



**Assessment Report for Eva Discovery Claim, P510195**

Geophysical Results Eva Discovery Claim,  
Tributary of Cottoneva Creek  
Whitehorse Mining District

Date: September 29, 2015  
NTS Map Sheet: 105E08

By  
Kryotek Arctic Innovation Inc.  
173-108 Elliott Street  
Whitehorse, Yukon  
Y1A 6C4

For  
Geoplacer Exploration Ltd.  
13 Tigereye Crescent  
Whitehorse, Yukon  
Y1A 6G6

Dates of Work: September 25, 2015

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## Introduction

### Overview

Kryotek Arctic Innovation Inc. conducted one geophysical survey for Geoplacer Exploration Ltd. on the Eva Discovery claim, on an unnamed right-limit tributary to Cottoneva Creek on September 25, 2015. The survey line was conducted using a Lippmann 4-point Resistivity System. The survey was conducted by James Coates and Astrid Grawehr of Kryotek Inc.

Kryotek also hand panned 2 samples from along the geophysics line. Each pan contained black sand; one pan had two flakes of gold and another pan had three flakes of gold. No weights were done on the gold samples.

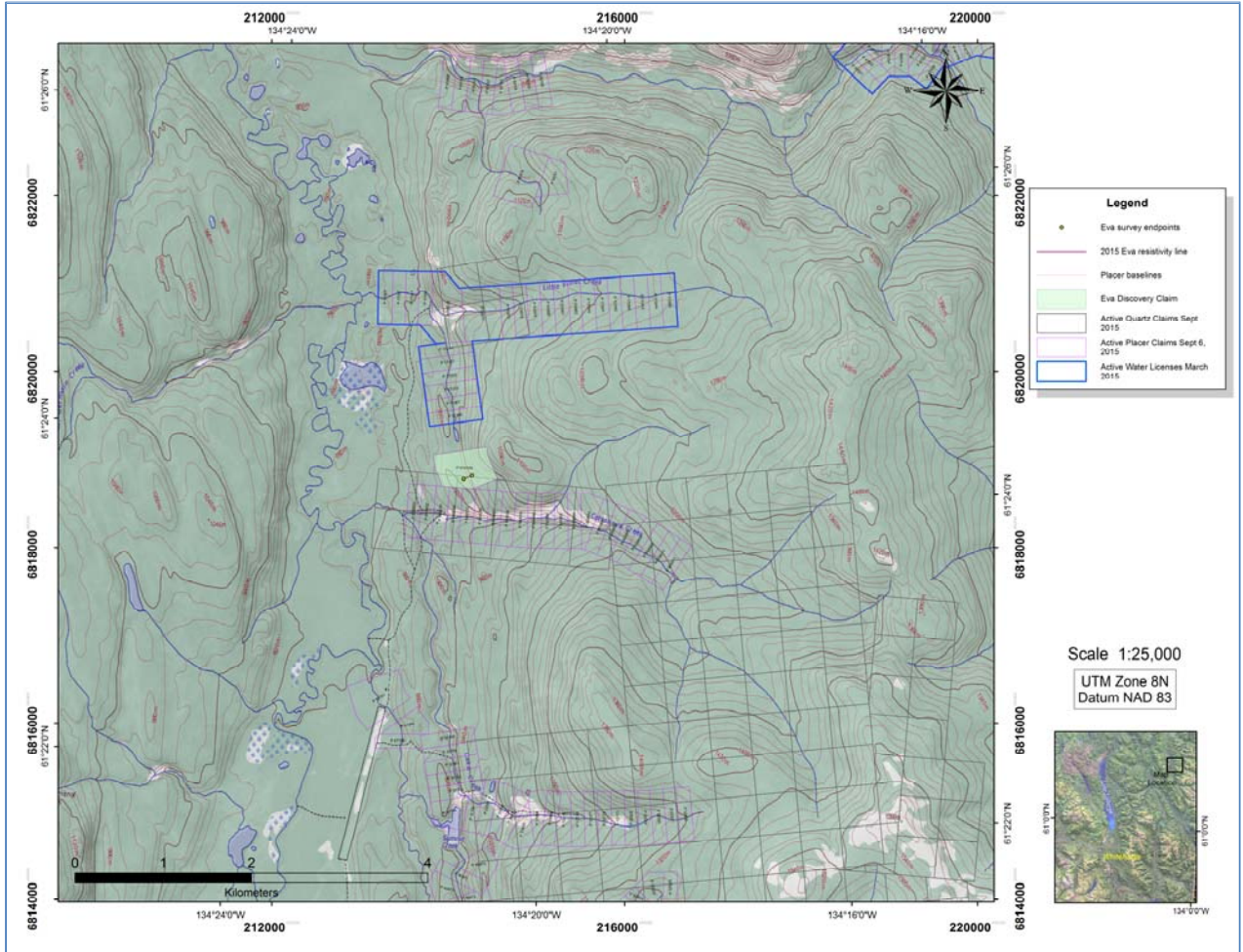


Figure 1 – Location of Geophysical line conducted by Kryotek on the Eva Claim in Livingstone region in September, 2015.

