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Ministry of Energy, Mines & Petroleum Resources
Mining & Minerals Division
BC Geological Survey

Assessment Report
Title Page and Summary

TYPE OF REPORT [type of survey(s)]: Geophysical (3D IP, Magnetometer)

TOTAL COST: $110,071.00

AUTHOR(S): Rick Kemp, P.Geo

SIGNATURE(S):

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): MX-4-481

YEAR OF WORK: 2014

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): 5577458

PROPERTY NAME: Bonaparte

CLAIM NAME(S) (on which the work was done): 504717, 504482, 537111

COMMODITIES SOUGHT: Au, Cu

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 092P 050

MINING DIVISION: Kamloops

NTS/BCGS: 092P/1W, 92I/16W

LATITUDE: 51 ° 02 ' " **LONGITUDE:** 128 ° 28 ' " **(at centre of work)**

OWNER(S):
1) WestKam Gold Corp.
2)

MAILING ADDRESS:
900-570 Granville Street
Vancouver BC, V6C 3P1

OPERATOR(S) [who paid for the work]:
1) WestKam Gold Corp
2)

MAILING ADDRESS:
as above

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):
Miocene Chilcotin Group Basalt, Triassic Harper Ranch Group metasediments
Jurassic quartz diorite host to Au/Cu quartz veins in Discovery Zone

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 27758, 32980

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TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping			
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic	17.5 kms		$6,301.26
Electromagnetic			
Induced Polarization	24.45 kms		$80,000.00
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for...)			
Soil			
Silt			
Rock			
Other			
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY / PHYSICAL			
Line/grid (kilometres)	24.45		$23,769.74
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
		TOTAL COST:	$110,071.00

Geophysical Assessment Report

Bonaparte Gold Property

Kamloops Mining Division

NTS Map 092P/1W, 92I/16W

51°02' North Latitude

128° 28' West Longitude

For

Owner / Operator

WestKam Gold Corp.

Suite 900-570 Granville Street

Vancouver, B.C.

V6C-3P1

By

Coast Mountain Geological Ltd

620-650 West Georgia Street

Vancouver, B.C.

V6B-4N9

January 21, 2016

Rick Kemp, P. Geo

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Introduction:

From October 16, 2014 through November 4, 2014 field crews from Coast Mountain Geological and SJ Geophysics conducted a geophysical exploration program on WestKam Gold's 100% owned Bonaparte Gold Project. This work included grid line cutting, station preparation followed by Volterra 3D Induced Polarization and ground magnetic geophysical surveys.

This program was designed to gather geophysical data and signatures of the known mineralized zone, (Discovery Zone) and anomalous soil geochemical trends, to aid in the design and planning of follow up diamond drilling exploration programs.

Location and Access:

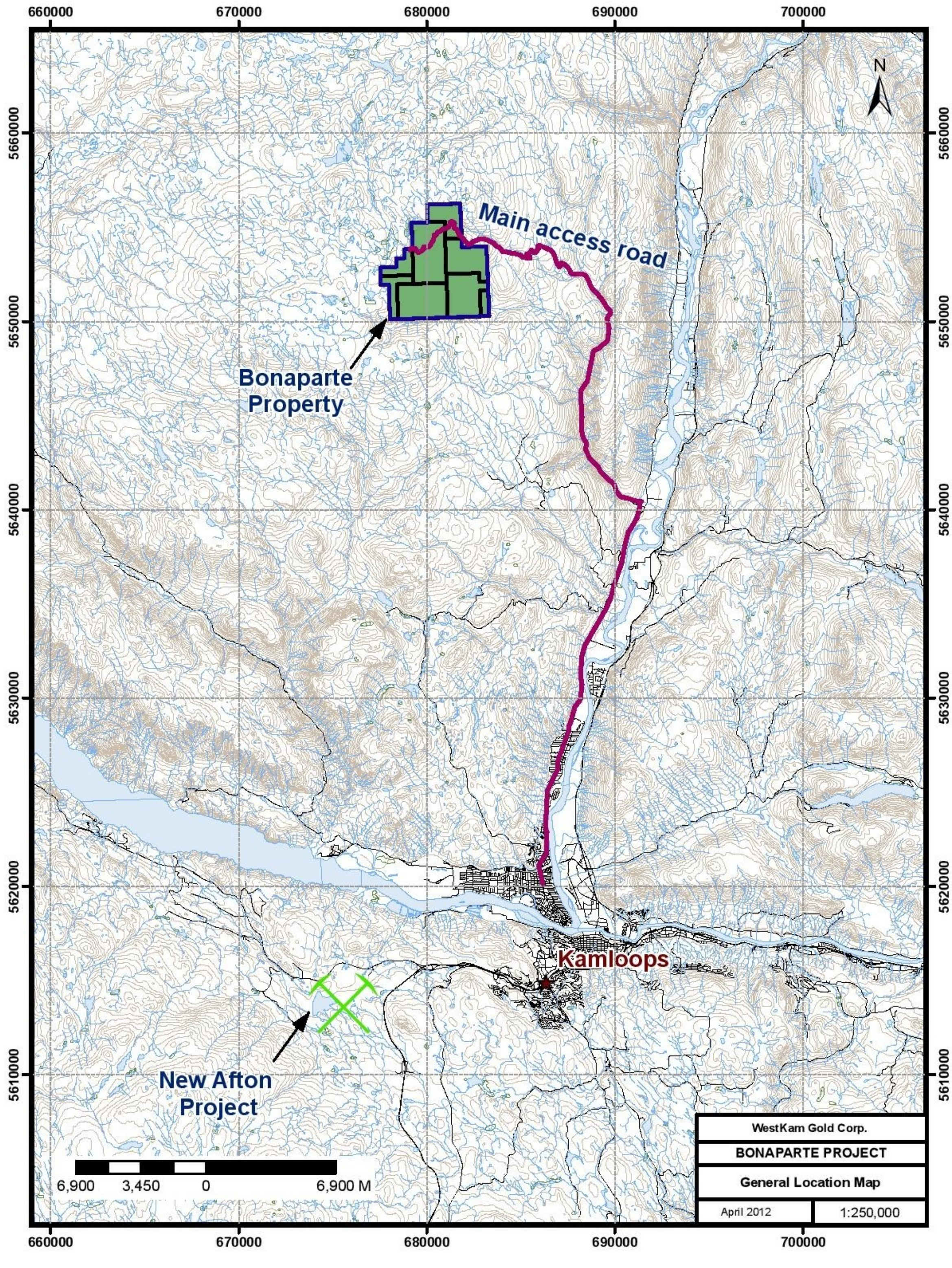
The Bonaparte gold property is located approximately 50km north of Kamloops B.C. within the Kamloops Mining Division. The Bonaparte mineral claims are located on map sheets 92I/16W and 92P/1W, the center of the property is located at 51°02' North and 128° 28' West. Kamloops is a regional center with excellent road, rail and air services and has federal and provincial government offices, analytical laboratory, several diamond drill contractors and numerous equipment suppliers and operators.

Road access from Kamloops is via the paved Westsyde Road (B.C. Hwy 97) for about 30km north to the Jamieson Creek Forestry Service road, a gravel main-haul road for Weyerhaeuser Canada Ltd., and then 14km to the Wentworth Creek Logging road and 8.5km on the Bob Creek main logging road to the Discovery Zone. The property is accessible by two wheel drive in dry weather conditions; four wheel drive is recommended during wet or snowy conditions.

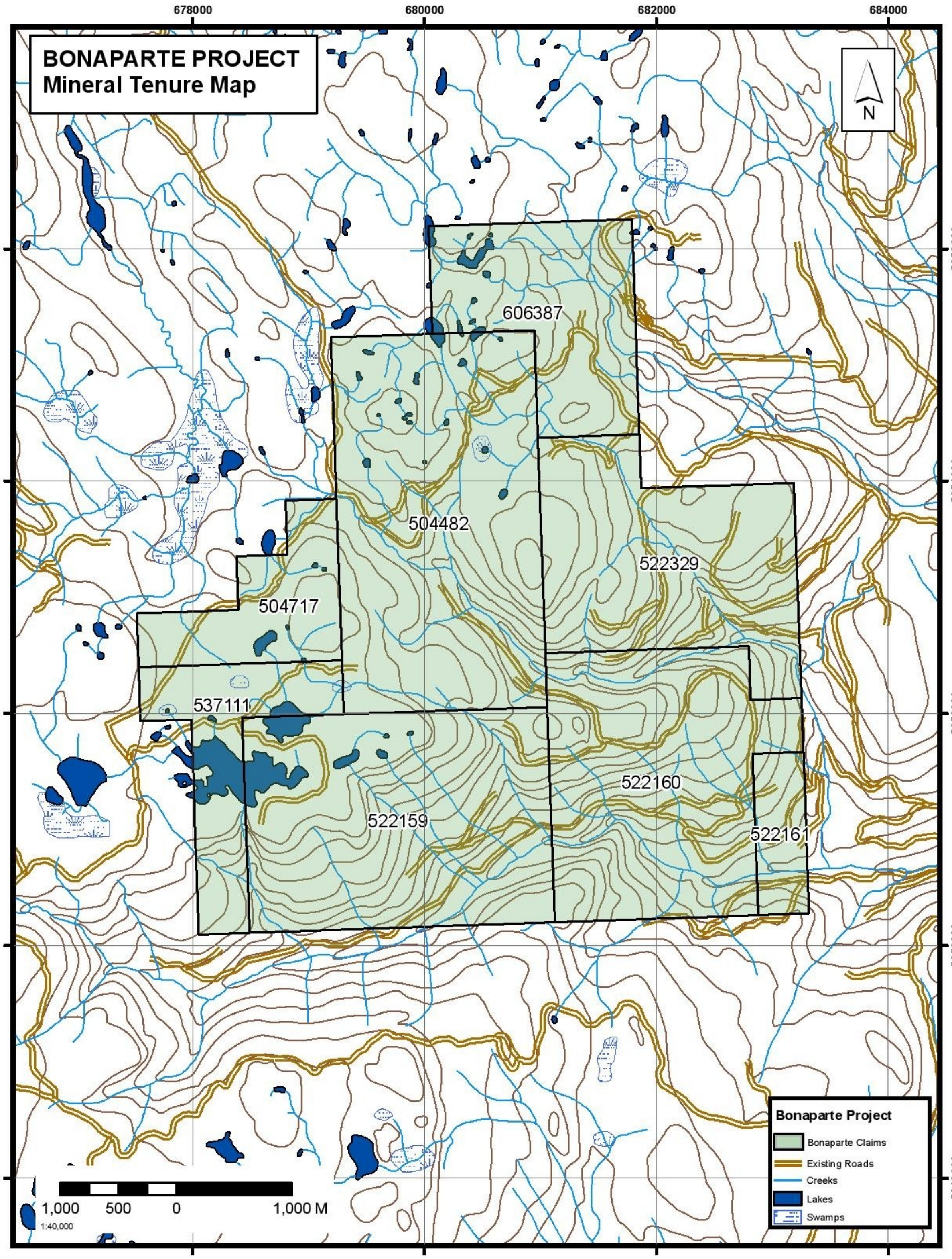
Property Description:

The Bonaparte Claim group is located in the Kamloops Mining Division and consists of eight mineral claims covering 2,461.35 hectares of land. All claims are 100% held by WestKam Gold Corp. Prior to the filing of this assessment report the Bonaparte Gold claims were in good standing to August 16, 2016.

Title	Good to Date	New Good to Date	Hectares
504482	2016/aug/15	2021/jun/30	569.45
504717	2016/aug/15	2021/jun/30	142.38
522159	2016/aug/15	2021/jun/30	488.35
522160	2016/aug/15	2021/jun/30	427.30
522161	2016/aug/15	2021/jun/30	61.05
522329	2016/aug/15	2021/jun/30	366.10
537111	2016/aug/15	2021/jun/30	162.76
606387	2016/aug/15	2021/jun/30	243.96



660000
670000
680000
690000
700000
5660000
5650000
5640000
5630000
5620000
5610000
N
Main access road
Bonaparte Property
Kamloops
New Afton Project
6,900 3,450 0 6,900 M
WestKam Gold Corp.
BONAPARTE PROJECT
General Location Map
April 2012
1:250,000


678000
680000
682000
684000
BONAPARTE PROJECT
Mineral Tenure Map
N
5656000
5654000
5652000
5650000
5648000
606387
504482
522329
504717
537111
522160
522159
522161
1,000 500 0 1,000 M
1:40,000
Bonaparte Project
Bonaparte Claims
Existing Roads
Creeks
Lakes
Swamps

Property History:

The Bonaparte area was first explored by Amoco Canadian Petroleum Company Ltd (1969-1973) in search for molybdenum and copper porphyries similar that of the Highland Valley Cu-Mo porphyry located south of Kamloops. The program consisted of geological mapping, soil sampling, magnetic and IP surveys culminating in a two hole drill program (299m) which met with discouraging results.

