Report on the Historic Core and Outcrop Sampling, Assay Results and Geophysical Analysis at the Wawa Gold Project, Wawa Ontario.

August 9th to December 9th, 2014

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On behalf of

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And

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1.0 Summary

The professional services of Red Pine Exploration's team of geoscientists were employed on the Wawa Gold Project by Augustine Ventures to confirm previously reported assay results as well as to better define surface mineralization and structural control. Two field visits as well as geophysical data analysis and interpretation were carried out between August 9th and December 9th, 2014 in order to achieve these goals.

Although the assays from the re sampled core returned values that varied slightly from previously reported results, the variations were within an acceptable range considering the nugget effect associated with gold mineralization of this type. To address this effect with future sampling programs, it is recommended that metallic screen assaying be utilized in order to maximize the validity of results.

The outcrop sampling program found a good potential for developing a mine on the property with the numerous showings and outcrops. Alterations associated with the various shear zones appear to be localized to rocks around shears and not pervasive into country rock.

The geophysical analysis showed an association between potassic alteration and the main structures associated with mineralization on the property. These findings are in support of the property holding good potential to significantly expand the currently defined resource. It is recommended that future gold exploration utilize more detailed magnetic survey to identify structures controlling potential gold mineralization. This data however, will require tighter line spacing than the currently available magnetic data.

2.0 Introduction

At the request of Augustine Ventures Inc., Red Pine Exploration conducted two site visits to the Wawa Gold Project just outside of Wawa, Ontario between August 9th and December 9th, 2014. The objectives were to check historically reported grades and to provide an updated outlook on the mineralization within the property using modern techniques under the premise that this could lead to an improvement in both the grade and size of the gold resource.

3.0 Property Description and Location

The “Surluga” (now referred to as the “Wawa Gold Project”) is located 2 kms south and southeast of the Town of Wawa, Ontario. This is an area of significant historical and current gold exploration and production. At the time this work was performed, the property consisted of 205 patented claims and 32 unpatented claims covering 50.9 km^2 (figures 1 and 2).

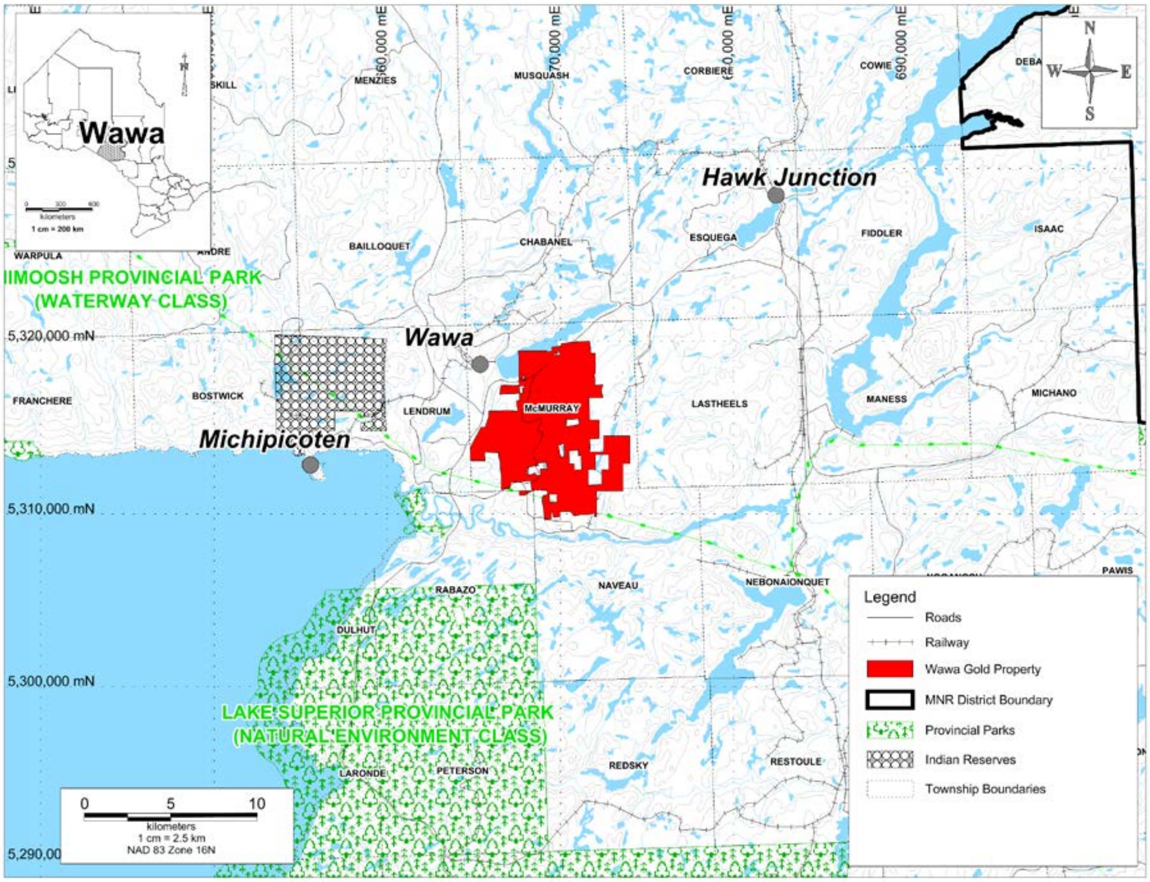

Figure 1: Regional Scale Map of the Wawa Gold Property

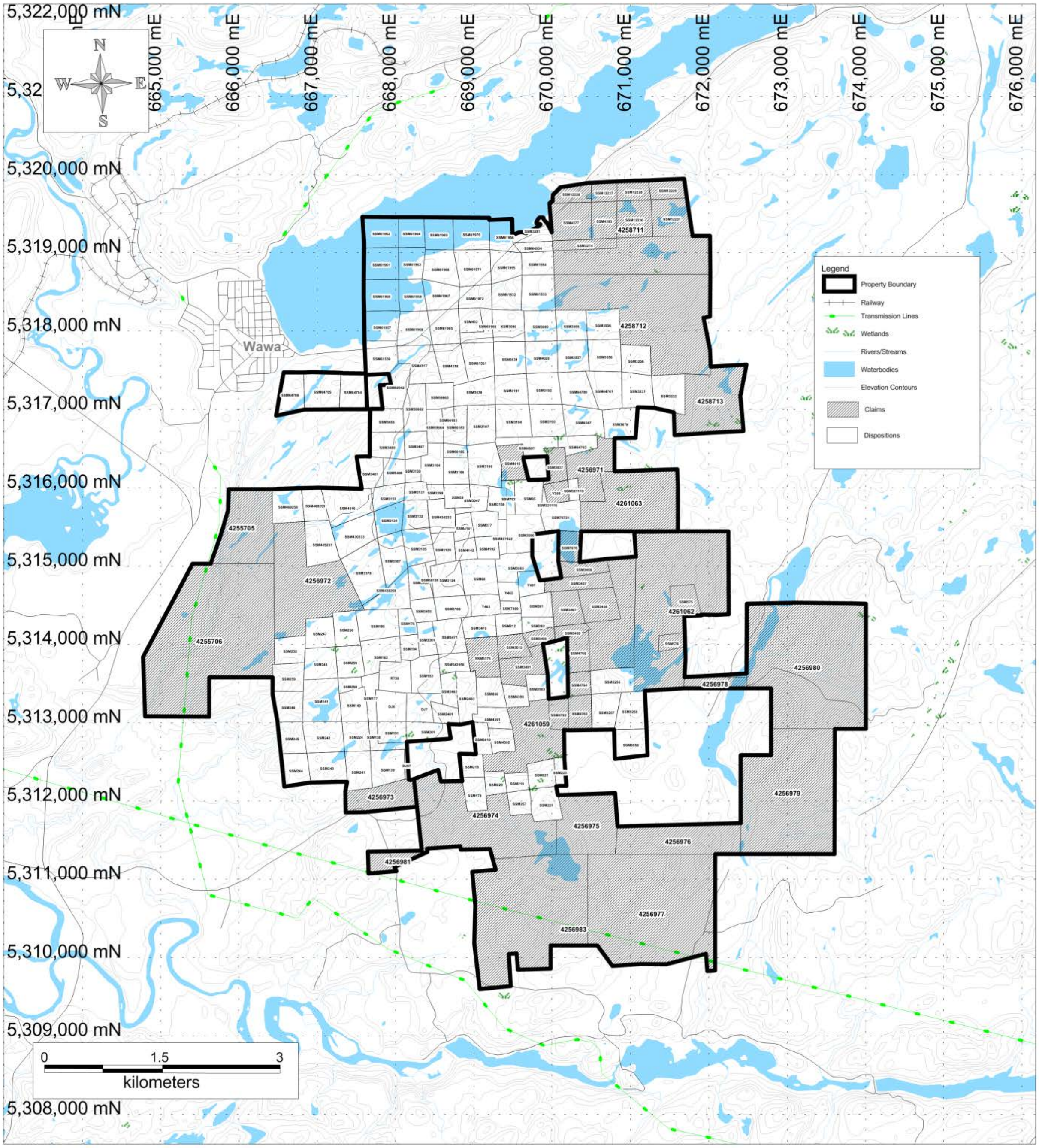

Figure 2: Wawa Gold Property Tenures

Historically the Property has hosted 8 past producing mines with a combined production of over 120,000 ounces. Currently the Property features an inferred gold resource ("The Surluga Deposit") of 1,072,335 ounces at 1.49 grams per tonne contained in 22.355 million tonnes of ore that is open both along strike and at depth.

4.0 Accessibility, Climate, Local Resources, Infrastructure, and Physiography

4.1 LOCATION & ACCESS

The Town of Wawa is located on Highway 17 (Trans-Canada Highway), ~480 km east of Thunder Bay, Ontario, ~225 km north of Sault St. Marie, Ontario, and ~650 km northwest of Toronto, Ontario. The property can be accessed by driving 2 km East on Highway 101 from Wawa and then turning south onto a gravel road (known as the "Surluga Road") using a 2-wheel drive vehicle. During the winter months, the Surluga Road, the main access road into the property from Highway 101, is ploughed. Areas off the Surluga Road can be accessed with snowmobiles.

4.2 CLIMATE

The Property's proximity to Lake Superior has a significant impact on its climate. Environment Canada (http://climate.weather.gc.ca) has recorded weather details in Wawa since 1981. This data shows the warmest temperatures are in July and August with a daily average of 15° C and a daily maximum of 20.8° C. The coldest temperatures are typically in January with a daily average of −14° C and a daily minimum of −20.2° C). September and October see the most rainfall (~122 and ~107 mm, respectively) and the highest snowfall occurs in December (80 cm). Exploration can be completed on the property year-round.

4.3 PHYSIOGRAPHY AND VEGETATION

The Town of Wawa is located at elevation of 289 m above sea level. The Property itself is hilly with elevations ranging from 300 m to 400 m above sea level. Steep ridges also exist locally. The property is forested with spruce, pine, poplar and birch being the dominant species.

4.4 INFRASTRUCTURE AND LOCAL RESOURCES

Skilled and unskilled labour is available in Wawa because of the long mining history of the area. Wawa has a population of 2,975 persons (http://www12.statcan.gc.ca/census-recensement/2011).

A 230 kV power line crosses the southern part of the property and a second power line crosses the western part of the property. An airport exists in Wawa but no commercial flights are operated from it. Algoma Central Railway was acquired by Canadian National Railways and does not operate freight service between Sault Ste. Marie and Hearst any more. Passenger service still exists to Hawk Junction, 23 km northeast of Wawa, but is scheduled to end in 2015.

Sufficient water is available from lakes and streams on the property. Surface rights for a large part of the property is held by Augustine Ventures Inc. and Citabar Limited Partnership (a joint venture partner acting by and through its sole general partner WAWA GP INC.) and are sufficient for any potential mining operation.

5.0 Geological Setting and Mineralization

5.1 REGIONAL GEOLOGY

The property is located in the Michipicoten greenstone belt of the Wawa Sub province (Superior Province); the world’s largest Archean craton. It formed by an amalgamation of sub provinces of various origins (plutonic, volcanic-plutonic, gneissic, and sedimentary) (Polat and Kerrich, 2000). The sub provinces range in age from 3.0 to 2.65 Ga. The Wawa Sub province extends from Minnesota in the west to the Kapuskasing structural zone in the east (Figure 3). The Quetico sub province is located to the north of the Wawa sub province and the south-eastern boundary is represented by the Batchawana fault zone. The southern boundary is located under Lake Superior.

Two areas of greenstone belts characterize the sub province: one along its northern border and one in its central parts. The latter area includes the Michipicoten greenstone belt.

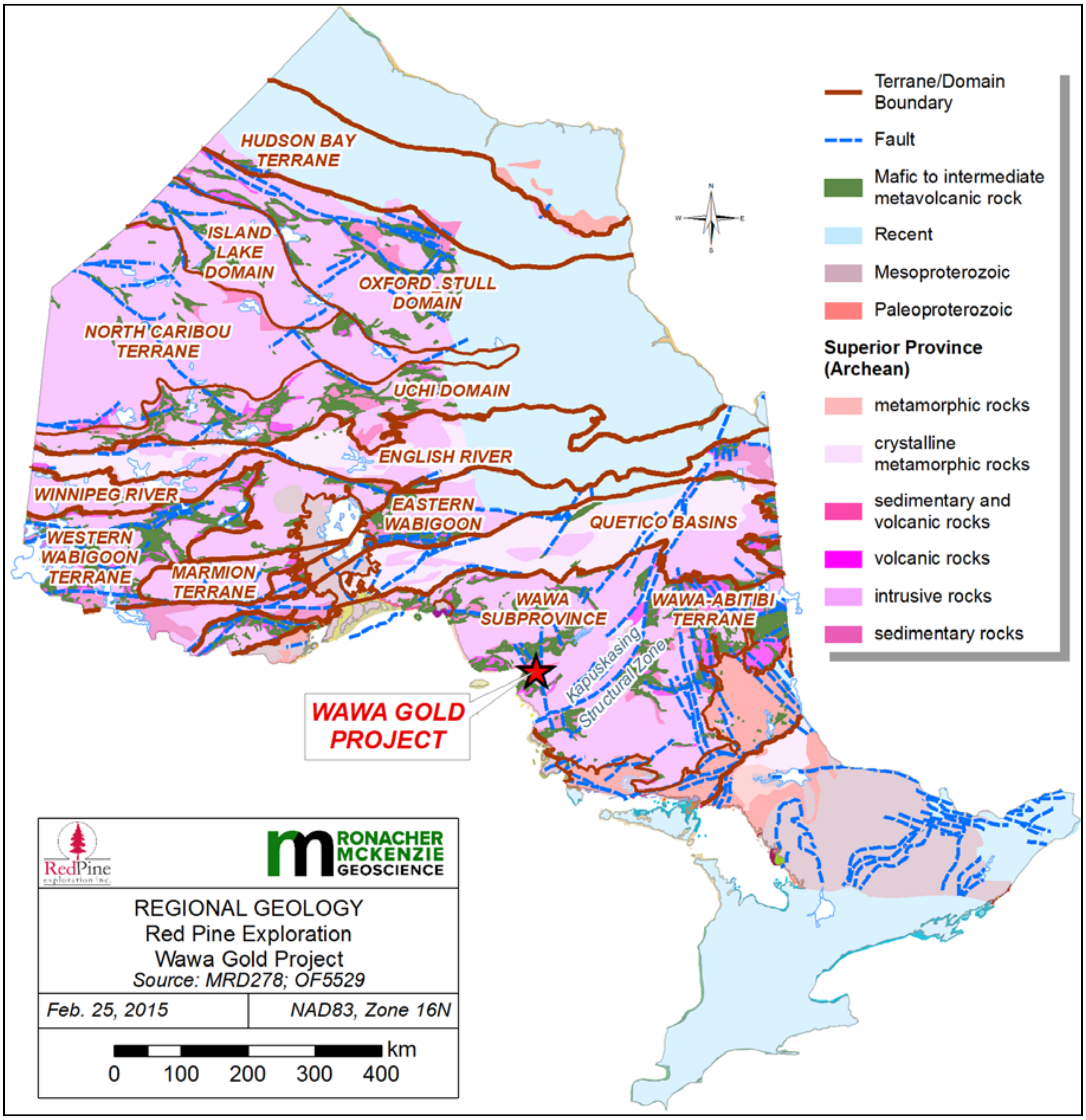

Figure 3: Regional Geology Map

5.2 LOCAL GEOLOGY

The Michipicoten greenstone belt consists of three cycles of mafic and felsic metavolcanic rocks with associated sub volcanic intrusions and metasedimentary (Sage, 1994). The ages of the three cycles are 2.9 Ga, 2.75 Ga and 2.7 Ga. The two older cycles are capped by extensive iron formation. The composition of the mafic volcanic rocks ranges from basaltic to komatiitic; the youngest mafic volcanic rocks are tholeiitic. The Hawk Lake Granitic Complex and the Jubilee Lake Stock are the intrusive equivalents to the felsic portions of the two oldest cycles and represent the centres of calderas. The granitic stocks are located along a regional structure, the Wawa–Hawk Lake–Manitowik Lake Fault (Figure 4). Diabase dikes cut the supracrustal rocks. The Firesand River Carbonatite intruded along the Wawa–Hawk Lake–Manitowik Lake Fault indicating that the fault is deep-seated. The fault forms the boundary between an area of extensive lamprophyres to the south and a lamprophyre-free zone to the north. Sage (1994) interpreted the greenstone belt to have formed as an island arc in a convergent plate margin environment.

The Michipicoten greenstone belt was metamorphosed to greenschist facies whereas the surrounding supracrustal rocks were metamorphosed to amphibolite facies. The greenstone belt is surrounded by Early Precambrian granite and gneiss. It is covered by extensive glacial material.

The Wawa Gold Project is located along the southern boundary of Michipicoten greenstone belt (Sherman, 2005).

5.3 PROPERTY GEOLOGY

A large part of the property is underlain by the Jubilee Stock, a high-level sub volcanic intrusion of variable composition (diorite to quartz diorite and granodiorite (Frey, 1987)) (Figures 4 & 5). The Jubilee Stock is fine- to medium-grained and locally porphyritic. It intruded into quartz-feldspar crystal tuff at 2.745 Ga. Intrusive breccia occurs at the margins of the Stock. MacMillan and Rupert (1990) observed that the more massive and competent, central parts of the Jubilee Stock are associated with better gold grades, which they attributed to a locally favorable stress field spatially associated with the competent blocks.

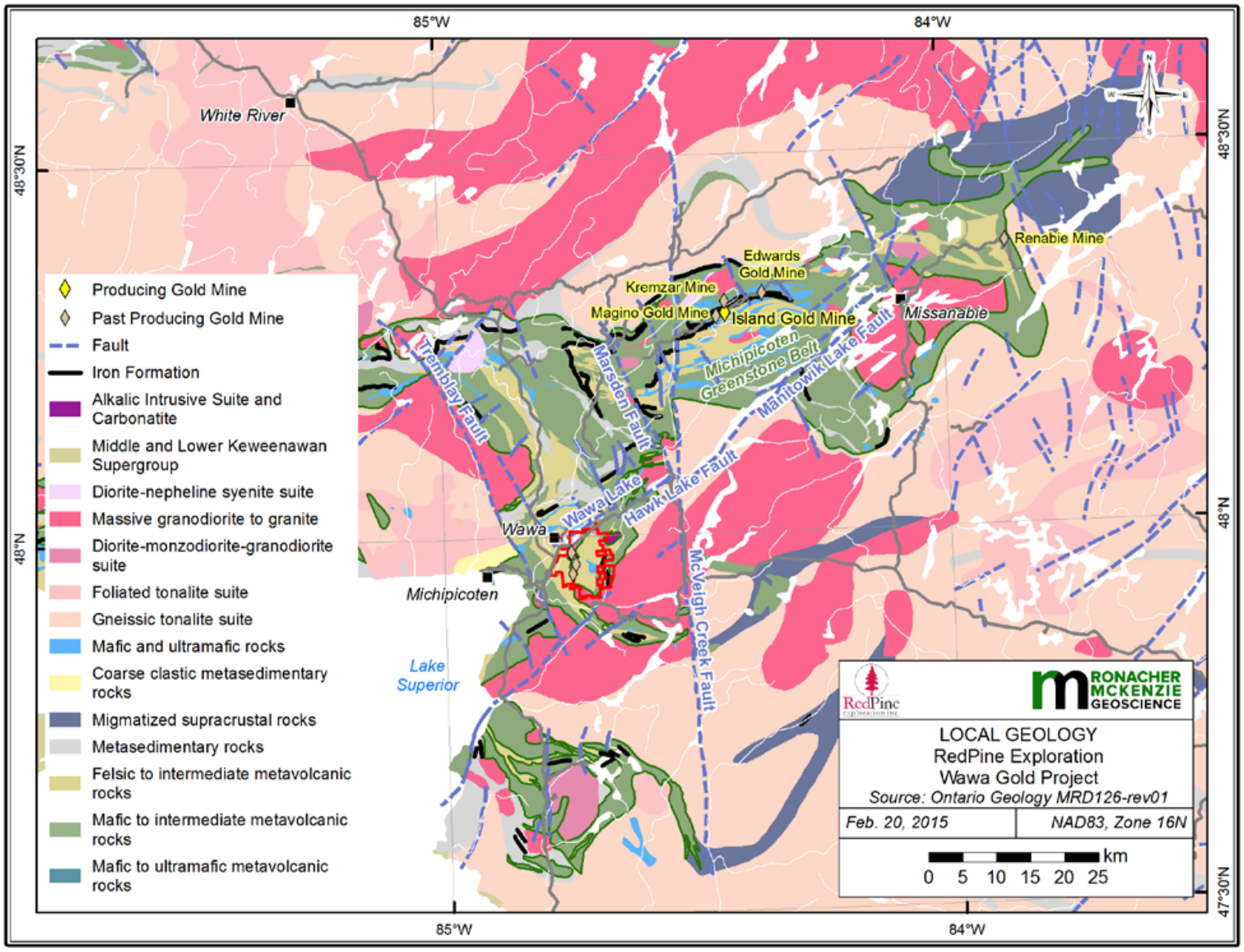

Figure 4: Local Geology Map (the Wawa Gold Property is outlined in red)

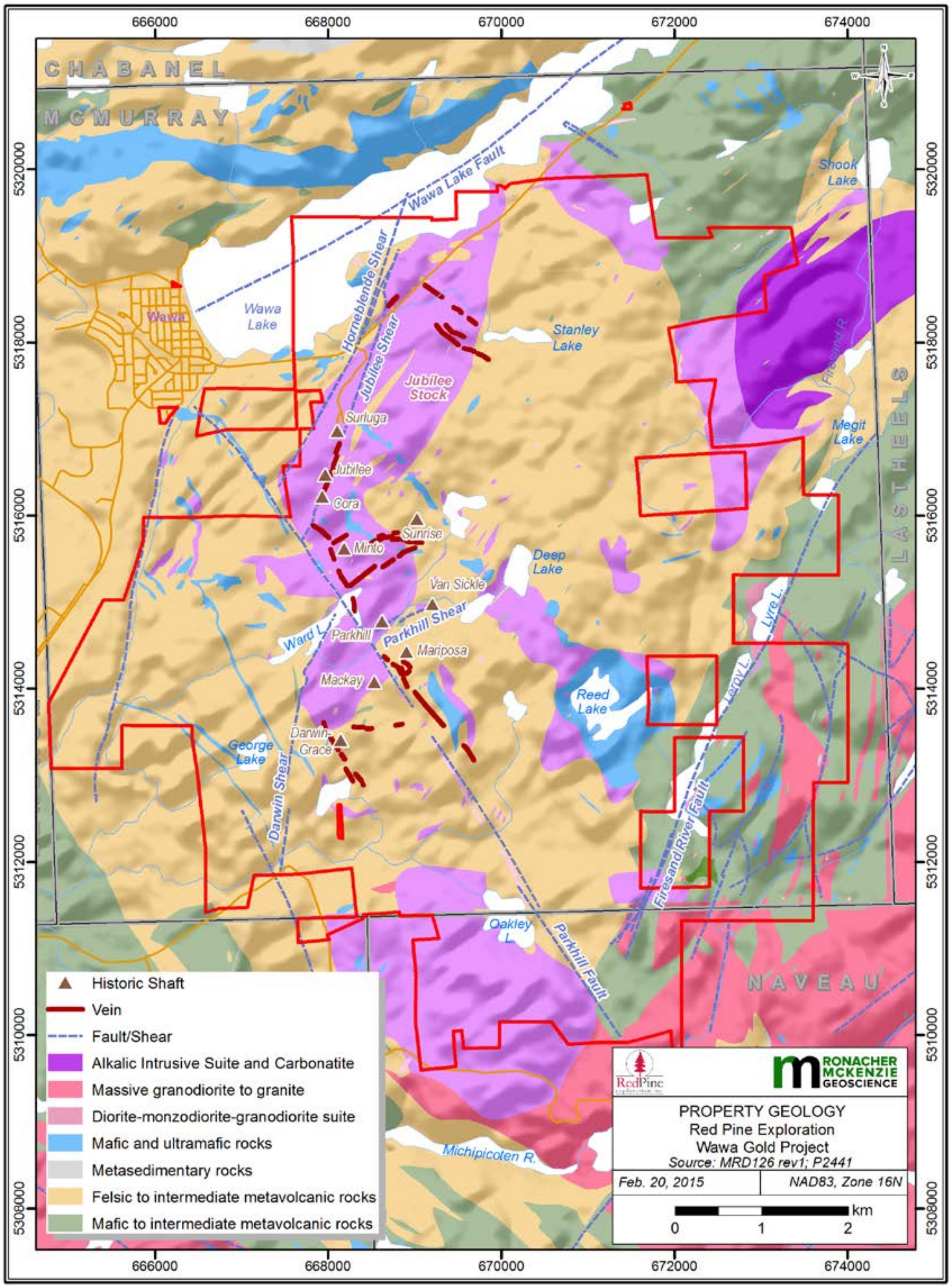

Figure 5: Wawa Gold Property Geology Map (the Property is outlined in red)

5.4 STRUCTURE

The structural setting on the property is complex and characterized by numerous fractures and faults of variable strikes and dips. The dominant directions of structural features, e.g., faults, joints, quartz-gold veins and zones of weakness intruded by dikes, is northeast (20°–45° and 45°–70°) and northwest (320°–340°) (Frohberg, 1937). Examples of northeast striking faults are the prominent Jubilee shear zone, the Darwin shear, which is interpreted to be the offset extension of the Jubilee shear, and the Minto fault (Figure 5). The Parkhill fault is an example of a northwest striking feature.

Diabase dikes post-date gold mineralization. Lamprophyre dikes cut the diabase dikes.

The Jubilee shear zone, which hosts the majority of the mineralization at the Surluga Mine, consists of a number of parallel, ~300–900 m long en-echelon segments (Rupert, 1997). It strikes northeast (018°) and dips 40° to the southeast. Its width ranges from 9 m to 60 m. It extends from Wawa Lake to the northwest-trending Parkhill Fault (3.2 km); its southern continuation, the Darwin Shear Zone, extends another 2 km to the southwest (Rupert, 1997; MacMillan and Rupert, 1990). The Jubilee Shear Zone was interpreted to be an oblique thrust fault with the hanging wall moving up and north (Helmstaedt, 1988). It is not exposed north of Wawa Lake and is assumed to be truncated by a NW trending fault under Wawa Lake (Helmstaedt, 1988).

5.5 MINERALIZATION

Historically, mineralization has been found at various locations on the property as is evidenced by the eight past-producing mines. The mineralization is spatially associated with the major shear-zones on the property.

Gold mineralization is finely disseminated in quartz veins, lenses and pods within shear and breccia zones in various rock types (Frey, 1987). This lack of preference of the gold mineralization for a particular rock type is typical of the mineralization in the area. Re-crystallized quartz and minor amounts of sulfides are also characteristic of the mineralization found here. Gold in wall rock on the other hand, is not common.

Frey (1987) interpreted the rock competency to have a major impact on the character and location of the mineralization. According to Frey (1987) gold occurs within the NE (20°) trending Jubilee shear zone and dips between 30° and 40° east. However, Sherman (2005) stressed that most historical deposits are hosted by quartz lenses located east of the Jubilee shear zone. In addition, mineralization also occurs in the hanging-wall of the Jubilee shear zone.

