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Arctic Geophysics Inc.



Geophysical Surveys • Prospecting • Consulting

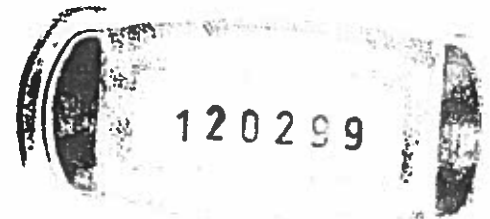
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[REDACTED]

Geophysical Survey with 1D Resistivity for Placer Investigation, Cement Creek 2014

Placer Claim P 509833



LOCATION

UTM Zone7 V 566065 6809270
NTS 115G-05

FOR

Andre Jeanson
Box 14
Burwash Landing, YT
Y0B1V0

AUTHOR

Philipp Moll

WORK PERFORMED

Aug 12th 2014

DATE OF REPORT

Aug 14th 2014

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1 Introduction

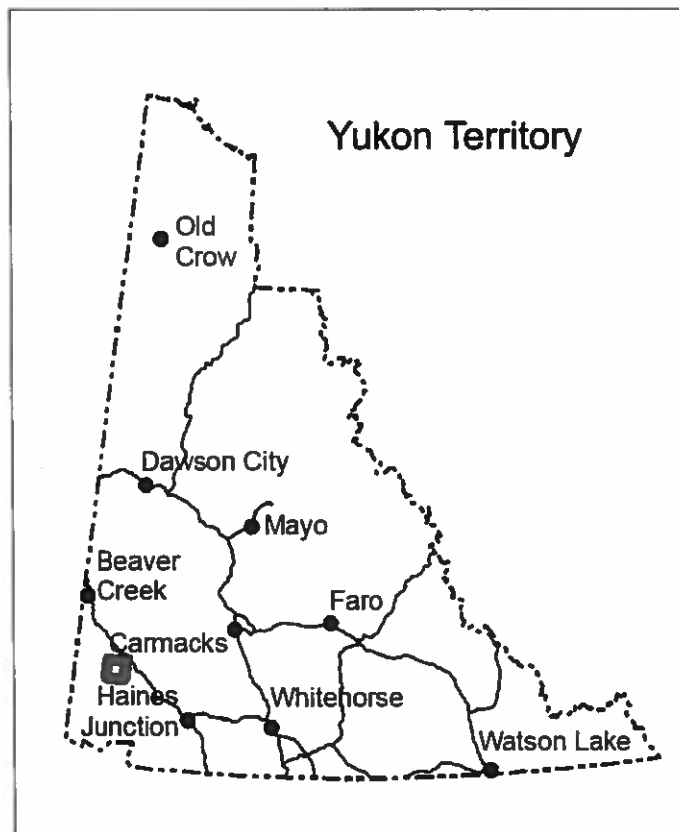
This geophysical investigation was done for Andre Jeanson. The survey, using 1D Resistivity, was conducted to prospect the placer tenure listed below for the detection of the overburden stratigraphy and the bedrock depth. The ground was tested with one 1D measuring line with a ABmax of 295m. The depth of investigation is 60m.

2 Placer Tenures

Grant Number	Name	Owner
-	P 509833	Andre Jeanson

3 Location

The placer claim property is located app. 250km west of Whitehorse, map number 115G05P, on Cement Creek being a left tributary of Donjek Creek



