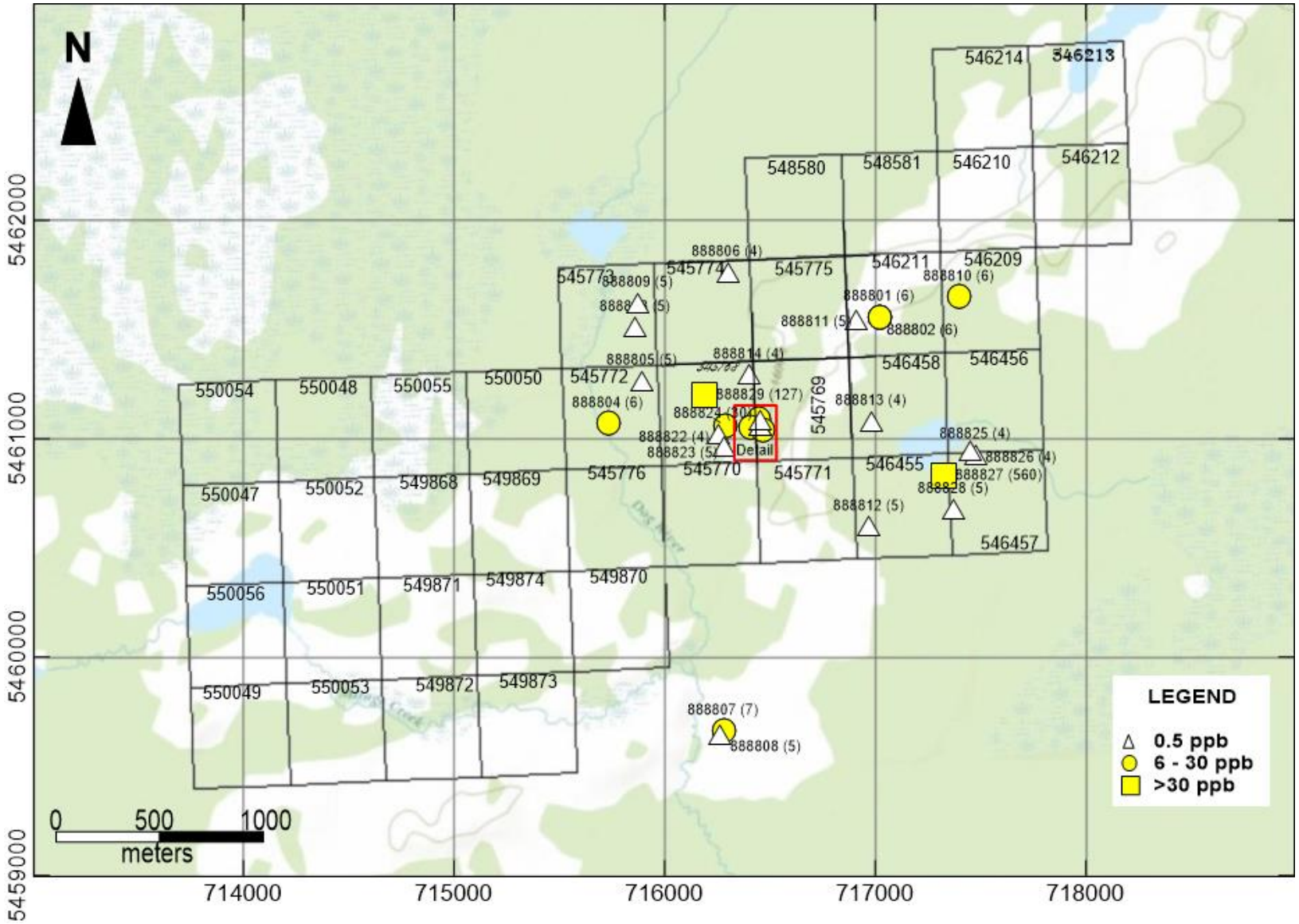


Fig. 7: Gold in samples (gold values in brackets).

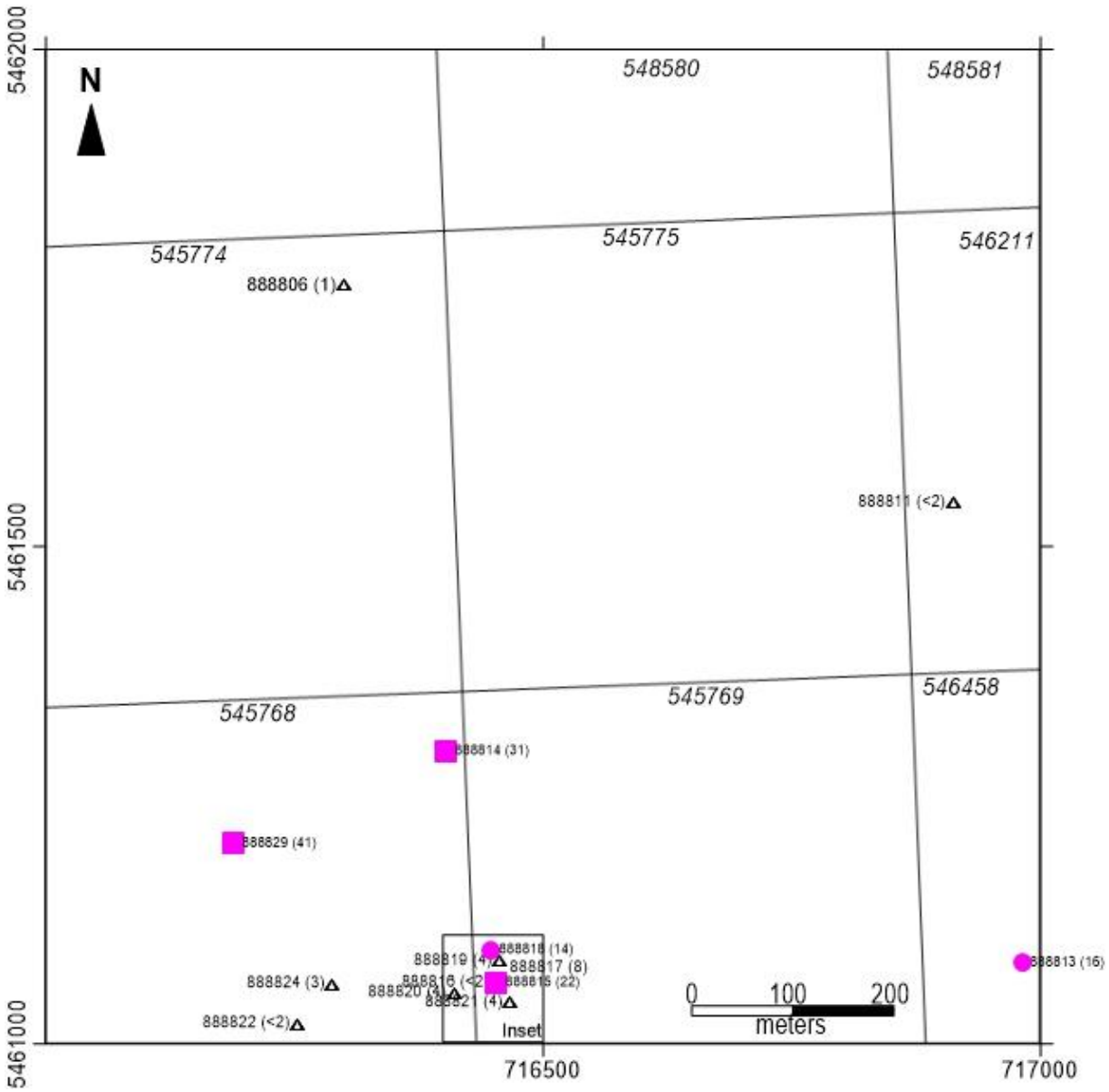


Fig. 8: Detail map with sample locations and Pd+Pt values (in brackets; legend in Fig. 6).