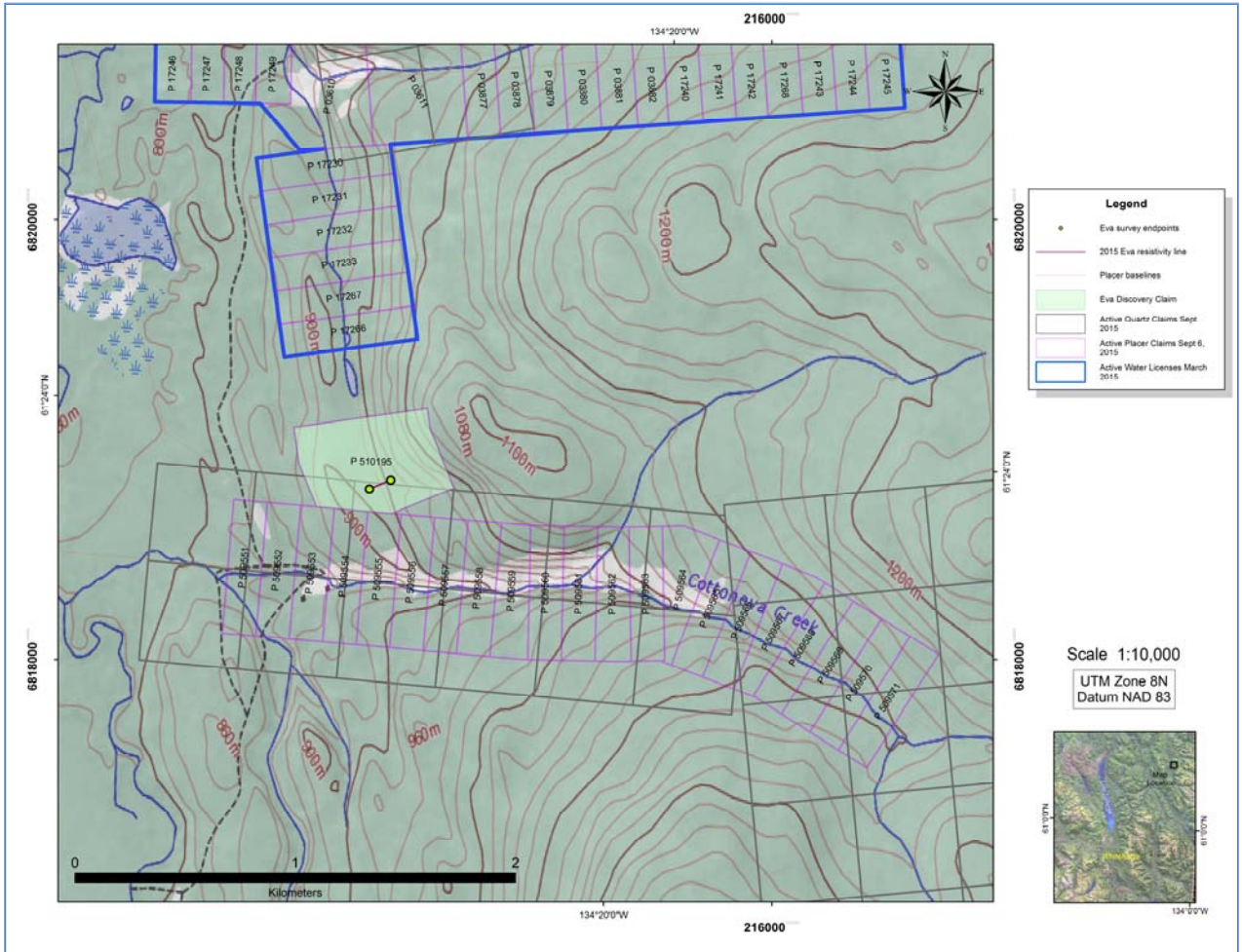


Figure 2 – Location of Geophysical resistivity line EVA2015-1 conducted by Kryotek on the EVA Discovery Claim, on an unnamed right-limit tributary to Cottonveva Creek, Livingstone District.

