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# Drilling Report

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Sackville Property, 2014

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## **Introduction and Summary**

The Sackville Property is located west of Thunder Bay, near Kakabeka Falls along the Shebandowan Archean-aged greenstone volcanic belt. Exploration in the area started in 1956. Boulders of massive sulphide were found on the Property in 1996 by local prospectors-the Stares brothers. Subsequent exploration was carried by Cumberland Resources. RJK Exploration Ltd. started exploring the Property in 1999. The work done consisted of IP, VTEM, airborne magnetic surveys, soil and till sampling as well as several drilling phases in 2000, 2002 and 2004. More drilling and further exploration was carried out by GLR Resources and RJK Exploration in 2009-2010. Mistango River Resources carried out till and soil sampling and trenching during 2011-2012.

This report describes assessment work for the drilling program performed between October 28<sup>th</sup> and December 18<sup>th</sup>, 2014 by Mistango River Resources Inc. The work being assessed consists of diamond drilling, core logging and assaying. A total of five diamond drill holes were drilled, amounting to a total length of 754m (Table 3) distributed between claims 4253691 and 4244452 (Tables 3, 4, 5 and 6). The drilling aimed to investigate previously unexplored IP, VTEM, airborne magnetic survey, and geochemical soil anomalies associated with favourable geology and taking into consideration paleo-ice flow direction and alignment with massive sulphide boulder train. Work on planning the drill program started as early as February 2014. Eight potential targets were identified out of which four were considered primary. Site field trip was made in September 2014. During the field trip the primary targets were further assessed, based on geology and access. Outcrop grab samples were collected from some primary drill targets and submitted for analysis.

## **Location and Access**

The Sackville Property is located approximately 25 km west of Kakabeka Falls, ON and about 50 km west of Thunder Bay, Ontario. The Property could be accessed all year round through Boreal Road, west of HWY 590. There are several logging roads within the Property

## **Property Claims**

The Sackville Property consists of 14 leased contiguous claims. The claims, units, hectares and townships are listed in Table 1 below and displayed in Figure 1.

Township	Claim	Units	Hectares
Sackville	4219074	13	208
Sackville	4219075	16	256
Sackville	4244451	14	224
Sackville	4244452	16	256
Sackville	4244453	16	256
Sackville	4244454	16	256
Aldina	4244456	6	96
Aldina	4244457	8	128
Aldina	4262671	16	256
Aldina	4262672	16	256
Aldina	4262673	16	256
Aldina	4262674	6	96
Sackville	4253691	12	192
Aldina	4262831	14	224

*Table1. List of claims.*

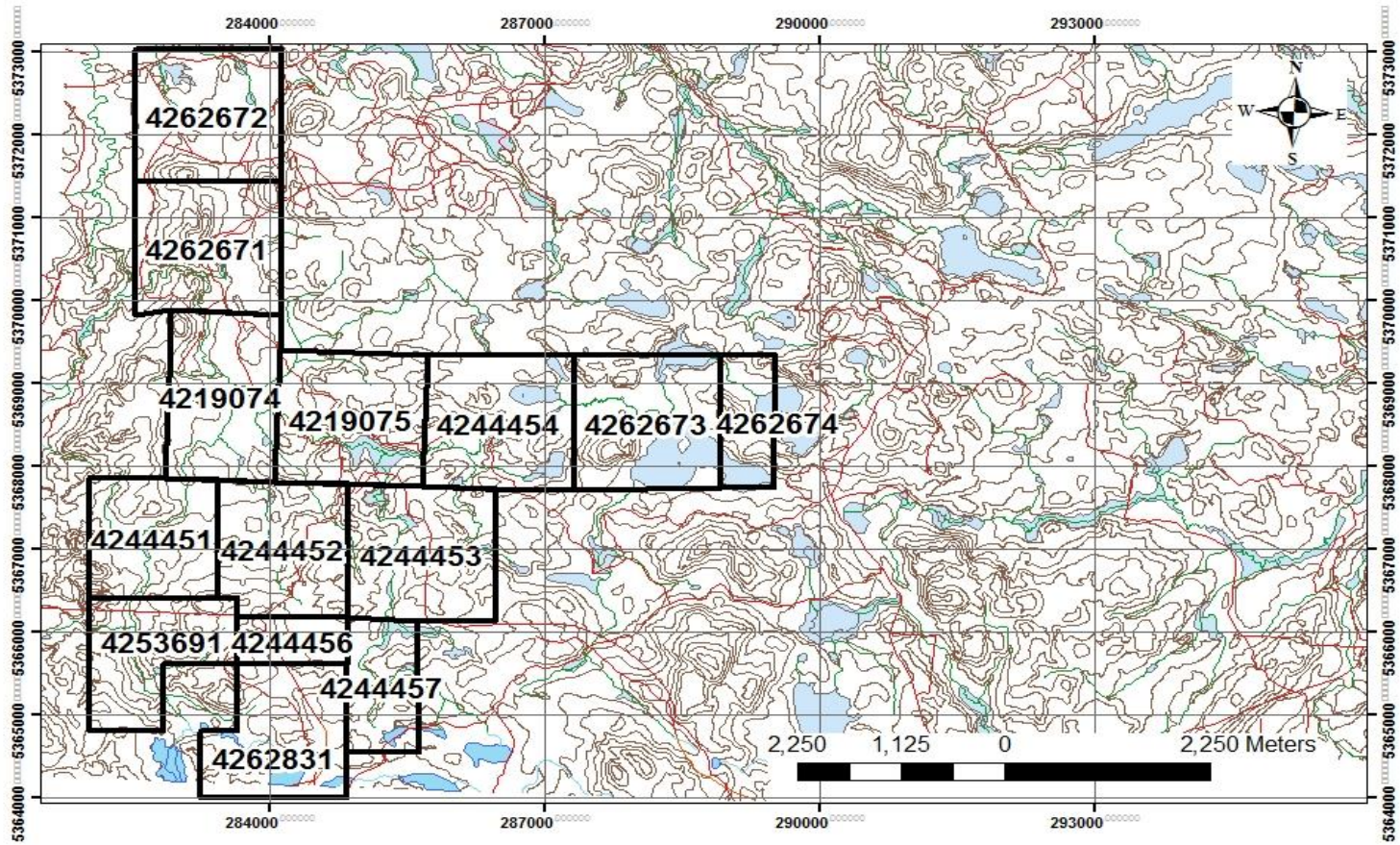


Figure 1. Property boundary and claims map.

## **Glacial Geology**

The sequence of events which occurred during the latest stages of continental glaciation in the vicinity of Thunder Bay is not entirely discernible from deposits and features within the area. The Pleistocene history proposed for the region by Burwasser (1977) and earlier authors (Zoltai, 1963), suggests a retreating ice margin in the vicinity of Thunder Bay approximately 12,400 years ago. Re-advance of the Superior lobe was recorded approximately 11,500 years ago (Burwasser, 1977). Partial dissolution of the Superior and Hudson Bay was re-established approximately 11,000 years ago, although the Superior basin was not entirely free of ice until sometime after 10,000 years ago. Based on glacial striae direction, the whole ice mass (known as the Patrician ice) was subdivided in the region of Thunder Bay into the Hudson Bay (ice advancing from Lake Nipigon) and Superior lobes (ice pushing west from Lake Superior). Ice directions varied between 170° and 215° for the Patrician ice (Bajc, 1999), while younger striae suggest a Superior ice mass trend of 295°-315° (Burwasser, 1977).

The average glacial striation direction at the Sackville Property is 185° (Fig.2), as measured by the author on multiple outcrops. The timing of the deposition of the Sackville massive sulphide mineralized boulders is not known, but they form a N-S depositional trend identical with the ice flow direction measured on site. This later fact, suggests that those boulders likely originated to the north of their deposition sites.

## **Property Geology**

The Property geology has largely been interpreted from property scale geological mapping carried out by GLR Resources and RJK Resources, OGS geological township maps and airborne magnetic survey conducted by RJK Resources. Further interpretation of the Property's geology has been provided by Botrell, 2003 and Perry and Sharpley, 2010. The Sackville Property is located within the Shebandowan Archean-aged greenstone belt. Volcanic cycles part of the Property lithology consist of a lower sequence of tholeiitic basalt and basaltic-andesite flows, including magnesium-rich komatiites and an upper sequence of andesite, dacite, and rhyolite (calc-alkalic) flows (Perry and Sharpley, 2010). This bi-modal volcanic cycle is accompanied by abundant mafic sills and differentiated gabbro-anorthosite plutons. Stratigraphic units are near-vertical, with apparent dip at about 75-80° to the N (as measured in core). These units are locally unconformably overlain, by sedimentary and volcanic rocks and locally interlayered with iron formation (Fig.2). Mistango River Resources carried out an extensive trenching program during 2011-2012, which was aimed at confirming lithological units and identifying possible mineralization, proximal to IP anomalies (Table 2). Additionally, a number of whole rock analyses on outcrop samples were completed. The trenching revealed bi-modal mafic with locally felsic to pyroclastic-felsic units, banded iron formation and localized intrusive mafic-ultramafic lithology (Table2, Fig.4)

## **Scope of Work**

Work on identifying and evaluation of previously unexplored targets on the Sackville Property started in February 2014. Glacial geology interpretation and careful selection of previously known IP, soil geochemistry and VTEM anomalies located up-ice from massive sulphide-rich boulder train (Fig.3) was

used to single out drill targets. As a result 8 targets were selected. Criteria used for target selection include short strike length of anomalies (used to rule out formational IP anomalies and identify potential non-formational ones), amalgamation of different anomalies in a single target (such as VTEM, soil geochemical, IP, resistivity) and favourable geology (felsic-to-intermediate lithology). Figure 3 shows the eight preliminary targets with the corresponding IP, VTEM and soil anomalies. All targets are up-ice (based on average 185° azimuth of glacial striae measured on site) from mineralized boulder train (Figures 3 and 4).

Four targets were selected as primary (Targets 1, 2, 7 and 6) and drilled off in 2014, based on additional evaluation of potential strike length, geology and presence of more than one anomaly within the target (Fig. 4). Target 1 (T1) was chosen as a primary target due to combination of relatively high Zn soil values (up to 1570 ppm), IP and short length VTEM anomalies, direct correlation up-ice with mineralized boulder train and presence of rhyolite with pyroclastic fragments at a nearby trench (TR9). Target 2 (T2) was also given high priority due to its location within a felsic horizon interlayered with iron formation and thus presenting similar lithological association with known bi-modal mafic deposits, such as the Geco Deposit. Target 7 (T7) was also prioritized and later drilled, based on relatively short IP anomaly strike length and being within the northern part of more or less the same inferred felsic horizon as T1. Target 6 (T6) was also prioritized due to its location within a parallel to other targets felsic horizon and short strike length. As a result of these target selections 5 DDH were proposed and planned using IP survey pseudo-sections. Currently there is an ongoing evaluation of new targets for the 2015 drilling program. Notably, Target 6 is being further evaluated along with other potential drill targets.



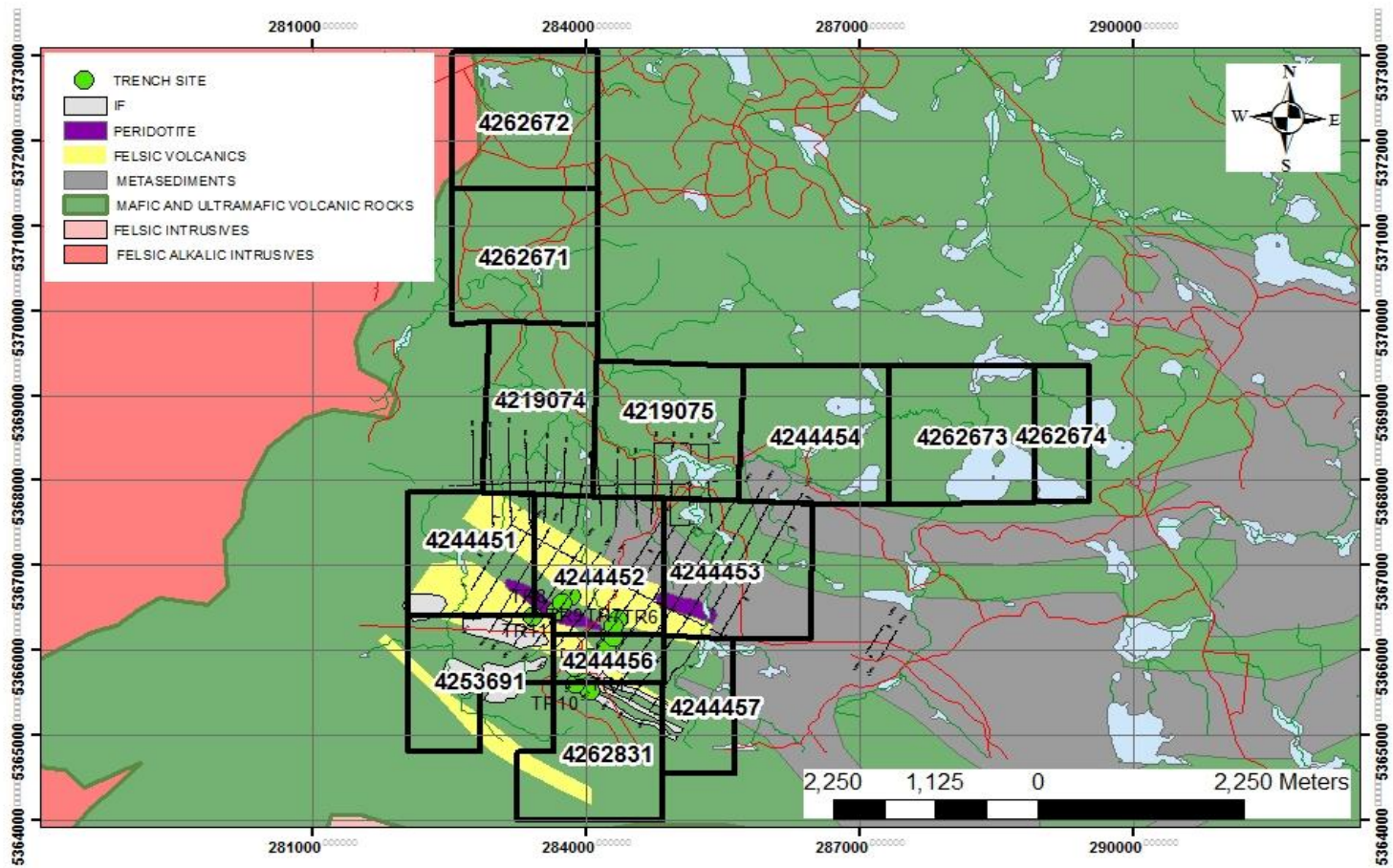


Figure 2. Property Geology.

TRENCH	EASTING	NORTHING	GRIDE	GRIDN	COMMENTS
TR1	283951	5365772	1600	1550	IP 37, Target 5 (T5). Cherty iron formation
TR2	284050	5365920	1600	925	IP 36, Target 4 (T4). Felsic volcanic rock.
TR3	283899	5365800	1550	1550	IP 37, Target 5 (T5). Cherty iron formation.
TR4	284230	5366043	1600	650	IP 34. Felsic-to-intermediate volcanic bedrock with localized intermediate intrusive phase to the north, trace of pyrite.
TR5	284048	5365523	1800	1150	IP 37, Target 5 (T5). Banded iron formation, located south of T5 and south of felsic horizon.
TR6	284306	5366159	1600	600	IP 33. East of TR7, exposing some felsic volcanic, with trace very fine disseminated pyrite.
TR7	284278	5366184	1600	575	IP 33. Felsic volcanics and intrusives. Rhyolite in eastern part of trench. Granite with porphyry rhyolite phase in the western part of trench.
TR8	283434	5366395	800	825	IP 35, Target 2 (T2). Cherty BIF weakly-to-locally strongly magnetic.
TR9	283845	5366636	1000	275	IP 29, Target 1 (T1). Quartz-eye rhyolite with pyroclastic fragments, patchy pyrrhotite. Visible gossan at surface.
TR10	283890	5365600	1600	1150	IP 37, Target 5 (T5). Banded iron formation, located south of T5 and south of felsic horizon.
TR11	283688	5366459	1000	680	IP 32. Peridotite bedrock.
TR12	283755	5366559	1000	550	IP 29, Target 1 (T1). Basalt and gabbro bedrock
TR13	284361	5366370	1600	375	IP 29, Target 1 (T1). Sulphidized, gossanous, cherty banded iron formation.
TR14	284309	5366289	1600	375	IP 29, Target 1 (T1). Contact between quartz-feldspar porphyry and locally pyroclastic rhyolite.

Table 2. Summary of trench lithology.

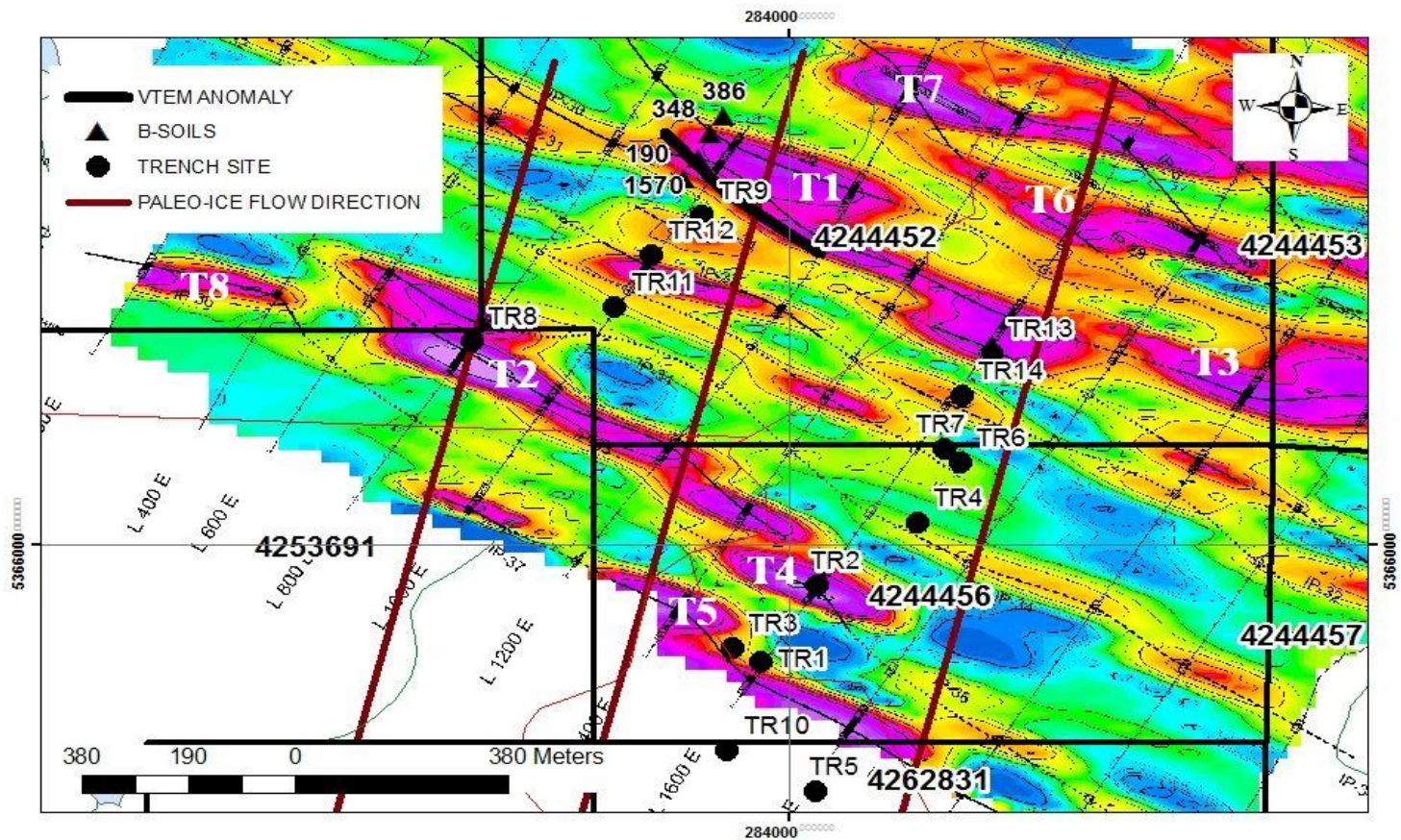


Figure 3. Eight targets (T1-8), selected based on IP, VTEM, high soil Zn anomalies and geology from trench sites (TR1-14). The targets are located directly up-ice from mineralized boulder train.

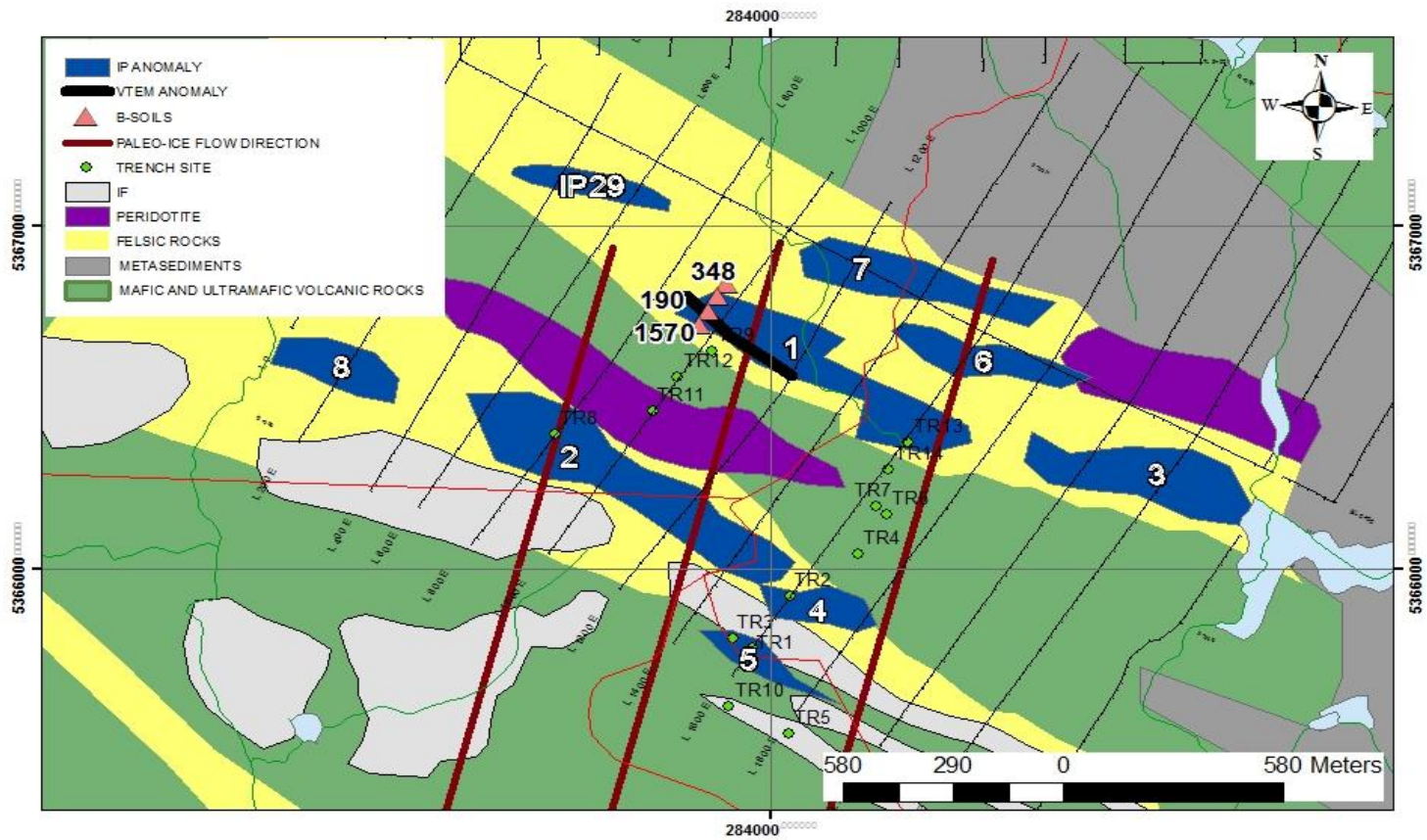


Figure 4. Drill targets displayed with corresponding geology, IP, VTEM and high Zn soil anomalies, trench sites also shown (TR1-14).

