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Assessment Report on  
Ground VLF-EM Geophysical Surveying and  
Rock Sampling on

Santoy Property Cell Mining Claims:

109581, 110003, 110004, 110005, 130508, 144450,  
175432, 247775, 247776, 307013, 313778, 326468

Syine Township

Thunder Bay Mining Division

District of Thunder Bay, Ontario

NTS 42D15

NAD83 Zone 16 UTM

505,626 mE 5,406,992 mN

Latitude 48° 48' 57.2"N Longitude 86° 55' 24.1"W

June 1 – 17, 2019

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July 7, 2019



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## Summary

The Santoy property is located within the Syine Township, on the north shore of Lake Superior in northwestern Ontario, approximately 250 km east of Thunder Bay (Figure 1). The property comprises 32 single and boundary cell mining claim covering an area of 551 hectares, held 100% by Sanatana Resources Inc.. There is a residual 2% Net Smelter Return (NSR) royalty on metals payable to Brian Fowler and Christian Carl upon commencement of commercial production on the property. The property is accessed by bush trails from Trans-Canada Highway 17. All co-ordinates quoted in text or appearing on maps are either latitude and longitude or Universal Transverse Mercator (UTM) metres easting and northing using the North American Datum 83 (NAD83) Zone 16.

The property is located in the Wawa terrane of the Superior Province of the Canadian Shield, specifically Schreiber-Hemlo greenstone belt. The greenstone belt in the region consists of metavolcanic and metasedimentary rocks into which the Terrace Bay pluton was emplaced. The Santoy property covers the southeast margin of the Terrace Bay pluton granodiorite as well as the contact zone and part of the southern arm of the Schreiber-Hemlo greenstone belt supracrustal sequence of folded and foliated metavolcanic basalts and felsic flows and tuffs intercalated with narrow chert beds that trends northeast - southwest.

Historic mining and exploration in the region dates back to the late 19th century. Since then various companies have explored in the property area completing surveys, including airborne and ground geophysical surveys, mapping, stripping and soil and rock sampling and discovered two mineral occurrences.

Between the dates of June 1 – 17, 2019 a Very Low Frequency – Electromagnetic (VLF-EM) ground geophysical survey was undertaken concurrently with rock sampling of interesting outcrops that were encountered along the way. The objective of the ground VLF-EM survey was to delineate two bedrock conductors observed from multiple airborne electromagnetic (EM) surveys and perhaps observe some outcropping rocks that could explain the EM conductivity. A total of 4.45 line kilometres of VLF data was collected over the two grids covering the EM conductors. The raw in-phase and quadrature VLF data was subsequently plotted along the grid lines and the locations of the cross overs of the two line graphs was compared to the trend of the EM anomalies to check whether the same conductor had been identified or any new anomalies were found. No significant mineralization was discovered from the rock samples, however elevated levels of nickel and copper were returned in assay results from several samples.

This report presents the VLF-EM survey data and rock sample results and some qualitative interpretations that suggest further exploration work is warranted to follow up the conductor trends on parts of the Santoy property where rock sample results indicated elevated levels of copper and nickel in mineralized outcrops. The work could be as simple as more localized prospecting and rock stripping (if possible) to gain a better understanding of the potential mineralization. Encouraging results from this work could lead to a drill program.

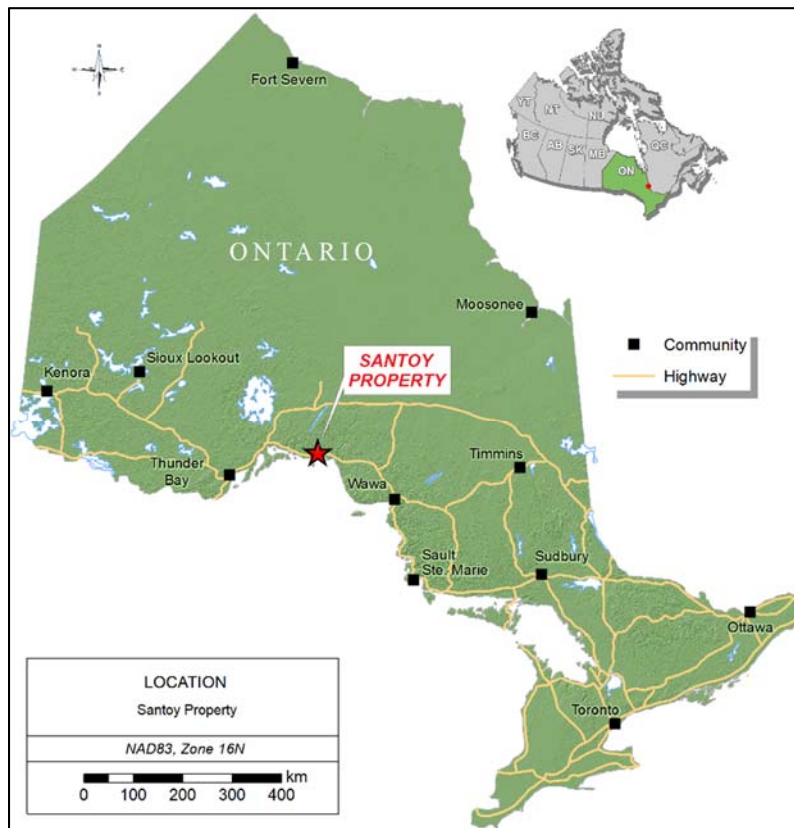
## Introduction

A Very Low Frequency – Electromagnetic (VLF-EM) ground geophysical survey was undertaken concurrently with rock sampling on the Santoy property by Sanatana Resources Inc. from June 1 – 17, 2019. The purpose of the work was to delineate two bedrock conductors observed from multiple airborne electromagnetic (EM) surveys completed by previous explorers over the property and perhaps find some outcropping rocks that could explain the EM conductivity.

This report presents the VLF-EM survey data and rock sample results and some qualitative interpretations that will help to guide future exploration work on parts of the Santoy property.

## Property Location, Description and Access

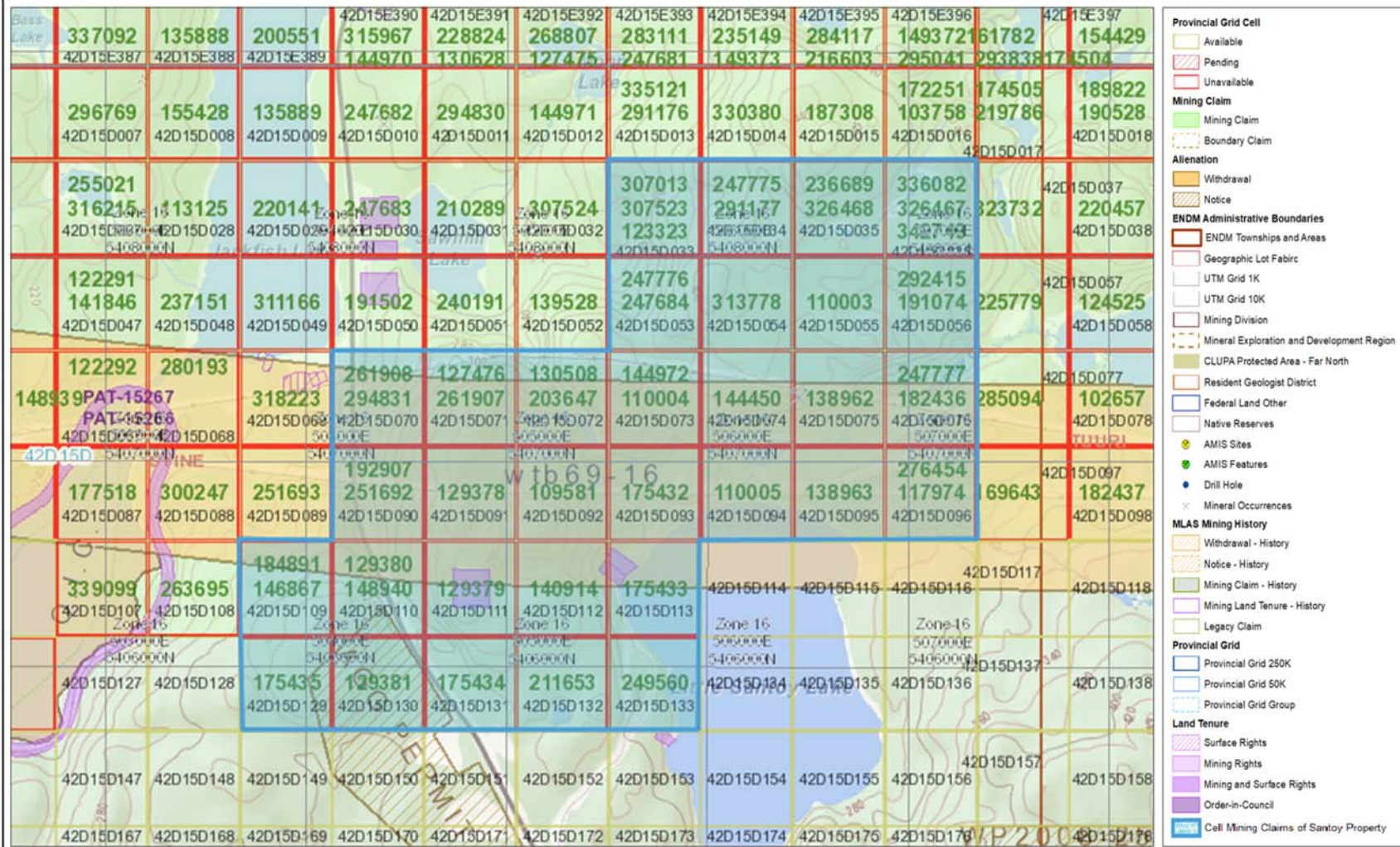
The Santoy property is located within the Syine Township, on the north shore of Lake Superior in northwestern Ontario, approximately 250 km east of Thunder Bay (Figure 1). The property comprises 32 single and boundary cell mining claim covering an area of 551 hectares (Figure 2), held 100% by Sanatana Resources Inc. (Table 1). The property was acquired outright through an asset purchase agreement, however there is a residual 2% Net Smelter Return (NSR) royalty on metals payable to Brian Fowler and Christian Carl upon commencement of commercial production on the property.



**Figure 1: Property Location Map.**

The property is accessed by travelling 24 km east of Terrace Bay or 60 km west from Marathon via Trans-Canada Highway 17. The mining claims are readily accessible by truck and All-Terrain Vehicle (ATV) along bush trails off the highway (Figure 2).

Figure 2: MLAS Cell Claim Map of Santoy Property



Projection: Web Mercator



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The terrain around the property is quite rugged and vegetation cover is moderately thick. There is a sparse to moderate amount of bedrock outcrop on the property, mostly along cliffs and at highway road cuttings, but exposure in the forest is commonly masked by moss cover.

All co-ordinates quoted in text or appearing on maps are either latitude and longitude or Universal Transverse Mercator (UTM) metres easting and northing using the North American Datum 83 (NAD83) Zone 16.

***Table 1: Santoy Property Cell Mining Claims.***

<b>Tenure #</b>	<b>Township</b>	<b>Cell #</b>	<b>Type</b>	<b>Client ID</b>	<b>Holder</b>
109581	SYINE	42D15D092	Single Cell Mining Claim	409832	100% SANATANA RESOURCES INC.
110003	SYINE	42D15D055	Single Cell Mining Claim	409832	100% SANATANA RESOURCES INC.
110004	SYINE	42D15D073	Boundary Cell Mining Claim	409832	100% SANATANA RESOURCES INC.
110005	SYINE	42D15D094	Single Cell Mining Claim	409832	100% SANATANA RESOURCES INC.
130508	SYINE	42D15D072	Boundary Cell Mining Claim	409832	100% SANATANA RESOURCES INC.
144450	SYINE	42D15D074	Single Cell Mining Claim	409832	100% SANATANA RESOURCES INC.
175432	SYINE	42D15D093	Single Cell Mining Claim	409832	100% SANATANA RESOURCES INC.
247775	SYINE	42D15D034	Boundary Cell Mining Claim	409832	100% SANATANA RESOURCES INC.
247776	SYINE	42D15D053	Boundary Cell Mining Claim	409832	100% SANATANA RESOURCES INC.
307013	SYINE	42D15D033	Boundary Cell Mining Claim	409832	100% SANATANA RESOURCES INC.
313778	SYINE	42D15D054	Single Cell Mining Claim	409832	100% SANATANA RESOURCES INC.
326468	SYINE	42D15D035	Boundary Cell Mining Claim	409832	100% SANATANA RESOURCES INC.

## Property History

The exploration activity in the region of the Santoy property started at the end of the 19th century sparked by the discovery of the Empress Mine in 1895 (Walker, 1967) in metavolcanic rocks of the Schreiber-Hemlo Greenstone Belt just north of the Terrace Bay pluton. Relevant historical geological, mining and exploration work conducted on the property, sourced from online databases of the Ministry of Energy, Northern Development and Mines, is summarized in Table 2.