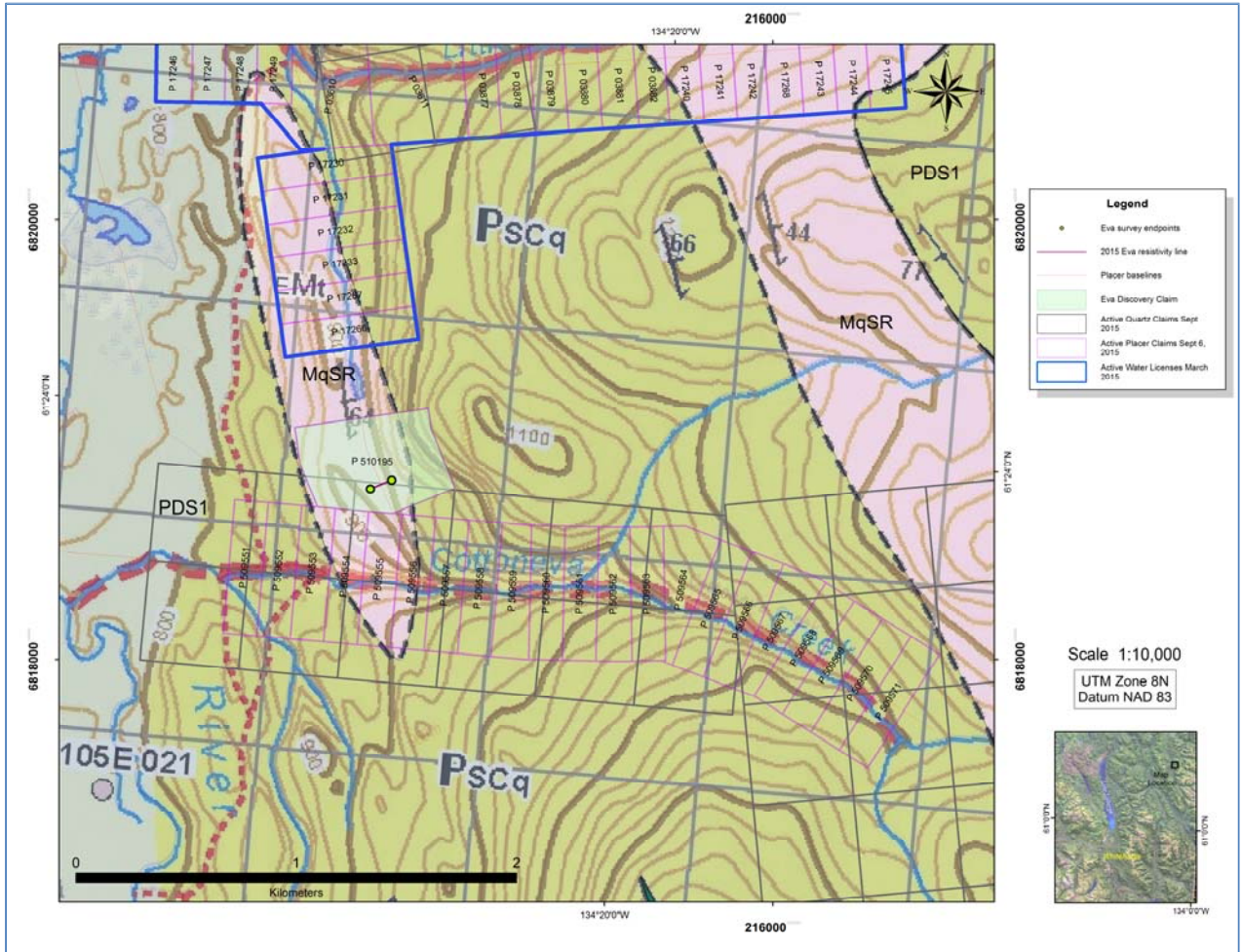


Figure 3 – Bedrock Geology of Cottoneva Creek at the location of the geophysical resistivity line EVA2015-1 on the Eva Discovery Claim. After Colpron, M., 2005. Geological map of Livingstone Creek area (NTS 105E/8), Yukon (1:50 000 scale). Yukon Geological Survey, Open File 2005-9.

## Methodology

Resistivity was used for this area as the electrical properties of overburden, schist bedrock and mineralized fault systems are distinct and easily definable. A Lippmann 4- point Resistivity System was used. This system allows over 100 m of depth penetration.

Data was collected and inverted using AGI Earth Imager 2D software. Noisy data points and electrodes with poor contact resistance were removed and data was filtered for spikes or depressions in resistivity. The software produced two- dimensional tomograms using a smoothed, least squares damped and robust inversion parameters. Preliminary interpretations were conducted on the processed data.

### DC Electrical Resistivity Tomography

This technique injects a direct electrical current into the ground surface, and then measures the voltage that remains at a number of distances from the injection point. As different soils have different resistances to electrical current, a tomogram (subsurface diagram) of resistivity can be produced.

### Earth Imager 2D Software

Earth Imager 2D software (Advanced Geosciences Inc.) was used to invert and process the geophysics data. This software produces two-dimensional tomograms of resistivity data. The images were processed using both smoothed and robust inversion parameters in order to clarify transitions between material types as well as resistivity properties of those materials.

### Data Interpretation

The images were interpreted by James Coates and features such as thawed regions, ice-rich permafrost, competent bedrock, degraded bedrock and top of bedrock contours were identified. James Coates has ten years of experience performing geophysics surveys in permafrost areas commercially and academically at the doctoral level.

These are preliminary interpretations. The central Yukon area is a unique landscape with complex and poorly understood surficial and bedrock geology. Best efforts were made to identify ground material types based on surface exposure, borehole and test pit data as well as experience in the area.

Geophysical readings and interpretations are complicated by the presence of permafrost, which greatly alters geophysical properties of soil.