## **Drilling**

Drilling on the Sackville Property for the 2014 exploration program began on October 28<sup>th</sup> and finished on December 18<sup>th</sup>. Additional related work (core moving and storing, water line maintenance, core logging) continued to the end of December 2015. All DDH were drilled by Huard Drilling Ltd. of Haileybury, ON using BTW-sized drill rods. The drill remains on site presently as the program is will be extended through 2015.

During the 2014 drilling program, five diamond drill holes (DDH) were completed to a total length of 754m (Table 3, Figs. 5, 6, 7, 8, 9 and 10). The purpose of the drilling was to attempt to intersect the source of the high grade massive sulphide boulder train. Four drill targets were prioritized out of eight initial targets located directly up-ice from expected paleo-ice flow direction (inferred from glacial striations measurements proximal to sites), based on the presence of IP, VTEM, high Zn soil values and favourable geology.

Hole SK-14-01 was started on November 5<sup>th</sup> and finished on November 8<sup>th</sup>, 2014. This DDH aimed to investigate Target 2 (T2, IP 35, Figs. 3 and 4) on grid line 900E at 950S (Figs. 5 and 6). It was a pilot hole to test for strata dip orientation and was abandoned due to being drilled down-dip at depth of 101m. The hole intersected one lithological unit (gabbro) and did not intersect any mineralization of interest (Fig. 7, lithological log in Appendix).

Hole SK-14-02 was started on November 9<sup>th</sup> and finished on November 11<sup>th</sup>, 2014. This hole was drilled normal to apparent dip (about 75°N) to a length of 101m and tested Target 2 (T2, IP 35, IP 30, Figs. 3 and 4) on grid line 800E at 765S (Figs. 5 and 6). The hole intersected fine-grained cherty sediments, banded iron formation and peridotite (Fig. 8 and lithological log in Appendix). The IP chargeability anomaly was caused by the presence of iron formation. No mineralization of interest was intersected.

Hole	Easting	Northing	Azimuth	Dip	Length	Purpose	Remarks
SK-14-01	283471	5366300	30	-45	101	Testing Target 2, IP 35 and MAG	Line 9+00E 9+50S, drilled grid north. Abandoned, drilled grid north, down-dip within gabbro. Started on November 5 <sup>th</sup> , finished on November 8 <sup>th</sup> .
SK-14-02	283456	5366300	210	-45	101	Testing Target 2, IP 35, IP 34 and MAG	Line 8+00E 7+65S, drilled grid south. Started on November 9 <sup>th</sup> , finished Nov. 11 <sup>th</sup> . IP caused by Magnetite IF.
SK-14-03	284130	5366419	210	-45	200	Testing Target 1 IP 29, IP 30 and parallel felsic horizons	Line 12+00E 2+00S, drilled grid south. Started on November 13 <sup>th</sup> , finished on November 18 <sup>th</sup> . Apparent dip 75 - 80 degrees N. Chargeability anomaly caused by carbonaceous silicified argillite horizons (43-44.7m; 155.35-159.7m) with up to 20% pyrite-pyrrhotite locally and locally mineralized basaltic-andesite (87-11.8m, up to 15% pyrite-pyrrhotite locally). Bi-modal volcanic lithology.
SK-14-04	284130	5366716	210	-45	152	Testing Target 7, IP 28 and VTEM and next stratigraphy horizon	Line 12+00E 0+40N, drilled grid south. Started on November 18 <sup>th</sup> , finished on November 22 <sup>th</sup> . Apparent dip of strata 65N. Lithology mostly comprised of agglomerate. IP caused by carbonaceous silicified sediment horizons at 62-71m and graphitic argillite at 130-130.7m.
SK-14-05	283873	5366691	30	-45	200	Testing Target 1, IP 29 and VTEM and high soil	Line 10+00E 3+60S, drilled grid north, down-dip. Started on November 29 <sup>th</sup> , finished on December. 18 <sup>th</sup> . Apparent dip of lithology is 70-75N. IP caused by silicified carbonaceous argillite horizons with 5-20% sulphides (10-11.7m; 149.7-152.1m; 190.5-191.5m). Mostly basaltic-andesite lithology.

Table 3. Summary of DDH drilled during the 2014 drill program.

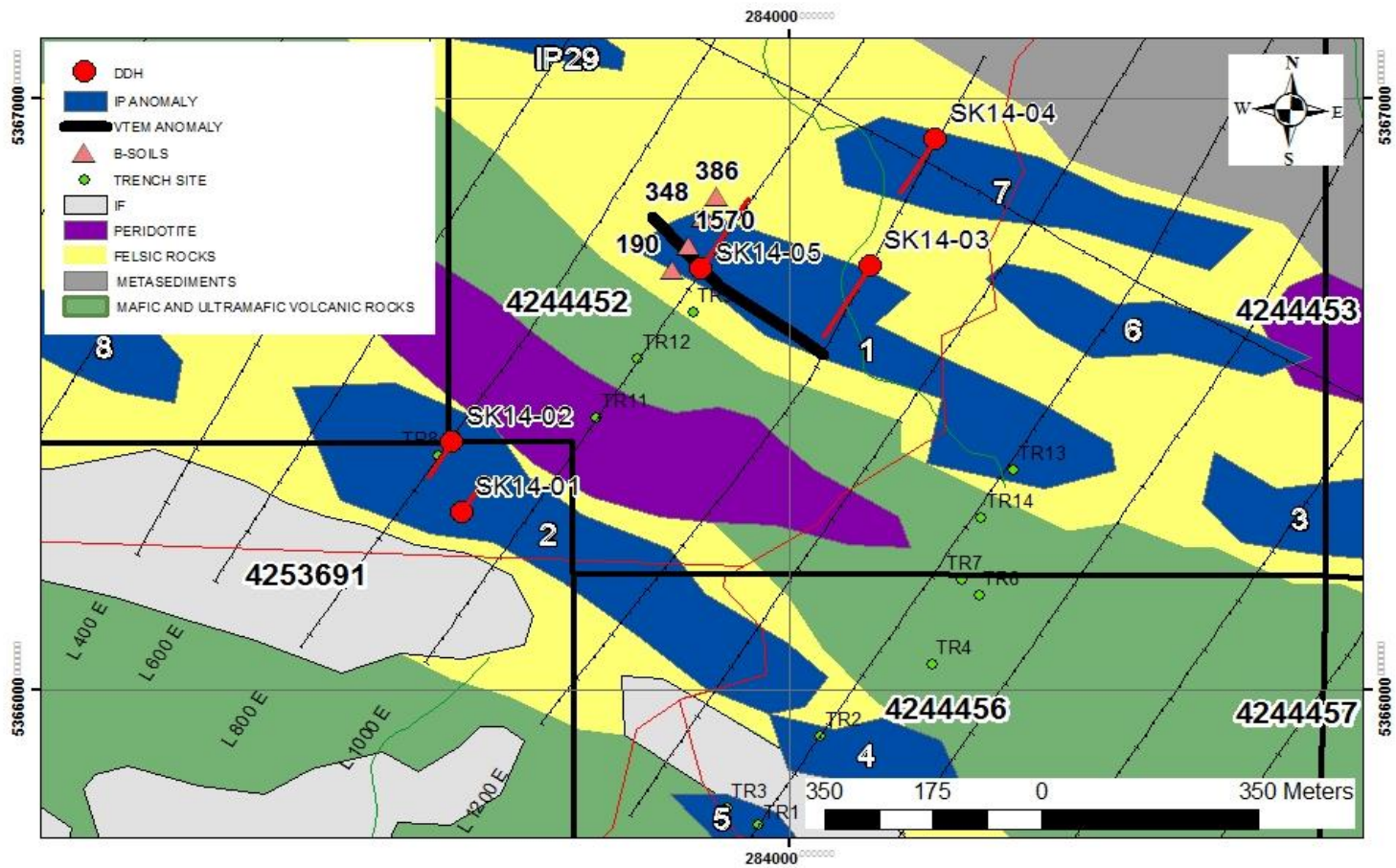


Figure 5. Drill plan showing collar location and vertical projection of DDH trace in addition to trench sites, geology and IP, VTEM and high soil targets.

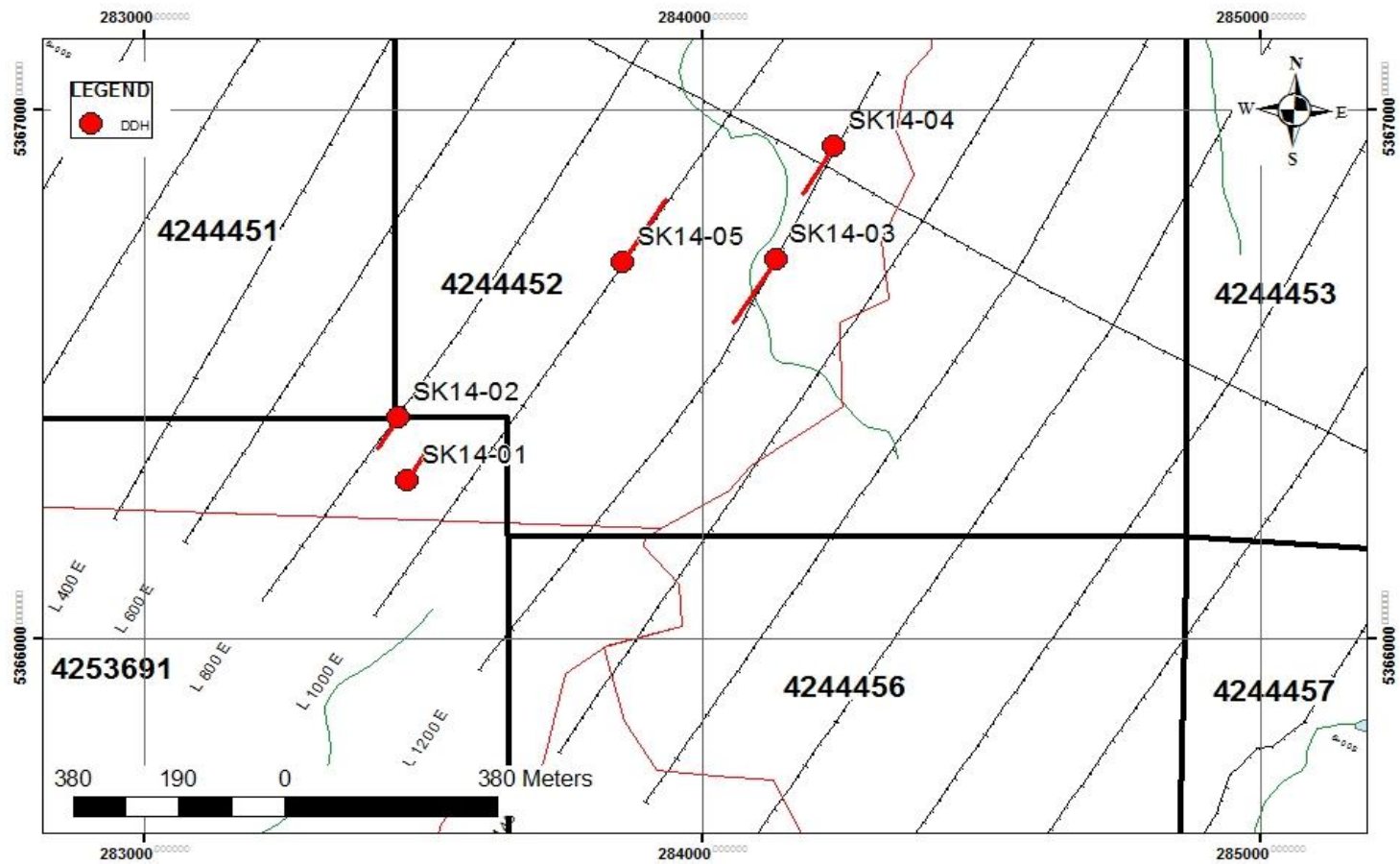


Figure 6. Drill plan showing DDH collar locations and trace of projection of holes on local grid and claim boundaries.



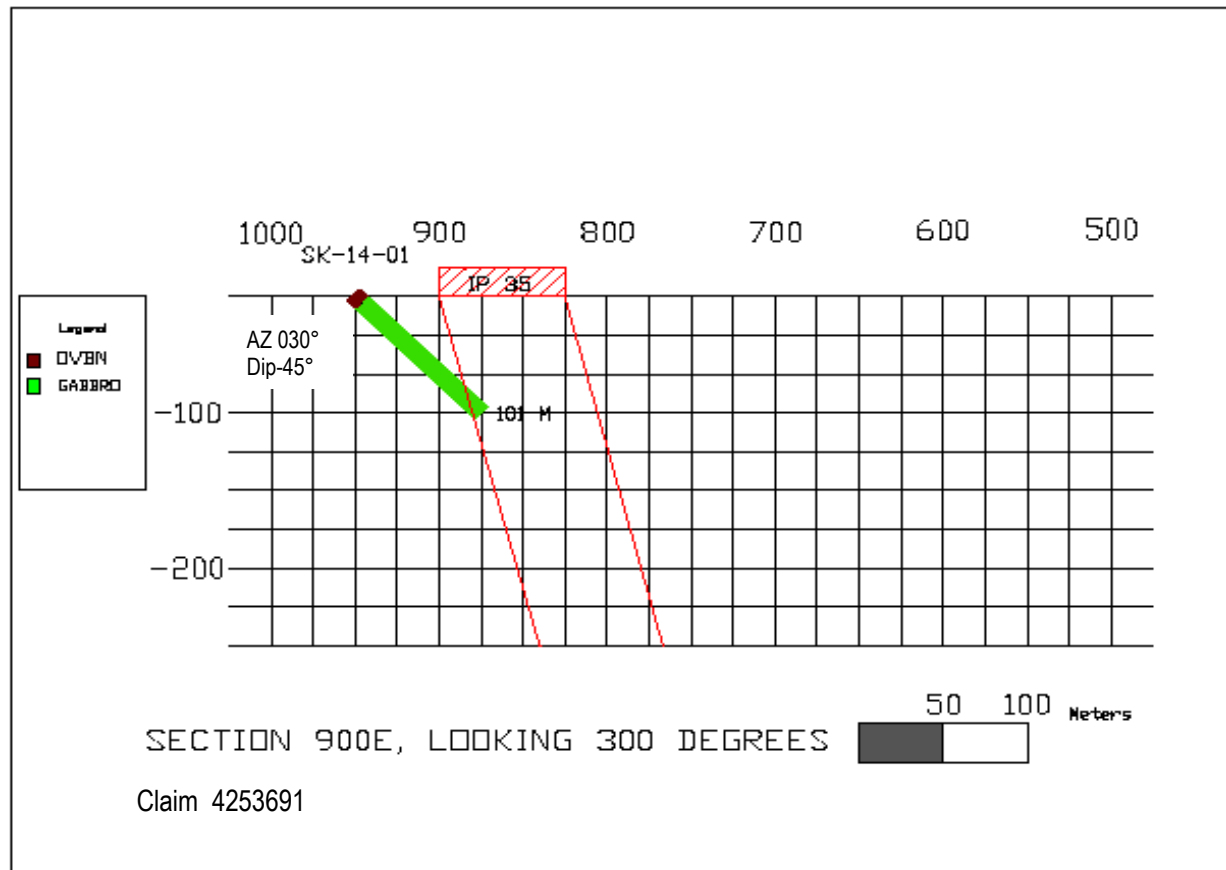


Figure 7. Cross-section of SK-14-01 displaying intersected lithology and down-dip projection of IP anomaly.

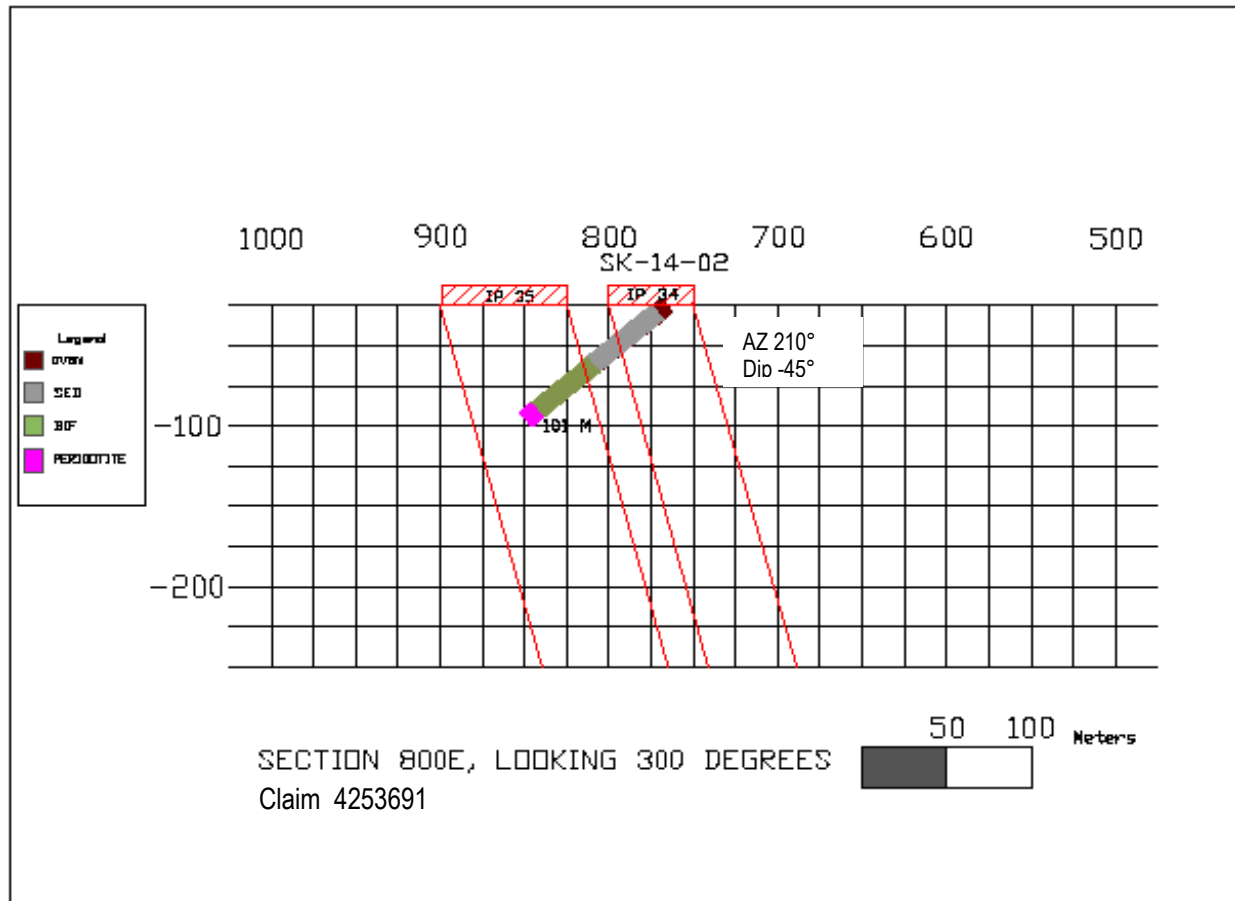


Figure 8. Cross-section of SK-14-02 along grid line 800E showing the lithological units and down-dip projection of IP anomalies.

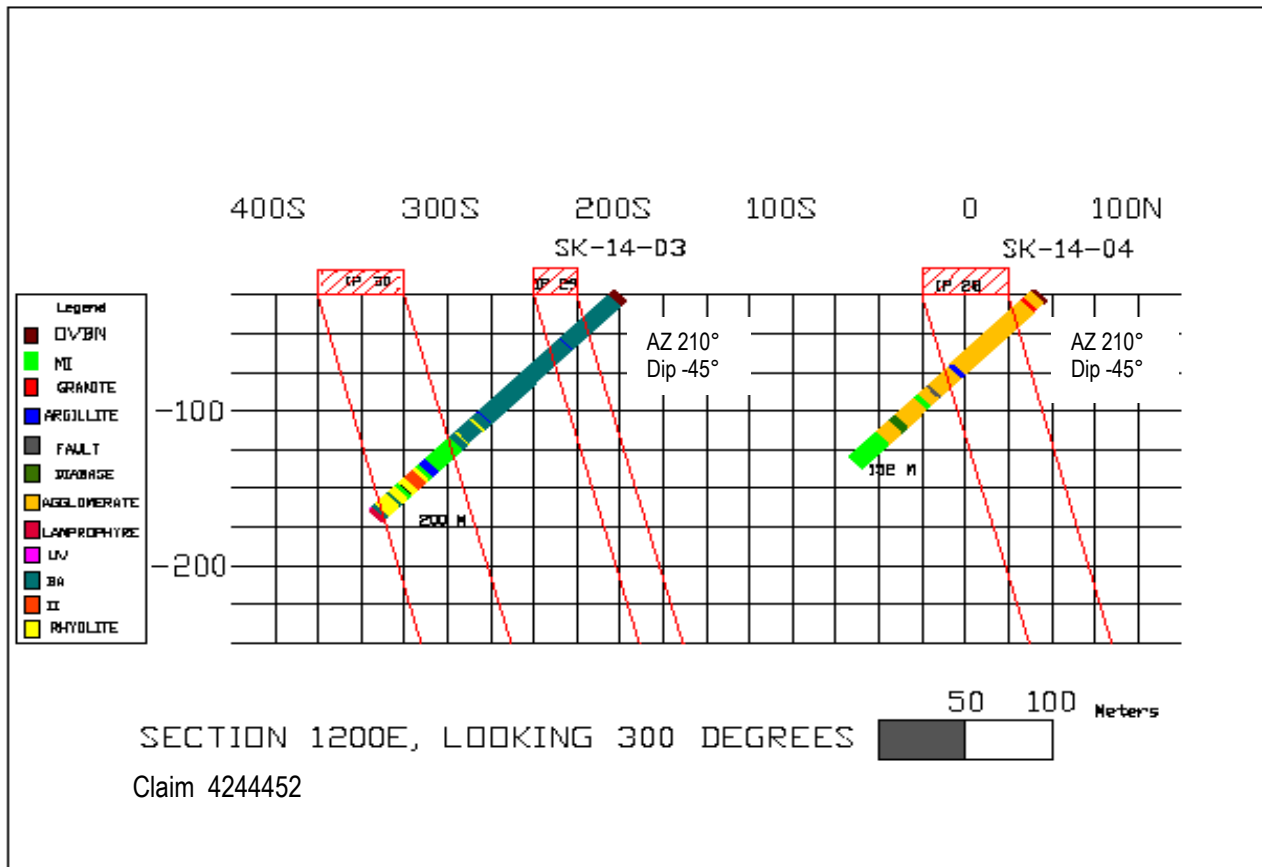


Figure 9. Cross-section of SK-14-03 and SK-14-04 along grid line 1200E, showing intersected lithological units and down-dip projection of IP anomalies.