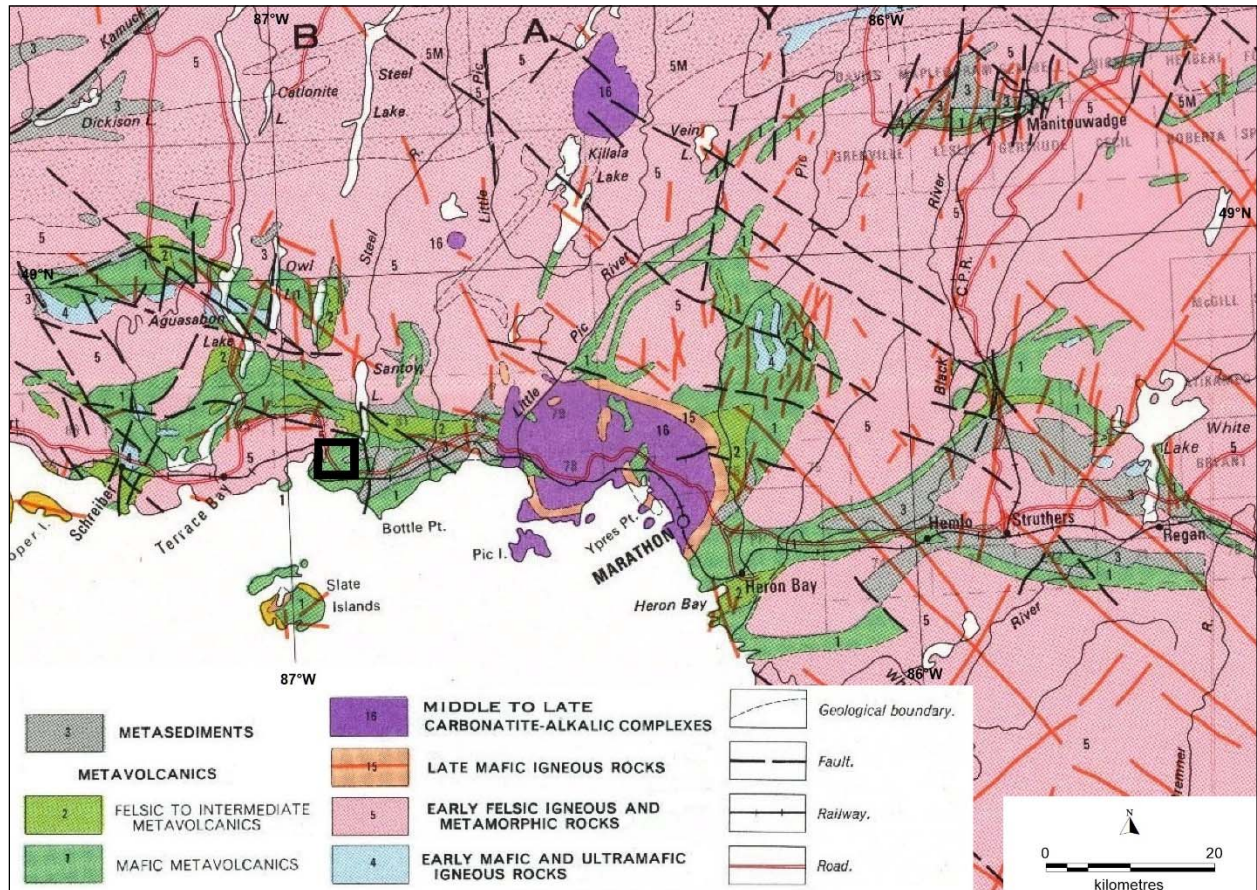
***Table 2: Historical exploration work in the property area.***

Year	Company	Type of Work	Results	Publication Reference #
1967	J.W.R. Walker, OGS	Geological mapping	Multiple geological traverses across the property area culminating in the first geological map and discovery of the Jackfish Nickel mineral occurrence	M2107
1983	Wasabi Resources	Airborne magnetic and EM (VLF) survey	Lead up prospecting uncovered the Little Santoy Silver mineral occurrence. Identified EM conductors	42D15SW0088
1983	Pacific Cypress Minerals Ltd	Airborne magnetic, EM and VLF-EM survey	Covered small part of Santoy property	42D15SW0124
1983	Decker Resources Ltd	Airborne magnetic, EM and VLF-EM survey	Covered small part of Santoy property	42D15SW0132
1984	Decker Resources Ltd	Geological mapping, rock sampling	Identified a major chlorite-carbonate shear zone trending 071 dipping 65 NW on "Grid B, no significant results	42D15SW0119
1985	Highmark Resources Ltd	Ground magnetic and EM (VLF) surveys, soil sampling, geological mapping and 3 lines of IP	One isolated soil sample of 5,000ppm Co and another of 9,000ppm Pb. Four VLF conductors identified	42D15SW0113
1996	Rudolph Wahl et al.,	Rock sampling (100 samples); soil sampling	No significant results	42D15SW0008
2002	Cairngorm Mines Ltd	Geological mapping and rock sampling	No significant results	42D15SW2019
2004	Brian Fowler	Line cutting; mag; prospecting, sampling (21)	Highest assay 324 ppb Au	42D15SW2024
2005	Phoenix Matachewan Mines	Prospecting and rock sampling	20 samples	42D15SW2025
2005	Phoenix Matachewan Mines	Line cutting, geological mapping and rock sampling	Elevated Au, Cu and Zn results	20000000629
2005	Phoenix Matachewan Mines	Prospecting sampling (19 rock samples)	Highest assay 262 ppb Au	20000001155
2005	Phoenix Matachewan Mines	Ground magnetic and VLF-EM surveys	No data on map for Grid 8 north of Little Santoy Lake	20000001721
2006	Phoenix Matachewan Mines	Heliborne TDEM survey	Small part of SW corner overlaps Santoy property	20000001858
2009	Patrick Dick	Ground magnetic and VLF-EM survey	One line ~ 1km delineated magnetic anomalies and VLF conductors	20000003988
2009	Patrick Dick	Prospecting and rock sampling	Follow up work along survey line	20000004194
2009	Russel Renner	Prospecting and rock sampling	No significant results	20000005418
2012	Russel Renner	Prospecting and rock sampling	No significant results	20000007081
2014	Russel Renner	Prospecting and rock sampling	No significant results	20000014450
2016	Brian Fowler	Prospecting and rock sampling	30 rock samples, no significant results	20000014112



## Regional Geological Setting

The property is located in the Wawa terrane of the Superior Province of the Canadian Shield, specifically the Schreiber-Hemlo greenstone belt (Figure 3). The greenstone belt in the region consists of metavolcanic and metasedimentary rocks into which the Terrace Bay pluton was emplaced.



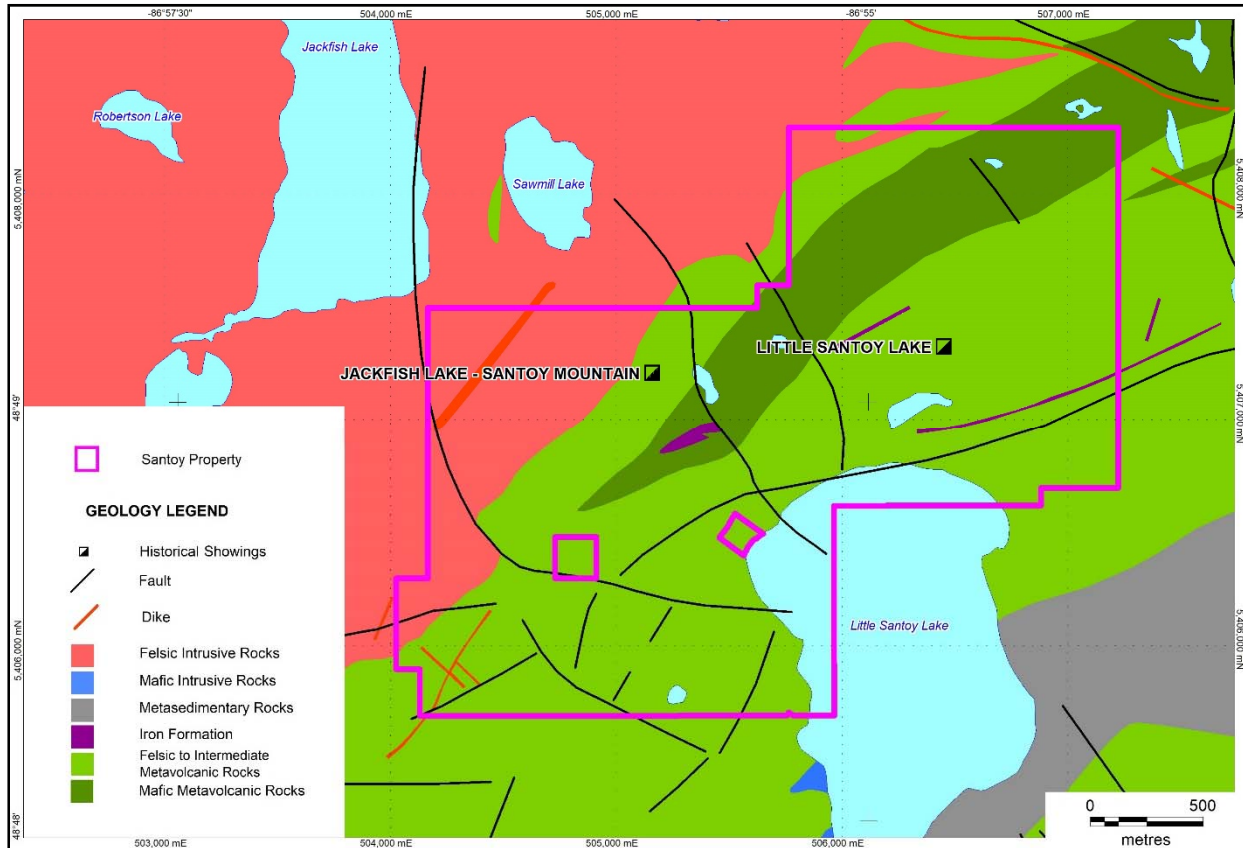
**Figure 3:** Regional Geological Setting Map (after Ayres et al, 1970).

## Property Geology and Mineralization

The Santoy property covers the southeast margin of the Terrace Bay pluton granodiorite as well as the contact zone and part of the southern arm of the Schreiber-Hemlo greenstone belt supracrustal sequence of folded and foliated metavolcanic basalts and felsic flows and tuffs intercalated with narrow chert beds that trends northeast - southwest. The various rock types that have been observed or interpreted to underlie the area are depicted on the property geology map in Figure 4.

There are two historical mineralized showings within the Santoy property; Jackfish Lake – Santoy Mountain and Little Santoy Lake (Figure 4). Both are described as elevated levels of copper and nickel as disseminated sulphides along with pyrite, arsenopyrite and pyrrhotite as well as silver. At Jackfish – Santoy Mountain the mineralization is hosted by a gossanous zone within sheared fragmental volcanics

and iron formation and elevated amounts of gold are also present while at Little Santoy the mineralization occurs in magnetite iron formation.

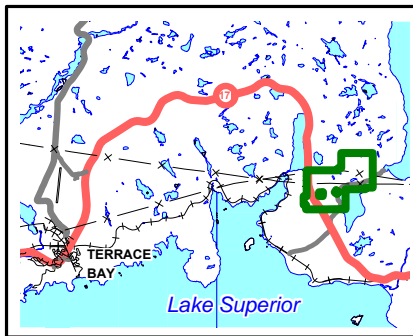
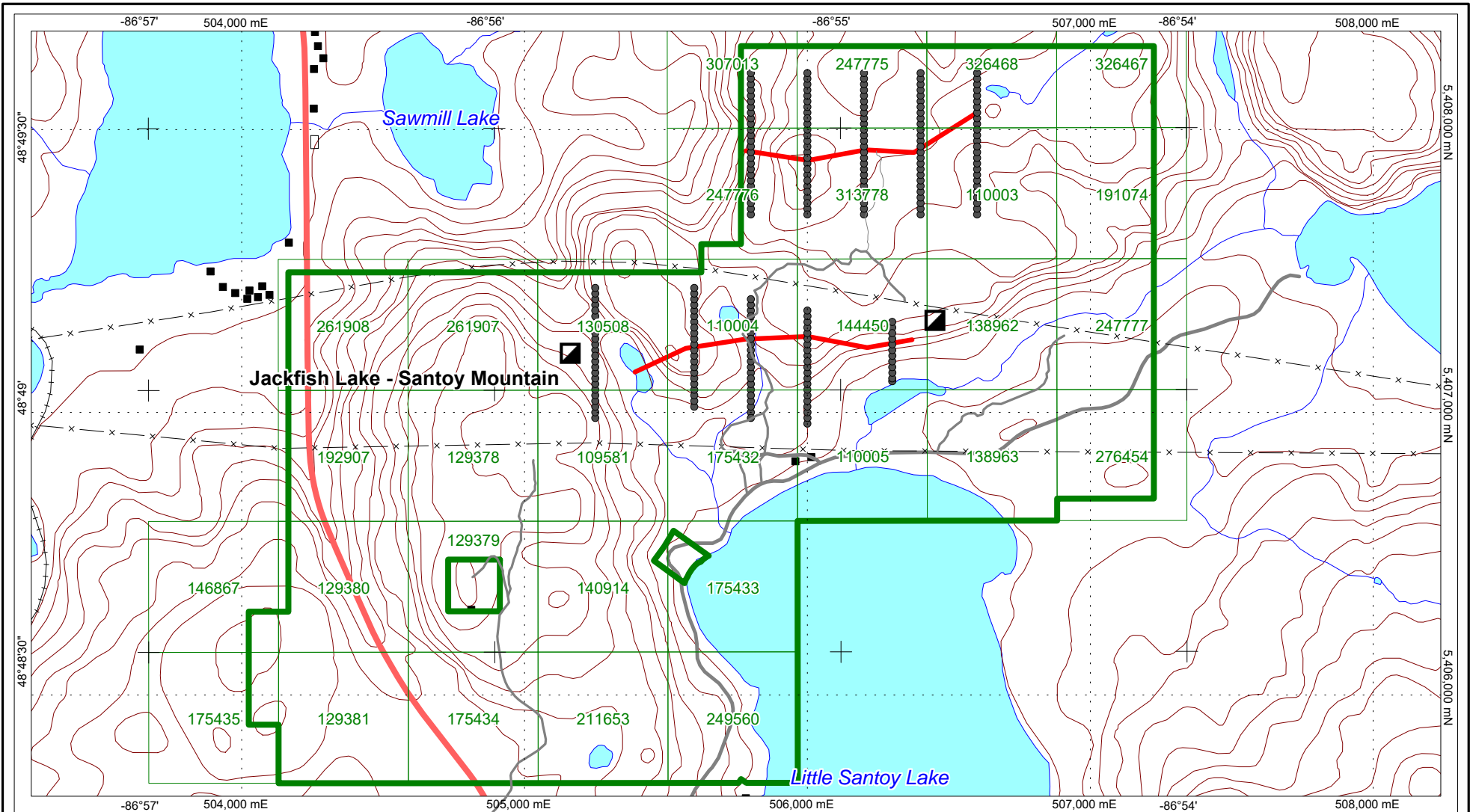


**Figure 4: Property Geology Map (after Walker, 1967).**

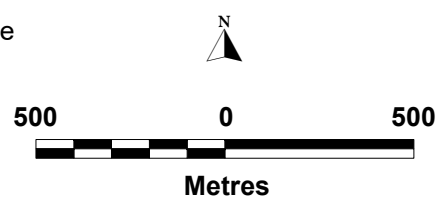
### Exploration Work

A VLF-EM ground geophysical survey was undertaken concurrently with rock sampling on the Santoy property by Sanatana Resources Inc. from June 1 – 17, 2019. The purpose of the work was to delineate two bedrock conductors observed from multiple airborne EM surveys completed by previous explorers over the property and perhaps find some outcropping rocks that could explain the EM conductivity.

A total of 4.45 line kilometres of VLF data was collected over the two grids covering the EM conductors (Figure 5). Inclination readings of VLF vertical component in +/- degrees were measured using an EM-16 along north-south lines at 20 metre stations where possible. Navigation was by handheld GPS and readings were always recorded with the EM-16 oriented 90° north from the direction of the transmitter. Two VLF transmitter channels were recorded; NAA Cutler, Maine @ 24.0 KHz and NLK Seattle, Washington @ 24.8 KHz. The field recorded data is provided in Appendix 1.