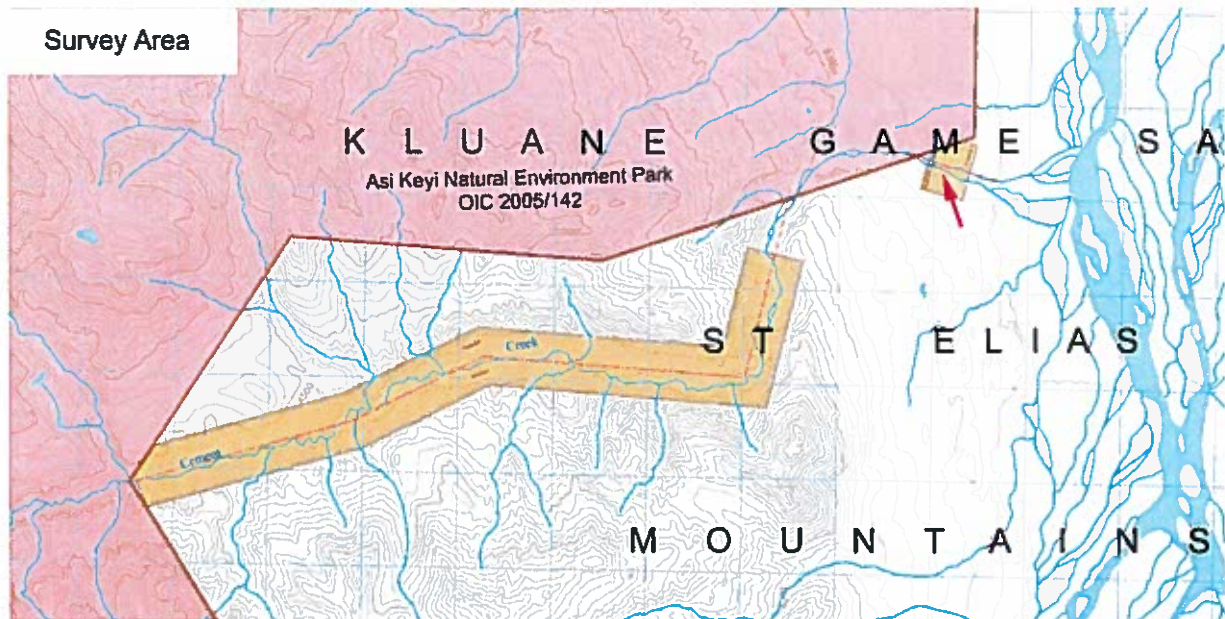


Figure. 1: Topographic map with placer tenures

4 Access

The survey crew was flown by fixed wing aircraft from Burwash Landing to a landing strip 1 km upstream (southern) from the confluence of Donjek Creek and Cement Creek. The landing strip in the field was a dry riverbed where the vegetation was roughly cut off.

5 Goal

The survey was focussed on measuring and interpreting the following subsurface characteristics:

1. Depth of bedrock
2. Sedimentary stratification
3. Permafrost conditions
4. Groundwater table

6 Geophysical Method

1D Resistivity

Explanation

Transmitter electrodes (A, B) are used to inject current into the ground. The current flow between A and B is measured with the potential electrodes (M, N) (Figure 1).

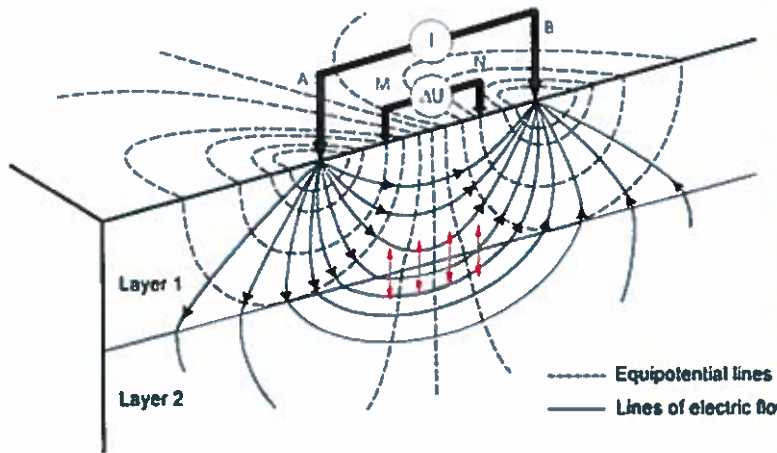


Figure 1: 4-point-measurement electric flow field



Figure: 1D Resistivity survey (Stefan and Dominique 2006)

Several 4-point-measurements are taken where the receiver electrodes M, N remain in place and the transmitter electrodes are symmetrically extended outwards. Thus the current penetrates successively deeper into the ground. When the current flow sinks to a layer with different electrical conductivity the current flow field is deformed, this can be measured at the receiver electrodes M, N. From this data a layer model based on the electrical conductivity of the different subsurface materials is calculated.