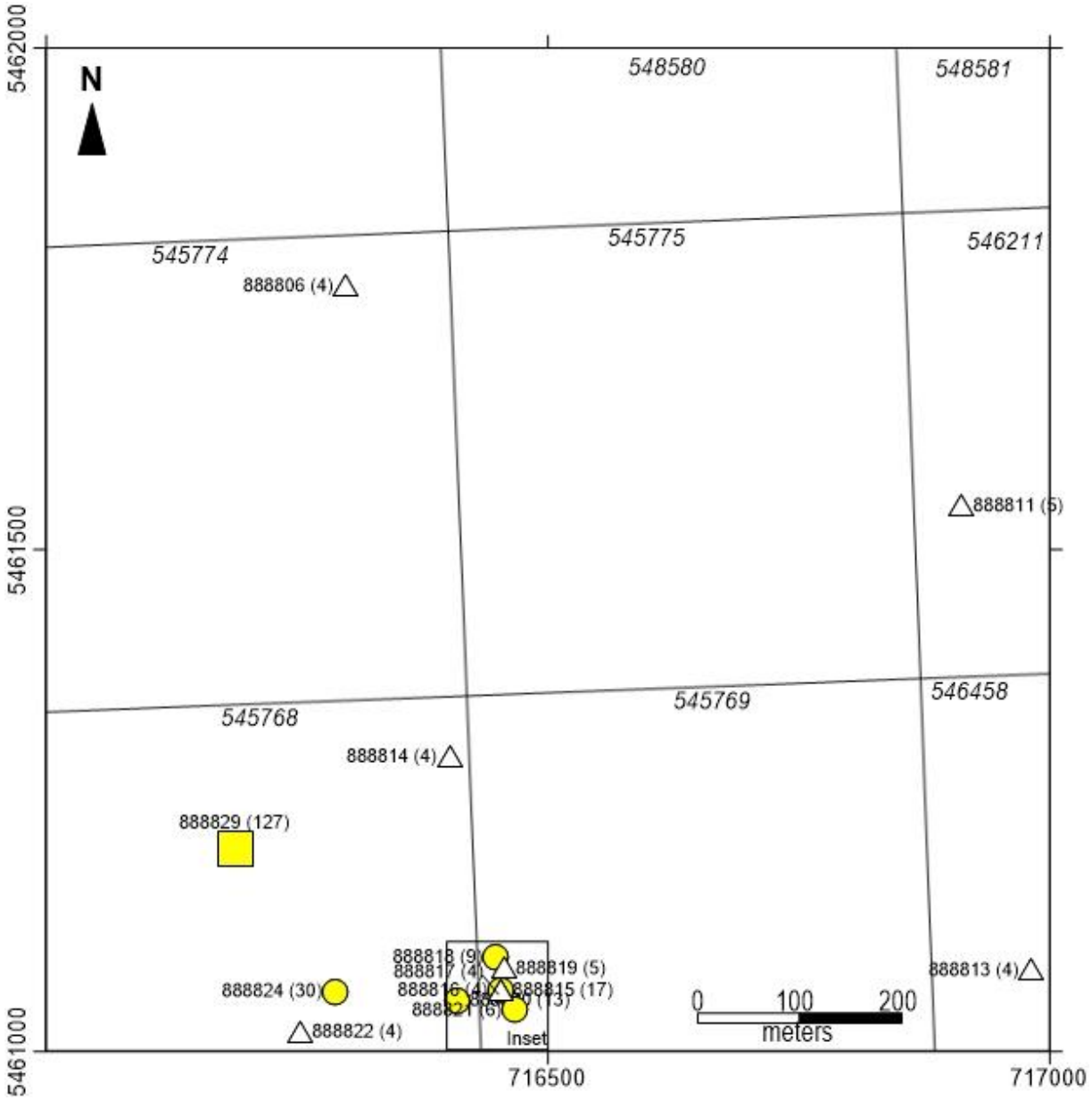


Fig. 9: Detail map with sample locations and Au values (in brackets; legend in Fig. 7).

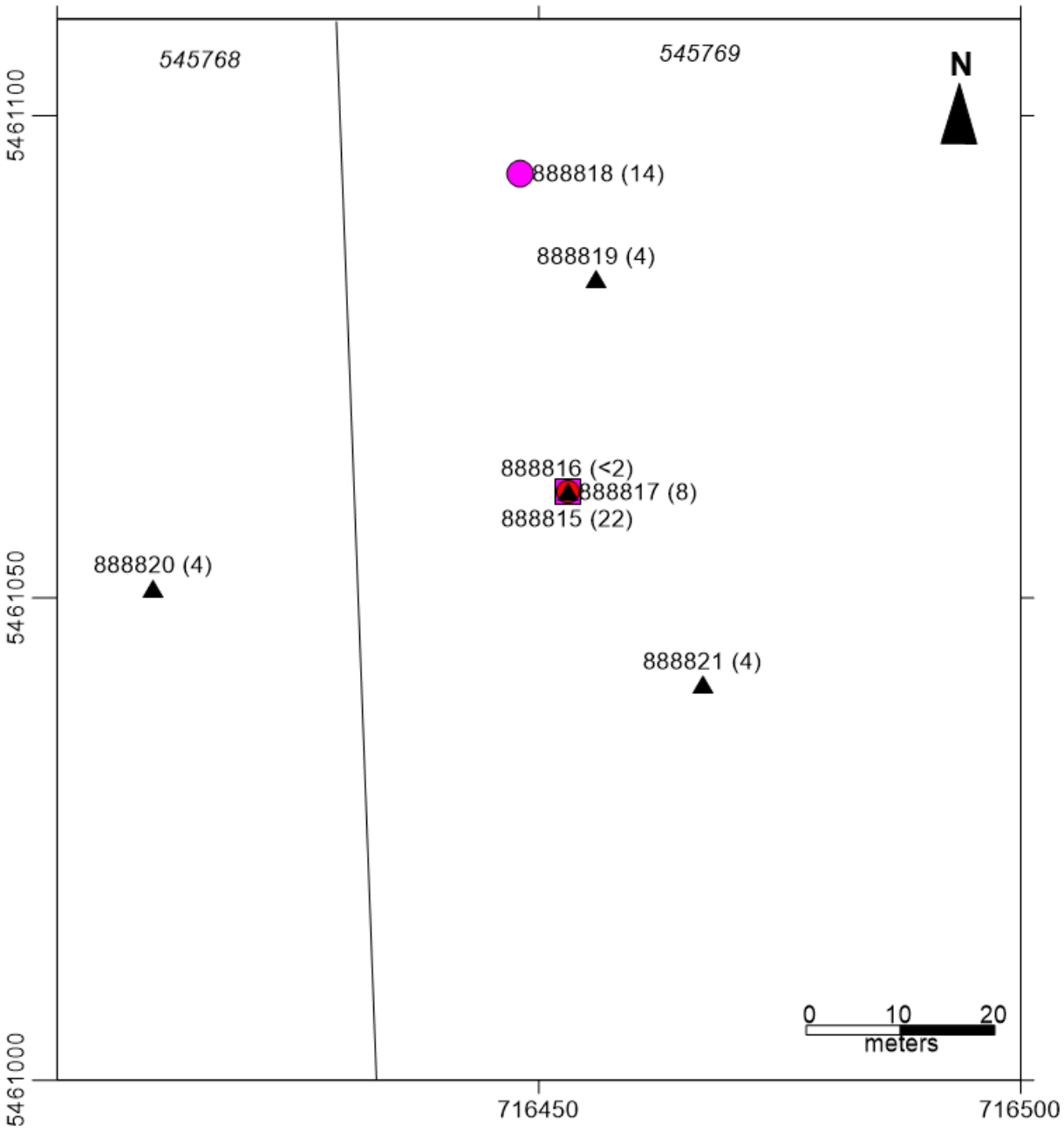


Fig. 10: Inset map with sample locations and Pd+Pt values (in brackets; legend in Fig. 6).

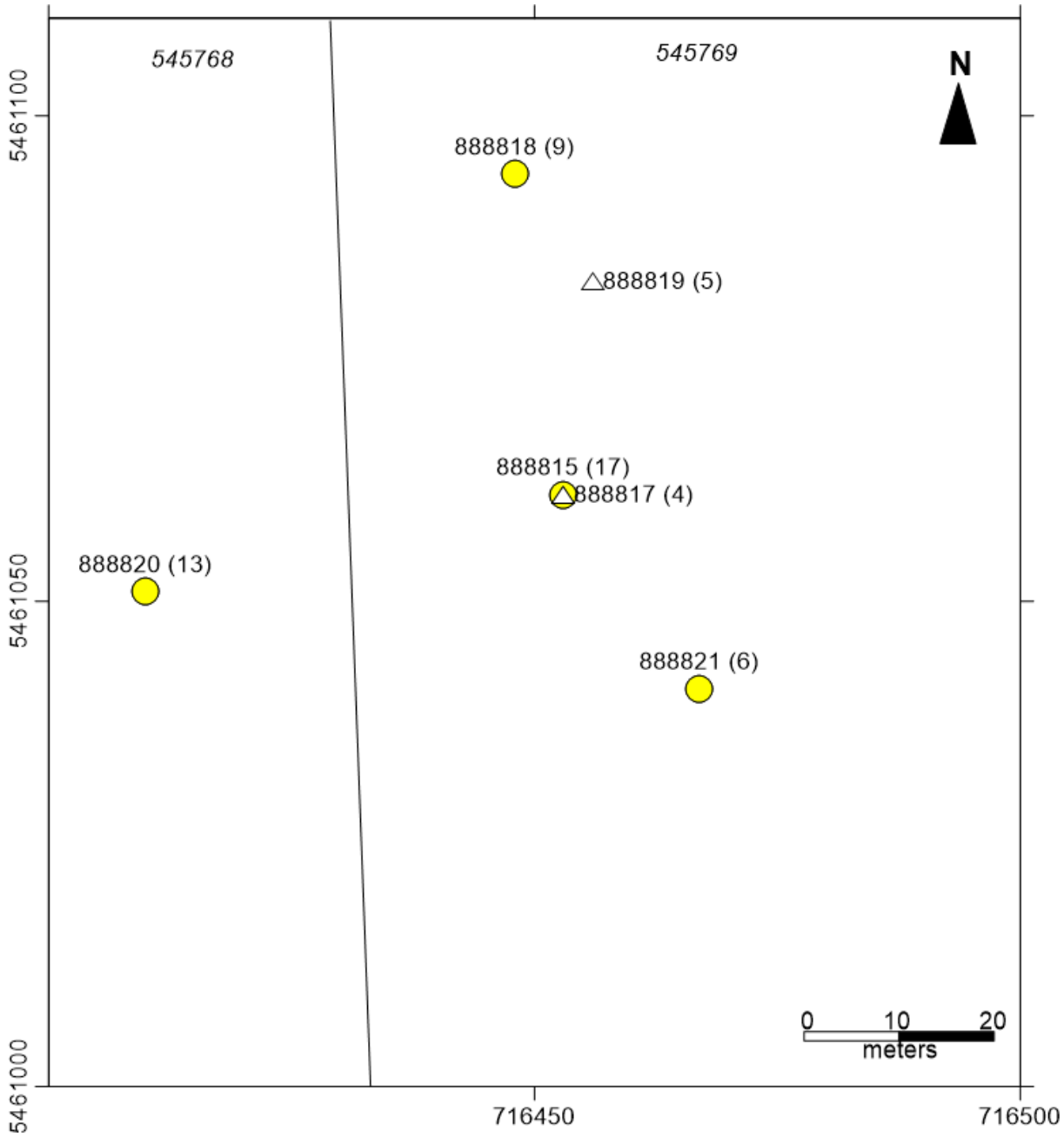


Fig. 11: Inset map with sample locations and Au values (in brackets; legend in Fig. 7).