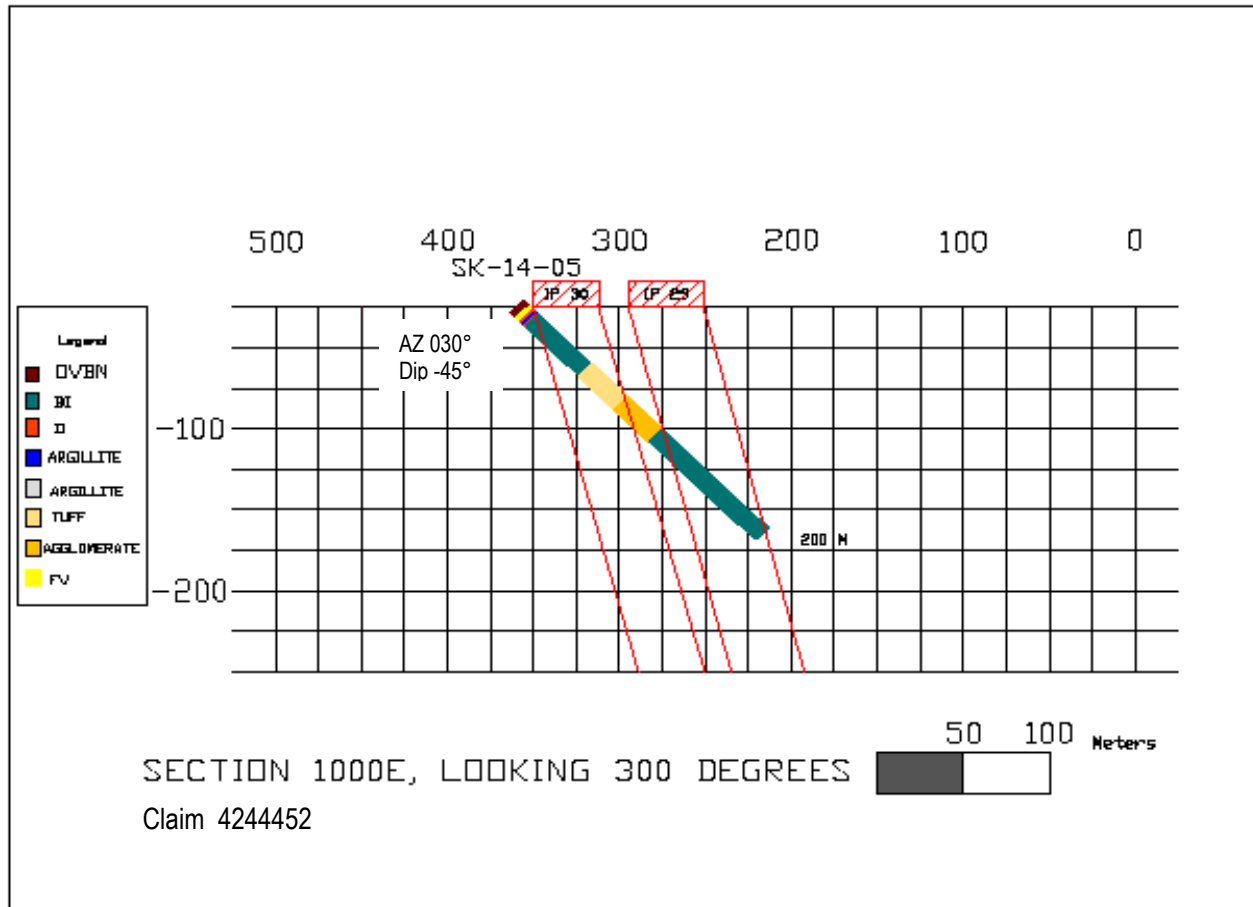


Figure 10. Cross-section of SK-14-05 along line 1000E with lithology and down-dip projection of IP anomalies.

Hole SK-14-03 was started on November 13<sup>th</sup> and finished on November 18<sup>th</sup>, 2014. The hole tested the eastern part of Target 1 (T1, IP 29, IP 30, Figs. 3 and 4) and investigated IP and VTEM parallel felsic horizon (Fig. 5). The hole was drilled normal to the apparent dip of the stratigraphy, which was calculated from core measurements to be 75-80° to the north. The hole was stopped at 200 m depth after intersecting all identified IP anomalies at depth. The IP anomalies were caused by carbonaceous highly silicified sediment (argillite) containing up to 20% sulphides locally (43-44.7m and 155.35-159.7m) and moderately mineralized basaltic-andesite (87-111.8m, up to 15 % pyrite-pyrrhotite locally). The hole intersected bi-modal mafic-to-intermediate (basaltic-andesite) and lesser felsic volcanic lithology interlayered with localized carbonaceous silicified sediment (lithological log in Appendix). Slightly mineralized rhyolite (~3% pyrite-pyrrhotite) was encountered from 185.2-186.8m. The hole ended in chloritized ultramafic volcanic rock (Fig. 9 and lithological log in Appendix). Thirty one half-core samples were taken and analyzed for Au, Ag, Zn, Cu and Pb. The samples returned slightly anomalous, but non-economic values (sample log in Appendix).

Hole SK-14-04 was started on November 18<sup>th</sup> and finished on November 22<sup>nd</sup>, 2014. This DDH investigated IP 28, Target 7 located within the next inferred felsic horizon to the north on grid line 1200E at 040N (Figs. 3, 4 and 5). The apparent dip of the stratigraphy was calculated from core angle measurements to be 65° to the north. The hole was drilled normal to the dip direction of the stratigraphy to a depth of 152 m. SK-14-04 intersected a wide agglomerate unit interlayered with localized argillite and mafic intrusives towards the end of the hole (Fig. 9 and lithological log in Appendix). Chargeability anomalies were caused by carbonaceous argillite hosting a fault zone (68-71m) and graphitic fault from 130-130.7m (Fig. 9, lithological log is Appendix). One half-core sample was assayed for Au, Ag, Zn, Cu and Pb returning anomalous, but not economic base metal values (assay log in Appendix).

Hole SK-14-05 was started on November 29<sup>th</sup> and was finished on December 18<sup>th</sup>. The hole tested IP 29 and IP 30 within Target 1, VTEM and high Zn soil anomalies on local grid line 1000E at 360S (Figs. 3, 4 and 5). This DDH was drilled down-dip to the west of topographically inferred N-S fault. Core angle measurements suggest that the strata dips at 70-75 to the north. The hole went through bi-modal volcanic units, mostly basaltic-andesite interlayered with lesser agglomerate, felsic volcanics and sediments (Fig. 10 and lithological log in Appendix). IP anomalies were caused by silicified mineralized argillite (10-11.7m, up to 20% pyrrhotite), carbonaceous argillic selvages in basaltic-andesite (21.9m-22.1m, up to 20% pyrite) and more mineralized argillite at 149.7-152 m (up to 20% pyrite) and again from 190.5 m to 191.5 m. The hole was stopped at 200 m depth due to intersection of all identified IP targets. 143 half-core samples were assayed for Au, Ag, Zn, Cu and Pb. The assays returned anomalous Zn, Cu and Pb values, much higher than in the rest of the other holes with sample M18302 containing 1890 ppm Zn and 155 ppm Cu (assay log in the Appendix and assay certificate A15-00441 in the Appendix). The hole contained visual sphalerite and 5-15% sulphides locally. A whole rock sample was analyzed for major and trace elements allowing for classification of some rock types (basaltic-andesite) and also providing data for plotting CCPI and Ishigawa index diagrams as well as Y/Zr and Ba/Sr ratios.

### **Dates and Cost of Work**

Planning for the Sackville Property drill program started in February 2014. A field visit was carried out in September evaluating the drilling targets, collecting outcrop grab samples, identifying favourable geology exposed in trench sites and outcrops. Drilling started on October 28<sup>th</sup> and finished on December 18<sup>th</sup>, 2014, but related work continued to the end of December.

The drilling was carried out by Huard Drilling Ltd of Haileybury, ON at a total cost of \$70,176, out of which \$45,396 was the net cost of drilling and \$24,780 was related cost (float, mobilizing, moves, supplies etc.). Detailed summary of drilling cost is outlined in Table 4.

A total of 175 half-core samples were assayed from January 13<sup>th</sup>, 2015 to January 27<sup>th</sup>, 2015 in addition to one whole rock sample analysis and a number of grab samples analyzed during 2014 at a combined cost of \$6,935 and additional \$625 for core cutting (Table 5).

Equipment rental for the period September 1<sup>st</sup>-October 31<sup>st</sup>, 2014 was at a cost of \$9,159 and additional supplies and labor for the period of September 25<sup>th</sup>-October 31<sup>st</sup>, 2014 were at a cost of \$51,098 (Table 6).

Travel cost related to the drilling and site visits for the period September 23<sup>rd</sup>-December 18<sup>th</sup>, 2014 came to \$5,748 and food and lodging expenses for the period September 23<sup>rd</sup>-December 23<sup>rd</sup>, 2014 was \$8,110 (Table 6).

The work cost was distributed between two claims (4244452 and 4253691) based on meters drilled on each claim. The amount of work performed on 4244452 sums up to \$109,868 and the amount of work performed on 4253691 amounts to \$41,983.

The all-inclusive cost for the 2014 exploration program is \$151,851.

Hole	Cost	Meters	Additional expenses	Claim	Cost per Claim Drilling	Cost Per Claim Combined
SK14-01	6060	101		4253691		
SK14-02	6060	101	10000	4253691	12120	22120
SK14-03	12150	200	6910	4244452		
SK14-04	9126	152	4120	4244452		
SK14-05	12000	200	3750	4244452	33276	48056
Totals	45396	754	24780		45396	70176

*Table 4. List of DDH and associated meterage, cost and claim number.*



Hole	Certificate	Cost Au	Cost BM	Claim
SK-14-05	14-1745	7		4244452
SK-14-05	15-00195	50		4244452
SK-14-05	15-016, A15-0044	980	784	4244452
SK-14-05	15-017, A15-0044	1000	800	4244452
SK-14-05	15-018, A15-0044	880	704	4244452
SK-14-03; SK-14-05	15-019, A15-0044	640	512	4244452
SK-14-04	15-073, A15-0044	20	16	4244452
CORE CUTTING		625		4244452
SOIL SAMPLES	A14-06924		331	4244452
GRAB SAMPLES	A14-08605		211	4244452
TOTALS		4202	3358	7560

Table 5. Assay and core cutting costs.

Travel	5748
Food and Lodging	8110
Labour	51098
Equipment Rental	9159
Totals	74115
Added cost for claim 4253691	19862.8
Added cost for claim 4244452	54252.2

Table 6. Travel, food, lodging and additional costs.

## **Conclusions and Recommendations**

The 2014 Sackville Property drilling program was instrumental in greatly improving knowledge about the Property geology and its association with geophysical and geochemical anomalies. Notably, key lithological units were identified and their alteration assemblages evaluated with respect to known vectors for VMS mineralization. Furthermore different IP, VTEM and high Zn soil anomalies aligned with massive sulphide boulder train based on inferred paleo-ice flow direction were evaluated with regards to geology. Based on the outcome of the 2014 drilling program the following recommendations for future work could be suggested:

1. More outcrop grab samples should be collected proximal to selected IP anomalies targets and analyzed for known vectors for VMS mineralization and proper rock type classification.
2. Anomalously high Zn soil sample values of up to 986 ppm along line 400E at about 100S, located within IP 29 warrant further investigation. Additionally, this IP anomaly has a short strike length and appears to be non-formational. This target should be drilled and if outcrops are present nearby, samples should be collected for assaying and whole rock analysis.
3. Soil samples along line 1600N at 900 and 1200S close to the eastern extent of T2 (IP35) and western part of T4 (IP 36) show high Zn values of 1790 and 695 ppm respectively. Drilling showed predominantly iron formation lithology in the eastern part of T2, but the horizon has been previously mapped as felsic volcanics, so it they could be interlayered. Furthermore T4 appears to be non-formational and of small strike length. If, budget allows it these targets should be drilled and if any outcrops are present near the targets, representative samples should be collected and analyzed for major and trace elements and assayed for base metal content.

4. Target 6 (IP 28) is located within the same felsic horizon as T1 and T7 and also appears to be non-formational. It is also located up-ice from massive sulphide boulder train. If budget allows it this target should be drilled, given the anomalous Zn values encountered in SK-14-05 and in order to complete the evaluation of this lithological horizon.
5. Along line 1600E, 575S there is a large stripped rhyolite bedrock patch-Trench 7 (with associated intrusive phase), that is close to a high Zn soil values (up to 1070 ppm) and is slightly south from the weaker and non-formational appearing IP 32. This target is also located within a SGH anomaly contour. Given the favourable rock type and the presence of numerous anomalous soil Zn values, this target should be further investigated and drilled if possible.
6. Along lines 3900W from 1200N to 1950N and 3600W from 900N to 1100N of the old grid there are anomalously high soil Zn values (up to 1420 ppm). Although this site is outside of the current IP survey, additional outcrop sampling and mapping should be carried out (if outcrops are present nearby).

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## **CERTIFICATE OF AUTHOR**

I Ilian Iliev, MSc, GIT do hereby certify that:

1. I am currently employed as a consulting Geologist.

2249 Seton Crescent  
Burlington, ON  
L7L 6Y4

2. I graduated with a Master of Science degree in Geology from the University of Western Ontario in 2011

3. I am a Geologist-In-Training (GIT) member No. 7100 of the Association of Professional Geoscientists of Ontario (APGO).

4. I have worked as a geologist for a total of 4 years since graduation from university. I have been directly involved in exploration for base metals, gold, and iron ore in Canada.

**Dated this 18<sup>th</sup> Day of February, 2015 in the City of Burlington, Ontario.**

**“signed”**

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**Ilian Iliev, MSc, GIT**

## Appendix

### Lithological Core Logs

<b><i>Mistango River Resources Inc.</i></b>				
SACKVILLE PROPERTY		UTM		GRID LOCATION: SACKVILLE Township, Ontario
DDH	SK-14-01	5366300	N	DRILL COMPANY: HUARD DRILLING
Az	30.00	283471	E	GRID: DI Virtual:
DIP	-45.00	ZONE 16	E	850.00
E.O.H:	101.00	NAD 83	N	-950.00
Elev.:				Start: November 01, 2011; End: November 04, 2011
<i>From</i>	<i>To</i>	<i>Rock Type</i>	<i>Code</i>	<i>Description</i>
0.00	4.00	OVBD	OBN	casing left in hole
4.00	101.00	Gabbro	GBR	Hard, competent, non-magnetic, massive phaneritic, locally ophitic, subhedral, orthopyroxene gabbro (norite). Localized increased quartz content, but remains mafic throughout. Crystal size becomes fine-to-locally aphanitic, close to EOH. Localized shearing at 50DTCA, but predominantly massive. Numerous calcite stringers angles are very shallow, suggesting drilling is down-dip, but overall difficult to get a sense of the dip due to the massive nature of the rock. Trace to 3-4% pyrite locally. EOH.
101.00	EOH			

## **Mistango River Resources Inc.**

<b>SACKVILLE PROPERTY</b>		<b>UTM</b>		<b>GRID LOCATION: Sackville Township, Ontario</b>
<b>DDH</b>	<b>SK-14-02</b>	<b>5366419</b>	<b>N</b>	<b>DRILL COMPANY: HUARD DRILLING</b>
<b>Az</b>	<b>210.00</b>	<b>283456</b>	<b>E</b>	<b>GRID: DI Virtual:</b>
<b>DIP</b>	<b>-45.00</b>	<b>ZONE 16</b>	<b>E</b>	<b>800.00</b>
<b>E.O.H:</b>	<b>101.00</b>	<b>NAD 83</b>	<b>N</b>	<b>-765.00</b>
<b>Elev.:</b>				<b>Start: November 09, 2011; End: November 11, 2014</b>
<b>From</b>	<b>To</b>	<b>Rock Type</b>	<b>Code</b>	<b>Description</b>
0.00	8.40	OVBD		<b>Granite boulder</b>
8.40	58.20	Sediment	SED	<b>This ia a very lean BIF. Non-magnetic. Locally fine-to-very coarse, poorly sorted, sub-angular-to-medium rounded, massive-to-moderately bedded wacke with localized jasper/hematization.</b>
58.20	93.20	BIF	BIF	<b>Fine-to-medium grained cherty siltstone interbedded with very fine chert and hematite-magnetite beds (contain localized sulphides). Bedding is at about 60DTCA. Localized folding with limbs at shallow angles to core axis. Strongly magnetic.</b>
93.20	101.00	Peridotite	PR	<b>Phaneritic peridotite with olivine phenocrysts. (Could be olivine gabbro). Very weakly magnetic.</b>
101.00	EOH			<b>EOH</b>

## ***Mistango River Resources Inc.***

<b>SACKVILLE PROPERTY</b>		<b>UTM</b>		<b>GRID LOCATION: Sackville Township, Ontario</b>
<b>DDH</b>	<b>SK-14-03</b>	<b>5366716</b>	<b>N</b>	<b>DRILL COMPANY: Huard Drilling</b>
<b>Az</b>	<b>210.00</b>	<b>284130</b>	<b>E</b>	<b>GRID: DI Virtual:</b>
<b>DIP</b>	<b>-45.00</b>	<b>16</b>	<b>E</b>	<b>1200.00</b>
<b>E.O.H:</b>	<b>200.00</b>	<b>NAD 83</b>	<b>N</b>	<b>-200.00</b>
<b>Elev.:</b>				<b>Start: November 13, 2014; End: November 18, 2014</b>
<b>From</b>	<b>To</b>	<b>Rock Type</b>	<b>Code</b>	<b>Description</b>
0.00	5.00	OVBD		<b>Very blocky core, MV (mafic volcanic)</b>
5.00	43.30	Basaltic Andesite	BA	Hard, competent, locally weakly magnetic, locally brecciated (flow breccia locally-after 54m), moderately carbonatized (calcite), locally weakly chloritic (chloritic seams at 54-57m, but possibly locally throughout), strongly siliceous(throughout), weakly hematized (oxidized pyrite, but also hair line hematite stringers locally, limonite on fractures close to surface) intermediate volcanic rock. Pyrite content varies, but in more mineralized intervals it averages 5-10%, with lesser pyrrhotite. Pyrite content starts to increase after 41m.
43.30	44.70	Argillite	ARG	Pervasively silicified carbonaceous sediment. Brecciation and argillic seams appear after 43.3m and the core becomes carbonaceous after 44.2 to 44.7m (this is a small cherty lens). Pervasively silicified. Up to 20% sulphides (about 10% average) in the argillic lens (mostly botryoidal pyrite, with some hematite and less pyrrhotite).
44.70	87.00	Basaltic Andesite	BA	Back to andesite as described above. The texture becomes gradually coarser below 83m, with more intrusive looking localized intervals, but overall still mostly volcanic.
87.00	111.80	Basaltic Andesite	BA	Silicified and mineralized mafic-to-intermediate volcanics. Another zone of increased mineralization (botryoidal-to-semi massive selvages of pyrite+pyrrhotite <15% locally) starts at 87 to 100.6m, with pyrrhotite appearing after 95m, associated with increased silicification. Flow breccia observed locally at 104.5m and 107.4m.
111.80	112.60	Rhyolite	RY	Short unit of rhyolite/cryptocrystalline chert? (~5% pyrite).
112.60	117.70	Basaltic Andesite	BA	This is a heterogenous unit comprized of weakly-to-moderately silicified phaneritic-to-locally aphanitic felsic volcanics.
117.70	118.90	Rhyolite	RY	Quartz-eye porphyry (feldspar and quartz phenocrysts in aphanitic siliceous groundmass) rhyolite.
118.90	129.60	Basaltic Andesite	BA	Fine phaneritic-to-locally aphanitic, massive, locally weakly silicified, weakly carbonatized felsic volcanics.



129.60	130.95	Rhyolite	RY	Quartz-eye rhyolite. Hard, competent, non-magnetic, porphyry (qtz and feldspar phenocrysts in very fine qtz groundmass) rhyolite. About 3% botryoidal pyrite on average.
130.95	135.00	Porphyry B Andesite	BA	This unit is comprised of intermediate porphyry rock, with predominantly ferro-mag mineral content, but also contains up to ~20%qtz and feldspar phenocrysts. Groundmas is fine phaneritic. Sheared and faulted from 133.5-135, (~30DTCA).
135.00	155.35	Mafic Intrusives	MI	Gabbroic mafic intrusives. Small chert/rhyolite interval from 144-144.5m (very fine, black and siliceous).
155.35	159.70	Argillite	ARG	Very fine, black, finely banded (~50DTCA), chert. <5% pyrite on average.
159.70	163.00	Mafic Intrusives	MI	Mafic intrusives. Phaneritic, massive, locally weakly silicified, weakly carbonatized mafic intrusion.
163.00	164.50	Rhyolite	RY	Porphyry rhyolite:feldspar and quartz-eye phenocrysts in very fine siliceous groundmass.
164.50	172.00	Intermediate Intrusives	II	Intermediate intrusive rock. Predominantly silica-chlorite groundmass, but with higher content of feldspar and quartz. Some intervals are granodioritic. Localized brown, siliceous, intrusive xenoliths and small xenoliths of rhyolite porphyry.
172.00	173.40	Rhyolite	RY	Rhyolite porphyry. Feldspar and quartz phenocrysts in aphanitic siliceous groundmass. Small mafic intrusive xenoliths after 173m.
173.40	176.00	Mafic Intrusives	MI	Predominantly mafic intrusives, interlayered with localized rhyolite porphyry.
176.00	176.90	Mafic Intrusives	MI	Fine grained mafic dyke.
176.90	179.80	Rhyolite	RY	Heterogeneous lithological unit comprised of predominantly rhyolite porphyry interlayered with localized segments of mafic dyke.
179.80	185.20	Basaltic Andesite	BA	Fine phaneritic, competent, chloritic mafic-to-intermediate volcanics (could be fine grained intermediate intrusive).
185.20	186.80	Rhyolite	RY	Creamy-to-locally brown, locally banded (~50DTCA), locally porphyritic (feldspar phenocrysts in aphanitic quartz groundmass from 185.5 to 185.9m and again close to lower contact), rhyolite. This unit is mineralized with about 3% pyrite+pyrrhotite (blebs of botryoidal pyrite and localized finer pyrrhotite). Pyrrhotite is visible toward lower contact, but localized magnetism suggests it is likely present locally throughout. This zone is most likely responsible for the second IP anomaly at depth.