- VLF Station
- Historical Mineral Occurrence
- EM Anomaly Trend
- 123 Santoy Property and Cell Mining Claims



**Figure 5: Locations of VLF-EM Survey Grids on Santoy Property**

Author: T. Gill	Date: July 2019
Projection: UTM NAD83 Zone 16	Scale: 1 : 20 000
Mapsheet: NTS 042D	MNDM: Thunder Bay Mining Division

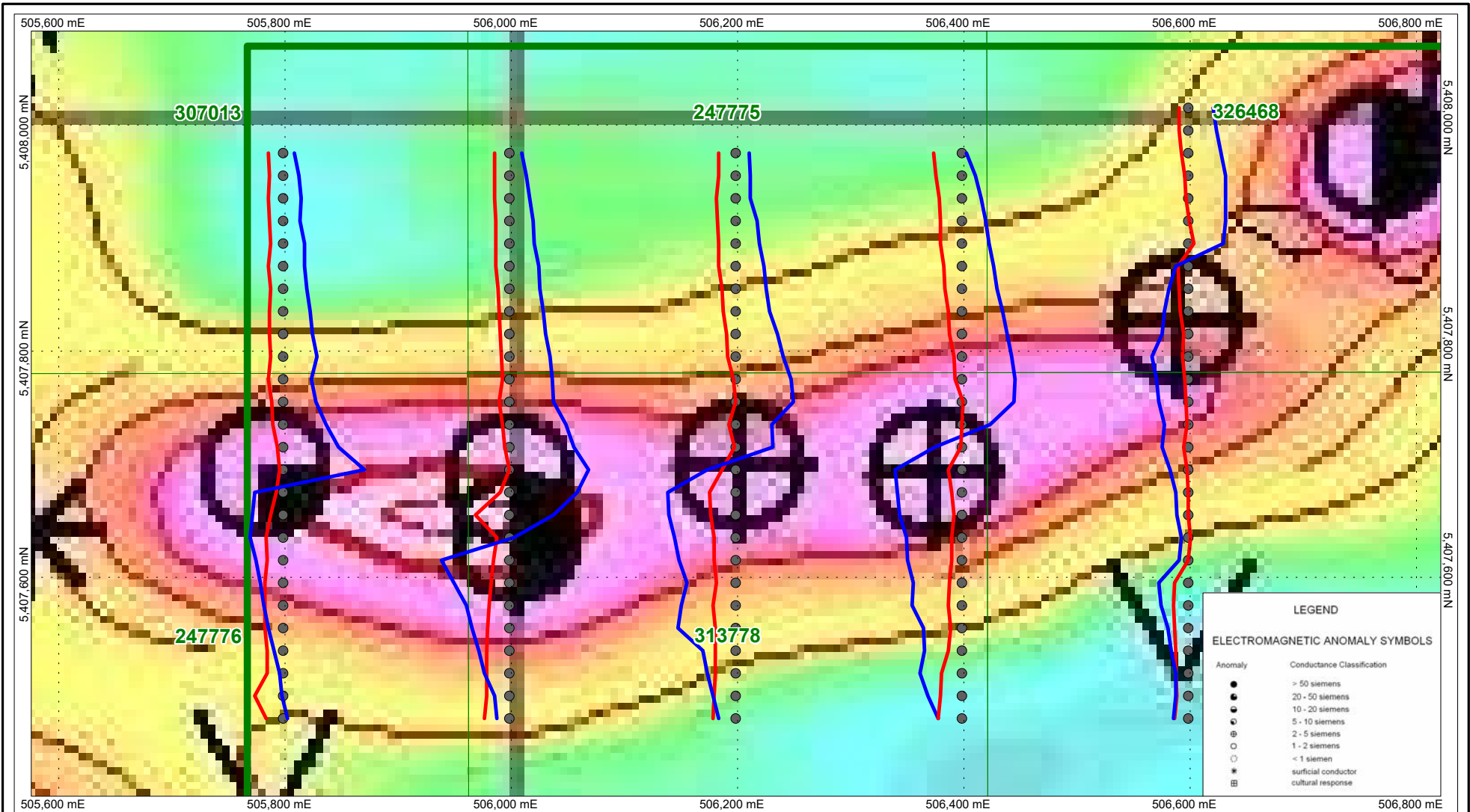
The raw in-phase and quadrature VLF data for both transmitters was subsequently plotted along the grid lines for each of the two grids on separate maps and the locations of the cross overs of the two line graphs was compared to the trend of the EM anomalies to check whether the same conductor had been identified or any new anomalies were found (Figures 6 – 9).

Outcrops were prospected and samples for geochemical analysis collected at any interesting outcrops that were encountered throughout the VLF survey. The location (Figure 10) and a brief description of the lithology and mineralization were recorded for each rock sample (Table 3). A total of 15 samples were submitted to ALS geochemical laboratory in Thunder Bay for analysis of gold, platinum and palladium by fire assay, a suite of elements by four acid digest ICP-OES/MS and also whole rock geochemistry by XRF. The lab certificate of analytical results is provided in Appendix 2

No significant mineralization was discovered from the rock samples, however elevated levels of nickel and copper were returned in assay results from several samples.

***Table 3: Rock Sample Data.***

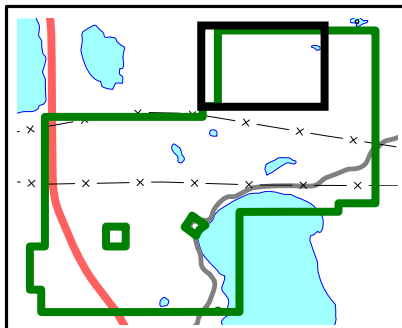
<b>Samples</b>	<b>Tenure #</b>	<b>mEast UTM NAD83 16</b>	<b>mNorth UTM NAD83 16</b>	<b>Date</b>	<b>Description</b>
VR12082B	144450	506278	5407468	03-Jun-19	Grey-green chloritic weakly foliated mafic with breccia quartz vein and disseminated sulphides, mostly pyrite and possibly chalcocopyrite, pyrrhotite / pentlandite?
VR12083B	247775	506206	5408023	06-Jun-19	Grey mafic clot and rare quartz eye porphyroblastic speckled hornfels
VR12084B	307013	505851	5408162	07-Jun-19	Dark grey fine grained variably weakly foliated micaceous weakly magnetic partly ferruginous metasedimentary schist.
VR12085B	247776	505795	5407918	07-Jun-19	Grey-brown fine grained partly ferruginous banded weakly magnetic metasediment with pyrite stringers.
VR12086B	326468	506607	5408115	08-Jun-19	Brown mostly ferruginous fine grained bedded or banded metasediment with disseminated pyrite.
VR12087B	144450	506299	5407188	11-Jun-19	Brown-grey partly ferruginous brecciated grey clastic to cherty sulphidic iron formation with pyrite.
VR12088B	144450	506299	5407251	11-Jun-19	Similar to sample VR12087B.
VR12089B	144450	506298	5407282	11-Jun-19	Narrow vein or shear fracture within the same rock as samples VR12087B and VR12088B
VR12090B	144450	506000	5407220	11-Jun-19	Brown-grey partly ferruginous especially along fractures weakly magnetic probably metasediment or possibly hornfelsed mafic with disseminated pyrite.
VR12091B	110004	505600	5407320	15-Jun-19	Brown-light grey very ferruginous and sulphidic fine grained metasediment.
VR12092B	110004	505804	5407449	15-Jun-19	Pink-orange granodiorite with limonitic fractures and some brecciation.
VR12093B	110004	505819	5407336	15-Jun-19	Dark brown very ferruginous sulphidic iron formation.
VR12094B	110004	505791	5407341	15-Jun-19	Similar to sample VR12093B.
VR12095B	110004	505781	5407325	15-Jun-19	Similar to sample VR12093B and VR12094B.
VR12096B	130508	505250	5407370	16-Jun-19	Brown very ferruginous strongly foliated wavy patterned shear zone varying 40-60cm wide trending 060 and dipping steeply to the south within cherty metasediments.



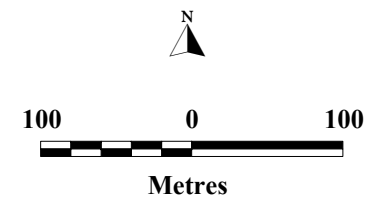
**LEGEND**

**ELECTROMAGNETIC ANOMALY SYMBOLS**

Anomaly	Conductance Classification
●	> 50 siemens
●	20 - 50 siemens
●	10 - 20 siemens
●	5 - 10 siemens
●	2 - 5 siemens
●	1 - 2 siemens
○	< 1 siemens
*	surficial conductor
⊕	cultural response



- VLF Station
- NAA VLF In Phase
- NAA VLF Quadrature

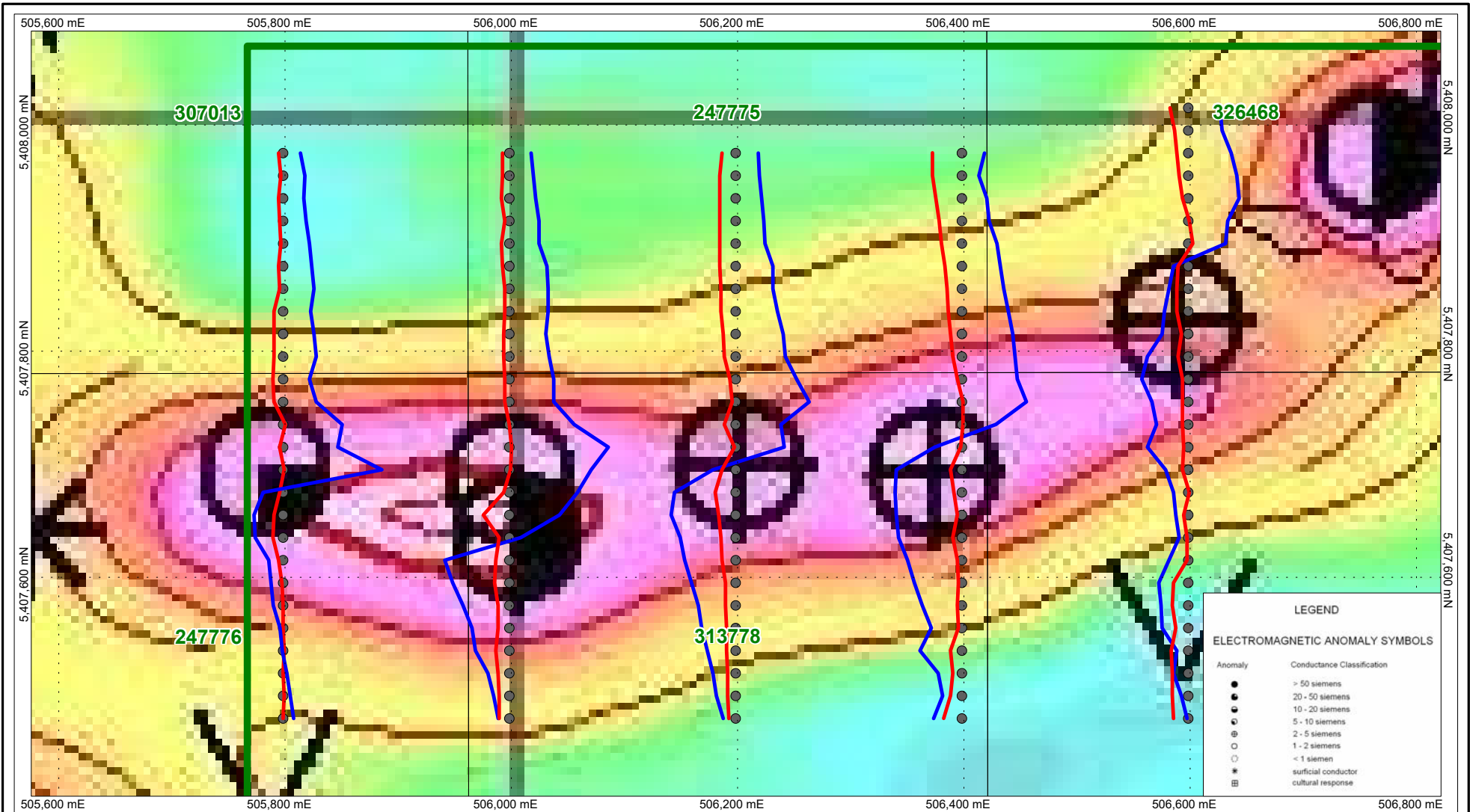


Background image of Apparent Resistivity and EM Anomalies from OGS 2000. Airborne magnetic & EM surveys, Schriber area; OGS Map 82 095; scale 1:50 000.



**Figure 6: NAA - Cutler, Maine  
VLF Tx In Phase & Quadrature  
Profiles over North Conductor**

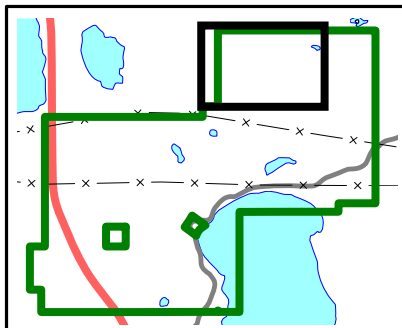
Author: T. Gill	Date: July 2019
Projection: UTM NAD83 Zone 16	Scale: 1 : 5 000
Mapsheet: NTS 042D	MNDM: Thunder Bay Mining Division



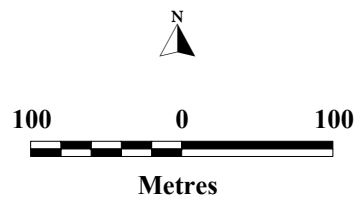
**LEGEND**

**ELECTROMAGNETIC ANOMALY SYMBOLS**

Anomaly	Conductance Classification
●	> 50 siemens
●	20 - 50 siemens
●	10 - 20 siemens
●	5 - 10 siemens
●	2 - 5 siemens
○	1 - 2 siemens
○	< 1 siemen
*	surficial conductor
⊕	cultural response



- VLF Station
- NLK VLF In Phase
- NLK VLF Quadrature

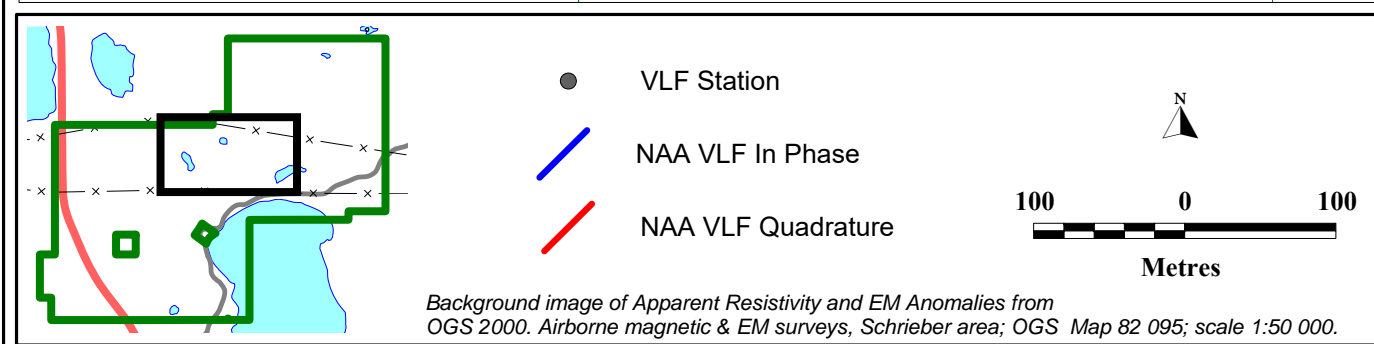



Background image of Apparent Resistivity and EM Anomalies from OGS 2000. Airborne magnetic & EM surveys, Schriber area; OGS Map 82 095; scale 1:50 000.