In 1984, regional stream sediment sampling by MineQuest Exploration Associates Ltd (on behalf of GoldQuest 1 Limited Partnership) resulted in the discovery of gold mineralization in quartz float over a diorite intrusion on the present day Discovery Zone. Further work by MineQuest resulted in the discovery of additional gold bearing quartz vein float with grades varying from 3.4 to 547gm Au/tonne. A diamond drill hole completed in 1986 intersected 0.79m of quartz vein assaying 35.6gm Au/tonne confirming samples of auriferous quartz boulder float was locally sourced.

Exploration between 1985 and 1989 was conducted by MineQuest where geological mapping, geochemical and geophysical surveys were completed along with 1,683m of trenching and the completion of 64 NQ drill holes totaling 4,427.8m. Trenching and drilling programs uncovered high grade gold values over widths varying from 0.6m to 2.0m and in diamond drill holes to vertical depths of up to 108m.

In early 1994, the property was purchased outright from the GoldQuest/Inter-Pacific/Hughes-Lang groups by Beaton Engineering. An agreement was then signed by Claimstaker Resources Ltd to develop the high grade veins by open pit methods on the basis of a net profits interest. A resource estimate of 6,400 metric tons grading 25.4 gm Au/tonne for the Crow Vein was reported. In 1994 an open cut bulk sample totaling 3,700 metric tons of mineralized quartz vein material was extracted from the Grey Jay – Crow vein systems. The mineralized quartz vein material was directly shipped to the Cominco smelter located in Trail B.C., yielding approximately 98kg (3,160 oz gold) of gold. The shipped ore graded 26.5gm Au/tonne. The bulk sample mining program reached a maximum vertical depth of 12m (40ft) below surface. The bulk sampling program was discontinued as the pit walls were becoming too steep and unstable.

During the period 1994-95, additional work was completed by Claimstaker Resources consisting of 1,185m of NQ diamond drilling in 25 drill holes. The claims were reverted back to Beaton Engineering in 1997.In 1998; Orko Gold Corporation purchased the property from Beaton Engineering and completed 23 NQ drill holes totaling 1,171.3m.

In late 2003, North American Gem Inc completed a program of diamond drilling in the discovery zone completing 652.1m of drilling in 15 NQ drill holes. During the summer of 2004 a stream sediment sampling program was completed totaling 59 samples. The results of the sampling program show clusters of anomalous gold in silt values from tributaries draining into and along

Wentworth Creek in the southern portions of the claim group and along the Cooler Creek drainage which passes along the northern edge of the Discovery Zone. The anomalous silt samples along the southern edge of the property is of significance suggesting the possible presence of gold bearing quartz vein structures from beneath the overlying basalt cap.

In 2009, Encore Renaissance Resources Corp. acquired an option to purchase 60% of the property. As part of the option agreement, Encore Renaissance agreed to extract a permitted 10,000 ton bulk sample. A large portion of the bulk sample was taken from previous surface trenching along the Crow vein system to a depth where safety issues prohibited further extraction. A decision was made to drive a decline on the Raven Vein which would ultimately swing around to the west undercutting the known quartz veins exposed on surface terminating at the down dip extension of the Crow Vein structure. The decline was developed at -15% measuring 3.55m X 3.5m in size. Underground development was completed short of its target in April 2010 at a final depth of 104.8m. One shipment of the permitted 10,000 ton bulk sample was shipped to the Kinross Gold mill in Washington State. The shipment of 364.61 short tons assaying 0.475 ounces per ton gold was processed yielding 161.95 troy ounces of gold at a recovery rate of 93.51%.

In November 2010 the TSX Venture Exchange accepted for filing an amended agreement between Encore Renaissance Resource Corp and BCT Mining Corp whereby Encore exercised its option to earn its 75% interest in the Bonaparte Property. Encore Renaissance Resource Corp changed its name to WestKam Gold Corp on May 1, 2012.

The majority of the historical work completed to date on the property has been restricted to a relatively small area referred to as the “Discovery Zone”, an area measuring 300m X 350m. Trenching and diamond drilling have identified a number of quartz veins at irregular intervals across the 300m wide zone. To date a total of 9 discreet veins have been evaluated through surface trenching and drilling where high grade gold values were sporadically encountered in many of the veins. Between 1986 and 2003 a total of 127 NQ drill holes totaling 7,436.6m, 66 backhoe trenches and 12 reverse circulation drill holes have been completed in the Discovery Zone and immediate area.

Regional Geology:

The geology of the Bonaparte Lake area has been mapped for the Geological Survey of Canada by R.B. Campbell and H.W. Tipper (GSC Memoir 363, 1971). The Bonaparte Gold property is within the Quesnel Trough, an early Mesozoic eugeosynclinal basin situated between highly deformed, late Precambrian to late Paleozoic metamorphic rocks of the Omineca Geanticline to the west. At least two major periods of intrusive activity occurred during the Mesozoic Periods before Cenozoic volcanic activity resulted in Eocene continental volcanic and sedimentary basins and extensive Miocene Plateau basalts.

Property Geology:

The Bonaparte property covers a window of meta-sediments and intrusives exposed beneath Miocene basalt cap rocks. At least three discrete intrusive phases cut argillites of the Harper Ranch group of rocks; all are overprinted by late hydrothermal quartz and quartz carbonate veins. Relative ages of the intrusions are readily established from cross-cutting relationships. Brown quartz diorite is the oldest and the most intensely foliated, lineated and altered. It is cut by the moderately unfoliated and moderately to weakly altered monzodiorite. Aplite dikes cut the monzodiorite and are unfoliated.

Argillite

Triassic aged argillites of the Harper Ranch Group are the oldest rocks exposed on the property. The argillite is a medium to dark grey color and carries up to 5% disseminated very fine grained pyrite. Color change of the argillites appears to reflect variation in composition from phyllitic shale to argillaceous siltstone. The phyllite units host white quartz veins with rare pyrite that generally do not exceed 20cm in thickness. The argillite grades to hornfels near intrusive contacts. The hornfels is brown to black in color with a well indurated, fine grained to sugary texture.

Quartz Diorite

The oldest intrusive phase is the mafic quartz diorite porphyry. The unit is coarse grained with white plagioclase, altered hornblende and distinctive sparse blue quartz eyes. The diorite exhibits blocky to slabby weathering where most intensely foliated and lineated. The unit is typically Biotite altered and brown in color. Black and brown xenoliths of hornfelsed argillaceous country rock are commonly noted. The degree of alteration is directly related to the intensity of the developed foliation.

Monzodiorite

Biotite-hornblende monzodiorite to granodiorite is grey to greenish grey on fresh surfaces and weathers to a white to pinkish grey color which locally exhibits rusty sulphide burns where pyritic. The unit is typically medium grained. Quartz comprises approximately 20% of the unit as rounded quartz eyes and matrix. Biotite occurs up to 10% as euhedral books and replacement of hornblende.

Granite – Aplite

Grey to tan, quartz and plagioclase-phyric granite dikes are the youngest intrusive phase. The dikes are unfoliated, typically <5cm thick and cut foliation at a high angle. Disseminated pyrite and chalcopyrite grains are concentrated in the monzodiorite at the contact with Aplite.

Basalt

Miocene aged Chilcotin Group flood basalts occupy high ground and form prominent cliffs bounding the exposures of older rocks. The basalt is dark grey-green in color and massive in appearance. Columnar jointing is commonly noted.

Structure:

The argillaceous sedimentary rocks are folded and foliated. Intrusive rocks cut and thermally metamorphose the structures in the argillites and are cut by shear zones.

The "Discovery Zone" and the main areas of surface trenching occupy a near north trending, greenschist grade mylonitic shear zone. Rocks within the shear zone display discreet meter wide zones with a well developed fabric that is locally accompanied by a prominent down dip (east) lineation. Indicators of displacement suggest an east side up (reverse) sense of movement. Medial to the shear zones in the plutonic rock are near north trending (~26°) east dipping decimeter to meter thick auriferous quartz veins that continue along strike for up to 250m. Younger brittle faults and carbonate altered quartz veins cross cut the mylonitic fabric and attest to ongoing hydrothermal alteration and mineral deposition.

Mineralization:

High grade gold mineralization at the Bonaparte property has been demonstrated by bulk sampling and previously reported geochemical results. Porphyry molybdenum mineralization is reported within and adjacent to the porphyritic hornblende quartz diorite and biotite hornblende quartz monzodiorite. Drilling and surface sampling to date have returned very low molybdenum values.

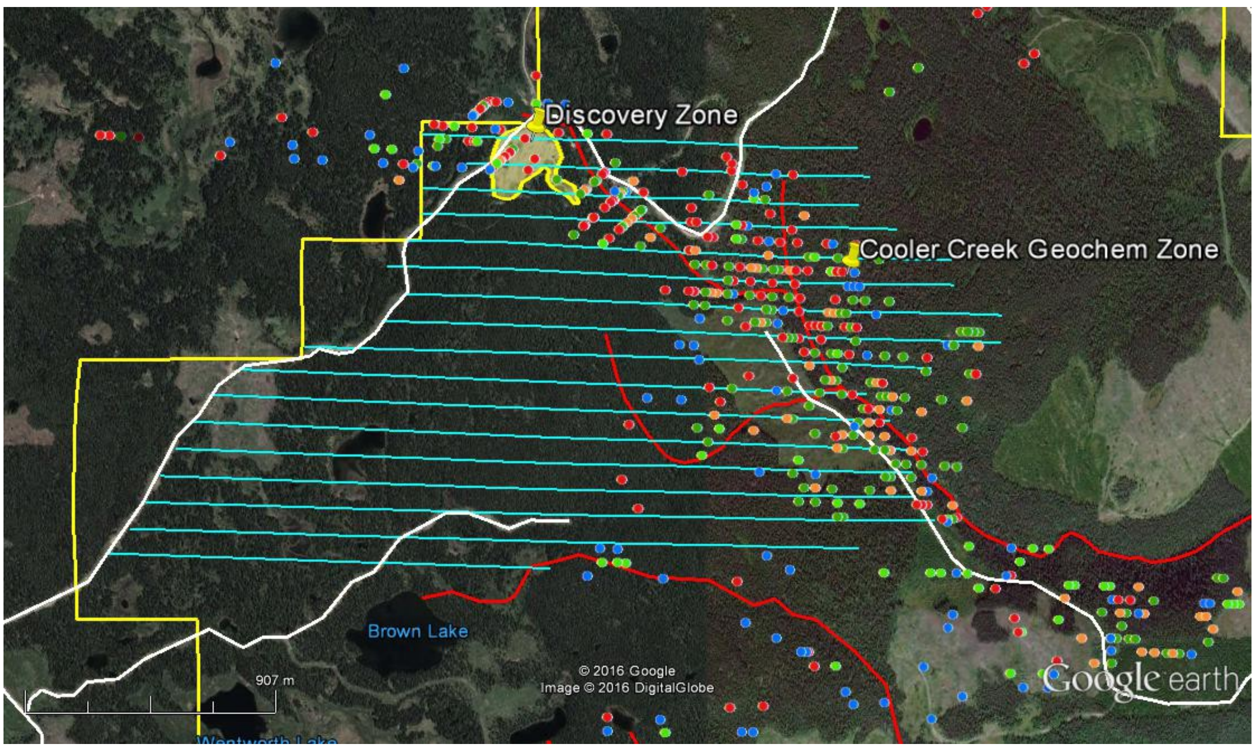
The "Discovery Zone" is 300m wide east-west and 350m long in the north-south direction. The zone contains at least eight north-south trending semi-parallel shear hosted quartz veins and areas of quartz stockwork which have been exposed at surface through past trenching campaigns or defined by drilling. From west to east the veins include the Grey Jay, Owl, Crow, Nutcracker, Raven, Chickadee, Flicker and Woodpecker.