Rupert (1997) describes the ore zones to consist of thin lenses of <2.5 cm to 6 m thickness, 4.5–15 m length and 3 to 12 m width. They occur in clusters and are arranged in an echelon manner, which made it difficult to target them by drilling. Two to 4% pyrite and minor arsenopyrite and chalcopyrite were also reported; strong silicification is associated with the mineralization. The lenses consist of banded, smoky quartz that is often folded and deformed. Younger, barren quartz veins also occur. Helmstaedt (1988) suggested that the ore zones appear to be lenses because the maximum elongation direction during ductile shearing was oblique to the trend of the Jubilee zone.

Kuryliw (1970) reported the mineralization to be zoned from white quartz-tourmaline-gold to grey quartz-pyrite-gold to blue-grey quartz-arsenopyrite-gold with increasing gold grades from quartz–tourmaline to quartz–gold.

The continuity of the mineralization between the various historic mines on the property is uncertain due to lack of drilling data.

6.0 Exploration and Production History

6.1 PRIOR TO 2007

Prior to 2007, exploration drilling along the Jubilee Shear consisted of 49,549 m of diamond drilling in 279 surface holes, and 48,768 m in 1,502 underground diamond drill holes. Most of the holes are documented on plans and sections that were drawn in the course of mine production. In addition, Augustine has been able to locate some surface drill hole collars where there are records of surface holes being drilled. This suggests good survey control of the historical drilling in the database. The underground workings are not currently accessible, so the quality of the underground drilling must be inferred from the quality of the available data, which seems to be good.

An exploration and mining history of the property was summarized by Rupert (1990) and is outlined below:

- 1880s: Numerous mining locations acquired in the area by "Princes of Commerce". Very few technical records
- 1895: The Ontario government adopted a claiming system to encourage mining title acquisition by other classes of citizens
- 1897-1902: A staking rush occurs in the Wawa area. Most local prospects are reported as “legally defined new discoveries” in this period

- 1901: Grace Mine (Algoma Commercial Co.) started operations
- 1899-1903: Mariposa and Minto shafts were sunk
- 1902: Longbottom and other veins were located near the Parkhill mine but their development was deterred by property boundaries
- 1901-1912: Intermittent production from the Grace mine
- 1920-1922: Many claims in the area were abandoned
- 1922-1926: The area was re staked and heavily promoted, primarily by the Power and Mines Syndicate and Corporation, owner of the Grace mine, the Michael Syndicate, part owner of the Parkhill, Minto, and Jubilee mines, the Pioneer Mining Corporation, part owner of the Parkhill mine, and Cooper Gold Mines Limited, part owner of the Minto and Jubilee mines
- 1930-1938: Parkhill Gold Mines Limited sank a shaft and produced gold from the Parkhill mine
- 1930-1934: The Minto mine produced gold for Minto Gold Mines Limited
- 1934-1939: The Jubilee mine was operated by Minto Gold Mines Limited
- 1934-1937: Darwin Gold Mines Ltd. produced gold from the Grace mine
- 1961-1987: Surluga Gold Mines (later renamed Citadel Gold Mines) explored the property north of Ward Lake, and developed the Surluga mine. Production began in 1969. Over 350 surface and 900 underground diamond drill holes were bored
- 1980-1986: Dunraine Mines Limited acquires the Parkhill mine and the V an sickle m ine, and drilled 39 additional diamond drill holes. The Parkhill mine was partially dewatered
- 1980-1983: Dunraine Mines Limited acquired the Grace mine property and drilled 37 diamond drill holes
- 1988: Citadel purchased the Parkhill and Grace mine Properties
- 1987: Citadel optioned the Vashaw claims
- 1988-1990: Citadel conducted surface stripping programs on the Parkhill, Darwin

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and Vashaw claim groups

- 1987-1989: Citadel diamond drill program included one hole along the Darwin Shear and 5 holes along a suspected splay off the Darwin Shear, north of Ward Lake

- 1989: Citadel produced gold from the Surluga mine for 8 months. The tailings area was developed at Minto Lake. On closing, the remaining resources were estimated at 710,000 short tons at a grade of 0.125 oz/short ton. WGM has not audited this estimate. This estimate is considered historical as it pre-dates the NI 43-101 standard. This historical estimate is presented here for historical completeness, and should not be relied upon

- 1989: Van-Ollie Mines Limited acquired the neighboring Van Sickle mine property. An extensive stripping program was conducted on the Van Sickle, Sunrise and Mickelson veins and 5,113 feet was diamond drilled in 30 holes

- 1996: Goldbrook Explorations Ltd. ("Goldbrook") optioned the Surluga Property to consider the potential for a large tonnage - low grade operation. Bowdidge used surface diamond drill holes to prepare an estimate of the grade and tonnage in the upper part of the Jubilee Shear. By using a lower cutoff grade of 1.03 g Au/t, and reducing all assays greater than 34.29 g/t to that value, Bowdidge estimated that the Surluga Property contained 9,319,000 tonnes grading 1.75 g Au/t. It should be noted that the Bowdidge estimate has not been audited, and, while the method used is valid, the estimate pre-dates the NI 43-101 standard. This historical estimate is presented here for historical completeness, and should not be relied upon

- 1998: The Ontario Geological Survey flew the Surluga Property as part of a helicopter-borne geophysical survey. A Magnetic and three frequency electromagnetic datasets were recorded

- 2004: Mr. Peter Irwin of Resource Data Management Inc. ("RDM") compiled a three dimensional model of the Surluga mine for Citabar. RDM used the existing drill hole database and digitized the mine levels from mine plans. Mineralized zones greater than 1 g Au/t were outlined. The model highlighted the potential for mineralization down plunge to the south- east of the existing mine workings. Citabar then drilled 9,282 m in 14 diamond drill holes to test the model

6.2 2007 ONWARDS

6.2.1 2007 Drill Program

There were 12 diamond drill holes and three wedged holes drilled in the summer and fall of 2007 totaling 8,401 m of core. All the holes were NQ size, except for hole 07-393B which was reduced to BQ size because of problems with the wedging procedure. The drill holes targeted the down dip extension of the Jubilee Shear zone.

Down hole surveys were carried out 4 or 5 times in each hole, more often when wedging was being attempted. Deviation was within reasonable limits. Core logging was completed on site by three different geologists. Augustine has noted a large discrepancy between the nomenclature used by each of the geologists and therefore proposed to re log and resample the core. A lack of storage space prompted Citabar to dispose of some of the core that was considered to be un-mineralized.

6.2.2 2011 Drill Program

In the spring of 2011, Augustine conducted an 18 hole drill program to verify the historical data on the Surluga claims. Five of the holes were set to target the mineralization around the Citadel Jubilee mine, while the remaining 13 holes were designed to twin existing diamond drill holes. Discovery Diamond Drilling Ltd. of Morinville AB was contracted to drill 2,944 m of NQ size core. The holes were surveyed every 10 m down the hole using a Flex-IT® down hole survey tool. The drill hole collar locations were located with a SXBlue WAS Area based GPS survey instrument. The core was transported by Augustine personnel by truck to the core shack in Wawa, where it was logged and sampled.

6.3 Production History

The property's production history is listed in Table 1.

Table 1: Past Producres on the Wawa Gold Property (Rupert, 1990)

Company	Mine	Years of Operation	Tonnes Milled	Recovered (kg Au)	Grade (g/mt Au)
5 Companies	Grace-Darwin	1902-1937	41,302	548.5	13.3
Mariposa GML	Mariposa	1904	8	0.6	72.4
Minto GML	Minto	1930-1934	57,335	661.5	11.5
Cooper GML & Minto GML	Jubilee	1929-1939	107,930	463.9	4.3
Parkhill GML	Parkhill	1929-1938	114,096	1689.1	14.8
Canfield & Smith	Van Sickle	1935-1936	8,372	53.2	6.4
Minto GML	Cooper	1938	4,435	50.6	11.4
Surluga GML & Citadel GML	Surluga	1968-1991	86,082	268.4	3.1
Total			**419,559**	**3,735.8**	**8.9**

7.0 Current Exploration: Core and Bulk Re-Sampling, Assays, Surficial Mapping and Geophysical Interpretation

7.1 Sampling Design

Upon the request of Augustine Ventures, Red Pine Exploration began reviewing historic activities at the Wawa Gold Project. Following the review of historic and current reports, 2 field visits were made to first assess site conditions, identify and geo reference borehole locations, and re-sample core to check the quality of previously reported assay results and then to sample and document outcrops.

7.1.1 Site Visit 1: Historic Core Re-sampling

The initial site visit was carried out from September 3rd to 5th, 2014 by Jean Francois Montreuil and Blake McLaughlin, both of Red Pine Exploration. A total of 5 samples were taken from the 2011 drill core to confirm the reported grades from previous assays. The drill collar locations from which the core samples originated were geo referenced and are identified in Figure 6. These samples were specifically selected to test the range of gold grades from the property in an attempt to identify any analytical issues for different grades.

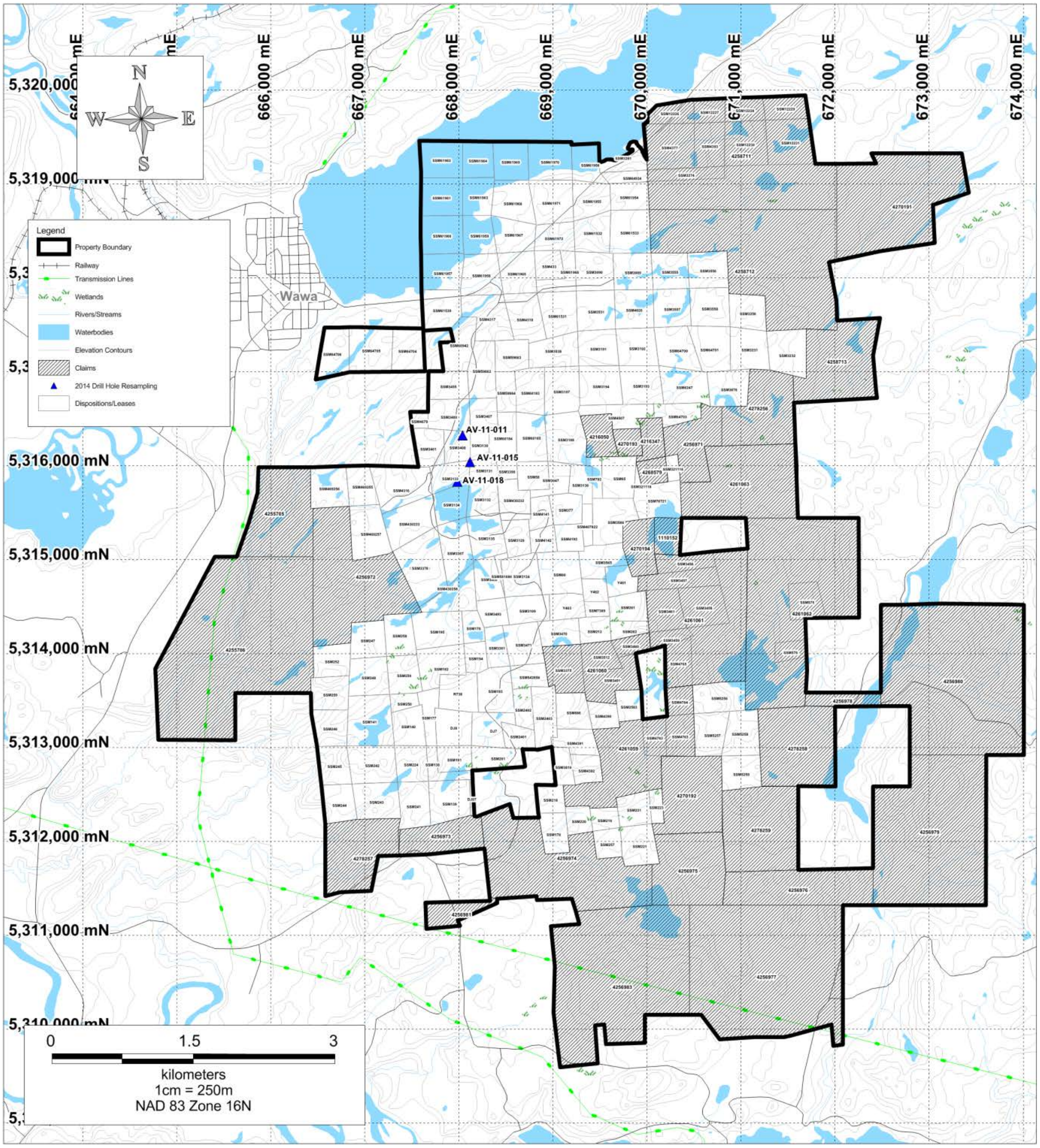

Figure 6: Drill collar locations of re-sampled core

7.1.2 Site Visit 2

A second site visit was conducted from September 29th to October 3rd, 2014 by Brad Leonard and Gord Hume with input from Dr. Ed Walker and Jean Francois Montreuil. The focus was on surficial mapping and sampling of a select group of known gold occurrences, historical surface showings, and past producing gold mines that comprise the Surluga property. The objective was intended to locate the historical surface work in a modern coordinate system and re-sample these locations. Special attention was also placed on sulphide content of observed lithotypes away from known gold occurrence as well as structural fabrics.

Each area visited was sampled as well as photographed. A memo (The Required Geological Fieldwork: Surluga Property) was provided by Jean Francois Montreuil to form structure and guidance to the field investigations (Appendix 4).

The samples were then submitted for analysis to increase confidence of historically reported results. Time was a limiting factor so the historic surface showings chosen to visit were selected based on ease of access. Detailed structural measurements were also collected at these surface showings to provide more information regarding orientation of gold bearing units below surface.

Samples were collected in the field and the majority of weathered material was removed. These samples were then placed in plastic sample bags with a lab ID tag, zip tied closed and put in groups of 5, in rice bags for transport. The samples were then transported to the RPX office in Toronto personally by Brad Leonard. Samples were reviewed and then transported to Act Labs facility in Ancaster, Ont. by a RPX staff member for analysis.

7.2 ASSAY ANALYSES

The samples collected by Red Pine personnel were brought to the RPX office in Toronto and subsequently transported to Act Labs facility in Ancaster for analysis. RPX staff transported the samples personally in a truck from Toronto to Ancaster.

7.2.1 Re Sampled Core

The sections of core were chosen to represent a range of gold values from trace to high grade (18.2 g/t). The samples were assayed by Act Labs at their Ancaster facility. The assay method was: Code 1A2 Au - Fire Assay AA, Code 4C (11+) Whole Rock Analysis-XRF, Code UT-4-Red Pine Total Digestion ICP/MS

7.2.2 Outcrop Samples

The outcrop samples were analysed in the same manner as the re sampled core. They were also sent to the Act Labs Ancaster facility and were assayed using the same methods of: Code 1A2 Au - Fire Assay AA, Code 4C (11+) Whole Rock Analysis-XRF, Code UT-4-Red Pine Total Digestion ICP/MS.

7.3 GEOPHYSICAL INTERPRETATION

A geophysical data set already exists for the Wawa Gold Project in the form of a historic VTEM survey (time domain electro-magnetic) and regional magnetic data. The available information on the VTEM survey suggested the data had not undergone any interpretation. These data were initially modeled by Quentin Yarie to emphasize conductors. However, this approach did not offer any insights into either the mineralization or the structures on the property. The EM data was then inverted into a 3D resistivity layered earth model which provided some information on the structures across the property and can be seen in Figure7. The main conductor modeled is in the south east portion of the property and does not appear to have a direct association to known gold mineralization on the property. It does however exhibit a strong response and warrants follow up ground prospecting to determine what rock properties, if any are causing the strong response. This type of conductive body is typical of semi massive to massive sulphides.

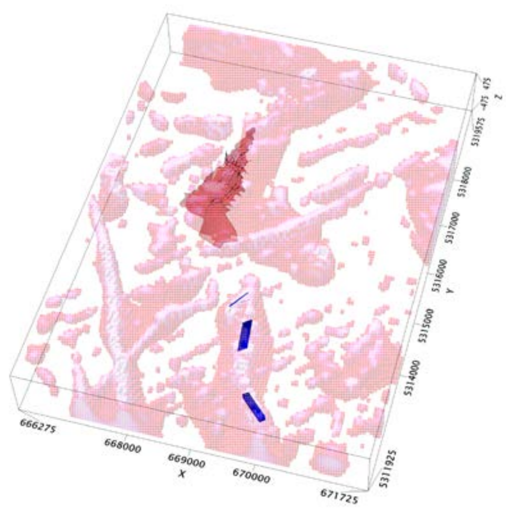

Figure 7: 3D Inversion of VTEM data with Surluga resource shell

The regional magnetic data that is available in the public domain was also analyzed. The data appeared to correlate well with dominant structural features on the property but due to the regional nature of the survey, the resolution was too low. A higher resolution magnetic survey is recommended to better define the main structures on the property as well as more subtle ones which were previously un recognized.

8.0 Results and Interpretation

8.1 SAMPLING AND ASSAY RESULTS

8.1.1 Site Visit 1

Five samples were collected during the first site visit for analysis. These samples were selected to test a range of low to high grade intersections. Table 1 shows the grade comparison of these samples. All samples were assayed with a whole rock geochemistry package in an attempt to gain a better understanding of lithologies and alteration associated with the mineralized intervals. A complete spreadsheet of the multi element analysis can be found in Appendix 1.

Table 2: Grade comparison from select samples of 2011 drilling

Claim IDI	Hole	Northing	Easting	Elevation	ActLabs ID	Aug ID	From	To	Original assay g/t	Check assay g/t
SSM3408	AV11-015	668118	5316040	374.93	022301	1036089	211.84	212.32	18.62	14
SSM3408	AV11-015	668118	5316040	374.93	022302	1036065	201.59	202.12	1.67	0.903
SSM3408	AV11-011	668036	5316326	372.32	022303	970227	57.96	58.49	5.86	5.05
SSM3133	AV11-018	667981	5315830	346.08	022304	970397	154.14	154.51	7.69	6.92
SSM3133	AV11-018	667981	5315830	346.08	022305	970403	156.84	157.2	0.03	0.296

The results outlined above in table 2 show that the initial assays (original assay g/t) and the check samples (check assay g/t) are within reasonable ranges of each other considering the nugget effect commonly accepted in gold deposits of this type.

Along with grade confirmation, alteration associated with gold mineralization was also examined. The geochemical assay results as well as field observations potentially show a direct correlation between gold mineralization and potassic alteration (K-feldspar and/or sericite). This can be seen in figure 7 and is supported by the assay results (Appendix 1).

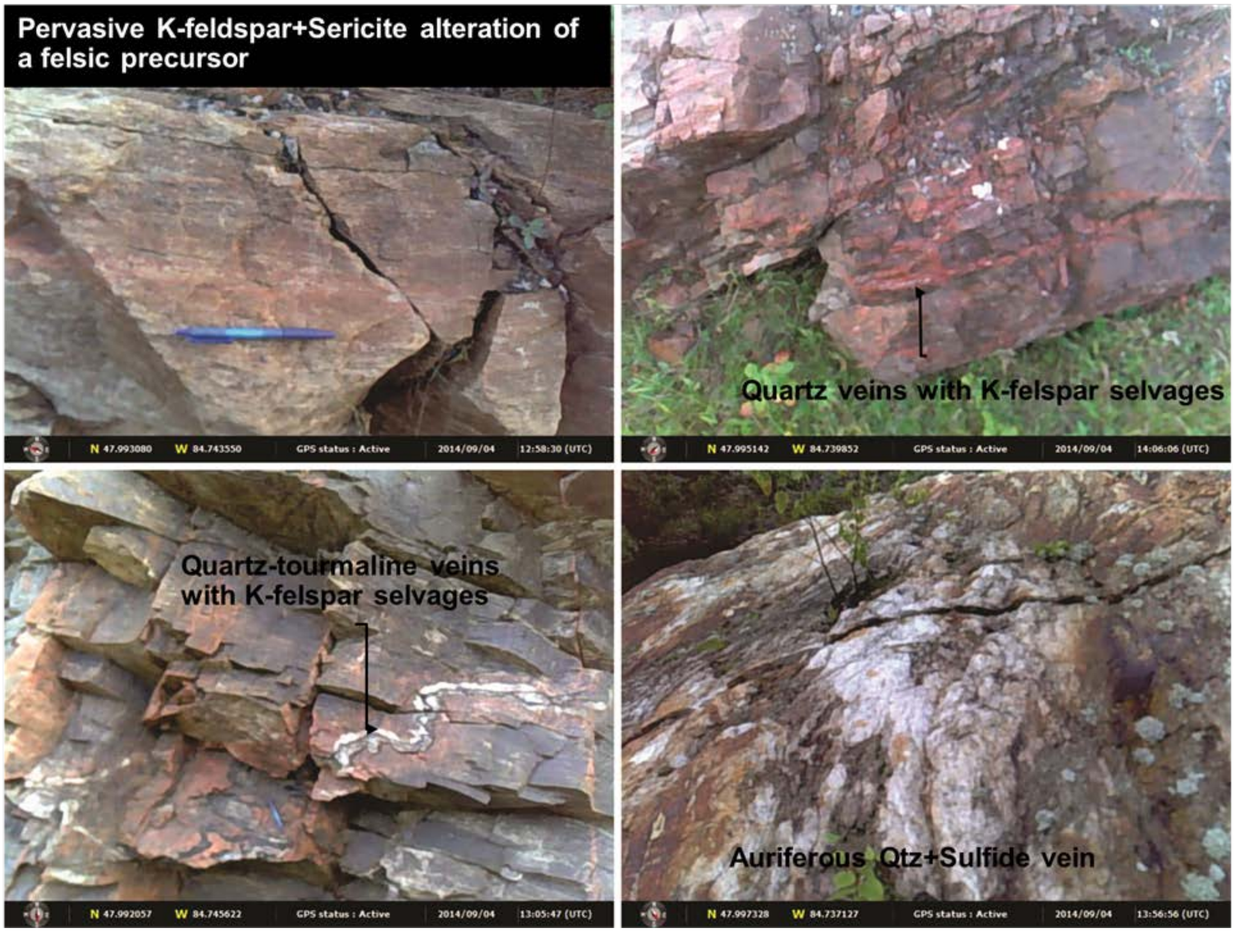

Figure 8: Typical alterations observed on initial site visit at the Wawa Gold Project

8.1.2 Site Visit 2

A second site visit was conducted between September 29th and October 3rd, 2014 by Brad Leonard and Gord Hume with input from Dr. Ed Walker and Jean Francois Montreuil. The focus was on surficial mapping and sampling of a select group of known gold occurrences, historical surface showings, and past producing gold mines that comprise the Surluga property. Special attention was also placed on sulphide content of observed lithotypes away from known gold occurrence as well as structural fabrics.

A total of 61 samples were collected and 150 photos taken (Appendix 6). Figures 8 and 9 illustrate the sample locations and grades confirming gold mineralization on a property scale. All assay results can be found in Appendix 1. Structural measurements were also taken to better constrain and understand the structural model of the gold mineralization. The sample locations, descriptions and grades can be seen in Appendix 2, the structural measurements in Appendix 3, and the photos in Appendix 6. A summary is also provided below. Please note that the MNDM map P2441 (Precambrian Geology of McMurray Township - Sage et al, 1982 was used as the base reference for the field examinations. All rock types listed in this report are consistent with the geological codes on map P2441.

Jubilee Shear Zone (JSZ) on Hwy 101

The Jubilee shear Zone (JSZ) is visible along south portion of Hwy 101. Data collected from GPS pt 43 illustrates a 1 to 1 ½ metre thick shear zone (approximate measurements – 060º/40º S) in an intermediate to felsic tuff host rock. The intermediate felsic tuff host rock is comprised of quartz eyes in a massive, fine to medium grained chloritic, sericitic matrix. Sheared material is very well foliated and occurs as fault gouged rock with minor carbonate. As is evident from photo 205, the JSZ itself is comprised of thin shears and more massive host rock (hammer points north). No sense of movement along the SZ could be made at this location, nor were any mineral lineations evident defining a possible plunge along the JSZ. Photo 206 is a close up of a portion of the JSZ. As is evident from photo 206, brown to red-brown alteration from Fe and K alteration is relatively confined to the JSZ. The more massive quartz eye tuff material is silicified and sericitized.

No sulphides were visible in the dyke or along the margins. Trace to 1% fine disseminated pyrite is present in the Jubilee stock and along the JSZ. Locally, the quartz eye tuff is well foliated where the JSZ passes thru.

Also at the same point on a vertical face of Hwy 101 is a 1.25 m thick gossanous mafic to ultramafic dyke approximately E-W trending /steep south dip. Sulphides are present in the dyke 1-3% disseminated amorphous pyrite blebs and disseminations (photos 207, 208, 209 and 211).

10 metres west of the mafic to ultramafic dyke is 70mcm thick bull white quartz vein on the footwall side of the JZS (photo 210) in the quartz eye tuff. No sulphides visible in quartz or immediate surrounding host and shear. QV trends 040º dips 54º S.

Samples collected:

22306 – Composite grab across 60m cm of the JSZ seen in photo 206
22307 – Whole Rock sample of the 1.25 m thick Mafic to Ultramafic dyke.
22308 – Composite grab of pyritic material along south edge/contact of mafic dyke and tuff host rock (photo 211) at top of outcrop.

Photos taken:

DSC_0205; DSC_0206; DSC_0207; DSC_0208; DSC_0209; DSC_0210; DSC_0211

Wawa Goldfield

The Wawa Goldfield occurrence consists of a series of rough N-S trending, E dipping quartz veins in an intermediate to felsic tuff host. There are at least 2 adits; one is immediately on the south side of Hwy 101 and has been reconditioned as a bat sanctuary. The other (photo 212) is found uphill along trend of the quartz vein. The eastern margin of the Jubilee stock is found further east of this showing location.

In the area of GPS pt 48, a 1 metre thick white quartz vein was found trending 028^o/ approximately 35^o E, in a sheared felsic tuff host. Shearing was only local to quartz vein margins and foliation intensity rapidly decreased away from quartz vein margins to become more massive. No sulphides were observed either in the quartz or host rock.

In the area of GPS pt 49, the main Wawa Goldfield adit is located (photos 213, 214 and 215) (the actual adit location is approximately 12m S of GPS pt 49). Within the adit entrance, 2 quartz veins (photo 215a) are present within a sheared intermediate to felsic tuff host (photo 219). The veins are roughly 1 ½-2 m apart. The shear is oriented at approximately 020^o/60E and is roughly 60 cm to 1 m in width (photo 216 – hammer handle points roughly south). No visible mineral lineations are present along foliation plans to indicate any type of plunge.

The lower quartz vein (photos 217 and 218) is approximately 20-40 cm thick trending parallel to adit entrance and dipping approximately 50^o E

The upper quartz vein has the same trend and dip as the lower one but is only 10-20 cm thick. Both quartz veins have 1-5% locally disseminated pyrite as blebs and fine disseminations along the margins and along fractures within the quartz. The appearance of the quartz is mostly white with minor local laminated grey-blue coloured sections.

Samples collected:

WGF-14-22309 – composite grab of quartz vein along 12 m of adit entrance
WGF-14-22310 – WR sample of host on hanging wall side of shear (GPS pt 50)
WGF-14-22311 – composite grab of quartz vein with 1-5% disseminated pyrite
WGF-14-22312 – composite grab of 2nd quartz vein above quartz vein in sample 22311; 1-2% fine disseminated pyrite (photo 219)

Photos taken:

DSC_0212; DSC_0213; DSC_0214; DSC_0215; DSC_0215a; DSC_0216; DSC_0217; DSC_0218; DSC_0219

Mackay Point

Open cut trending NE-SW containing a series of NE trending quartz veins (photos 220 and 221 – both photos are looking north). At GPS pt 51, along the S side of the open cut is a 20-40 cm wide quartz vein (040^o/25^{o}SE) along a rusty gossanous zone (photo 223) approximately 50 to 60 metres in length (additional photos 224, 225, 226 and 227). A channel sample had previously been collected at this location. The quartz vein pinches and swells along its exposed length and is fine grained white quartz with local grey quartz weakly laminated, with 1-2% fine disseminated and blebby pyrite and minor chalcopyrite, trace arsenopyrite in a massive medium grained black diorite host rock. A sample of the host rock was collected (not yet tagged at the time the photo was taken, label on rock is “HOST ROCK”). Further west along s side of open cut in area of quartz vein at GPS pt 52 is more evidence of quartz vein along with a 10cm thick shear @040^o/50^{o}SE (photos 225 and 226). There is no evidence of mineral lineations along shear indicating a separate plunge. All platy minerals define strike and dip of shear.

GPS pt 53 starts the west end of the open cut and pt 55 was taken at east end of open cut.