**Figure 7: NLK - Seattle, WA  
VLF Tx In Phase & Quadrature  
Profiles over North Conductor**

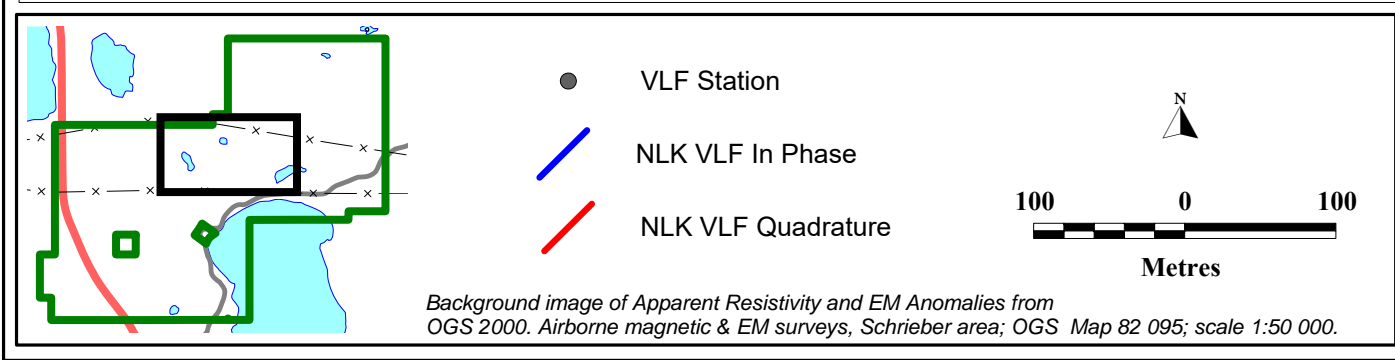
Author: T. Gill	Date: July 2019
Projection: UTM NAD83 Zone 16	Scale: 1 : 5 000
Mapsheet: NTS 042D	MNDM: Thunder Bay Mining Division




  
 SANATANA  
 RESOURCES INC.

**Figure 8: NAA - Cutler, Maine  
VLF Tx In Phase & Quadrature  
Profiles over South Conductor**

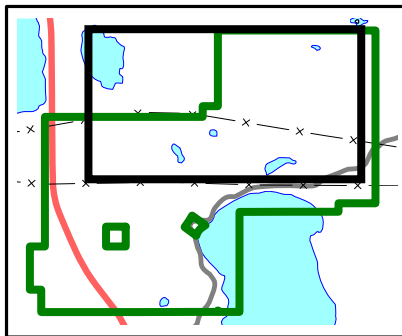
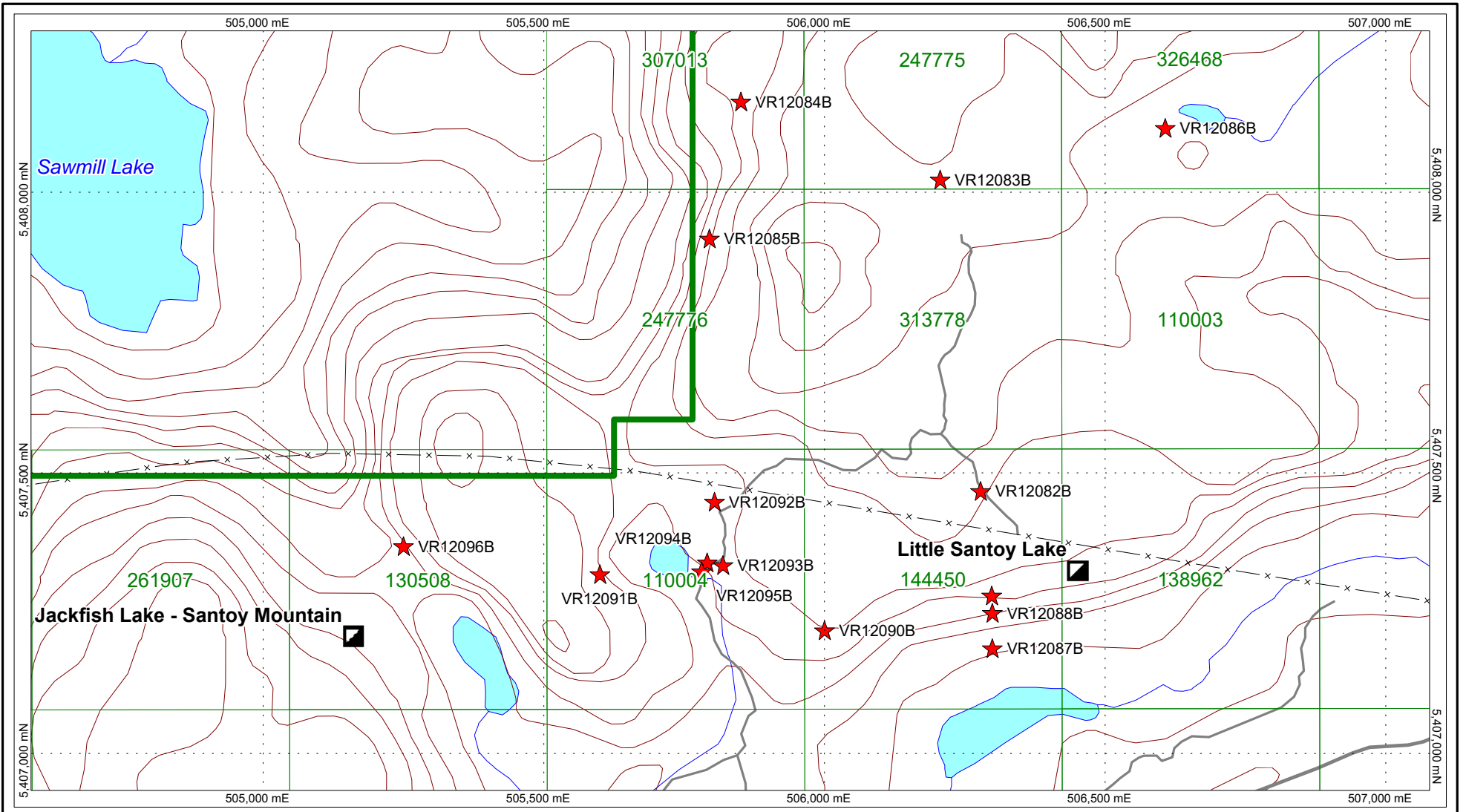
Author: T. Gill	Date: July 2019
Projection: UTM NAD83 Zone 16	Scale: 1 : 5 000
Mapsheet: NTS 042D	MNDM: Thunder Bay Mining Division



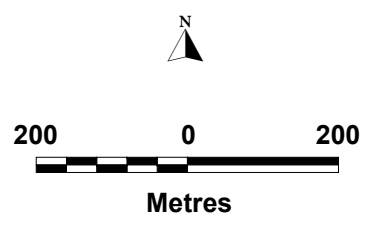
  
**Figure 9: NLK - Seattle, WA**  
**VLF Tx In Phase & Quadrature**  
**Profiles over South Conductor**

Author: T. Gill	Date: July 2019
Projection: UTM NAD83 Zone 16	Scale: 1 : 5 000
Mapsheet: NTS 042D	MNDM: Thunder Bay Mining Division





- ★ Rock Sample
- Historical Mineral Occurrence
- Cell Mining Claim
- Santoy Property



**Figure 10: Rock Sample Location Map for Santoy Property**

Author: T. Gill	Date: July 2019
Projection: UTM NAD83 Zone 16	Scale: 1 : 10 000
Mapsheet: NTS 042D	MNDM: Thunder Bay Mining Division

## **Interpretations**

In general, the VLF data certainly confirms that the airborne EM conductors are very much real and strong and most likely explained as bedrock conductors, at least by the strongest VLF responses along each line of both grids over the north and south conductors (Figures 6 – 9). The other minor cross overs may be due in part to conductive surface material like the many swampy areas that were encountered, but some could be weaker bedrock conductors as well.

The sample locations with elevated levels of copper, nickel, silver and zinc along the main trend of the southern conductor may be a hint of more significant mineralization either up or down sequence or along strike. It would be too easy to discard these anomalous metals results along with the bedrock conductivity as a result of the iron formation occurrence in the area, however the presence of the iron formation occurring intercalated between mafic and felsic volcanic rocks could be further evidence of basemetal mineralization potential somewhere within the sequence.

## **Conclusions and Recommendations**

Further exploration work is warranted to follow up the conductor trends on parts of the Santoy property where rock sample results indicated elevated levels of copper, nickel, silver and zinc in mineralized outcrops. The work could be as simple as more localized prospecting and rock stripping (if possible) to gain a better understanding of the potential mineralization. Encouraging results from this work could lead to a drill program.

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- Assessment Report 20000001155, 2005, Prospecting Report Steel River project, Santoy Lake claim group, Phoenix Matachewan Mines (author: L.A.Giroux et al.), 36p.
- Assessment Report 20000001721, 2005, Report on ground Magnetic and VLF-EM surveys on Steel River Project Grids 1, 1A, 2, 3, 6, 7, 8, 10 & 11 Tuuri and Walsh Townships Terrace Bay area, Ontario N.T.S. 42D115 (author: G. Lambert), 21p.
- Assessment Report 20000001858, 2006, Report on a helicopter-borne Time Domain electromagnetic Geophysical Survey on Terrace Bay Project, Terrace Bay, Ontario, Canada for Phoenix Matachewan Mines Inc. (author: GeotechLtd.), 36p.

Assessment Report 20000003988, 2009, Magnetometer and VLF EM Surveys Over the Jackfish Lake Property Syine Township, Ontario (author: P. Dick), 24p.

Assessment Report 20000004194, 2009, Jackfish Lake Final Report, (author: P. Dick), 29p.

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Assessment Report 20000007081, 2012, Report on prospecting, mapping, rock sampling and stripping on Bews Lake, Jackfish Lake and Santoy Lake Prospectors J.V. property (author: R. Renner), 82p.

Assessment Report 20000014450, 2014, Report on prospecting, geological mapping, rock sampling and hand stripping on Little Santoy Lake Property (author: R. Renner), 28p.

Assessment Report 20000014112, 2016, Prospecting and Sampling Report on Santoy Lake Project (author: B. Fowler), 44p.

Ayers L.D., Lumbers S.B., Milne V.G. and Robeson D.W. 1970. Ontario Geological Map West Central Sheet; Ontario Geological Survey, M2199, 1p.

Walker J.W.R. 1967. Geology of Jackfish Middleton Area; Ontario Geological Survey, M2107, 1p

## Statement of Qualifications

### Troy Gill

1910-925 West Georgia Street

Vancouver, BC, V6C 3L2

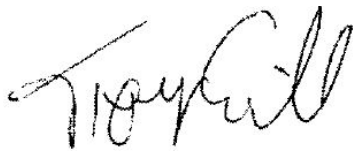
Telephone: 604-762-0380

Email: troy@sanatanaresources.com

I, Troy Gill, do hereby certify that:

1. I am employed as Exploration Manager for Sanatana Resources Inc.
2. I am responsible for the Report titled "Assessment Report on Ground VLF-EM Geophysical Surveying and Rock Sampling on Santoy Property, Syine Township, Thunder Bay Mining Division, District of Thunder Bay, Ontario, NTS 42D15" dated July 7, 2019, and prepared for Sanatana Resources Inc.
3. I hold the following academic qualifications: B.Sc. Geology (1993), University of Wollongong, NSW, Australia.
4. I am a member in good standing of the Australian Institute of Geoscientists (MAIG).
5. I have worked on a range of commodities including Au, Cu, Ni, diamonds, coal and iron ore in various geological settings in Australia and Canada since 1993.
6. This Report is compiled from data collected by or on behalf of Sanatana Resources Inc. in June 2019. I collected and interpreted the data presented in this Report.

Dated this 7th Day of July, 2019.



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Troy Gill, B.Sc., MAIG.

Exploration Manager, Sanatana Resources Inc.

## Expenditure Statement and Distribution

The main costs involved for acquiring the VLF-EM data were Sanatana staff time spent in the field, ALS lab costs, rental of the EM-16, accommodation, food, transport and fuel. Invoices supporting the expenditures are provided in Appendix 3. All the costs are summarized in Table 4.

**Table 4: Santoy VLF-Em Survey and Rock Sampling Summary Costs.**

<b>Item</b>	<b>Description</b>	<b>Cost</b>
Troy Gill	VLF survey and rock sampling 17 days @ \$500 per day, including travel.	\$8,500
ALS Canada Ltd. Assays	Total cost of assays for 15 samples as per invoice provided.	\$1,777
Orebot Inc. EM-16 Rental	Rental of EM-16 unit for 16 days @ \$75 per day.	\$1,200
Red Dog Inn, Terrace Bay	15 nights @ \$99 per night	\$1,485
Meals	As per receipts provided.	\$438
Transport to and from Site	Truck from Thunder Bay to Terrace Bay return and daily to and from the field for a total 1,112km at \$0.65 per km.	\$723
Field Transport Rental	14 days of ATV use in the field @ \$80 per day.	\$1,120
<b>Total</b>		<b>\$15,243</b>

The expenditures were distributed across the 12 cell mining claims depending on how many VLF stations were recorded per claim and how many rock samples were collected per claim. All of the support costs including labour, accommodation, food, fuel and transport were added together and divided equally amongst the 233 VLF stations plus the 15 rock samples to provide a cost per station or sample amount. The rental of the EM-16 was specific to the VLF program and so it was divided equally amongst the 233 VLF stations only. Similarly, the ALS assay cost was specific to the rock samples, so it was only split equally amongst the 15 rock samples. The total stations and rock samples for each claim were added up and multiplied by the relevant cost per station or sample and combined to come to the expenditure value for each cell mining claim as shown in Table 5.