Gold mineralization is primarily confined to the eight north trending quartz vein structures. The veins generally dip moderately to steeply to the east and locally range up to 3m in thickness. Pinching and swelling is commonly noted along the exposed quartz veins within the historical trenches. Locally the massive white quartz veins contain up to several percent pyrite with lesser chalcopyrite, pyrrhotite and molybdenite. Free gold has been noted in both trench and drill hole intersections. Generally the gold is associated with silver-grey telluride. Work to date has evaluated some of these auriferous quartz vein structures to a depth of 40 meters with the deepest vein intersection at 108m below surface.

2014 Geophysical Program:
(Geophysical Logistics Report/IP and Mag Plan Maps in Appendix 1)

The 2014 Geophysical Program, consisting of Volterra 3D Induced Polarization (IP) and ground Magnetics surveys, was designed to test a number of targets on the Bonaparte Property:

- The Discovery Zone and southwards: The Discovery Zone contains a series of parallel and sub-parallel gold-bearing quartz veins hosted within a mylonitic shear zone some 250 to 300 meters wide. A basalt cap immediately to the south of the Discovery Zone covers the projected extension of this auriferous zone.
- Cu-Au Porphyry Target: Due to its favorable regional setting and evidence of porphyry processes noted in past drilling on the Bonaparte Property the 2013 exploration program was designed to seek geophysical evidence of this potential target.
- Cooler Creek Soil Geochemistry Anomaly: Compilation of all historical exploration results delineated a 2 km long, gold and copper soil geochemistry anomaly extending from the Discovery Zone to the southeast, down the Cooler Creek valley. Outcrop is limited in the valley by glacial till cover.



In total, 17,500 linear meters of Volterra 3D IP and 24,450 linear meters of Magnetics were surveyed over the above targets. It was expected the magnetic survey would help delineate alteration zones and lithological contacts, as well as the presence of multi-phase intrusions often associated with porphyry deposits. The resistivity component of the 3D IP was used to help define geological breaks, structures and contacts. The chargeability component of the 3D IP was expected to detect the level of sulphidation associated with porphyry deposits as well as the mineralization within the mylonitic package of the Discovery Zone.

Survey Conclusions and Recommendations:

The 2014 Geophysical Program successfully delineated a number of anomalous zones and features for Discovery Zone style Au-vein targets, extending southward as well as parallel targets to the east underlying anomalous soil geochemistry. With the above in mind it is therefore recommended to continue to extend the grid and geophysical surveys southwards in order to fully map and define these targets and to then enable the selection and prioritization of drill targets.

In addition, financial resources depending, a 1000 meter drill program is recommended to aid in interpretation of this geophysical data.

Statement of Costs:

Line/Grid Crew: October 16 – 27, 2014 (11 days)

Chris Basil	11 days @ $700/day	$ 7,700.00	
Rick Kemp	1 days @ $700/day	$ 700.00	
Kevin Graber	11 days @ $450/day	$ 4,950.00	
Scott Dowler	11 days @ $450/day	$ 4,950.00	
4 x 4 Truck	11 days @ $150/day	$ 1,650.00	
Fuel		$ 878.79	
Room and Board	34 days @ $110/day	$ 3,740.00	
		$24,568.79	$ 24,568.79

Geophysical Crew: October 23 – November 4, 2014 (13 days)
Alex Visser, Nathan Anderson, Simon Kubbinga
Toby Cunningham, Mathew Nygaard, Jeff Moorcroft
2 - 4 x 4 Trucks, Geophysical Equipment

Crew/Trucks/Equipment	13 days @ $6,045/day	$78,585.00	
Fuel		$ 1,116.37	
Room and Board		$ 6,599.89	
		$86,301.26	$ 86,301.26
		TOTAL	**$110,870.05**

Statement of Qualifications:

I, Richard (Rick) T. Kemp, do hereby certify that:

1. I reside at 2769 William Ave, North Vancouver, British Columbia, Canada, V7K 1Z4.
2. I am a graduate from Lakehead University, Thunder Bay, Ontario with a B.Sc. Geology degree (1981) and I have practiced my profession continuously since that time.
3. I am a member in good standing with the Association of Professional Engineers and Geoscientists of BC with a professional geologist status.
4. I have practiced my profession as a geologist for 33 years and have worked in the mineral exploration industry since 1976. I have done extensive geological work in British Columbia and elsewhere, as an employee of various exploration companies and as an independent consultant. My work has included a large variety of deposit styles, including epithermal and mesothermal gold-silver, copper-gold porphyry, molybdenum-copper porphyry, Archean greenstone belt gold, polymetallic veins, transitional porphyry-epithermal and Volcanogenic massive sulphide. I have worked on properties at all stages of exploration, from grass root, to early stage exploration through advanced stage exploration and active mining.
5. I have no direct or indirect interest in the property described herein, or in WestKam Gold Corp., nor do I expect to receive any.
6. I am a Qualified Person and Independent of WestKam Gold Corp., as defined by National Instrument 43-101.
7. I am responsible for all sections of this Technical Report and assume responsibility for their content.

Signed at Vancouver, BC, this 21st day of January, 2016

____

Richard T. Kemp B.Sc., P.Geo.

APPENDIX 1

Geophysical Logistics Report

IP Plan Maps

Ground Magnetics Plan Maps

Logistics Report Prepared

for

WestKam Gold Corp.

Volterra-3DIP & Magnetometer Surveys

on the

Bonaparte Project

Kamloops, B.C., Canada
Latitude: 51° 00'N Longitude: 120° 27'W

BCGS SHEET: 092P008, 092I098

NTS SHEET: 092P01, 092I16

MINING DIVISION: Kamloops Mining Division

Survey conducted by SJ Geophysics Ltd.
October, 2014

Report prepared by
Nathan Anderson
November, 2014

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1. Survey Summary

SJ Geophysics Ltd. was contracted by Coast Mountain Geological to acquire geophysical data on the Bonaparte property owned by WestKam Gold Corp. Table 1 provides a brief summary of the project.

Client	Coast Mountain Geological
Project Name	Bonaparte
Location (approx. centre of grid)	Latitude: 51º 00' N Longitude: 120º 27' W 5652500N 679500E; UTM Datum NAD83 Zone 10
Survey Type	Volterra-3DIP, Ground Magnetometer
Total Line Kilometres	3DIP: 17.5km, Magnetics: 24.45km
Production Dates	October 23rd – November 4th, 2014

Table 1: Survey Summary

The Bonaparte property is located approximately 50km north of the city of Kamloops in British Columbia, Canada. Access is along well maintained roads. The property hosts near surface quartz vein deposits that have been partially explored and mined in the 1980's. There is also potential for a porphyry-style copper-gold mineralization. Notable nearby mines are Highland Valley Copper and New Afton. Highland Valley Copper is a major operation located 30km southwest of Kamloops. The New Afton mine exploits a porphyry-style deposit located south of the Bonaparte project, across the Thompson River. In 2012, development of the Bonaparte project began under management of Coast Mountain Geological Ltd. with the purpose of evaluating the extent of both deposit types.

The 2014 geophysical survey is a continuation of the Volterra-3DIP and magnetometer surveys carried out by SJ Geophysics Ltd. in 2013. The purpose of the geophysical survey was to aid in identifying zones of interest that may be associated to copper-gold porphyry mineralization and delineating geological boundaries and contacts.

2. Location and Access

The Bonaparte project is located in British Columbia, Canada (see Figure 1.)

Figure 1: Overview map of the Bonaparte project located in British Columbia, Canada.

The closest city to the survey area is Kamloops which is approximately 50km directly south of the Bonaparte project. The project area can be accessed from Kamloops by the following directions (see Figure 2):

- Head north on the Overlander Bridge and continue on Fortune Drive
- Turn right on 8th Street and continue straight onto Batchelor Dr.
- Continue straight as paved Batchelor Dr. transitions into gravel Lac Du Bois road.

- Keep right at the 21km marker to begin travel on Watching Creek road.
- Keep left at the 29km marker.
- Follow the main road as kilometer markers increase to W40.
- After marker W40, kilometer markers begin decreasing from C16.
- Kilometer marker C12 is within the survey area.

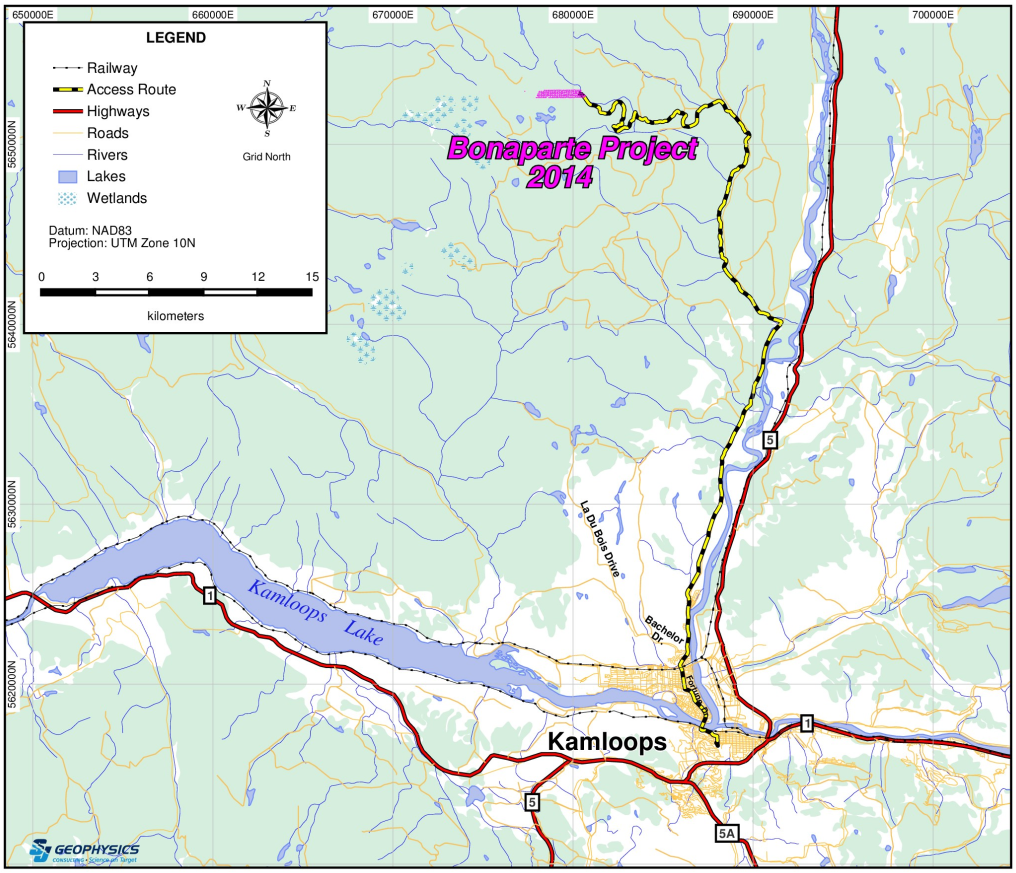

Figure 2: Location map for the Bonaparte project showing road access from Kamloops.

The survey was conducted in a region with gentle slopes. Topographic relief is approximately 250m. Some of the survey lines crossed outcrop which presented abrupt elevation changes of approximately 25m. These areas required detouring from the survey line. A large portion of the survey region had been recently clear cut. Areas that were not yet clear cut were pine forest. This habitat is home to rabbit, deer, coyote, cougar, fox, and bear.

3. Survey Grid Details

The 2014 Bonaparte project was planned with 9 survey lines for an estimated 2.0km^2 of coverage. The IP grid was not completed due to time and budget constraints and only the five northern lines were surveyed (2600N-3000N). Also, line 2900N began at 3150E and was extended 50m to the west to have it begin at 3100E to accommodate a full receiver diamond. This resulted in an estimated 1.0km^2 of IP coverage. Line 3000N was surveyed in 2013 and 2014 with the 2014 points having the line label 3001N.

The magnetics survey was larger than originally planned. Three lines were flagged passed their expected end stations and the SJ Geophysics crew surveyed them entirely. Lines 2200N, 2300N, and 3000N were longer than anticipated by 950m, 400m, and 150m, respectively. Last years' line 3100N was extended west by 450m as well (with line label 3101). This produced an estimated 2.2km^2 of magnetics coverage. Line 3000N was part of the 2013 and 2014 survey grids for both magnetics and IP. This repetition was used for levelling the two data sets. The grid information is found in Table 2 and displayed in Figures 3 and 4.