At GPS pt 54, a heavy sulphide gossan area was observed 10 cm across by 30-35 cm long (photos 228 and 229) on a gossanous section of the north side of the open cut. There are many narrow (1 to 2 cm wide) en echelon quartz veins visible on the north face of the open cut (photos 220 and 221). Orientation of the heavy sulphide gossan area is the same as the quartz veining @ 060^o but the quartz veining appears to dip vertically.

Photo 232 illustrates NE trending the quartz veining. Orientation of the quartz is 040^o/30^{o}SE.

At east end of open cut is the same large quartz vein approximately 1 to 1 ½ m thick oriented approximately 040^o/40^{o}SE; one composite grab sample was collected at GPS pt 56 (photos 229, 230, 233, 234, 235, 236, 237). The sample was collected from white quartz with 1-2% fine disseminated pyrite. Within the quartz are random small vugs containing singly terminated quartz crystals and 1-2% fine disseminated pyrite (photos 229 and 230).

Host rock along margins of quartz vein show strong foliation, but fabric rapidly weakens within a few cm of the contact to the more massive appearance of the host diorite. There is no evidence of mineral lineations along quartz vein boundaries or within sheared host rock.

Samples collected:

M-14-22313 – 20-40 cm quartz vein with 1-2% fine disseminated pyrite, chalcopyrite, and trace arsenopyrite (?)

M-14-22314 – E end of Mackay pit, composite grab if rusty quartz vein in 5 m area.

Whole Rock sample not tagged, but labeled HOST ROCK

Photos taken:

DSC_0220; DSC_0221; DSC_0223; DSC_0224; DSC_0225; DSC_0226; DSC_0227; DSC_0228; DSC_0229; DSC_0230; DSC_0231; DSC_0232; DSC_0233; DSC_0234; DSC_0235; DSC_0236; DSC_0237

Cooper Mine

This area is an open cut that has been reclaimed (photo 238 and GPS pt 57). Open cut trends 340^{o}. Host rock is a granodiorite phase of the Jubilee Stock transitioning to a breccia (sub-rounded fragments in a coarse grained matrix – could be termed “roof pendants”).

Jointing is present on the outcrop trending 065/ vertical to steep north dip.

There is lots of quartz in the rubble pile close to the road containing abundant chalcopyrite (in some cases up to 10% within a single piece)

No samples were collected in this area

Photos taken:

DSC_0238

Surluga Mine

The area is a good example of a brown field site that has been reclaimed properly. GPS pt 58 was collected from the Surluga shaft vent (photo 239). There is little in the way of rock exposure in the shaft and surrounding area. Drill hole collars from the time of Citadel’s 2007 drilling have been covered over.

East of the shaft along a 2011 drill road (GPS pt 118), a narrow 10 cm thick white quartz vein was found in the host felsic tuff trending E-W and dipping steeply S at approximately 75^{o}. The quartz vein was offset by a series of thin annealed fractures in a left handed (sinistral) sense (photo 3595 – GPS is for scale only). Offset is approximately 15 to 20 cm.

At GPS pt 59, the Jubilee shear zone (JSZ) was observed (photos 240 and 241); the exposure of the JSZ at this location is roughly 1m in width. Shear orientation is 032^{o}/20^{o}SE. There are no obvious mineral lineations due to the nature of the exposure, but there appears to be a plunge to the south. The host rock is fine to medium grained sheared quartz diorite. Abundant biotite, sericite and quartz are present along with 1-2% fine disseminated pyrite. No obvious exposure of the unaltered host rock is present in this area. One sample was collected for whole rock examination.

Samples collected:

SM-14-22315

Photos taken:
DSC_0239; DSC_0240; DSC_0241

Cora Shaft

Augustine collected a gold value of 5 g/t from a grab sample of one of the quartz veins above the covered shaft shown in photos 242 and 243). This showing is located at the south end of Jubilee Lake where there is the best evidence of the Jubilee Shear Zone (JSZ).

The shaft vent is located at GPS pt 61. At GPS pt 62 (close to shaft vent), a 40 cm to 1 m white massive quartz vein is visible (040º/25ºSE), with 1-2% fine disseminated py in a strongly foliated host rock (JSZ) (photos 244 and 245). The quartz vein parallels foliation along strike and down dip and probably represents Vein 1 type. One grab sample across the quartz vein was collected. A whole rock sample was collected behind the vent shaft of the JSZ. Another sample was collected from the same quartz vein 3 metres further south. The quartz also appears to be fine grained and white with laminated grey streaks and 1-3% fine pyrite disseminations and blebs within the JSZ.

Minor kink banding is evident within the JSZ behind the shaft vent area, but it does not appear to be pervasive (photo 247 *the pen marks the axis*). The kink axis trends approximately E-W with a steep north dip. There are no obvious mineral lineations that would indicate any type of plunge to the kink. No obvious mineral lineations are visible along margins of quartz vein in a different orientation other than the platy mineral forming the foliation of the JSZ.

At GPS pt 63, the JSZ is through the host Jubilee Stock quartz diorite (photos 245 and 247). Measurements of the JSZ in this location are 040º/55ºSE. There is generally lots of hematitic staining along foliation planes of the JSZ as well as 1-2% fine disseminated py along with sericitic and biotitic minerals defining the foliation fabric as well as a brown to red-brown alteration overprint (k and Fe alteration). Foliation intensity drops off rapidly away from the main JSZ as well as the Fe and K alteration. A whole rock sample was collected in the FW of the quartz vein.

At GPS pt 64, there is a 1m thick quartz vein roughly 8 m stratigraphically below the quartz vein sampled behind the vent shaft (photo 248). The quartz is white and massive with trace sulphides in a more massive fine grained diorite host. The quartz vein appears to be slightly discordant to the strike of the JSZ and probably represents Vein 2 type. Photo 242a illustrates relative positions of all samples collected in this area as well as the quartz vein at GPS pt64.

Samples collected:

CS-14-22316 - 20-40 cm Quartz vein 1-2% disseminated pyrite
CS-14-22317 – whole rock sample HW of JSZ
CS-14-22318 – quartz vein
CS-14-22319 – Whole rock sample FW of JSZ

Photos taken:
DSC_0242; DSC_0242a; DSC_0243; DSC_0244; DSC_0245; DSC_0246; DSC_0247; DSC_0248

JSZ near drill hole AV-11-002

The JSZ is exposed along a drill road east of the Surluga shaft (photo 249 – *pen is for scale and does not point North*). The general appearance of the outcrop is weathered and well foliated ($010^o/40^oE$). GPS reading is 668276, 5316929. Shearing intensity decreases into a felsic quartz eye tuff host. The JSZ at this location has the same appearance as that exposed at the Cora shaft area (There is generally lots of hematitic staining along foliation planes of the JSZ as well as 1-2% fine disseminated py along with sericitic and biotitic minerals defining the foliation fabric as well as minor red-red brown alteration locally). The JSZ exposure at this location is approximately 1 m in width.

At GPS pt 65, there is a contact area between felsic tuff and Jubilee Stock diorite (photo 250). The felsic tuff is a buff to light brown colour, sericitic, carbonated and silicified, moderately foliated (trending approximately 010^o) fine grained with 10-15% small rounded bluish quartz eyes approximately 1 mm in size. There is no obvious penetrative fabric or mineral lineaments plunging along the foliation trend. The diorite is fine grained, blackish, massive and hard (silicified). A whole rock sample was collected of Jubilee Stock diorite.

At GPS pt 66 there is a massive portion of the Jubilee Stock diorite (photos 251 and 252). A whole rock sample was collected here as well.

Photo 253 (253a) is of the general area of AV-11-002 and the outcrop with the felsic tuff/Jubilee Stock diorite.

The following drill collars were found:

- Drill collar found at GPS pt 69 – BQ diameter; drill direction $270^o/82^oW$
- Drill collar found at GPS pt 70 – BQ diameter; collar pipe bent, but appears to be drilled steeply @270^o
- Drill collar AV-11-002 668270; 5316938; GPS pt 71, 72

Samples collected:
CS-14-22320 – whole rock sample of Jubilee Stock fg diorite

Photos taken:

DSC_0249; DSC_0250; DSC_0251; DSC_0252

Jubilee Shaft area

An area just off the road near a trenched area was prospected and examined for quartz veining and structural relationships with the JSZ and host Jubilee Stock. The trenched area is found at GPS pt 73 and 74 (photos 255 and 256). This is possibly the original Jubilee shaft due to the type of material around the depression as well as the relative position of the Jubilee Mine shaft symbol on the 1:10,000 LiDAR map that was provided (GPS position and map shaft symbol location are identical).

The host rock found in this location is a massive portion of the Jubilee Stock, being a fine grained massive black diorite (photo 254). Minor secondary narrow white quartz veins (nil sulphides) trending E-W are locally present.

At GPS pt 75 just off the access road to the east is the well foliated portion of the JSZ (025^{o}/40^{o}E) (photo 257). The rocks have a general rusty appearance with 1-2% fine disseminated pyrite along sericitic and chloritic foliation planes as well as a slight red-brown red cast due to secondary Fe and K alteration. At this location is a narrow (<0.5cm) well laminated discontinuous quartz vein. 1-2% fine pyrite is present along margins of quarts and sheared host rock (probable vein 1 type). The quartz vein is parallel to foliation. No dip determination could be made due to flat outcrop. A sample was collected (JS-14-22321). There are no visible mineral lineations illustrating a preferential plunge other than the platy minerals making the general foliation of the JSZ.

Roughly 2 m further east the host rock becomes much more massive to weakly foliated (HW of JSZ). The overall shearing intensity rapidly decreases away from the JSZ (GPS pt 76). The rock is a silicified, fine grained black diorite with feldspar laths (JS-14-22322 whole rock sample). Weak foliation is 020^{o}/ dip is moderate to the SE (difficult to determine true dip due to flat nature of outcrop). There is also a set of late brittle Fe, K linear fractures sub parallel to the overall foliation. Photo 258 is of the more sheared portions of the diorite. Also in this vicinity is an arcuate annealed fracture approximately 1 cm in width that appears slicken sided (photo 259 – hammer points N) trending roughly N-S and appears vertical, with the slicken sides plunging 45^{o}S (photo 260 is a close up of the slicken sides).

Further west at GPS pt77 (3 to 5 metres west) is the more massive phase of the Jubilee Stock away from the JSZ (FW side). The host is the fine grained black silicified diorite with 1-2% fine disseminated py. There are lots of rusty fractures trending 130^{o} approximately dipping 55^{o} to 60^{o} S (cannot accurately determine dip because outcrop is flat - photo 261). There is also a narrow 2-4 cm wide quartz vein trending roughly 100^{o}/78^{o}S with 2-5% fine disseminated and blebby pyrite throughout. The quartz is moderately to heavily fractured with limonitic and sericitic stain along fractures. There are also numerous black chloritic inclusions (could also be massive black tourmaline) (photo 262). There is also pervasive K alteration surrounding and penetrating the quartz vein and in the host diorite. The diorite is dark, fine grained silicified. Photo 263 is another look at the JSZ (looking south) just to the east of this area.

At GPS pt78 there is an example of deformation in the altered host diorite close to the JSZ. This area has a 010^o trending, relatively flat annealed fracture with slicken sided faces dipping approximately 20^{o}S (photo 264).

At GPS pt 78, further west of the JSZ, there is a massive fine grained quartz eye diorite moderately chloritized and silicified. In this area, there are E-W trending secondary brittle fractures (photo 265).

Samples collected:

JS-14-22321 –JSZ grab sample
JS-14-22322 – Whole rock sample of fg Jubilee Stock diorite HW
JS-14-22323 – Whole rock sample JSZ
JS-14-22324 – 2-4 cm thick quartz vein
JS-14-22325 – Whole rock sample of fg Jubilee Stock diorite FW

Photos taken:

DSC_0254; DSC_0255; DSC_0256; DSC_0257; DSC_0258; DSC_0259; DSC_0260; DSC_0261; DSC_0262; DSC_0263; DSC_0264; DSC_0265

Minto Mine Area

At GPS point 668190; 5315618 is the Minto shaft vent (photos 266 and 267 looking north). In the background of both photos is the Minto A zone vein set. En route to Minto A zone, we encountered a drill collar D07-388 (GPS pt 78).

Minto B Zone

At GPS pt 78/79, there is a stripped area (photo 272) of B Zone mineralization. The exposed area is approximately 50 m in length by approximately 20 m in width. Main features are the 3m wide shear zone trending approximately 070 ^{o} to 075^o and dipping steeply S (approximately 75^o) with a strong gossanous appearance (photos 269, 270, and 274; hammer handle points N) and an apparent rake of 50^{o}W (see below). Within the shear zone, limonitic staining is prevalent containing 1-5% fine disseminated and blebby pyrite (photo 268). Within the rusty area depicted in photo 268, there appears to be 1-2% fine silvery needles (arsenopyrite?). Two samples were collected of this feature. Effects of shear decrease rapidly away from shear zone, as illustrated in photo 269 (hammer hear closer to shear zone than handle

– hammer points N). There is no obvious bleaching or secondary alteration into the host rock away from the shear zone.

The other main feature of the exposed area is a large boudinaged quartz vein (photo 271; hammer handle points N) within the shear zone. The quartz is generally white in appearance, fractured, with 1-3% fine disseminated pyrite. There are also minor, narrower thinner quartz veins within the shear as well (up to 5 cm across). The main vein is also offset to the fault by approximately 3 m to the left (photos 272 and 273; GPS pt 81). The quartz vein trends parallel to the main foliation with a steep S dip. The narrow "lineament" defining the late stage brittle fracture trends approximately 140°. Photo 272 was taken looking along the shear zone in order to illustrate the shear direction, the quartz vein and the brittle offset of the quartz vein. The hammer handle is oriented parallel to the brittle fracture. The hammer handle head is within the quartz and the hammer photo points at the brittle fracture. The note book is within the offset quartz vein. Photo 273 was taken along the brittle fracture, with the hammer head within the quartz. The photo portion is pointing at the brittle fracture while the notebook in the foreground is in the offset portion of the quartz vein. As previously stated, measurements of the sheared host rock in the area of photos 272 and 273 are 070°/75°S with an apparent rake of 50°W (photo 274).

The unaltered host rock is a quartz eye porphyry (porphyry phase of the Jubilee Stock), with minor feldspar laths. Two whole rock samples were collected of the FW and HW host rocks at GPS pt 81 (photo 275 is on the HW side of shear zone approximately 2.5m from shear; photo 276 is on the FW side of shear zone 2m away from shear where the host is more massive; the small geological hammer handle points N).

Further east along the trend of the shear zone and quartz vein is a trenched area (photo 277, GPS pt 81, 82). At the east end of the trenched area, there is a good cross section of the shear zone (photo 278) along same trend (070°/75°S). The quartz vein extends at least another 100m further east along the trend (GPS pt 82 photos 279 and 280) within the shear zone. Quartz is generally milky white to light grey, with a massive, sugary texture and generally nil sulphides whereas the sheared wall rock contains tr-1% fine disseminated pyrite. Accuracy tag at this location (# 1003953)

Samples collected:

MZB-14-22326 Quartz vein
MZB -14-22327 whole rock highly sheared rock with aspy? Plus assay
MZB -14-22328 whole rock sheared qtz eye porph
MZB -14-22329 whole rock HW qtz eye porph
MZB -14-22330 whole rock FW qtz eye porph

Photos taken:

DSC_0268; DSC_0269; DSC_0270; DSC_0271; DSC_0272; DSC_0273; DSC_0274; DSC_0275; DSC_0276; DSC_0278; DSC_0279; DSC_0280

Minto A Zone

On the eastern shore of Minto lake, is the exposed area of the Minto Zone A vein set (photos 281 and 282) that appears to be approximately 10 m in width. General trend of the quartz veining is NW-SW and dipping eastward (160°/63°E) (photo 286 and GPS pt 83). However, an overall impression of the area feels more like a quartz vein-stockwork or a brittle deformation zone. Individual quartz veins pinch and swell (not boudinaged) and the quartz is general massive and white (no signs of re crystallization) and form a complex array (photos 286, 287, and 289), with almost a “herringbone” pattern (photo 289; photo taken looking north hammer handle points S). The branch of the quartz vein that is not along the trend with the foliation and shearing trends approximately 120°and dips steeply S. The quartz vein/shear system was prospected further north and it decreases in overall size (photo 290 taken looking S; the pen is pointing N and is sitting on the quartz vein). One composite grab sample of the quartz was collected.

On the east side of the exposure is a shear zone (160°/63°E) that drops off sharply into the water (photo 288 looking south) that is a white to smoky grey in colour, general fine to medium grained sugary texture and locally a faint laminated texture with 1-2% fine disseminated pyrite. One sample was collected.

Host rock is not deformed within the quartz flooded area and is a dark medium grained, silicified (hard) diorite with feldspar laths and minor quartz eyes and 2-5% fine disseminated pyrite. Outside of the quartz area, the sulphide content drops to tr-1% fine disseminated pyrite. One sample was collected for whole rock determinations.

Samples collected:

MZA-14-22331 Quartz vein
MZA -14-22332 whole rock diorite
MZA -14-22333 shear zone and quartz vein

Photos taken:

DSC_0281; DSC_0282; DSC_0285; DSC_0286; DSC_0287; DSC_0288; DSC_0289; DSC_290

Mickelson /Sunrise/Wilcox

Sunrise Shaft

GPS pt 83 and photo 291 are of the Sunrise shaft vent. There is a 7 m long trench filled with water, but a 50 cm to 1m wide E-W trending, vertical quartz vein is exposed at the west end (GPS pt 83; photos 292 and 293 – the hammer points N). Photo 293 illustrates a 1m offset in the quartz vein to the north (later brittle fracturing, no obvious shearing associated with the offset). The quartz is greyish white, fractured with 1-2% fine disseminated pyrite (SRS-14-22334). The host rock to the quartz vein is a massive, silicified, fine grained intermediate to felsic tuff. Tuff is sheared along quartz vein boundaries with sulphides and minor k-spar alteration, but shearing and alteration intensity diminished rapidly away from quartz vein (within 10 to 20 cm). One sample of the tuff was collected for whole rock determinations.

A speck of visible gold from a second E – W trending quartz vein was found on the exposure 5m south of pt 83 along the south edge of the trenched area (photo 294). The exposure is along a vertical face, but the vein appears to be 1 to 2 m in width and is white to greyish, massive and fractured with 1-3% fine disseminated and blebby pyrite. Photos 295 and 296 are looking south on the vertical face of the exposed quartz vein where the visible gold was found. This vein appears to be the vein that the Sunrise shaft was sunk on. Two samples of the quartz vein the visible gold were collected. (photo 297 – close up of the intermediate to felsic tuff; this also illustrates glacial straie).

Further from the Sunrise shaft area, a series of trenches were encountered that intersected 2 E-W trending, steeply N dipping quartz veins 30 to 40 cm in thickness within a narrow vertical to steeply N dipping shear zone (GPS pt 84, 85 and 86; photos 298 and 299 – hammer handle points N) (Possible Wilcox occurrence area??). The quartz is generally white in appearance with local grey areas and an overall rust appearance (1-3% fine disseminated pyrite). The host around the quartz veining is relatively unaltered, or influences of alteration (silicifcation and minor shearing rapidly diminish away from the margins of the veining (5 to 7 cm).

There is a secondary fracturing sub-parallel to the quartz veining at approximately 080^o that is later than the quartz (fracturing is evident through the quartz veins). Host rocks in the area are fine grained silicified intermediate to felsic tuff with feldspar laths (feldspar crystal tuff). Two Samples of quartz was collected (GPS pt 87; 88) as well as 2 whole rock samples from HW and FW - photo 300. This area appears to be at the margins of the Jubilee Stock.

Photo 301 illustrates the breccia texture where sub-rounded portions of the intermediate tuff are caught up in a coarse grained matrix of granodiorite. One whole rock samples was collected of this material.

Samples collected:

SRS -14-22334 Quartz vein
SRS -14-22335 whole rock diorite
SRS -14-22336 shear zone and quartz vein
SRS -14-22336A – spec of VG in quartz vein

SRS -14-22337 Quartz vein
SRS -14-22338 whole rock diorite
SRS -14-22339 shear zone and quartz vein
14-22340 quartz vein
14-22341 whole rock felsic tuff FW of qv
14-22342 whole rock of brecciated tuff and granodiorite

Photos taken:
DSC_0291; DSC_0292; DSC_0293; DSC_0294; DSC_0295; DSC_0296; DSC_0297; DSC_298; DSC_0299; DSC_0300; DSC_0297; DSC_298

Mickelson occurrence

GPS pt 89 was collected on a drill hole collar (DDH 392) that is vertical or steeply inclined south within a large stripped area. Host rocks around the DDH collar are dark green well foliated mafic to ultramafic dyke intrusive that strike relative E-W (085^o) and steep dip (1 measurement was 60^{o}N) with massive white quartz veining parallel along the margins of and cross cutting the mafic dyke. Photo 304 is taken looking along mafic dyke adjacent to DDH collar. Quartz veining is visible along the margins of the dyke as well as cross cutting drag folded shallow plunge east (both veining parallel and cross cutting mafic dyke). Photos 309, 310 and 311 illustrate the shallow E plunge (10^{o}E) to the cross cutting and folded quartz veins (hammer handle points N) (QV fold axis trends approximately 075^o and 10^{o}E plunge (GPS pt 93). One sample was collected from the cross cutting quartz vein in the mafic dyke and 1 sample was collected of the host rock for whole rock determinations.

Quartz veining is later than mafic dyke emplacement and appears to be Vein Type 3.

The mafic to ultramafic dyke is approximately 5 m wide. Photo 305 is of a large trenched area at the south end of the mafic dyke towards the south edge of the stripped area (GPS pt 90). The trench trends 065^o and is roughly 7 m across (photo 305). The overall dyke exposure is approximately 30 to 35 m in length. Photos 306 and 307 are taken at the E end of the flooded trench of a shear zone along east margin of mafic dyke (hammer handle points S) with pervasive quartz flooding parallel to and cross cutting the mafic dyke. Quartz in this area generally trends 080^o and is generally massive white with minor K alteration and minor 1-2 % fine disseminated pyrite along margins of sheared dyke host and quartz. Minor weak alteration effects (well foliated appearance with chloritic, biotitic minor carbonate) in host along margins with quartz. One sample was collected from a rusty area within the mafic dyke containing abundant local disseminated and blebby pyrite (photo 308, GPS pt 92).

General host rock of the mafic dyke area is an intermediate to felsic feldspar lapilli tuff (feldspars are tiny laths approximately 1-2mm in size). The overall appearance is light to medium green-buff colour, fine grained and relatively massive. Sample M-14-22345 was collected as a representative of the general intermediate to felsic lapilli tuff south of the DDH collar (GPS pt 94).

There is some evidence to suggest that the mafic dykes are displaced in a right lateral sense by brittle fractures.

Samples collected:

M-14-22343 rusty area of mafic dyke
M-14-22344 whole rock of mafic dyke
M-14-22345 quartz vein in mafic dyke
M-14-22346 whole rock intermediate to felsic tuff

Photos taken:

DSC_304; DSC_0305; DSC_0306; DSC_0307; DSC_308; DSC_0309; DSC_0310; DSC_0311

Island Vein system

This showing is land locked with no easy access. A rusty quartz vein is visible from the road, but it is on a bit of a peninsula surrounded by water and swamp.

Parkhill Mine

Photos 312, 313 and 314 are in the general surrounding of the Parkhill mine area (similar to Surluga). Photo 313 is of the cut off shaft vent.

An E-W trending drag folded quartz vein was found approximately 1 to 1.3 m in length and only about 10 cm in width. The plunge of the quartz vein was approximately 40^{o}S. Amplitude of the folds was approximately 80 cm. The host rocks do not demonstrate obvious evidence of folding.

The area was traversed and no obvious veining or structure was obvious east of the shaft area. Along the east edge of Ward Lake, southwest of the shaft is an old processing structure, perhaps an old mill in addition to possible underground access, but the area was covered by metal sheets and was dangerous to access.

At GPS pt 97 north of the shaft area, a vertical quartz vein was found trending 058^{o} and dipping approximately 10^{o}-20 ^{o} (photo's 315 and 316 – hammer is for scale only and does not point north). The quartz is laminated and pink on the outside and massive, white on the inside with trace fine disseminated pyrite. Host rock in this area is a relatively massive dark medium grained silicified (hard) diorite. Margins of the quartz vein are sheared, however shearing intensity rapidly drops off away from the quartz vein margins. There are no other obvious signs of mineral lineations defining a plunge direction other than the platy minerals making up the sheared host around the quartz vein. There are secondary linear quartz-carbonate filled fractures up to 1 cm in thickness with minor epidote alteration trending 110^{o} and appearing to be vertical. No samples were collected.

At GPS pt 98, a rusty, weathered quartz vein was found that is 20 - 40 cm in width, trending 080^{o} and appears vertical to steeply dipping south (photo’s 317 and 318). The host rock is a coarse volcaniclastic breccia (Sage P2441) where subangular to subrounded granodiorite fragments are present in a fine grained, dark mafic to intermediate tuff (photo’s 319 and 320). Banding is present in the tuff, trending 062^{o} (photo 320). The quartz is massive and white on fresh surfaces with 2-5% fine disseminated pyrite; vugs are also present in the quartz lined by quartz crystals and fine pyrite cubes (up to 2 cm in size). One sample was collected of the quartz vein. The host rock is sheared on either side of the quartz vein, but the shearing fabric is only a few cms thick. Two samples (photo 319 from the breccia on the S side of the quartz vein and photo 320 from the breccia on the N side of the quartz vein) were collected for whole rock determinations.

Late stage brittle fracturing is also present, where narrow quartz seams are present across the outcrop oriented parallel to the quartz vein as well as cross cutting (photo 324). It also appears that the rocks were subjected to a final stage of hydraulic fracturing (photo’s 321, 322 and 323).

Further southwest (GPS pt 99) is a shear zone trending 080^{o} and dipping 42^{o} S (photo’s 325, 326 and 327) in a mafic to intermediate tuff host rock. This zone is roughly 20 m in thickness. There are numerous shears and none are individual. There is a narrow, 2-3cm thick quartz vein along the main shear that appears somewhat boudinaged in places. There is also 2-5% fine py throughout the host within the shear zone (evident from the limonic/rusty appearance of the rock). There is no sense of movement along the shear and there are no secondary mineral lineaments giving a sense of plunge to the shear zone. The only fabric is the platy minerals forming the strike and dip of the shear planes. One sample was collected from the quartz vein where it attained a width of approximately 25 cm – GPS pt 100 and photo 327). Roughly 10 metres further west from GPS pt 100, the quartz vein blows out into a large lens (approximately 5 m thick and 15 m in length – photo 328) that abruptly terminates into a N-S trending fracture.

Samples collected:

PS-14-22347 – quartz vein
PS-14-22348 - whole rock of breccia N side of quartz vein
PS-14-22349 - whole rock of breccia side of quartz vein
PS-14-22350 – quartz vein

Photos taken:

DSC_312; DSC_0313; DSC_0314; DSC_0315; DSC_316; DSC_0317; DSC_0318; DSC_0319; DSC_320; DSC_0321; DSC_0322; DSC_0323; DSC_324; DSC_0325; DSC_0326; DSC_0327; DSC_328

Mariposa shaft

The Mariposa shaft was sunk on a high grade gold bearing quartz vein that can also be traced to the Blockington shaft to the SE. In addition, the Mariposa vein continues further south and is also found in the EM conductor area. GPS pt 101 was the shaft vent. The area around the shaft appears to be a quartz flooded area of a deformation zone (photos 332 to 341 hammer handle when present points N) within a volcaniclastic breccia host rock (photo's 329, 330 and 331). The breccia fragments are of various sizes, but are a feldspar crystal tuff that are rounded to sub-rounded and are elongated at 010^{o} in a fine grained matrix. One sample was collected for whole rock determinations.

There are 2 main directions of the quartz veining; one generally N-S (approximately 160^{o}) and the other generally E-W (approximately 090^{o}) within a structurally complex area. The dominant direction of quartz veining and shearing is generally E-W. All quartz veining appears interconnected. The N-S set of quartz veining has a steep W dip, while the E-W set have a steep N dip. The quartz is generally white (on fresh surfaces) with 2-5% fine disseminated pyrite. This entire area has the feel of a large scale fold chevron. At GPS pt 102, 2 samples of quartz veins were collected; one from the E-W trending quartz vein and one from the N-S quartz veins (photo's 332, 333, 334, 335, 336, and 338).

The host rock adjacent to the quartz veins is altered (chloritic, sericitic and minor carbonate) with an overprint of K-alteration. Alteration is localized to the margins of the quartz veining. Within the area of quartz veining, there is moderate to intense K alteration overprinting. There is also a late stage set of E-W fractures that show K-alteration (photo's 331 and 338)

There is also abundant evidence of small scale drag folding associated with some of the narrower quartz veins that are oriented generally E-W (photo's 338, 339, 340 and 341; the hammer handle points N and the pen points S in photo 340). The Z fold axis is approximately 040^{o}.