**Table 5: Santoy VLF-EM Survey and Rock Sampling Expenditure Distribution.**

<b>Tenure #</b>	<b>Stations</b>	<b>Samples</b>	<b>Acquisition Cost Rate</b>	<b>VLF Rental Rate</b>	<b>ALS Assay Rate</b>	<b>Total</b>
109581	5		\$ 49.46	\$ 5.16	\$ 118.47	\$ 273
110003	16		\$ 49.46	\$ 5.15	\$ 118.47	\$ 874
110004	36	5	\$ 49.46	\$ 5.15	\$ 118.47	\$ 2,806
110005	6		\$ 49.46	\$ 5.15	\$ 118.47	\$ 328
130508	19	1	\$ 49.46	\$ 5.15	\$ 118.47	\$ 1,205
144450	27	5	\$ 49.46	\$ 5.15	\$ 118.47	\$ 2,314
175432	8		\$ 49.46	\$ 5.15	\$ 118.47	\$ 437
247775	30	1	\$ 49.46	\$ 5.15	\$ 118.47	\$ 1,806
247776	16	1	\$ 49.46	\$ 5.15	\$ 118.47	\$ 1,042
307013	10	1	\$ 49.46	\$ 5.15	\$ 118.47	\$ 714
313778	48		\$ 49.46	\$ 5.15	\$ 118.47	\$ 2,621
326468	12	1	\$ 49.46	\$ 5.15	\$ 118.47	\$ 823
<b>Totals</b>	<b>233</b>	<b>15</b>				<b>\$15,243</b>

## **Appendix 1: VLF-EM Survey Data**



Grid	Tx	Station	East	North	Date	Time	IP	Quad	Site Description
North	NAA	1-01	505800	5407700	07/06/2019	1725	-4	15	
North	NAA	1-02	505800	5407720	07/06/2019	1718	1	25	
North	NAA	1-03	505800	5407740	07/06/2019	1712	3	14	
North	NAA	1-04	505800	5407760	07/06/2019	1705	8	14	
North	NAA	1-05	505800	5407780	07/06/2019	1659	13	16	
North	NAA	1-06	505800	5407800	07/06/2019	1652	17	16	
North	NAA	1-07	505800	5407820	07/06/2019	1642	20	16	
North	NAA	1-08	505800	5407840	07/06/2019	1635	24	14	Hornfels
North	NAA	1-09	505800	5407860	07/06/2019	1628	29	15	
North	NAA	1-10	505800	5407880	07/06/2019	1620	27	11	At top of hill
North	NAA	1-11	505800	5407900	07/06/2019	1611	25	6	
North	NAA	1-12	505800	5407920	07/06/2019	1551	-72	3	Cliff to the east. Sample # 12085
North	NAA	1-13	505800	5407940	07/06/2019	1542	-49	5	Cliff to the east
North	NAA	1-14	505800	5407960	07/06/2019	1532	-38	9	Cliff to the east
North	NAA	1-15	505800	5407980	07/06/2019	1519	-29	10	Cliff to the east
North	NAA	1-16	505800	5408000	07/06/2019	1508	-25	13	Cliff to the east
North	NAA	1-17	505800	5408020	07/06/2019	1454	-30	11	Granodiorite
North	NAA	1-18	505800	5408040	07/06/2019	1445	-26	12	
North	NAA	1-19	505800	5408060	07/06/2019	1436	-24	12	Cliff to the south
North	NAA	1-20	505800	5408080	07/06/2019	1429	-21	11	GPS problems
North	NAA	1-21	505800	5408100	07/06/2019	1405	-19	13	Metased?
North	NAA	1-22	505800	5408120	07/06/2019	1356	-19	11	
North	NAA	1-23	505800	5408140	07/06/2019	1350	-15	12	Hornfels
North	NAA	1-24	505800	5408160	07/06/2019	1341	-16	13	Hornfels
North	NAA	1-25	505800	5408180	07/06/2019	1328	-14	12	Narrow shear
North	NAA	1-26	505800	5408200	07/06/2019	1321	-10	13	Felsic sugar veins
North	NAA	2-01	506000	5407700	07/06/2019	943	11	22	Chlorite-magnetite metaseds?
North	NAA	2-02	506000	5407720	07/06/2019	954	13	20	
North	NAA	2-03	506000	5407740	07/06/2019	1028	22	20	
North	NAA	2-04	506000	5407760	07/06/2019	1020	27	20	Metaseds? Sheared felsics?
North	NAA	2-05	506000	5407780	07/06/2019	1038	33	19	Sheared pillow basalt
North	NAA	2-06	506000	5407800	07/06/2019	1047	38	18	
North	NAA	2-07	506000	5407820	07/06/2019	1100	49	16	
North	NAA	2-08	506000	5407840	07/06/2019	1106	60	14	
North	NAA	2-09	506000	5407860	07/06/2019	1114	-4	11	Just over north side of hilltop
North	NAA	2-10	506000	5407880	07/06/2019	1123	-39	30	Hornfels with quartz eyes
North	NAA	2-11	506000	5407900	07/06/2019	1130	-60	8	
North	NAA	2-12	506000	5407920	07/06/2019	1136	-70	0	
North	NAA	2-13	506000	5407940	07/06/2019	1151	-57	4	
North	NAA	2-14	506000	5407960	07/06/2019	1156	-50	6	
North	NAA	2-15	506000	5407980	07/06/2019	1201	-39	9	Hornfels in cliff outcrop
North	NAA	2-16	506000	5408000	07/06/2019	1212	-38	6	Pillow basalt
North	NAA	2-17	506000	5408020	07/06/2019	1219	-36	7	Hornfels
North	NAA	2-18	506000	5408040	06/06/2019	1801	-32	8	
North	NAA	2-19	506000	5408060	06/06/2019	1746	-30	9	Large granodiorite outcrop nearby
North	NAA	2-20	506000	5408080	06/06/2019	1731	-27	10	
North	NAA	2-21	506000	5408100	06/06/2019	1723	-26	12	
North	NAA	2-22	506000	5408120	06/06/2019	1715	-22	12	
North	NAA	2-23	506000	5408140	06/06/2019	1708	-21	12	
North	NAA	2-24	506000	5408160	06/06/2019	1701	-18	13	
North	NAA	2-25	506000	5408180	06/06/2019	1654	-15	13	Hornfels metased?
North	NAA	2-26	506000	5408200	06/06/2019	1641	-11	13	Hornfels metased?
North	NAA	3-01	506200	5407700	06/06/2019	1105	15	20	
North	NAA	3-02	506200	5407720	06/06/2019	1118	20	19	
North	NAA	3-03	506200	5407740	06/06/2019	1125	25	18	
North	NAA	3-04	506200	5407760	06/06/2019	1132	29	18	
North	NAA	3-05	506200	5407780	06/06/2019	1142	51	18	
North	NAA	3-06	506200	5407800	06/06/2019	1148	48	20	

Grid	Tx	Station	East	North	Date	Time	IP	Quad	Site Description
North	NAA	3-07	506200	5407820	06/06/2019	1203	43	17	Fine chloritic Metased or mafic?
North	NAA	3-08	506200	5407840	06/06/2019	1209	50	19	Swamp to north
North	NAA	3-09	506200	5407860	06/06/2019	1215	54	19	Creek east and swamp south
North	NAA	3-10	506200	5407880	06/06/2019	1228	59	22	Creek south, also metaseds with pyrite
North	NAA	3-11	506200	5407900	06/06/2019	1238	60	23	Swamp to north and west
North	NAA	3-12	506200	5407920	06/06/2019	1246	25	12	Middle of swamp
North	NAA	3-13	506200	5407940	06/06/2019	1256	-33	1	Swamp to south
North	NAA	3-14	506200	5407960	06/06/2019	1311	-32	6	More swamp!
North	NAA	3-15	506200	5407980	06/06/2019	1319	-51	0	Sericite-chlorite-carbonate schist
North	NAA	3-16	506200	5408000	06/06/2019	1333	-49	2	Sericite-chlorite-carbonate schist
North	NAA	3-17	506200	5408020	06/06/2019	1342	-42	7	Biotitic? Metaseds sample # 12083
North	NAA	3-18	506200	5408040	06/06/2019	1415	-37	8	Massive chlorite metased
North	NAA	3-19	506200	5408060	06/06/2019	1423	-30	11	
North	NAA	3-20	506200	5408080	06/06/2019	1437	-27	12	Grey metased with quartz eyes
North	NAA	3-21	506200	5408100	06/06/2019	1444	-25	15	Grey metased
North	NAA	3-22	506200	5408120	06/06/2019	1453	-21	15	
North	NAA	3-23	506200	5408140	06/06/2019	1511	-19	16	
North	NAA	3-24	506200	5408160	06/06/2019	1518	-13	17	Massive chlorite metased
North	NAA	3-25	506200	5408180	06/06/2019	1530	-13	15	
North	NAA	3-26	506200	5408200	06/06/2019	1542	-12	15	
North	NAA	4-01	506400	5407700	08/06/2019	1841	21	21	
North	NAA	4-02	506400	5407720	08/06/2019	1835	30	19	
North	NAA	4-03	506400	5407740	08/06/2019	1828	37	18	
North	NAA	4-04	506400	5407760	08/06/2019	1819	33	12	Mafic with clear quartz veins
North	NAA	4-05	506400	5407780	08/06/2019	1811	34	10	
North	NAA	4-06	506400	5407800	08/06/2019	1803	44	12	
North	NAA	4-07	506400	5407820	08/06/2019	1754	43	11	
North	NAA	4-08	506400	5407840	08/06/2019	1747	48	9	Mafic
North	NAA	4-09	506400	5407860	08/06/2019	1740	49	9	
North	NAA	4-10	506400	5407880	08/06/2019	1735	55	7	
North	NAA	4-11	506400	5407900	08/06/2019	1729	57	9	
North	NAA	4-12	506400	5407920	08/06/2019	1723	59	12	
North	NAA	4-13	506400	5407940	08/06/2019	1712	24	1	
North	NAA	4-14	506400	5407960	08/06/2019	1706	-25	0	
North	NAA	4-15	506400	5407980	08/06/2019	1701	-46	-1	
North	NAA	4-16	506400	5408000	08/06/2019	1653	-47	6	
North	NAA	4-17	506400	5408020	08/06/2019	1644	-44	7	
North	NAA	4-18	506400	5408040	08/06/2019	1636	-40	11	GPS trouble
North	NAA	4-19	506400	5408060	08/06/2019	1616	-36	12	
North	NAA	4-20	506400	5408080	08/06/2019	1607	-31	15	Sheared hornfels
North	NAA	4-21	506400	5408100	08/06/2019	1601	-28	16	
North	NAA	4-22	506400	5408120	08/06/2019	1554	-24	19	
North	NAA	4-23	506400	5408140	08/06/2019	1544	-21	19	
North	NAA	4-24	506400	5408160	08/06/2019	1538	-17	20	
North	NAA	4-25	506400	5408180	08/06/2019	1531	-12	23	
North	NAA	4-26	506400	5408200	08/06/2019	1524	-4	25	Creek
North	NAA	5-01	506600	5407700	08/06/2019	1031	13	12	Chloritic mafic
North	NAA	5-02	506600	5407720	08/06/2019	1042	11	10	
North	NAA	5-03	506600	5407740	08/06/2019	1050	11	11	
North	NAA	5-04	506600	5407760	08/06/2019	1100	15	11	
North	NAA	5-05	506600	5407780	08/06/2019	1111	18	12	
North	NAA	5-06	506600	5407800	08/06/2019	1121	24	13	
North	NAA	5-07	506600	5407820	08/06/2019	1127	26	12	
North	NAA	5-08	506600	5407840	08/06/2019	1134	8	0	Swamp
North	NAA	5-09	506600	5407860	08/06/2019	1139	6	-2	Metased?
North	NAA	5-10	506600	5407880	08/06/2019	1147	10	0	Cherty metased
North	NAA	5-11	506600	5407900	08/06/2019	1156	11	0	
North	NAA	5-12	506600	5407920	08/06/2019	1205	16	1	

Grid	Tx	Station	East	North	Date	Time	IP	Quad	Site Description
North	NAA	5-13	506600	5407940	08/06/2019	1213	23	4	
North	NAA	5-14	506600	5407960	08/06/2019	1224	21	1	Cleaved mafic
North	NAA	5-15	506600	5407980	08/06/2019	1229	26	2	
North	NAA	5-16	506600	5408000	08/06/2019	1234	28	3	
North	NAA	5-17	506600	5408020	08/06/2019	1241	32	5	Swamp to north
North	NAA	5-18	506600	5408040	08/06/2019	1250	23	4	Cherty metased
North	NAA	5-19	506600	5408060	08/06/2019	1257	21	7	Beaver pond to northwest
North	NAA	5-20	506600	5408080	08/06/2019	1303	17	8	Dried beaver pond to west
North	NAA	5-21	506600	5408100	08/06/2019	1309	11	9	Main pond to northeast
North	NAA	5-22	506600	5408120	08/06/2019	1332	-31	-5	Chloritic shearzone to south with pond to east Sample # 12086
North	NAA	5-23	506600	5408140	08/06/2019	1409	-33	-1	
North	NAA	5-24	506600	5408160	08/06/2019	1418	-33	2	Stretched pebble conglomerate?
North	NAA	5-25	506600	5408180	08/06/2019	1425	-33	3	
North	NAA	5-26	506600	5408200	08/06/2019	1431	-29	6	
North	NAA	5-27	506600	5408220	08/06/2019	1439	-25	8	
North	NAA	5-28	506600	5408240	08/06/2019	1446	-22	8	

Grid	Tx	Station	East	North	Date	Time	IP	Quad	Site Description
North	NLK	1-01	505800	5407700	07/06/2019	1727	-9	0	
North	NLK	1-02	505800	5407720	07/06/2019	1720	-6	-1	
North	NLK	1-03	505800	5407740	07/06/2019	1713	-3	0	
North	NLK	1-04	505800	5407760	07/06/2019	1707	1	-1	
North	NLK	1-05	505800	5407780	07/06/2019	1700	3	0	
North	NLK	1-06	505800	5407800	07/06/2019	1653	9	0	
North	NLK	1-07	505800	5407820	07/06/2019	1644	11	1	
North	NLK	1-08	505800	5407840	07/06/2019	1637	13	4	Hornfels
North	NLK	1-09	505800	5407860	07/06/2019	1629	25	9	
North	NLK	1-10	505800	5407880	07/06/2019	1622	26	8	At top of hill
North	NLK	1-11	505800	5407900	07/06/2019	1612	18	3	
North	NLK	1-12	505800	5407920	07/06/2019	1553	-87	-1	Cliff to the east. Sample # 12085
North	NLK	1-13	505800	5407940	07/06/2019	1544	-48	3	Cliff to the east
North	NLK	1-14	505800	5407960	07/06/2019	1534	-52	-2	Cliff to the east
North	NLK	1-15	505800	5407980	07/06/2019	1521	-29	8	Cliff to the east
North	NLK	1-16	505800	5408000	07/06/2019	1510	-23	9	Cliff to the east
North	NLK	1-17	505800	5408020	07/06/2019	1456	-29	8	Granodiorite
North	NLK	1-18	505800	5408040	07/06/2019	1448	-27	8	
North	NLK	1-19	505800	5408060	07/06/2019	1438	-24	8	Cliff to the south
North	NLK	1-20	505800	5408080	07/06/2019	1430	-27	3	GPS problems
North	NLK	1-21	505800	5408100	07/06/2019	1407	-25	4	Metased?
North	NLK	1-22	505800	5408120	07/06/2019	1358	-23	2	
North	NLK	1-23	505800	5408140	07/06/2019	1352	-20	3	Hornfels
North	NLK	1-24	505800	5408160	07/06/2019	1342	-18	4	Hornfels
North	NLK	1-25	505800	5408180	07/06/2019	1330	-19	2	Narrow shear
North	NLK	1-26	505800	5408200	07/06/2019	1323	-15	4	Felsic sugar veins
North	NLK	2-01	506000	5407700	07/06/2019	945	10	9	Chlorite-magnetite metaseds?
North	NLK	2-02	506000	5407720	07/06/2019	955	14	9	
North	NLK	2-03	506000	5407740	07/06/2019	1030	19	10	
North	NLK	2-04	506000	5407760	07/06/2019	1022	30	12	Metaseds? Sheared felsics?
North	NLK	2-05	506000	5407780	07/06/2019	1040	33	10	Sheared pillow basalt
North	NLK	2-06	506000	5407800	07/06/2019	1049	41	10	
North	NLK	2-07	506000	5407820	07/06/2019	1102	50	13	
North	NLK	2-08	506000	5407840	07/06/2019	1107	57	12	
North	NLK	2-09	506000	5407860	07/06/2019	1116	-10	9	Just over north side of hilltop
North	NLK	2-10	506000	5407880	07/06/2019	1126	-44	23	Hornfels with quartz eyes
North	NLK	2-11	506000	5407900	07/06/2019	1132	-60	5	
North	NLK	2-12	506000	5407920	07/06/2019	1138	-72	-1	
North	NLK	2-13	506000	5407940	07/06/2019	1152	-87	-2	
North	NLK	2-14	506000	5407960	07/06/2019	1157	-57	0	
North	NLK	2-15	506000	5407980	07/06/2019	1203	-39	4	Hornfels in cliff outcrop
North	NLK	2-16	506000	5408000	07/06/2019	1214	-39	4	Pillow basalt
North	NLK	2-17	506000	5408020	07/06/2019	1221	-35	5	Hornfels
North	NLK	2-18	506000	5408040	06/06/2019	1803	-32	5	
North	NLK	2-19	506000	5408060	06/06/2019	1748	-34	4	Large granodiorite outcrop nearby
North	NLK	2-20	506000	5408080	06/06/2019	1733	-34	4	
North	NLK	2-21	506000	5408100	06/06/2019	1725	-33	6	
North	NLK	2-22	506000	5408120	06/06/2019	1717	-26	7	
North	NLK	2-23	506000	5408140	06/06/2019	1710	-26	4	
North	NLK	2-24	506000	5408160	06/06/2019	1703	-23	7	
North	NLK	2-25	506000	5408180	06/06/2019	1656	-21	6	Hornfels metased?
North	NLK	2-26	506000	5408200	06/06/2019	1643	-19	6	Hornfels metased?
North	NLK	3-01	506200	5407700	06/06/2019	1106	11	6	
North	NLK	3-02	506200	5407720	06/06/2019	1120	17	7	
North	NLK	3-03	506200	5407740	06/06/2019	1127	20	7	
North	NLK	3-04	506200	5407760	06/06/2019	1134	25	8	
North	NLK	3-05	506200	5407780	06/06/2019	1144	30	8	
North	NLK	3-06	506200	5407800	06/06/2019	1150	33	9	