Grid	Bonaparte
Number of Surveyed Lines	3DIP: 5, Magnetometer: 10
Survey Line Azimuth	90º
Line Spacing	100m
Cross-dipole spacing	Every 100m along receiver line
Station Spacing	3DIP: 50m, Magnetometer: 12.5m
Elevation range	1532-1812m

Table 2: Grid parameters

Line and station labels for the grid were based on the UTM coordinates, with the line labels being represented by the last four digits in the UTM northing and the station labels based upon the UTM easting. Please refer to Appendix A for a detailed breakdown of the survey lines.

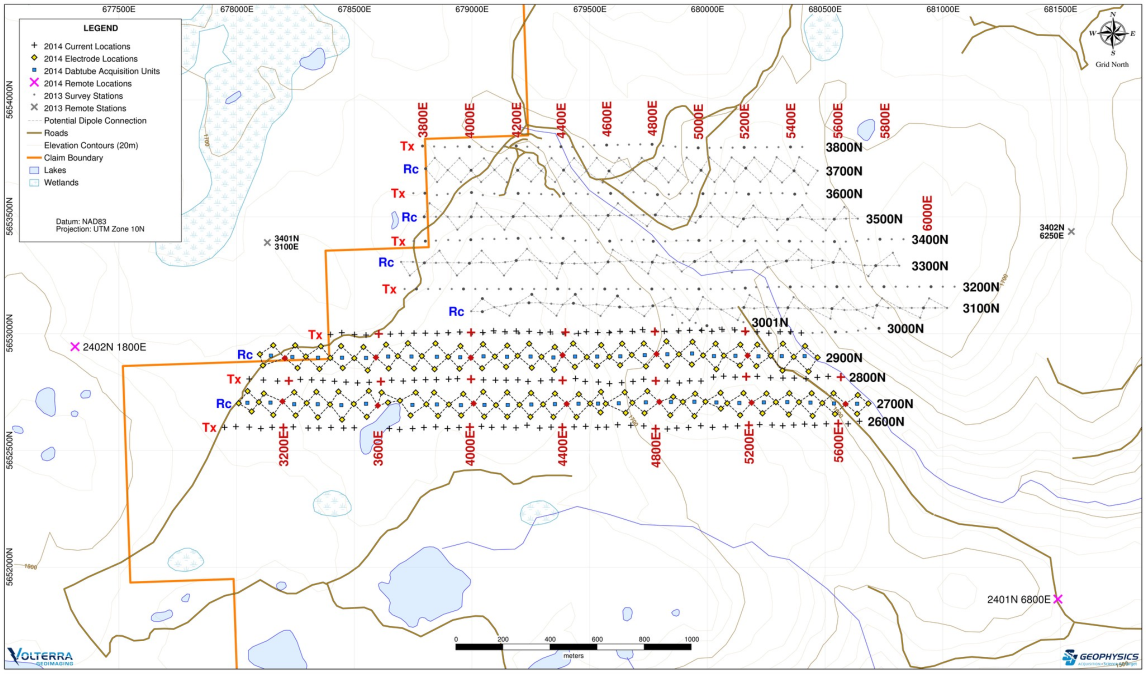

Figure 3: Grid map of IP survey stations.

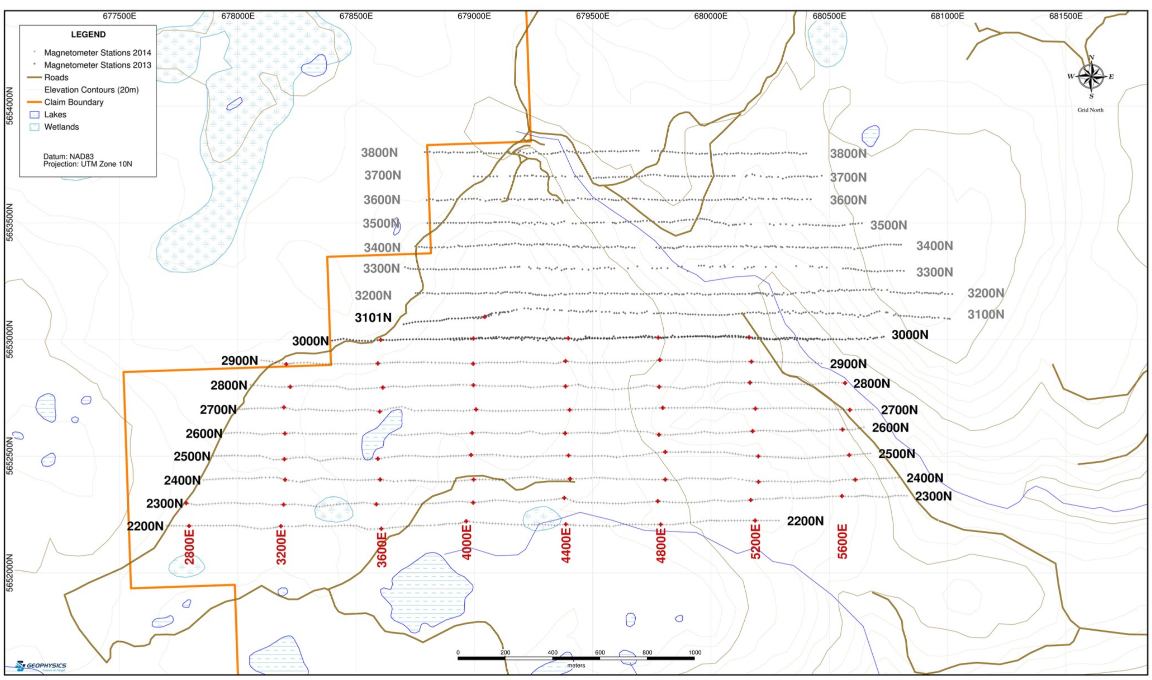

Figure 4: Grid map of Magnetometer survey stations.

4. Parameters and Instrumentation

4.1. GPS and clinometer

All spatial data were collected using Garmin GPSMAP 62S and GPSMAP 60S hand held GPS units. Slope data were collected with Suunto clinometers

4.2. Volterra-3DIP Survey

The SJ Geophysics crew utilized their proprietary Volterra Distributed Acquisition System to collect 3DIP data for this survey. A GDD TxII transmitter was used for each current injection, and the resulting ground response measured using multiple full-waveform, 24-bit, four-channel Volterra Acquisition units. Instrument specifications are listed in Appendix B, with the transmitter and reading parameters summarized in Table 3.

IP Transmitter	GDD TxII (Serial #302, 270)
Duty Cycle	50%
Waveform	Square
Cycle and Period	2 sec on / 2 sec off; 8 second
IP Signal Recording	Volterra Acquisition Unit
Reading Length	93s
IP Signal Processing	CSProc 1.1.2
Vp Delay, Vp Integration	1200ms, 600ms
Mx Delay, # of Windows Width (Mx Intergration)	200ms, 20 36, 39, 42, 45, 48, 52, 56, 60, 65, 70, 75, 81, 87, 94, 101, 109, 118, 128, 140, 154 (200ms – 1800ms)
Properties Calculated	Vp, Sp, Apparent Resistivity and Chargeability

Table 3: 3DIP transmitter and reading parameters

The receiver dipoles were set up using 50cm long and 10mm wide stainless steel electrodes hammered into the ground and connected into the array by single or double conductor wire. The electrodes used for current injections were significantly larger at 100cm long and 15mm in diameter. Two of these electrodes were used at each injection site. To guarantee good ground contact, five of these electrodes were used at both remote sites. Both sets of electrodes were connected to the current transmitter via single conductor wire.

The distributed nature of the Volterra-3DIP system allows for highly customizable array and survey configurations to be used. The resulting flexibility is a huge benefit in challenging terrain where rivers, roads, cliffs, or other obstacles can easily be avoided. The crew took full advantage of these features to optimize field logistics and maximize production.

4.3. Volterra-3DIP Array configuration

One array configuration was used for the survey. Table 4 shows the survey parameters used.

Array Type	3D Distributed Array
Array configuration	Diamond
Line set for acquisition	3 Lines (Tx, Rc, Tx)
Number of Active Dipoles per Receiver Line	44 - 80
Dipole Length	70.7m
Active Array Length (in line)	1200m-2000m
Current Interval	50m

Table 4: Survey parameters

Along each receiver line, potential electrodes were set up every 100m. At the mid-point of these two electrodes, two additional electrodes were set up perpendicular to the receiver at a distance of 50m. A Volterra acquisition unit was then placed at the center of each grouping of 4 electrodes and wired to 4 dipoles, forming a diamond. See Figure 5 for a graphical representation of the diamond array.

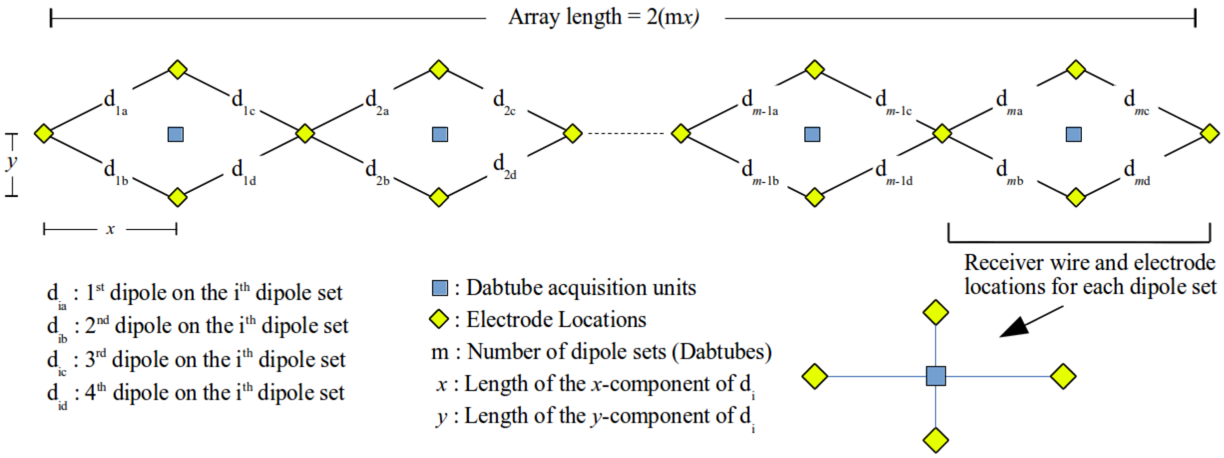

Figure 5: Schematic of the array used for the 3DIP survey

Two remote current electrode sites were used at Bonaparte in 2014. The remotes used for the survey are listed in Table 5 below.

Name	Label	UTM Northing Zone 10/ NAD83	UTM Easting Zone 10/ NAD83
West Remote	2402N 1800E	5652944	677314
East Remote	2401N 6800E	5651864	681489

Table 5: Locations of 3DIP remote sites

4.4. Magnetometer Survey

A stationary base unit was used to record the diurnal variations of the total magnetic field at 4 second intervals. Each morning and evening calibration points were measured using each rover unit. Table 6 shows the UTM locations of the magnetic base station and calibration point.

Name	UTM Northing Z10/ NAD83	UTM Easting Z10/ NAD83
Magnetic Base Station	5651404	677613
Magnetic Calibration Point	5651414	677602

Table 6: Locations of magnetic base station and magnetic calibration point

During the magnetometer survey, up to three GSM-19 Overhauser Magnetometer units were used by the crew. Two units were used to collect the total magnetic field measurement along the survey lines while the third unit was setup as a base station. Magnetometer configuration parameters are listed in Table 7. The instrument specifications are summarized in Appendix B.

Magnetometer	GEM 19 Overhauser Magnetometer
Base Unit Reading Interval	4 seconds
Measured Property	Total magnetic field

Table 7: Magnetometer instrument parameters

5. *Field Logistics*

The SJ Geophysics field crew consisted of 1 Field Crew Boss, 2 Field Geophysicists, and 3 Technicians. The Field Crew Boss oversees all operational aspects such as field logistics and crew organization. The Field Geophysicists monitor incoming data for quality and consistency. Table 8 lists the SJ Geophysics crew members on this project.

Crew Member Name	***Position***	***Dates on Site***
Alex Visser	Field Crew Boss	October 23rd- November 4th
Nathan Anderson	Field Geophysicist	October 23rd- November 4th
Simon Kubbinga	Field Geophysicist	October 23rd- November 4th
Toby Cunningham	Field Technician	October 23rd- November 4th
Mathew Nygaard	Field Technician	October 23rd- November 4th
Jeff Moorcroft	Field Technician	October 23rd- November 4th

Table 8: Details of the SJ Geophysics crew on site

The SJ Geophysics crew's first day on site at the Bonaparte project was October 23rd and they remained on site through November 4th, 2014. Mobilization to the project occurred on October 22nd and demobilization from the project site to Delta, B.C. was on November 4th.