186.80	196.00	Basaltic Andesite	BA	<b>Green, hard, competent, non-magnetic intermediate unit. The texture is porphyritic from upper contact to 187.5m with abundant large plagioclase phenocrysts in finer, but still phaneritic ferro-mag groundmass (weak shearing at 50DTCA). From 187.5m to 188 another banded rhyolite raft. Below the rhyolite xenolith, the texture becomes finer phaneritic and continues to get finer toward lower contact, along with border line mafic-to-intermediate rock composition. Leucoxene appears below 192.3m to lower contact. Weak shearing throughout.</b>
196.00	198.70	Chloritized Ultramafics	CUV	<b>Soft, magnetic, chloritized ultramafic volcanic rock.</b>
198.70	199.80	Lamprophyre	LAMP	<b>Lamprophyric dyke: phaneritic, pervasively Biotitized.</b>
199.80	200.00	Chloritized Ultramafics	CUV	<b>Back to chloritized ultramafics. EOH</b>
200.00	EOH			

## **Mistango River Resources Inc.**

SACKVILLE PROPERTY		UTM		GRID LOCATION: Sackville Township, Ontario
DDH	SK-14-04	5366930	N	DRILL COMPANY: Huard Drilling
Az	210.00	284235	E	GRID: DI Virtual:
DIP	-45.00	ZONE 17	E	1200.00
E.O.H:	152.00	NAD 83	N	40N
Elev.:				Start: November 19, 2014; End: November 22, 2014
<i>From</i>	<i>To</i>	<i>Rock Type</i>	<i>Code</i>	<i>Description</i>
0.00	2.00	OVBD		
2.00	8.00	Agglomerate	AGL	Grey-green, very hard, polymictic agglomerate. Angular felsic porphyritic fragments, as well as intermediate and more mafic fragments in highly silicified groundmas. Shear fabric is locally observable at about varying from 30-45 DTCA. Strong fracturing close to surface with limonite alteration.
8.00	11.00	Granite	GRT	Pink, hard, phaneritic, sheared granite (30 DTCA).
11.00	62.00	Agglomerate	AGL	Back to grey-green, hard, locally strongly silicified, polymictic agglomerate. Clast very from porphyry and aphanitic felsic, to intermediate-to-phaneritic mafic within felsic-to-intermediate groundmass. The clasts are comprised of angular-to-subangular fragments and well rounded bombs and range from 2-3cm to >10cm. Localized rhyolite bands (~50cm width). This interval is weakly mineralized with pyrrhotite. Localized pyrrhotite clasts a few cm in size. Hard to estimate avr % due to logging conditions.
62.00	66.70	Argillite	ARG	Black-to-dark brown, highly silicified, massive (or very finely laminated, could not determine due to logging conditions) sediment.
66.70	68.00	Agglomerate	AGL	Intermediate monomictic agglomerate with hematized felsic-intermediate angular and rounded clasts (bombs?) within mafic-to-intermediate phaneritic matrix.
68.00	71.00	Fault Zone	FZ	FZ is defined by blocky core and localized gouge as well as strong veining (fine qtz-cal stringers cross cut bedding). FZ is hosted within brown carbonaceous argillite. Bedding is at 60 DTCA.
71.00	87.50	Agglomerate	AGL	Back to agglomerate as described above.
87.50	89.30	Mafic Intrusives	MI	Gradual transition into green, hard porphyritic (plag phenocrysts) mafic intrusion.
89.30	95.50	Agglomerate	AGL	Felsic-to-locally intermediate agglomerate, with mainly rhyolitic clasts and phaneritic groundmass.
95.50	98.90	Diabase	DIA	Sharp contacts. Phaneritic quartz-dyke. About 6% fine-to-locally coarse pyrite throughout.

98.90	115.10	Agglomerate	AGL	<b>Grey-green, hard agglomerate. Groundmass is phaneritic intermediate, locally silicified, clasts are angular-to-locally rounded and predominantly felsic in composition. This unit is weakly carbonatized.</b>
115.10	119.60	Sediment	SED	<b>Grey-to-black, fine-to-coarse grained, poorly sorted, medium thickly bedded (60DTCA) grey wacke. Coarse grained close to upper contact, with interlayered sand and mud beds then becomes finer deeper into the interval. Becomes carbonaceous from 118-119m, then silicified proximal to lower contact. 2-3% diagenic pyrite on average.</b>
119.60	130.00	Agglomerate	AGL	<b>This is a complicated lithological unit, that contains mostly agglomerate interlayered with grey wacke and argillite smaller units (122.5m). Bedding in sedimentary component is ~60 DTCA.</b>
130.00	130.70	Graphite	GRA	<b>Graphitic argillite within a small fault (graphitic gouge). Bedding is at 60-65 DTCA. ~10% Pyrite.</b>
130.70	152.00	Mafic Volcanics	MV	<b>Green, hard, phaneritic-to-locally aphanitic flow breccia (locally brecciated). EOH.</b>
152.00	EOH			

<b>Mistango River Resources Inc.</b>				
SACKVILLE PROPERTY		UTM		GRID LOCATION: Sackville Township, Ontario
DDH	SK-14-05	5366710	N	DRILL COMPANY: Huard Drilling
Az	30.00	283857	E	GRID: DI Virtual:
DIP	-45.00	ZONE 17	E	1000.00
E.O.H:	200.00	NAD 83	N	360.00
Elev.:				Start: November 29, 2014; End: December 14, 2014
From	To	Rock Type	Code	Description
0.00	5.00	OVBD		2m casing, various felsic/mafic boulders.
5.00	8.00	Felsic Volcanics	FV	Felsic-to intermediate, silicified volcanics. Qtz-eye locally visible.
8.00	10.00	Intermediate Intrusive	II	Intermediate, fine grained mineralized intrusion Contact all broken off and not recognizable.
10.00	11.70	Argillite	ARG	Black, very hard, silicified, carbonaceous sediment. This unit is highly mineralized with parallel to bedding pyrrhotite selvages (up to 20%). Bedding is at ~30 DTCA (drilling down-dip). This could be responsible for some of the northern IP spike.
11.70	12.60	Intermediate Intrusive	II	Intermediate-to-mafic Intrusives. Phaneritic texture, comprised of significant plagioclase and ferro-mag minerals. Contains about 5% pyrrhotite visible on fractures. Upper and lower contacts at about 35 degrees).
12.60	56.00	Basaltic Andesite	BA	Whole rock shows this to be basaltic andesite. Dark grey felsic-to-intermediate volcanics. This interval is silicified and very hard, mostly aphanitic, but also with coarser phaneritic intervals showing Qtz-eye and feldspars. Localized banding (15.9m) at 30 DTCA. Banding appears after 51m with coarser texture, flow breccia 74-77, but also noted locally. This interval is moderately mineralized with about 3% pyrite on average and up to 10% pyrite visible on some fractures (at 16.5m). Calcite stringers visible locally, but intensify after 16.5m. Quartz-calcite-feldspar vein from 17.5-17.8m with weak localized hematization (hematized stringers locally). Mineralized argillic seams at 21.9m (~15-20% Py, 20cm long, 30dtca bedding). Slight foliation (30DTCA) after 37m with increased silica content.
56.00	85.70	Tuff	T	Grey-brown, very hard, weakly magnetic, finely bedded-to-laminated (~30DTCA), strongly silicified tuff. Carbonaceous close to upper contact. Locally weakly carbonaceous. Not sure if this interval is pyroclastic or sedimentary. 2-3% medium-to-coarse pyrite.
85.70	113.30	Agglomerate	AGL	Grey-green, very hard, silicified, rhyolitic agglomerate. Numerous, intermediate-to-felsic, mostly sub-angular-to-well rounded intrusive fragments, set in fine, but still phaneritic groundmass. Not sure if this is agglomerate or sedimentary conglomerate.

113.30	149.70	Basaltic Andesite	BA	Back to weakly chloritized, locally weakly hematized (qtz-cal-hem stringers and veinlets, locally feldspatic) massive-to-locally banded (30DTCA), locally brecciated (flow breccia), basaltic andesite, with localized pyroclastic fragments. 2-3% fine-to-coarse botryoidal pyrite throughout. Non-magnetic-to-locally very weakly magnetic.
149.70	152.10	Argillite	ARG	Lens of strongly silicified carbonaceous, mineralized (~20% Py) sediment. Bedding (foliation?) is at 30DTCA.
152.10	190.50	Basaltic Andesite	BA	Back to grey-dark green, locally weakly chloritized very siliceous massive-to-locally brecciated basaltic andesite. Numerous qtz-cal+/-pyrite (1-2% very fine pyrite) stringers throughout, most oriented at 30DTCA.
190.50	191.50	Argillite	ARG	Sharp upper and lower contacts at 30DTCA. Black, very hard, non-magnetic, pervasively silicified, very fine grained, bedded (30DTCA), strongly mineralized carbonaceous, altered sediment. Pyrite forms stringers locally parallel to bedding, but also large, rounded aggregates and stringers that cross-cut bedding. (~20%).
191.50	200.00	Basaltic Andesite	BA	From 191.5 to 194m the andesite likely contains some altered sedimentary material and it is also strongly mineralized (~15% Py), brecciated and banded (30DTCA). Mineralization is comprised of locally botryoidal stringers parallel to bedding and also hair line very fine abundant stringers in all directions, but numerous are oriented at 0 DTCA. After 194m the andesite becomes more massive with very fine sphalerite stringers locally (194 and 195.5m). Pyrite content increases again after 197m (~10%). Last 20cm of the hole change into rhyolitic tuff.
200.00	EOH			

## Sample Core Logs

DDH	Rock	Sample#	% Sul	From	To	m	Au g/t	Au g/t	Ag g/t	Cu g/t	Zn g/t	Pb g/t	Mo g/t	CERTIFICATE
SK-14-03	BA	M18472	7	41.00	42.00	1.00	0.01		< 0.2	227.00	70.00	< 2	< 1	15-019; A15-00441
SK-14-03	BA	M18473	5	42.00	43.00	1.00	< 0.01		< 0.2	123.00	52.00	< 2	< 1	15-019; A15-00441
SK-14-03	ARG	M18474	10	43.00	44.00	1.00	< 0.01		< 0.2	155.00	128.00	< 2	< 1	15-019; A15-00441
SK-14-03	ARG	M18475	10	44.00	44.50	0.50	0.01		< 0.2	126.00	1020.00	4.00	2.00	15-019; A15-00441
SK-14-03	ARG	M18476	15	44.50	44.80	0.30	0.02		0.60	192.00	279.00	7.00	1.00	15-019; A15-00441
SK-14-03	BA	M18477	5	44.80	45.50	0.70	< 0.01		< 0.2	107.00	45.00	< 2	< 1	15-019; A15-00441
SK-14-03	BA	M18478	TR	45.50	46.00	0.50	< 0.01		< 0.2	108.00	35.00	< 2	1.00	15-019; A15-00441
SK-14-03	BA	M18479	2	46.00	47.00	1.00	< 0.01		< 0.2	123.00	36.00	< 2	< 1	15-019; A15-00441
SK-14-03	BA	M18480	2	47.00	48.00	1.00	< 0.01	< 0.01	< 0.2	90.00	38.00	< 2	< 1	15-019; A15-00441
SK-14-03	BA	M18482	2	48.00	48.90	0.90	0.01		< 0.2	125.00	32.00	< 2	< 1	15-019; A15-00441
SK-14-03	BA	M18483	TR	92.00	93.00	1.00	< 0.01		< 0.2	92.00	73.00	< 2	< 1	15-019; A15-00441
SK-14-03	BA	M18484	2	93.00	94.00	1.00	< 0.01		< 0.2	123.00	67.00	< 2	< 1	15-019; A15-00441
SK-14-03	BA	M18485	2	94.00	95.00	1.00	< 0.01		< 0.2	85.00	69.00	< 2	< 1	15-019; A15-00441
SK-14-03	BA	M18486	3	95.00	96.00	1.00	0.01		< 0.2	161.00	90.00	< 2	1.00	15-019; A15-00441
SK-14-03	BA	M18487	7	96.00	96.30	0.30	< 0.01		< 0.2	148.00	92.00	< 2	< 1	15-019; A15-00441
SK-14-03	BA	M18488	15	96.30	96.90	0.60	< 0.01		< 0.2	118.00	96.00	< 2	< 1	15-019; A15-00441
SK-14-03	BA	M18489	15	96.90	97.40	0.50	0.01		0.20	182.00	106.00	< 2	< 1	15-019; A15-00441
SK-14-03	BA	M18492	15	97.40	98.00	0.60	< 0.01		< 0.2	89.00	112.00	< 2	< 1	15-019; A15-00441
SK-14-03	BA	M18493	5	98.00	99.00	1.00	< 0.01	< 0.01	< 0.2	89.00	75.00	< 2	< 1	15-019; A15-00441
SK-14-03	BA	M18494	10	99.00	100.00	1.00	< 0.01		< 0.2	70.00	72.00	< 2	< 1	15-019; A15-00441
SK-14-03	BA	M18495	5	100.00	100.50	0.50	< 0.01		< 0.2	262.00	40.00	< 2	< 1	15-019; A15-00441
SK-14-03	BA	M18496	TR	182.00	183.00	1.00	0.01		< 0.2	123.00	31.00	< 2	< 1	15-019; A15-00441
SK-14-03	BA	M18497	TR	183.00	184.00	1.00	< 0.01		< 0.2	128.00	28.00	< 2	< 1	15-019; A15-00441
SK-14-03	BA	M18498	TR	184.00	185.10	1.10	< 0.01		< 0.2	46.00	45.00	< 2	2.00	15-019; A15-00441
SK-14-03	RY	M18499	0	185.10	186.00	0.90	< 0.01		< 0.2	49.00	45.00	< 2	2.00	15-019; A15-00441
SK-14-03	BA	M18500	3	186.00	186.40	0.40	< 0.01		< 0.2	46.00	18.00	< 2	2.00	15-019; A15-00441
SK-14-03	BA	M18502	1	186.40	187.00	0.60	< 0.01		< 0.2	67.00	32.00	< 2	< 1	15-019; A15-00441
SK-14-03	BA	M18503	3	187.00	188.00	1.00	< 0.01		< 0.2	65.00	37.00	< 2	< 1	15-019; A15-00441
SK-14-03	BA	M18504	1	188.00	189.00	1.00	< 0.01	< 0.01	< 0.2	128.00	31.00	< 2	< 1	15-019; A15-00441
SK-14-03	BA	M18505	3	189.00	190.00	1.00	< 0.01		< 0.2	73.00	38.00	< 2	< 1	15-019; A15-00441
SK-14-03	BA	M18506	TR	190.00	190.50	0.50	< 0.01		< 0.2	88.00	38.00	< 2	< 1	15-019; A15-00441

DDH	Rock	Sample#	% Sul	From	To	m	Au g/t	Ag g/t	Cu g/t	Zn g/t	Pb g/t	Mo g/t	CERTIFICATE
SK-14-04	AGL	M18507	0	105.00	106.00	1.00	< 0.01	< 0.2	92.00	51.00	76.00	1.00	15-073; A15-00441

DDH	Rock	Sample#	% Sul	From	To	m	Au g/t	Ag g/t	Cu g/t	Zn g/t	Pb g/t	Mo g/t	CERTIFICATE	
SK-14-05	ARG	M18301	15	10.00	11.00	1.00	0.02		0.20	160.00	703.00	9.00	2.00	15-016; A15-00441
SK-14-05	ARG	M18302	15	11.00	11.70	0.70	0.01		0.30	155.00	1890.00	12.00	5.00	15-016; A15-00441
SK-14-05	ll	M18304	1	11.70	12.60	0.90	< 0.01		< 0.2	92.00	62.00	5.00	< 1	15-016; A15-00441
SK-14-05	BA	M18305	tr	12.60	13.00	0.40	< 0.01		< 0.2	103.00	31.00	< 2	< 1	15-016; A15-00441
SK-14-05	BA	M18306	5	13.00	13.60	0.60	< 0.01		< 0.2	105.00	33.00	< 2	< 1	15-016; A15-00441
SK-14-05	BA	M18307	5	13.60	14.00	0.40	< 0.01		< 0.2	121.00	25.00	< 2	< 1	15-016; A15-00441
SK-14-05	BA	M18308	5	14.00	15.00	1.00	< 0.01		< 0.2	86.00	27.00	< 2	< 1	15-016; A15-00441
SK-14-05	BA	M18309	1	17.00	17.50	0.50	< 0.01		< 0.2	76.00	44.00	< 2	< 1	15-016; A15-00441
SK-14-05	BA	M18311	1	17.50	17.90	0.40	< 0.01	< 0.01	< 0.2	54.00	34.00	< 2	< 1	15-016; A15-00441
SK-14-05	BA	M18312	2	17.90	18.60	0.70	< 0.01		< 0.2	85.00	37.00	< 2	1.00	15-016; A15-00441
SK-14-05	BA	M18313	1	18.60	19.60	1.00	< 0.01		< 0.2	75.00	34.00	< 2	< 1	15-016; A15-00441
SK-14-05	BA	M18314	1	19.60	20.00	0.40	< 0.01		< 0.2	180.00	39.00	< 2	< 1	15-016; A15-00441
SK-14-05	BA	M18315	3	20.00	21.00	1.00	< 0.01		< 0.2	125.00	42.00	< 2	< 1	15-016; A15-00441
SK-14-05	BA	M18316	1	21.00	21.60	0.60	< 0.01		< 0.2	89.00	49.00	< 2	< 1	15-016; A15-00441
SK-14-05	BA	M18317	15	21.60	22.10	0.50	< 0.01		< 0.2	335.00	126.00	< 2	< 1	15-016; A15-00441
SK-14-05	BA	M18319	8	21.10	23.00	1.90	< 0.01		< 0.2	123.00	40.00	< 2	< 1	15-016; A15-00441
SK-14-05	BA	M18320	3	50.00	51.00	1.00	< 0.01		< 0.2	143.00	47.00	< 2	< 1	15-016; A15-00441
SK-14-05	BA	M18321	1	51.00	51.50	0.50	< 0.01		< 0.2	43.00	62.00	< 2	< 1	15-016; A15-00441
SK-14-05	BA	M18322	tr	51.50	52.00	0.50	< 0.01		< 0.2	42.00	51.00	< 2	< 1	15-016; A15-00441
SK-14-05	T	M18324	1	83.00	84.00	1.00	< 0.01	< 0.01	< 0.2	100.00	117.00	< 2	< 1	15-016; A15-00441
SK-14-05	T	M18325	1	84.00	85.00	1.00	< 0.01		< 0.2	113.00	126.00	< 2	< 1	15-016; A15-00441
SK-14-05	T	M18326	2	85.00	85.70	0.70	0.01		0.30	169.00	111.00	7.00	2.00	15-016; A15-00441
SK-14-05	AGL	M18327	1	85.70	86.00	0.30	< 0.01		0.30	76.00	201.00	5.00	3.00	15-016; A15-00441
SK-14-05	AGL	M18328	2	86.00	87.00	1.00	< 0.01		< 0.2	24.00	65.00	3.00	1.00	15-016; A15-00441
SK-14-05	AGL	M18329	5	87.00	88.00	1.00	< 0.01		< 0.2	72.00	57.00	< 2	< 1	15-016; A15-00441
SK-14-05	AGL	M18331	6	88.00	89.00	1.00	< 0.01		< 0.2	54.00	40.00	< 2	< 1	15-016; A15-00441
SK-14-05	AGL	M18332	5	89.00	90.00	1.00	< 0.01		< 0.2	53.00	46.00	< 2	< 1	15-016; A15-00441
SK-14-05	AGL	M18333	5	90.00	91.00	1.00	< 0.01		< 0.2	127.00	44.00	< 2	< 1	15-016; A15-00441
SK-14-05	AGL	M18334	4	91.00	92.00	1.00	< 0.01		< 0.2	76.00	46.00	< 2	< 1	15-016; A15-00441
SK-14-05	AGL	M18335	3	92.00	93.00	1.00	< 0.01	< 0.01	0.40	66.00	273.00	11.00	2.00	15-016; A15-00441
SK-14-05	AGL	M18336	5	93.00	94.10	1.10	0.01		0.40	108.00	400.00	12.00	2.00	15-016; A15-00441
SK-14-05	AGL	M18337	2	94.10	95.00	0.90	0.01		< 0.2	56.00	140.00	6.00	2.00	15-016; A15-00441



SK-14-05	AGL	M18338	6	95.00	96.00	1.00	< 0.01		< 0.2	28.00	114.00	5.00	< 1	15-016; A15-00441
SK-14-05	AGL	M18341	1	96.00	97.00	1.00	< 0.01		< 0.2	40.00	184.00	6.00	3.00	15-016; A15-00441
SK-14-05	AGL	M18342	1	97.00	98.00	1.00	< 0.01		< 0.2	49.00	169.00	4.00	2.00	15-016; A15-00441
SK-14-05	AGL	M18344	TR	98.00	99.00	1.00	< 0.01		< 0.2	77.00	138.00	3.00	1.00	15-016; A15-00441
SK-14-05	AGL	M18345	TR	99.00	100.00	1.00	< 0.01		< 0.2	109.00	59.00	< 2	< 1	15-016; A15-00441
SK-14-05	AGL	M18346	TR	100.00	101.00	1.00	< 0.01		< 0.2	62.00	38.00	< 2	< 1	15-016; A15-00441
SK-14-05	T	M18347	6	68.00	69.00	1.00	< 0.01		< 0.2	174.00	70.00	< 2	< 1	15-016; A15-00441
SK-14-05	T	M18348	7	69.00	69.70	0.70	< 0.01	0.01	< 0.2	300.00	82.00	< 2	< 1	15-016; A15-00441
SK-14-05	T	M18349	7	69.70	70.00	0.30	< 0.01		0.20	190.00	63.00	2.00	< 1	15-016; A15-00441
SK-14-05	T	M18351	9	70.00	71.00	1.00	< 0.01		< 0.2	171.00	75.00	< 2	< 1	15-016; A15-00441
SK-14-05	T	M18352	5	71.00	72.00	1.00	< 0.01		< 0.2	127.00	62.00	< 2	< 1	15-016; A15-00441
SK-14-05	T	M18353	5	72.00	73.00	1.00	< 0.01		< 0.2	125.00	87.00	< 2	< 1	15-016; A15-00441
SK-14-05	T	M18354	3	73.00	74.00	1.00	< 0.01		2.60	1120.00	338.00	118.00	108.00	15-016; A15-00441
SK-14-05	T	M18355	5	74.00	75.00	1.00	< 0.01		< 0.2	118.00	85.00	< 2	1.00	15-016; A15-00441
SK-14-05	T	M18356	6	75.00	76.00	1.00	< 0.01		< 0.2	196.00	81.00	< 2	< 1	15-016; A15-00441
SK-14-05	T	M18357	5	76.00	77.00	1.00	< 0.01		< 0.2	183.00	107.00	< 2	< 1	15-016; A15-00441
SK-14-05	T	M18358	1	77.00	78.00	1.00	< 0.01		< 0.2	126.00	110.00	< 2	< 1	15-016; A15-00441
SK-14-05	T	M18361	2	78.00	79.00	1.00	< 0.01		< 0.2	168.00	86.00	< 2	< 1	15-017; A15-00441
SK-14-05	T	M18362	1	79.00	80.00	1.00	< 0.01		< 0.2	122.00	82.00	< 2	< 1	15-017; A15-00441
SK-14-05	T	M18363	3	80.00	81.00	1.00	< 0.01		< 0.2	149.00	68.00	< 2	< 1	15-017; A15-00441
SK-14-05	T	M18364	1	81.00	82.00	1.00	< 0.01		< 0.2	71.00	62.00	< 2	< 1	15-017; A15-00441
SK-14-05	T	M18365	4	82.00	83.00	1.00	< 0.01		< 0.2	184.00	87.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18366	3	113.00	114.00	1.00	< 0.01		< 0.2	64.00	39.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18367	4	114.00	115.00	1.00	< 0.01		< 0.2	85.00	41.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18368	5	115.00	116.00	1.00	< 0.01		2.70	1150.00	338.00	119.00	109.00	15-017; A15-00441
SK-14-05	BA	M18369	3	116.00	117.00	1.00	< 0.01		< 0.2	164.00	32.00	< 2	3.00	15-017; A15-00441
SK-14-05	BA	M18371	5	117.00	118.00	1.00	< 0.01	< 0.01	< 0.2	56.00	24.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18372	3	118.00	119.00	1.00	< 0.01		< 0.2	49.00	23.00	< 2	1.00	15-017; A15-00441
SK-14-05	BA	M18373	5	119.00	120.00	1.00	< 0.01		< 0.2	73.00	36.00	< 2	1.00	15-017; A15-00441
SK-14-05	BA	M18374	tr	120.00	121.00	1.00	< 0.01		< 0.2	20.00	53.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18375	6	121.00	122.00	1.00	< 0.01		< 0.2	116.00	51.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18376	5	122.00	123.00	1.00	< 0.01		< 0.2	134.00	53.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18377	6	123.00	124.00	1.00	< 0.01		< 0.2	217.00	52.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18378	8	124.00	125.00	1.00	< 0.01		< 0.2	137.00	76.00	< 2	1.00	15-017; A15-00441
SK-14-05	BA	M18381	2	125.00	126.00	1.00	< 0.01		< 0.2	157.00	60.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18382	6	126.00	127.00	1.00	< 0.01	0.01	< 0.2	101.00	65.00	< 2	< 1	15-017; A15-00441