Samples collected:

MS-14-22201 – quartz vein
MS-14-22202 - quartz vein
MS-14-22203 - whole rock of breccia
MS-14-22204 – quartz vein

Photos taken:
DSC_329; DSC_0330; DSC_0331; DSC_0332; DSC_333; DSC_0334; DSC_0335; DSC_0336; DSC_338; DSC_0339; DSC_0340; DSC_0341

EM conductor

An attempt was made to locate a possible source causing the N-S trending EM conductors identified by the VTEM survey as reported by Augustine Resources (Anomaly D was closest to the access road).

As the northern part of the EM trend was approached, a couple of trenched areas were encountered. At this location, a large water filled pit was found that appeared to be excavated on 2 quartz veins in a mafic to ultramafic dyke host that trend 160^{o}. The veins are generally white and massive with minor sulphides along the margins (rust colour along vein margins).

The EM conductor may be associated with sulphide rich exhalative rock – probably quartz sericite schist with disseminated and blebby sulphides.

GPS pt 108 was supposed to be the center of anomaly D, but there was only a NE-SW drill-road and no evidence of outcrop in the area.

The traverse into the southern end of the EM conductor area is extremely difficult as there is no direct road access.

Blockington Shaft Access Road

Along the main access road to the Darwin mine, a quartz vein is visible trending 085 and steeply dipping to the N. The vein is 1 to 1 ½ m in width, white with local grey areas, rusty appearance on weathered surface with 2-5% fine disseminated pyrite. Host rocks in the area are the volocaniclastic breccia (feldspar crystal tuff fragments in a fine grained tuffaceous matrix. A sample (22204) of the quartz vein was collected at GPS pt 111). No photo taken due to low battery.

Darwin/Gracie

The Darwin/Gracie shaft is located at GPS pt 112. There is not much visible in this area in terms of quartz veining or other exposures. However, at GPS pt 113, a 30 to 40 cm thick quartz vein was located near the shaft (photo 342 – the hammer handle points N). The quartz vein trends 160^{o}, appears to be vertical and is composed of massive white quartz, moderately fractured with chloritic inclusions and a general pink cast due to K alteration. There are also small clumps of arsenopyrite needles (overall content 1-2%). Margins of quartz vein are sheared and contain 1-2% fine disseminated py, but shearing intensity rapidly decreases away from the quartz vein. There are no other mineral lineations defining a deformation fabric other than the platy minerals along the sheared contact with the quartz. The host rock is a dark green/black, fine grained, massive mafic to intermediate metavolcanic (probable flow). Sample DS-14-22205 is the quartz vein while sample DS-14-22206 is the host mafic to intermediate metavolcanic east of the quartz vein.

Samples collected:
DS-14-22205 – quartz vein
DS-14-22206 - whole rock of mafic to intermediate volcanic

Photos taken:
DSC_0342

Nyman

At GPS pts 114 and 115, there is an old stripped area partly overgrown with a series of trenches that were excavated to test a narrow 20-30 cm thick quartz vein trending 095^{o} (photo’s 343, 344, 345, and 346 – the hammer handle, where present, points N). Host rock is similar to that found at the Darwin shaft area, fine grained, dark green/black , massive mafic to intermediate metavolcanic. The quartz is generally massive and white in colour, with a moderate pink cast and trace pyrite. There are several late stage quartz carbonate fractures that are red to brown red in colour (hematitic and or K alteration photo 345) trending sub-parallel to the quartz vein. Also, the host rock around the quartz vein has the same red to reddish brown alteration, but is limited to within 10 to 20 cm of quartz vein. This probably represents Vein Set 3.

The quartz vein is also offset by a cross cutting thin annealed fracture at 048^{o} and dipping vertical to steeply N. This is more of an in situ breccia rather than a shear zone.

Samples collected:
N-14-22207 – quartz vein

Photos taken:
DSC_0343; DSC_0344; DSC_0345; DSC_0346;

Van Sickle Shaft

The Smith, Captain and Road mineral areas are all part of the Van Sickle vein system. The road showing is on the south side of the main access road for cottagers on Deep Lake and is close to the Van Sickle shaft area. There is trenching present on sheared intermediate to felsic tuffs that trend 060^{o} with a steep S dip but no obvious quartz veining (GPS pt 119). The main showing may have been covered by new road construction.

The Van Sickle shaft vent is at GPS pt 120, but there is an extensive stripped area to the west of the shaft.

The area has been trenched and sampled (channel sampling). The trenches were excavated on 2 main quartz veins within a 10 m+ wide shear zone trending 058º/42Sº (photos 3599 and 3600). The quartz veins parallel the foliation fabric and there is a plunge defined by black mineral lineation roughly 40º SE (photo's 3596, 3597, and 3598 – the pen points N). The host rock is an intermediate to felsic feldspar crystal tuff. The tuff is altered within the shear zone (sericitic, chloritic carbonate), but is less intensely altered outside of the shear zone. The quartz veins are roughly 8 m apart. Overall, the quartz is white, heavily fractured locally with abundant chloritic inclusions and trace tourmaline (?) There is a brown to red-brown colour to the altered host rocks along foliation planes and from late stage pink quartz carbonate fractures parallel to and cross cutting the shear zone and quartz veining exhibiting K-alteration

Five samples were collected across the shear zone/quartz veins (GPS center point 122).

Samples collected:

VS-14-22208 – whole rock of feldspar crystal tuff FW
VS-14-22209 - quartz vein
VS-14-22210 - whole rock of feldspar crystal tuff between quartz veins
VS-14-22211 – quartz vein
VS-14-22212 – whole rock of feldspar crystal tuff HW

Photos taken:

100_3596; 100_3597; 100_3598; 100_3599; 100_3600

Moodie Pit

The location of the showing area was confirmed, but the trenches are overgrown.

Parkhill Shear Zone

The Parkhill shear zone crosses the access road to the Darwin shaft. A 30 cm wide quartz vein trending approximately 145º/52ºE is present in locally sheared intermediate to felsic lapilli tuff host rocks host. Shearing intensity is localized to the margins of the quartz vein and rapidly diminishes away from the quartz vein contacts. The quartz is massive and white with a slight light brown cast (limonitic staining) with tr-1% fine disseminated pyrite. There are also numerous late stage narrow quartz carbonate fractures that are somewhat pink as well denoting K-alteration. A total of 3 samples were collected; PHS-14-22213 host rock sample on the hanging wall side of the quartz vein; PHS-14-22214 quartz vein; PHS-14-22215 host rock on footwall side of quartz vein.

Samples collected:

VS-14-22213 – whole rock of feldspar lapilli tuff HW
VS-14-22214 - quartz vein
VS-14-22215 - whole rock of feldspar lapilli tuff FW

Photos taken:

100_3601; 100_3602;

Three main structural directions dominate the area:

1. NNE Is the dominant trend of the Jubilee Shear Zone
2. NNW Is the dominant trend of the Parkhill Shear Zone;
3. E-W trending fabric east of the Parkhill fault

Due to the inclement weather, no possible fold hinge validations could be made.

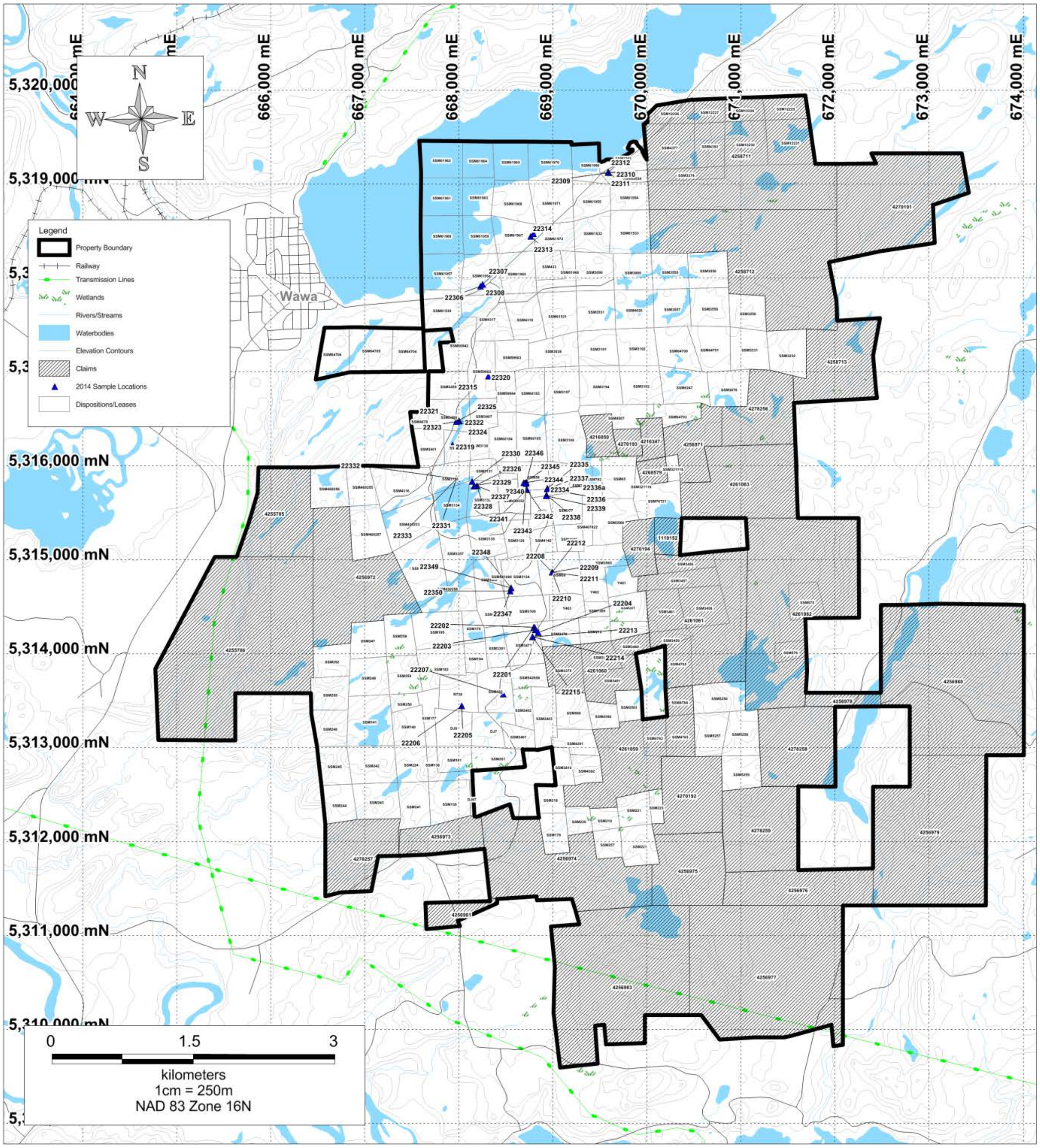

Figure 9: Surface sample locations from Site Visit 2

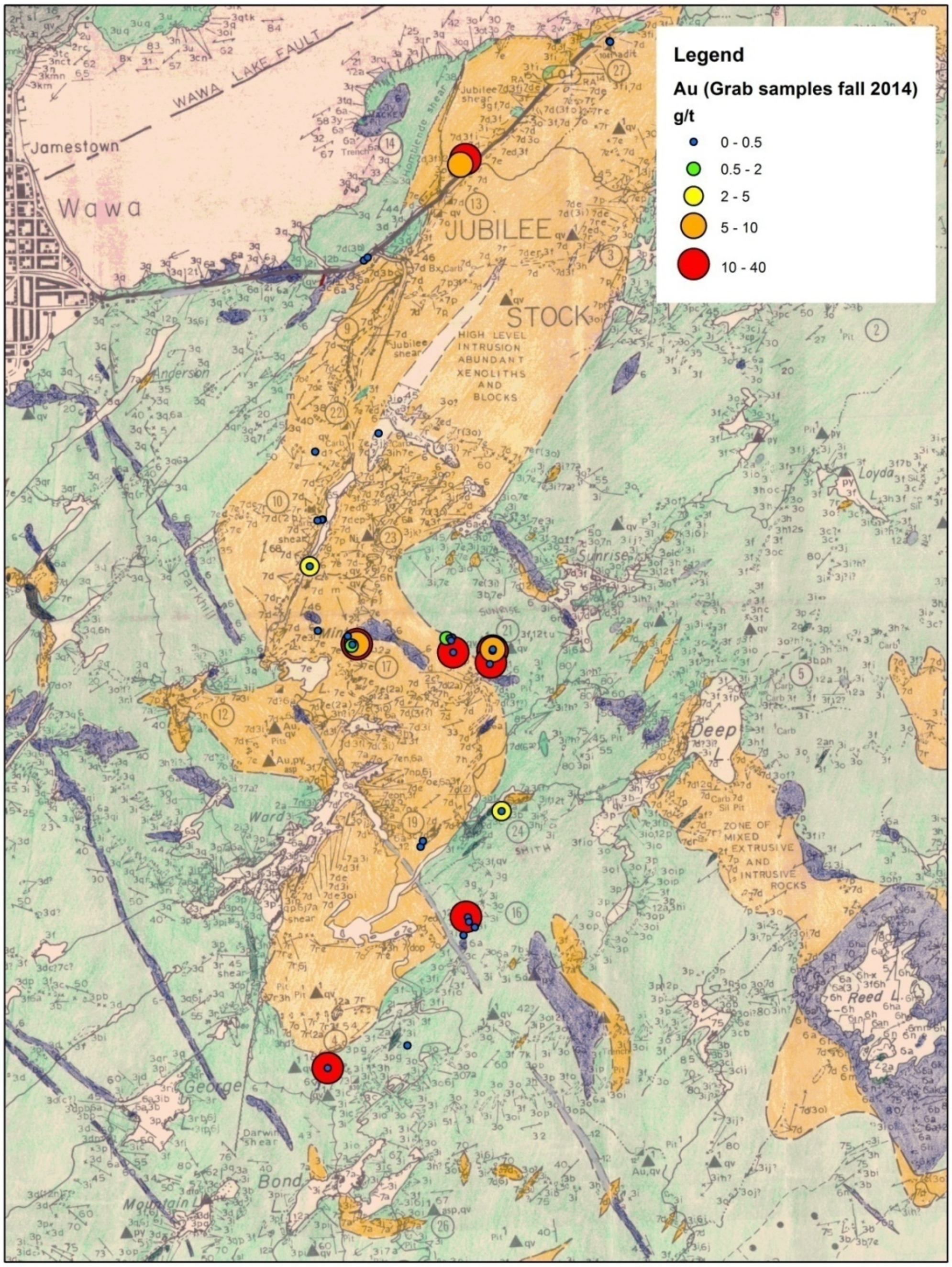

Figure 10: Sample locations and grades from Brad Leonard's report on The Wawa Gold project

8.2 INTERPRETATION OF GEOPHYSICAL DATA

A geophysical data set exists for the Wawa Gold Project. The available data consisted of a historic VTEM survey (time domain electromagnetics) and a regional magnetic survey. The available information on the VTEM survey suggested the data had not undergone any interpretation. These data were initially modeled to emphasize conductors. However, this approach did not offer any insights into either the mineralization or the structures on the property. Several anomalies were noted but after review of the air photo all but one were deemed to be related to cultural artifacts from historic roads and mine workings. The EM data was then inverted into a 3D resistivity layered earth model which provided some information on the structures across the property.

The inversion of the EM data available over the Wawa Gold Project into a 3D resistivity layered earth model was very useful in outlining structures that appear to control gold mineralization. A review of the magnetic data available was able to define the Surluga Shear as well as broad lithological regimes. These trends can be seen in the magnetic maps in Appendix 5. Only the major structural features were able to be resolved in this map due to its low resolution. It is recommended that a higher resolution magnetic survey be completed over the property to better define these large scale structures along with identifying smaller and more subtle features that exist on the property.

9.0 Conclusions and Recommendations

The re-sampling of 2011 drill core from site visit 1 provided similar results to what were previously reported. There was variation within the gold values but this can predominantly be attributed to nugget effect. In gold systems, the course, granular nature of mineralization often causes assay results to have an inherent variability. This is believed to be the reasoning behind the differences in the historically reported grades compared to the recent re sampled and assayed results. To address this effect in future sampling programs, it is recommended that metallic screen assaying be utilized at Surluga to maximize validity of results.

Site visit 2 found good potential for developing a mine on the property with the numerous showings and outcrops. Alterations associated with the various shear zones appeared to be localized to rocks around shears and not pervasive into country rock. Consideration should be given to drill testing the Mariposa vein system as well as the E-W vein system from the Sunrise shaft area (where the VG was found).

Historically, geophysical surveys have been carried out on the property but limited analysis of the data was completed. With changes in technology and interpretation techniques, geophysics has become an important aspect of exploration. The inversion of the EM data available was able to define the Surluga Shear as well as broad lithological regimes across the property. It is recommended that future gold exploration utilize a more detailed magnetic survey to identify structures controlling potential gold mineralization. This data however, will require tighter line spacing than the currently available magnetic data. Upon review, it is not recommended that time domain EM be utilized in the future as an exploration tool for gold mineralization on the Wawa Gold Project. The nature of gold mineralization on the property is not conducive for recognition through EM techniques. Only minor conductive material accompanies gold mineralization which limits the signal response in an EM survey.

10.0 - Statement of Qualifications

I, Quentin Dale Yarie, P. Geo. of 196 McAllister Road, Toronto, Ontario, M3H 2N9, do hereby certify that:

- I am a member of the Association of Professional Geoscientists of Ontario since 2010 (License 1778) and a member of the Association of Professional Geoscientists of Nova Scotia since 2002 (License 121). I am also a member of the Society of Exploration Geophysicists (144385).
- I have practiced my profession in excess of 25 years
- I certify that by reason of my education and past relevant work experience, I fulfill with the requirements to be a "Qualified Person" for the purpose of this Assessment Report. My relevant work experience for the purpose of my activities identified in this report are:
- Experience with junior resource companies as a Director of Red Pine Exploration (CNDX). Experience with junior resource companies as Vice President of Exploration of Red Pine Exploration Ltd., Red Pine Exploration Ltd., and Honey Badger Exploration Inc.
- Continuous work in the mineral exploration and mining industry since 1983. I ran my own geophysical consulting firm from 1990 through 2002. Work has included supervision of grassroots to advanced stage programs which have included airborne and ground geophysics, mapping, geochemical sampling, trenching and drilling. I have reviewed numerous gold, silver, base metals and diamond projects in a wide range of geological environments both in Canada, Mexico, Chile, China, Turkey, Jordan, Italy, and other international destinations.
- I am the author of several Technical Reports.

Dated at Toronto, Ontario, this __________28th________ day of ______January_____, 2016

Quentin D. Yarie, P. Geo. (ON), P. Geo. (NS)

I, Blake James McLaughlin of 2-54 Glovers Rd, Oshawa Ontario, Canada, do hereby certify that:

- I have completed an Honors Bachelor of Science degree in Geoscience from McMaster University in Hamilton Ontario.
- I have practiced my profession for five and a half years
- I spent 3 years operating and overseeing field operations for Insight Geophysics, completing geophysical surveys for exploration and mining companies
- I spent the 2.5 years working as a consulting geologist, involving prospecting and diamond drilling programs in a variety of locations within Canada
- I am currently employed as a staff geologist involved in a variety of aspects of mining exploration including reporting, field operations and administrative duties

Dated at Toronto, Ontario, this 28th day of January, 2016

Blake J McLaughlin, BSc. Geoscience (Hons)

11.0 References

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Appendix 1

Assay Certificates and Results

Quality Analysis ... **Actlabs** *Innovative Technologies*

Date Submitted:	10-Sep-14
Invoice No.:	A14-06431
Invoice Date:	23-Sep-14
Your Reference:	Wawa

Red Pine Exploration Inc.
520-141 Adelaide St. West
Toronto Ontario M5H 3L5
Canada

ATTN: Quentin Yarie

CERTIFICATE OF ANALYSIS

5 Rock samples were submitted for analysis.

The following analytical package was requested:

Code 1C-Exp 2 Fire Assay-ICP/MS
Code 4E-Expl (1-10) INAA(INAAGEO)/Major Elements Fusion ICP(WRA)/Total Digestion ICP(TOTAL)

REPORT **A14-06431**

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:
Total includes all elements in % oxide to the left of total. Values above the upper limit should be assayed for most accurate values.
We recommend reanalysis by fire assay Au, Pt, Pd Code 8 if values exceed upper limit.

CERTIFIED BY:

Emmanuel Eseme , Ph.D.
Quality Control

SCC Accredited LAB
LAB Accrédité CCN TM

ACTIVATION LABORATORIES LTD.

41 Bittern Street, Ancaster, Ontario, Canada, L9G 4V5
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Results

Analyte Symbol	Au	Pt	Pd	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Au	Ag	As	Ba	Be	Bi	Br	Cd
Unit Symbol	ppb	ppb	ppb	%	%	%	%	%	%	%	%	%	%	%	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	0.5	0.5	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.005	0.01		0.01	5	0.5	2	3	1	2	1	0.5
Analysis Method	FA-MS	FA-MS	FA-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	INAA	MULT INAA / TD-ICP	INAA	MULT INAA/FUSICP	FUS-ICP	TD-ICP	INAA	TD-ICP
022301	14000	0.8	0.6	84.27	4.44	4.27	0.02	0.53	1.06	0.85	1.22	0.267	0.01	2.94	99.88	14700	6.0	127	157	< 1	< 2	< 1	1.8
022302	903	2.7	1.6	45.74	9.72	7.23	0.13	4.50	10.51	1.72	2.53	0.591	0.06	16.24	98.97	1160	< 0.5	48	346	2	2	< 1	< 0.5
022303	5050	1.4	1.0	39.36	14.70	10.14	0.13	4.56	8.99	3.93	3.21	0.927	0.17	13.47	99.59	4120	1.4	32	721	26	3	< 1	< 0.5
022304	6920	5.2	3.7	54.78	9.00	7.22	0.13	4.81	7.69	0.55	2.05	0.580	0.07	12.38	99.25	6470	0.9	28	359	1	< 2	< 1	< 0.5
022305	296	2.7	2.3	41.41	12.34	9.83	0.14	6.78	8.81	2.21	2.02	0.799	0.21	13.86	98.41	124	< 0.5	10	495	2	2	< 1	< 0.5

Results

Analyte Symbol	Co	Cr	Cs	Cu	Hf	Hg	Ir	Mo	Ni	Pb	Rb	S	Sb	Sc	Se	Sr	Ta	Th	U	V	W	Y	Zn
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	1	0.5	1	0.5	1	5	2	1	5	20	0.001	0.2	0.1	3	2	1	0.5	0.5	5	3	1	1
Analysis Method	INAA	INAA	INAA	TD-ICP	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	FUS-ICP	INAA	INAA	INAA	FUS-ICP	INAA	FUS-ICP	TD-ICP
022301	13	107	< 0.5	483	1.0	< 1	< 5	< 2	44	74	50	1.99	0.4	4.6	< 3	32	< 1	3.3	< 0.5	43	10	12	533
022302	24	245	< 0.5	48	1.8	< 1	< 5	< 2	104	7	100	0.355	0.2	14.5	< 3	140	< 1	3.0	1.3	113	26	14	83
022303	37	220	< 0.5	34	5.5	< 1	< 5	< 2	95	< 5	150	0.606	0.9	24.9	< 3	294	< 1	4.8	2.6	206	< 3	39	38
022304	33	395	< 0.5	261	1.3	< 1	< 5	< 2	165	< 5	70	0.796	0.3	16.0	< 3	84	< 1	2.0	< 0.5	106	6	12	77
022305	26	431	1.6	31	2.6	< 1	< 5	< 2	102	< 5	110	0.175	< 0.2	23.4	< 3	187	< 1	2.2	< 0.5	179	< 3	17	75

Results

Analyte Symbol	Zr	La	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Mass
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g
Detection Limit	2	0.2	3	5	0.1	0.1	0.5	0.1	0.05	
Analysis Method	FUS-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
022301	54	4.8	11	5	0.8	< 0.1	< 0.5	0.9	0.12	1.760
022302	99	11.2	23	11	1.9	0.8	< 0.5	1.2	0.15	1.574
022303	494	15.7	35	14	2.1	0.8	< 0.5	3.0	0.44	1.544
022304	72	7.3	16	10	1.5	0.5	< 0.5	1.1	0.18	1.569
022305	95	14.8	35	20	3.3	0.8	0.6	1.6	0.21	1.546

QC

Analyte Symbol	Au	Pt	Pd	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Au	Ag	As	Ba	Be	Bi	Br	Cd
Unit Symbol	ppb	ppb	ppb	%	%	%	%	%	%	%	%	%	%	%	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	0.5	0.5	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.005	0.01		0.01	5	0.5	2	3	1	2	1	0.5
Analysis Method	FA-MS	FA-MS	FA-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	INAA	MULT INAA / TD-ICP	INAA	MULT INAA/FUSICP	FUS-ICP	TD-ICP	INAA	TD-ICP
NIST 694 Meas				11.21	1.96	0.70	0.01	0.33	42.69	0.88	0.54	0.118	30.16										
NIST 694 Cert				11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2										
DNC-1 Meas				46.94	18.46	9.69	0.15	9.88	11.45	1.88	0.22	0.486	0.06										
DNC-1 Cert				47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070										
GBW 07113 Meas				70.53	12.66	3.15	0.14	0.15	0.59	2.45	5.42	0.279	0.04							4			
GBW 07113 Cert				72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500							4.00			
GXR-4 Meas																					13		< 0.5
GXR-4 Cert																					19.0		0.860
SDC-1 Meas																							
SDC-1 Cert																							
GXR-6 Meas																					< 2		0.6
GXR-6 Cert																					0.290		1.00
W-2a Meas				52.63	15.31	10.53	0.17	6.19	11.13	2.20	0.62	1.059	0.15							< 1			
W-2a Cert				52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130							1.30			
SY-4 Meas				49.96	20.92	6.15	0.11	0.51	8.14	6.97	1.67	0.293	0.15							3			
SY-4 Cert				49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131							2.6			
BIR-1a Meas				48.21	15.84	11.20	0.17	9.61	13.55	1.82	0.02	0.988	0.02							< 1			
BIR-1a Cert				47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021							0.58			
SAR-M (U.S.G.S.) Meas																					3		4.9
SAR-M (U.S.G.S.) Cert																					1.94		5.27
DNC-1a Meas																							
DNC-1a Cert																							
SBC-1 Meas																					3		< 0.5
SBC-1 Cert																					0.70		0.40
CDN-PGMS-24 Meas	710	1090	4800																				
CDN-PGMS-24 Cert	806.000	1090.00	4880.00																				
CDN-PGMS-25 Meas	487	394	1860																				
CDN-PGMS-25 Cert	483	400	1830																				
DMMAS 117 Meas																1520		1420					
DMMAS 117 Cert																1718		1745					
022302 Orig	949	2.7	1.6																				
022302 Dup	857	2.8	1.6																				
Method Blank																					< 2		< 0.5
Method Blank																					< 2		< 0.5
Method Blank																					< 2		< 0.5
Method Blank																					< 2		< 0.5
Method Blank																< 5		< 2				< 1	

QC

Analyte Symbol	Co	Cr	Cs	Cu	Hf	Hg	Ir	Mo	Ni	Pb	Rb	S	Sb	Sc	Se	Sr	Ta	Th	U	V	W	Y	Zn
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	1	0.5	1	0.5	1	5	2	1	5	20	0.001	0.2	0.1	3	2	1	0.5	0.5	5	3	1	1
Analysis Method	INAA	INAA	INAA	TD-ICP	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	FUS-ICP	INAA	INAA	INAA	FUS-ICP	INAA	FUS-ICP	TD-ICP
NIST 694 Meas																				1658			
NIST 694 Cert																				1740			
DNC-1 Meas																139				155		16	
DNC-1 Cert																144.0				148		18.0	
GBW 07113 Meas																39				< 5		44	
GBW 07113 Cert																43.0				5.00		43.0	
GXR-4 Meas				6470				313	46	46		1.75											71
GXR-4 Cert				6520				310	42.0	52.0		1.77											73.0
SDC-1 Meas				37					37	23													102
SDC-1 Cert				30.000					38.0	25.00													103.00
GXR-6 Meas				69				< 2	28	93		0.014											130
GXR-6 Cert				66.0				2.40	27.0	101		0.0160											118
W-2a Meas																194				281		20	
W-2a Cert																190				262		24.0	
SY-4 Meas																1216				7		117	
SY-4 Cert																1191				8.0		119	
BIR-1a Meas																110				345		15	
BIR-1a Cert																110				310		16	
SAR-M (U.S.G.S.) Meas				326				10	49	986													938
SAR-M (U.S.G.S.) Cert				331.0000				13.1	41.5	982													930.0
DNC-1a Meas				103					260														57
DNC-1a Cert				100.00					247														70.0
SBC-1 Meas				29				< 2	90	29													177
SBC-1 Cert				31.0000				2.40	82.8	35.0													186.0
CDN-PGMS-24 Meas																							
CDN-PGMS-24 Cert																							
CDN-PGMS-25 Meas																							
CDN-PGMS-25 Cert																							
DMMAS 117 Meas	42	79											5.7	6.2					10.0				
DMMAS 117 Cert	42	76											6.7	6.6					11.8				
022302 Orig																							
022302 Dup																							
Method Blank				< 1				< 2	< 1	< 5		0.001											< 1
Method Blank				< 1				< 2	< 1	< 5		0.003											< 1
Method Blank				< 1				< 2	< 1	< 5		0.001											< 1
Method Blank				< 1				< 2	< 1	< 5		< 0.001											< 1
Method Blank	< 1	< 1	< 0.5		< 0.5	< 1	< 5				< 20		< 0.2	< 0.1	< 3		< 1	< 0.5	< 0.5		< 3		

QC

Analyte Symbol	Zr	La	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Mass
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g
Detection Limit	2	0.2	3	5	0.1	0.1	0.5	0.1	0.05	
Analysis Method	FUS-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
NIST 694 Meas										
NIST 694 Cert										

Analyte Symbol	Zr	La	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Mass
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g
Detection Limit	2	0.2	3	5	0.1	0.1	0.5	0.1	0.05	
Analysis Method	FUS-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
DNC-1 Meas	35									
DNC-1 Cert	38									
GBW 07113 Meas	381									
GBW 07113 Cert	403									
GXR-4 Meas										
GXR-4 Cert										
SDC-1 Meas										
SDC-1 Cert										
GXR-6 Meas										
GXR-6 Cert										
W-2a Meas	88									
W-2a Cert	94.0									
SY-4 Meas	545									
SY-4 Cert	517									
BIR-1a Meas	16									
BIR-1a Cert	18									
SAR-M (U.S.G.S.) Meas										
SAR-M (U.S.G.S.) Cert										
DNC-1a Meas										
DNC-1a Cert										
SBC-1 Meas										
SBC-1 Cert										
CDN-PGMS-24 Meas										
CDN-PGMS-24 Cert										
CDN-PGMS-25 Meas										
CDN-PGMS-25 Cert										
DMMAS 117 Meas		14.3	28		2.0					
DMMAS 117 Cert		15.6	31		2.6					
022302 Orig										
022302 Dup										
Method Blank										
Method Blank										
Method Blank										
Method Blank										
Method Blank		< 0.2	< 3	< 5	< 0.1	< 0.1	< 0.5	< 0.1	< 0.05	1.000

Date Submitted:	25-Nov-14
Invoice No.:	A14-09228
Invoice Date:	12-Dec-14
Your Reference:	

Red Pine Exploration Inc.
520-141 Adelaide St. West
Toronto Ontario M5H 3L5
Canada

ATTN: Quentin Yarie

CERTIFICATE OF ANALYSIS

61 Rock samples were submitted for analysis.

The following analytical package was requested:

Code 1A2 Au - Fire Assay AA
Code 4C (11+) Whole Rock Analysis-XRF
Code UT-4-Red Pine Total Digestion ICP/MS

REPORT **A14-09228**

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

Emmanuel Eseme , Ph.D.
Quality Control

SCC Accredited LAB
LAB Accrédité CCN TM

ACTIVATION LABORATORIES LTD.