During the course of the geophysical survey, the SJ Geophysics crew conducted weekly safety meetings as well as daily tailgate meetings. The safety meetings include a comprehensive review of safe work practices specific to our geophysical surveys and field operations. At the tailgate meetings, personnel discussed issues related to changing weather conditions (including ramifications on the survey/personal safety), encounters with or sightings of potentially problematic wildlife, efficient organization of daily tasks, and any other work-related questions or concerns.

The SJ Geophysical crew stayed at the Fortune Motel in Kamloops. The hotel was comfortable and offered numerous amenities. Three rooms were used, each had food storage options while one room was equipped with a full kitchen room that functioned as an office and equipment room for the duration of the survey. All communication with the head office was done via cell phone and email using the hotel WiFi connection.

Weather during the survey was mild and wet, hovering around 0 degrees with plenty of freezing rain. Light snow fell during the first four days and remained on the ground for the duration of the survey. This created the need for extra caution during the drive to and from the grid. Two company trucks were used to mobilize to the project and daily to get to and from the survey grid. The Fortune motel is located in northern Kamloops and exiting the city on Batchelor Drive. took no more than 10 minutes. Once out of the city the road transitions from paved to gravel. The gravel road is very well maintained and allowed for easy travel. The drive took one hour each direction.

The survey began on the northernmost grid lines, repeating line 3000 of the 2013 grid. This repetition allowed for smoother merging of the 2013 and 2014 data sets. On the first day, the SJ crew met with the client representative and were acquainted with the route to the survey site. Once on site, they were shown various road access points to the survey grid. Survey set up began in the late morning. Four crew members laid out transmitting and receiving wires while two members surveyed with magnetometers. The first set of IP lines took six days to complete. The following set of three lines was set up on the seventh day with surveying commencing that afternoon. The second set of lines took five days to complete.

Issues encountered during the survey that resulted in delays were related to logging operations and the wildlife in the area. Logging operations continued while the SJ crew was on site and created minor delays. The road along the west side of the grid was ploughed daily and this caused numerous wire breaks. Roaming wildlife caused some long delays by becoming snagged on transmission lines and dragging them through the forest. Some mornings saw multiple crew members walking long sections of transmission lines to locate and fix the elusive breaks. Slash piles were also being burned while the survey was underway. Some slash piles were very close to the grid and created large amounts of smoke. Although the survey was largely unaffected by the smoke, it was difficult to breathe and at times extremely difficult to drive in due to poor visibility. Hunters were also present on most days. Crew members spoke with as many of them as possible to inform them of the possibility of workers in the bush. The lines were only brushed, leaving the fallen trees in the clear cut regions to create numerous awkward obstacles that became hazardous when covered in wet snow. Extra caution had to be exercised, especially when carrying heavy loads, and resulted in slightly slower than usual progress.

During the Volterra-3DIP survey each acquisition day started with the set up of the acquisition units along the receiver lines and the fixing of the potential breaks in the wire. Once these tasks were completed the acquisition started. The transmitter wire was picked up as the survey went and at the end of each acquisition day the acquisition units were collected. Only the receiver wire and electrodes were left laid out overnight and were only picked up on clean up/set up days.

Prior to field data acquisition, a contact resistivity test was performed using a small waveform generator attached in parallel to one acquisition unit input. This is done for each dipole in the array, and allows the operator to identify breaks in the wires, damaged acquisition units, as well as areas of poor ground contact which could otherwise degrade input signal quality during data acquisition stages. Furthermore, this test allows the operator to inspect the raw data being recorded by the acquisition unit to ensure that there are no problems with the acquisition units and to ensure the receiver is synchronized to the appropriate GPS time.

During acquisition stages, a dedicated 'transmitter' acquisition unit was used to monitor the current being injected at each station through the use of a current monitor. In doing so, the transmitter operator is able to inspect the quality of the input current and can easily identify when there may be current leakage problems or when the transmitter is not functioning properly. An Android tablet is used to record the current injection start time and duration.

Magnetometer surveying began on the north most grid lines. This was decided in part due to the interest the client expressed in this area and it would allow for magnetometer surveying of southern lines while IP surveying the northern set. On the first day, two operators carried out magnetometer survey. Throughout the course of the project, whenever it was deemed viable, one operator who did not participate in the IP data collection would instead survey with the magnetometer. One short line (3101N) was added by the client on the first day. Also, some lines were longer than originally planned for. Data collection was regular and progressed smoothly.

Each survey day started with the set up of the base station. A series of calibration readings were then taken with each rover unit prior to beginning acquisition. Another series of calibration points was taken at the end of each day before the base station was turned off.

6. Field Data Processing and Quality Assurance Procedure

6.1. Locations

Good quality survey location data is crucial to successful analysis and interpretation of the collected geophysical data. When using a GPS unit, a measurement is taken for every survey station where satellite reception is acceptable. The quality of the locations and proper labelling are quickly checked every night using a simple GPS management software such as BaseCamp™ or a GIS package like QGIS and GRASS. All inconsistent measurements are discarded and the remaining points, called control points, are then incorporated into a database through a proprietary software called Location Manager. There, any missing/deleted survey station locations are interpolated based on the control points, measured slopes between stations, line azimuth and idealized ground distances.

All GPS measurements typically have lower accuracy in the vertical direction. If a NTS/ASTER DEM is available for the survey area, the GPS elevations will be compared and potentially substituted with the DEM's.

6.2. Volterra-3DIP Data

All geophysical data go through a series of quality assurance checks both in the field and in the office to ensure that the data are of sufficiently good quality.

At the end of each acquisition day the recorded signal is downloaded from each acquisition unit, clipped to the current injection GPS time windows and slightly filtered for noise before being imported into SJ Geophysics' proprietary QA/QC software package called JavIP. This package integrates the location information thus allowing the calculation of the apparent resistivity and apparent chargeability. The package's interactive quality control tools, plot of decay curves, table of calculated parameters and a dot plot (graphical display of data of the various parameters), provide the data processor with a platform to verify each data point.

The data processor then discards the outstanding bad points. Most of the data flagged for removal are generally due to non-coupling, a phenomena typical in IP surveys related to the survey configuration where the receiver dipole is sub-parallel to the equi-potential lines which can result in a significant decrease in signal strength and lead to untrustworthy data. Other data can are also deemed untrustworthy due to low quality signals or dipoles being inadvertently disconnected (usually due to animal activity).

After the first quality control step the database is delivered to SJ Geophysics' head office for a second review. In the second review, the data are carefully checked to ensure that erroneous data points are not passed along to the final stage of processing: the inversion.

6.3. Magnetometer Data

All magnetometer data are run through an in-house quality control sequence to ensure the cleanest magnetic data possible. Space weather is monitored to recognize non-terrestrial influences on the data. A diurnal correction is also applied to all the survey data. Magnetic calibration points are measured at the beginning and the end of each survey day to ensure that no operator-related change in magnetism affected the data and helps estimate the level shift between two rover units. Field crew members make note of metal cultural features (e.g. fences, pipelines) encountered during the survey that could cause spikes in the data.

Every night the data are dumped on a computer and saved in a spreadsheet before being corrected for diurnal drift. The corrected data are then plotted as profiles within the spreadsheet for a rapid quality check before being sent for final check to SJ head office in Delta, BC, Canada.

In the head office, the data are reviewed once again and erroneous points are removed from the set. The final magnetic data is processed and gridded in a manner that minimizes apparent noise.

7. Data Quality

7.1. Locations

With accuracies ranging from 5m-9m, GPS accuracy was acceptable for the entire grid. There were very few terrain features within the survey area with the potential to reduce satellite signal. Some points taken in dense tree cover were not used. Less than 5% were deemed unusable while the rest were taken as trustworthy and used for control points. Unusable points required interpolation using slope, distance, and azimuth data. NTS DEM was used for elevation values. UTM locations were collected using the NAD83 datum and Zone 10 projection. GPS points were marked at every current injection site, every potential electrode, and all acquisition unit locations. Clinometers were used to measure ground slope every 50m along lines.

7.2. Volterra-3DIP data

Ground contact is one of the most significant factors in producing good data. In general, getting good coupling between the potential electrodes and the ground was not difficult at Bonaparte, however, there were areas on steeper slopes where this was challenging. In addition, the snow in the clear cut areas made it time-consuming to find suitable spots to place electrodes. Signal strength was quite good on the western half of the grid. An apparent geologic boundary near station 4500E produced abberant data locally. It was a struggle to get useable signal east of this boundary. All of the receiver dipoles suffered poor signal while the current station was located on the east half of the grid. The result of this was noisier data and the need to be more selective with data from the eastern side. Overall, the data collected at Bonaparte was satisfactory. The majority of the readings produced clean decay curves. After manually removing erroneous values, the very noisy readings still contained data suitable for an acceptable inversion. Figure 6 shows data from the west side of the grid where data was generally clean and Figure 7 shows data from the centre of the grid that was slightly more noisy.

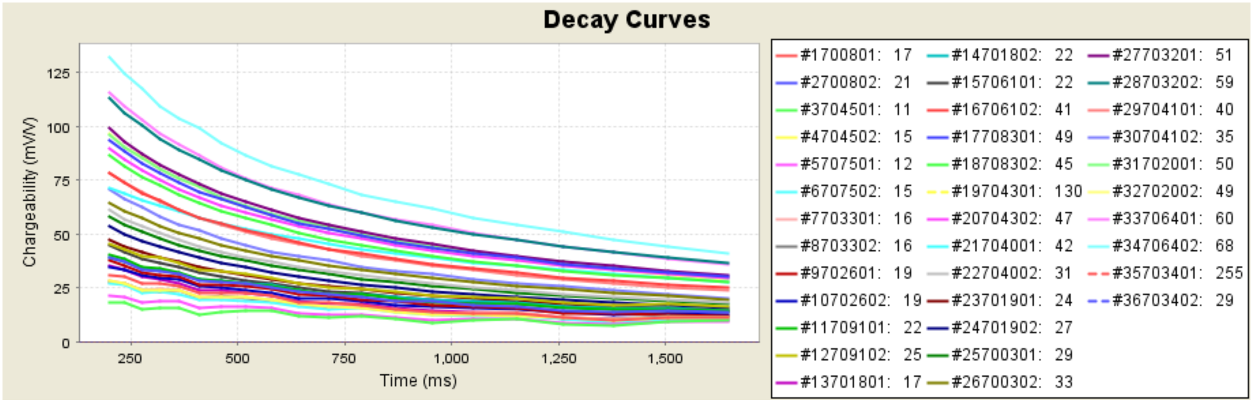

Figure 6: Example of clean decay curve.

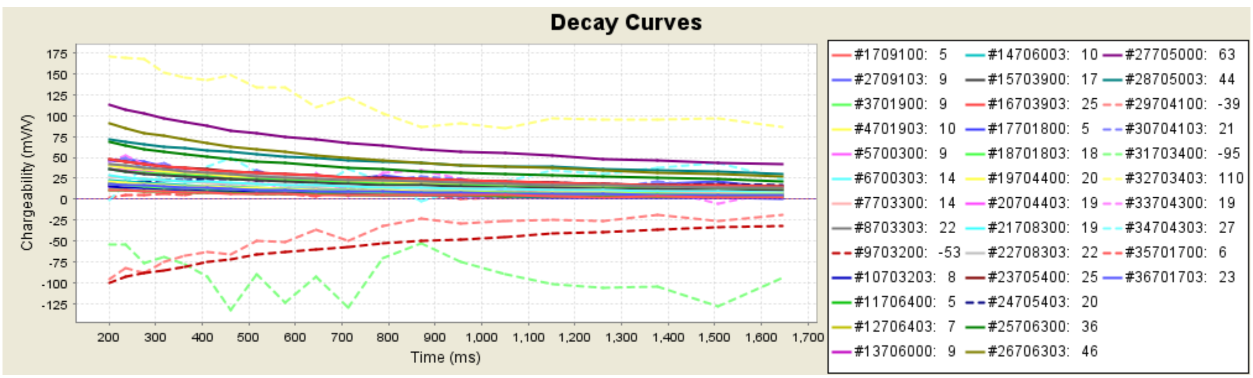

Figure 7: Example of relatively noisy decay curve.