SK-14-05	BA	M18383	tr	127.00	127.60	0.60	< 0.01		< 0.2	151.00	67.00	< 2	2.00	15-017; A15-00441
SK-14-05	BA	M18384	1	127.60	128.00	0.40	< 0.01		< 0.2	64.00	45.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18385	1	128.00	129.00	1.00	< 0.01		< 0.2	86.00	100.00	9.00	< 1	15-017; A15-00441
SK-14-05	BA	M18386	3	129.00	130.00	1.00	< 0.01		< 0.2	122.00	39.00	2.00	< 1	15-017; A15-00441
SK-14-05	BA	M18387	4	130.00	131.00	1.00	< 0.01		< 0.2	162.00	86.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18388	5	131.00	132.00	1.00	< 0.01		< 0.2	115.00	56.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18389	6	132.00	132.90	0.90	< 0.01		< 0.2	151.00	69.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18391	1	132.90	133.70	0.80	< 0.01		< 0.2	59.00	49.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18392	4	133.70	134.00	0.30	< 0.01		< 0.2	63.00	62.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18393	4	134.00	135.00	1.00	< 0.01	< 0.01	< 0.2	93.00	65.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18394	1	135.00	136.00	1.00	< 0.01		< 0.2	78.00	71.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18395	2	136.00	137.00	1.00	< 0.01		< 0.2	105.00	88.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18396	4	137.00	138.00	1.00	< 0.01		< 0.2	119.00	86.00	< 2	1.00	15-017; A15-00441
SK-14-05	BA	M18397	5	138.00	139.00	1.00	< 0.01		< 0.2	119.00	107.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18398	6	139.00	140.00	1.00	< 0.01		< 0.2	129.00	105.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18401	4	140.00	141.00	1.00	< 0.01		< 0.2	176.00	98.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18402	2	141.00	142.00	1.00	< 0.01		< 0.2	108.00	94.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18403	5	142.00	143.00	1.00	< 0.01		< 0.2	82.00	59.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18404	5	143.00	144.00	1.00	< 0.01		< 0.2	97.00	81.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18405	3	144.00	145.00	1.00	< 0.01	< 0.01	< 0.2	110.00	103.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18406	5	145.00	146.00	1.00	< 0.01		< 0.2	95.00	109.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18407	3	146.00	147.00	1.00	< 0.01		< 0.2	142.00	99.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18408	2	147.00	148.00	1.00	< 0.01		< 0.2	117.00	89.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18409	4	148.00	149.00	1.00	< 0.01		< 0.2	149.00	76.00	< 2	1.00	15-017; A15-00441
SK-14-05	BA	M18411	1	149.00	149.70	0.70	< 0.01		< 0.2	67.00	88.00	< 2	< 1	15-017; A15-00441
SK-14-05	ARG	M18412	20	149.70	150.20	0.50	< 0.01		0.20	460.00	219.00	3.00	< 1	15-017; A15-00441
SK-14-05	ARG	M18413	8	150.20	151.00	0.80	< 0.01		< 0.2	214.00	89.00	< 2	< 1	15-017; A15-00441
SK-14-05	ARG	M18414	2	151.00	152.00	1.00	< 0.01		< 0.2	198.00	106.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18415	5	152.00	153.00	1.00	< 0.01		< 0.2	136.00	72.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18416	4	153.00	154.00	1.00	< 0.01	< 0.01	< 0.2	182.00	61.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18417	3	154.00	155.00	1.00	< 0.01		< 0.2	106.00	59.00	< 2	< 1	15-017; A15-00441
SK-14-05	BA	M18418	5	155.00	156.00	1.00	< 0.01		< 0.2	73.00	60.00	< 2	< 1	15-018; A15-00441
SK-14-05	BA	M18421	4	156.00	157.00	1.00	< 0.01		< 0.2	109.00	109.00	< 2	< 1	15-018; A15-00441
SK-14-05	BA	M18422	1	157.00	158.00	1.00	< 0.01		< 0.2	187.00	63.00	< 2	< 1	15-018; A15-00441
SK-14-05	BA	M18423	3	167.00	167.70	0.70	< 0.01		< 0.2	72.00	65.00	< 2	< 1	15-018; A15-00441
SK-14-05	BA	M18424	8	167.70	168.00	0.30	< 0.01		< 0.2	253.00	146.00	< 2	1.00	15-018; A15-00441
SK-14-05	BA	M18425	8	168.00	169.00	1.00	< 0.01		< 0.2	93.00	84.00	< 2	< 1	15-018; A15-00441
SK-14-05	BA	M18426	8	169.00	170.00	1.00	< 0.01		< 0.2	146.00	71.00	< 2	< 1	15-018; A15-00441
SK-14-05	BA	M18427	3	170.00	171.00	1.00	< 0.01		< 0.2	146.00	122.00	< 2	< 1	15-018; A15-00441
SK-14-05	BA	M18428	1	171.00	172.00	1.00	< 0.01		< 0.2	177.00	138.00	< 2	< 1	15-018; A15-00441

SK-14-05	BA	M18429	2	172.00	173.00	1.00	< 0.01	< 0.01	< 0.2	147.00	105.00	< 2	< 1	15-018; A15-00441
SK-14-05	BA	M18431	3	173.00	174.00	1.00	< 0.01		< 0.2	141.00	99.00	< 2	< 1	15-018; A15-00441
SK-14-05	BA	M18432	1	174.00	175.00	1.00	< 0.01		< 0.2	99.00	48.00	< 2	< 1	15-018; A15-00441
SK-14-05	BA	M18433	TR	175.00	176.00	1.00	< 0.01		< 0.2	93.00	45.00	< 2	< 1	15-018; A15-00441
SK-14-05	BA	M18434	TR	176.00	177.00	1.00	< 0.01		< 0.2	63.00	47.00	< 2	< 1	15-018; A15-00441
SK-14-05	BA	M18435	1	177.00	178.00	1.00	< 0.01		< 0.2	170.00	61.00	< 2	< 1	15-018; A15-00441
SK-14-05	BA	M18436	4	178.00	179.00	1.00	< 0.01		< 0.2	91.00	77.00	< 2	< 1	15-018; A15-00441
SK-14-05	BA	M18437	TR	179.00	180.00	1.00	< 0.01		< 0.2	105.00	56.00	< 2	1.00	15-018; A15-00441
SK-14-05	BA	M18438	2	180.00	181.00	1.00	< 0.01		< 0.2	142.00	70.00	< 2	< 1	15-018; A15-00441
SK-14-05	BA	M18441	1	181.00	182.00	1.00	< 0.01		< 0.2	118.00	44.00	< 2	< 1	15-018; A15-00441
SK-14-05	BA	M18442	2	182.00	183.00	1.00	< 0.01	< 0.01	< 0.2	141.00	63.00	< 2	< 1	15-018; A15-00441
SK-14-05	BA	M18443	2	183.00	184.00	1.00	< 0.01		< 0.2	178.00	38.00	< 2	1.00	15-018; A15-00441
SK-14-05	BA	M18444	4	184.00	185.00	1.00	< 0.01		< 0.2	166.00	66.00	< 2	1.00	15-018; A15-00441
SK-14-05	BA	M18445	4	185.00	186.00	1.00	< 0.01		< 0.2	84.00	76.00	< 2	1.00	15-018; A15-00441
SK-14-05	BA	M18446	5	186.00	187.00	1.00	< 0.01		< 0.2	128.00	55.00	< 2	< 1	15-018; A15-00441
SK-14-05	BA	M18447	5	187.00	188.00	1.00	< 0.01		< 0.2	105.00	52.00	< 2	< 1	15-018; A15-00441
SK-14-05	BA	M18448	5	188.00	189.00	1.00	< 0.01		< 0.2	242.00	118.00	< 2	< 1	15-018; A15-00441
SK-14-05	BA	M18449	3	189.00	190.00	1.00	< 0.01		< 0.2	142.00	55.00	< 2	< 1	15-018; A15-00441
SK-14-05	BA	M18451	3	190.00	190.50	0.50	< 0.01		< 0.2	119.00	68.00	< 2	< 1	15-018; A15-00441
SK-14-05	ARG	M18452	20	190.50	191.00	0.50	< 0.01		0.30	199.00	117.00	6.00	< 1	15-018; A15-00441
SK-14-05	ARG	M18453	20	191.00	191.50	0.50	< 0.01	< 0.01	0.30	206.00	424.00	9.00	< 1	15-018; A15-00441
SK-14-05	BA	M18454	25	191.50	192.00	0.50	< 0.01		0.40	444.00	144.00	11.00	< 1	15-018; A15-00441
SK-14-05	BA	M18455	18	192.00	192.50	0.50	< 0.01		< 0.2	138.00	152.00	6.00	< 1	15-018; A15-00441
SK-14-05	BA	M18456	17	192.50	193.00	0.50	< 0.01		< 0.2	136.00	162.00	4.00	< 1	15-018; A15-00441
SK-14-05	BA	M18457	20	193.00	193.60	0.60	< 0.01		< 0.2	148.00	103.00	2.00	< 1	15-018; A15-00441
SK-14-05	BA	M18458	15	193.60	194.00	0.40	< 0.01		< 0.2	154.00	74.00	< 2	1.00	15-018; A15-00441
SK-14-05	BA	M18461	5	194.00	194.30	0.30	< 0.01		< 0.2	128.00	65.00	< 2	< 1	15-018; A15-00441
SK-14-05	BA	M18462	2	194.30	195.00	0.70	< 0.01		< 0.2	129.00	60.00	< 2	< 1	15-018; A15-00441
SK-14-05	BA	M18463	5	195.00	195.40	0.40	< 0.01		< 0.2	90.00	50.00	< 2	< 1	15-018; A15-00441
SK-14-05	BA	M18464	10	195.40	195.80	0.40	< 0.01		< 0.2	146.00	63.00	< 2	< 1	15-018; A15-00441
SK-14-05	BA	M18465	10	195.80	196.50	0.70	< 0.01	< 0.01	< 0.2	164.00	66.00	< 2	< 1	15-018; A15-00441
SK-14-05	BA	M18466	5	196.50	197.00	0.50	< 0.01		< 0.2	107.00	50.00	< 2	< 1	15-018; A15-00441
SK-14-05	BA	M18467	TR	197.00	197.70	0.70	< 0.01		< 0.2	100.00	72.00	< 2	< 1	15-018; A15-00441
SK-14-05	BA	M18468	15	197.70	198.50	0.80	< 0.01		< 0.2	159.00	113.00	2.00	< 1	15-018; A15-00441
SK-14-05	BA	M18469	20	198.50	199.20	0.70	< 0.01		< 0.2	118.00	106.00	< 2	< 1	15-018; A15-00441
SK-14-05	BA	M18471	15	199.20	200.00	0.80	0.01		0.20	146.00	98.00	4.00	< 1	15-019; A15-00441

## Assay Certificates



# Swastika Laboratories Ltd

Assaying - Consulting - Representation

Page 1 of 3

### Assay Certificate

**Certificate Number: 15-016**

Company: **Mistango River Resources**  
 Project: **Sackville**  
 Attn: **Donald Kasner**

Report Date: 12-Jan-15

*We hereby certify* the following Assay of 49 core samples submitted 07-Jan-15 by Donald Kasner

Sample Number	Au	
	FA-MP g/Mt	Au Chk FA-MP g/Mt
18301	0.02	
18302	0.01	
18304	< 0.01	
18305	< 0.01	
18306	< 0.01	
18307	< 0.01	
18308	< 0.01	
18309	< 0.01	
18311	< 0.01	
18312	< 0.01	< 0.01
Blank Value	< 0.01	
OxH97	1.27	
18313	< 0.01	
18314	< 0.01	
18315	< 0.01	
18316	< 0.01	
18317	< 0.01	
18319	< 0.01	
18320	< 0.01	
18321	< 0.01	
18322	< 0.01	
18324	< 0.01	< 0.01
18325	< 0.01	
18326	0.01	
18327	< 0.01	

Certified by \_\_\_\_\_

**Jing Lin, M Sc.**

1 Cameron Ave., P.O. Box 10, Swastika, Ontario P0K 1T0  
 Telephone (705) 642-3244 Fax (705) 642-3300



# Swastika Laboratories Ltd

Assaying - Consulting - Representation

## Assay Certificate

**Certificate Number: 15-016**

Company: **Mistango River Resources**

Project: **Sackville**

Report Date: **12-Jan-15**

Attn: **Donald Kasner**

*We hereby certify* the following Assay of 49 core samples submitted 07-Jan-15 by Donald Kasner

Sample Number	Au	Au Chk
	FA-MP g/Mt	FA-MP g/Mt
18328	< 0.01	
18329	< 0.01	
18331	< 0.01	
18332	< 0.01	
18333	< 0.01	
Blank Value	< 0.01	
OxH97	1.29	
18334	< 0.01	
18335	< 0.01	< 0.01
18336	0.01	
18337	0.01	
18338	< 0.01	
18341	< 0.01	
18342	< 0.01	
18344	< 0.01	
18345	< 0.01	
18346	< 0.01	
18347	< 0.01	
18348	< 0.01	0.01
18349	< 0.01	
18351	< 0.01	
18352	< 0.01	
18353	< 0.01	
18354	< 0.01	
18355	< 0.01	

Certified by \_\_\_\_\_  
**Jing Lin, M Sc.**

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# Swastika Laboratories Ltd

Assaying - Consulting - Representation

Page 3 of 3

## Assay Certificate

**Certificate Number: 15-016**

Company: **Mistango River Resources**

Project: **Sackville**

Report Date: **12-Jan-15**

Attn: **Donald Kasner**

*We hereby certify* the following Assay of 49 core samples  
submitted 07-Jan-15 by Donald Kasner

Sample Number	Au	Au Chk
	FA-MP g/Mt	FA-MP g/Mt
18356	< 0.01	
18357	< 0.01	
Blank Value	< 0.01	
OxH97	1.25	
18358	< 0.01	

*Certified by* \_\_\_\_\_

**Jing Lin, M Sc.**

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# Swastika Laboratories Ltd

Assaying - Consulting - Representation

Page 1 of 3

## Assay Certificate

**Certificate Number: 15-017**

Company: **Mistango River Resources**  
Project: **Sackville**  
Attn: **Donald Kasner**

Report Date: 14-Jan-15

*We hereby certify* the following Assay of 51 core samples submitted 07-Jan-15 by Donald Kasner

Sample Number	Au	
	FA-MP g/Mt	Au Chk FA-MP g/Mt
18361	< 0.01	
18362	< 0.01	
18363	< 0.01	
18364	< 0.01	
18365	< 0.01	
18366	< 0.01	
18367	< 0.01	
18368	< 0.01	
18369	< 0.01	
18371	< 0.01	< 0.01
Blank Value	< 0.01	
OxH97	1.26	
18372	< 0.01	
18373	< 0.01	
18374	< 0.01	
18375	< 0.01	
18376	< 0.01	
18377	< 0.01	
18378	< 0.01	
18379	<b>1</b>	
18381	< 0.01	
18382	< 0.01	0.01
18383	< 0.01	
18384	< 0.01	
18385	< 0.01	

1. listed not received

Certified by \_\_\_\_\_

**Jing Lin, M Sc.**

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# Swastika Laboratories Ltd

Assaying - Consulting - Representation

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## Assay Certificate

**Certificate Number: 15-017**

Company: **Mistango River Resources**

Project: **Sackville**

Report Date: **14-Jan-15**

Attn: **Donald Kasner**

*We hereby certify* the following Assay of 51 core samples  
submitted 07-Jan-15 by Donald Kasner

Sample Number	Au	Au Chk
	FA-MP g/Mt	FA-MP g/Mt
18386	< 0.01	
18387	< 0.01	
18388	< 0.01	
18389	< 0.01	
18391	< 0.01	
Blank Value	< 0.01	
OxH97	1.27	
18392	< 0.01	
18393	< 0.01	< 0.01
18394	< 0.01	
18395	< 0.01	
18396	< 0.01	
18397	< 0.01	
18398	< 0.01	
18401	< 0.01	
18402	< 0.01	
18403	< 0.01	
18404	< 0.01	
18405	< 0.01	< 0.01
18406	< 0.01	
18407	< 0.01	
18408	< 0.01	
18409	< 0.01	
18411	< 0.01	
18412	< 0.01	

1. listed not received

Certified by \_\_\_\_\_

**Jing Lin, M Sc.**

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# Swastika Laboratories Ltd

Assaying - Consulting - Representation

Page 3 of 3

## Assay Certificate

**Certificate Number: 15-017**

Company: **Mistango River Resources**

Project: **Sackville**

Report Date: **14-Jan-15**

Attn: **Donald Kasner**

*We hereby certify* the following Assay of 51 core samples  
submitted 07-Jan-15 by Donald Kasner

Sample Number	Au	Au Chk
	FA-MP g/Mt	FA-MP g/Mt
18413	< 0.01	
18414	< 0.01	
Blank Value	< 0.01	
OxH97	1.26	
18415	< 0.01	
18416	< 0.01	< 0.01
18417	< 0.01	

1. listed not received

*Certified by* \_\_\_\_\_

**Jing Lin, M Sc.**

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# Swastika Laboratories Ltd

Assaying - Consulting - Representation

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## Assay Certificate

**Certificate Number: 15-018**

Company: **Mistango River Resources**

Project: **Sackville**

Report Date: **14-Jan-15**

Attn: **Donald Kasner**

*We hereby certify* the following Assay of 44 core samples  
submitted 07-Jan-15 by Donald Kasner

Sample Number	Au	Au Chk
	FA-MP g/Mt	FA-MP g/Mt
18418	< 0.01	
18421	< 0.01	
18422	< 0.01	
18423	< 0.01	
18424	< 0.01	
18425	< 0.01	
18426	< 0.01	
18427	< 0.01	
18428	< 0.01	
18429	< 0.01	< 0.01
Blank Value	< 0.01	
OxH97	1.25	
18431	< 0.01	
18432	< 0.01	
18433	< 0.01	
18434	< 0.01	
18435	< 0.01	
18436	< 0.01	
18437	< 0.01	
18438	< 0.01	
18441	< 0.01	
18442	< 0.01	< 0.01
18443	< 0.01	
18444	< 0.01	
18445	< 0.01	

*Certified by* \_\_\_\_\_

**Jing Lin, M Sc.**

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# Swastika Laboratories Ltd

Assaying - Consulting - Representation

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## Assay Certificate

**Certificate Number: 15-018**

Company: **Mistango River Resources**

Project: **Sackville**

Report Date: **14-Jan-15**

Attn: **Donald Kasner**

*We hereby certify* the following Assay of 44 core samples  
submitted 07-Jan-15 by Donald Kasner

Sample Number	Au	Au Chk
	FA-MP g/Mt	FA-MP g/Mt
18446	< 0.01	
18447	< 0.01	
18448	< 0.01	
18449	< 0.01	
18451	< 0.01	
Blank Value	< 0.01	
OxH97	1.27	
18452	< 0.01	
18453	< 0.01	< 0.01
18454	< 0.01	
18455	< 0.01	
18456	< 0.01	
18457	< 0.01	
18458	< 0.01	
18461	< 0.01	
18462	< 0.01	
18463	< 0.01	
18464	< 0.01	
18465	< 0.01	< 0.01
18466	< 0.01	
18467	< 0.01	
18468	< 0.01	
18469	< 0.01	

Certified by \_\_\_\_\_

**Jing Lin, M Sc.**

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# Swastika Laboratories Ltd

Assaying - Consulting - Representation

Page 1 of 2

## Assay Certificate

**Certificate Number: 15-019**

Company: **Mistango River Resources**

Project: **Sackville**

Report Date: **15-Jan-15**

Attn: **Donald Kasner**

*We hereby certify* the following Assay of 32 core samples  
submitted 07-Jan-15 by Donald Kasner

Sample Number	Au		Chk
	FA-MP g/Mt	FA-MP g/Mt	FA-MP g/Mt
18471	0.01		
18472	0.01		
18473	< 0.01		
18474	< 0.01		
18475	0.01		
18476	0.02		
18477	< 0.01		
18478	< 0.01		
18479	< 0.01		
18480	< 0.01	< 0.01	
Blank Value	< 0.01		
OxH97	1.27		
18482	0.01		
18483	< 0.01		
18484	< 0.01		
18485	< 0.01		
18486	0.01		
18487	< 0.01		
18488	< 0.01		
18489	0.01		
18492	< 0.01		
18493	< 0.01	< 0.01	
18494	< 0.01		
18495	< 0.01		
18496	0.01		

*Certified by* \_\_\_\_\_

**Jing Lin, M Sc.**

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# Swastika Laboratories Ltd

Assaying - Consulting - Representation

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## Assay Certificate

**Certificate Number: 15-019**

Company: **Mistango River Resources**

Project: **Sackville**

Report Date: **15-Jan-15**

Attn: **Donald Kasner**

*We hereby certify* the following Assay of 32 core samples  
submitted 07-Jan-15 by Donald Kasner

Sample Number	Au		Chk
	FA-MP g/Mt	FA-MP g/Mt	FA-MP g/Mt
18497	< 0.01		
18498	< 0.01		
18499	< 0.01		
18500	< 0.01		
18502	< 0.01		
Blank Value	< 0.01		
OxH97	1.26		
18503	< 0.01		
18504	< 0.01	< 0.01	
18505	< 0.01		
18506	< 0.01		

*Certified by* \_\_\_\_\_

**Jing Lin, M Sc.**

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Telephone (705) 642-3244 Fax (705) 642-3300



# Swastika Laboratories Ltd

Assaying - Consulting - Representation

Page 1 of 1

## Assay Certificate

**Certificate Number: 15-073**

Company: **Mistango River Resources**

Project: **Sackville**

Report Date: **26-Jan-15**

Attn: **Donald Kasner**

*We hereby certify* the following Assay of 1 core samples  
submitted 07-Jan-15 by Donald Kasner

Sample Number	Au	Au Chk
	FA-MP	FA-MP
	g/Mt	g/Mt
18507	< 0.01	

*Certified by* \_\_\_\_\_

**Jing Lin, M Sc.**

1 Cameron Ave., P.O. Box 10, Swastika, Ontario P0K 1T0  
Telephone (705) 642-3244 Fax (705) 642-3300



Date Submitted: 21-Jan-15  
Invoice No.: A15-00441  
Invoice Date: 03-Feb-15  
Your Reference: Mistango 15-017;016;073;018;019

Swastika Labs  
Box 10, 1 Cameron Ave.  
Swastika ON P0K 1T0  
Canada

ATTN: Jing Lin

### CERTIFICATE OF ANALYSIS

177 Pulp samples were submitted for analysis.

The following analytical package was requested: Code 1E3 Aqua Regia ICP(AQUAGEO)

REPORT A15-00441

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:

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

CERTIFIED BY:

A handwritten signature in black ink, appearing to read "Emmanuel Esemé".