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Results

Analyte Symbol	As	Au	Co3O4	CuO	NiO	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI	Total	B	Li	Na	Mg
Unit Symbol	%	ppb	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	%	%
Lower Limit	0.01	5	0.005	0.005	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003		0.01	1	0.5	0.01	0.01
Method Code	ICP-OES	FA-AA	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	TD-MS	TD-MS	TD-MS	TD-MS
022306		19	0.005	0.007	0.026	9.61	3.14	13.54	0.304	10.35	23.53	0.25	1.28	2.90	0.11	0.02	0.034	34.56	99.66	61	2.9	0.28	6.00
022307		9	< 0.005	0.008	0.009	8.82	2.93	12.92	0.342	10.61	23.43	0.15	1.24	2.74	0.03	0.01	0.035	35.96	99.24	46	1.5	0.14	6.24
022308		7	< 0.005	0.009	0.010	9.28	3.11	12.00	0.329	9.76	25.75	0.08	1.24	2.50	0.16	0.01	0.023	35.65	99.91	23	0.9	0.09	5.38
022309		28	< 0.005	< 0.005	0.020	76.96	2.27	4.00	0.082	2.53	4.93	0.19	0.49	0.14	0.03	0.01	< 0.003	7.74	99.39	15	8.0	0.22	1.61
022310		< 5	< 0.005	< 0.005	0.040	57.65	16.30	6.15	0.064	2.70	3.79	2.25	4.26	0.99	0.25	0.01	0.003	5.80	100.3	5	12.2	1.93	1.64
022311		20	< 0.005	< 0.005	< 0.003	67.19	11.86	5.21	0.064	2.13	3.01	1.87	2.72	0.70	0.20	< 0.01	< 0.003	4.98	99.94	3	8.0	1.73	1.41
022312		77	< 0.005	< 0.005	< 0.003	72.86	6.94	4.13	0.062	2.95	3.76	0.23	2.12	0.39	0.11	< 0.01	< 0.003	6.79	100.3	1	11.7	0.23	1.85
022313		> 5000	< 0.005	0.033	< 0.003	89.75	3.01	4.55	0.010	0.16	0.02	0.22	0.68	0.07	0.02	< 0.01	< 0.003	1.38	99.91	19	2.1	0.23	0.08
022314		> 5000	< 0.005	0.030	< 0.003	88.68	2.83	4.98	0.051	0.30	0.52	0.02	0.62	0.19	0.05	< 0.01	< 0.003	1.96	100.2	29	2.5	0.07	0.17
022315		< 5	< 0.005	< 0.005	< 0.003	62.55	15.58	4.65	0.059	3.06	3.14	0.67	3.92	1.05	0.22	< 0.01	0.010	5.28	100.2	5	10.2	0.61	1.86
022316		2300	< 0.005	0.005	0.005	93.17	1.54	2.26	0.041	0.13	0.06	0.01	0.39	0.04	0.03	< 0.01	< 0.003	0.38	98.06	339	0.9	0.05	0.08
022317		18	< 0.005	< 0.005	0.014	43.91	12.27	8.62	0.202	5.07	9.23	2.45	3.14	0.61	0.06	0.03	0.034	14.83	100.5	491	16.9	2.08	2.98
022318		177	0.007	0.015	0.012	83.11	5.36	7.29	0.090	0.77	0.12	0.44	1.12	0.24	0.05	0.01	0.014	1.90	100.5	824	5.8	0.40	0.49
022319		112	< 0.005	< 0.005	0.023	78.68	12.24	1.30	0.013	0.33	0.20	0.85	3.53	0.13	0.03	< 0.01	< 0.003	1.84	99.16	11	6.8	0.78	0.22
022320		< 5	< 0.005	< 0.005	0.028	55.30	17.52	10.83	0.119	4.43	3.06	3.51	1.15	0.84	0.14	0.01	0.031	3.48	100.5	5	17.4	3.00	2.71
022321		22	< 0.005	< 0.005	0.020	52.94	13.02	8.98	0.147	2.01	5.17	2.37	5.44	0.74	0.10	0.02	0.024	9.07	100.0	3	4.7	2.09	1.27
022322		37	< 0.005	0.010	0.003	62.64	17.32	4.86	0.047	1.13	2.18	4.99	2.38	0.69	0.16	< 0.01	0.007	3.11	99.53	2	7.7	> 3.00	0.74
022323		< 5	< 0.005	< 0.005	< 0.003	70.36	15.46	3.06	0.018	0.38	2.03	5.84	0.99	0.39	0.09	< 0.01	< 0.003	2.06	100.7	2	4.3	> 3.00	0.29
022324		16	0.013	< 0.005	< 0.003	84.32	0.47	10.97	0.010	< 0.01	< 0.01	0.03	0.06	0.01	< 0.01	0.01	< 0.003	4.25	100.2	21	< 0.5	0.08	0.02
022325		< 5	< 0.005	< 0.005	0.005	50.42	16.28	7.90	0.071	5.20	5.61	4.22	1.09	0.75	0.13	0.01	0.024	8.70	100.4	2	16.2	> 3.00	3.23
022326		638	< 0.005	0.017	0.003	90.23	1.35	5.49	0.021	0.19	0.20	0.22	0.24	0.09	0.02	0.01	< 0.003	1.62	99.70	64	0.9	0.24	0.13
022327	3.41	> 5000	< 0.005	0.008	0.003	66.03	14.26	7.45	0.016	1.32	0.08	0.23	4.39	0.55	0.09	< 0.01	0.004	4.16	98.59	5	10.7	0.28	0.32
022328	1.60	> 5000	< 0.005	0.008	< 0.003	64.18	16.36	6.83	0.023	1.05	0.21	0.75	4.89	0.63	0.11	< 0.01	0.008	3.54	98.59	4	12.4	0.67	0.39
022329		12	< 0.005	< 0.005	0.020	71.58	14.77	3.91	0.051	1.00	1.79	4.30	1.49	0.33	0.07	< 0.01	< 0.003	1.11	100.4	5	7.9	> 3.00	0.65
022330		62	< 0.005	< 0.005	0.017	61.91	16.26	8.22	0.108	2.52	3.10	4.26	1.10	0.87	0.18	< 0.01	0.031	2.02	100.6	4	12.5	> 3.00	1.61
022331		11	< 0.005	< 0.005	0.003	95.07	1.74	2.04	0.022	0.16	< 0.01	0.34	0.32	0.08	0.03	0.01	< 0.003	0.13	99.94	21	1.1	0.35	0.09
022332		14	< 0.005	0.010	0.016	58.84	16.87	6.82	0.079	1.79	3.83	4.91	1.55	1.06	0.34	< 0.01	0.005	4.45	100.6	2	4.2	> 3.00	1.25
022333		< 5	< 0.005	< 0.005	0.027	90.01	2.05	3.30	0.071	0.52	1.44	0.22	0.54	0.21	0.60	0.03	0.007	1.44	100.5	43	2.7	0.25	0.35
022334		> 5000	0.046	1.03	0.004	84.50	0.96	9.37	0.020	0.14	0.12	0.05	0.11	0.02	0.02	0.01	< 0.003	3.60	100.0	335	0.6	0.10	0.09
022335		8	< 0.005	< 0.005	0.018	58.19	16.14	7.24	0.133	3.31	3.66	4.11	1.32	0.64	0.10	< 0.01	0.021	5.31	100.2	54	8.9	> 3.00	2.14
022336		> 5000	< 0.005	0.018	< 0.003	94.44	0.37	3.60	0.012	< 0.01	0.04	0.11	0.06	0.02	0.04	0.01	< 0.003	0.61	99.33	60	< 0.5	0.16	0.02
022337		10	< 0.005	0.008	0.004	60.68	16.25	5.75	0.109	2.48	3.72	2.28	3.26	0.58	0.10	< 0.01	0.017	5.25	100.5	3	10.3	2.00	1.57
022338		> 5000	< 0.005	0.043	< 0.003	92.96	0.81	5.13	0.012	0.02	0.05	0.03	0.36	0.05	0.02	0.01	< 0.003	1.32	100.8	54	< 0.5	0.05	0.02
022339		15	< 0.005	< 0.005	< 0.003	63.51	15.28	5.23	0.077	1.91	2.96	4.70	1.48	0.52	0.10	< 0.01	0.011	4.03	99.82	3	6.3	> 3.00	1.28
022340		> 5000	0.021	0.117	0.021	81.67	0.56	13.52	0.007	0.03	< 0.01	< 0.01	0.08	0.02	0.01	0.01	< 0.003	3.98	100.1	89	< 0.5	0.05	0.04
022341		13	< 0.005	< 0.005	0.073	62.59	15.66	6.65	0.093	2.53	4.20	4.26	0.99	0.57	0.09	0.02	0.020	3.13	100.9	2	11.2	> 3.00	1.66
022342		< 5	< 0.005	< 0.005	0.011	70.35	14.87	4.36	0.053	0.92	1.31	4.83	1.40	0.43	0.08	0.01	< 0.003	1.81	100.4	3	4.5	> 3.00	0.65
022343		238	< 0.005	< 0.005	0.011	58.96	1.09	8.08	0.280	4.86	11.24	0.01	0.12	0.04	0.13	0.01	0.004	15.72	100.6	68	1.5	0.06	2.89
022344		16	< 0.005	0.010	0.017	47.26	15.20	12.27	0.140	8.17	4.85	1.67	0.65	0.82	0.05	0.04	0.046	8.93	100.1	52	12.4	1.42	4.64
022345		971	< 0.005	< 0.005	0.049	63.80	7.53	6.24	0.146	4.14	6.02	0.60	0.45	0.15	0.02	0.04	0.015	9.42	98.63	3680	3.5	0.51	2.38
022346		9	< 0.005	< 0.005	0.006	48.89	15.02	8.12	0.255	4.27	9.24	1.44	2.31	0.66	0.14	0.01	0.026	10.42	100.8	31	13.7	1.29	2.63
022347		25	< 0.005	0.299	0.004	91.69	1.52	3.99	0.014	0.09	0.40	0.42	0.24	0.04	0.28	0.01	< 0.003	0.83	99.83	57	0.6	0.40	0.07
022348		25	< 0.005	0.014	< 0.003	54.52	18.41	7.15	0.129	2.78	5.12	4.17	2.66	0.99	0.14	< 0.01	0.020	3.90	100.0	5	12.4	> 3.00	1.73
022349		< 5	< 0.005	< 0.005	< 0.003	66.32	15.97	4.67	0.102	1.73	4.03	3.88	1.52	0.46	0.12	< 0.01	0.011	1.78	100.6	4	12.5	> 3.00	1.09
022350		280	< 0.005	< 0.005	0.007	65.51	15.48	6.48	0.087	1.76	0.76	3.00	3.40	0.54	0.05	< 0.01	0.020	3.13	100.3	3	34.2	2.64	1.10
022201		> 5000	0.007	0.079	< 0.003	86.07	1.25	9.33	0.009	0.09	0.04	0.04	0.36	0.05	0.03	0.01	< 0.003	2.33	99.70	13	1.0	0.10	0.06
022202		241	< 0.005	0.016	0.005	96.65	0.72	2.60	0.011	0.04	0.05	< 0.01	0.13	0.02	0.02	0.01	< 0.003	0.43	100.7	41	< 0.5	0.04	0.03

Analyte Symbol	As	Au	Co3O4	CuO	NiO	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI	Total	B	Li	Na	Mg
Unit Symbol	%	ppb	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	%	%
Lower Limit	0.01	5	0.005	0.005	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003		0.01	1	0.5	0.01	0.01
Method Code	ICP-OES	FA-AA	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	TD-MS	TD-MS	TD-MS	TD-MS
022203		10	< 0.005	< 0.005	0.005	67.26	16.25	3.58	0.041	1.17	1.80	3.63	2.70	0.39	0.07	< 0.01	0.012	3.12	100.0	5	8.8	> 3.00	0.78
022204		163	< 0.005	0.332	0.024	90.08	1.56	5.38	0.011	0.06	0.03	0.01	0.42	0.05	0.01	0.02	0.004	1.60	99.60	65	0.6	0.05	0.03
022205		> 5000	< 0.005	0.012	0.016	94.74	1.85	2.73	0.010	0.14	0.01	0.08	0.58	0.09	0.01	0.02	< 0.003	0.57	100.9	50	0.7	0.11	0.04
022206		< 5	< 0.005	< 0.005	< 0.003	63.30	15.95	6.98	0.076	2.17	3.85	4.57	0.91	0.98	0.32	< 0.01	0.027	1.44	100.6	47	9.5	> 3.00	1.31
022207		68	< 0.005	< 0.005	0.020	62.43	13.27	5.88	0.083	2.63	4.77	3.46	1.34	0.59	0.13	0.03	0.021	4.98	99.64	6	10.2	2.98	1.65
022208		3480	< 0.005	< 0.005	< 0.003	79.99	4.90	2.90	0.073	1.13	4.03	0.88	1.30	0.17	0.06	0.01	0.012	5.01	100.5	14	10.1	0.81	0.75
022209		< 5	< 0.005	< 0.005	< 0.003	62.06	18.30	5.39	0.070	2.39	2.68	3.74	2.79	0.47	0.09	< 0.01	0.014	2.67	100.7	4	13.2	> 3.00	1.50
022210		7	< 0.005	< 0.005	< 0.003	66.85	12.97	3.40	0.070	1.25	3.76	4.00	2.76	0.24	0.38	< 0.01	0.004	4.53	100.2	8	7.3	> 3.00	0.83
022211		< 5	< 0.005	< 0.005	< 0.003	63.73	12.43	4.71	0.081	2.23	4.06	2.02	3.85	0.31	0.45	< 0.01	0.013	6.77	100.7	3	12.9	1.79	1.40
022212		< 5	< 0.005	< 0.005	< 0.003	61.40	17.32	5.76	0.058	2.69	3.90	4.65	1.96	0.51	0.11	< 0.01	0.012	2.06	100.4	2	17.0	> 3.00	1.73
022213		137	< 0.005	< 0.005	< 0.003	63.88	16.27	4.46	0.070	2.23	3.76	3.08	2.77	0.40	0.08	< 0.01	0.010	2.84	99.86	< 1	8.9	2.65	1.40
022214		364	< 0.005	0.006	0.024	95.15	1.00	2.12	0.020	0.12	0.13	0.10	0.34	0.03	0.04	0.02	< 0.003	0.34	99.46	98	1.0	0.13	0.09
022215		16	< 0.005	< 0.005	0.009	54.07	15.36	8.74	0.132	5.76	5.30	3.80	0.71	0.76	0.29	0.04	0.030	5.64	100.7	28	14.3	> 3.00	3.47
022218		36	< 0.005	< 0.005	0.006	98.66	0.41	1.45	0.013	0.01	0.03	< 0.01	0.03	0.01	0.02	0.01	< 0.003	0.00	100.7	57	0.7	0.03	< 0.01

Results

Analyte Symbol	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Ni	Er	Be	Ho	Hg	Ag	Cs	Co	Eu	Bi	Se	Zn	Ga	As
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	0.5	0.1	0.1	0.1	10	0.05	0.05	0.1	0.05	0.02	0.1	0.2	0.1	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
022306	1.53	1.33	18.0	0.9	211	121	2470	9.44	14.5	97.4	6.4	2.9	2.3	< 10	12.2	0.67	38.5	5.73	0.41	3.2	200	5.8	8.8
022307	1.23	1.59	18.8	0.5	119	116	2760	9.12	10.8	94.3	8.3	3.6	2.9	130	0.78	0.63	43.8	6.37	0.44	2.4	92.8	3.2	0.4
022308	1.23	1.48	18.9	0.4	51	66.7	2430	7.83	4.6	61.0	8.5	2.4	3.3	250	0.35	0.65	25.6	7.75	0.13	3.0	78.9	4.2	1.5
022309	1.11	0.46	3.99	0.1	10	45.8	709	3.02	0.7	7.1	1.4	69.7	0.5	< 10	0.39	0.81	2.9	0.88	0.04	0.8	25.0	2.9	1.7
022310	8.40	1.34	2.94	0.1	20	17.6	548	4.26	2.9	7.2	2.6	2.2	0.9	130	0.23	1.63	7.3	1.99	0.05	0.8	36.6	18.3	1.5
022311	6.69	1.72	2.44	0.2	27	43.0	570	3.84	2.2	7.6	1.8	2.0	0.7	190	0.22	1.28	5.2	1.41	0.08	0.6	34.7	16.0	2.7
022312	3.73	1.46	2.98	0.1	17	39.3	562	3.02	1.0	5.1	1.2	1.6	0.5	< 10	0.14	1.09	3.5	2.56	0.03	0.7	27.6	8.3	1.0
022313	1.31	0.57	0.05	< 0.1	7	51.7	131	3.34	1.0	10.7	0.5	0.5	0.2	80	0.23	0.78	9.4	0.15	23.3	0.4	9.6	4.0	19.0
022314	1.28	0.53	0.45	0.2	17	56.6	417	3.51	0.9	12.1	0.6	0.5	0.2	< 10	0.74	0.73	18.2	0.20	26.3	0.3	49.7	4.2	9.2
022315	8.19	1.38	2.47	0.1	45	16.0	504	3.35	3.3	13.3	2.2	1.8	0.8	< 10	0.13	4.09	10.4	1.00	0.16	1.3	24.5	17.7	2.0
022316	0.54	0.31	0.08	< 0.1	16	71.7	368	1.60	< 0.1	21.6	1.3	19.4	0.5	160	0.10	0.58	8.5	0.41	0.52	0.5	14.2	1.7	4.7
022317	6.12	1.86	6.99	0.2	194	202	1620	5.90	1.6	89.9	3.2	4.0	1.1	< 10	0.70	1.85	22.5	0.65	0.25	0.9	60.4	12.3	3.4
022318	2.51	0.88	0.14	< 0.1	80	118	757	4.94	0.4	110	2.1	26.0	0.8	140	0.62	0.77	62.2	0.63	1.91	1.4	32.8	5.7	26.5
022319	6.71	1.65	0.21	< 0.1	4	16.5	130	0.99	3.4	2.4	1.7	1.8	0.6	< 10	0.29	1.19	0.8	0.72	0.06	1.4	18.2	15.3	4.5
022320	9.02	0.93	2.31	0.1	153	43.0	987	7.58	1.9	69.6	1.2	1.1	0.4	210	0.13	1.55	35.0	0.84	0.11	0.7	75.0	18.7	3.9
022321	6.96	1.78	4.03	0.2	69	77.9	1210	6.45	1.3	57.2	3.1	5.4	1.1	180	0.15	0.83	19.2	1.82	0.11	1.5	72.6	17.2	11.1
022322	9.21	1.51	1.70	< 0.1	46	26.2	419	3.60	3.8	17.5	1.4	2.4	0.5	150	0.36	1.12	16.2	1.01	0.12	1.0	27.6	21.6	10.7
022323	8.30	0.78	1.57	0.1	15	28.5	195	2.25	6.8	3.6	2.6	2.0	1.0	180	0.36	0.75	5.3	1.05	0.09	0.9	27.3	16.4	15.3
022324	0.16	0.04	0.03	< 0.1	3	78.5	152	7.89	< 0.1	19.4	0.1	0.4	< 0.1	< 10	0.61	0.58	98.6	< 0.05	0.14	1.6	25.1	0.6	16.1
022325	8.81	0.82	4.40	< 0.1	111	73.3	654	5.70	2.1	86.6	1.5	1.8	0.5	< 10	0.17	2.09	24.1	0.69	0.04	0.9	52.7	16.8	1.5
022326	0.55	0.21	0.21	0.1	14	86.0	217	3.97	0.2	29.4	0.2	0.5	< 0.1	50	0.52	0.65	5.8	< 0.05	0.09	0.7	21.2	1.6	85.1
022327	7.47	1.89	0.11	< 0.1	49	32.0	180	5.12	2.7	10.9	1.1	1.1	0.4	< 10	0.69	1.02	12.4	0.52	1.13	1.0	10.9	17.3	> 10000
022328	8.15	3.11	0.20	< 0.1	64	43.9	219	4.70	4.4	10.8	1.7	1.1	0.6	80	0.41	1.15	11.5	0.80	0.56	1.1	18.5	19.1	> 10000
022329	7.83	1.19	1.38	0.2	30	31.0	440	2.79	3.6	10.7	1.7	1.5	0.6	160	0.17	1.26	6.1	0.61	0.17	0.7	63.7	17.5	53.3
022330	8.86	0.87	2.42	0.1	120	21.6	930	5.92	2.5	26.5	2.1	1.5	0.7	140	0.17	1.32	22.1	0.97	0.19	0.8	95.4	20.2	100
022331	0.74	0.25	0.05	0.1	12	51.0	225	1.55	0.2	11.4	0.3	0.6	0.1	< 10	0.15	0.65	2.6	0.09	< 0.02	0.2	12.5	2.2	35.5
022332	9.90	1.32	3.11	0.2	30	14.7	710	5.12	2.7	3.2	2.0	1.6	0.7	180	0.15	0.97	16.4	1.72	0.15	0.7	69.9	21.4	9.3
022333	0.96	0.46	1.13	0.1	41	128	575	2.38	< 0.1	36.7	5.7	2.9	2.1	160	0.06	0.68	6.4	1.76	0.03	1.9	24.5	3.8	9.7
022334	0.30	0.05	0.13	0.2	13	74.4	237	6.57	< 0.1	42.9	1.1	1.0	0.5	30	11.6	0.58	335	0.17	2.70	1.7	58.2	1.0	23.0
022335	8.81	1.10	2.88	0.1	126	74.0	1140	5.29	2.4	61.1	1.5	1.2	0.5	< 10	0.41	0.81	20.5	0.68	0.16	0.5	95.8	17.2	7.2
022336	0.12	0.06	0.07	< 0.1	6	87.2	145	2.59	< 0.1	15.2	0.8	0.6	0.4	< 10	1.51	0.58	13.9	0.19	31.3	0.7	6.6	0.6	5.3
022337	8.73	1.67	2.88	0.2	107	49.8	909	4.22	2.6	45.8	1.4	1.1	0.5	110	0.27	1.25	15.5	0.76	1.50	0.6	65.6	17.8	4.0
022338	0.29	0.30	0.08	< 0.1	9	75.2	155	3.68	0.2	38.0	0.4	0.3	0.2	20	1.57	0.58	42.1	0.18	8.13	0.9	7.9	1.0	25.4
022339	8.63	1.21	2.35	0.1	64	49.3	695	3.94	3.4	34.4	2.0	1.4	0.7	< 10	0.25	1.00	11.0	0.87	0.18	0.7	84.7	15.8	6.7
022340	0.25	0.04	0.02	< 0.1	7	90.5	154	9.77	0.1	130	0.1	0.2	< 0.1	90	0.69	0.59	156	< 0.05	1.93	3.3	7.4	0.8	3.9
022341	8.75	0.80	3.22	0.1	109	46.2	821	4.74	2.8	36.8	2.0	1.4	0.7	190	0.24	1.18	20.2	0.93	0.21	0.3	75.9	16.9	10.8
022342	8.35	1.12	1.04	0.1	29	23.8	468	3.29	5.9	10.7	1.3	1.5	0.4	90	0.21	0.88	7.9	1.04	0.13	0.6	44.3	18.5	3.8
022343	0.48	0.13	8.01	0.2	20	64.0	2160	5.45	0.3	43.7	0.9	0.2	0.3	100	0.09	0.65	7.1	0.86	0.10	0.7	36.2	1.1	13.4
022344	6.30	0.41	3.56	0.1	261	272	1160	8.37	0.9	154	1.0	0.5	0.4	20	0.17	0.46	42.3	0.33	0.17	0.5	119	13.6	33.9
022345	3.46	0.30	4.33	0.2	89	161	1100	4.23	0.4	120	0.7	0.6	0.2	60	0.17	0.80	13.7	0.34	0.14	0.6	42.3	6.5	38.2
022346	7.88	1.83	7.11	0.2	125	61.6	1990	5.74	1.8	75.9	1.7	1.1	0.5	100	0.11	0.85	27.5	0.70	0.06	0.3	83.2	12.6	1.8
022347	0.69	0.15	0.34	0.1	8	78.5	163	2.85	0.1	21.2	3.2	0.3	1.3	< 10	0.75	0.63	45.3	1.52	0.21	2.0	24.3	1.7	43.1
022348	9.87	1.82	3.97	0.1	76	15.6	1080	5.19	2.4	14.8	2.9	1.9	1.0	100	0.33	2.47	25.5	1.26	0.26	0.8	82.8	17.0	2.5
022349	8.30	1.23	3.09	0.1	69	43.1	831	3.38	2.5	33.0	1.5	1.5	0.5	30	0.35	1.33	13.7	0.88	0.18	0.8	74.0	17.2	14.1
022350	7.53	2.26	0.61	0.2	112	83.2	785	4.73	2.2	80.1	1.4	2.6	0.5	< 10	0.21	3.39	26.8	0.56	0.06	1.2	60.6	22.2	92.2
022201	0.50	0.37	0.09	< 0.1	20	86.8	190	8.27	0.2	32.0	0.3	0.7	0.1	130	3.01	0.74	81.4	0.20	9.29	5.3	21.0	1.7	27.9
022202	0.17	0.13	0.08	< 0.1	6	91.3	135	1.94	< 0.1	15.0	0.3	0.2	0.1	120	0.31	0.62	11.0	0.14	0.48	1.1	5.9	0.6	10.7
022203	8.88	1.45	1.40	0.1	68	22.2	374	2.64	2.5	20.9	1.0	2.1	0.4	80	0.19	1.35	12.7	0.58	0.07	0.4	40.1	16.5	10.9
022204	0.67	0.32	0.08	0.2	13	77.4	124	3.71	0.2	46.4	0.4	0.5	0.1	60	0.76	0.65	42.7	0.14	0.87	2.2	30.6	1.9	14.1