7.3. Magnetometer data

Daily calibration readings were consistent, with the operators magnetic signature having less than a 25nT effect while recording calibration points. Daily diurnal fluctuations, as recorded by the base station, were calm and steady. Throughout the survey, care was taken to ensure the operator, sensor position, and recordings were consistent and repeatable. Several repeats were taken to verify any anomalous changes in the data, especially in and around the areas with high gradients and large magnetic fluctuations. Less than 1% of the points had to be discarded due to being unrepeatable. In general, the magnetometer data was very good. Two distinct geologic zones are visible and congruent with the IP findings.

Presentation of the data as profiles and stacked profiles is best suited for mapping small, discrete magnetic responses that can be attributed to near surface source bodies. Linear features can often be traced between lines. This type of display often reveals changes in the character of the magnetic response, such as the spatial frequency, that can be attributed to changes in underlying geology not readily apparent by amplitude alone.

2D contour maps are useful for displaying the spatial relationship of the magnetic responses outlining lithological variations and delineating structural trends. These contour maps are typically coloured on the basis of amplitude. One of the most useful techniques for viewing these responses is the application of shadow enhancements (sun illumination from different angles) which highlight linear trends that strike perpendicular to the illumination angle. Draping the plan contour maps over a topographic surface to produce a 3D visualization is useful for differentiating between responses that may be an artifact of the topographic influences from those due to underlying geology.

8. Geophysical Inversion

The purpose of geophysical inversions is to estimate the 3D distribution of the rocks physical properties of the subsurface (density, resistivity, chargeability, and magnetic susceptibility) based on geophysical measurements collected at the surface. Those 3D models are created by mathematical algorithms called geophysical inversions. Unfortunately, given the complexity of the subsurface's rock properties in comparison to the amount of collected data, the geophysical inversion problem is defined as "under-determined" and as a consequence there are many different possible subsurface 3D physical property models that could fit the available data. The inversion algorithm is however designed to favour geologically realistic models and despite this limitation, a combination of high quality surface measurements combined with geophysical inversion leads to a better understanding of the subsurface.

Geophysical inversions are commonly setup for every survey carried out by SJ Geophysics. Several inversion programs are available, but SJ Geophysics primarily uses the UBC-GIF algorithms (e.g. DCIP2D, DCIP3D, MAG3D, GRAV3D) which were developed by a consortium of major mining companies under the auspices of the University of British Columbia's Geophysical Inversion Facility.

Because IP surveys measure two different geophysical properties, the inversion program used for resistivity and chargeability inversions (DCIP2D or DCIP3D) successively solves two inverse problems. The measured potential, normalized to the current, are first inverted to calculate the spatial distribution of electrical resistivity in the subsurface. Secondly, the chargeability data are inverted to recover the spatial distribution of polarizable particles in subsurface rocks. Several inversions are generally carried out and their outputs are evaluated with regard to the known geology, the estimated depth of investigation and the surface measurements. When available, additional information, such as geological boundaries and down-hole geophysical data, can be added to the inversion in order to constrain the inversion model.

Eventually the final inversion models are gridded and mapped as cross-sections as well as plan maps that are sliced at different depths beneath the surface (the list of provided maps is available in Appendix C). Inversion results are also visualized in 3D using the open source software packages Mayavi and Paraview using both 2D and 3D views. Additional data can then be overlain to aid in interpretation and facilitate discussion of potential drilling targets.

9. Deliverables

Table 9 below lists the deliverable available for the project.

File Name	Format	Description
3DIPExportedData2014	.txt	Exported 3DIP data: locations, apparent resistivity and chargeability, data errors, decay curves, etc.
IPSurveyStations.csv	.txt	Survey station locations NAD83/ UTM Zone 10N
3dmeshUTM-NAD83-Z10.txt	UBCGIF	Mesh file for the 3D-DCIP models
Combined-dcinv3dUTM.con	UBCGIF	Conductivity model (NULL value=1e-8)
Combined-dcinv3dUTM.res	UBCGIF	Resistivity model (NULL value=1e-8)
Combined-ipinv3dUTM.chg	UBCGIF	Chargeability model (NULL value=-1)
Combined-senUTM.dep	UBCGIF	Sensitivity model (Null value=0)
Combined-dcinv3dUTM-res.vtk	VTK	Resistivity model (NULL value=1e-8)
Combined-ipinv3dUTM-chg.vtk	VTK	Chargeability model (NULL value=-1)
SurveyStations2013.vtk	VTK	Survey stations of 2013
SurveyStations2014.vtk	VTK	Survey stations of 2014
Combined-dcinv3dUTM-con.xyz	XYZ-cell-centered	Conductivity model (NULL value=1e-8)
Combined-dcinv3dUTM-res.xyz	XYZ-cell-centered	Resistivity model (NULL value=1e-8)
Combined-ipinv3dUTM-chg.xyz	XYZ-cell-centered	Chargeability model (NULL value=-1)
Combined-senUTM-dep.xyz	XYZ-cell-centered	Sensitivity model (Null value=0)
Planmap_IP_RES.pdf	PDF	Plan maps of the inverted resistivity model
Planmap_IP_CHG.pdf	PDF	Plan maps of the inverted chargeability model
3DSections_IP.pdf	PDF	3D sections of the inverted resistivity and chargeability
Mag_Maps.pdf	PDF	Plan maps of the MTI
Planmaps_IP_GeoTIFFs_UTM_Zone_10N_Datum_NAD83.zip	TIF, TFW	Zipped folder containing the GeoTIFFs of the resistivity and chargeability plan maps
Mag_GeoTIFFs_UTMZ10_NAD83.zip	TIF, TFW	Zipped folder containing the GeoTIFFs of the TMI plan map
Bonaparte_Logistics_2014.pdf	PDF	Logistics report

Table 9: List of the deliverable products.

Appendix A: Survey Details

Bonaparte Volterra 3DIP Grid

Line	Series	Type	Start Station	End Station	Survey Length (m)
2600	N	Tx	2950	5700	2750
2700	N	Rc	3000	5700	2700
26 Cross Dipoles with length of 100 m each, 1 Cross Dipole with length of 50 m					2650
2800	N	Tx	3050	5600	2550
2900	N	Rc	3100	5500	2400
24 Cross Dipoles with length of 100 m each					2400
3000	N	Tx	3400	5450	2050

Total Linear Metres = 17,500m

Rc = Receiver Line, Tx = Transmitter Line, Mag = Magnetic Survey Line

Bonaparte Ground Magnetometer Grid

Line	Series	Start Station	End Station	Survey Length (m)
2200	N	2700	5300	2600
2300	N	2800	5900	3100
2400	N	2850	5800	2950
2500	N	2900	5700	2800
2600	N	2950	5700	2750
2700	N	3000	5700	2700
2800	N	3050	5600	2550
2900	N	3150	5500	2350
3000	N	3400	5600	2200
3101	N	3650	4100	450

Total Linear Metres = 24,450m

Rc = Receiver Line, Tx = Transmitter Line, Mag = Magnetic Survey Line

Appendix B: Instrument Specifications

Acquisition unit: 24-bit single channel receiver

Technical:	
Input impedance:	10 MΩ
Input overvoltage protection:	5.6 V
Internal memory:	Storage Capacity 6.9 GB, readings dependent on sample rate and duration
Number of dipoles:	1
Synchronization:	GPS
Programmable Gain (V/V):	1, 2, 4, 8, 16, 32, 64, 128
Selectable Sampling Rates (samples/second):	10, 100, 500, 1000, 1500, 2000, 2500, 3000, 3500, 4000, 4500, 5000, 7500, 10000, 12500, 15000, 17500, 20000, 20833
Common mode rejection:	More than 80 dB (for Rs=0)
Self potential (Sp):	Range:-2.048 V to +2.048 V Resolution: 0.24 μV Proprietary intelligent stacking process rejecting strong non-linear SP drifts.
Primary voltage:	Range: -2.5 to 2.5V (24 bit) Resolution: 0.24 μV Accuracy: typ. <1.0%
Chargeability:	Resolution: 1 μV/V Accuracy: typ. <1.0%
General (4 dipole unit):	
Dimensions:	19.4 x 7 x 3.7 cm
Weight:	0.4 kg
Battery:	12V external
Operating temperature range:	-5 ºC to 40 ºC

GDD Tx II IP Transmitter

Input voltage:	120V / 60 Hz or 240V / 50Hz (optional)
Output power:	3.6 kW maximum
Output voltage:	150 to 2200 V
Output current:	5 mA to 10 A
Time domain:	1, 2, 4, 8 second on/off cycle
Operating temp. range:	-40 °C to +65 °C
Display:	Digital LCD read to 0.001 A
Dimensions:	34 x 21 x 39 cm
Weight:	20 kg

GEM 19 Overhauser Magnetometer

Resolution:	0.01 nT, magnetic field and gradient
Accuracy:	0.2 nT over operating range
Gradient Tolerance:	up to 5000 nT/metre
Operating Interval:	4 seconds minimum, faster optional
Reading:	Initiated by keyboard depression, external trigger or carriage return via RS-232C
Input/Output:	6 Pin weatherproof connector, RS-232C, and optional analog output
Power Requirements:	12v 300 mA peak(during polarization), 35 mA standby, 600 mA peak in gradiometer
Power Source:	Internal 12 V, 1.9 Amp-hour sealed lead-acid battery standard External 12 V power source can be used
Battery Charger:	Input: 110/220 VAC, 50/60 Hz and/or 12 VDC Output: 12 V dual level charging
Operating Temperature:	-40 ºC to +60 ºC
Battery Voltage:	10 V min. to 15 V max.

Dimensions:

Console:	223 x 69 x 240 mm
Sensor staff:	4 x 450 mm sections
Sensor:	170 x 71 mm diameter

Weights:

Console:	2.1 kg
Staff:	0.9 kg
Sensor:	1.1 kg each

Appendix C: Geophysical Techniques

IP Method

The time domain IP technique energizes the ground by injecting square wave current pulses via a pair of current electrodes. During current injection, the apparent (bulk) resistivity of the ground is calculated from the measured primary voltage and the input current. Following current injection, a time decaying voltage is also measured at the receiver electrodes. This IP effect measures the amount of polarizable (or "chargeable") particles in the subsurface rock.

Under ideal circumstances, high chargeability corresponds to disseminated metallic sulfides. Unfortunately, IP responses are rarely uniquely interpretable as other rock materials are also chargeable, such as some graphitic rocks, clays and some metamorphic rocks (e.g., serpentinite). Therefore, it is prudent from a geological perspective to incorporate other data sets to assist in interpretation.

IP and resistivity measurements are generally considered repeatable to within about five percent. However, changing field conditions, such as variable water content or electrode contact, reduce the overall repeatability. These measurements are influenced to a large degree by the rock materials near the surface or, more precisely, near the measurement electrodes. In the past, interpretation of a traditional IP pseudosection was often uncertain because strong responses located near the surface could mask a weaker one at depth. Geophysical inversion techniques help to overcome this uncertainty.

Volterra-3DIP Method

Three dimensional IP surveys have been designed to take advantage of recent advances in 3D inversion techniques. Unlike conventional 2DIP, the electrode arrays are not restricted to an in-line geometry. Ideally, a 3DIP survey would consist of a random assortment of current injections and receiver dipoles, also of randomized azimuths. Unfortunately, logistical considerations usually prohibit a completely randomized approach.

In the distributed 3DIP configuration, a receiver array is established along one survey line while current lines are located on two adjacent lines located on either side of the receiver line. Current injections are performed sequentially at fixed increments (25, 50, 100 or 200 m) along the current lines. By injecting current at multiple locations along the current lines results in significantly improved data acquisition rates over conventional surveys. The Geophysical data is collected along the receiver array comprised of inline and crossline dipoles laid out at regular intervals.

The Volterra-3DIP configuration provides much more flexibility because each acquisition unit can record up to four dipoles, thus eliminating the need for specialized receiver cables and a centralized receiver control station. Dipoles can be oriented in any direction, can be of varying lengths, and completely avoid inaccessible areas if necessary.

Although more randomized than conventional 3DIP, most Volterra-3DIP surveys still follow some form of cut lines, alternating receiver dipoles and current injections and deviating where necessary for geophysical or logistical purposes. In addition, cross-line receiver dipoles are often used to increase near-surface resolution and allow for larger spacing between lines. The specifics of each survey are customized before the survey starts and sometimes during the survey by the field geophysicist.