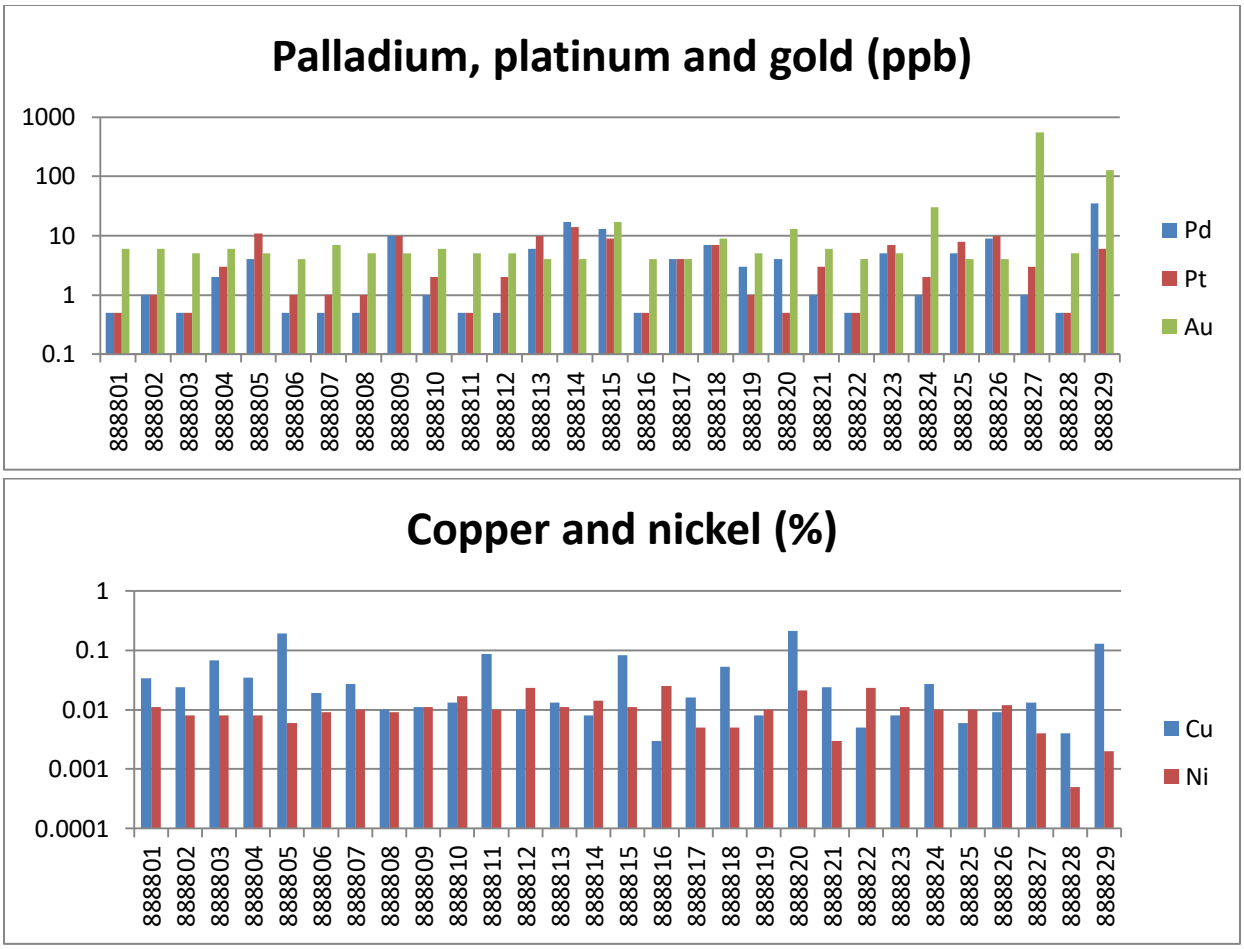


Fig. 12: Graphs for Pd, Pt, Au, Cu and Ni.

Table 1: Descriptive statistics.

	Pd	*Pt*	*Au*	*Cu*	*Ni*
Count	29	29	29	29	29
Mean	4.621	4.121	30.000	0.040	0.011
St. Error	1.336	0.757	19.401	0.010	0.001
Median	1	2	5	0.016	0.01
Mode	0.5	0.5	5	0.013	0.011
St.Deviation	7.192	4.077	104.480	0.054	0.006
S. variance	51.726	16.619	10916.071	0.003	0.000
Kurtosis	11.293	-0.460	25.995	4.492	0.535
Skewness	3.075	0.912	5.025	2.219	0.867
Range	34.5	13.5	556	0.207	0.0245
Minimum	<1	<1	4	0.003	<0.001
Maximum	35	14	560	0.21	0.025

Table 2: Correlation matrix.

	Pd	*Pt*	*Au*	*Cu*	*Ni*	*Fe*	*Mg*	*S*	*Sb*	*Zn*
Pd	1.000									
Pt	0.576	1.000								
Au	0.080	-0.037	1.000							
Cu	0.287	0.080	-0.014	1.000						
Ni	-0.214	-0.145	-0.260	-0.060	1.000					
Fe	0.374	-0.037	-0.067	0.439	-0.171	1.000				
Mg	0.151	0.475	-0.130	-0.101	0.187	0.147	1.000			
S	-0.011	-0.099	-0.075	0.762	0.160	0.218	-0.224	1.000		
Sb	-0.024	0.278	-0.410	-0.087	0.405	-0.132	0.173	0.097	1.000	
Zn	-0.127	-0.139	-0.084	0.254	0.004	0.214	-0.082	0.658	0.196	1.000

0.5-0.708, 25-50% 0.708-0.866, 50-75%

2.3. Quality Control

Actlabs perform the assays with an aim to obtain accuracy within 1 - 3% range as long as the analyte is greater than 100 times the detection limit of the method. For some elements that are more difficult to analyze, this may stretch to 5%.

For this project, Actlabs assayed three repeats for samples 888804, 888814 and 888826 (Fig. 13) to check the reproducibility for palladium, platinum, gold and two repeats for samples 888813 and 888820 (Fig. 14) to check the reproducibility for copper, nickel and other elements. Discrepancies (in per cent) are listed in Table 3.

Actlabs also measured standard PK2 for platinum, palladium and gold (Fig. 15) and standards PTM-1A, MP-1B, CPB-2, CZN-4, Oreas 74A and Oreas 101A for 35 elements including copper and nickel (Fig. 16). Differences between certified and measured standards (in per cent) are in Table 4 below.

Blanks used for this project returned all platinum and palladium values below detection limit ("DL"). Gold however assayed 3 ppb in four blanks, nickel assayed 0.007 and 0.001 in two blanks, selenium returned 0.001 and 0.002 in two blanks and antimony 0.005 in one blank. Blanks for all other elements are below DL.

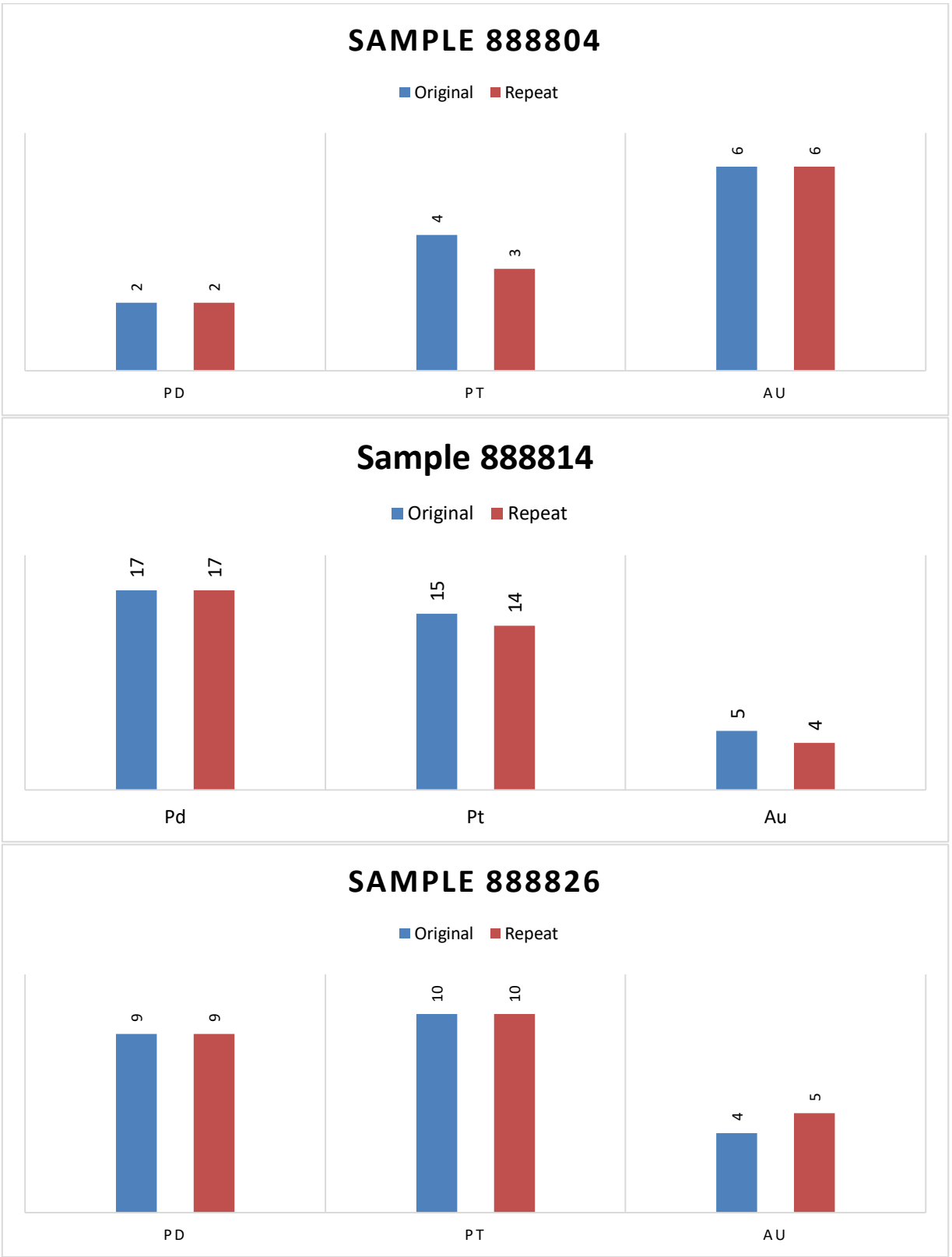
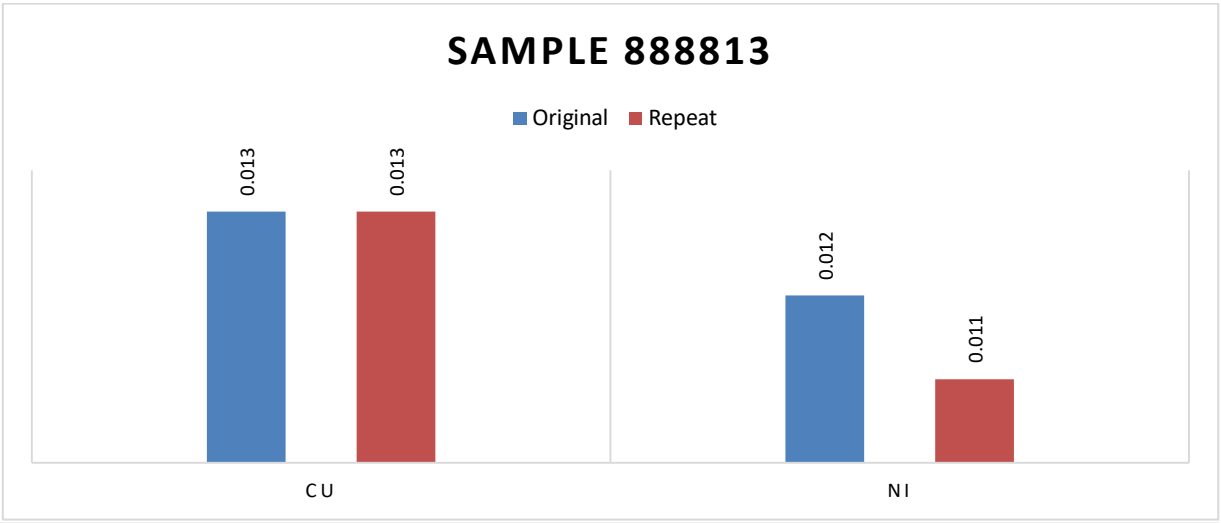