Analyte Symbol	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Ni	Er	Be	Ho	Hg	Ag	Cs	Co	Eu	Bi	Se	Zn	Ga	As
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	0.5	0.1	0.1	0.1	10	0.05	0.05	0.1	0.05	0.02	0.1	0.2	0.1	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
022205	0.74	0.48	0.04	0.8	15	107	121	1.88	0.4	7.0	0.3	0.5	0.1	< 10	1.31	0.62	5.7	0.13	0.31	1.5	181	2.5	4560
022206	8.15	0.73	2.81	0.1	106	98.6	649	4.77	3.8	25.3	2.9	2.0	1.0	120	0.25	1.30	14.2	1.54	0.04	1.0	56.2	17.6	21.4
022207	7.05	1.12	3.67	0.1	110	144	742	4.29	1.0	124	2.0	2.3	0.8	30	0.35	1.16	28.8	1.08	0.09	1.0	56.9	12.3	60.7
022208	2.64	1.07	3.05	0.1	76	101	625	2.11	0.5	27.8	1.9	1.7	0.8	80	0.67	1.12	9.6	0.95	0.83	1.0	41.5	8.6	14.2
022209	9.72	1.80	2.07	< 0.1	58	22.3	612	3.90	1.8	35.5	1.0	2.2	0.3	< 10	0.13	1.46	20.6	0.97	0.16	0.6	68.1	19.4	2.5
022210	6.96	1.80	2.96	0.1	51	43.6	644	2.58	2.4	17.0	5.2	2.9	2.6	20	0.75	1.05	6.0	36.5	0.06	3.9	38.0	17.8	4.9
022211	6.61	2.22	3.18	0.1	100	32.3	712	3.50	1.3	24.3	2.5	3.7	1.0	< 10	0.40	1.22	11.2	9.49	0.08	1.8	52.0	17.9	6.2
022212	9.53	1.37	3.03	0.1	78	24.4	537	4.19	2.0	27.0	1.3	2.1	0.4	< 10	0.19	1.92	14.9	0.74	0.10	0.5	43.3	20.9	2.3
022213	8.55	1.63	2.88	0.2	63	28.7	600	3.29	2.4	24.1	1.1	1.5	0.4	30	0.12	1.19	13.4	0.62	0.27	0.7	39.8	19.6	2.2
022214	0.43	0.25	0.14	< 0.1	14	68.9	202	1.59	0.2	17.6	0.5	0.5	0.2	< 10	0.11	0.63	9.9	0.25	0.36	1.1	11.6	1.5	7.6
022215	7.76	0.54	3.91	0.2	167	220	1100	6.02	2.6	55.2	2.0	1.8	0.7	< 10	0.25	1.33	25.6	1.02	0.14	1.2	107	15.4	10.1
022218	0.07	0.02	0.05	< 0.1	3	52.4	140	1.01	< 0.1	4.4	0.6	0.4	0.3	170	< 0.05	0.59	3.4	0.18	0.18	0.5	3.0	0.4	9.0

Results

Analyte Symbol	Rb	Y	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu	Ge	Tm	Yb	Lu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
022306	27.8	56.0	728	343	2.11	0.2	4	1.1	1.0	155	116	235	29.5	114	20.7	19.1	2.2	12.2	88.6	0.8	0.9	5.3	0.8
022307	31.2	66.8	505	12.7	0.34	0.1	1	0.5	0.3	237	107	234	27.5	109	21.8	21.5	2.6	14.9	59.4	0.5	1.2	6.7	1.1
022308	30.1	75.3	225	5.0	0.12	< 0.1	1	0.1	< 0.1	148	121	247	31.6	126	24.8	28.1	3.4	18.7	78.8	0.5	1.1	6.3	0.9
022309	12.5	10.0	32	9.3	2.84	< 0.1	< 1	0.1	0.2	83	6.8	14.9	1.9	7.8	1.8	2.4	0.4	2.7	3.1	0.3	0.2	1.2	0.2
022310	63.9	18.2	114	4.9	0.86	< 0.1	< 1	< 0.1	< 0.1	464	26.4	56.5	6.9	28.3	5.8	5.7	0.8	4.6	4.8	0.4	0.4	2.1	0.3
022311	56.6	13.3	84	5.2	2.82	< 0.1	2	0.2	< 0.1	461	17.9	39.3	5.0	20.4	4.2	4.2	0.6	3.4	25.1	0.7	0.3	1.4	0.2
022312	38.0	10.1	38	3.1	2.60	< 0.1	1	0.2	< 0.1	334	39.7	83.1	10.1	41.2	7.6	6.5	0.7	3.3	7.4	0.6	0.2	0.8	0.1
022313	14.0	4.1	39	2.3	3.68	< 0.1	1	0.5	0.9	140	2.9	6.4	0.7	3.0	0.6	0.8	0.1	0.9	315	0.1	< 0.1	0.4	< 0.1
022314	12.1	4.7	36	3.6	5.04	< 0.1	< 1	0.5	1.1	133	2.4	4.5	0.6	2.2	0.6	1.0	0.2	1.1	284	< 0.1	< 0.1	0.5	< 0.1
022315	49.8	16.4	136	0.6	0.86	< 0.1	< 1	< 0.1	0.2	529	16.0	32.1	4.0	16.3	3.6	3.7	0.6	3.7	13.2	0.2	0.3	1.9	0.3
022316	5.7	11.9	3	1.4	5.80	< 0.1	1	0.4	0.2	39	1.2	2.6	0.4	1.8	0.8	1.9	0.4	3.0	62.7	< 0.1	0.1	0.7	< 0.1
022317	53.7	24.3	66	20.7	0.95	< 0.1	1	0.1	0.1	316	4.6	10.2	1.4	6.3	1.8	2.8	0.6	4.8	12.8	0.2	0.4	2.6	0.4
022318	18.5	17.5	15	16.5	45.3	< 0.1	1	4.1	0.2	165	4.5	3.0	1.1	5.0	1.5	2.4	0.5	3.8	141	< 0.1	0.3	1.5	0.2
022319	53.2	13.3	116	6.4	2.12	< 0.1	2	0.2	0.1	356	27.9	55.0	6.1	21.6	4.0	3.4	0.5	3.0	9.2	0.2	0.3	1.6	0.3
022320	34.6	8.9	75	2.9	0.59	< 0.1	< 1	0.2	< 0.1	592	11.8	22.0	2.5	9.8	1.9	2.0	0.3	2.0	3.0	0.6	0.2	0.9	0.1
022321	39.0	25.7	48	1.9	0.27	< 0.1	< 1	< 0.1	0.1	482	12.5	26.5	3.4	15.6	5.0	5.9	1.0	6.2	35.8	0.3	0.4	2.3	0.3
022322	39.7	10.9	151	5.3	2.43	< 0.1	1	0.3	0.3	440	14.9	30.2	3.4	13.5	2.9	2.9	0.4	2.5	93.1	0.5	0.2	1.2	0.2
022323	22.1	22.1	240	8.2	2.60	< 0.1	1	0.2	0.1	126	36.8	77.9	8.6	31.9	6.3	6.3	0.9	5.5	12.1	0.3	0.4	1.9	0.3
022324	1.1	1.1	4	0.6	4.41	< 0.1	< 1	1.4	0.4	5	0.5	1.0	0.1	0.5	0.1	0.2	< 0.1	0.2	53.3	0.1	< 0.1	< 0.1	< 0.1
022325	40.9	11.3	80	2.4	0.39	< 0.1	< 1	0.2	< 0.1	84	11.6	23.4	2.8	10.9	2.3	2.6	0.4	2.6	3.4	0.5	0.2	1.2	0.2
022326	4.0	1.3	8	5.8	5.20	< 0.1	< 1	1.9	< 0.1	19	0.6	1.2	0.2	0.6	0.1	0.2	< 0.1	0.2	183	0.1	< 0.1	0.2	< 0.1
022327	55.2	8.0	169	3.3	1.92	< 0.1	2	13.2	< 0.1	151	10.8	22.9	2.6	10.1	1.9	1.9	0.3	1.8	66.2	0.2	0.2	0.9	0.2
022328	73.2	11.2	187	6.0	1.84	< 0.1	2	5.5	0.2	167	18.3	36.7	4.1	15.1	2.7	2.7	0.4	2.6	80.8	0.1	0.2	1.3	0.2
022329	38.6	12.8	131	3.0	1.62	< 0.1	1	0.2	0.1	552	18.4	39.5	3.8	13.9	2.7	2.8	0.4	2.8	8.2	0.4	0.3	1.4	0.2
022330	32.2	15.2	92	0.9	0.39	< 0.1	1	< 0.1	< 0.1	281	18.3	39.1	4.7	18.3	3.6	3.6	0.5	3.3	50.6	0.4	0.3	1.6	0.3
022331	4.7	2.6	9	3.6	2.93	< 0.1	< 1	0.1	< 0.1	21	1.1	2.2	0.3	1.2	0.3	0.3	< 0.1	0.5	3.2	0.2	< 0.1	0.2	< 0.1
022332	37.8	16.0	116	0.8	0.28	< 0.1	1	< 0.1	< 0.1	439	24.4	49.8	5.9	23.8	4.6	4.5	0.6	3.6	136	0.3	0.3	1.6	0.3
022333	9.6	51.1	2	1.1	6.59	< 0.1	< 1	< 0.1	< 0.1	92	11.7	21.5	2.8	12.7	4.3	6.9	1.4	10.3	12.9	0.1	0.7	3.1	0.4
022334	0.9	9.9	5	0.8	3.82	< 0.1	1	2.2	0.4	8	0.7	1.2	0.2	0.8	0.3	1.0	0.3	2.4	7690	0.1	0.1	0.5	< 0.1
022335	24.3	10.7	89	3.2	0.79	< 0.1	< 1	< 0.1	0.1	320	13.1	26.1	3.0	11.8	2.5	2.7	0.4	2.4	25.5	0.5	0.2	1.2	0.2
022336	1.0	7.9	5	1.3	5.99	< 0.1	< 1	0.6	0.6	11	0.6	1.3	0.2	0.8	0.3	1.0	0.3	2.0	189	0.1	< 0.1	0.4	< 0.1
022337	48.7	10.8	99	4.5	0.69	< 0.1	1	0.2	< 0.1	533	14.8	28.9	3.2	12.3	2.5	2.7	0.4	2.5	65.2	0.6	0.2	1.2	0.2
022338	5.0	4.8	8	4.5	7.07	< 0.1	< 1	1.7	0.2	16	0.7	1.7	0.2	0.9	0.3	0.9	0.2	1.3	441	0.2	< 0.1	0.2	< 0.1
022339	26.8	15.2	126	3.1	0.51	< 0.1	< 1	< 0.1	< 0.1	303	17.1	35.2	4.1	15.8	3.2	3.5	0.5	3.5	17.7	0.4	0.3	1.5	0.2
022340	0.8	0.9	6	1.3	5.00	< 0.1	< 1	0.1	0.6	14	0.5	0.8	0.1	0.4	< 0.1	0.1	< 0.1	0.2	1100	0.2	< 0.1	< 0.1	< 0.1
022341	25.4	14.1	105	4.0	1.46	< 0.1	1	0.1	< 0.1	260	18.1	35.2	4.1	15.3	3.1	3.3	0.5	3.2	19.2	0.6	0.3	1.7	0.3
022342	24.4	9.2	271	3.9	1.84	< 0.1	< 1	< 0.1	0.2	568	14.1	26.1	2.8	10.6	2.1	2.2	0.3	2.0	16.7	0.4	0.2	1.1	0.2
022343	3.5	8.0	17	1.4	2.90	< 0.1	< 1	< 0.1	< 0.1	25	3.8	7.4	1.0	4.2	1.3	1.8	0.3	1.9	18.8	< 0.1	0.1	0.7	0.1
022344	2.3	6.5	30	1.8	0.54	< 0.1	< 1	< 0.1	< 0.1	140	1.2	3.7	0.6	3.1	1.1	1.5	0.3	1.7	90.3	0.4	0.1	0.9	0.2
022345	7.9	4.8	30	2.8	1.77	< 0.1	< 1	0.1	< 0.1	46	0.9	1.8	0.3	1.3	0.4	0.6	0.1	1.0	43.9	0.1	< 0.1	0.6	< 0.1
022346	34.4	11.9	70	1.0	0.51	< 0.1	< 1	< 0.1	< 0.1	773	13.0	26.8	3.2	12.8	2.5	2.7	0.4	2.5	34.0	0.5	0.3	1.5	0.2
022347	3.2	29.0	7	2.9	10.2	< 0.1	1	1.4	0.2	37	1.7	4.0	0.6	3.0	2.4	6.7	1.3	7.6	2540	< 0.1	0.3	1.2	0.2
022348	64.1	21.5	96	5.9	1.45	< 0.1	1	< 0.1	0.2	1020	23.4	45.8	5.3	20.8	4.4	4.9	0.7	4.8	130	0.4	0.5	2.6	0.4
022349	40.7	11.9	97	9.4	0.81	< 0.1	2	0.3	< 0.1	372	18.7	32.5	3.7	13.8	2.7	3.1	0.4	2.6	14.0	0.8	0.2	1.2	0.2
022350	63.5	10.5	92	1.0	1.15	< 0.1	< 1	< 0.1	0.3	615	10.6	21.0	2.4	9.5	2.1	2.3	0.3	2.3	46.2	0.7	0.2	1.2	0.2
022201	6.6	2.3	14	5.3	5.74	< 0.1	< 1	7.1	2.4	51	0.9	1.9	0.3	1.1	0.5	0.7	< 0.1	0.6	901	0.2	< 0.1	0.2	< 0.1
022202	2.2	2.8	2	2.0	5.28	< 0.1	< 1	0.8	< 0.1	16	0.6	1.2	0.1	0.6	0.3	0.6	0.1	0.7	155	< 0.1	< 0.1	0.2	< 0.1
022203	35.9	7.8	92	3.0	0.46	< 0.1	1	< 0.1	< 0.1	569	15.0	27.8	2.9	9.9	1.8	2.0	0.3	1.7	34.8	0.3	0.2	0.9	0.1
022204	7.2	3.0	7	7.6	4.71	< 0.1	1	1.8	0.3	79	0.5	1.1	0.1	0.6	0.3	0.5	0.1	0.7	2710	< 0.1	< 0.1	0.2	< 0.1

Analyte Symbol	Rb	Y	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu	Ge	Tm	Yb	Lu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
022205	8.7	2.5	26	2.4	6.19	< 0.1	< 1	2.3	0.4	177	2.9	5.8	0.7	2.4	0.4	0.5	< 0.1	0.5	107	< 0.1	< 0.1	0.2	< 0.1
022206	22.2	23.0	162	2.3	0.46	< 0.1	< 1	< 0.1	0.2	194	35.2	72.6	8.5	32.3	5.7	5.8	0.8	5.3	12.1	0.4	0.4	2.3	0.4
022207	29.7	17.0	47	8.2	1.46	< 0.1	< 1	0.1	< 0.1	501	6.8	14.0	1.8	7.4	2.4	4.0	0.7	4.2	11.6	0.4	0.3	1.4	0.2
022208	23.8	16.6	25	6.0	4.49	< 0.1	< 1	0.2	1.4	399	3.1	6.0	0.7	3.3	1.7	4.1	0.7	4.4	29.7	< 0.1	0.3	1.4	0.2
022209	45.3	7.2	69	1.0	0.27	< 0.1	< 1	< 0.1	0.1	633	16.2	29.7	3.5	14.0	3.2	2.8	0.3	1.8	28.5	0.4	0.1	0.7	0.1
022210	38.9	52.3	100	24.3	2.83	< 0.1	2	0.2	0.3	867	142	321	49.3	268	> 100	91.7	7.2	22.5	20.5	1.4	0.6	2.7	0.4
022211	45.1	22.7	59	11.3	2.03	< 0.1	2	0.2	0.2	1310	39.1	92.1	14.3	77.4	30.1	23.3	1.9	7.4	28.5	0.5	0.3	1.4	0.2
022212	41.3	9.9	83	5.3	0.76	< 0.1	1	0.1	0.2	756	13.7	25.2	2.8	10.6	2.3	2.5	0.4	2.3	3.6	0.8	0.2	1.0	0.2
022213	63.4	8.7	93	0.4	0.67	< 0.1	1	< 0.1	< 0.1	737	16.6	29.6	3.1	10.7	2.0	2.1	0.3	1.9	35.7	0.6	0.2	0.9	0.1
022214	4.5	4.1	7	1.9	5.86	< 0.1	< 1	0.4	0.4	30	0.6	1.9	0.2	0.9	0.5	1.0	0.2	1.0	68.4	< 0.1	< 0.1	0.3	< 0.1
022215	18.2	14.4	97	4.5	2.08	< 0.1	< 1	0.2	0.2	232	16.9	37.3	4.8	19.4	3.8	3.8	0.5	3.4	6.5	0.3	0.3	1.6	0.3
022218	0.6	5.9	2	0.1	3.61	< 0.1	< 1	0.2	< 0.1	6	1.0	1.8	0.3	1.1	0.4	0.9	0.2	1.7	37.2	< 0.1	< 0.1	0.2	< 0.1

Results

Analyte Symbol	Ta	Sr	W	Re	Tl	Pb	Th	U	Ti	Au
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	g/tonne
Lower Limit	0.1	0.2	0.1	0.001	0.05	0.5	0.1	0.1	0.001	0.03
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	FA-GRA
022306	5.9	1010	8.3	0.001	0.18	8.4	70.2	4.4	1.52	
022307	< 0.1	1070	0.2	0.002	0.16	10.1	66.9	7.6	0.460	
022308	< 0.1	1000	< 0.1	0.008	0.14	6.6	78.8	6.0	0.289	
022309	< 0.1	113	1.2	0.013	0.08	2.3	2.9	0.5	0.076	
022310	0.2	161	1.5	0.003	0.45	3.4	8.5	1.5	0.228	
022311	0.3	115	4.5	0.036	0.29	3.8	4.7	1.0	0.345	
022312	< 0.1	93.7	2.5	0.003	0.18	2.6	3.0	1.4	0.209	
022313	0.1	12.0	2.2	0.009	0.11	29.4	1.9	0.5	0.039	5.63
022314	0.1	16.4	2.5	0.003	0.11	35.3	1.2	0.3	0.106	14.7
022315	< 0.1	58.5	0.5	0.005	0.28	3.9	7.6	1.6	0.154	
022316	< 0.1	8.3	0.6	0.002	0.09	2.7	3.3	0.4	0.017	
022317	0.1	138	4.9	0.010	0.32	2.9	3.6	0.5	0.352	
022318	0.1	28.1	2.4	0.004	0.36	27.8	3.2	0.7	0.127	
022319	0.6	70.5	5.9	0.004	0.32	3.4	10.8	2.2	0.072	
022320	0.2	197	1.3	0.011	0.17	3.9	4.1	0.8	0.395	
022321	< 0.1	106	0.5	0.004	0.33	14.3	13.5	0.8	0.127	
022322	0.2	123	2.0	0.008	0.26	9.1	5.5	1.4	0.276	
022323	0.7	166	1.8	0.005	0.11	19.8	14.3	3.4	0.225	
022324	< 0.1	4.4	0.4	0.003	0.06	11.9	0.5	0.2	0.004	
022325	< 0.1	198	0.7	0.011	0.20	4.9	3.7	4.2	0.361	
022326	0.1	7.1	1.6	0.009	0.21	8.9	0.4	0.1	0.050	
022327	< 0.1	22.5	10.9	0.005	0.30	4.8	5.1	1.2	0.268	17.0
022328	0.4	34.0	12.1	0.007	0.35	5.2	9.1	2.3	0.349	5.51
022329	0.2	180	0.7	0.004	0.18	7.6	9.1	1.4	0.161	
022330	< 0.1	248	0.3	0.005	0.19	6.9	5.4	1.2	0.250	
022331	< 0.1	13.7	0.7	0.003	< 0.05	1.3	0.7	0.3	0.045	
022332	< 0.1	297	0.3	0.002	0.15	7.6	5.5	1.2	0.239	
022333	< 0.1	114	1.6	0.001	0.08	6.6	15.3	13.9	0.107	
022334	< 0.1	9.1	0.4	0.006	0.16	14.1	1.8	0.2	0.008	9.25
022335	0.2	149	1.7	0.005	0.12	5.6	4.8	0.9	0.374	
022336	< 0.1	4.4	1.0	0.002	< 0.05	3.9	2.2	0.3	0.006	31.9
022337	0.3	129	4.9	< 0.001	0.26	6.0	6.1	1.4	0.312	
022338	< 0.1	4.3	0.9	0.003	0.20	13.8	1.0	< 0.1	0.026	27.0
022339	0.1	146	0.6	0.007	0.14	6.2	6.0	1.1	0.255	
022340	< 0.1	5.7	0.4	0.002	< 0.05	1.1	0.3	0.1	0.009	15.0
022341	0.2	267	0.5	0.008	0.14	9.0	7.5	1.6	0.299	
022342	0.2	128	0.7	0.010	0.09	5.0	6.1	1.2	0.251	
022343	< 0.1	153	3.7	0.005	< 0.05	2.0	0.3	0.3	0.019	
022344	0.1	105	1.3	0.010	< 0.05	2.6	0.4	< 0.1	0.471	
022345	< 0.1	144	1.5	0.004	0.07	2.7	0.8	0.4	0.080	
022346	< 0.1	161	0.8	0.008	0.14	4.1	2.1	0.7	0.271	
022347	< 0.1	42.7	0.4	0.003	0.16	21.3	10.7	0.6	0.024	
022348	0.3	250	0.6	0.005	0.37	9.4	11.2	2.4	0.269	
022349	0.4	300	1.2	0.011	0.19	10.3	8.2	1.7	0.244	
022350	< 0.1	94.6	0.8	0.002	0.40	3.8	3.9	1.1	0.260	
022201	< 0.1	13.0	1.8	0.005	0.45	56.0	2.1	0.2	0.031	11.0
022202	< 0.1	6.1	0.5	< 0.001	0.11	5.7	0.9	< 0.1	0.007	
022203	0.1	223	0.9	0.006	0.26	5.5	6.4	1.6	0.201	
022204	< 0.1	14.9	1.2	0.005	0.22	9.9	1.0	0.1	0.024	

Analyte Symbol	Ta	Sr	W	Re	Tl	Pb	Th	U	Ti	Au
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	g/tonne
Lower Limit	0.1	0.2	0.1	0.001	0.05	0.5	0.1	0.1	0.001	0.03
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	FA-GRA
022205	< 0.1	3.7	1.6	0.005	0.09	3.0	0.8	0.2	0.050	13.5
022206	0.1	204	0.3	0.004	0.14	4.3	7.3	1.7	0.321	
022207	0.1	199	1.2	0.006	0.14	9.6	7.0	0.7	0.261	
022208	< 0.1	69.7	2.2	0.005	0.13	7.6	7.2	0.7	0.098	
022209	< 0.1	233	0.4	0.006	0.30	8.2	7.1	1.2	0.148	
022210	< 0.1	273	1.7	0.008	0.17	19.5	313	3.1	0.149	
022211	0.1	219	3.9	0.008	0.18	10.5	83.3	1.4	0.188	
022212	0.2	572	1.2	0.012	0.22	11.4	7.8	1.2	0.260	
022213	< 0.1	242	1.3	0.005	0.24	10.2	7.6	1.9	0.203	
022214	< 0.1	7.4	0.6	0.006	< 0.05	6.4	1.5	0.2	0.018	
022215	0.3	210	4.3	0.005	0.13	4.7	3.6	1.1	0.459	
022218	< 0.1	3.4	0.3	0.008	< 0.05	1.3	1.2	0.2	0.002	

QC

Analyte Symbol	As	Au	Co3O4	CuO	NiO	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI	Total	B	Li	Na	Mg
Unit Symbol	%	ppb	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	%	%
Lower Limit	0.01	5	0.005	0.005	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003		0.01	1	0.5	0.01	0.01
Method Code	ICP-OES	FA-AA	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	TD-MS	TD-MS	TD-MS	TD-MS
GXR-1 Meas																							
GXR-1 Cert																							
MICA-FE Meas			< 0.005	< 0.005	0.003	34.22	19.33	25.27	0.341	4.71	0.41	0.27	8.75	2.47	0.43	0.01	0.025						
MICA-FE Cert			0.003	0.001	0.004	34.4	19.5	25.6	0.350	4.55	0.430	0.300	8.75	2.50	0.450	0.01	0.024						
PTM-1a Meas	0.23																						
PTM-1a Cert	0.220																						
AC-E Meas						70.72	15.07	2.57	0.060	0.03	0.39	6.40	4.65	0.11									
AC-E Cert						70.35	14.70	2.56	0.058	0.03	0.34	6.54	4.49	0.11									
DTS-2b Meas						39.15	0.47			49.72	0.12					2.25							
DTS-2b Cert						39.4	0.450			49.4	0.120					2.27							
MP-1b Meas	2.22																						
MP-1b Cert	2.30																						
KH3 Meas						8.73	2.43		0.091	0.63	47.10	0.12	0.39	0.12	0.12								
KH3 Cert						8.59	2.40		0.080	0.650	47.60	0.100	0.430	0.130	0.1170								
NCS DC73304 (GBW 07106) Meas						90.10	3.62	3.22		0.09	0.33	0.09	0.65		0.23								
NCS DC73304 (GBW 07106) Cert						90.36	3.52	3.22		0.082	0.30	0.061	0.65		0.222								
OxN92 Meas																							
OxN92 Cert																							
CDN-GS-1L Meas		1180																					
CDN-GS-1L Cert		1160.00																					
CDN-GS-1L Meas		1160																					
CDN-GS-1L Cert		1160.00																					
CDN-GS-1L Meas		1110																					
CDN-GS-1L Cert		1160.00																					
OxD108 Meas		397																					
OxD108 Cert		414.000																					
OxD108 Meas		405																					
OxD108 Cert		414.000																					
OxD108 Meas		399																					
OxD108 Cert		414.000																					
OxK110 Meas																							
OxK110 Cert																							
PTC-1b Meas	0.02																						
PTC-1b Cert	0.0222																						
022315 Orig		< 5																					
022315 Dup		< 5																					
022325 Orig		< 5																		2	16.2	> 3.00	3.21
022325 Dup		< 5																		2	16.2	> 3.00	3.25
022327 Orig	3.41																			5	10.6	0.28	0.32
022327 Dup	3.40																			4	10.9	0.28	0.33
022328 Orig	1.62																						
022328 Dup	1.58																						
022334 Orig		> 5000	0.046	1.03	0.004	84.50	0.96	9.37	0.020	0.14	0.12	0.05	0.11	0.02	0.02	0.01	< 0.003	3.60	100.0	335	0.6	0.10	0.09
022334 Split		> 5000	0.048	1.05	0.003	85.07	1.01	9.47	0.019	0.16	0.13	0.07	0.12	0.02	0.02	0.01	< 0.003	3.55	100.8	323	0.6	0.09	0.09
022335 Orig		9	< 0.005	< 0.005	0.025	58.25	15.98	7.25	0.134	3.30	3.67	4.11	1.33	0.64	0.10	< 0.01	0.020	5.29	100.1				
022335 Dup		7	< 0.005	< 0.005	0.011	58.12	16.30	7.23	0.133	3.33	3.64	4.11	1.32	0.64	0.10	< 0.01	0.022	5.34	100.3				