Interpretations are subjective and highly dependent on the experience of the interpreter. General principles and assumptions followed in the interpretation are as follows:

1. Fine-grained materials over 600 Ohm/m are generally frozen.
2. Frozen gravels and ice-rich materials have much higher resistivity (up to 100,000 Ohm/m).
3. Frozen granite bedrock (as well as granite boulders) has a relatively low resistivity, similar to the thawed overburden in the area. There is little difference between frozen and thawed granite.
4. Frozen schist can have a very high resistivity due to the presence of interstitial water.
5. High-induced polarization chargeability in bedrock can indicate mineralization and faulting.
6. Low induced polarization chargeability in bedrock appears to indicate massive buried ice.
7. Low resistivity can indicate thawed and saturated areas.
8. Contrasts between resistivity readings indicate transitions between materials and are more important than absolute values.
9. Resistivity is the primary tool. IP sections are only provided when it provides insights in addition to the findings from resistivity data. As a result only resistivity images will be labeled, with supplementary information on the IP sections where relevant.

## Limitations

The electrical resistivity and induced polarizations method provide an estimate of subsurface conditions only at the specific locations where lines were conducted and only to the depths penetrated, and within the accuracy of the method. Data gathered represents a hemispherical cross-section extending downwards from the surface. Results are more accurate closer to the surface and become more general with increasing depths. The presence of permafrost is a major complicating factor and can cause changes in resistivity of up to several orders of magnitude.

These data are indirect and the interpreted features subjective in nature, with identified anomalies based on a visual assessment of the characteristic signatures in the data coupled with information from nearby boreholes and test pits.

Interpretation is largely based on the experience of the operator with the specific equipment and terrain types. Certain material types can be very similar in resistivity, resulting in ambiguous results.



## Geophysical Disclaimer

Subsurface information shown on these drawings was obtained solely for use in establishing design controls for the project. The accuracy of this information is not guaranteed and it is not to be construed as part of the plans governing construction of the project. It is the client's responsibility to inquire of the owner if additional information is available, to make arrangements to review the same prior development to conduct whatever site investigation or testing may be required, and to make their own determinations as to all subsurface conditions.

James Coates and Kryotek Arctic Innovation Inc. accept no liability whatsoever for any use or application of this information by any and all authorized or unauthorized parties.

This is a preliminary report with limited analysis. Complete analysis and detailed interpretation of each geophysics image has not been conducted. This report should serve only as a guide to understanding ground conditions surrounding boreholes and/or test pits, and is not to be used for planning or construction purposes.

## Geophysical Survey Locations

Waypoint	Latitude Decimal Degrees	Longitude Decimal Degrees	Latitude Degree Minutes Seconds	Longitude Degree Minutes Seconds
EVA2015-1 End	61.397227	-134.355876	61° 23' 50.016" N	134° 21' 21.155" W
EVA2015-1 Start	61.397662	-134.354133	61° 23' 51.583" N	134° 21' 14.879" W