Fig. 13: Pd, Pt and Au in samples 888804, 888813 and 888826, originals vs repeats.



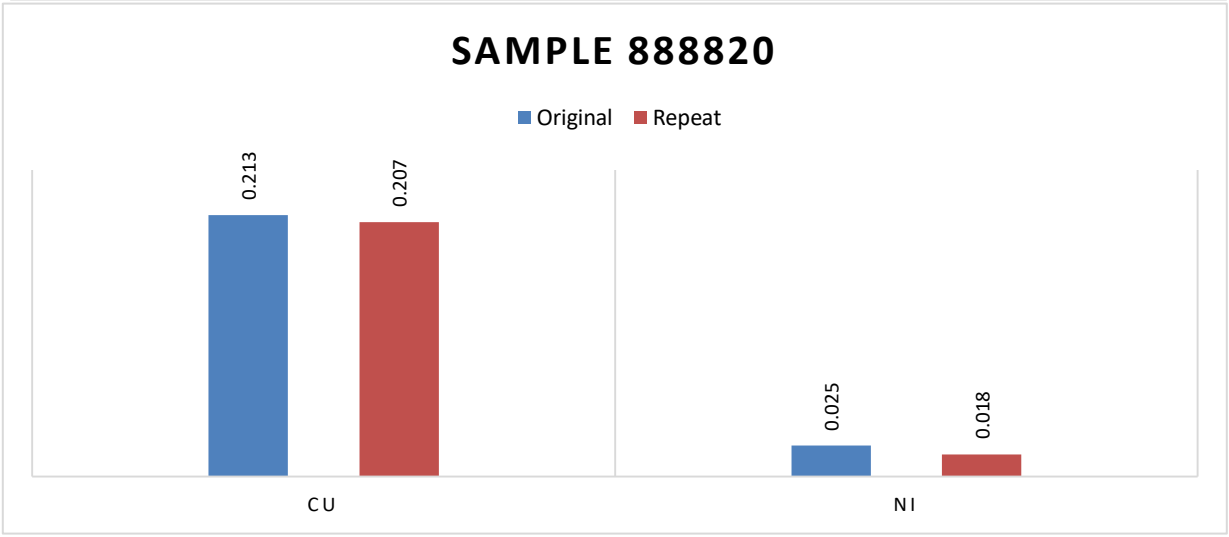


Fig. 14: Cu and Ni in originals vs repeats.

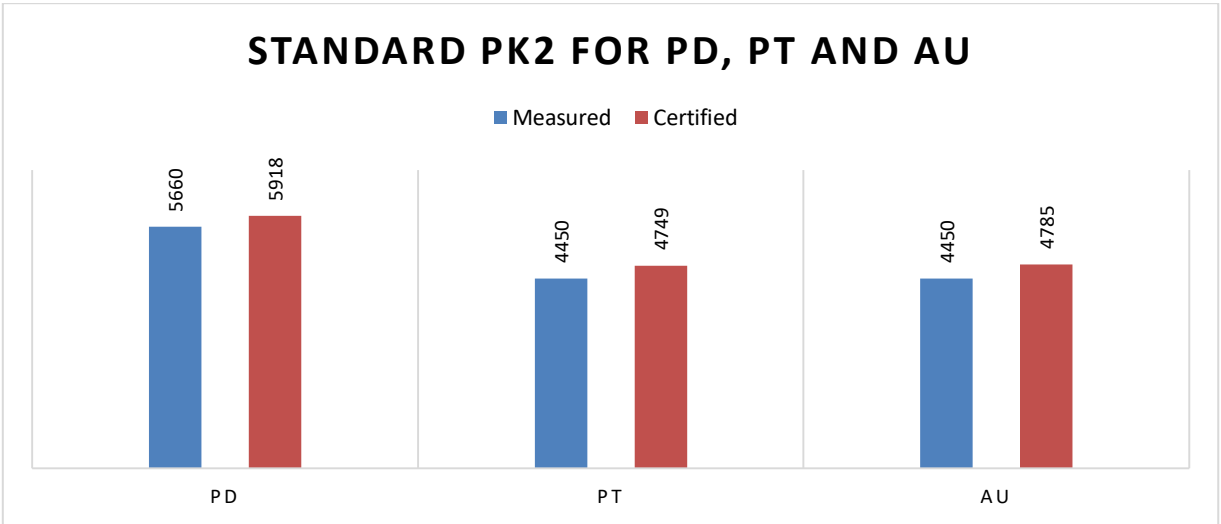


Fig. 15: Standard PK2 for PGE, measured vs certified.

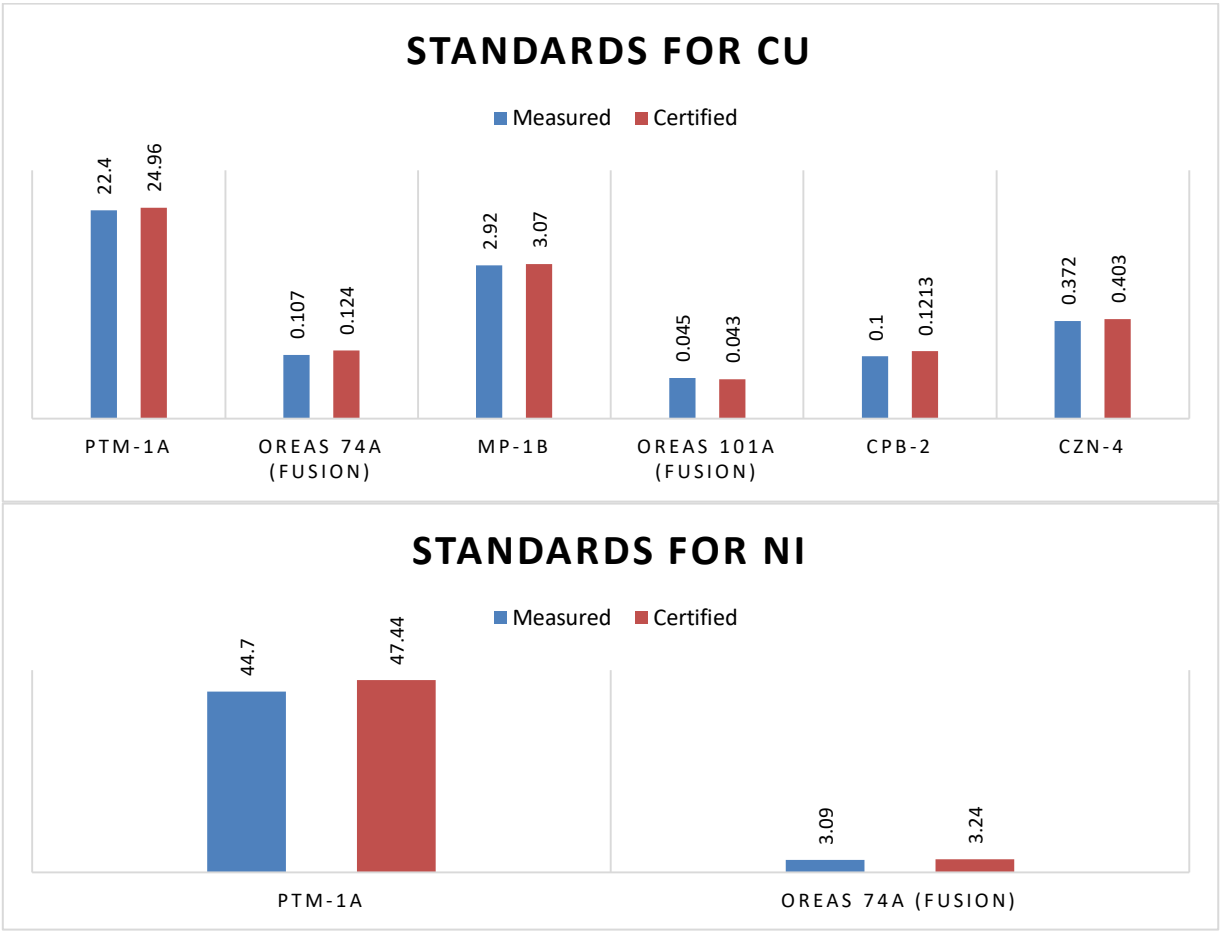


Fig. 16: Standards for Cu and Ni, measured vs certified.