Grid	Tx	Station	East	North	Date	Time	IP	Quad	Site Description
North	NLK	3-07	506200	5407820	06/06/2019	1205	39	9	Fine chloritic Metased or mafic?
North	NLK	3-08	506200	5407840	06/06/2019	1211	45	12	Swamp to north
North	NLK	3-09	506200	5407860	06/06/2019	1218	49	13	Creek east and swamp south
North	NLK	3-10	506200	5407880	06/06/2019	1230	57	15	Creek south, also metaseds with pyrite
North	NLK	3-11	506200	5407900	06/06/2019	1240	54	18	Swamp to north and west
North	NLK	3-12	506200	5407920	06/06/2019	1248	20	12	Middle of swamp
North	NLK	3-13	506200	5407940	06/06/2019	1257	-43	1	Swamp to south
North	NLK	3-14	506200	5407960	06/06/2019	1313	-40	10	More swamp!
North	NLK	3-15	506200	5407980	06/06/2019	1322	-65	3	Sericite-chlorite-carbonate schist
North	NLK	3-16	506200	5408000	06/06/2019	1335	-54	5	Sericite-chlorite-carbonate schist
North	NLK	3-17	506200	5408020	06/06/2019	1344	-44	10	Biotitic? Metaseds sample # 12083
North	NLK	3-18	506200	5408040	06/06/2019	1416	-42	11	Massive chlorite metased
North	NLK	3-19	506200	5408060	06/06/2019	1425	-37	13	
North	NLK	3-20	506200	5408080	06/06/2019	1439	-33	13	Grey metased with quartz eyes
North	NLK	3-21	506200	5408100	06/06/2019	1446	-33	14	Grey metased
North	NLK	3-22	506200	5408120	06/06/2019	1455	-26	14	
North	NLK	3-23	506200	5408140	06/06/2019	1513	-25	14	
North	NLK	3-24	506200	5408160	06/06/2019	1521	-23	14	Massive chlorite metased
North	NLK	3-25	506200	5408180	06/06/2019	1533	-21	14	
North	NLK	3-26	506200	5408200	06/06/2019	1544	-20	12	
North	NLK	4-01	506400	5407700	08/06/2019	1843	25	16	
North	NLK	4-02	506400	5407720	08/06/2019	1837	17	10	
North	NLK	4-03	506400	5407740	08/06/2019	1829	21	8	
North	NLK	4-04	506400	5407760	08/06/2019	1821	37	10	Mafic with clear quartz veins
North	NLK	4-05	506400	5407780	08/06/2019	1813	27	3	
North	NLK	4-06	506400	5407800	08/06/2019	1805	35	4	
North	NLK	4-07	506400	5407820	08/06/2019	1756	42	3	
North	NLK	4-08	506400	5407840	08/06/2019	1749	48	4	Mafic
North	NLK	4-09	506400	5407860	08/06/2019	1741	56	8	
North	NLK	4-10	506400	5407880	08/06/2019	1736	58	4	
North	NLK	4-11	506400	5407900	08/06/2019	1731	59	7	
North	NLK	4-12	506400	5407920	08/06/2019	1725	58	10	
North	NLK	4-13	506400	5407940	08/06/2019	1714	24	1	
North	NLK	4-14	506400	5407960	08/06/2019	1708	-30	-1	
North	NLK	4-15	506400	5407980	08/06/2019	1702	-57	-1	
North	NLK	4-16	506400	5408000	08/06/2019	1655	-49	4	
North	NLK	4-17	506400	5408020	08/06/2019	1646	-47	8	
North	NLK	4-18	506400	5408040	08/06/2019	1638	-45	10	GPS trouble
North	NLK	4-19	506400	5408060	08/06/2019	1618	-41	12	
North	NLK	4-20	506400	5408080	08/06/2019	1608	-37	13	Sheared hornfels
North	NLK	4-21	506400	5408100	08/06/2019	1602	-34	15	
North	NLK	4-22	506400	5408120	08/06/2019	1557	-31	18	
North	NLK	4-23	506400	5408140	08/06/2019	1549	-24	20	
North	NLK	4-24	506400	5408160	08/06/2019	1540	-22	23	
North	NLK	4-25	506400	5408180	08/06/2019	1533	-15	26	
North	NLK	4-26	506400	5408200	08/06/2019	1526	-20	26	Creek
North	NLK	5-01	506600	5407700	08/06/2019	1033	1	13	Chloritic mafic
North	NLK	5-02	506600	5407720	08/06/2019	1044	6	14	
North	NLK	5-03	506600	5407740	08/06/2019	1052	13	14	
North	NLK	5-04	506600	5407760	08/06/2019	1102	10	15	
North	NLK	5-05	506600	5407780	08/06/2019	1112	23	11	
North	NLK	5-06	506600	5407800	08/06/2019	1123	24	14	
North	NLK	5-07	506600	5407820	08/06/2019	1129	26	13	
North	NLK	5-08	506600	5407840	08/06/2019	1135	17	1	Swamp
North	NLK	5-09	506600	5407860	08/06/2019	1140	8	1	Metased?
North	NLK	5-10	506600	5407880	08/06/2019	1148	11	4	Cherty metased
North	NLK	5-11	506600	5407900	08/06/2019	1159	13	-1	
North	NLK	5-12	506600	5407920	08/06/2019	1206	20	5	

Grid	Tx	Station	East	North	Date	Time	IP	Quad	Site Description
North	NLK	5-13	506600	5407940	08/06/2019	1214	36	4	
North	NLK	5-14	506600	5407960	08/06/2019	1225	28	5	Cleaved mafic
North	NLK	5-15	506600	5407980	08/06/2019	1230	32	5	
North	NLK	5-16	506600	5408000	08/06/2019	1236	41	5	
North	NLK	5-17	506600	5408020	08/06/2019	1243	36	9	Swamp to north
North	NLK	5-18	506600	5408040	08/06/2019	1252	23	6	Cherty metased
North	NLK	5-19	506600	5408060	08/06/2019	1258	21	10	Beaver pond to northwest
North	NLK	5-20	506600	5408080	08/06/2019	1305	17	10	Dried beaver pond to west
North	NLK	5-21	506600	5408100	08/06/2019	1311	13	9	Main pond to northeast
North	NLK	5-22	506600	5408120	08/06/2019	1334	-33	-4	Chloritic shearzone to south with pond to east Sample # 12086
North	NLK	5-23	506600	5408140	08/06/2019	1410	-35	-1	
North	NLK	5-24	506600	5408160	08/06/2019	1421	-45	5	Stretched pebble conglomerate?
North	NLK	5-25	506600	5408180	08/06/2019	1427	-43	8	
North	NLK	5-26	506600	5408200	08/06/2019	1433	-38	10	
North	NLK	5-27	506600	5408220	08/06/2019	1441	-30	12	
North	NLK	5-28	506600	5408240	08/06/2019	1447	-28	16	

Grid	Tx	Station	East	North	Date	Time	IP	Quad	Site Description
South	NAA	1-01	505250	5406980	16/06/2019	1135	7	17	
South	NAA	1-02	505250	5407000	16/06/2019	1145	14	14	Chlorite schist with boudinaged quartz veins
South	NAA	1-03	505250	5407020	16/06/2019	1154	22	10	Thick bedded siliceous, chloritic metased
South	NAA	1-04	505250	5407040	16/06/2019	1203	29	8	
South	NAA	1-05	505250	5407060	16/06/2019	1210	27	9	Weakly pyritic clastic metased
South	NAA	1-06	505250	5407080	16/06/2019	1215	-10	1	
South	NAA	1-07	505250	5407100	16/06/2019	1220	-5	1	
South	NAA	1-08	505250	5407120	16/06/2019	1226	-8	-5	
South	NAA	1-09	505250	5407140	16/06/2019	1232	-13	-5	
South	NAA	1-10	505250	5407160	16/06/2019	1237	-13	-7	
South	NAA	1-11	505250	5407180	16/06/2019	1245	-13	-9	
South	NAA	1-12	505250	5407200	16/06/2019	1255	-12	-8	
South	NAA	1-13	505250	5407220	16/06/2019	1301	-15	-4	
South	NAA	1-14	505250	5407240	16/06/2019	1306	-15	-4	
South	NAA	1-15	505250	5407260	16/06/2019	1313	-12	-5	
South	NAA	1-16	505250	5407280	16/06/2019	1319	-7	-2	In a ravine
South	NAA	1-17	505250	5407300	16/06/2019	1344	-6	2	Really poor GPS coverage. Paced out 3 stations
South	NAA	1-18	505250	5407320	16/06/2019	1349	-8	7	
South	NAA	1-19	505250	5407340	16/06/2019	1357	-15	6	Rockslide
South	NAA	1-20	505250	5407360	16/06/2019	1408	-4	4	Next to cliff to east
South	NAA	1-21	505250	5407380	16/06/2019	1436	6	-1	Cherty, thin bedded metaseds
South	NAA	1-22	505250	5407400	16/06/2019	1445	20	-4	Ferruginous chloritic metaseds
South	NAA	1-23	505250	5407420	16/06/2019	1453	36	-8	
South	NAA	1-24	505250	5407440	16/06/2019	1501	61	-34	Partly ferruginous cherty metaseds
South	NAA	2-01	505600	5407020	15/06/2019	1537	-21	25	Base of cliff
South	NAA	2-02	505600	5407040	15/06/2019	1528	-8	20	Cliff with steep hill
South	NAA	2-03	505600	5407060	15/06/2019	1518	7	18	Cliff with steep hill
South	NAA	2-04	505600	5407080	15/06/2019	1510	35	21	Cliff with steep hill
South	NAA	2-05	505600	5407100	15/06/2019	1501	13	8	Chlorite schist with boudinaged quartz veins
South	NAA	2-06	505600	5407120	15/06/2019	1449	19	5	Fine grained chloritic mafic
South	NAA	2-07	505600	5407140	15/06/2019	1442	26	4	
South	NAA	2-08	505600	5407160	15/06/2019	1435	31	-2	
South	NAA	2-09	505600	5407180	15/06/2019	1428	34	0	
South	NAA	2-10	505600	5407200	15/06/2019	1420	34	2	
South	NAA	2-11	505600	5407220	15/06/2019	1413	24	7	Diabase dike?
South	NAA	2-12	505600	5407240	15/06/2019	1406	-8	3	
South	NAA	2-13	505600	5407260	15/06/2019	1359	-51	-7	
South	NAA	2-14	505600	5407280	15/06/2019	1354	-35	0	
South	NAA	2-15	505600	5407300	15/06/2019	1347	0	7	
South	NAA	2-16	505600	5407320	15/06/2019	1334	-27	9	
South	NAA	2-17	505600	5407340	15/06/2019	1328	-30	-20	
South	NAA	2-18	505600	5407360	15/06/2019	1258	-5	-20	Big GPS problems
South	NAA	2-19	505600	5407380	15/06/2019	1317	14	-23	Big GPS problems
South	NAA	2-20	505600	5407400	15/06/2019	1248	26	-22	
South	NAA	2-21	505600	5407420	15/06/2019	1243	46	-26	
South	NAA	2-22	505600	5407440	15/06/2019	1232	103	-29	
South	NAA	3-01	505800	5406980	15/06/2019	916	-5	27	
South	NAA	3-02	505800	5407000	15/06/2019	922	-12	23	Middle of creek
South	NAA	3-03	505800	5407020	15/06/2019	928	-13	17	
South	NAA	3-04	505800	5407040	15/06/2019	941	-13	5	GPS problems
South	NAA	3-05	505800	5407060	15/06/2019	947	-10	1	
South	NAA	3-06	505800	5407080	15/06/2019	953	-3	0	Partly ferruginous, magnetic, cherty iron formation
South	NAA	3-07	505800	5407100	15/06/2019	1000	9	1	
South	NAA	3-08	505800	5407120	15/06/2019	1006	16	-1	Very ferruginous, soft, chlorite-carbonate mafic / ultramafic?
South	NAA	3-09	505800	5407140	15/06/2019	1017	27	-2	Light green, fresh amphibole rock.
South	NAA	3-10	505800	5407160	15/06/2019	1026	31	-1	
South	NAA	3-11	505800	5407180	15/06/2019	1036	40	-1	Similar rock, slightly magnetic
South	NAA	3-12	505800	5407200	15/06/2019	1042	59	-1	