Emmanuel Esemé , Ph.D.  
Quality Control

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



Results

Analyte Symbol	Th	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm
Lower Limit	20	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10
Method Code	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP
18301	<20	0.2	0.9	180	711	2	75	9	703	1.85	4	<10	18	<0.5	<2	1.30	40	134	8.78	<10	<1	0.18	<10
18302	<20	0.3	3.1	155	203	5	140	12	1890	1.07	3	<10	18	<0.5	<2	0.83	81	218	8.76	<10	<1	0.05	11
18304	<20	<0.2	<0.5	92	479	<1	589	5	82	1.87	3	<10	27	<0.5	<2	1.11	87	817	5.91	<10	<1	0.12	<10
18305	<20	<0.2	<0.5	103	411	<1	821	<2	31	1.75	4	<10	43	<0.5	<2	1.72	102	794	3.80	<10	<1	0.13	<10
18306	<20	<0.2	<0.5	105	476	<1	784	<2	33	2.02	58	<10	29	<0.5	<2	1.92	88	603	3.82	<10	<1	0.10	<10
18307	<20	<0.2	<0.5	121	581	<1	533	<2	25	2.14	51	<10	72	<0.5	<2	3.08	82	798	3.25	<10	<1	0.21	<10
18308	<20	<0.2	<0.5	86	483	<1	84	<2	27	2.06	3	<10	52	<0.5	<2	2.59	23	212	2.07	<10	<1	0.16	<10
18309	<20	<0.2	<0.5	78	679	<1	75	<2	44	2.28	<2	<10	33	<0.5	<2	2.32	30	282	4.13	<10	<1	0.10	<10
18311	<20	<0.2	<0.5	54	800	<1	81	<2	34	1.93	<2	<10	38	<0.5	<2	3.05	25	319	3.41	<10	<1	0.12	<10
18312	<20	<0.2	<0.5	85	658	1	83	<2	37	1.95	2	<10	27	<0.5	<2	3.00	25	270	3.59	<10	<1	0.06	<10
18313	<20	<0.2	<0.5	75	616	<1	83	<2	34	1.88	<2	<10	39	<0.5	<2	2.28	24	263	3.35	<10	<1	0.10	<10
18314	<20	<0.2	<0.5	180	618	<1	95	<2	39	1.81	<2	<10	35	<0.5	<2	2.39	35	269	3.50	<10	<1	0.11	<10
18315	<20	<0.2	<0.5	125	730	<1	102	<2	42	2.54	<2	<10	57	<0.5	<2	3.41	34	329	3.88	<10	<1	0.16	<10
18316	<20	<0.2	<0.5	89	788	<1	85	<2	49	2.53	<2	<10	67	<0.5	<2	3.23	31	378	4.08	<10	<1	0.19	<10
18317	<20	<0.2	<0.5	335	788	<1	129	<2	126	2.49	<2	<10	27	<0.5	<2	2.82	48	383	5.67	<10	<1	0.06	<10
18319	<20	<0.2	<0.5	123	705	<1	48	<2	40	2.57	<2	<10	39	<0.5	<2	3.25	27	110	3.15	<10	<1	0.13	<10
18320	<20	<0.2	<0.5	143	777	<1	82	<2	47	2.73	8	<10	33	<0.5	<2	3.87	33	170	3.58	<10	<1	0.08	<10
18321	<20	<0.2	<0.5	43	733	<1	108	<2	82	2.84	8	<10	60	<0.5	<2	3.00	24	348	2.89	<10	<1	0.14	<10
18322	<20	<0.2	<0.5	42	887	<1	90	<2	51	1.86	5	<10	46	<0.5	<2	4.90	19	327	2.43	<10	<1	0.12	<10
18324	<20	<0.2	<0.5	100	1420	<1	87	<2	117	2.53	11	<10	47	<0.5	<2	7.18	37	107	4.88	<10	<1	0.14	<10
18325	<20	<0.2	<0.5	113	1390	<1	82	<2	128	2.44	15	<10	51	<0.5	<2	4.90	44	117	5.44	<10	<1	0.21	<10
18326	<20	0.3	<0.5	189	1430	2	80	7	111	1.79	14	<10	27	<0.5	<2	9.08	40	103	4.74	<10	<1	0.14	<10
18327	<20	0.3	<0.5	76	1150	3	119	5	201	1.35	118	<10	42	<0.5	<2	5.16	36	143	2.85	<10	<1	0.17	11
18328	<20	<0.2	<0.5	24	355	1	34	3	85	1.21	33	<10	79	<0.5	<2	1.40	9	102	1.40	<10	<1	0.33	10
18329	<20	<0.2	<0.5	72	889	<1	83	<2	57	2.40	5	<10	77	<0.5	<2	2.17	27	188	3.19	<10	<1	0.18	<10
18331	<20	<0.2	<0.5	54	679	<1	44	<2	40	2.17	3	<10	77	<0.5	<2	2.59	19	131	3.05	<10	<1	0.18	<10
18332	<20	<0.2	<0.5	53	892	<1	56	<2	48	2.32	4	<10	49	<0.5	<2	2.32	27	125	3.77	<10	<1	0.14	<10
18333	<20	<0.2	<0.5	127	553	<1	73	<2	44	2.48	14	<10	45	<0.5	<2	2.58	29	128	3.43	<10	<1	0.13	<10
18334	<20	<0.2	<0.5	78	889	<1	88	<2	48	2.40	5	<10	43	<0.5	<2	2.89	29	179	3.57	<10	<1	0.15	<10
18335	<20	0.4	<0.5	88	679	2	83	11	273	1.25	150	<10	44	<0.5	<2	3.15	23	104	2.54	<10	<1	0.28	14
18336	<20	0.4	<0.5	108	402	2	101	12	400	1.81	76	<10	44	<0.5	<2	0.70	30	121	3.18	<10	<1	0.39	14
18337	<20	<0.2	<0.5	58	503	2	39	6	140	1.11	17	<10	59	<0.5	<2	2.20	12	88	1.97	<10	<1	0.38	<10
18338	<20	<0.2	<0.5	28	283	<1	16	5	114	1.24	2	<10	119	<0.5	<2	1.03	5	92	0.91	<10	<1	0.49	12
18341	<20	<0.2	<0.5	40	284	3	32	8	184	1.27	8	<10	72	<0.5	<2	0.79	9	113	1.30	<10	<1	0.44	13
18342	<20	<0.2	<0.5	49	739	2	81	4	169	1.81	8	<10	67	<0.5	<2	3.55	16	111	1.85	<10	<1	0.46	13
18344	<20	<0.2	<0.5	77	827	1	86	3	138	2.89	7	<10	148	<0.5	<2	2.44	25	178	3.43	<10	<1	1.10	<10
18345	<20	<0.2	<0.5	109	788	<1	58	<2	56	2.95	5	<10	94	<0.5	<2	2.88	34	142	3.70	<10	<1	0.27	<10
18346	<20	<0.2	<0.5	82	587	<1	50	<2	38	1.79	<2	<10	38	<0.5	<2	2.23	22	84	2.90	<10	<1	0.13	<10
18347	<20	<0.2	<0.5	174	790	<1	50	<2	70	3.07	3	<10	85	<0.5	<2	3.87	35	85	3.49	<10	<1	0.14	<10
18348	<20	<0.2	<0.5	300	1030	<1	48	<2	82	3.47	8	<10	67	<0.5	<2	4.12	42	71	5.37	10	<1	0.15	<10
18349	<20	0.2	<0.5	190	2200	<1	41	2	83	2.58	3	<10	30	<0.5	<2	9.29	42	50	6.48	10	<1	0.08	<10
18351	<20	<0.2	<0.5	171	1060	<1	49	<2	75	3.24	8	<10	83	<0.5	<2	3.88	41	74	4.88	10	<1	0.14	<10
18352	<20	<0.2	<0.5	127	939	<1	44	<2	82	2.40	11	<10	44	<0.5	<2	3.84	35	80	3.83	<10	<1	0.10	<10
18353	<20	<0.2	<0.5	125	862	<1	45	<2	87	3.08	11	<10	45	<0.5	<2	3.88	37	87	4.00	<10	<1	0.12	<10
18354	<20	2.6	2.1	1120	745	108	188	118	338	1.89	179	14	34	8.9	32	2.17	37	85	4.58	20	5	0.47	29
18355	<20	<0.2	<0.5	118	784	1	45	<2	85	2.48	9	<10	39	<0.5	<2	2.58	35	89	3.47	<10	<1	0.11	<10
18356	<20	<0.2	<0.5	198	798	<1	52	<2	81	2.87	4	<10	41	<0.5	<2	2.59	38	83	3.88	<10	<1	0.12	<10
18357	<20	<0.2	<0.5	183	985	<1	80	<2	107	3.18	5	<10	30	<0.5	<2	3.98	42	115	4.83	10	<1	0.09	<10
18358	<20	<0.2	<0.5	126	607	<1	49	<2	110	1.71	16	<10	30	<0.5	<2	2.43	42	81	2.90	<10	<1	0.08	<10



Analyte Symbol	Th	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm
Lower Limit	20	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10
Method Code	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP	AR-JCP
18361	<20	<0.2	<0.5	168	655	<1	44	<2	86	1.74	3	<10	40	<0.5	<2	1.81	41	69	3.26	<10	<1	0.09	<10
18362	<20	<0.2	<0.5	122	737	<1	48	<2	82	2.04	9	<10	52	<0.5	<2	2.74	40	68	3.25	<10	<1	0.13	<10
18363	<20	<0.2	<0.5	149	628	<1	53	<2	68	1.72	8	<10	63	<0.5	<2	2.50	41	89	2.88	<10	<1	0.11	<10
18364	<20	<0.2	<0.5	71	900	<1	50	<2	62	2.57	14	<10	64	<0.5	<2	3.70	32	137	3.46	<10	<1	0.15	<10
18365	<20	<0.2	<0.5	184	1240	<1	52	<2	67	3.05	4	<10	48	<0.5	<2	4.90	38	118	5.11	<10	<1	0.14	<10
18366	<20	<0.2	<0.5	94	567	<1	172	<2	39	2.75	11	<10	76	<0.5	<2	2.41	33	396	3.36	<10	<1	0.20	<10
18367	<20	<0.2	<0.5	85	878	<1	138	<2	41	3.51	2	<10	83	<0.5	<2	3.61	30	172	3.42	<10	<1	0.28	<10
18368	<20	2.7	2.2	1150	747	109	188	119	338	1.91	179	14	35	7.0	32	2.16	37	85	4.59	20	5	0.48	29
18369	<20	<0.2	<0.5	164	762	3	65	<2	32	2.70	21	<10	70	<0.5	<2	4.15	27	117	3.73	<10	<1	0.19	<10
18371	<20	<0.2	<0.5	56	643	<1	73	<2	24	2.33	<2	<10	64	<0.5	<2	4.28	19	176	2.26	<10	<1	0.16	<10
18372	<20	<0.2	<0.5	49	535	1	82	<2	23	2.86	12	<10	77	<0.5	<2	3.84	18	119	2.21	<10	<1	0.20	<10
18373	<20	<0.2	<0.5	73	890	1	93	<2	38	2.27	14	<10	61	<0.5	<2	3.72	24	251	3.23	<10	<1	0.15	<10
18374	<20	<0.2	<0.5	20	718	<1	40	<2	53	2.34	6	<10	157	<0.5	<2	2.35	20	154	3.17	<10	<1	0.22	<10
18375	<20	<0.2	<0.5	116	749	<1	56	<2	51	2.71	3	<10	53	<0.5	<2	3.13	38	102	3.81	<10	<1	0.14	<10
18376	<20	<0.2	<0.5	134	720	<1	49	<2	53	2.36	<2	<10	54	<0.5	<2	2.79	38	83	3.99	<10	<1	0.13	<10
18377	<20	<0.2	<0.5	217	746	<1	47	<2	52	2.72	3	<10	54	<0.5	<2	3.13	38	82	4.28	<10	<1	0.14	<10
18378	<20	<0.2	<0.5	137	989	1	62	<2	76	3.13	6	<10	70	<0.5	<2	4.02	41	104	4.39	10	<1	0.18	<10
18381	<20	<0.2	<0.5	157	1030	<1	54	<2	60	2.91	4	<10	71	<0.5	<2	3.50	36	102	4.76	10	<1	0.17	<10
18382	<20	<0.2	<0.5	101	1070	<1	44	<2	65	2.64	<2	<10	63	<0.5	<2	3.17	31	88	4.89	10	<1	0.17	<10
18383	<20	<0.2	<0.5	151	1050	2	48	<2	67	2.88	4	<10	51	<0.5	<2	2.42	39	99	4.95	10	<1	0.12	<10
18384	<20	<0.2	<0.5	64	1260	<1	49	<2	45	3.23	4	<10	30	<0.5	<2	4.81	33	117	5.53	10	<1	0.05	<10
18385	<20	<0.2	<0.5	86	1220	<1	57	9	100	3.53	5	<10	22	<0.5	<2	3.18	38	111	5.64	10	<1	0.06	<10
18386	<20	<0.2	<0.5	122	902	<1	56	2	39	2.99	3	<10	36	<0.5	<2	3.12	43	111	4.34	10	<1	0.09	<10
18387	<20	<0.2	<0.5	162	932	<1	45	<2	88	2.08	2	<10	36	<0.5	<2	2.77	35	85	4.17	<10	<1	0.10	<10
18388	<20	<0.2	<0.5	115	856	<1	49	<2	56	2.98	4	<10	66	<0.5	<2	3.37	33	101	3.93	<10	<1	0.17	<10
18389	<20	<0.2	<0.5	151	826	<1	43	<2	89	2.81	<2	<10	119	<0.5	<2	2.52	32	105	4.18	10	<1	0.28	<10
18391	<20	<0.2	<0.5	59	930	<1	25	<2	49	1.99	<2	<10	73	<0.5	<2	4.34	17	88	3.52	10	<1	0.15	<10
18392	<20	<0.2	<0.5	83	1050	<1	42	<2	62	3.01	<2	<10	58	<0.5	<2	3.76	28	116	4.69	10	<1	0.17	<10
18393	<20	<0.2	<0.5	93	981	<1	44	<2	65	2.73	<2	<10	53	<0.5	<2	3.86	31	116	4.46	10	<1	0.16	<10
18394	<20	<0.2	<0.5	78	1150	<1	53	<2	71	3.04	4	<10	60	<0.5	<2	3.08	35	148	5.64	10	<1	0.14	<10
18395	<20	<0.2	<0.5	105	951	<1	48	<2	88	2.83	3	<10	75	<0.5	<2	3.58	31	128	4.46	<10	<1	0.15	<10
18396	<20	<0.2	<0.5	119	894	1	56	<2	88	2.44	4	<10	74	<0.5	<2	3.10	40	109	4.73	<10	<1	0.17	<10
18397	<20	<0.2	<0.5	119	698	<1	50	<2	107	2.58	2	<10	44	<0.5	<2	2.67	45	51	5.29	<10	<1	0.11	<10
18398	<20	<0.2	<0.5	129	887	<1	53	<2	105	2.74	<2	<10	40	<0.5	<2	3.22	38	94	4.76	<10	<1	0.10	<10
18401	<20	<0.2	<0.5	176	771	<1	55	<2	98	3.20	3	<10	39	<0.5	<2	3.86	39	94	4.56	<10	<1	0.09	<10
18402	<20	<0.2	<0.5	108	718	<1	42	<2	94	3.20	2	<10	38	<0.5	<2	2.90	38	45	4.59	<10	<1	0.10	<10
18403	<20	<0.2	<0.5	82	655	<1	55	<2	59	2.95	7	<10	80	<0.5	<2	3.27	34	122	3.49	<10	<1	0.10	<10
18404	<20	<0.2	<0.5	97	866	<1	45	<2	81	3.06	4	<10	94	<0.5	<2	3.07	44	66	5.12	10	<1	0.40	<10
18405	<20	<0.2	<0.5	110	920	<1	41	<2	103	3.58	3	<10	59	<0.5	<2	3.11	50	49	5.37	10	<1	1.02	<10
18406	<20	<0.2	<0.5	95	1090	<1	40	<2	109	3.74	4	<10	55	<0.5	<2	3.71	49	40	5.85	10	<1	0.83	<10
18407	<20	<0.2	<0.5	142	959	<1	40	<2	99	3.84	<2	<10	56	<0.5	<2	2.76	47	46	5.94	10	<1	1.16	<10
18408	<20	<0.2	<0.5	117	785	<1	56	<2	89	3.11	3	<10	133	<0.5	<2	3.69	48	65	4.54	<10	<1	0.48	<10
18409	<20	<0.2	<0.5	149	572	1	52	<2	76	2.67	6	<10	89	<0.5	<2	2.66	43	72	3.89	<10	<1	0.15	<10
18411	<20	<0.2	<0.5	87	729	<1	42	<2	88	2.53	16	<10	87	<0.5	<2	4.07	31	125	3.05	<10	<1	0.10	<10
18412	<20	0.2	<0.5	460	905	<1	65	3	219	3.26	3	<10	23	<0.5	<2	3.45	47	80	6.97	10	<1	0.13	<10
18413	<20	<0.2	<0.5	214	888	<1	46	<2	89	3.24	3	<10	74	<0.5	<2	3.51	36	83	5.05	<10	<1	0.16	<10
18414	<20	<0.2	<0.5	198	868	<1	54	<2	106	3.51	3	<10	108	<0.5	<2	3.83	40	99	4.43	<10	<1	0.16	<10
18415	<20	<0.2	<0.5	198	858	<1	48	<2	72	3.72	<2	<10	118	<0.5	<2	3.73	35	87	4.54	10	<1	0.16	<10
18416	<20	<0.2	<0.5	182	998	<1	54	<2	61	3.58	2	<10	87	<0.5	<2	3.87	36	116	4.52	<10	<1	0.14	<10
18417	<20	<0.2	<0.5	106	1030	<1	57	<2	59	2.97	9	<10	87	<0.5	<2	3.92	40	155	4.30	<10	<1	0.11	<10

Analyte Symbol	Th	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm
Lower Limit	20	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10
Method Code	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
18418	<20	<0.2	<0.5	73	605	<1	36	<2	80	1.84	8	<10	83	<0.5	<2	1.73	37	85	3.37	<10	<1	0.09	<10
18421	<20	<0.2	<0.5	109	627	<1	38	<2	109	2.00	4	<10	70	<0.5	<2	2.08	39	37	3.58	<10	<1	0.09	<10
18422	<20	<0.2	<0.5	187	717	<1	46	<2	83	2.53	<2	<10	89	<0.5	<2	3.17	34	79	3.64	<10	<1	0.13	<10
18423	<20	<0.2	<0.5	72	754	<1	39	<2	65	3.32	4	<10	65	<0.5	<2	3.72	24	95	3.48	<10	<1	0.18	<10
18424	<20	<0.2	<0.5	253	1490	1	38	<2	146	3.88	4	<10	55	<0.5	<2	4.33	32	65	7.80	<10	<1	0.15	<10
18425	<20	<0.2	<0.5	93	1530	<1	32	<2	94	3.88	<2	<10	88	<0.5	<2	5.52	28	43	6.52	10	<1	0.20	<10
18426	<20	<0.2	<0.5	146	1000	<1	41	<2	71	3.58	<2	<10	46	<0.5	<2	4.04	36	51	4.29	10	<1	0.14	<10
18427	<20	<0.2	<0.5	146	786	<1	35	<2	122	3.48	2	<10	62	<0.5	<2	3.32	41	38	3.80	10	<1	0.17	<10
18428	<20	<0.2	<0.5	177	643	<1	50	<2	138	2.66	<2	385	46	<0.5	<2	3.54	35	57	2.67	<10	<1	0.14	<10
18429	<20	<0.2	<0.5	147	692	<1	53	<2	105	2.92	5	15	48	<0.5	<2	3.51	35	82	2.78	<10	<1	0.16	<10
18431	<20	<0.2	<0.5	141	1020	<1	48	<2	99	3.40	6	20	87	<0.5	<2	3.78	35	120	4.41	<10	<1	0.15	<10
18432	<20	<0.2	<0.5	99	844	<1	51	<2	48	2.15	6	<10	40	<0.5	<2	3.75	29	152	3.00	<10	<1	0.07	<10
18433	<20	<0.2	<0.5	93	623	<1	40	<2	45	2.18	5	<10	42	<0.5	<2	3.04	25	125	2.36	<10	<1	0.07	<10
18434	<20	<0.2	<0.5	63	622	<1	37	<2	47	2.89	8	<10	58	<0.5	<2	3.18	24	134	2.45	<10	<1	0.10	<10
18435	<20	<0.2	<0.5	170	881	<1	52	<2	61	2.64	7	<10	53	<0.5	<2	3.46	34	168	3.82	<10	<1	0.08	<10
18436	<20	<0.2	<0.5	91	987	<1	56	<2	77	2.77	6	<10	50	<0.5	<2	3.66	32	192	4.05	<10	<1	0.08	<10
18437	<20	<0.2	<0.5	105	975	1	57	<2	56	2.35	6	<10	40	<0.5	<2	3.65	33	183	3.80	<10	<1	0.07	<10
18438	<20	<0.2	<0.5	142	1020	<1	53	<2	70	2.93	3	<10	57	<0.5	<2	3.74	29	211	5.29	<10	<1	0.11	<10
18441	<20	<0.2	<0.5	118	823	<1	51	<2	44	3.00	15	<10	119	<0.5	<2	4.04	32	186	3.27	<10	<1	0.08	<10
18442	<20	<0.2	<0.5	141	907	<1	49	<2	63	3.13	7	<10	98	<0.5	<2	3.80	30	191	4.39	<10	<1	0.11	<10
18443	<20	<0.2	<0.5	178	752	1	49	<2	38	3.22	21	<10	99	<0.5	<2	4.18	31	148	2.89	<10	<1	0.09	<10
18444	<20	<0.2	<0.5	166	1020	1	49	<2	86	3.71	19	<10	119	<0.5	<2	4.21	39	103	4.41	<10	<1	0.16	<10
18445	<20	<0.2	<0.5	84	1180	1	39	<2	76	3.16	10	<10	83	<0.5	<2	3.70	31	80	4.78	<10	<1	0.10	<10
18446	<20	<0.2	<0.5	128	1110	<1	41	<2	55	2.85	4	<10	40	<0.5	<2	4.00	30	65	4.10	<10	<1	0.07	<10
18447	<20	<0.2	<0.5	105	1050	<1	34	<2	52	2.59	17	<10	70	<0.5	<2	3.82	30	73	3.66	<10	<1	0.06	<10
18448	<20	<0.2	<0.5	242	1150	<1	43	<2	118	3.18	15	<10	65	<0.5	<2	4.19	37	74	5.04	<10	<1	0.09	<10
18449	<20	<0.2	<0.5	142	603	<1	38	<2	55	3.51	22	<10	141	<0.5	<2	3.28	35	62	2.70	<10	<1	0.16	<10
18451	<20	<0.2	<0.5	119	593	<1	53	<2	88	3.63	5	<10	85	<0.5	<2	3.29	37	65	3.17	<10	<1	0.20	<10
18452	<20	0.3	0.7	206	742	<1	79	9	424	2.82	<2	<10	36	<0.5	<2	3.25	57	128	6.94	10	<1	0.13	<10
18454	<20	0.4	<0.5	444	809	<1	82	11	144	2.84	<2	<10	15	<0.5	<2	1.99	66	145	9.23	10	<1	0.14	<10
18455	<20	<0.2	<0.5	138	572	<1	80	8	152	3.33	2	<10	33	<0.5	<2	1.67	51	91	6.10	10	<1	0.21	<10
18456	<20	<0.2	<0.5	136	692	<1	58	4	162	3.10	<2	<10	24	<0.5	<2	1.71	48	111	8.90	10	<1	0.17	<10
18457	<20	<0.2	<0.5	148	562	<1	81	2	103	3.01	2	<10	26	<0.5	<2	1.98	50	91	5.67	<10	<1	0.12	<10
18458	<20	<0.2	<0.5	154	611	1	83	<2	74	2.67	2	<10	31	<0.5	<2	1.74	56	79	5.72	<10	<1	0.12	<10
18461	<20	<0.2	<0.5	128	741	<1	53	<2	85	2.82	4	<10	74	<0.5	<2	2.12	48	94	5.18	<10	<1	0.16	<10
18462	<20	<0.2	<0.5	129	786	<1	42	<2	80	2.76	3	<10	60	<0.5	<2	2.85	41	67	4.81	<10	<1	0.13	<10
18463	<20	<0.2	<0.5	90	773	<1	36	<2	50	2.64	3	<10	78	<0.5	<2	2.91	34	52	4.04	<10	<1	0.15	<10
18464	<20	<0.2	<0.5	146	818	<1	52	<2	83	2.88	11	<10	67	<0.5	<2	3.15	42	121	4.70	<10	<1	0.13	<10
18465	<20	<0.2	<0.5	164	682	<1	51	<2	66	2.25	3	<10	67	<0.5	<2	2.38	46	81	4.50	<10	<1	0.14	<10
18466	<20	<0.2	<0.5	107	574	<1	38	<2	50	2.28	4	<10	61	<0.5	<2	1.71	36	58	3.67	<10	<1	0.10	<10
18467	<20	<0.2	<0.5	100	537	<1	44	<2	72	3.77	3	<10	79	<0.5	<2	2.16	40	49	4.30	10	<1	0.16	<10
18468	<20	<0.2	<0.5	150	681	<1	56	2	113	2.81	<2	<10	31	<0.5	<2	1.41	50	83	8.75	<10	<1	0.12	<10
18469	<20	<0.2	<0.5	118	614	<1	58	<2	106	2.84	<2	<10	43	<0.5	<2	1.31	49	86	5.89	<10	<1	0.18	<10
18471	<20	0.2	<0.5	146	640	<1	77	4	98	2.28	<2	<10	32	<0.5	<2	1.28	53	133	8.38	<10	<1	0.18	<10
18472	<20	<0.2	<0.5	227	757	<1	44	<2	70	3.24	<2	<10	30	<0.5	<2	2.84	36	60	5.08	10	<1	0.09	<10
18473	<20	<0.2	<0.5	123	743	<1	33	<2	52	3.23	4	<10	47	<0.5	<2	3.08	28	60	3.90	<10	<1	0.10	<10
18474	<20	<0.2	<0.5	155	807	<1	50	<2	128	2.92	4	<10	44	<0.5	<2	2.72	40	71	5.18	<10	<1	0.10	<10
18475	<20	<0.2	2.0	126	718	2	143	4	1020	2.22	36	<10	34	<0.5	<2	3.14	45	276	5.09	<10	<1	0.13	<10
18476	<20	0.6	<0.5	192	877	1	108	7	279	2.59	10	<10	14	<0.5	<2	2.53	48	141	10.00	<10	<1	0.19	<10