Instrumentation

The transmitted current is an AC with frequencies of 0.26 to 30 Hz automatically adjusted between 1 μ A to 100 mA and up to 400V peak to peak. The voltage measured at the receiver electrodes is amplified by the measuring device 4POINT LIGHT¹

For the cable line 4 STAINLESS STEEL ELECTRODES², 2x200m MONO CABLE and 2x10m MONO CABLE were used.

Measuring depth of the system is approx. 90m.

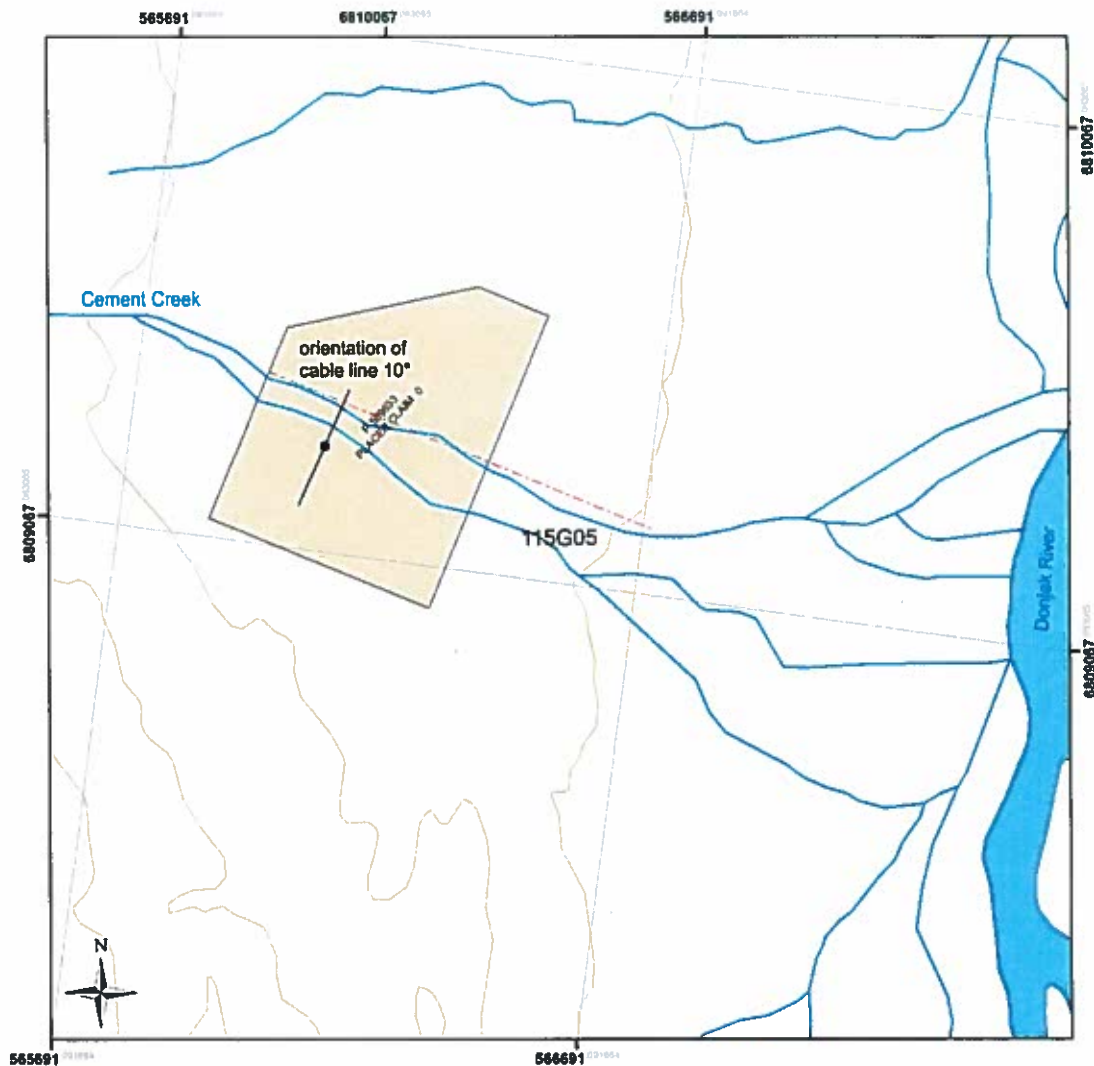
Application

1D Resistivity is a quick method to measure the depth to bedrock, groundwater table, and permafrost at a specific location. 1D Resistivity is however prone to adverse effects due to asymmetrical layers below ground. In these conditions we recommend using 2D Resistivity.

¹ Constructed and produced by LGM (Germany)

² Ditto

7 Survey Map³



Legend

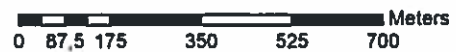
- | | |
|----------------|--------------------------|
| contour line | placer baseline |
| road | placer_claims |
| trail | Active |
| watercourse | Expired |
| waterbody | prospecting_lease |
| swamp | Active |
| 1D measurement | Expired |

Survey Map

115G05 (Steele Creek)

Universal Transverse Mercator Zone7
North America Datum 1983

Scale 1:10,000



³ Government of Canada, Natural Resources Canada, Centre for Topographic Information
<ftp://ftp.geomaticsyukon.ca/Mining>

8 Note

The subsurface information of this study is an interpretation and cannot be guaranteed