Table 3: Repeats compared to originals (difference in %)

Sample #	Pd	Pt	Au	Cu	Ni
888804	0	-25	0		
888813				0	-8.4
888814	0	-6.7	0		
888820				-2.8	-28
888826	0	0	+20		

Table. 4: Standards, measured compared to certified (difference in %)

Standard	Pd	Pt	Au	Cu	Ni
PK2	-4.4	+6.7	+7.5		
PTM-1A				-10.2	-5.8
Oreas 74A				-13.7	-4.6
MP-1B				-4.9	
Oreas 101A				+4.7	
CPB-2				-17.6	
CZN-4				-7.7	

In conclusion we can state that assays for platinum, palladium, gold, copper and nickel are in most cases reproducible and within targeted limits and no notable discrepancies were recorded between originals and repeats and/or between certified and measured standards. Blanks for Pd and Pt are all below DL and those for gold assayed slightly above DL. Nickel in two blanks assayed above DL. Regardless, the assays and quality control made by Actlab for this project meet the industry standards and are sufficient for this stage of the project.

3. CONCLUSIONS AND RECOMMENDATIONS

Empire's 2019 fieldwork on the SP consisted of traversing, prospecting, outcrop mapping and rock sampling. Outcrop exposure is relatively good, also thanks to recent logging operations. The rock inventory ranges from greenstone, amphibolite, gabbro and minor diabase dykes. Prospective PGE, gold and/or base metal mineralization occurs in quartz ± feldspar and carbonate veins with disseminated sulfides, which are locally heavily weathered and oxidized to form typically brown to black colored lenses of gossanous material. Several greenstone, amphibolite and gabbro samples and one diabase dyke sample returned anomalous PGE up to 3.7 times the mean values. The maximum palladium value of 35 ppb, 7.6 times the mean value, along with 127 ppb gold and 0.128% copper were assayed in a vuggy quartz vein with greenstone enclaves. This palladium appears to have been remobilized during the process of hydrothermal alteration that affected the mafic host rocks when transiting from the high metamorphic to the low metamorphic conditions. Visual observations, assays and correlations between copper, zinc and sulfur indicate that chalcopyrite and sphalerite are also present in the hydrothermal veins.

Based on to-date results we recommend further outcrop mapping and sampling of the anomalous zones and prospecting of the western portion of the SP claim block.

Proposed Budget

Fieldwork	Days	Fees/day	Amount
QP research, geological background and report preparation	4	$ 800.00	$ 3,200.00
Prospector	4	$ 350.00	$ 1,400.00
Data processing and maps	4	$ 1,000.00	$ 4,000.00
Truck rental, gas	4	$ 150.00	$ 600.00
Accommodation and meals	4	$ 300.00	$ 1,200.00
Assays (30 rock samples)			$ 1,200.00
Report preparation	2	$ 535.00	$ 1,070.00
Total			**$12,670.00**

5. REFERENCES

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Sutcliffe, R. H., 1986: Regional Geology of the Lac des Iles Area, District of Thunder Bay (in: Summary of Field Work and Other Activities 1986, by the Ontario Geological Survey, edited by P.C. Thurston, Owen L. White, R.B. Barlow, M.E. Cherry and A.C. Colvine; Ontario Geological Survey Miscellaneous Paper 132, 435 p. (accompanied by 1 Chart).

6. 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 of Bratislava, 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 and industrial minerals in Czechoslovakia, Bulgaria, Zambia, Cuba, Guinea, Canada, Chile and Argentina.

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

I conducted litho-geochemical sampling program on the Stag Prospect from July 13 to 17, 2019.

I am responsible for all items in this report except the Item "IN ACCOUNT WITH", which was prepared by Xyquest Mining Corp. The sources of all information not based on personal examination are quoted in the references item. 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 Metals Corp.

Dated at Vancouver, BC, Canada, this the 25th day of November, 20

7. 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 Stag Prospect on July 13 to 17, 2019.

Dated at Thunder Bay, ON, Canada, this the 25th day of November, 2020.

APPENDIX I

Stag Claims List

Claim #	Cell Claim	Township / Area	Tenure ID
1	NW Buck Lake	Mooseland Lake	545768
2	NW Buck Lake	Mooseland Lake	545769
3	NW Buck Lake	Mooseland Lake	545770
4	NW Buck Lake	Mooseland Lake	545771
5	NW Buck Lake	Mooseland Lake	545772
6	NW Buck Lake	Mooseland Lake	545773
7	NW Buck Lake	Mooseland Lake	545774
8	NW Buck Lake	Mooseland Lake	545775
9	NW Buck Lake	Mooseland Lake	545776
10	NW Buck Lake	Mooseland Lake	546209
11	NW Buck Lake	Mooseland Lake	546210
12	NW Buck Lake	Mooseland Lake	546211
13	NW Buck Lake	Mooseland Lake	546212
14	NW Buck Lake	Mooseland Lake	546213
15	NW Buck Lake	Mooseland Lake	546214
16	NW Buck Lake	Mooseland Lake	546455
17	NW Buck Lake	Mooseland Lake	546456
18	NW Buck Lake	Mooseland Lake	546457
19	NW Buck Lake	Mooseland Lake	546458
20	NW Buck Lake	Mooseland Lake	548580
21	NW Buck Lake	Mooseland Lake	548581
22	NW Buck Lake	Mooseland Lake	549868
23	NW Buck Lake	Mooseland Lake	549869
24	NW Buck Lake	Mooseland Lake	549870
25	NW Buck Lake	Mooseland Lake	549871
26	NW Buck Lake	Mooseland Lake	549872
27	NW Buck Lake	Mooseland Lake	549873
28	NW Buck Lake	Mooseland Lake	549874
29	NW Buck Lake	Mooseland Lake	550046
30	NW Buck Lake	Mooseland Lake	550047
31	NW Buck Lake	Mooseland Lake	550048
32	NW Buck Lake	Mooseland Lake	550049
33	NW Buck Lake	Mooseland Lake	550050
34	NW Buck Lake	Mooseland Lake	550051
35	NW Buck Lake	Mooseland Lake	550052
36	NW Buck Lake	Mooseland Lake	550053
37	NW Buck Lake	Mooseland Lake	550054
38	NW Buck Lake	Mooseland Lake	550055

APPENDIX II

Sample Descriptions with Pd, Pt, Au, Cu and Ni Assays

Easting	Northing	#	Description	Pd	Pt	Au	Cu	Ni
717020	5461559	888801	SO, greenstone, amphibolite, actinolite, (garnet?), diss sulphides form streaks	< 1	< 1	6	0.034	0.011
717020	5461559	888802	SO, greenstone, amphibolite, actinolite, (garnet?), f-270/80S, diss sulphides	1	1	6	0.024	0.008
715862	5461511	888803	SO, folded greenstone, fldsp, Fe-ox infilt, rare sulph	< 1	< 1	5	0.068	0.008
715732	5461070	888804	SO, greenstone, abundant Fe-ox infilt, shears with micas	2	3	6	0.035	0.008
715895	5461266	888805	Float, greenstone, diss sulph	4	11	5	0.192	0.006
716299	5461763	888806	Gabbroic dark brown crystal mineral	< 1	1	4	0.019	0.009
716280	5459663	888807	SO, dark gabbroic rock, abundant flsp, sparse tiny Fe-ox	< 1	1	7	0.027	0.01
716261	5459644	888808	LO, gabbro, amphibolite, <40% flsp, Fe-ox specks, non-magnetic	< 1	1	5	0.01	0.009
715874	5461623	888809	LO, green amphibolite, <15% flsp, rare tiny diss sulph	10	10	5	0.011	0.011
717399	5461650	888810	LO, green grey gabbroic rock, massive, plg 10-15%, diss sulph 1-2%	1	2	6	0.013	0.017
716912	5461544	888811	LO, brown quartz lense, 3-5% sulphides (chprt, prt)	< 1	< 1	5	0.087	0.01
716972	5460599	888812	LO, med gr feldsp gabbro,aphanitic grey-brown mafic rock, 1%prt	< 1	2	5	0.01	0.023
716982	5461081	888813	LO, med gr gabbro,fracture planes coated with multi-colored patins	6	10	4	0.013	0.011
716402	5461294	888814	SO, dark med gr foliated grst, flsp veinlets, fract coated wih Fe-ox	17	14	4	0.008	0.014
716453	5461061	888815	LO, grst, diabase (?) dyke(30-50cm), sulp (chlprt, sphlrt carb) 10%	13	9	17	0.083	0.011
716453	5461061	888816	LO, med gr diabase, diss prt 1-2%	< 1	< 1	4	0.003	0.025
716453	5461061	888817	LO, qtz + flsp+carb lense, sulph 2-3%, contact with diabase dyke	4	4	4	0.016	0.005
716448	5461094	888818	SO, finely folded grst, gabbro, vuggy, plg bands, rare sulph vnlts (1-2mm)	7	7	9	0.053	0.005
716456	5461083	888819	SO, grst folded, qtz, flsp bands, vuggy, dark brown mineral (Mn?)	3	1	5	0.008	0.01
716410	5461051	888820	Float, Fe-oxidic Stag boulders 10-20cm, qtz lenses wrapped in mass sulph.	4	< 1	13	0.21	0.021
716467	5461041	888821	Float, Stagous boulder with sphalerite (?)	1	3	6	0.024	0.003
716253	5461020	888822	LO, med gr grey gabbro, rare prt	< 1	< 1	4	0.005	0.023
716285	5460965	888823	Fine gr grst plg veinlets, 2-3% prt frequenly assoc flsp	5	7	5	0.008	0.011
716288	5461060	888824	Float, small boulder, black rock, sulph in centre, angular, (no transport)	1	2	30	0.027	0.01
717477	5460928	888825	LO, grst, qtz bands, Fe-ox envelopes	5	8	4	0.006	0.01
717451	5460946	888826	LO, dark to black mafic rock contacts grst with qtz vnlts, prt 1-2%	9	10	4	0.009	0.012

717323	5460832	888827	LO, lense of beige qtz wrapped in chloritic schist, vuggy	1	3	560	0.013	0.004
717373	5460679	888828	LO, brown Fe-oxide stained quartz lense, vuggy	< 1	< 1	5	0.004	< 0.001
716188	5461201	888829	LO, quartz lense with greenstone enclaves, vuggy, Fe-oxides in vugs	35	6	127	0.128	0.002

Abbreviations: diss – disseminated; flsp – feldspar; grst – greenstone; qtz – quartz; plg – plagioclase; prt – pyrite; sulph – sulphides; vnlt- veinlets; Pd, Pt and Au in ppb, Cu, Ni in %.