Grid	Tx	Station	East	North	Date	Time	IP	Quad	Site Description
South	NAA	3-13	505800	5407220	15/06/2019	1052	62	2	Right on the trail
South	NAA	3-14	505800	5407240	15/06/2019	1057	83	2	Cedar stand
South	NAA	3-15	505800	5407260	15/06/2019	1102	-12	3	Cedar with small pond to east
South	NAA	3-16	505800	5407280	15/06/2019	1109	-48	5	Larger pond north
South	NAA	3-17	505800	5407300	15/06/2019	1117	-19	14	Pyroxenite
South	NAA	3-18	505800	5407320	15/06/2019	1128	-9	11	North shore of pond
South	NAA	3-19	505800	5407340	15/06/2019	1134	2	4	Back on the trail
South	NAA	3-20	505800	5407360	15/06/2019	1140	-8	-29	
South	NAA	3-21	505800	5407380	15/06/2019	1146	25	-35	
South	NAA	3-22	505800	5407400	15/06/2019	1152	75	-43	
South	NAA	4-04	506000	5406960	11/06/2019	1507	12	34	
South	NAA	4-05	506000	5406980	11/06/2019	1500	15	28	
South	NAA	4-06	506000	5407000	11/06/2019	1453	-1	13	
South	NAA	4-07	506000	5407020	11/06/2019	1445	-15	7	
South	NAA	4-08	506000	5407040	11/06/2019	1437	-23	3	
South	NAA	4-09	506000	5407060	11/06/2019	1425	-22	0	
South	NAA	4-10	506000	5407080	11/06/2019	1420	-13	-2	
South	NAA	4-11	506000	5407100	11/06/2019	1413	2	2	Coarse magnetic mafic?
South	NAA	4-12	506000	5407120	11/06/2019	1359	12	4	Magnetite-silica rock, medium grained
South	NAA	4-13	506000	5407140	11/06/2019	1353	19	3	
South	NAA	4-14	506000	5407160	11/06/2019	1347	27	2	Thick bedded metased with sulphide
South	NAA	4-15	506000	5407180	11/06/2019	1335	34	4	Mafic / ultramafic large outcrop.
South	NAA	4-16	506000	5407200	11/06/2019	1329	45	7	
South	NAA	4-17	506000	5407220	11/06/2019	1323	65	10	Metased? Mafic? Or ultramafic? Sample # 12090
South	NAA	4-18	506000	5407240	11/06/2019	1309	52	11	
South	NAA	4-19	506000	5407260	11/06/2019	1300	56	10	
South	NAA	4-20	506000	5407280	11/06/2019	1250	29	-6	Ferruginous iron formation
South	NAA	4-21	506000	5407300	11/06/2019	1243	61	4	Fresh cherty iron formation
South	NAA	4-22	506000	5407320	11/06/2019	1237	-71	-15	
South	NAA	4-23	506000	5407340	11/06/2019	1231	-64	-28	
South	NAA	4-24	506000	5407360	11/06/2019	1224	-15	-42	
South	NAA	5-01	506300	5407110	11/06/2019	916	-8	4	Right on north shore of small lake
South	NAA	5-02	506300	5407120	11/06/2019	926	-1	5	
South	NAA	5-03	506300	5407140	11/06/2019	930	7	3	
South	NAA	5-04	506300	5407160	11/06/2019	936	-1	-7	
South	NAA	5-05	506300	5407180	11/06/2019	942	13	-14	Jarosite stained boulders. Sample # 12087.
South	NAA	5-06	506300	5407200	11/06/2019	1002	45	-11	Very steep incline
South	NAA	5-07	506300	5407220	11/06/2019	1009	93	-3	Light green moss on rocks - photo
South	NAA	5-08	506300	5407240	11/06/2019	1020	40	-5	Very steep incline
South	NAA	5-09	506300	5407260	11/06/2019	1046	42	21	Rusty iron formation and metaseds
South	NAA	5-10	506300	5407280	11/06/2019	1104	-29	-11	Metaseds with ferruginous shear. Sample # 12089
South	NAA	5-11	506300	5407300	11/06/2019	1128	-27	-23	
South	NAA	5-12	506300	5407320	11/06/2019	1134	-21	-40	



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South	NLK	1-01	505250	5406980	16/06/2019	1137	12	1	
South	NLK	1-02	505250	5407000	16/06/2019	1146	19	2	Chlorite schist with boudinaged quartz veins
South	NLK	1-03	505250	5407020	16/06/2019	1155	17	10	Thick bedded siliceous, chloritic metased
South	NLK	1-04	505250	5407040	16/06/2019	1205	27	5	
South	NLK	1-05	505250	5407060	16/06/2019	1211	24	9	Weakly pyritic clastic metased
South	NLK	1-06	505250	5407080	16/06/2019	1216	-16	5	
South	NLK	1-07	505250	5407100	16/06/2019	1222	-5	2	
South	NLK	1-08	505250	5407120	16/06/2019	1227	-7	-3	
South	NLK	1-09	505250	5407140	16/06/2019	1233	-10	-5	
South	NLK	1-10	505250	5407160	16/06/2019	1238	-23	-4	
South	NLK	1-11	505250	5407180	16/06/2019	1246	-12	-8	
South	NLK	1-12	505250	5407200	16/06/2019	1257	-13	-8	
South	NLK	1-13	505250	5407220	16/06/2019	1302	-18	-7	
South	NLK	1-14	505250	5407240	16/06/2019	1308	-10	-4	
South	NLK	1-15	505250	5407260	16/06/2019	1314	-13	-25	
South	NLK	1-16	505250	5407280	16/06/2019	1321	-4	-3	In a ravine
South	NLK	1-17	505250	5407300	16/06/2019	1346	-8	-19	Really poor GPS coverage. Paced out 3 stations
South	NLK	1-18	505250	5407320	16/06/2019	1350	-7	5	
South	NLK	1-19	505250	5407340	16/06/2019	1359	9	-19	Rockslide
South	NLK	1-20	505250	5407360	16/06/2019	1411	18	-17	Next to cliff to east
South	NLK	1-21	505250	5407380	16/06/2019	1438	29	-16	Cherty, thin bedded metaseds
South	NLK	1-22	505250	5407400	16/06/2019	1447	49	-8	Ferruginous chloritic metaseds
South	NLK	1-23	505250	5407420	16/06/2019	1454	57	-12	
South	NLK	1-24	505250	5407440	16/06/2019	1504	81	-19	Partly ferruginous cherty metaseds
South	NLK	2-01	505600	5407020	15/06/2019	1539	-28	12	Base of cliff
South	NLK	2-02	505600	5407040	15/06/2019	1530	-11	18	Cliff with steep hill
South	NLK	2-03	505600	5407060	15/06/2019	1520	15	15	Cliff with steep hill
South	NLK	2-04	505600	5407080	15/06/2019	1512	55	20	Cliff with steep hill
South	NLK	2-05	505600	5407100	15/06/2019	1503	10	-2	Chlorite schist with boudinaged quartz veins
South	NLK	2-06	505600	5407120	15/06/2019	1451	20	5	Fine grained chloritic mafic
South	NLK	2-07	505600	5407140	15/06/2019	1443	21	-3	
South	NLK	2-08	505600	5407160	15/06/2019	1437	31	-3	
South	NLK	2-09	505600	5407180	15/06/2019	1429	31	-7	
South	NLK	2-10	505600	5407200	15/06/2019	1422	31	-4	
South	NLK	2-11	505600	5407220	15/06/2019	1416	25	5	Diabase dike?
South	NLK	2-12	505600	5407240	15/06/2019	1407	-7	3	
South	NLK	2-13	505600	5407260	15/06/2019	1400	-40	-3	
South	NLK	2-14	505600	5407280	15/06/2019	1355	-20	5	
South	NLK	2-15	505600	5407300	15/06/2019	1349	21	15	
South	NLK	2-16	505600	5407320	15/06/2019	1335	-18	10	
South	NLK	2-17	505600	5407340	15/06/2019	1329	-23	13	
South	NLK	2-18	505600	5407360	15/06/2019	1319	14	-10	Big GPS problems
South	NLK	2-19	505600	5407380	15/06/2019	1259	5	-10	Big GPS problems
South	NLK	2-20	505600	5407400	15/06/2019	1250	33	-13	
South	NLK	2-21	505600	5407420	15/06/2019	1244	54	-12	
South	NLK	2-22	505600	5407440	15/06/2019	1234	107	-12	
South	NLK	3-01	505800	5406980	15/06/2019	918	-15	25	
South	NLK	3-02	505800	5407000	15/06/2019	924	-21	12	Middle of creek
South	NLK	3-03	505800	5407020	15/06/2019	930	-20	10	
South	NLK	3-04	505800	5407040	15/06/2019	943	-23	-2	GPS problems
South	NLK	3-05	505800	5407060	15/06/2019	949	-20	-5	
South	NLK	3-06	505800	5407080	15/06/2019	954	-12	-7	Partly ferruginous, magnetic, cherty iron formation
South	NLK	3-07	505800	5407100	15/06/2019	1001	1	-8	
South	NLK	3-08	505800	5407120	15/06/2019	1008	16	-2	Very ferruginous, soft, chlorite-carbonate mafic / ultramafic?
South	NLK	3-09	505800	5407140	15/06/2019	1019	23	-7	Light green, fresh amphibole rock.
South	NLK	3-10	505800	5407160	15/06/2019	1028	31	-5	
South	NLK	3-11	505800	5407180	15/06/2019	1038	39	-4	Similar rock, slightly magnetic
South	NLK	3-12	505800	5407200	15/06/2019	1044	55	-2	

Grid	Tx	Station	East	North	Date	Time	IP	Quad	Site Description
South	NLK	3-13	505800	5407220	15/06/2019	1053	64	0	Right on the trail
South	NLK	3-14	505800	5407240	15/06/2019	1059	78	2	Cedar stand
South	NLK	3-15	505800	5407260	15/06/2019	1103	-12	2	Cedar with small pond to east
South	NLK	3-16	505800	5407280	15/06/2019	1111	-49	3	Larger pond north
South	NLK	3-17	505800	5407300	15/06/2019	1119	-26	8	Pyroxenite
South	NLK	3-18	505800	5407320	15/06/2019	1130	-10	17	North shore of pond
South	NLK	3-19	505800	5407340	15/06/2019	1136	4	4	Back on the trail
South	NLK	3-20	505800	5407360	15/06/2019	1142	-4	-20	
South	NLK	3-21	505800	5407380	15/06/2019	1148	48	-16	
South	NLK	3-22	505800	5407400	15/06/2019	1154	87	-20	
South	NLK	4-04	506000	5406960	11/06/2019	1511	-6	33	
South	NLK	4-05	506000	5406980	11/06/2019	1507	1	27	
South	NLK	4-06	506000	5407000	11/06/2019	1455	-9	14	
South	NLK	4-07	506000	5407020	11/06/2019	1446	-22	9	
South	NLK	4-08	506000	5407040	11/06/2019	1438	-26	2	
South	NLK	4-09	506000	5407060	11/06/2019	1426	-25	-1	
South	NLK	4-10	506000	5407080	11/06/2019	1421	-14	1	
South	NLK	4-11	506000	5407100	11/06/2019	1415	-3	2	Coarse magnetic mafic?
South	NLK	4-12	506000	5407120	11/06/2019	1401	8	5	Magnetite-silica rock, medium grained
South	NLK	4-13	506000	5407140	11/06/2019	1355	16	4	
South	NLK	4-14	506000	5407160	11/06/2019	1349	27	3	Thick bedded metased with sulphide
South	NLK	4-15	506000	5407180	11/06/2019	1336	32	4	Mafic / ultramafic large outcrop.
South	NLK	4-16	506000	5407200	11/06/2019	1330	42	7	
South	NLK	4-17	506000	5407220	11/06/2019	1325	50	9	Metased? Mafic? Or ultramafic? Sample # 12090
South	NLK	4-18	506000	5407240	11/06/2019	1311	48	9	
South	NLK	4-19	506000	5407260	11/06/2019	1302	51	8	
South	NLK	4-20	506000	5407280	11/06/2019	1251	27	-8	Ferruginous iron formation
South	NLK	4-21	506000	5407300	11/06/2019	1245	63	2	Fresh cherty iron formation
South	NLK	4-22	506000	5407320	11/06/2019	1239	-68	-13	
South	NLK	4-23	506000	5407340	11/06/2019	1233	-28	-12	
South	NLK	4-24	506000	5407360	11/06/2019	1226	21	-15	
South	NLK	5-01	506300	5407110	11/06/2019	919	-7	2	Right on north shore of small lake
South	NLK	5-02	506300	5407120	11/06/2019	927	-6	6	
South	NLK	5-03	506300	5407140	11/06/2019	932	3	2	
South	NLK	5-04	506300	5407160	11/06/2019	937	3	-8	
South	NLK	5-05	506300	5407180	11/06/2019	943	20	-16	Jarosite stained boulders. Sample # 12087.
South	NLK	5-06	506300	5407200	11/06/2019	1004	63	-11	Very steep incline
South	NLK	5-07	506300	5407220	11/06/2019	1011	126	1	Light green moss on rocks - photo
South	NLK	5-08	506300	5407240	11/06/2019	1022	35	-3	Very steep incline
South	NLK	5-09	506300	5407260	11/06/2019	1047	44	19	Rusty iron formation and metaseds
South	NLK	5-10	506300	5407280	11/06/2019	1106	-15	-1	Metaseds with ferruginous shear. Sample # 12089
South	NLK	5-11	506300	5407300	11/06/2019	1129	-2	-1	
South	NLK	5-12	506300	5407320	11/06/2019	1136	33	-2	

**Appendix 2:** Rock Sample ALS Lab Certificate of Results



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**CERTIFICATE TB19146504**

Project: SANTOY

This report is for 15 Rock samples submitted to our lab in Thunder Bay, ON, Canada on 17-JUN-2019.

The following have access to data associated with this certificate:

TROY GILL	
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SAMPLE PREPARATION	
ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rcd w/o BarCode
CRU-31	Fine crushing - 70% <2mm
CRU-QC	Crushing QC Test
PUL-QC	Pulverizing QC Test
SPL-21	Split sample - riffle splitter
PUL-31	Pulverize split to 85% <75 um

ANALYTICAL PROCEDURES		
ALS CODE	DESCRIPTION	
ME-MS61L	Super Trace Lowest DL 4A by ICP-MS	
ME-XRF26	Whole Rock By Fusion/XRF	XRF
OA-GRA05x	LOI for XRF	WST-SEQ
PGM-ICP23	Pt, Pd, Au 30g FA ICP	ICP-AES

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*

Comments: ME-XRF26:High total was obtained due to sulphides being reported twice (in the LOI value and retained in the fusion adding to the XRF total).The sulfur-free total calculation is the Total minus SO3. SF-Total less than or equal to 100%.