Analyte Symbol	As	Au	Co3O4	CuO	NiO	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr2O3	V2O5	LOI	Total	B	Li	Na	Mg
Unit Symbol	%	ppb	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	%	%
Lower Limit	0.01	5	0.005	0.005	0.003	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003		0.01	1	0.5	0.01	0.01
Method Code	ICP-OES	FA-AA	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	TD-MS	TD-MS	TD-MS	TD-MS
022350 Orig		272																					
022350 Dup		289																					
022205 Orig		> 5000	< 0.005	0.012	0.016	94.74	1.85	2.73	0.010	0.14	0.01	0.08	0.58	0.09	0.01	0.02	< 0.003	0.57	100.9	50	0.7	0.11	0.04
022205 Split		> 5000	< 0.005	0.013	0.020	94.26	1.74	2.62	0.010	0.13	0.01	0.08	0.60	0.09	0.01	0.02	0.003	0.61	100.2	38	0.9	0.11	0.04
022210 Orig		8																					
022210 Dup		7																					
022213 Orig																				< 1	8.8	2.61	1.38
022213 Dup																				5	9.1	2.69	1.41
022214 Orig			< 0.005	0.006	0.026	95.70	1.01	2.14	0.021	0.12	0.13	0.11	0.38	0.04	0.04	0.02	< 0.003	0.31	100.0				
022214 Dup			< 0.005	0.006	0.022	94.61	0.99	2.11	0.019	0.12	0.13	0.10	0.31	0.03	0.04	0.02	< 0.003	0.36	98.87				
022218 Orig		36	< 0.005	< 0.005	0.006	98.66	0.41	1.45	0.013	0.01	0.03	< 0.01	0.03	0.01	0.02	0.01	< 0.003	0.00	100.7	57	0.7	0.03	< 0.01
022218 Split		22	< 0.005	< 0.005	< 0.003	98.59	0.38	1.46	0.014	0.01	0.03	< 0.01	0.04	0.01	0.03	0.01	< 0.003	0.02	100.6	59	0.7	0.03	< 0.01
Method Blank		< 5																					
Method Blank		< 5																					
Method Blank		< 5																					
Method Blank		< 5																					
Method Blank																				1	< 0.5	< 0.01	< 0.01
Method Blank																							
Method Blank																				1	< 0.5	< 0.01	< 0.01
Method Blank																							
Method Blank	< 0.01																						
Method Blank			< 0.005	< 0.005	< 0.003	< 0.01	< 0.01	< 0.01	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003						

QC

Analyte Symbol	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Ni	Er	Be	Ho	Hg	Ag	Cs	Co	Eu	Bi	Se	Zn	Ga	As
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	0.5	0.1	0.1	0.1	10	0.05	0.05	0.1	0.05	0.02	0.1	0.2	0.1	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
GXR-1 Meas														3440									
GXR-1 Cert														3900									
MICA-FE Meas																							
MICA-FE Cert																							
PTM-1a Meas																							
PTM-1a Cert																							
AC-E Meas																							
AC-E Cert																							
DTS-2b Meas																							
DTS-2b Cert																							
MP-1b Meas																							
MP-1b Cert																							
KH3 Meas																							
KH3 Cert																							
NCS DC73304 (GBW 07106) Meas																							
NCS DC73304 (GBW 07106) Cert																							
OxN92 Meas																							
OxN92 Cert																							
CDN-GS-1L Meas																							

Analyte Symbol	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Ni	Er	Be	Ho	Hg	Ag	Cs	Co	Eu	Bi	Se	Zn	Ga	As
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	0.5	0.1	0.1	0.1	10	0.05	0.05	0.1	0.05	0.02	0.1	0.2	0.1	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
CDN-GS-1L Cert																							
CDN-GS-1L Meas																							
CDN-GS-1L Cert																							
CDN-GS-1L Meas																							
CDN-GS-1L Cert																							
OxD108 Meas																							
OxD108 Cert																							
OxD108 Meas																							
OxD108 Cert																							
OxD108 Meas																							
OxD108 Cert																							
OxK110 Meas																							
OxK110 Cert																							
PTC-1b Meas																							
PTC-1b Cert																							
022315 Orig																							
022315 Dup																							
022325 Orig	8.75	0.82	4.42	0.1	115	73.5	653	5.68	2.2	86.9	1.6	1.7	0.5	< 10	0.17	2.08	24.0	0.69	0.04	0.9	52.9	17.0	1.3
022325 Dup	8.86	0.82	4.38	< 0.1	107	73.2	655	5.72	2.1	86.4	1.5	1.8	0.5	10	0.16	2.10	24.2	0.69	0.04	0.9	52.5	16.6	1.8
022327 Orig	7.39	1.73	0.11	< 0.1	49	31.4	181	5.07	2.6	10.7	1.1	1.1	0.4	< 10	0.75	1.00	12.4	0.51	1.09	1.1	11.0	17.5	> 10000
022327 Dup	7.55	2.06	0.11	< 0.1	49	32.6	178	5.16	2.8	11.1	1.2	1.1	0.4	< 10	0.63	1.03	12.5	0.53	1.16	0.9	10.8	17.2	> 10000
022328 Orig																							
022328 Dup																							
022334 Orig	0.30	0.05	0.13	0.2	13	74.4	237	6.57	< 0.1	42.9	1.1	1.0	0.5	30	11.6	0.58	335	0.17	2.70	1.7	58.2	1.0	23.0
022334 Split	0.28	0.05	0.12	0.3	13	86.4	218	6.14	< 0.1	41.0	1.2	1.4	0.5	200	10.2	0.60	333	0.17	2.97	2.5	65.2	0.9	23.4
022335 Orig																							
022335 Dup																							
022350 Orig																							
022350 Dup																							
022205 Orig	0.74	0.48	0.04	0.8	15	107	121	1.88	0.4	7.0	0.3	0.5	0.1	< 10	1.31	0.62	5.7	0.13	0.31	1.5	181	2.5	4560
022205 Split	0.72	0.47	0.04	0.8	14	96.8	108	1.75	0.4	6.5	0.3	0.5	0.1	< 10	1.55	0.83	5.8	0.14	0.33	1.3	175	2.4	4460
022210 Orig																							
022210 Dup																							
022213 Orig	8.42	1.31	2.87	0.1	62	26.5	593	3.24	2.3	23.7	1.1	1.6	0.4	50	0.11	1.17	13.3	0.60	0.24	0.7	39.5	19.8	2.2
022213 Dup	8.68	1.95	2.89	0.2	64	30.9	607	3.33	2.4	24.4	1.1	1.4	0.4	20	0.14	1.21	13.5	0.64	0.31	0.7	40.1	19.4	2.3
022214 Orig																							
022214 Dup																							
022218 Orig	0.07	0.02	0.05	< 0.1	3	52.4	140	1.01	< 0.1	4.4	0.6	0.4	0.3	170	< 0.05	0.59	3.4	0.18	0.18	0.5	3.0	0.4	9.0
022218 Split	0.07	0.02	0.05	< 0.1	3	62.8	138	1.01	< 0.1	4.2	0.6	0.4	0.3	60	0.17	0.73	3.4	0.18	0.17	1.4	4.2	0.4	7.7
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank	< 0.01	< 0.01	< 0.01	< 0.1	< 1	< 0.5	< 1	< 0.01	< 0.1	< 0.5	< 0.1	< 0.1	< 0.1	< 10	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1	< 0.2	< 0.1	< 0.1
Method Blank														< 10									
Method Blank	< 0.01	< 0.01	< 0.01	< 0.1	< 1	< 0.5	< 1	< 0.01	< 0.1	< 0.5	< 0.1	< 0.1	< 0.1	< 10	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1	< 0.2	< 0.1	< 0.1
Method Blank														< 10									
Method Blank																							

Analyte Symbol	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Ni	Er	Be	Ho	Hg	Ag	Cs	Co	Eu	Bi	Se	Zn	Ga	As
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	0.5	0.1	0.1	0.1	10	0.05	0.05	0.1	0.05	0.02	0.1	0.2	0.1	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
Method Blank																							

QC

Analyte Symbol	Rb	Y	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu	Ge	Tm	Yb	Lu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
GXR-1 Meas																							
GXR-1 Cert																							
MICA-FE Meas																							
MICA-FE Cert																							
PTM-1a Meas																							
PTM-1a Cert																							
AC-E Meas																							
AC-E Cert																							
DTS-2b Meas																							
DTS-2b Cert																							
MP-1b Meas																							
MP-1b Cert																							
KH3 Meas																							
KH3 Cert																							
NCS DC73304 (GBW 07106) Meas																							
NCS DC73304 (GBW 07106) Cert																							
OxN92 Meas																							
OxN92 Cert																							
CDN-GS-1L Meas																							
CDN-GS-1L Cert																							
CDN-GS-1L Meas																							
CDN-GS-1L Cert																							
CDN-GS-1L Meas																							
CDN-GS-1L Cert																							
OxD108 Meas																							
OxD108 Cert																							
OxD108 Meas																							
OxD108 Cert																							
OxD108 Meas																							
OxD108 Cert																							
OxK110 Meas																							
OxK110 Cert																							
PTC-1b Meas																							
PTC-1b Cert																							
022315 Orig																							
022315 Dup																							
022325 Orig	41.1	11.5	83	2.0	0.40	< 0.1	< 1	0.2	0.2	84	11.6	23.5	2.8	11.0	2.3	2.6	0.4	2.5	3.6	0.5	0.2	1.2	0.2
022325 Dup	40.8	11.2	78	2.8	0.37	< 0.1	1	0.2	< 0.1	84	11.6	23.2	2.8	10.8	2.3	2.6	0.4	2.6	3.1	0.5	0.2	1.1	0.2
022327 Orig	53.5	7.9	164	3.6	1.83	< 0.1	1	13.1	< 0.1	158	10.5	22.4	2.6	9.9	1.8	1.8	0.3	1.8	65.9	0.1	0.2	0.9	0.1

Analyte Symbol	Rb	Y	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu	Ge	Tm	Yb	Lu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
022327 Dup	57.0	8.1	173	3.1	2.00	< 0.1	2	13.2	< 0.1	145	11.1	23.4	2.7	10.2	1.9	1.9	0.3	1.8	66.5	0.2	0.2	1.0	0.2
022328 Orig																							
022328 Dup																							
022334 Orig	0.9	9.9	5	0.8	3.82	< 0.1	1	2.2	0.4	8	0.7	1.2	0.2	0.8	0.3	1.0	0.3	2.4	7690	0.1	0.1	0.5	< 0.1
022334 Split	1.0	9.8	5	0.7	4.48	< 0.1	1	2.2	0.5	8	0.7	1.3	0.2	0.8	0.3	1.1	0.3	2.6	7260	0.1	0.1	0.6	< 0.1
022335 Orig																							
022335 Dup																							
022350 Orig																							
022350 Dup																							
022205 Orig	8.7	2.5	26	2.4	6.19	< 0.1	< 1	2.3	0.4	177	2.9	5.8	0.7	2.4	0.4	0.5	< 0.1	0.5	107	< 0.1	< 0.1	0.2	< 0.1
022205 Split	9.0	2.6	26	2.2	5.33	< 0.1	< 1	2.4	0.6	182	3.0	5.9	0.7	2.5	0.5	0.5	< 0.1	0.6	114	0.1	< 0.1	0.2	< 0.1
022210 Orig																							
022210 Dup																							
022213 Orig	64.6	8.6	93	0.6	0.58	< 0.1	1	< 0.1	< 0.1	728	16.3	29.0	3.0	10.4	2.0	2.0	0.3	1.8	34.4	0.4	0.1	0.9	0.1
022213 Dup	62.2	8.7	94	0.1	0.76	< 0.1	1	0.1	0.1	746	16.8	30.3	3.2	11.0	2.0	2.2	0.3	1.9	37.0	0.7	0.2	0.9	0.1
022214 Orig																							
022214 Dup																							
022218 Orig	0.6	5.9	2	0.1	3.61	< 0.1	< 1	0.2	< 0.1	6	1.0	1.8	0.3	1.1	0.4	0.9	0.2	1.7	37.2	< 0.1	< 0.1	0.2	< 0.1
022218 Split	0.5	6.1	1	0.1	3.47	< 0.1	< 1	0.2	0.4	6	1.0	1.9	0.3	1.2	0.4	0.9	0.2	1.6	41.3	< 0.1	< 0.1	0.2	< 0.1
Method Blank																							
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Method Blank																							
Method Blank																							
Method Blank	< 0.2	< 0.1	< 1	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1
Method Blank																							
Method Blank	< 0.2	< 0.1	< 1	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1
Method Blank																							
Method Blank																							
Method Blank																							

QC

Analyte Symbol	Ta	Sr	W	Re	Tl	Pb	Th	U	Ti	Au
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	g/tonne
Lower Limit	0.1	0.2	0.1	0.001	0.05	0.5	0.1	0.1	0.001	0.03
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	FA-GRA
GXR-1 Meas										
GXR-1 Cert										
MICA-FE Meas										
MICA-FE Cert										
PTM-1a Meas										
PTM-1a Cert										
AC-E Meas										
AC-E Cert										
DTS-2b Meas										
DTS-2b Cert										
MP-1b Meas										
MP-1b Cert										
KH3 Meas										

Analyte Symbol	Ta	Sr	W	Re	Tl	Pb	Th	U	Ti	Au
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	g/tonne
Lower Limit	0.1	0.2	0.1	0.001	0.05	0.5	0.1	0.1	0.001	0.03
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	FA-GRA
KH3 Cert										
NCS DC73304 (GBW 07106) Meas										
NCS DC73304 (GBW 07106) Cert										
OxN92 Meas										7.67
OxN92 Cert										7.64
CDN-GS-1L Meas										
CDN-GS-1L Cert										
CDN-GS-1L Meas										
CDN-GS-1L Cert										
CDN-GS-1L Meas										
CDN-GS-1L Cert										
OxD108 Meas										
OxD108 Cert										
OxD108 Meas										
OxD108 Cert										
OxD108 Meas										
OxD108 Cert										
OxK110 Meas										3.53
OxK110 Cert										3.602
PTC-1b Meas										
PTC-1b Cert										
022315 Orig										
022315 Dup										
022325 Orig	< 0.1	200	0.5	0.011	0.20	5.0	3.8	4.3	0.354	
022325 Dup	0.1	197	0.8	0.011	0.21	4.8	3.7	4.2	0.368	
022327 Orig	< 0.1	22.5	10.6	0.008	0.28	4.7	4.9	1.2	0.267	
022327 Dup	< 0.1	22.4	11.1	0.001	0.31	4.9	5.3	1.2	0.269	
022328 Orig										
022328 Dup										
022334 Orig	< 0.1	9.1	0.4	0.006	0.16	14.1	1.8	0.2	0.008	9.25
022334 Split	< 0.1	9.3	0.5	0.010	0.19	15.2	1.2	0.2	0.008	6.94
022335 Orig										
022335 Dup										
022350 Orig										
022350 Dup										
022205 Orig	< 0.1	3.7	1.6	0.005	0.09	3.0	0.8	0.2	0.050	13.5
022205 Split	< 0.1	3.8	1.8	0.014	0.10	3.1	0.8	0.2	0.049	17.6
022210 Orig										
022210 Dup										
022213 Orig	< 0.1	238	0.8	0.007	0.24	10.1	7.5	1.8	0.198	
022213 Dup	0.2	245	1.9	0.004	0.25	10.4	7.6	1.9	0.207	
022214 Orig										
022214 Dup										
022218 Orig	< 0.1	3.4	0.3	0.008	< 0.05	1.3	1.2	0.2	0.002	
022218 Split	< 0.1	3.6	0.3	0.006	< 0.05	1.2	1.2	0.2	0.002	
Method Blank										
Method Blank										

Analyte Symbol	Ta	Sr	W	Re	Tl	Pb	Th	U	Ti	Au
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	g/tonne
Lower Limit	0.1	0.2	0.1	0.001	0.05	0.5	0.1	0.1	0.001	0.03
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	FA-GRA
Method Blank										
Method Blank										
Method Blank	< 0.1	< 0.2	< 0.1	< 0.001	< 0.05	< 0.5	< 0.1	< 0.1	< 0.001	
Method Blank										
Method Blank	< 0.1	< 0.2	< 0.1	< 0.001	< 0.05	< 0.5	< 0.1	< 0.1	< 0.001	
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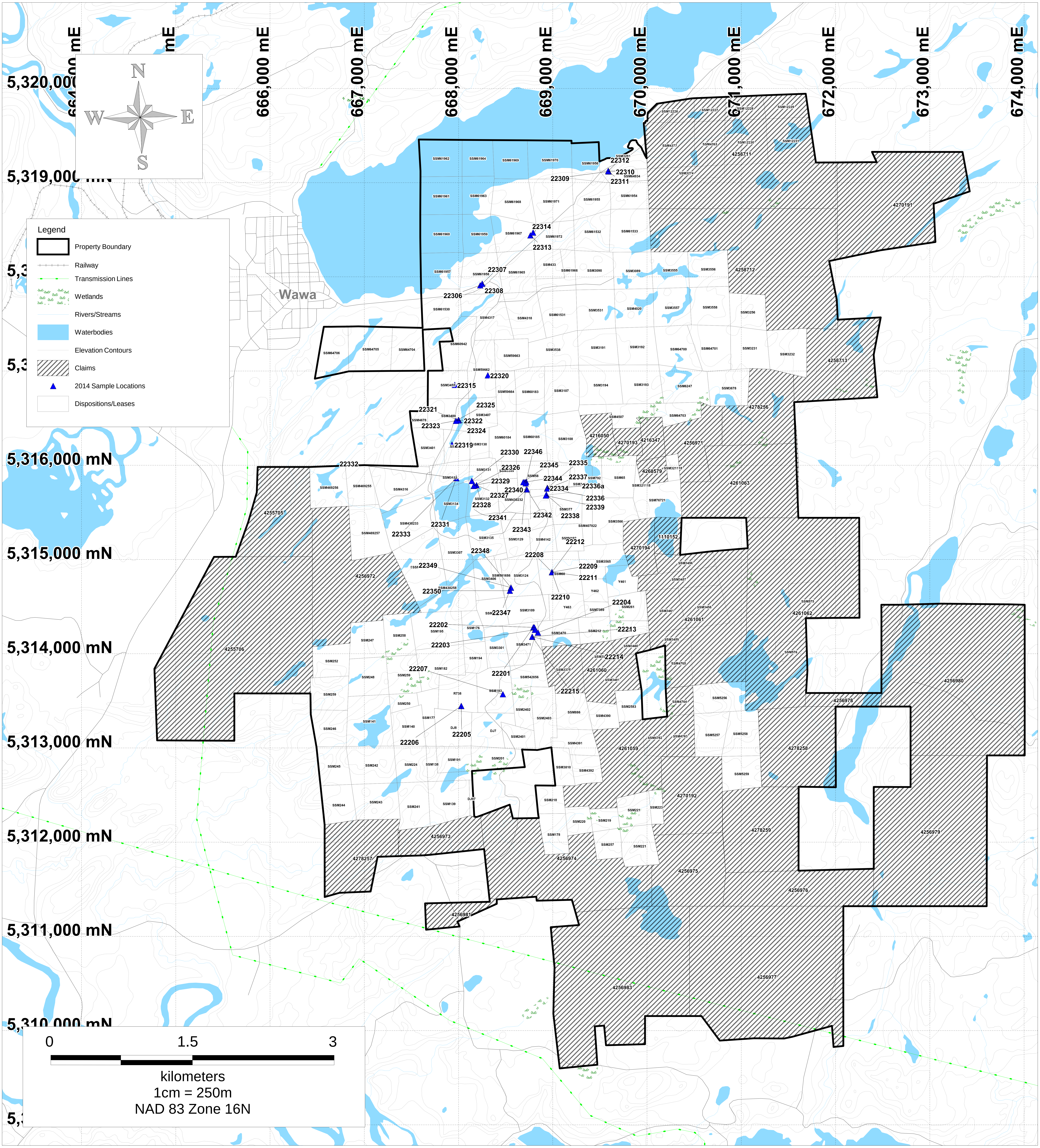
Method Blank										

Appendix 2

Sample Locations and Descriptions (*included as independent file*)



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5,312,000 mN
5,311,000 mN
5,310,000 mN
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E
W
Legend
Property Boundary
Railway
Transmission Lines
Wetlands
Rivers/Streams
Waterbodies
Elevation Contours
Claims
2014 Sample Locations
Dispositions/Leases
Wawa
22312
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4256971
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3
kilometers
1cm = 250m
NAD 83 Zone 16N

Surface Sample Descriptions

Sample	Disp_Label	Area	x	y	Description	JF_Description
22306	SSM61958	Surluga	668230.34	5317910.54	22306 – composite grab across 60m cm of the JSZ seen in pic 206	Carbonatite dyke sheared in the JSZ; Increases in the Zr+Nb content may partially be related to increases in the K content; All the XRFed pieces from the bag have the signature of the carbonatite dyke, which in this regard may not be constrained to what
22307	SSM61958	Surluga	668251.34	5317927.73	22307 – Whole Rock sample of the 1.25 m thick Mafic to Ultramafic dyke.	Carbonatite dyke;Very rich in Nb+Zr
22308	SSM61958	Surluga	668251.34	5317927.73	22308 – Composite grab of pyritic material along south edge/contact of mafic dyke and tuff host rock (pic 211) at top of outcrop.	Carbonatite/lamprohyric dyke; rich in disseminated Py+traces of Ccp; Exhibits substantial enrichments in Zr and Nb witnessing mobility for those 2 elements but also for Bi; Probabilities are that this dyke is likely related to the Au system
22309	SSM64934	Wawa Goldfield	669592.19	5319119.29	22309 – composite grab of quartz vein along 12 m of adit entrance	Lineation at 30 degree counterclockwise from a line perpendicular from the Qtz vein/Mafic host contact
22310	SSM64934	Wawa Goldfield	669592.19	5319119.29	22310 – WR sample of host on hanging wall side of shear (GPS pt 50)	Ca-K-altered dioritic intrusion; Weakly foliated;Cut by Qtz-Cb veins (calcite+FeCarb)
22311	SSM64934	Wawa Goldfield	669587.89	5319122.83	22311 – composite grab of quartz vein with 1-5% dissem py	Pervasive Bt alteration with or without carbonates in the selvages of the quartz; all the observed faul
22312	SSM64934	Wawa Goldfield	669587.89	5319122.83	22312 – composite grab of 2nd qv above qv in sample 22311; 1-2% fine dissem py pic	Partially recrystallized Qtz-Cb (calcite+Ankerite or siderite) vein with traces of disseminated Py;Host mafic is pervasively sheared and potassically-altered
22313	SSM61967	Mackay	668762.9	5318440.6	22313 – 20-40 cm qv with 1-2% fine dissem py cpy, tr aspy(?)	Partially recrystallized Qtz vein with granoblastic and crystalline quartz crystals; Disseminated Py and traces of Ccp
22314	SSM61967	Mackay	668791.58	5318470.47	22314 – E end of Mackay pit, composite grab if rusty quartz vein in 5 m area.	Qtz vein with schlirens of the host rock biotitized and enriched in sulfides; cm-wide portions of the selvages included with the vein sample are intensely potassically altered with substantial enrichments in Ba and Te
22315	SSM3455	Surluga Mine	667960.39	5316853.18	22315	Pervasive white mica+Chl with or without Cb alteration of an intermediate and intensely sheared precursor in the JSZ
22316	SSM3408	Cora Shaft	667930.73	5316219.63	22316 - 20-40 cm Quartz vein 1-2% dissem py	Translucent to milky Qtz; Dissmeinated Tur associated with Py
22317	SSM3408	Cora Shaft	667930.73	5316219.63	22317 – whole rock sample HW of JSZ	Darg folded mafic intrusive in the JSZ; Folding includes some of the veins and the mafic host and is cut by a carbonate-rich Qtz-Cb vein with FeCarb+traces of Py Ccp; The discordant vein is enriched in Nb, maybe underlying the influence of lamprophyres
22318	SSM3408	Cora Shaft	667930.73	5316219.63	22318 – quartz vein	Host is either Fe or (amphibole) or sericitized; Qtz vein is recrystallized; Traces of Ccp in the Qtz vein and the Fe-rich alteration host
22319	SSM3408	Cora Shaft	667930.73	5316219.63	22319 – Whole rock sample FW of JSZ	Strongly sheared nad foliated felsic precrusor rock overprinted by a pervasive white mica alteration; Spotted Kfs veinlets cutting the foliation planes
22320	SSM59662	Cora Shaft	668311.01	5316955.31	22320 – whole rock sample of Jubilee Stock fg diorite	Weakly but penetratively foliated
22321	SSM3400	Jubliee Shaft	668002.7	5316478.9	22321 –JSZ grab sample	Intrusion is entirely recrystalized; Fabric is very strong and almost forms needles in a possible streching lineations; Somewhat a remainder of a nematoblastic texture
22322	SSM3400	Jubliee Shaft	667997.14	5316477.52	22322 – Whole rock sample of fg Jubilee Stock diorite HW	Why the two samples in the bag are so different; one is a fine-grained and recrystalized mafic rock whereas the other sample is an albitite; are they spatially related and the contact is an alteration one; or are they coming from two distinctive units;
22323	SSM3400	Jubliee Shaft	667997.14	5316477.52	22323 – Whole rock sample JSZ	Possible contact between the Zr-rich and lower Zr unit wihtin the fault zone
22324	SSM3400	Jubliee Shaft	667997.14	5316477.52	22324 – 2-4 cm thick quartz vein	
22325	SSM3400	Jubliee Shaft	667973.13	5316472.7	22325 – Whole rock sample of fg Jubilee Stock diorite FW	Why is it described as undeformed? Strongly foliated and the fabric is well visible on the picture
22326	SSM3132	Minto Zone B	668161.93	5315781.02	22326 Quartz vein	
22327	SSM3132	Minto Zone B	668190.68	5315788.87	22327 whole rock highly sheared rock with aspy? Plus assay	Lineation plunges/trend parallel to dip direction
22328	SSM3132	Minto Zone B	668190.68	5315788.87	22328 whole rock sheared qtz eye porph	Strongly foliated with arsenopyrite needles potentially defining a mineral lineation; hard to see any evidence of quartz eyes in this sample
22329	SSM3132	Minto Zone B	668165.91	5315787.14	22329 whole rock HW qtz eye porph	Feldspar pophyritic rock; no evidences of quartz eyes; weakly foliated with weak white mica+Bt alteration; Possibly sodic alteration background
22330	SSM3132	Minto Zone B	668141.4	5315833.92	22330 whole rock FW qtz eye porph	Foliated and altered
22331	SSM3133	Minto Zone A	667976.07	5315863.9	22331 Quartz vein	Partially recrystallized Qtz vein with granoblastic crystals; Otherwise coarse crystalline Qtz crystals weakly recrystalized
22332	SSM3133	Minto Zone A	667976.07	5315863.9	22332 whole rock diorite	Why is it described as undeformed? Strongly foliated
22333	SSM3133	Minto Zone A	667976.07	5315863.9	22333 shear zone and quartz vein	Dirty quartz vein with many impurities in it; Qtz is translucent to milky, is fine to coarse-grained and comprises schlirens of the host rock now potassically altered
22334	SSM58	Sunrise	668942.45	5315760.72	22334 Quartz vein	With Ccp+Co-Py; Qtz has a milky aspect and appears recrystallized
22335	SSM58	Sunrise	668942.45	5315760.72	22335 whole rock diorite	
22336	SSM58	Sunrise	668942.06	5315753.7	22336 shear zone and quartz vein	
22336a	SSM58	Sunrise	668942.06	5315753.7	22336A – spec of VG in quartz vein	
22337	SSM58	Sunrise	668942.06	5315753.7	22337 whole rock diorite	Why is it described as undeformed? Strongly foliated
22338	SSM3047	Sunrise	668932.31	5315689.24	22338 Quartz vein	Cut by Kfs alteration veinlets enriched in Zr, Nb; Qtz is more translucent in this vein; Sample is labelled as 022368
22339	SSM4141	Sunrise	668926.39	5315679.38	22339 shear zone and quartz vein	No Qtz vein in the sample/bag named 022369
22340	SSM58	Sunrise	668724.44	5315744.65	22340 quartz vein	Qtz vein in shear zone; Qtz is recrystallized (granoblastic) and sheared; Shear plans are Bt-rich and very thin and cut the Qtz vein; High Ccp content in this vein
22341	SSM58	Sunrise	668724.44	5315744.65	22341 whole rock felsic tuff FW of qv	Tuff? Or more likely recrystallized dioritic intrusive with a penetrative planar fabric; Ca-K altered, but also comprises very leucocratic pods
22342	SSM58	Sunrise	668724.44	5315744.65	22342 whole rock of brecciated tuff and granodiorite	Granodioritic rock; faintly foliated
22343	SSM58	Mickelson	668718.1	5315826.11	22343 rusty area of mafic dyke	Qtz-FeCarbonate vein cutting the mafic intrusion; Mafic intrusion schlirens in the vein are entirely biotitized and probably partially carbonatized
22344	SSM58	Mickelson	668702.92	5315821.88	22344 whole rock of mafic dyke	Strongly foliated with traces Py+Ccp; Bt is dissminated in the Mafic dyke; Cut by spotted Cb veinlets slighly enriched in basae metals
22345	SSM58	Mickelson	668687.47	5315821.54	22345 quartz vein in mafic dyke	Qtz-Tur? Vein in the mafic intrusion; Maf intrusion is most likely Bt-altered
22346	SSM58	Mickelson	668712.56	5315808.92	22346 whole rock intermediate to felsic tuff	Strong and penetrative foliation in the tuff; Chl+Bt alteration is pervasive and may come, in the sample, with Cb veinlets; few thin pinkish-brown veinlets cut the sample
22347	SSM3124	ParkHill	668555.8	5314701.36	22347 – quartz vein	Partially recrystallized Qtz vein with disseminated Py and traces of Cp
22348	SSM3124	ParkHill	668555.8	5314701.36	22348 - whole rock of breccia N side of quartz vein	Foliated and altered
22349	SSM3124	ParkHill	668555.8	5314701.36	22349 - whole rock of breccia side of quartz vein	Tectono-hydrothermal breccia?
22350	SSM3124	ParkHill	668544.12	5314669.54	22350 – quartz vein	Qtz vein with smokey Qtz? Emplaced in a felsic precursor; sample very dirty hard to get a good feeling of what it is
22201	SSM3471	Mariposa Shaft	668794.68	5314282.11	22201 – quartz vein	
22202	SSM3471	Mariposa Shaft	668804.75	5314279.74	22202 - quartz vein	Some signs of a streching lineation in the Qtz vein; Qtz is strongly recrystalized;Smokey Quartz; Part of the silicification is formed after the host rock
22203	SSM3471	Mariposa Shaft	668810.28	5314254.54	22203 - whole rock of breccia	
22204	SSM3471	Mariposa Shaft	668843.27	5314224.7	22204 – quartz vein	Sf-rich Qtz vein; Sf mix of Ccp and Py; Sulfides are forming veins in the Qtz vein;
22205	R738	EM Conductor	668029.4	5313445.51	22205 – quartz vein	Qtz vein characterized by strong As alteration in its selvages; As minerals likely include sulfasernides but other arsenic mineral cannot be excluded as some of the As-rich zone are devoid of S; Alteration in the selvages is Ca-K; Now of interest if the
22206	R738	EM Conductor	668029.4	5313445.51	22206 - whole rock of mafic to intermediate volcanic	Intermediate tuff; Bt altered and weakly foliated
22207	SSM183	Nyman	668470.26	5313570.63	22207 – quartz vein	Chloritized and K-altered mafic/intermediate rock cut by Qtz-Cb veinlets with Kfs+Carbonate selvages, bright pink
22208	SSM60	Van Sickel Shaft	668991.57	5314866.3	22208 – quartz vein	Qtz-Cb vein with a cm-wide portion of the Carbonatized and K-altered host Bt-rich and foliated tuff
22209	SSM60	Van Sickel Shaft	668991.57	5314866.3	22209 - whole rock of feldspar crystal tuff FW	Two main planar fabrics in this rock; one is defined by Bt crystal and the pinkish brown veins; the other, more strongly developped, is defined by something that looks like laminations; rock is pervasively biotitized and starts to get overprinted by str
22210	SSM60	Van Sickel Shaft	668991.57	5314866.3	22210 - whole rock of feldspar crystal tuff between quartz veins	
22211	SSM60	Van Sickel Shaft	668991.57	5314866.3	22211 – quartz vein	Qtz vein cut by K+Ca veinlets showing weak to moderate Th+Bi enrichments; Host rock is K+Ca altered and exhbit substantial Sr enrichments with carbonates are abundant maybe forming strontianite; Vein also includes fragments exhibiting subtantial Nb enri
22212	SSM60	Van Sickel Shaft	668991.57	5314866.3	22212 – whole rock of feldspar crystal tuff HW	Recrystallized Qtz vein with granoblastic texture with some coarser transluscent Qtz cystals
22213	SSM3471	ParkHill Shear Zone	668781.14	5314180.38	22213 – whole rock of feldspar lapilli tuff HW	Felspar-phyric foliated unit; Can be the feldspar porpyritic intrusion;K+Ca altered;
22214	SSM3471	ParkHill Shear Zone	668781.14	5314180.38	22214 - quartz vein	
22215	SSM3471	ParkHill Shear Zone	668781.14	5314180.38	22215 - whole rock of feldspar lapilli tuff FW	Dioritic (mafic intrusive similar in composition to the mafic intrusive described at the Mickelson showing); Chloritic I think and cut by thin carbonate veinlets;Can also be a Fp-phyric porphyritic intrusion or a crystal tuff with Fp crystals