APPENDIX III

Assay Certificates

Quality Analysis ... *Innovative Technologies*

Date Submitted: 22-Jul-19
Invoice No.: A19-09426
Invoice Date: 03-Sep-19
Your Reference:

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

ATTN: Boris Molak

CERTIFICATE OF ANALYSIS

42 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1C-Exp QOP PGE ICP-MS (Fire Assay-ICPMS)

Code 1C-Rh QOP PGE ICP-MS (Rhodium FA ICP/MS)

Code 8-Peroxide ICPMS/ICP QOP Sodium Peroxide (Sodium Peroxide Fusion ICPMS & ICP)

REPORT **A19-09426**

Notes:

We recommend reanalysis by fire assay Au, Pt, Pd Code 8 if values exceed upper limit.

CERTIFIED BY:

Elitsa Hrischeva, Ph.D.
Quality Control

ACTIVATION LABORATORIES LTD.
41 Bittern Street, Ancaster, Ontario, Canada, L9G 4V5
TELEPHONE +905 648-9611 or +1.888.228.5227 FAX +1.905.648.9613
E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Analyte Symbol	Pd	Pt	Au	Rh	Al	As	Be	Bi	Ca	Co	Cr	Cs	Cu	Fe	K	Ga	Ge	In	Li	Mg	Mn	Mo	Nb
Unit Symbol	ppb	ppb	ppb	ppb	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Lower Limit	1	1	2	5	0.01	0.001	0.001	0.001	0.01	0.001	0.01	0.001	0.001	0.05	0.1	0.001	0.001	0.001	0.001	0.01	0.001	0.001	0.001
Method Code	FA-MS	FA-MS	FA-MS	FA-MS	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2
888801	< 1	< 1	6		6.48	< 0.001	< 0.001	< 0.001	6.57	0.005	0.01	< 0.001	0.034	12.9	0.2	0.002	< 0.001	< 0.001	< 0.001	2.29	0.528	< 0.001	< 0.001
888802	1	1	6		6.55	< 0.001	< 0.001	< 0.001	7.23	0.004	0.01	< 0.001	0.024	14.6	0.3	0.002	< 0.001	< 0.001	< 0.001	2.05	0.550	< 0.001	< 0.001
888803	< 1	< 1	5		8.18	< 0.001	< 0.001	< 0.001	6.79	0.007	< 0.01	< 0.001	0.068	16.0	0.5	0.002	< 0.001	< 0.001	< 0.001	2.95	0.422	< 0.001	< 0.001
888804	2	3	6		3.25	< 0.001	< 0.001	< 0.001	3.92	0.003	0.07	< 0.001	0.035	14.6	0.2	0.001	< 0.001	< 0.001	< 0.001	5.86	0.184	0.002	< 0.001
888805	4	11	5		7.22	< 0.001	< 0.001	< 0.001	4.97	0.003	0.02	< 0.001	0.192	9.38	0.5	0.002	< 0.001	< 0.001	0.001	5.00	0.229	< 0.001	< 0.001
888806	< 1	1	4		7.85	< 0.001	< 0.001	< 0.001	9.44	0.005	0.01	< 0.001	0.019	8.83	0.2	0.002	< 0.001	< 0.001	< 0.001	2.85	0.231	< 0.001	< 0.001
888807	< 1	1	7		7.83	< 0.001	< 0.001	< 0.001	7.80	0.005	0.03	< 0.001	0.027	10.2	0.4	0.002	< 0.001	< 0.001	< 0.001	3.71	0.196	< 0.001	< 0.001
888808	< 1	1	5		8.38	< 0.001	< 0.001	< 0.001	7.71	0.004	0.03	< 0.001	0.010	9.49	0.2	0.002	< 0.001	< 0.001	< 0.001	3.11	0.181	< 0.001	< 0.001
888809	10	10	5		7.21	< 0.001	< 0.001	< 0.001	8.65	0.004	0.02	< 0.001	0.011	8.03	< 0.1	0.001	< 0.001	< 0.001	< 0.001	4.63	0.139	< 0.001	< 0.001
888810	1	2	6		8.52	< 0.001	< 0.001	< 0.001	6.21	0.005	0.03	< 0.001	0.013	7.70	0.7	0.002	< 0.001	< 0.001	0.002	2.05	0.271	< 0.001	< 0.001
888811	< 1	< 1	5		8.95	< 0.001	< 0.001	< 0.001	9.09	0.008	0.02	< 0.001	0.087	8.76	0.3	0.002	< 0.001	< 0.001	< 0.001	1.18	0.145	0.002	< 0.001
888812	< 1	2	5		8.41	< 0.001	< 0.001	< 0.001	7.08	0.005	0.03	< 0.001	0.010	7.15	0.8	0.002	< 0.001	< 0.001	0.002	2.60	0.193	< 0.001	< 0.001
888813	6	10	4		7.60	< 0.001	< 0.001	< 0.001	7.27	0.004	0.03	< 0.001	0.013	8.08	0.1	0.002	< 0.001	< 0.001	< 0.001	4.53	0.145	< 0.001	< 0.001
888814	17	14	4		7.88	< 0.001	< 0.001	< 0.001	9.68	0.005	0.02	< 0.001	0.008	7.84	0.2	0.002	< 0.001	< 0.001	< 0.001	3.98	0.219	< 0.001	< 0.001
888815	13	9	17		7.66	< 0.001	< 0.001	< 0.001	2.45	0.015	< 0.01	< 0.001	0.083	7.93	0.3	0.002	< 0.001	< 0.001	< 0.001	1.78	0.096	< 0.001	< 0.001
888816	< 1	< 1	4		7.98	< 0.001	< 0.001	< 0.001	5.99	0.003	0.02	< 0.001	0.003	5.19	0.9	0.002	< 0.001	< 0.001	0.002	4.27	0.094	< 0.001	< 0.001
888817	4	4	4		3.89	< 0.001	< 0.001	< 0.001	2.64	0.002	< 0.01	< 0.001	0.016	4.79	< 0.1	< 0.001	< 0.001	< 0.001	< 0.001	2.06	0.091	< 0.001	< 0.001
888818	7	7	9		7.42	< 0.001	< 0.001	< 0.001	5.68	0.005	< 0.01	< 0.001	0.053	9.25	0.2	0.002	< 0.001	< 0.001	< 0.001	2.91	0.139	< 0.001	< 0.001
888819	3	1	5		3.77	< 0.001	< 0.001	< 0.001	1.39	0.001	0.01	< 0.001	0.008	2.23	0.2	< 0.001	< 0.001	< 0.001	< 0.001	0.50	0.055	< 0.001	< 0.001
888820	4	< 1	13		0.83	< 0.001	< 0.001	< 0.001	0.36	0.010	< 0.01	< 0.001	0.210	16.5	< 0.1	< 0.001	< 0.001	< 0.001	< 0.001	0.72	0.082	< 0.001	< 0.001
888821	1	3	6		7.00	< 0.001	< 0.001	< 0.001	4.41	0.002	0.02	< 0.001	0.024	23.2	0.3	0.004	< 0.001	< 0.001	< 0.001	2.11	0.663	0.001	< 0.001
888822	< 1	< 1	4		7.96	< 0.001	< 0.001	< 0.001	7.08	0.005	0.03	< 0.001	0.005	9.71	0.3	0.002	< 0.001	< 0.001	< 0.001	4.47	0.191	< 0.001	< 0.001
888823	5	7	5		7.04	< 0.001	< 0.001	< 0.001	7.27	0.004	0.03	< 0.001	0.008	8.16	< 0.1	0.001	< 0.001	< 0.001	< 0.001	4.05	0.206	< 0.001	< 0.001
888824	1	2	30		5.98	< 0.001	< 0.001	< 0.001	1.62	0.005	0.01	< 0.001	0.027	5.10	0.5	0.002	< 0.001	< 0.001	0.002	1.96	0.141	< 0.001	< 0.001
888825	5	8	4		6.41	< 0.001	< 0.001	< 0.001	5.54	0.004	0.03	< 0.001	0.006	6.98	< 0.1	0.001	< 0.001	< 0.001	0.001	3.07	0.246	< 0.001	< 0.001
888826	9	10	4		7.61	< 0.001	< 0.001	< 0.001	7.75	0.004	0.03	< 0.001	0.009	11.4	0.4	0.001	< 0.001	< 0.001	< 0.001	4.04	0.303	< 0.001	< 0.001
888827	1	3	560		2.44	< 0.001	< 0.001	< 0.001	4.71	0.002	0.01	< 0.001	0.013	4.88	0.1	< 0.001	< 0.001	< 0.001	< 0.001	2.00	0.151	< 0.001	< 0.001
888828	< 1	< 1	5		0.14	< 0.001	< 0.001	< 0.001	0.01	< 0.001	< 0.01	< 0.001	0.004	1.51	< 0.1	< 0.001	< 0.001	< 0.001	< 0.001	0.02	0.005	< 0.001	< 0.001
888829	35	6	127		3.98	< 0.001	< 0.001	< 0.001	4.40	0.002	0.02	< 0.001	0.128	24.2	0.3	0.002	< 0.001	< 0.001	< 0.001	3.00	0.345	< 0.001	< 0.001