Table 1. GPS Co-ordinates for geophysical lines

## Geophysics Tomograms

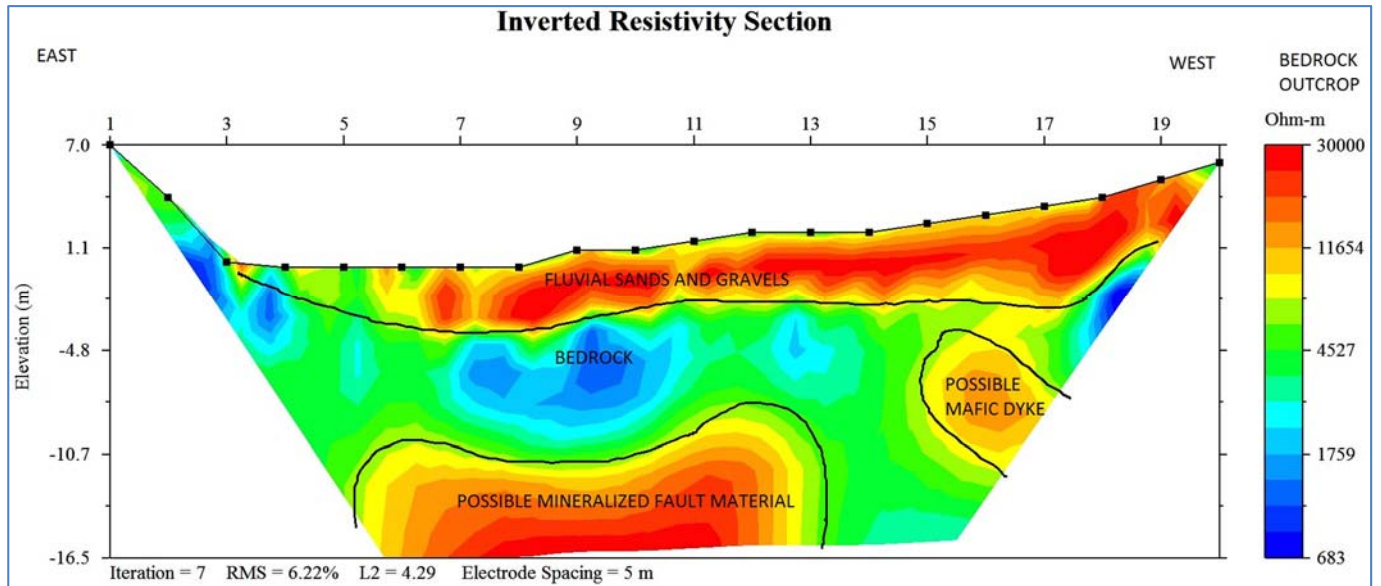


Figure 4 - Geophysics line EVA2015-1. Horizontal scale denotes electrode placement. Multiply horizontal scale by 5 m for true horizontal distance.

This 100 metre line was run from east to west across the EVA claim, which straddles a glacial melt-water paleochannel. Bedrock was exposed on each side of the perched valley.

According to Figure 3 (after YGS Open File 2005-9), bedrock below the survey consists of early Mississippian foliated granodiorite gneiss.

Bedrock at the west end of the survey displayed mineralization consistent with a mafic dyke. The geophysics survey shows fluvial sand and gravel 3-4 m deep across the bottom of the channel above bedrock. Approximately 10 m below surface is a large vertical structure that could be interpreted as highly resistive quartz-rich fault or intrusive material. A low-resistivity region (blue) above this may be highly mineralized bedrock material or groundwater collected in fractured upper bedrock. A possible mafic dyke intrudes from the west end of the survey.

Two test pits were excavated along the valley bottom; one at 25m (electrode 5) from the start and the other 35-40 m (electrode 7-8) from the start. These showed a fluvial mix of sand and cobbles with large amounts of magnetic heavy black sand. Two and three small gold flakes were found in two of the pans.

## Statement of Costs

Expense	Unit	Cost
Geophysics Day Rate (\$2,400/day)	0.5	\$1,200.00
<b>Total</b>		<b>\$1,200.00</b>

## Statement of Qualifications

### James Coates

I, James Coates of 173-108 Elliott Street, Whitehorse, Yukon, Canada DO  
HEREBY CERTIFY THAT:

1. I am a Consulting Geomorphologist with current address at 173-108 Elliott Street, Whitehorse, Yukon, Canada, Y1A 6C4.
2. I am a graduate of the University of Calgary (B.Sc., 2004, Geography) and the University of Ottawa (M.Sc., 2008, Geography)
3. I have practiced my Profession as a Geomorphologist continuously since 2008.
4. I am President and sole shareholder of Kryotek Arctic Innovation Inc., a Yukon Registered Company.

### Astrid Grawehr

I, Astrid Grawehr of 173-108 Elliott Street, Whitehorse, Yukon, Canada DO  
HEREBY CERTIFY THAT:

1. I am a practicing geoscience technician with approximately 3,000 hours of field experience.
2. I am a geophysics technician with over 1,000 hours of field time conducting resistivity/IP surveys.
3. I am a graduate of Bishop's University (B.A. Geography, 2008).
4. I am Director of Operations of Kryotek Arctic Innovation Inc.