Appendix 3

Structural Measurements

Structural Measurements: Wawa 2014

Area	GPS Point	X	Y	Strike	Dip	Type	Litho	Description
Jubilee Shear	43	668251.34	5317927.73	60	40S	Shear Zone	Tuff	1 to 1.5 metres thich shear zone of intermediate to felsic tuff. The intermediate felsic tuff host rock is comprised of quartz eyes in a massive, fine to medium grained chloritic, sericitic matrix.
Jubilee Shear	Photo 210	668251.34	5317927.73	40	54S	QV	Quartz Vein	thick bull white quartz vein on the footwall side of the JZS
Wawa Goldfield	48	669612.51	5319052.7	28	35E	QV	Quartz Vein	1 metre thick white quartz vein, in a sheared felsic tuff host. Shearing was only local to quartz vein margins and foliation intensity rapidly decreased away from quartz vein margins where the host rock intermediate to felsic tuff becomes more massive. No sulphides were observed either in the quartz or host rock
Wawa Goldfield	49	669592.19	5319119.29	20	60E	QV	Quartz Vein	The veins are roughly 1 ½-2 m apart. The shear is oriented at apx 020o/60E and is roughly 60 cm to 1 m in width (pic 216 – hammer handle points roughly south). No visible mineral lineations are present along foliation plans to indicate any type of plunge.
Wawa Goldfield	49	669592.19	5319119.29	20	50E	QV	Quartz Vein	The veins are roughly 1 ½-2 m apart. The shear is oriented at apx 020o/60E and is roughly 60 cm to 1 m in width (pic 216 – hammer handle points roughly south). No visible mineral lineations are present along foliation plans to indicate any type of plunge.
Mackay	51	668762.9	5318440.6	40	25SE	QV	Quartz Vein	20-40 cm wide quartz vein along a rusty gossanous zone approximately 50 to 60 metres in length
Mackay	52	668740.9	5318412.03	40	50SE	QV	Quartz Vein	qv along with a 10cm thick shear . There is no evidence of mineral lineations along shear indicating a separate plunge. All platy minerals define strike and dip of shear
Mackay	54	668756.01	5318448.08	60	90	QV	Quartz Vein	many narrow (1 to 2 cm wide) en echelon quartz veins visible on the north face of the open cut. Orientation of the heavy sulphide gossan area is the same as the quartz veining
Mackay	Pic 232	668804.07	5318484.75	40	30SE	QV	Quartz Vein	
Mackay	56	668791.58	5318470.47	40	40SE	QV	Quartz Vein	large quartz vein apx 1 to 1 ½ m thick, white quartz with 1-2% fine disseminated py. Within the quartz are random small vugs containing singly terminated quartz crystals and 1-2% fine disseminated py
Surluga Mine	118	668267.75	5317032.35	90	75S	QV	Quartz Vein	narrow 10 cm thick white quartz vein was found in the host felsic tuff trending E-W and dipping steeply S at apx 75^{o}
Surluga Mine	59	667960.39	5316853.18	32	20SE	Shear Zone	JSZ	Jubilee shear zone (JSZ) is roughly 1m in width. Shear orientation is 032o/20oSE. There are no obvious mineral lineations due to the nature of the exposure. The host rock is fine to medium grained sheared quartz diorite. Abundant biotite, sericite and quartz are present along with 1-2% fine disseminated py
Cora Shaft	62	667930.73	5316219.63	40	25SE	QV	Quartz Vein	a 40 cm to 1 m white massive quartz vein is visible (040^{o}/25^{o}SE), with 1-2% fine disseminated py in a strongly foliated host rock (JSZ) The quartz vein parallels foliation along strike and down dip and probably represents Vein 1 type
Cora Shaft	63	667915.38	5316213.18	40	55SE	Shear Zone	JSZ	JSZ is through the host Jubilee Stock quartz diorite.generally lots of hematitic staining along foliation planes of the JSZ as well as 1-2% fine disseminated py along with sericitic and biotitic minerals defining the foliation fabric as well as a brown to red-brown alteration overprint
AV-11-02	Pic 249	668280.39	5316937.61	10	40E	Shear Zone	JSZ	appearance of the outcrop is weathered and well foliated. Shearing intensity decreases into a felsic quartz eye tuff host. The JSZ at this location has the same appearance as that exposed at the Cora shaft area
Jubilee Shaft Area	75	668002.7	5316478.9	25	40E	Shear Zone	JSZ	foliated portion of the JSZ. The rocks have a general rusty appearance with 1-2% fine disseminated py along sericitic and chloritic foliation planes as well as a slight red-brown red cast due to secondary Fe and K alteration
Jubilee Shaft Area	76	667997.14	5316477.52	20	SE	Shear Zone	JSZ	The rock is a silicified, fine grained black diorite with feldspar laths (JS-14-22322 whole rock sample). Weak foliation is 020^{o}/ dip is moderate to the SE (difficult to determine true dip due to flat nature of outcrop). There is also a set of late brittle Fe, K linear fractures subparallel to the overall foliation
Jubilee Shaft Area	77	667974.83	5316473.65	55	60S	Shear Zone	JSZ	host is the fine grained black silicified diorite with 1-2% fine disseminated py. There are lots of rusty fractures trending 130^{o} approximately dipping 55^{o} to 60^{o} S
Jubilee Shaft Area	Pic 261	668002.7	5316478.9	100	78S	QV	Quartz Vein	narrow 2-4 cm wide quartz vein trending roughly 100^{o}/78^{o}S with 2-5% fine disseminated and blebbly py throughout. The quartz is moderately to heavily fractured with limonitic and sericitic stain along fractures. There are also numerous black chloritic inclusion (could also be massive black tourmaline)
Jubilee Shaft Area	Pic 264	667974.83	5316473.65	10	20S	Shear Zone	JSZ	deformation in the altered host diorite close to the JSZ
Minto B Zone	Pic 272	668177.49	5315782.03	70	75S	Shear Zone	Minto B	3m wide shear zone, with a strong gossanous appearance , Within the shear zone, limonitic staining is prevalent containing 1-5% fine disseminated and blebby py
Minto A Zone	83	667976.07	5315863.9	160	63E	QV	Quartz Vein	overall impression of the area feels more like a quartz vein-stockwork or a brittle fractured deformation zone. Individual quartz veins pinch and swell (not boudinaged) and the quartz is general massive and white (no signs of recrystallization) and form a complex array
Minto A Zone	Pic 288	667976.07	5315863.9	160	63E	Shear Zone	Minto A	white to smoky grey in colour, general fine to medium grained sugary texture and locally a faint laminated texture with 1-2% fine disseminated py. One sample was collected
Mickelson	89	668682.05	5315820.37	85	60N	Mafic	Host Rock	dark green well foliated mafic to ultramafic dyke intrusive with massive white quartz veining parallel along the margins of and cross cutting the mafic dyke
Mickelson	pic 309	668702.92	5315821.88	75	10E	QV	Quartz Vein Type 3	E plunge (10^{o}E) to the cross cutting and folded quartz veins
Mickelson	92	668718.1	5315826.11	80		QV	Quartz Vein	Quartz in this area generally trends 080^{o} and is generally massive white with minor K alteration and minor 1-2 % fine disseminated py along margins of sheared dyke host and quartz. Minor weak alteration effects (well foliated appearance with chloritic, biotitic minor carbonate) in host along margins with quartz.
ParkHill Mine	pic 313	668623.34	5314731.14	90	40S	QV	Quartz Vein	folded quartz vein apx 1 to 1.3 m in length and only about 10 cm in width. Amplitude of the folds was apx 80 cm
ParkHill Mine	97	668689.95	5314765.57	58		QV	Quartz Vein	vertical quartz vein is laminated and pink on the outside and massive, white on the inside with trace fine disseminated py. Host rock in this area is a relatively massive dark medium grained silicified (hard) diorite
ParkHill Mine	97	668689.95	5314765.57	110		QV	Quartz Vein	secondary linear quartz-carbonate filled fractures upto 1 cm in thickness with minor epidote alteration trending 110^{o} and appearing to be vertical. No samples were collected
ParkHill Mine	98	668555.8	5314701.36	80		QV	Quartz Vein	weathered quartz vein was found that is 20 - 40 cm in width, trending 080^{o} and appears vertical to steeply dipping south, Host rock is a coarse volcaniclastic breccia (Sage P2441) where subangular to subrounded granodiorite fragments are present in a fine grained, dark mafic to intermediate tuff
ParkHill Mine	99	668556.07	5314684.9	80	42S	Shear Zone	Parkhill	This zone is roughly 20 m in thickness and is not 1 individual shear, but numerous shears. There is a narrow, 2-3cm thick quartz vein along the main shear that appears somewhat boudinaged in places. There is also 2-5% fine py throughout the host within the shear zone (evident from the limonic/rusty appearance of the rock).
Darwin mine	111	668843.27	5314224.7	85		QV	Quartz Vein	quartz vein is visible trending 085 and steeply dipping to the N. The vein is 1 to 1 ½ m in width, white with local grey areas, rusty appearance on weathered surface with 2-5% fine disseminated py. Host rocks in the area are the volocaniclastic breccia
Darwin mine	112	668182.15	5313344.75	160		QV	Quartz Vein	30 to 40 cm thick quartz vein was located NW of the shaft, The quartz vein trends 160o, appears to be vertical and is composed of massive white quartz, moderately fractured with chloritic inclusions and a general pink cast due to K alteration. There are also small clumps of aspy needles (overall content 1-2%). Margins of quartz vein are sheared and contain 1-2% fine disseminated py, but shearing intensity rapidly decreases away from the quartz vein
Nyman	114	668484.01	5313560.13	95		QV	Quartz Vein	narrow 20-30 cm thick quartz vein Host rock is similar to that found at the Darwin shaft area, fine grained, dark green/black , massive mafic to intermediate metavolcanic. The quartz is generally massive and white in colour, with a moderate pink cast and trace py
Van Sickle Shaft	119	668902.26	5314826.75	60		Shear Zone		intermediate to felsic tuffs, with a steep S dip with no obvious quartz veining
Van Sickle Shaft	3599	668991.57	5314866.3	58	42S	QV	Quartz Vein	quartz veins within a 10 m+ wide shear zone, The quartz veins parallel the foliation fabric and there is a plunge defined by black mineral lineation roughly 40o SE
ParkHill Shear Zone	22213	668991.57	5314866.3	145	52E	QV	Quartz Vein	30 cm wide quartz vein,Shearing intensity is localized to the margins of the quartz vein and rapidly diminishes away from the quartz vein contacts. The quartz is massive and white with a slight light brown cast (limonitic staining) with tr-1% fine disseminated py

Appendix 4

REQUIRED GEOLOGICAL FIELDWORK: SURLUGA PROPERTY

Regional aspects

For every visited regional outcrop a special attention should be given to the sulfide content of the observed lithotypes, especially away from the known Au-bearing Qtz veins; Attention should be paid to the fabrics

Jubilee shear zone

- The Jubilee shear zone is presumably well exposed at the road cut approximately located at 668386mE and 5318034mN; this location is mostly within the volcanic package and the unit has been described as a Sil+Ab+Kfs altered felsic volcanic rock
- Description and measurements of the foliation, folds and other structures visible in the shear zone
- Relation between the observed structures and the sulfide-bearing quartz veins if observable
- Description of the geological units (for the Jubilee stock it is presumably the diorite or quartz diorite facies; for the volcanics it is presumably a tuff with quartz eyes. feldspar clasts and sericitized) and the associated alteration
- Distance to which the fabrics related to the shear zone extends in the rock
- If possible timing relation between the fabrics related to the Jubilee shear zone and any other visible penetrative fabrics; the other fabrics are likely oriented E-W to ENE shallowly to moderately dipping to the south
- North of Jubilee lake at 668274.1mE, 5316927.98mN near the collar of AV-11-002 quantify the imprint of the Jubilee Shear zone deformation
- At 668076mE,5316440 where the Jubilee Mine shaft is located quantify the influence of the Jubilee Shear zone

Jubilee Stock

- Collect whole rock geochemistry of the different intrusive phases of this intrusion (with geological map P2441)

Mineralization related

For the following exposed vein systems from N to S:

1. Wawa GoldField (Center of the vein system approximately @ 669602mE, 5319025mN);
2. Mackay Point Center of the vein system approximately @ 668784mE, 5318430mN);
3. Copper Mine (Center of the vein system approximately @ 669472mE, 5318081mN);
4. Mickelson/Sunrise/Wilcox (Center of the vein system approximately @ 668881mE, 5315717mN);
5. Minto vein system (Center of the vein system located approximately at 668090mE, 5315458mN)
6. Island vein (Center of the vein system approximately @ 668839mE, 5314855mN);
7. Smith/Captain/Road (Center of the vein system approximately @ 669100mE, 5314920mN);
8. Parkhill (Center of an exposed vein system approximately @ 668611mE, 5314721mN);
    - Also check west of the Parkhill fault between 668509mE,5314373mN and 668426mE and 5314250mN to see if there is any possible extension to the Parkhill mineralized system exposed at surface; this extension was possibly demonstrated at depth during mining in the 1930s but not followed extensively
9. Moody Pit (Center of an exposed vein system approximately @ 668681mE, 5313919mN);
10. Mariposa (Center of the vein system approximately @ 668845mE, 5314193mN);
11. Nyman (Center of the vein system approximately @ 668490mE, 5313563mN);
12. Skunky Dog (Center of the vein system approximately @ 668881mE, 5315717mN);
13. Grace (Center of the vein system approximately @ 668014mE, 5313523mN);

The following information should be collected:

- Confirm the historically defined location, extent and width of the vein systems;
- Location of the center of the vein system
- Confirm the dip, azimuth and slip vector rake of some of the individual veins composing the vein system;
- For each of the vein systems the following structures should be measured:
    - Dip/dip direction of the veins,
    - Dip/Dip direction of the foliation in the host shear zone,
    - Slickenlines along the foliation or shear plans (important as the gold may be more strongly controlled by the deformation fabrics than the quartz veins themselves)

  - Linear features along the plans controlling the vein emplacement;
- Confirm the composition and intensity of the alteration system hosting the veins - if possible collect geochemistry samples of FW-HW (perpendicular to fabric direction) for the largest vein observed in each system;
- Confirm the composition of the precursor rocks hosting the vein systems - is it an intrusion or a volcanic rocks - collect geochemistry samples just outside the intensely altered/deformed zones
- Check for evidences of folding and if folding is recognized characterized the morphology of the fold with structural measurements
- Systematically photograph each of the trenches or any geological features of high significance;
- Collect any other samples of geological interest

Validation possible fold hinges

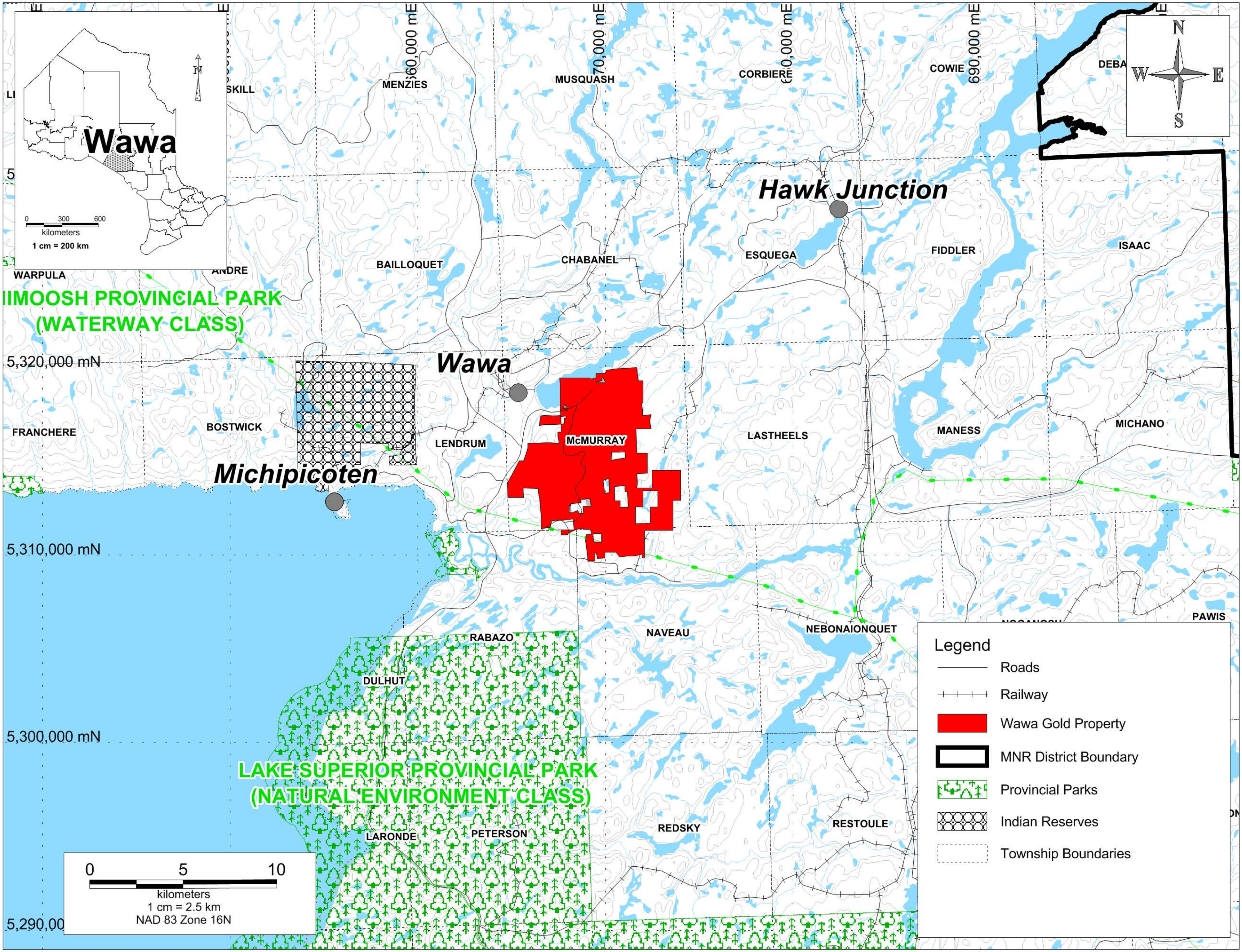
- One Z-shaped fold where the inferred closures are located approximately at 669120mE, 5315200mN and 669149mE, 5314971mN - hinge oriented at approximately 40 degrees
- Fold closing at approximately 669224mE, 5314455mN - hinge oriented at approximately 10 degrees
- Fold closing at approximately 665629mE, 5313949mN - hinge oriented at approximately 200 degrees

Appendix 5

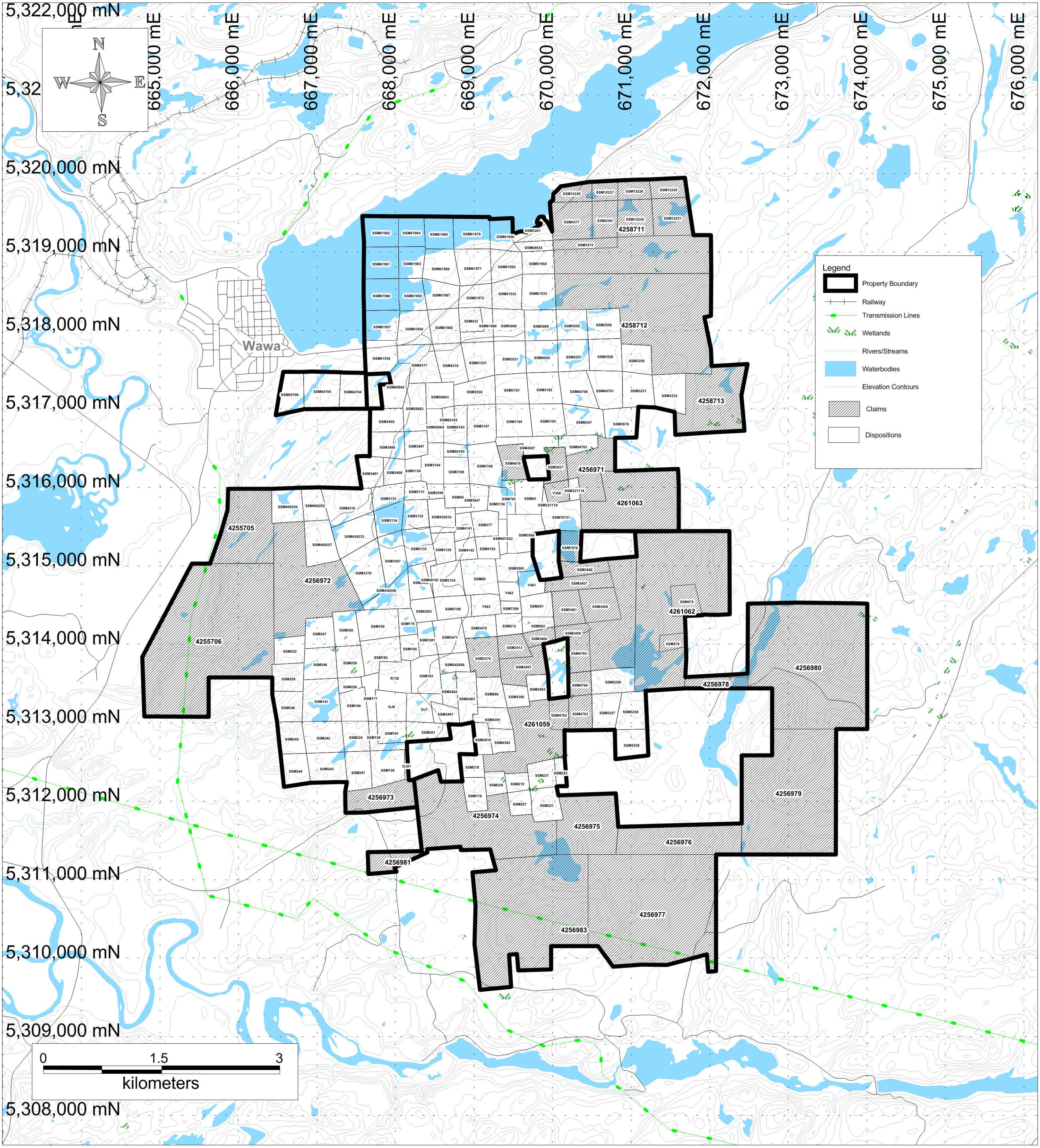
HIGH RESOLUTION IMAGES (*See Appendix 6*)

Appendix 6

PHOTOS (*INCLUDED AS 4 INDEPENDENT FILES*)



Wawa
kilometers
1 cm = 200 km
N
E
S
W
MENZIES
MUSQUASH
CORBIERE
COWIE
60,000 mE
70,000 mE
690,000 mE
Hawk Junction
BAILLOQUET
CHABANEL
ESQUEGA
FIDDLER
ISAAC
WARPULA
ANDRE
IMOOSH PROVINCIAL PARK
(WATERWAY CLASS)
5,320,000 mN
Wawa
FRANCHERE
BOSTWICK
LENDRUM
McMURRAY
LASTHEELS
MANESS
MICHANO
Michipicoten
5,310,000 mN
RABAZO
NAVEAU
NEBONAIONQUET
PAWIS
DULHUT
5,300,000 mN
LAKE SUPERIOR PROVINCIAL PARK
(NATURAL ENVIRONMENT CLASS)
LARONDE
PETERSON
REDSKY
RESTOULE
0 5 10
kilometers
1 cm = 2.5 km
NAD 83 Zone 16N
Legend
Roads
Railway
Wawa Gold Property
MNR District Boundary
Provincial Parks
Indian Reserves
Township Boundaries



5,322,000 mN
5,320,000 mN
5,319,000 mN
5,318,000 mN
5,317,000 mN
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5,315,000 mN
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674,000 mE
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676,000 mE
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W
Wawa
Legend
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Railway
Transmission Lines
Wetlands
Rivers/Streams
Waterbodies
Elevation Contours
Claims
Dispositions
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4258712
4258713
4256971
4261063
4255705
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4256978
4261059
4256973
4256974
4256975
4256976
4256979
4256981
4256977
4256983
0
1.5
3
kilometers