Analyte Symbol	Pd	Pt	Au	Rh	Al	As	Be	Bi	Ca	Co	Cr	Cs	Cu	Fe	K	Ga	Ge	In	Li	Mg	Mn	Mo	Nb
Unit Symbol	ppb	ppb	ppb	ppb	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Lower Limit	1	1	2	5	0.01	0.001	0.001	0.001	0.01	0.001	0.01	0.001	0.001	0.05	0.1	0.001	0.001	0.001	0.001	0.01	0.001	0.001	0.001
Method Code	FA-MS	FA-MS	FA-MS	FA-MS	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2
888842	1200	751	26	80	9.30	< 0.001	< 0.001	< 0.001	8.04	0.010	0.02	< 0.001	0.080	6.29	0.4	0.001	< 0.001	< 0.001	0.001	5.45	0.083	< 0.001	< 0.001

Analyte Symbol	Ni	Pb	Re	S	Se	Sb	Si	Sn	Ta	Te	Th	Ti	Tl	U	W	Zn
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Lower Limit	0.001	0.001	0.001	0.01	0.001	0.002	0.01	0.001	0.001	0.001	0.001	0.01	0.001	0.001	0.001	0.001
Method Code	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2
888801	0.011	< 0.001	< 0.001	0.61	< 0.001	0.005	24.5	< 0.001	< 0.001	< 0.001	< 0.001	0.49	< 0.001	< 0.001	< 0.001	0.025
888802	0.008	< 0.001	< 0.001	0.73	< 0.001	0.005	23.3	< 0.001	< 0.001	< 0.001	< 0.001	0.53	< 0.001	< 0.001	< 0.001	0.035
888803	0.008	< 0.001	< 0.001	1.66	0.002	0.005	19.3	< 0.001	< 0.001	< 0.001	< 0.001	0.89	< 0.001	< 0.001	< 0.001	0.018
888804	0.008	< 0.001	< 0.001	1.95	0.002	0.005	22.1	< 0.001	< 0.001	< 0.001	< 0.001	0.36	< 0.001	< 0.001	< 0.001	0.051
888805	0.006	< 0.001	< 0.001	2.83	0.002	0.005	23.1	< 0.001	< 0.001	< 0.001	< 0.001	0.44	< 0.001	< 0.001	< 0.001	0.034
888806	0.009	< 0.001	< 0.001	0.31	0.001	0.005	23.0	< 0.001	< 0.001	< 0.001	< 0.001	0.62	< 0.001	< 0.001	< 0.001	0.014
888807	0.010	< 0.001	< 0.001	0.13	< 0.001	0.005	22.3	< 0.001	< 0.001	< 0.001	< 0.001	0.73	< 0.001	< 0.001	< 0.001	0.010
888808	0.009	< 0.001	< 0.001	0.02	< 0.001	0.005	24.2	< 0.001	< 0.001	< 0.001	< 0.001	0.73	< 0.001	< 0.001	< 0.001	0.007
888809	0.011	< 0.001	< 0.001	0.13	0.001	0.006	24.9	< 0.001	< 0.001	< 0.001	< 0.001	0.41	< 0.001	< 0.001	< 0.001	0.006
888810	0.017	0.001	< 0.001	0.16	< 0.001	0.006	21.6	< 0.001	< 0.001	< 0.001	< 0.001	0.51	< 0.001	< 0.001	< 0.001	0.012
888811	0.010	< 0.001	< 0.001	1.67	0.001	0.006	21.4	< 0.001	< 0.001	< 0.001	< 0.001	0.77	< 0.001	< 0.001	< 0.001	0.006
888812	0.023	< 0.001	< 0.001	0.04	< 0.001	0.006	21.9	< 0.001	< 0.001	< 0.001	< 0.001	0.60	< 0.001	< 0.001	< 0.001	0.006
888813	0.011	< 0.001	< 0.001	0.04	< 0.001	0.006	24.4	< 0.001	< 0.001	< 0.001	< 0.001	0.48	< 0.001	< 0.001	< 0.001	0.012
888814	0.014	< 0.001	< 0.001	0.08	0.001	0.014	23.0	< 0.001	< 0.001	< 0.001	< 0.001	0.48	< 0.001	< 0.001	< 0.001	0.020
888815	0.011	< 0.001	< 0.001	2.98	< 0.001	0.006	26.0	< 0.001	< 0.001	< 0.001	< 0.001	0.25	< 0.001	< 0.001	< 0.001	0.004
888816	0.025	< 0.001	< 0.001	0.20	0.003	0.006	24.1	< 0.001	< 0.001	< 0.001	< 0.001	0.41	< 0.001	< 0.001	< 0.001	0.005
888817	0.005	< 0.001	< 0.001	0.04	< 0.001	0.005	32.3	< 0.001	< 0.001	< 0.001	< 0.001	0.19	< 0.001	< 0.001	< 0.001	0.004
888818	0.005	< 0.001	< 0.001	0.25	< 0.001	0.006	25.7	< 0.001	< 0.001	< 0.001	< 0.001	0.72	< 0.001	< 0.001	< 0.001	0.008
888819	0.010	< 0.001	< 0.001	0.02	< 0.001	0.006	37.5	< 0.001	< 0.001	< 0.001	< 0.001	0.15	< 0.001	< 0.001	< 0.001	< 0.001
888820	0.021	< 0.001	< 0.001	7.31	0.002	0.006	30.1	< 0.001	< 0.001	< 0.001	< 0.001	0.05	< 0.001	< 0.001	< 0.001	0.074
888821	0.003	< 0.001	< 0.001	0.14	< 0.001	0.006	19.8	< 0.001	< 0.001	< 0.001	< 0.001	0.33	< 0.001	< 0.001	< 0.001	0.057
888822	0.023	< 0.001	< 0.001	0.02	< 0.001	0.006	22.5	< 0.001	< 0.001	< 0.001	< 0.001	0.60	< 0.001	< 0.001	< 0.001	0.010
888823	0.011	< 0.001	< 0.001	0.05	< 0.001	0.006	24.9	< 0.001	< 0.001	< 0.001	< 0.001	0.41	< 0.001	< 0.001	< 0.001	0.005
888824	0.010	0.003	< 0.001	4.20	0.002	0.007	28.9	< 0.001	< 0.001	< 0.001	< 0.001	0.30	< 0.001	< 0.001	< 0.001	0.163
888825	0.010	< 0.001	< 0.001	0.06	0.001	0.006	24.5	< 0.001	< 0.001	< 0.001	< 0.001	0.37	< 0.001	< 0.001	< 0.001	0.006
888826	0.012	< 0.001	< 0.001	0.13	< 0.001	< 0.002	21.7	< 0.001	< 0.001	< 0.001	< 0.001	0.44	< 0.001	< 0.001	< 0.001	0.010
888827	0.004	< 0.001	< 0.001	0.05	< 0.001	< 0.002	34.8	< 0.001	< 0.001	< 0.001	< 0.001	0.13	< 0.001	< 0.001	< 0.001	0.002
888828	< 0.001	< 0.001	< 0.001	0.05	0.001	< 0.002	40.1	< 0.001	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001
888829	0.002	< 0.001	< 0.001	0.61	0.002	< 0.002	17.2	< 0.001	< 0.001	< 0.001	< 0.001	0.29	< 0.001	< 0.001	< 0.001	0.0128

Analyte Symbol	Ni	Pb	Re	S	Se	Sb	Si	Sn	Ta	Te	Th	Ti	Tl	U	W	Zn
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Lower Limit	0.001	0.001	0.001	0.01	0.001	0.002	0.01	0.001	0.001	0.001	0.001	0.01	0.001	0.001	0.001	0.001
Method Code	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2
888842	0.375	< 0.001	< 0.001	1.39	0.001	< 0.002	22.6	< 0.001	< 0.001	< 0.001	< 0.001	0.13	< 0.001	< 0.001	< 0.001	0.004

Analyte Symbol	Pd	Pt	Au	Rh	Al	As	Be	Bi	Ca	Co	Cr	Cs	Cu	Fe	K	Ga	Ge	In	Li	Mg	Mn	Mo	Nb
Unit Symbol	ppb	ppb	ppb	ppb	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Lower Limit	1	1	2	5	0.01	0.001	0.001	0.001	0.01	0.001	0.01	0.001	0.001	0.05	0.1	0.001	0.001	0.001	0.001	0.01	0.001	0.001	0.001
Method Code	FA-MS	FA-MS	FA-MS	FA-MS	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2
PTM-1a Meas						0.216				1.91			22.4										
PTM-1a Cert						0.220				2.05			24.96										
PTC-1a Meas				264																			
PTC-1a Cert				330.00																			
NIST 696 Meas					28.9																		
NIST 696 Cert					28.9																		
DTS-2b Meas					0.22				0.09											32.0			
DTS-2b Cert					0.240				0.0900											29.8			
Oreas 74a (Fusion) Meas						0.005				0.051	0.16		0.107	13.8									
Oreas 74a (Fusion) Cert						0.005				0.058	0.18		0.124	13.7									
BIR-1a Meas					8.25				9.33					7.69	< 0.1					5.68			
BIR-1a Cert					8.13				9.46					7.87	0.02					5.84			
MP-1b Meas						2.19		0.093	2.48				2.92	8.06				0.059		0.03		0.028	
MP-1b Cert						2.30		0.0954	2.47				3.07	8.19				0.0565		0.024		0.029	
OREAS 101a (Fusion) Meas										0.005			0.045	11.1	2.3					1.18	0.100	0.002	
OREAS 101a (Fusion) Cert													0.043	11.06	2.34					1.23	0.096		
NCS DC73304 (GBW 07106) Meas																							
NCS DC73304 (GBW 07106) Cert																							
AMIS 0129 Meas														44.4									
AMIS 0129 Cert														43.573									
WMS-1a Meas				202																			
WMS-1a Cert				222																			
SARM 3 Meas													< 0.001								0.537		0.093
SARM 3 Cert																					0.596		
NCS DC86303 Meas												0.032							0.211				
NCS DC86303 Cert												0.0350							0.210				
NCS DC86314 Meas												0.255							1.63				
NCS DC86314 Cert												0.283							1.81				
PK2 Meas	5660	4450	4450																				
PK2 Cert	5918	4749	4785																				
CPB-2 Meas					0.07								0.100	7.11						0.07			