Activation Laboratories Ltd. Report: A15-00441

Analyte Symbol	Th	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm
Lower Limit	20	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10
Method Code	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
18477	< 20	< 0.2	< 0.5	107	701	< 1	43	< 2	45	2.87	8	< 10	87	< 0.5	< 2	3.73	27	139	3.41	< 10	< 1	0.13	< 10
18478	< 20	< 0.2	< 0.5	108	510	1	37	< 2	35	2.86	28	< 10	48	< 0.5	< 2	2.98	28	123	2.37	< 10	< 1	0.11	< 10
18479	< 20	< 0.2	< 0.5	123	808	< 1	43	< 2	36	2.85	9	< 10	45	< 0.5	< 2	3.43	25	141	2.56	< 10	< 1	0.11	< 10
18480	< 20	< 0.2	< 0.5	90	646	< 1	48	< 2	38	2.80	5	< 10	38	< 0.5	< 2	3.87	25	147	2.70	< 10	< 1	0.10	< 10
18482	< 20	< 0.2	< 0.5	125	808	< 1	38	< 2	32	2.41	3	< 10	29	< 0.5	< 2	3.49	20	127	2.62	< 10	< 1	0.08	< 10
18483	< 20	< 0.2	< 0.5	82	880	< 1	42	< 2	73	3.85	8	< 10	48	< 0.5	< 2	4.81	28	87	4.01	< 10	< 1	0.14	< 10
18484	< 20	< 0.2	< 0.5	123	937	< 1	47	< 2	67	3.73	4	< 10	83	< 0.5	< 2	4.40	34	82	4.46	< 10	< 1	0.22	< 10
18485	< 20	< 0.2	< 0.5	85	905	< 1	49	< 2	89	3.42	5	< 10	51	< 0.5	< 2	4.14	32	135	3.74	< 10	< 1	0.14	< 10
18489	< 20	< 0.2	< 0.5	161	837	1	51	< 2	90	3.56	3	< 10	77	< 0.5	< 2	3.39	44	82	5.11	< 10	< 1	0.17	< 10
18487	< 20	< 0.2	< 0.5	148	893	< 1	89	< 2	82	3.40	< 2	< 10	31	< 0.5	< 2	2.77	59	82	8.01	< 10	< 1	0.11	< 10
18488	< 20	< 0.2	< 0.5	118	807	< 1	82	< 2	96	3.21	< 2	< 10	41	< 0.5	< 2	2.82	51	81	5.42	< 10	< 1	0.08	< 10
18489	< 20	0.2	< 0.5	182	582	< 1	76	< 2	106	3.23	< 2	< 10	29	< 0.5	< 2	3.01	83	59	8.75	< 10	< 1	0.05	< 10
18492	< 20	< 0.2	< 0.5	89	884	< 1	59	< 2	112	2.96	< 2	< 10	31	< 0.5	< 2	2.57	47	50	5.77	< 10	< 1	0.09	< 10
18493	< 20	< 0.2	< 0.5	89	829	< 1	51	< 2	75	2.77	< 2	< 10	70	< 0.5	< 2	2.45	38	55	4.81	< 10	< 1	0.17	< 10
18494	< 20	< 0.2	< 0.5	70	784	< 1	47	< 2	72	2.47	2	< 10	127	< 0.5	< 2	2.87	30	76	4.35	< 10	< 1	0.28	< 10
18495	< 20	< 0.2	< 0.5	282	707	< 1	87	< 2	40	2.90	< 2	< 10	120	< 0.5	< 2	3.78	31	90	4.17	< 10	< 1	0.25	< 10
18496	< 20	< 0.2	< 0.5	123	521	< 1	43	< 2	31	1.90	< 2	< 10	56	< 0.5	< 2	2.43	18	87	2.82	< 10	< 1	0.15	< 10
18497	< 20	< 0.2	< 0.5	128	488	< 1	82	< 2	28	2.45	< 2	< 10	85	< 0.5	< 2	3.13	19	102	2.51	< 10	< 1	0.20	< 10
18498	< 20	< 0.2	< 0.5	48	538	2	123	< 2	45	3.47	< 2	< 10	83	< 0.5	< 2	3.40	23	183	3.16	< 10	< 1	0.30	< 10
18499	< 20	< 0.2	< 0.5	49	379	2	89	< 2	45	2.19	4	< 10	106	< 0.5	< 2	2.90	26	169	1.99	< 10	< 1	0.32	< 10
18500	< 20	< 0.2	< 0.5	48	123	2	9	< 2	18	0.48	3	< 10	27	< 0.5	< 2	0.92	3	128	0.88	< 10	< 1	0.05	< 10
18502	< 20	< 0.2	< 0.5	67	573	< 1	88	< 2	32	4.23	< 2	15	91	< 0.5	< 2	3.95	25	124	3.25	< 10	< 1	0.31	< 10
18503	< 20	< 0.2	< 0.5	65	438	< 1	55	< 2	37	3.41	< 2	12	99	< 0.5	< 2	2.74	19	153	3.05	< 10	< 1	0.29	< 10
18504	< 20	< 0.2	< 0.5	128	704	< 1	24	< 2	31	1.71	< 2	< 10	31	< 0.5	< 2	2.21	24	76	4.27	< 10	< 1	0.10	< 10
18505	< 20	< 0.2	< 0.5	73	453	< 1	52	< 2	38	3.50	< 2	13	108	< 0.5	< 2	2.78	20	92	3.18	< 10	< 1	0.32	< 10
18506	< 20	< 0.2	< 0.5	88	705	< 1	18	< 2	38	1.93	< 2	< 10	28	< 0.5	< 2	2.87	21	21	4.67	< 10	< 1	0.11	< 10
18507	< 20	< 0.2	< 0.5	82	984	1	78	< 2	51	3.30	< 2	< 10	80	< 0.5	< 2	5.22	27	359	3.58	< 10	< 1	0.28	< 10

Results

Analyte Symbol	Mg	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr
Unit Symbol	%	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1
Method Code	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
18301	0.74	0.263	0.019	4.42	2	10	26	0.25	3	< 2	< 10	97	< 10	11	12
18302	0.30	0.154	0.014	6.13	3	3	18	0.07	2	< 2	< 10	26	< 10	8	37
18304	2.68	0.115	0.017	2.99	5	8	8	0.16	3	< 2	< 10	69	< 10	4	6
18305	1.45	0.256	0.018	1.47	4	8	24	0.17	5	< 2	< 10	61	< 10	5	3
18306	2.03	0.222	0.017	0.92	4	9	16	0.17	3	< 2	< 10	67	< 10	5	4
18307	1.78	0.225	0.018	0.58	4	10	27	0.21	2	< 2	< 10	75	< 10	6	3
18308	1.42	0.289	0.019	0.09	< 2	9	43	0.24	2	< 2	< 10	70	< 10	6	2
18309	2.58	0.202	0.020	0.11	3	14	12	0.24	4	< 2	< 10	107	< 10	7	4
18311	2.10	0.177	0.030	0.17	3	11	16	0.20	3	< 2	< 10	83	< 10	6	4
18312	2.29	0.150	0.020	0.14	2	10	11	0.22	2	< 2	< 10	83	< 10	7	4
18313	2.19	0.204	0.018	0.03	2	11	15	0.23	< 1	< 2	< 10	83	< 10	6	3
18314	1.82	0.204	0.018	0.60	2	11	20	0.21	3	< 2	< 10	81	< 10	7	4
18315	1.93	0.285	0.018	0.39	3	14	41	0.24	5	< 2	< 10	100	< 10	8	3
18316	2.33	0.225	0.018	0.05	3	16	22	0.26	4	< 2	< 10	113	< 10	8	4
18317	2.20	0.195	0.021	1.83	4	14	13	0.19	< 1	< 2	< 10	105	< 10	7	7
18319	1.55	0.336	0.022	0.24	< 2	11	41	0.24	3	< 2	< 10	97	< 10	7	3
18320	1.84	0.371	0.021	0.54	< 2	12	44	0.21	3	< 2	< 10	100	< 10	7	4
18321	1.75	0.339	0.023	0.07	2	7	43	0.21	5	< 2	< 10	69	< 10	5	9
18322	1.64	0.191	0.017	0.08	2	6	29	0.18	8	< 2	< 10	58	< 10	6	10
18324	2.34	0.167	0.019	0.95	2	15	49	0.25	4	< 2	< 10	136	< 10	9	6
18325	2.70	0.094	0.024	1.02	3	21	31	0.28	2	< 2	< 10	170	< 10	10	8
18326	1.91	0.086	0.018	2.09	2	17	51	0.23	4	< 2	< 10	104	< 10	9	10
18327	1.23	0.111	0.041	1.24	< 2	10	34	0.18	< 1	< 2	< 10	77	< 10	7	29
18328	0.82	0.107	0.025	0.46	< 2	3	12	0.07	2	< 2	< 10	25	< 10	3	25
18329	1.56	0.296	0.024	0.21	< 2	13	33	0.22	< 1	< 2	< 10	104	< 10	7	9
18331	1.22	0.272	0.022	0.16	< 2	11	33	0.20	2	< 2	< 10	88	< 10	7	7
18332	1.73	0.267	0.029	0.13	< 2	15	19	0.24	1	< 2	< 10	120	< 10	11	8
18333	1.64	0.283	0.030	0.23	2	13	28	0.20	< 1	< 2	< 10	113	< 10	8	5
18334	1.78	0.278	0.025	0.12	< 2	14	22	0.25	4	< 2	< 10	117	< 10	9	5
18335	0.97	0.080	0.041	1.39	2	5	16	0.10	< 1	< 2	< 10	44	< 10	6	28
18336	1.06	0.090	0.052	1.88	< 2	5	11	0.12	1	< 2	< 10	44	< 10	8	37
18337	0.55	0.054	0.026	1.24	< 2	2	12	0.04	< 1	< 2	< 10	13	< 10	3	29
18338	0.33	0.080	0.017	0.44	< 2	< 1	18	0.03	< 1	< 2	< 10	7	< 10	3	23
18341	0.52	0.106	0.024	0.56	< 2	3	15	0.06	< 1	< 2	< 10	20	< 10	4	32
18342	0.72	0.110	0.037	0.80	< 2	4	30	0.10	< 1	< 2	< 10	37	< 10	5	22
18344	1.47	0.275	0.026	0.86	< 2	12	39	0.22	< 1	< 2	< 10	94	< 10	7	16
18345	1.74	0.360	0.024	0.48	< 2	14	37	0.27	3	< 2	< 10	130	< 10	7	7
18346	1.45	0.213	0.025	0.13	< 2	12	18	0.21	2	< 2	< 10	101	< 10	8	4
18347	1.50	0.433	0.023	0.58	< 2	12	55	0.18	4	< 2	< 10	99	< 10	7	3
18348	2.25	0.333	0.023	1.20	3	18	43	0.21	4	< 2	< 10	144	< 10	9	5
18349	2.27	0.122	0.016	2.55	2	12	26	0.15	2	< 2	< 10	111	< 10	12	5
18351	2.36	0.305	0.024	0.54	< 2	18	38	0.24	2	< 2	< 10	153	< 10	10	5
18352	1.76	0.262	0.023	0.26	< 2	13	28	0.23	2	< 2	< 10	113	< 10	8	4
18353	2.00	0.330	0.024	0.31	< 2	15	34	0.23	1	< 2	< 10	130	< 10	9	4
18354	1.20	0.200	0.059	1.15	24	9	96	0.12	3	10	27	76	14	28	33
18355	1.55	0.342	0.024	0.30	2	14	37	0.23	5	< 2	< 10	110	< 10	7	4
18356	1.52	0.374	0.024	0.69	< 2	13	40	0.20	3	< 2	< 10	102	< 10	7	5
18357	2.10	0.220	0.023	0.83	2	15	25	0.23	1	< 2	< 10	134	< 10	9	6
18358	1.59	0.161	0.024	0.29	< 2	12	22	0.21	2	< 2	< 10	108	< 10	7	8

Analyte Symbol	Mg	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr
Unit Symbol	%	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1
Method Code	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
18361	1.60	0.195	0.027	0.57	<2	13	18	0.25	<1	<2	<10	125	<10	8	6
18362	1.70	0.235	0.026	0.40	<2	14	26	0.26	4	<2	<10	130	<10	9	6
18363	1.47	0.220	0.024	0.50	<2	11	27	0.22	3	<2	<10	97	<10	7	6
18364	2.03	0.305	0.023	0.19	<2	14	37	0.24	1	<2	<10	115	<10	8	5
18365	2.25	0.314	0.022	1.03	2	17	43	0.24	4	<2	<10	136	<10	9	6
18366	1.98	0.275	0.024	0.07	3	10	26	0.21	2	<2	<10	83	<10	6	7
18367	1.75	0.350	0.026	0.26	<2	9	43	0.24	5	<2	<10	85	<10	7	4
18368	1.21	0.199	0.059	1.16	25	9	96	0.12	3	9	28	77	15	28	33
18369	1.86	0.313	0.030	0.67	3	11	34	0.28	3	<2	<10	94	<10	11	7
18371	1.36	0.279	0.026	0.10	<2	6	37	0.22	2	<2	<10	60	<10	8	6
18372	1.34	0.271	0.020	0.08	<2	6	39	0.18	<1	<2	<10	61	<10	6	3
18373	1.79	0.227	0.023	0.32	<2	9	28	0.24	5	<2	<10	73	<10	8	7
18374	1.69	0.208	0.022	0.06	2	13	28	0.26	4	<2	<10	100	<10	7	7
18375	1.63	0.298	0.023	0.60	<2	13	36	0.29	1	<2	<10	118	<10	9	5
18376	1.80	0.265	0.023	0.79	<2	13	29	0.27	3	<2	<10	115	<10	9	5
18377	1.62	0.353	0.026	1.28	<2	12	40	0.27	3	<2	<10	107	<10	10	5
18378	2.07	0.370	0.027	0.64	2	16	40	0.29	7	<2	<10	131	<10	10	5
18381	2.26	0.262	0.026	0.88	2	17	33	0.30	8	<2	<10	150	<10	11	6
18382	2.19	0.213	0.022	0.99	<2	15	25	0.28	3	<2	<10	125	<10	10	7
18383	2.76	0.187	0.024	0.63	2	18	21	0.32	3	<2	<10	160	<10	10	6
18384	4.29	0.062	0.020	0.49	3	21	18	0.28	3	<2	<10	169	<10	11	10
18385	4.08	0.077	0.021	0.56	3	22	15	0.26	<1	<2	<10	193	<10	11	8
18386	2.42	0.143	0.024	0.79	<2	14	16	0.31	4	<2	<10	141	<10	10	8
18387	1.82	0.208	0.023	0.87	<2	13	18	0.25	4	<2	<10	112	<10	9	5
18388	1.80	0.353	0.023	0.52	<2	15	37	0.26	2	<2	<10	119	<10	9	6
18389	1.80	0.262	0.024	0.60	<2	16	29	0.27	4	<2	<10	131	<10	8	7
18391	1.44	0.114	0.019	0.26	2	11	27	0.19	2	<2	<10	92	<10	6	7
18392	1.91	0.294	0.024	0.31	<2	18	32	0.26	5	<2	<10	148	<10	9	6
18393	1.70	0.263	0.023	0.49	2	15	27	0.23	4	<2	<10	120	<10	9	7
18394	2.38	0.186	0.022	0.90	<2	18	27	0.23	4	<2	<10	135	<10	8	8
18395	1.82	0.305	0.020	0.88	3	15	39	0.20	2	<2	<10	119	<10	8	6
18396	1.91	0.269	0.024	0.91	2	17	26	0.28	4	<2	<10	141	<10	9	6
18397	1.50	0.355	0.024	2.14	<2	13	34	0.25	<1	<2	<10	120	<10	9	6
18398	1.94	0.324	0.024	0.91	3	16	26	0.28	<1	<2	<10	131	<10	10	5
18401	1.65	0.419	0.024	1.07	3	14	42	0.22	1	<2	<10	113	<10	9	4
18402	1.92	0.444	0.026	0.51	3	16	33	0.25	2	<2	<10	142	<10	9	4
18403	1.69	0.387	0.023	0.33	<2	13	38	0.23	3	<2	<10	108	<10	8	3
18404	1.96	0.386	0.025	0.94	<2	17	35	0.35	2	<2	<10	158	<10	12	6
18405	2.01	0.384	0.029	0.93	2	17	38	0.48	3	<2	<10	204	<10	14	5
18406	2.12	0.361	0.029	1.20	3	20	45	0.46	2	<2	<10	217	<10	13	8
18407	2.18	0.349	0.030	1.17	<2	19	43	0.48	3	<2	<10	226	<10	13	7
18408	1.84	0.449	0.027	0.97	2	14	46	0.40	<1	<2	<10	146	<10	11	5
18409	1.64	0.319	0.024	0.97	2	11	36	0.21	<1	<2	<10	113	<10	7	4
18411	1.63	0.356	0.020	0.18	2	12	38	0.29	1	<2	<10	102	<10	8	3
18412	1.70	0.388	0.026	2.69	3	12	50	0.19	1	<2	<10	95	<10	9	9
18413	2.07	0.314	0.023	0.90	3	14	34	0.23	2	<2	<10	118	<10	9	5
18414	1.94	0.371	0.023	0.64	<2	14	42	0.23	2	<2	<10	124	<10	8	4
18415	2.17	0.438	0.024	0.26	3	16	41	0.26	<1	<2	<10	139	<10	8	4
18416	1.93	0.520	0.024	0.33	3	17	46	0.26	4	<2	<10	139	<10	9	4
18417	2.05	0.392	0.024	0.21	2	19	37	0.28	2	<2	<10	147	<10	10	4