Magnetic Survey Method

Magnetic intensity measurements are conducted along survey lines (normally on a regular grid) and are used to identify metallic mineralization related to magnetic materials in the ground (e.g., magnetite and/or pyrrhotite). Magnetic data are also used as a mapping tool to distinguish rock types and to identify faults, bedding, structure and alteration zones. Line and station spacing are usually determined by the size and depth of the exploration targets.

The most common technique used in mineral exploration is to measure the amplitude of the magnetic field using an overhauser magnetometer. The instrument digitally records the survey line, station, total magnetic field and time of day at each station. After each day of surveying, data are downloaded to a computer for archiving and further processing.

The earth's magnetic field is continually changing (diurnal variations) so field measurements are calibrated to these variations. The most accurate technique is to establish a stationary base station magnetometer to continually monitor and record the magnetic field over the course of a day. The base station and field magnetometers are synchronized on the basis of time and computer software is used to correct the field data for the diurnal variations.

Project Information:
Survey by: SJ Geophysics Ltd.
Survey Type: Volterra−3DIP
Survey Date: Oct., 2013 & Oct., 2014
3D Inversion by: SJ Geophysics Ltd.
Inversion Software: UBC−GIF DCIP3D

Instrumentation:
Receiver: Volterra Acquisition Units
Transmitter: GDD TX II
Array Type: Distributed 3DIP

Mapping Information:
Datum: NAD83
Projection: UTM Zone 10N
Inversion Model: dcinv3dUTMtrim.con
Colour Classification: Modified Logarithmic
Mapping Date: 17−Dec−2014

Volterra Geoimaging System

Interpreted Resistivity Inversion Model (ohm−m)

Depth: 5m Below Topography

0 200 400 600 800 1000
meters

WestKam Gold Corp.

Bonaparte Project

Kamloops, B.C., Canada

Plate R−1

Mapping By : SJ Geophysics Ltd. 11966−95A Avenue, Delta, British Columbia, Canada V4C 3W2 (604) 582−1100 www.sjgeophysics.com

Project Information:
Survey by: SJ Geophysics Ltd.
Survey Type: Volterra−3DIP
Survey Date: Oct., 2013 & Oct., 2014
3D Inversion by: SJ Geophysics Ltd.
Inversion Software: UBC−GIF DCIP3D

Instrumentation:
Receiver: Volterra Acquisition Units
Transmitter: GDD TX II
Array Type: Distributed 3DIP

Mapping Information:
Datum: NAD83
Projection: UTM Zone 10N
Inversion Model: dcinv3dUTMtrim.con
Colour Classification: Modified Logarithmic
Mapping Date: 17−Dec−2014

Volterra Geoimaging System

Interpreted Resistivity Inversion Model (ohm−m)

Depth: 50m Below Topography

0 200 400 600 800 1000
meters

WestKam Gold Corp.

Bonaparte Project

Kamloops, B.C., Canada

Plate R−2

Mapping By : SJ Geophysics Ltd. 11966−95A Avenue, Delta, British Columbia, Canada V4C 3W2 (604) 582−1100 www.sjgeophysics.com

Project Information:
Survey by: SJ Geophysics Ltd.
Survey Type: Volterra−3DIP
Survey Date: Oct., 2013 & Oct., 2014
3D Inversion by: SJ Geophysics Ltd.
Inversion Software: UBC−GIF DCIP3D

Instrumentation:
Receiver: Volterra Acquisition Units
Transmitter: GDD TX II
Array Type: Distributed 3DIP

Mapping Information:
Datum: NAD83
Projection: UTM Zone 10N
Inversion Model: dcinv3dUTMtrim.con
Colour Classification: Modified Logarithmic
Mapping Date: 17−Dec−2014

Volterra Geoimaging System

Interpreted Resistivity Inversion Model (ohm−m)

Depth: 75m Below Topography

0 200 400 600 800 1000
meters

WestKam Gold Corp.

Bonaparte Project

Kamloops, B.C., Canada

Plate R−3

Mapping By : SJ Geophysics Ltd. 11966−95A Avenue, Delta, British Columbia, Canada V4C 3W2 (604) 582−1100 www.sjgeophysics.com

Project Information:
Survey by: SJ Geophysics Ltd.
Survey Type: Volterra−3DIP
Survey Date: Oct., 2013 & Oct., 2014
3D Inversion by: SJ Geophysics Ltd.
Inversion Software: UBC−GIF DCIP3D

Instrumentation:
Receiver: Volterra Acquisition Units
Transmitter: GDD TX II
Array Type: Distributed 3DIP

Mapping Information:
Datum: NAD83
Projection: UTM Zone 10N
Inversion Model: dcinv3dUTMtrim.con
Colour Classification: Modified Logarithmic
Mapping Date: 17−Dec−2014

Volterra Geoimaging System

Interpreted Resistivity Inversion Model (ohm−m)

Depth: 100m Below Topography

0 200 400 600 800 1000

meters

WestKam Gold Corp.

Bonaparte Project

Kamloops, B.C., Canada

Plate R−4

Mapping By : SJ Geophysics Ltd. 11966−95A Avenue, Delta, British Columbia, Canada V4C 3W2 (604) 582−1100 www.sjgeophysics.com

Project Information:
Survey by: SJ Geophysics Ltd.
Survey Type: Volterra−3DIP
Survey Date: Oct., 2013 & Oct., 2014
3D Inversion by: SJ Geophysics Ltd.
Inversion Software: UBC−GIF DCIP3D

Instrumentation:
Receiver: Volterra Acquisition Units
Transmitter: GDD TX II
Array Type: Distributed 3DIP

Mapping Information:
Datum: NAD83
Projection: UTM Zone 10N
Inversion Model: dcinv3dUTMtrim.con
Colour Classification: Modified Logarithmic
Mapping Date: 17−Dec−2014

Volterra Geoimaging System

Interpreted Resistivity Inversion Model (ohm−m)

Depth: 150m Below Topography

0 200 400 600 800 1000

meters

WestKam Gold Corp.

Bonaparte Project

Kamloops, B.C., Canada

Plate R−5

Project Information:
Survey by: SJ Geophysics Ltd.
Survey Type: Volterra−3DIP
Survey Date: Oct., 2013 & Oct., 2014
3D Inversion by: SJ Geophysics Ltd.
Inversion Software: UBC−GIF DCIP3D

Instrumentation:
Receiver: Volterra Acquisition Units
Transmitter: GDD TX II
Array Type: Distributed 3DIP

Mapping Information:
Datum: NAD83
Projection: UTM Zone 10N
Inversion Model: dcinv3dUTMtrim.con
Colour Classification: Modified Logarithmic
Mapping Date: 17−Dec−2014

Volterra Geoimaging System

Interpreted Resistivity Inversion Model (ohm−m)

Depth: 200m Below Topography

0 200 400 600 800 1000
meters

WestKam Gold Corp.

Bonaparte Project

Kamloops, B.C., Canada

Mapping By : SJ Geophysics Ltd. 11966−95A Avenue, Delta, British Columbia, Canada V4C 3W2 (604) 582−1100 www.sjgeophysics.com

Plate R−6

Project Information:
Survey by: SJ Geophysics Ltd.
Survey Type: Volterra−3DIP
Survey Date: Oct., 2013 & Oct., 2014
3D Inversion by: SJ Geophysics Ltd.
Inversion Software: UBC−GIF DCIP3D

Instrumentation:
Receiver: Volterra Acquisition Units
Transmitter: GDD TX II
Array Type: Distributed 3DIP

Mapping Information:
Datum: NAD83
Projection: UTM Zone 10N
Inversion Model: dcinv3dUTMtrim.con
Colour Classification: Modified Logarithmic
Mapping Date: 17−Dec−2014

Volterra Geoimaging System

Interpreted Resistivity Inversion Model (ohm−m)

Depth: 250m Below Topography

0 200 400 600 800 1000

meters

WestKam Gold Corp.

Bonaparte Project

Kamloops, B.C., Canada

Plate R−7

Mapping By : SJ Geophysics Ltd. 11966−95A Avenue, Delta, British Columbia, Canada V4C 3W2 (604) 582−1100 www.sjgeophysics.com

Project Information:
Survey by: SJ Geophysics Ltd.
Survey Type: Volterra−3DIP
Survey Date: Oct., 2013 & Oct., 2014
3D Inversion by: SJ Geophysics Ltd.
Inversion Software: UBC−GIF DCIP3D

Instrumentation:
Receiver: Volterra Acquisition Units
Transmitter: GDD TX II
Array Type: Distributed 3DIP

Mapping Information:
Datum: NAD83
Projection: UTM Zone 10N
Inversion Model: dcinv3dUTMtrim.con
Colour Classification: Modified Logarithmic
Mapping Date: 17−Dec−2014

Volterra Geoimaging System

Interpreted Resistivity Inversion Model (ohm−m)

Depth: 300m Below Topography

0 200 400 600 800 1000
meters

WestKam Gold Corp.

Bonaparte Project

Kamloops, B.C., Canada

Plate R−8

Mapping By : SJ Geophysics Ltd. 11966−95A Avenue, Delta, British Columbia, Canada V4C 3W2 (604) 582−1100 www.sjgeophysics.com

Project Information:
Survey by: SJ Geophysics Ltd.
Survey Type: Volterra−3DIP
Survey Date: Oct., 2013 & Oct., 2014
3D Inversion by: SJ Geophysics Ltd.
Inversion Software: UBC−GIF DCIP3D

Instrumentation:
Receiver: Volterra Acquisition Units
Transmitter: GDD TX II
Array Type: Distributed 3DIP

Mapping Information:
Datum: NAD83
Projection: UTM Zone 10N
Inversion Model: dcinv3dUTMtrim.con
Colour Classification: Modified Logarithmic
Mapping Date: 17−Dec−2014

Volterra Geoimaging System

Interpreted Resistivity Inversion Model (ohm−m)

Depth: 400m Below Topography

0 200 400 600 800 1000
meters

WestKam Gold Corp.

Bonaparte Project

Kamloops, B.C., Canada

Plate R−9

Mapping By : SJ Geophysics Ltd. 11966−95A Avenue, Delta, British Columbia, Canada V4C 3W2 (604) 582−1100 www.sjgeophysics.com

Project Information:
Survey by: SJ Geophysics Ltd.
Survey Type: Volterra−3DIP
Survey Date: Oct., 2013 & Oct., 2014
3D Inversion by: SJ Geophysics Ltd.
Inversion Software: UBC−GIF DCIP3D

Instrumentation:
Receiver: Volterra Acquisition Units
Transmitter: GDD TX II
Array Type: Distributed 3DIP

Mapping Information:
Datum: NAD83
Projection: UTM Zone 10N
Inversion Model: dcinv3dUTMtrim.con
Colour Classification: Modified Logarithmic
Mapping Date: 17−Dec−2014

Volterra Geoimaging System

Interpreted Resistivity Inversion Model (ohm−m)

Depth: 500m Below Topography

0 200 400 600 800 1000

meters

WestKam Gold Corp.

Bonaparte Project

Kamloops, B.C., Canada

Plate R−10

Mapping By : SJ Geophysics Ltd. 11966−95A Avenue, Delta, British Columbia, Canada V4C 3W2 (604) 582−1100 www.sjgeophysics.com

Project Information:
Survey by: SJ Geophysics Ltd.
Survey Type: Volterra−3DIP
Survey Date: Oct., 2013 & Oct., 2014
3D Inversion by: SJ Geophysics Ltd.
Inversion Software: UBC−GIF DCIP3D

Instrumentation:
Receiver: Volterra Acquisition Units
Transmitter: GDD TX II
Array Type: Distributed 3DIP

Mapping Information:
Datum: NAD83
Projection: UTM Zone 10N
Inversion Model: ipinv3dUTMtrim.chg
Colour Classification: Modified Linear
Mapping Date: 17−Dec−2014

Volterra Geoimaging System

Interpreted Chargeability Inversion Model (ms)

Depth: 5m Below Topography

0 200 400 600 800 1000
meters

WestKam Gold Corp.