Analyte Symbol	Pd	Pt	Au	Rh	Al	As	Be	Bi	Ca	Co	Cr	Cs	Cu	Fe	K	Ga	Ge	In	Li	Mg	Mn	Mo	Nb
Unit Symbol	ppb	ppb	ppb	ppb	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Lower Limit	1	1	2	5	0.01	0.001	0.001	0.001	0.01	0.001	0.01	0.001	0.001	0.05	0.1	0.001	0.001	0.001	0.001	0.01	0.001	0.001	0.001
Method Code	FA-MS	FA-MS	FA-MS	FA-MS	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2
CPB-2 Cert					0.074								0.1213	7.065						0.0683			
CZN-4 Meas					0.08	0.036				0.009			0.372										
CZN-4 Cert					0.0715	0.0356				0.009			0.403										
OREAS 922 (Peroxide Fusion) Meas					7.73				0.41					5.68	2.7					1.57			
OREAS 922 (Peroxide Fusion) Cert					7.59				0.49					5.71	2.60					1.61			
OREAS 621 (Peroxide Fusion) Meas					6.68				1.91					3.71	2.2					0.50			
OREAS 621 (Peroxide Fusion) Cert					6.63				2.00					3.71	2.23					0.516			
CCU-1e Meas					0.14				0.07					31.5						0.71			
CCU-1e Cert					0.139				0.129					30.7						0.706			
888804 Orig	2	4	6																				
888804 Dup	2	3	6																				
888813 Orig					7.63	< 0.001	< 0.001	< 0.001	7.19	0.004	0.03	< 0.001	0.013	8.07	0.1	0.002	< 0.001	< 0.001	< 0.001	4.50	0.142	< 0.001	< 0.001
888813 Dup					7.56	< 0.001	< 0.001	< 0.001	7.35	0.004	0.03	< 0.001	0.013	8.09	0.1	0.002	< 0.001	< 0.001	< 0.001	4.56	0.147	0.001	< 0.001
888814 Orig	17	15	5																				
888814 Dup	17	14	4																				
888820 Orig					0.83	< 0.001	< 0.001	< 0.001	0.41	0.010	0.01	< 0.001	0.213	16.6	< 0.1	< 0.001	< 0.001	< 0.001	< 0.001	0.73	0.083	< 0.001	< 0.001
888820 Dup					0.83	< 0.001	< 0.001	< 0.001	0.32	0.010	< 0.01	< 0.001	0.207	16.4	< 0.1	< 0.001	< 0.001	< 0.001	< 0.001	0.72	0.081	< 0.001	< 0.001
888826 Orig	9	10	4																				
888826 Dup	9	10	5																				
888833 Orig					6.87	< 0.001	< 0.001	< 0.001	6.31	0.004	< 0.01	< 0.001	0.004	10.8	1.1	0.003	< 0.001	< 0.001	0.001	3.68	0.198	< 0.001	0.001
888833 Dup					6.81	< 0.001	< 0.001	< 0.001	6.29	0.004	< 0.01	< 0.001	0.003	10.9	1.1	0.003	< 0.001	< 0.001	< 0.001	3.71	0.200	< 0.001	0.001
888836 Orig	11	13	6																				
888836 Dup	11	13	6																				
888842 Orig				79																			
888842 Dup				80																			
Method Blank					< 0.01				< 0.01					< 0.05	< 0.1					< 0.01			
Method Blank					< 0.01	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.01	< 0.001	< 0.001	< 0.05	< 0.1	< 0.001	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001
Method Blank					< 0.01	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.01	< 0.001	< 0.001	< 0.05	< 0.1	< 0.001	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001
Method Blank					< 0.01	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.01	< 0.001	< 0.001	< 0.05	< 0.1	< 0.001	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001
Method Blank	< 1	< 1	3																				
Method Blank	< 1	< 1	3																				
Method Blank	< 1	< 1	3																				
Method Blank	< 1	< 1	3																				
Method Blank				< 5																			

Analyte Symbol	Pd	Pt	Au	Rh	Al	As	Be	Bi	Ca	Co	Cr	Cs	Cu	Fe	K	Ga	Ge	In	Li	Mg	Mn	Mo	Nb
Unit Symbol	ppb	ppb	ppb	ppb	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Lower Limit	1	1	2	5	0.01	0.001	0.001	0.001	0.01	0.001	0.01	0.001	0.001	0.05	0.1	0.001	0.001	0.001	0.001	0.01	0.001	0.001	0.001
Method Code	FA-MS	FA-MS	FA-MS	FA-MS	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2
Method Blank				< 5																			

Analyte Symbol	Ni	Pb	Re	S	Se	Sb	Si	Sn	Ta	Te	Th	Ti	Tl	U	W	Zn
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Lower Limit	0.001	0.001	0.001	0.01	0.001	0.002	0.01	0.001	0.001	0.001	0.001	0.01	0.001	0.001	0.001	0.001
Method Code	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2
PTM-1a Meas	44.7			22.8												
PTM-1a Cert	47.44			22.4												
PTC-1a Meas																
PTC-1a Cert																
NIST 696 Meas																
NIST 696 Cert																
DTS-2b Meas							18.5									
DTS-2b Cert							18.4									
Oreas 74a (Fusion) Meas	3.09			7.18			15.2									
Oreas 74a (Fusion) Cert	3.24			7.25			15.14									
BIR-1a Meas							22.5					0.58				
BIR-1a Cert							22.33					0.58				
MP-1b Meas		2.00		13.6			16.9	1.58							0.104	16.1
MP-1b Cert		2.09		13.79			16.79	1.61							0.110	16.7
OREAS 101a (Fusion) Meas											0.003	0.40		0.042		
OREAS 101a (Fusion) Cert												0.395				
NCS DC73304 (GBW 07106) Meas				0.10			42.0					0.15				
NCS DC73304 (GBW 07106) Cert				0.086			42.24					0.16				
AMIS 0129 Meas							4.45					13.6				
AMIS 0129 Cert							4.47					13.75				
WMS-1a Meas																
WMS-1a Cert																
SARM 3 Meas											0.006			0.002		0.038
SARM 3 Cert																
NCS DC86303 Meas															0.047	
NCS DC86303 Cert															0.00089	
NCS DC86314 Meas								0.015							0.008	
NCS DC86314 Cert																
PK2 Meas																
PK2 Cert																
CPB-2 Meas		63.4														5.25

Analyte Symbol	Ni	Pb	Re	S	Se	Sb	Si	Sn	Ta	Te	Th	Ti	Tl	U	W	Zn
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Lower Limit	0.001	0.001	0.001	0.01	0.001	0.002	0.01	0.001	0.001	0.001	0.001	0.01	0.001	0.001	0.001	0.001
Method Code	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2
CPB-2 Cert		63.52														6.04
CZN-4 Meas		0.185		34.7	0.007		0.28									55.9
CZN-4 Cert		0.1861		33.07			0.295									55.07
OREAS 922 (Peroxide Fusion) Meas				0.37			31.4					0.44				
OREAS 922 (Peroxide Fusion) Cert				0.389			30.51					0.439				
OREAS 621 (Peroxide Fusion) Meas				4.40			28.0					0.18				
OREAS 621 (Peroxide Fusion) Cert				4.51			28.1					0.181				
CCU-1e Meas				36.4												
CCU-1e Cert				35.3												
888804 Orig																
888804 Dup																
888813 Orig	0.012	< 0.001	< 0.001	0.04	0.002	0.006	24.2	< 0.001	< 0.001	< 0.001	< 0.001	0.47	< 0.001	< 0.001	< 0.001	0.012
888813 Dup	0.011	< 0.001	< 0.001	0.04	< 0.001	0.006	24.6	< 0.001	< 0.001	< 0.001	< 0.001	0.48	< 0.001	< 0.001	< 0.001	0.012
888814 Orig																
888814 Dup																
888820 Orig	0.025	< 0.001	< 0.001	7.28	0.002	0.006	30.2	< 0.001	< 0.001	< 0.001	< 0.001	0.05	< 0.001	< 0.001	< 0.001	0.076
888820 Dup	0.018	< 0.001	< 0.001	7.35	0.002	0.006	30.1	< 0.001	< 0.001	< 0.001	< 0.001	0.05	< 0.001	< 0.001	< 0.001	0.072
888826 Orig																
888826 Dup																
888833 Orig	0.005	< 0.001	< 0.001	0.19	< 0.001	< 0.002	23.9	< 0.001	< 0.001	< 0.001	< 0.001	0.55	< 0.001	< 0.001	< 0.001	0.020
888833 Dup	0.011	< 0.001	< 0.001	0.18	< 0.001	< 0.002	23.7	< 0.001	< 0.001	< 0.001	< 0.001	0.55	< 0.001	< 0.001	< 0.001	0.020
888836 Orig																
888836 Dup																
888842 Orig																
888842 Dup																
Method Blank				< 0.01			< 0.01					< 0.01				
Method Blank	0.007	< 0.001	< 0.001	< 0.01	0.001	< 0.002	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001
Method Blank	< 0.001	< 0.001	< 0.001	< 0.01	0.002	0.005	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001
Method Blank	0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.002	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001
Method Blank																
Method Blank																
Method Blank																
Method Blank																
Method Blank																

Analyte Symbol	Ni	Pb	Re	S	Se	Sb	Si	Sn	Ta	Te	Th	Ti	Tl	U	W	Zn
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Lower Limit	0.001	0.001	0.001	0.01	0.001	0.002	0.01	0.001	0.001	0.001	0.001	0.01	0.001	0.001	0.001	0.001
Method Code	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2	FUS-MS-Na2O2
Method Blank																

APPENDIX IV

Stag Project, Claim Map 1:10,000