Analyte Symbol	Mg	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr
Unit Symbol	%	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1
Method Code	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
18418	1.88	0.204	0.028	0.08	< 2	14	15	0.31	2	< 2	< 10	139	< 10	9	5
18421	1.77	0.205	0.028	0.23	< 2	15	17	0.23	< 1	< 2	< 10	144	< 10	9	4
18422	1.74	0.316	0.026	0.41	< 2	13	34	0.32	2	< 2	< 10	116	< 10	12	4
18423	1.64	0.421	0.025	0.09	< 2	13	55	0.20	5	< 2	< 10	103	< 10	7	3
18424	2.05	0.330	0.023	1.16	3	15	34	0.21	< 1	< 2	< 10	120	< 10	9	5
18425	2.00	0.361	0.022	0.37	2	16	40	0.24	< 1	< 2	< 10	134	< 10	10	4
18426	1.75	0.411	0.026	0.31	2	14	45	0.27	< 1	< 2	< 10	136	< 10	8	4
18427	1.64	0.344	0.033	0.38	< 2	14	42	0.34	2	< 2	< 10	160	< 10	10	6
18428	1.24	0.234	0.026	0.27	< 2	9	34	0.29	6	< 2	< 10	101	< 10	8	5
18429	1.46	0.287	0.024	0.15	< 2	12	36	0.28	< 1	< 2	< 10	116	< 10	7	4
18431	2.01	0.430	0.023	0.32	2	16	36	0.26	< 1	< 2	< 10	130	< 10	9	5
18432	1.47	0.337	0.021	0.21	< 2	13	30	0.25	2	< 2	< 10	94	< 10	9	3
18433	1.43	0.367	0.021	0.08	< 2	11	34	0.28	3	< 2	< 10	88	< 10	8	3
18434	1.59	0.478	0.021	0.04	2	12	43	0.26	2	< 2	< 10	89	< 10	7	3
18435	1.99	0.324	0.021	0.54	2	13	32	0.23	2	< 2	< 10	99	< 10	8	4
18436	2.11	0.344	0.020	0.32	2	15	29	0.25	1	< 2	< 10	111	< 10	9	4
18437	2.04	0.290	0.021	0.22	< 2	14	19	0.25	3	< 2	< 10	103	< 10	10	3
18438	2.79	0.303	0.019	0.24	3	17	16	0.23	< 1	< 2	< 10	122	< 10	9	3
18441	1.69	0.429	0.020	0.18	3	13	46	0.25	2	< 2	< 10	95	< 10	8	3
18442	2.23	0.364	0.021	0.31	2	15	36	0.23	< 1	< 2	< 10	110	< 10	9	3
18443	1.47	0.455	0.021	0.33	2	10	49	0.23	2	< 2	< 10	83	< 10	8	2
18444	2.12	0.480	0.025	0.38	< 2	16	45	0.25	3	< 2	< 10	127	< 10	9	3
18445	2.03	0.388	0.021	0.18	3	15	30	0.23	6	< 2	< 10	118	< 10	9	3
18446	1.70	0.385	0.022	0.27	2	14	32	0.21	2	< 2	< 10	107	< 10	8	3
18447	1.68	0.365	0.023	0.14	< 2	13	30	0.22	3	< 2	< 10	107	< 10	8	3
18448	1.92	0.409	0.021	0.86	3	15	33	0.21	3	< 2	< 10	116	< 10	9	4
18449	1.38	0.502	0.024	0.25	< 2	10	51	0.21	2	< 2	< 10	91	< 10	6	2
18451	1.40	0.568	0.024	0.61	< 2	9	50	0.24	< 1	< 2	< 10	90	< 10	6	3
18452	2.29	0.298	0.023	3.68	3	12	25	0.35	3	< 2	< 10	130	< 10	11	5
18453	1.43	0.330	0.020	4.35	3	16	36	0.30	2	< 2	< 10	127	< 10	12	6
18454	1.67	0.226	0.023	6.23	4	18	25	0.35	4	< 2	< 10	144	< 10	11	8
18455	1.65	0.408	0.026	3.19	2	10	37	0.42	6	< 2	< 10	128	< 10	11	6
18456	1.99	0.283	0.025	3.27	3	15	28	0.31	3	< 2	< 10	131	< 10	11	10
18457	1.63	0.473	0.024	2.78	3	13	37	0.24	4	< 2	< 10	113	< 10	8	8
18458	1.83	0.347	0.026	2.33	< 2	12	26	0.23	3	< 2	< 10	116	< 10	7	8
18461	2.09	0.324	0.025	0.96	< 2	18	23	0.29	2	< 2	< 10	154	< 10	9	7
18462	1.99	0.285	0.025	0.58	3	16	23	0.25	3	< 2	< 10	142	< 10	9	4
18463	1.70	0.348	0.028	0.39	< 2	15	26	0.24	7	< 2	< 10	131	< 10	10	3
18464	2.05	0.270	0.024	0.63	3	17	24	0.22	3	< 2	< 10	143	< 10	9	5
18465	1.68	0.238	0.024	1.05	< 2	13	23	0.22	2	< 2	< 10	118	< 10	8	6
18466	1.60	0.308	0.026	0.61	< 2	12	20	0.19	3	< 2	< 10	109	< 10	8	4
18467	1.94	0.508	0.025	0.73	< 2	11	38	0.18	< 1	< 2	< 10	121	< 10	6	3
18468	2.03	0.248	0.024	3.07	3	11	22	0.20	2	< 2	< 10	110	< 10	6	9
18469	1.77	0.330	0.025	2.53	< 2	11	26	0.20	2	< 2	< 10	121	< 10	7	7
18471	1.74	0.223	0.023	3.53	3	13	19	0.19	4	< 2	< 10	112	< 10	9	7
18472	2.34	0.282	0.026	0.55	2	16	22	0.22	< 1	< 2	< 10	135	< 10	11	5
18473	1.89	0.392	0.024	0.15	< 2	13	37	0.21	< 1	< 2	< 10	118	< 10	7	3
18474	2.01	0.323	0.024	1.28	2	14	32	0.25	< 1	< 2	< 10	123	< 10	9	6
18475	1.64	0.220	0.040	2.28	3	13	38	0.27	4	< 2	< 10	104	< 10	10	17
18476	1.56	0.260	0.018	5.08	4	10	37	0.17	2	< 2	< 10	91	< 10	7	11

Analyte Symbol	Mg	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr
Unit Symbol	%	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.001	0.001	0.01	< 2	1	1	0.01	1	2	10	1	10	1	1
Method Code	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
18477	1.89	0.342	0.020	0.46	2	11	39	0.19	3	< 2	< 10	88	< 10	7	3
18478	1.45	0.398	0.022	0.07	< 2	10	43	0.15	4	< 2	< 10	80	< 10	6	2
18479	1.52	0.406	0.021	0.11	< 2	11	49	0.22	2	< 2	< 10	83	< 10	6	3
18480	1.67	0.375	0.021	0.13	< 2	11	46	0.23	2	< 2	< 10	87	< 10	7	3
18482	1.58	0.347	0.021	0.08	< 2	10	40	0.21	< 1	< 2	< 10	78	< 10	6	2
18483	1.82	0.536	0.024	0.17	< 2	14	59	0.24	< 1	< 2	< 10	116	< 10	8	4
18484	2.04	0.430	0.024	0.39	2	15	52	0.24	3	< 2	< 10	125	< 10	8	4
18485	1.83	0.419	0.022	0.24	< 2	15	54	0.23	3	< 2	< 10	123	< 10	7	4
18486	1.73	0.500	0.025	1.09	3	16	51	0.23	3	< 2	< 10	124	< 10	9	6
18487	1.32	0.500	0.022	2.52	< 2	11	58	0.20	< 1	< 2	< 10	95	< 10	8	6
18488	1.21	0.559	0.024	2.40	3	11	61	0.23	4	< 2	< 10	94	< 10	9	6
18489	0.91	0.567	0.023	3.62	2	10	69	0.21	< 1	< 2	< 10	78	< 10	8	7
18492	1.31	0.450	0.024	2.00	< 2	11	53	0.17	2	< 2	< 10	92	< 10	8	6
18493	1.89	0.331	0.025	0.45	2	17	23	0.24	4	< 2	< 10	136	< 10	9	4
18494	1.69	0.318	0.024	0.59	< 2	13	28	0.22	2	< 2	< 10	108	< 10	8	8
18495	1.67	0.377	0.032	0.63	< 2	11	36	0.27	3	< 2	< 10	110	< 10	10	6
18496	1.73	0.200	0.027	0.06	< 2	12	15	0.21	4	< 2	< 10	84	< 10	8	4
18497	1.48	0.233	0.021	0.09	< 2	7	28	0.21	1	< 2	< 10	67	< 10	6	4
18498	2.15	0.292	0.017	0.04	< 2	7	30	0.17	2	< 2	< 10	67	< 10	4	5
18499	0.90	0.219	0.028	0.22	< 2	12	28	0.25	4	< 2	< 10	101	< 10	8	10
18500	0.24	0.114	0.016	0.25	< 2	2	11	0.06	< 1	< 2	< 10	15	< 10	3	10
18502	1.73	0.399	0.021	0.20	< 2	10	51	0.22	2	< 2	< 10	95	< 10	7	2
18503	1.69	0.312	0.024	0.14	< 2	9	39	0.21	4	< 2	< 10	84	< 10	6	11
18504	1.74	0.235	0.049	0.09	< 2	17	12	0.27	3	< 2	< 10	140	< 10	19	11
18505	1.67	0.339	0.025	0.13	< 2	10	39	0.21	1	< 2	< 10	90	< 10	7	10
18506	1.48	0.270	0.049	0.03	< 2	17	11	0.28	5	< 2	< 10	183	< 10	22	8
18507	1.46	0.476	0.027	0.46	3	10	54	0.22	2	< 2	< 10	88	< 10	9	8

QC

Analyte Symbol	Th	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm
Lower Limit	20	0.2	0.5	1	5	1	1	2		0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10
Method Code	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
GXR-4 Meas	< 20	3.3	< 0.5	6330	142	315	36	39	68	2.75	103	< 10	37	1.4	21	0.63	13	53	2.88	10	< 1	1.86	53
GXR-4 Cert	22.5	4.0	0.860	6620	155	310	42.0	52.0	73.0	7.20	98.0	4.50	1640	1.90	19.0	1.01	14.8	64.0	3.09	20.0	0.110	4.01	64.5
GXR-4 Meas	< 20	3.4	< 0.5	6450	141	319	37	41	69	2.77	105	< 10	38	1.4	20	0.94	13	55	2.92	10	< 1	1.89	52
GXR-4 Cert	22.5	4.0	0.860	6620	155	310	42.0	52.0	73.0	7.20	98.0	4.50	1640	1.90	19.0	1.01	14.8	64.0	3.09	20.0	0.110	4.01	64.5
GXR-6 Meas	< 20	0.3	< 0.5	70	1070	3	22	88	123	7.23	244	< 10	1110	0.9	< 2	0.14	13	79	5.30	20	< 1	1.26	< 10
GXR-6 Cert	5.30	1.30	1.00	66.0	1010	2.40	27.0	101	118	17.7	330	9.80	1300	1.40	0.290	0.180	13.8	96.0	5.58	35.0	0.0880	1.87	13.9
GXR-6 Meas	< 20	0.3	< 0.5	72	1100	2	23	93	127	7.39	237	< 10	1140	0.9	< 2	0.15	13	81	5.45	20	2	1.29	< 10
GXR-6 Cert	5.30	1.30	1.00	66.0	1010	2.40	27.0	101	118	17.7	330	9.80	1300	1.40	0.290	0.180	13.8	96.0	5.58	35.0	0.0880	1.87	13.9
SAR-M (U.S.G.S.) Meas	< 20	3.2	5.5	346	4630	13	41	1020	1010	1.22	43		242	1.1	2	0.31	11	93	2.76	< 10		0.32	52
SAR-M (U.S.G.S.) Cert	17.2	3.84	5.27	331.0000	5220	13.1	41.5	982	930.0	6.30	38.8		801	2.20	1.94	0.61	10.70	79.7	2.99	17		2.94	57.4
SAR-M (U.S.G.S.) Meas	< 20	3.8	5.3	339	4710	14	41	1000	997	1.26	43		253	1.1	< 2	0.33	10	87	2.74	< 10		0.33	53
SAR-M (U.S.G.S.) Cert	17.2	3.84	5.27	331.0000	5220	13.1	41.5	982	930.0	6.30	38.8		801	2.20	1.94	0.61	10.70	79.7	2.99	17		2.94	57.4
18311 Orig	< 20	< 0.2	< 0.5	54	562	< 1	80	< 2	34	1.91	< 2	< 10	37	< 0.5	< 2	3.01	24	316	3.40	< 10	< 1	0.12	< 10
18311 Dup	< 20	< 0.2	< 0.5	54	809	< 1	82	< 2	34	1.95	< 2	< 10	39	< 0.5	< 2	3.08	25	322	3.42	< 10	< 1	0.12	< 10
18327 Orig	< 20	0.3	< 0.5	75	1140	3	119	5	200	1.34	117	< 10	43	< 0.5	< 2	5.13	36	142	2.83	< 10	< 1	0.17	11
18327 Dup	< 20	0.3	< 0.5	77	1150	2	118	5	202	1.36	119	< 10	42	< 0.5	< 2	5.19	35	145	2.87	< 10	< 1	0.18	11
18344 Orig	< 20	< 0.2	< 0.5	78	827	1	67	4	138	2.68	8	< 10	142	< 0.5	< 2	2.44	25	178	3.44	< 10	< 1	1.10	< 10
18344 Dup	< 20	< 0.2	< 0.5	77	828	1	65	3	138	2.70	6	< 10	150	< 0.5	< 2	2.44	24	178	3.42	< 10	< 1	1.10	< 10
18361 Orig	< 20	< 0.2	< 0.5	164	649	< 1	44	< 2	94	1.72	3	< 10	39	< 0.5	< 2	1.78	41	68	3.22	< 10	< 1	0.09	< 10
18361 Dup	< 20	< 0.2	< 0.5	171	660	< 1	45	< 2	87	1.76	3	< 10	41	< 0.5	< 2	1.84	41	70	3.29	< 10	< 1	0.09	< 10
18387 Orig	< 20	< 0.2	< 0.5	161	931	< 1	45	2	86	2.07	2	< 10	37	< 0.5	< 2	2.77	35	85	4.16	< 10	< 1	0.10	< 10
18387 Dup	< 20	< 0.2	< 0.5	162	933	< 1	45	< 2	85	2.08	2	< 10	36	< 0.5	< 2	2.78	35	85	4.17	< 10	< 1	0.10	< 10
18404 Orig	< 20	< 0.2	< 0.5	97	870	< 1	46	< 2	82	3.08	5	< 10	102	< 0.5	< 2	3.09	45	67	5.15	10	< 1	0.40	< 10
18404 Dup	< 20	< 0.2	< 0.5	97	861	< 1	45	< 2	81	3.04	3	< 10	85	< 0.5	< 2	3.05	44	65	5.08	10	< 1	0.40	< 10
18418 Orig	< 20	< 0.2	< 0.5	74	815	< 1	37	< 2	61	1.87	9	< 10	94	< 0.5	< 2	1.76	38	66	3.40	< 10	< 1	0.09	< 10
18418 Dup	< 20	< 0.2	< 0.5	72	595	< 1	36	< 2	59	1.80	7	< 10	83	< 0.5	< 2	1.70	35	63	3.34	< 10	< 1	0.09	< 10
18435 Orig	< 20	< 0.2	< 0.5	181	800	< 1	49	< 2	58	2.51	6	< 10	51	< 0.5	< 2	3.29	33	155	3.57	< 10	< 1	0.08	< 10
18435 Dup	< 20	< 0.2	< 0.5	178	823	< 1	54	< 2	64	2.78	7	< 10	56	< 0.5	< 2	3.64	35	177	4.07	< 10	< 1	0.09	< 10
18456 Orig	< 20	< 0.2	< 0.5	136	695	< 1	59	4	162	3.13	< 2	< 10	25	< 0.5	< 2	1.72	46	111	6.97	10	< 1	0.17	< 10
18456 Dup	< 20	0.2	< 0.5	136	669	< 1	57	3	162	3.08	< 2	< 10	23	< 0.5	< 2	1.70	46	111	6.82	10	< 1	0.17	< 10
18473 Orig	< 20	< 0.2	< 0.5	120	744	< 1	33	< 2	52	3.24	3	< 10	47	< 0.5	< 2	3.08	28	59	3.90	< 10	< 1	0.11	< 10
18473 Dup	< 20	< 0.2	< 0.5	127	741	1	32	< 2	52	3.22	6	< 10	47	< 0.5	< 2	3.04	29	60	3.89	< 10	< 1	0.10	< 10
18487 Orig	< 20	< 0.2	< 0.5	151	699	< 1	71	< 2	95	3.46	< 2	< 10	26	< 0.5	< 2	2.75	67	86	6.16	< 10	< 1	0.12	< 10
18487 Dup	< 20	< 0.2	< 0.5	145	688	< 1	67	< 2	89	3.34	< 2	< 10	35	< 0.5	< 2	2.80	54	78	5.85	< 10	< 1	0.11	< 10
18504 Orig	< 20	< 0.2	< 0.5	127	712	< 1	24	< 2	31	1.72	< 2	< 10	32	< 0.5	< 2	2.22	24	74	4.30	< 10	< 1	0.10	< 10
18504 Dup	< 20	< 0.2	< 0.5	128	696	< 1	24	< 2	31	1.71	< 2	< 10	30	< 0.5	< 2	2.19	24	77	4.25	< 10	< 1	0.10	< 10
Method Blank	< 20	< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10
Method Blank	< 20	< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10
Method Blank	< 20	< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	11	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10

QC



Analyte Symbol	Mg	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr
Unit Symbol	%	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1
Method Code	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
GXR-4 Meas	1.61	0.138	0.114	1.69	5	6	76	0.14	6	< 2	< 10	77	16	12	10
GXR-4 Cert	1.66	0.564	0.120	1.77	4.80	7.70	221	0.29	0.970	3.20	6.20	87.0	30.8	14.0	186
GXR-4 Meas	1.63	0.136	0.117	1.70	4	7	78	0.14	1	2	< 10	79	15	12	10
GXR-4 Cert	1.66	0.564	0.120	1.77	4.80	7.70	221	0.29	0.970	3.20	6.20	87.0	30.8	14.0	186
GXR-6 Meas	0.41	0.088	0.031	0.01	3	18	31		3	< 2	< 10	174	< 10	5	14
GXR-6 Cert	0.609	0.104	0.0350	0.0160	3.60	27.6	35.0		0.0180	2.20	1.54	186	1.90	14.0	110
GXR-6 Meas	0.42	0.087	0.032	0.02	4	18	32		< 1	< 2	< 10	177	< 10	5	12
GXR-6 Cert	0.609	0.104	0.0350	0.0160	3.60	27.6	35.0		0.0180	2.20	1.54	186	1.90	14.0	110
SAR-M (U.S.G.S.) Meas	0.35	0.038	0.060		5	3	35	0.06	4	< 2	< 10	37	< 10	22	
SAR-M (U.S.G.S.) Cert	0.50	1.140	0.07		6.0	7.83	151	0.38	0.96	2.7	3.57	67.2	9.78	28.00	
SAR-M (U.S.G.S.) Meas	0.36	0.040	0.061		5	4	35	0.06	3	< 2	< 10	38	< 10	24	
SAR-M (U.S.G.S.) Cert	0.50	1.140	0.07		6.0	7.83	151	0.38	0.96	2.7	3.57	67.2	9.78	28.00	
18311 Orig	2.07	0.175	0.030	0.17	3	11	16	0.20	4	< 2	< 10	82	< 10	6	3
18311 Dup	2.12	0.180	0.030	0.17	3	12	17	0.21	3	< 2	< 10	84	< 10	7	4
18327 Orig	1.22	0.113	0.041	1.24	< 2	10	34	0.18	1	< 2	< 10	77	< 10	7	29
18327 Dup	1.24	0.110	0.042	1.24	2	10	34	0.18	< 1	< 2	< 10	77	< 10	7	29
18344 Orig	1.47	0.274	0.026	0.87	< 2	12	39	0.22	2	< 2	< 10	94	< 10	7	16
18344 Dup	1.47	0.275	0.026	0.86	< 2	12	39	0.22	< 1	< 2	< 10	94	< 10	7	16
18361 Orig	1.58	0.190	0.027	0.57	< 2	13	17	0.25	5	< 2	< 10	123	< 10	8	6
18361 Dup	1.62	0.199	0.027	0.58	< 2	13	18	0.25	< 1	< 2	< 10	126	< 10	8	6
18387 Orig	1.82	0.210	0.023	0.87	< 2	13	18	0.25	4	< 2	< 10	112	< 10	9	6
18387 Dup	1.82	0.206	0.023	0.86	2	13	17	0.25	4	< 2	< 10	112	< 10	9	5
18404 Orig	1.98	0.390	0.025	0.95	< 2	17	35	0.35	3	< 2	< 10	160	< 10	12	6
18404 Dup	1.94	0.382	0.024	0.92	2	17	35	0.35	1	< 2	< 10	157	< 10	11	6
18418 Orig	1.72	0.204	0.028	0.08	2	14	16	0.31	3	< 2	< 10	140	< 10	9	5
18418 Dup	1.65	0.204	0.028	0.08	< 2	14	15	0.30	1	< 2	< 10	137	< 10	9	5
18435 Orig	1.87	0.309	0.020	0.51	2	12	31	0.21	3	< 2	< 10	93	< 10	8	3
18435 Dup	2.12	0.340	0.021	0.56	3	14	34	0.25	1	< 2	< 10	105	< 10	8	4
18456 Orig	2.00	0.288	0.026	3.31	3	15	28	0.31	3	< 2	< 10	131	< 10	11	10
18456 Dup	1.97	0.279	0.025	3.23	3	15	28	0.31	2	< 2	< 10	131	< 10	11	10
18473 Orig	1.90	0.393	0.024	0.15	< 2	13	37	0.22	< 1	< 2	< 10	118	< 10	7	3
18473 Dup	1.89	0.391	0.024	0.15	3	13	37	0.21	< 1	< 2	< 10	117	< 10	7	3
18487 Orig	1.36	0.508	0.023	2.51	< 2	12	58	0.20	< 1	< 2	< 10	97	< 10	8	6
18487 Dup	1.27	0.492	0.022	2.54	3	11	57	0.19	2	< 2	< 10	92	< 10	7	6
18504 Orig	1.75	0.238	0.049	0.09	2	17	12	0.28	4	< 2	< 10	140	< 10	19	11
18504 Dup	1.73	0.233	0.050	0.09	< 2	17	12	0.26	1	< 2	< 10	139	< 10	19	10
Method Blank	< 0.01	0.013	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1
Method Blank	< 0.01	0.014	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1
Method Blank	< 0.01	0.015	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1



**Date Submitted:** 12-Jan-15  
**Invoice No.:** A15-00195  
**Invoice Date:** 15-Jan-15  
**Your Reference:** Mistango14-1745

Swastika Labs  
1 Cameron Ave  
P.O. Box 10  
Swastika ON P0K 1T0  
Canada

ATTN: Lydia Deschenes

### CERTIFICATE OF ANALYSIS

1 Pulp samples were submitted for analysis.

The following analytical package was requested:

Code 4B (1-10) Major Elements Fusion ICP(WRA)

REPORT      **A15-00195**

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.

CERTIFIED BY:

A handwritten signature in black ink, appearing to read "Emmanuel Esemé".

Emmanuel Esemé , Ph.D.  
Quality Control

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Results

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP
SK-14-05-001	52.49	13.05	12.07	0.248	7.55	10.89	1.59	0.52	0.825	0.07	1.46	100.8	108	119	15	42	52	< 1	283	

QC

Analyte Symbol	SiO2	Al2O3	Fe2O3(T )	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP
NIST 694 Meas	11.08	1.87	0.73	0.013	0.34	42.53	0.88	0.54	0.117	30.16									1643
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2									1740
DNC-1 Meas	46.84	18.78	9.88	0.145	10.14	11.48	1.83	0.22	0.485	0.06			110	148	17	31	38		180
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			118	144.0	18.0	31	38		148
GBW 07113 Meas	72.18	12.75	3.27	0.143	0.15	0.81	2.39	5.38	0.283	0.04			493	41	45	5	401	4	6
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.180	0.590	2.57	5.43	0.300	0.0500			508	43.0	43.0	5.00	403	4.00	5.00
W-2a Meas	52.81	15.30	10.87	0.166	8.29	11.09	2.25	0.84	1.084	0.16			181	200	21	38	89	< 1	286
W-2a Cert	52.4	15.4	10.7	0.163	8.37	10.9	2.14	0.826	1.06	0.130			182	190	24.0	36.0	84.0	1.30	282
SY-4 Meas	49.64	20.82	6.12	0.107	0.51	8.15	7.00	1.88	0.290	0.13			346	1192	117	1	524	3	10
SY-4 Cert	49.9	20.89	6.21	0.108	0.54	8.05	7.10	1.86	0.287	0.131			340	1191	119	1.1	517	2.6	8.0
BIR-1a Meas	47.54	15.67	11.53	0.172	9.56	13.70	1.80	0.02	0.983	0.02			13	110	16	43	16	< 1	348
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			6	110	16	44	18	0.58	310
SK-14-05-001 Orig	52.32	13.32	11.95	0.247	7.48	10.83	1.59	0.53	0.821	0.07	1.46	100.8	108	123	15	42	53	< 1	283
SK-14-05-001 Dup	52.67	12.78	12.19	0.246	7.63	10.95	1.58	0.52	0.829	0.07	1.46	100.9	107	116	15	41	51	< 1	283