Bonaparte Project

Kamloops, B.C., Canada

Plate C−1

Project Information:
Survey by: SJ Geophysics Ltd.
Survey Type: Volterra−3DIP
Survey Date: Oct., 2013 & Oct., 2014
3D Inversion by: SJ Geophysics Ltd.
Inversion Software: UBC−GIF DCIP3D

Instrumentation:
Receiver: Volterra Acquisition Units
Transmitter: GDD TX II
Array Type: Distributed 3DIP

Mapping Information:
Datum: NAD83
Projection: UTM Zone 10N
Inversion Model: ipinv3dUTMtrim.chg
Colour Classification: Modified Linear
Mapping Date: 17−Dec−2014

Volterra Geoimaging System

Interpreted Chargeability Inversion Model (ms)

Depth: 50m Below Topography

0 200 400 600 800 1000
meters

WestKam Gold Corp.

Bonaparte Project

Kamloops, B.C., Canada

Mapping By : SJ Geophysics Ltd. 11966−95A Avenue, Delta, British Columbia, Canada V4C 3W2 (604) 582−1100 www.sjgeophysics.com

Plate C−2

Project Information:
Survey by: SJ Geophysics Ltd.
Survey Type: Volterra−3DIP
Survey Date: Oct., 2013 & Oct., 2014
3D Inversion by: SJ Geophysics Ltd.
Inversion Software: UBC−GIF DCIP3D

Instrumentation:
Receiver: Volterra Acquisition Units
Transmitter: GDD TX II
Array Type: Distributed 3DIP

Mapping Information:
Datum: NAD83
Projection: UTM Zone 10N
Inversion Model: ipinv3dUTMtrim.chg
Colour Classification: Modified Linear
Mapping Date: 17−Dec−2014

Volterra Geoimaging System

Interpreted Chargeability Inversion Model (ms)

Depth: 75m Below Topography

0 200 400 600 800 1000

meters

WestKam Gold Corp.

Bonaparte Project

Kamloops, B.C., Canada

Plate C−3

Mapping By : SJ Geophysics Ltd. 11966−95A Avenue, Delta, British Columbia, Canada V4C 3W2 (604) 582−1100 www.sjgeophysics.com

Project Information:
Survey by: SJ Geophysics Ltd.
Survey Type: Volterra−3DIP
Survey Date: Oct., 2013 & Oct., 2014
3D Inversion by: SJ Geophysics Ltd.
Inversion Software: UBC−GIF DCIP3D

Instrumentation:
Receiver: Volterra Acquisition Units
Transmitter: GDD TX II
Array Type: Distributed 3DIP

Mapping Information:
Datum: NAD83
Projection: UTM Zone 10N
Inversion Model: ipinv3dUTMtrim.chg
Colour Classification: Modified Linear
Mapping Date: 17−Dec−2014

Volterra Geoimaging System

Interpreted Chargeability Inversion Model (ms)

Depth: 100m Below Topography

0 200 400 600 800 1000
meters

WestKam Gold Corp.

Bonaparte Project

Kamloops, B.C., Canada

Plate C−4

Project Information:
Survey by: SJ Geophysics Ltd.
Survey Type: Volterra–3DIP
Survey Date: Oct., 2013 & Oct., 2014
3D Inversion by: SJ Geophysics Ltd.
Inversion Software: UBC–GIF DCIP3D

Instrumentation:
Receiver: Volterra Acquisition Units
Transmitter: GDD TX II
Array Type: Distributed 3DIP

Mapping Information:
Datum: NAD83
Projection: UTM Zone 10N
Inversion Model: ipinv3dUTMtrim.chg
Colour Classification: Modified Linear
Mapping Date: 17–Dec–2014

Volterra Geoimaging System

Interpreted Chargeability Inversion Model (ms)

Depth: 150m Below Topography

0 200 400 600 800 1000

meters

WestKam Gold Corp.

Bonaparte Project

Kamloops, B.C., Canada

Plate C–5

Project Information:
Survey by: SJ Geophysics Ltd.
Survey Type: Volterra−3DIP
Survey Date: Oct., 2013 & Oct., 2014
3D Inversion by: SJ Geophysics Ltd.
Inversion Software: UBC−GIF DCIP3D

Instrumentation:
Receiver: Volterra Acquisition Units
Transmitter: GDD TX II
Array Type: Distributed 3DIP

Mapping Information:
Datum: NAD83
Projection: UTM Zone 10N
Inversion Model: ipinv3dUTMtrim.chg
Colour Classification: Modified Linear
Mapping Date: 17−Dec−2014

Volterra Geoimaging System

Interpreted Chargeability Inversion Model (ms)

Depth: 200m Below Topography

0 200 400 600 800 1000
meters

WestKam Gold Corp.

Bonaparte Project

Kamloops, B.C., Canada

Plate C−6

Mapping By : SJ Geophysics Ltd. 11966−95A Avenue, Delta, British Columbia, Canada V4C 3W2 (604) 582−1100 www.sjgeophysics.com

Project Information:
Survey by: SJ Geophysics Ltd.
Survey Type: Volterra−3DIP
Survey Date: Oct., 2013 & Oct., 2014
3D Inversion by: SJ Geophysics Ltd.
Inversion Software: UBC−GIF DCIP3D

Instrumentation:
Receiver: Volterra Acquisition Units
Transmitter: GDD TX II
Array Type: Distributed 3DIP

Mapping Information:
Datum: NAD83
Projection: UTM Zone 10N
Inversion Model: ipinv3dUTMtrim.chg
Colour Classification: Modified Linear
Mapping Date: 17−Dec−2014

Volterra Geoimaging System

Interpreted Chargeability Inversion Model (ms)

Depth: 250m Below Topography

0 200 400 600 800 1000

meters

WestKam Gold Corp.

Bonaparte Project

Kamloops, B.C., Canada

Plate C−7

Mapping By : SJ Geophysics Ltd. 11966−95A Avenue, Delta, British Columbia, Canada V4C 3W2 (604) 582−1100 www.sjgeophysics.com

Project Information:
Survey by: SJ Geophysics Ltd.
Survey Type: Volterra−3DIP
Survey Date: Oct., 2013 & Oct., 2014
3D Inversion by: SJ Geophysics Ltd.
Inversion Software: UBC−GIF DCIP3D

Instrumentation:
Receiver: Volterra Acquisition Units
Transmitter: GDD TX II
Array Type: Distributed 3DIP

Mapping Information:
Datum: NAD83
Projection: UTM Zone 10N
Inversion Model: ipinv3dUTMtrim.chg
Colour Classification: Modified Linear
Mapping Date: 17−Dec−2014

Volterra Geoimaging System

Interpreted Chargeability Inversion Model (ms)

Depth: 300m Below Topography

0 200 400 600 800 1000
meters

WestKam Gold Corp.

Bonaparte Project

Kamloops, B.C., Canada

Plate C−8

Project Information:
Survey by: SJ Geophysics Ltd.
Survey Type: Volterra–3DIP
Survey Date: Oct., 2013 & Oct., 2014
3D Inversion by: SJ Geophysics Ltd.
Inversion Software: UBC–GIF DCIP3D

Instrumentation:
Receiver: Volterra Acquisition Units
Transmitter: GDD TX II
Array Type: Distributed 3DIP

Mapping Information:
Datum: NAD83
Projection: UTM Zone 10N
Inversion Model: ipinv3dUTMtrim.chg
Colour Classification: Modified Linear
Mapping Date: 17–Dec–2014

Volterra Geoimaging System

Interpreted Chargeability Inversion Model (ms)

Depth: 400m Below Topography

0 200 400 600 800 1000
meters

WestKam Gold Corp.

Bonaparte Project

Kamloops, B.C., Canada

Plate C–9

Project Information:
Survey by: SJ Geophysics Ltd.
Survey Type: Volterra−3DIP
Survey Date: Oct., 2013 & Oct., 2014
3D Inversion by: SJ Geophysics Ltd.
Inversion Software: UBC−GIF DCIP3D

Instrumentation:
Receiver: Volterra Acquisition Units
Transmitter: GDD TX II
Array Type: Distributed 3DIP

Mapping Information:
Datum: NAD83
Projection: UTM Zone 10N
Inversion Model: ipinv3dUTMtrim.chg
Colour Classification: Modified Linear
Mapping Date: 17−Dec−2014

Volterra Geoimaging System

Interpreted Chargeability Inversion Model (ms)

Depth: 500m Below Topography

0 200 400 600 800 1000
meters

WestKam Gold Corp.

Bonaparte Project

Kamloops, B.C., Canada

Plate C−10

Mapping By : SJ Geophysics Ltd. 11966−95A Avenue, Delta, British Columbia, Canada V4C 3W2 (604) 582−1100 www.sjgeophysics.com

Project Information:
Survey by: SJ Geophysics Ltd.
Processing by: SJ Geophysics Ltd.
Survey Date: Oct., 2013 & Oct., 2014

Instrumentation:
Magnetometer: GEM−Systems GSM−19 Overhauser Magnetometer

Mapping Information:
Datum: NAD83
Projection: UTM Zone 10N
Colour Classification: Not Applicable
Mapping Date: 06−Jan−2015

Ground Magnetic Survey

Grid Map

0 200 400 600 800 1000
meters

WestKam Gold Corp.

Bonaparte Project

Kamloops, B.C., Canada

Plate: Mag−1

Mapping By : SJ Geophysics Ltd. 11966−95A Avenue, Delta, British Columbia, Canada V4C 3W2 (604) 582−1100 www.sjgeophysics.com

Project Information:
Survey by: SJ Geophysics Ltd.
Processing by: SJ Geophysics Ltd.
Survey Date: Oct., 2013 & Oct., 2014

Instrumentation:
Magnetometer: GEM−Systems GSM−19 Overhauser Magnetometer

Mapping Information:
Datum: NAD83
Projection: UTM Zone 10N
Colour Classification: Not Applicable
Mapping Date: 06−Jan−2015

Ground Magnetic Survey

Stacked Total Magnetic Intensity Profiles Map

0 200 400 600 800 1000
meters

WestKam Gold Corp.

Bonaparte Project

Kamloops, B.C., Canada

Plate: Mag−2

Mapping By : SJ Geophysics Ltd. 11966−95A Avenue, Delta, British Columbia, Canada V4C 3W2 (604) 582−1100 www.sjgeophysics.com

Project Information:
Survey by: SJ Geophysics Ltd.
Processing by: SJ Geophysics Ltd.
Survey Date: Oct., 2013 & Oct., 2014

Instrumentation:
Magnetometer: GEM−Systems GSM−19 Overhauser Magnetometer

Mapping Information:
Datum: NAD83
Projection: UTM Zone 10N
Colour Classification: Modified Equal Area
Mapping Date: 06−Jan−2015

Ground Magnetic Survey

Total Magnetic Intensity Map

0 200 400 600 800 1000

meters

WestKam Gold Corp.

Bonaparte Project

Kamloops, B.C., Canada

Plate: Mag−3

Mapping By : SJ Geophysics Ltd. 11966−95A Avenue, Delta, British Columbia, Canada V4C 3W2 (604) 582−1100 www.sjgeophysics.com

Project Information:
Survey by: SJ Geophysics Ltd.
Processing by: SJ Geophysics Ltd.
Survey Date: Oct., 2013 & Oct., 2014

Instrumentation:
Magnetometer: GEM−Systems GSM−19 Overhauser Magnetometer

Mapping Information:
Datum: NAD83
Projection: UTM Zone 10N
Colour Classification: Modified Equal Area
Mapping Date: 06−Jan−2015

Ground Magnetic Survey

Total Magnetic Intensity Map: Shadow Enhanced

0 200 400 600 800 1000
meters

WestKam Gold Corp.

Bonaparte Project

Kamloops, B.C., Canada

Plate: Mag−4

Mapping By : SJ Geophysics Ltd. 11966−95A Avenue, Delta, British Columbia, Canada V4C 3W2 (604) 582−1100 www.sjgeophysics.com

Project Information:
Survey by: SJ Geophysics Ltd.
Processing by: SJ Geophysics Ltd.
Survey Date: Oct., 2013 & Oct., 2014

Instrumentation:
Magnetometer: GEM−Systems GSM−19 Overhauser Magnetometer

Mapping Information:
Datum: NAD83
Projection: UTM Zone 10N
Colour Classification: Modified Equal Area
Mapping Date: 06−Jan−2015

Ground Magnetic Survey

Total Magnetic Intensity Map with Stacked Profiles

0 200 400 600 800 1000
meters

WestKam Gold Corp.

Bonaparte Project

Kamloops, B.C., Canada

Plate: Mag−5

Mapping By : SJ Geophysics Ltd. 11966−95A Avenue, Delta, British Columbia, Canada V4C 3W2 (604) 582−1100 www.sjgeophysics.com