**Signature:**   
 Colin Ramshaw, Vancouver Laboratory Manager



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Project: SANTOY

**CERTIFICATE OF ANALYSIS TB19146504**

Sample Description	Method Analyte Units LOD	WEI-21	PGM-ICP23	PGM-ICP23	PGM-ICP23	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L
		Recvd Wt. kg	Au ppm	Pt ppm	Pd ppm	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Ce ppm	Co ppm	Cr ppm
		0.02	0.001	0.005	0.001	0.002	0.01	0.02	1	0.02	0.002	0.01	0.005	0.01	0.005	0.3
VR12082B		2.20	<0.001	<0.005	0.001	0.062	6.67	0.95	277	0.48	0.068	4.86	0.078	28.6	39.1	124.0
VR12083B		1.67	<0.001	<0.005	0.001	0.050	8.58	1.08	580	0.60	0.027	3.82	0.158	25.9	42.7	44.6
VR12084B		0.99	0.002	<0.005	0.002	0.173	8.71	0.84	303	0.36	0.076	2.76	0.125	24.9	63.1	58.1
VR12085B		1.83	<0.001	<0.005	<0.001	0.139	5.71	1.34	64	0.98	0.213	5.99	0.076	24.9	18.45	18.0
VR12086B		1.78	0.002	<0.005	<0.001	0.120	6.88	0.97	92	0.42	0.194	5.28	0.202	18.00	32.9	55.8
VR12087B		1.74	<0.001	<0.005	0.001	0.240	7.55	1.71	169	0.96	0.867	5.73	0.170	33.7	47.2	141.0
VR12088B		1.41	0.001	<0.005	0.001	0.201	8.11	18.20	185	0.71	0.594	3.36	0.106	34.8	46.2	149.5
VR12089B		1.20	0.008	<0.005	<0.001	0.110	8.37	5.43	196	0.86	0.333	2.55	0.139	33.9	46.2	150.0
VR12090B		1.54	<0.001	<0.005	<0.001	0.033	6.40	0.36	870	0.35	0.077	4.84	0.081	12.60	43.0	21.6
VR12091B		1.54	0.007	<0.005	0.001	0.080	7.99	17.90	306	0.59	0.087	3.39	0.189	28.0	32.3	146.0
VR12092B		1.52	0.001	<0.005	<0.001	0.021	7.47	3.57	820	1.34	0.045	1.96	0.125	82.6	16.35	61.4
VR12093B		2.13	0.011	<0.005	0.001	0.723	7.13	4.76	99	0.47	0.547	3.96	0.110	31.0	71.2	121.5
VR12094B		1.90	0.002	<0.005	0.002	0.432	8.33	1.82	143	0.60	0.277	4.22	0.093	35.3	37.0	139.5
VR12095B		1.65	0.039	<0.005	0.001	0.891	7.94	2.89	257	0.55	0.335	3.27	0.256	36.0	43.3	133.5
VR12096B		1.46	0.006	<0.005	<0.001	0.473	6.04	6.42	362	0.49	0.295	2.85	0.113	13.45	2.09	105.0

Comments: ME-XRF26:High total was obtained due to sulphides being reported twice (in the LOI value and retained in the fusion adding to the XRF total).The sulfur-free total calculation is the Total minus SO3. SF-Total less than or equal to 100%.

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*



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Project: SANTOY

**CERTIFICATE OF ANALYSIS TB19146504**

Sample Description	Method Analyte Units LOD	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	
		Cs ppm	Cu ppm	Fe %	Ga ppm	Ge ppm	Hf ppm	In ppm	K %	La ppm	Li ppm	Mg %	Mn ppm	Mo ppm	Na %	Nb ppm
		0.01	0.02	0.002	0.05	0.05	0.004	0.005	0.01	0.005	0.2	0.01	0.2	0.02	0.001	0.005
VR12082B		1.40	145.0	9.59	16.20	0.14	2.15	0.036	2.04	10.55	21.6	3.49	3230	43.5	0.630	5.13
VR12083B		2.93	68.1	7.80	25.1	0.13	2.88	0.078	1.18	9.82	15.6	1.63	2120	2.60	3.10	5.94
VR12084B		4.51	316	16.70	32.8	0.33	2.88	0.069	1.36	9.66	25.5	3.15	3330	0.57	1.230	5.66
VR12085B		0.39	68.6	16.15	16.80	0.22	2.16	0.062	0.29	11.50	6.3	2.34	4950	2.02	0.509	4.22
VR12086B		0.61	129.0	13.85	18.85	0.17	2.13	0.055	0.29	7.16	11.7	2.38	3930	1.01	0.915	4.05
VR12087B		3.00	97.3	8.65	24.4	0.14	1.980	0.106	0.49	12.50	8.2	1.11	1105	1.68	2.19	8.01
VR12088B		2.00	127.0	8.03	22.1	0.14	2.92	0.084	0.61	12.85	18.1	1.44	1160	1.44	2.77	8.69
VR12089B		4.08	61.7	6.16	22.3	0.14	2.83	0.075	1.29	12.20	31.6	1.37	927	1.89	2.87	7.00
VR12090B		3.53	87.6	9.90	18.70	0.14	1.465	0.074	1.05	5.17	17.4	3.78	1980	4.27	1.025	2.23
VR12091B		0.92	28.5	8.92	23.1	0.15	2.82	0.101	0.78	10.05	9.1	1.48	859	1.81	1.960	7.09
VR12092B		2.82	19.30	3.44	21.4	0.15	3.19	0.038	1.39	45.1	10.7	0.76	559	2.16	3.22	12.15
VR12093B		0.74	1950	10.70	20.2	0.17	2.31	0.057	0.29	11.40	9.3	1.07	703	1.34	1.930	5.92
VR12094B		0.48	673	6.36	20.7	0.14	2.75	0.069	0.38	12.65	7.1	1.31	814	1.75	2.87	8.42
VR12095B		1.09	1560	9.10	21.5	0.17	2.30	0.053	0.80	13.05	12.8	1.51	770	1.71	2.21	7.61
VR12096B		0.62	165.0	8.64	25.5	0.13	3.12	0.099	1.03	5.47	3.2	0.19	316	16.85	1.160	6.72

Comments: ME-XRF26:High total was obtained due to sulphides being reported twice (in the LOI value and retained in the fusion adding to the XRF total).The sulfur-free total calculation is the Total minus SO3. SF-Total less than or equal to 100%.

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Project: SANTOY

**CERTIFICATE OF ANALYSIS TB19146504**

Sample Description	Method Analyte Units LOD	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	
		Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti
		ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
		0.08	0.001	0.01	0.02	0.0004	0.01	0.02	0.01	0.006	0.02	0.02	0.01	0.005	0.004	0.001
VR12082B		124.5	0.117	0.99	75.0	0.0425	0.74	0.06	28.3	0.834	0.37	186.5	0.28	0.042	0.581	0.784
VR12083B		36.6	0.102	3.26	45.5	0.0017	0.14	0.04	35.5	0.245	0.86	430	0.38	0.024	1.015	1.300
VR12084B		52.9	0.090	2.81	56.4	0.0011	0.97	0.04	38.8	1.805	0.72	149.5	0.36	0.191	0.996	1.245
VR12085B		9.80	0.080	3.44	7.95	0.0029	1.95	0.25	25.5	0.478	0.64	150.0	0.29	0.429	0.915	0.807
VR12086B		33.1	0.075	1.72	8.99	0.0019	0.72	0.08	26.5	0.519	0.54	238	0.28	0.188	0.877	0.810
VR12087B		189.5	0.123	4.57	25.4	0.0011	2.43	0.16	28.7	0.944	0.94	330	0.43	0.165	0.711	0.999
VR12088B		182.5	0.141	3.78	34.4	0.0017	2.25	0.23	31.2	0.739	0.94	246	0.47	0.199	0.792	1.110
VR12089B		144.0	0.142	2.40	55.4	0.0013	0.64	0.11	30.9	0.223	0.75	257	0.39	0.587	0.776	0.901
VR12090B		39.6	0.035	1.27	39.7	0.0034	0.43	0.04	35.0	0.358	0.72	93.1	0.14	0.070	0.556	0.499
VR12091B		80.6	0.122	4.43	26.3	0.0032	2.68	0.23	33.5	0.916	1.09	329	0.41	0.075	0.762	1.005
VR12092B		43.2	0.096	7.13	37.9	0.0004	0.06	0.08	9.94	0.071	0.87	446	0.42	0.023	4.74	0.376
VR12093B		303	0.121	2.25	11.45	0.0019	6.08	0.07	26.2	3.00	0.71	253	0.35	0.437	0.692	0.813
VR12094B		145.0	0.118	2.22	14.70	0.0019	2.59	0.14	29.7	1.755	0.96	318	0.48	0.235	0.778	1.100
VR12095B		215	0.126	2.89	32.6	0.0021	4.15	0.12	29.1	1.290	0.92	253	0.43	0.163	0.786	1.015
VR12096B		3.15	0.057	5.07	31.9	0.0126	0.71	0.22	27.4	5.53	2.78	147.0	0.48	0.709	2.13	0.538

Comments: ME-XRF26:High total was obtained due to sulphides being reported twice (in the LOI value and retained in the fusion adding to the XRF total).The sulfur-free total calculation is the Total minus SO3. SF-Total less than or equal to 100%.

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Project: SANTOY

**CERTIFICATE OF ANALYSIS TB19146504**

Sample Description	Method Analyte Units LOD	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-XRF26	ME-XRF26	ME-XRF26	ME-XRF26	ME-XRF26	ME-XRF26	ME-XRF26	ME-XRF26
		Tl ppm	U ppm	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm	Al2O3 %	BaO %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %
		0.002	0.01	0.1	0.008	0.01	0.2	0.1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
VR12082B		0.433	0.16	211	0.247	21.0	144.0	87.3	13.46	0.03	7.56	0.02	15.03	2.64	6.33	0.48
VR12083B		0.126	0.31	362	0.471	23.8	182.5	114.0	17.07	0.07	5.75	0.01	12.10	1.50	3.14	0.30
VR12084B		0.191	0.27	370	0.337	23.5	228	118.0	17.24	0.03	4.23	0.01	25.55	1.73	5.82	0.48
VR12085B		0.044	0.39	240	1.445	23.2	104.5	92.2	11.49	0.01	9.37	<0.01	25.24	0.36	4.48	0.73
VR12086B		0.057	0.31	247	0.411	16.05	128.0	88.5	13.42	0.01	7.96	0.01	21.04	0.35	4.37	0.56
VR12087B		0.628	0.51	269	0.808	20.4	171.0	79.4	15.18	0.02	8.75	0.02	13.46	0.62	2.19	0.16
VR12088B		0.514	0.57	259	1.305	21.4	168.5	121.0	16.19	0.02	5.08	0.03	12.42	0.79	2.77	0.17
VR12089B		0.527	0.46	253	6.50	20.4	118.5	119.5	16.37	0.03	3.76	0.03	9.34	1.60	2.58	0.13
VR12090B		0.374	0.16	260	0.244	16.55	148.0	56.4	12.23	0.10	7.11	0.01	14.78	1.29	6.48	0.28
VR12091B		1.025	0.36	266	1.185	20.2	183.5	109.5	15.91	0.03	5.13	0.03	13.72	0.97	2.83	0.12
VR12092B		0.128	1.26	101.5	2.85	13.50	76.8	136.5	14.41	0.09	2.80	0.01	5.09	1.73	1.45	0.07
VR12093B		0.295	0.41	218	0.749	20.3	135.5	95.5	13.95	0.02	5.95	0.03	16.18	0.37	2.05	0.10
VR12094B		0.248	0.50	244	0.784	23.2	155.0	118.0	16.51	0.02	6.28	0.03	9.76	0.50	2.51	0.11
VR12095B		0.437	0.50	240	0.945	22.9	322	91.8	15.58	0.03	4.84	0.03	13.77	1.03	2.84	0.11
VR12096B		0.438	1.33	155.0	0.713	11.15	39.3	128.0	12.01	0.04	4.25	0.02	13.25	1.33	0.41	0.04

Comments: ME-XRF26:High total was obtained due to sulphides being reported twice (in the LOI value and retained in the fusion adding to the XRF total).The sulfur-free total calculation is the Total minus SO3. SF-Total less than or equal to 100%.

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*





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 Plus Appendix Pages  
 Finalized Date: 3-JUL-2019  
 Account: SANATANA

Project: SANTOY

**CERTIFICATE OF ANALYSIS TB19146504**

Sample Description	Method Analyte Units LOD	ME-XRF26	ME-XRF26	ME-XRF26	ME-XRF26	ME-XRF26	ME-XRF26	ME-XRF26	OA-GRA05x
		Na2O %	P2O5 %	SO3 %	SiO2 %	SrO %	TiO2 %	Total %	LOI 1000 %
		0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
VR1 2082B		0.90	0.28	1.96	46.96	0.02	1.40	100.60	3.33
VR1 2083B		4.36	0.24	0.38	51.57	0.05	2.26	100.25	1.27
VR1 2084B		1.68	0.22	2.68	36.04	0.02	2.21	102.00	3.79
VR1 2085B		0.71	0.19	5.21	42.89	0.02	1.44	104.85	2.55
VR1 2086B		1.25	0.18	1.92	46.63	0.03	1.42	101.95	2.59
VR1 2087B		3.09	0.29	5.88	50.57	0.04	1.78	106.35	4.11
VR1 2088B		3.96	0.33	5.67	51.05	0.03	1.98	105.35	4.71
VR1 2089B		4.09	0.33	1.61	53.61	0.03	1.89	99.96	4.40
VR1 2090B		1.36	0.08	1.21	53.35	0.01	0.84	101.00	1.68
VR1 2091B		2.78	0.29	6.58	50.93	0.04	1.89	107.00	5.60
VR1 2092B		4.52	0.22	0.17	64.90	0.05	0.73	99.27	2.92
VR1 2093B		2.69	0.29	15.55	49.97	0.03	1.58	>110	6.44
VR1 2094B		4.08	0.28	6.26	53.50	0.04	1.96	106.25	4.12
VR1 2095B		3.07	0.30	10.60	50.73	0.03	1.82	>110	5.61
VR1 2096B		1.67	0.14	1.90	61.03	0.02	0.95	102.25	5.05

Comments: ME-XRF26:High total was obtained due to sulphides being reported twice (in the LOI value and retained in the fusion adding to the XRF total).The sulfur-free total calculation is the Total minus SO3. SF-Total less than or equal to 100%.

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*



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 Total # Appendix Pages: **1**  
 Finalized Date: **3-JUL-2019**  
 Account: **SANATANA**

Project: SANTOY

<b>CERTIFICATE OF ANALYSIS TB19146504</b>
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	<b>CERTIFICATE COMMENTS</b>
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	<b>LABORATORY ADDRESSES</b>								
Applies to Method:	<p>Processed at ALS Thunder Bay located at 645 Norah Crescent, Thunder Bay, ON, Canada</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">CRU-31</td> <td style="width: 33%;">CRU-QC</td> <td style="width: 33%;">LOG-22</td> <td style="width: 15%;">PUL-31</td> </tr> <tr> <td>PUL-QC</td> <td>SPL-21</td> <td>WEI-21</td> <td></td> </tr> </table>	CRU-31	CRU-QC	LOG-22	PUL-31	PUL-QC	SPL-21	WEI-21	
CRU-31	CRU-QC	LOG-22	PUL-31						
PUL-QC	SPL-21	WEI-21							
Applies to Method:	<p>Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">ME-MS61L</td> <td style="width: 33%;">ME-XRF26</td> <td style="width: 33%;">OA-GRA05x</td> <td style="width: 15%;">PGM-ICP23</td> </tr> </table>	ME-MS61L	ME-XRF26	OA-GRA05x	PGM-ICP23				
ME-MS61L	ME-XRF26	OA-GRA05x	PGM-ICP23						