9 Profile: Interpretation

Measured Data

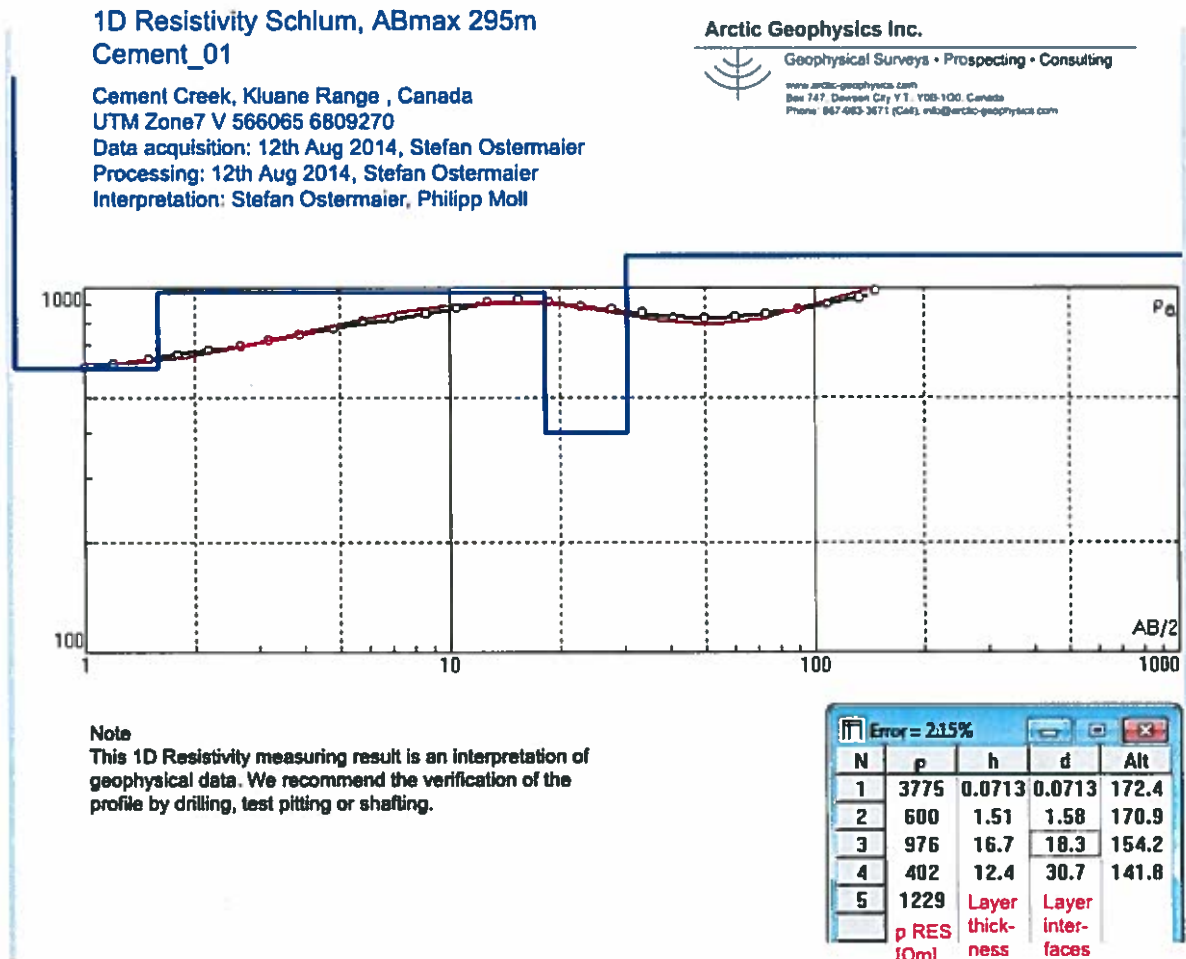
1D RES Schlum_Cement_01

AB/2 [m]	1	1.2	1.5	1.8	2.2	2.7	3.2	3.9	4.8	5.8	7
App Res.[Ω m]	601.6	618.4	636.7	656.5	674.5	690.2	715.3	740.9	770.3	809.5	820.5

AB/2 [m]	8.6	10.5	12.7	15.5	18.8	22.9	27.8	33.8	41.1	50	60.8
App Res.[Ω m]	849.4	880.2	911.2	930.1	915.1	890.8	871.2	850.6	825.8	820.2	830.5

AB/2 [m]	74	90	109	133	147.5
App Res.[Ω m]	845.3	871.3	901.7	940	979

Profile



Interpretation

The 1D Resistivity model suggests two distinguished data layers in the overburden. The bedrock is indicated at 18m depth.

The topmost data layer, showing 600 Ohm*m , thickness approx 1.6m, might be river gravel.

The data layer underneath has a thickness of approx. 16.7m and was measured with 976 Ohm*m. This layer might be river gravel as well - but this gravel unit seems to have a coarser matrix⁴ than the gravel layer above.

At approx. 18.3m depth the bedrock might start. The bedrock is a sedimentary rock showing 402 Ohm*m. It was created by lithification of alluvial deposits.

At around 30m depth the data of the bedrock increase to about 1200 Ohm*m. Likely the bedrock is getting higher metamorphosed and harder to the depth.

⁴ The matrix of a sediment means the finer sediments where the gravels are embedded. These fine sediments are usually sand, mud, silt, and clay.

10 References

Literature

Chesterman W. Ch. and Lowe K.E. Field Guide to Rocks and Minerals - North America, Chanticleer Press Inc. New York 2007

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Press F., Siever R., Grotzinger J., Thomas H.J. Understanding Earth, W.H. Freeman and Company, New York (2004)

Robb L. Introducing to Ore-Forming Processes, Backwell Science Ltd., 2005

Maps

Government of Canada, Natural Resources Canada, Centre for Topographic Information

<ftp://ftp.geomaticsyukon.ca/Mining>

11 Qualification

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- Study of geology, University of Freiburg, Germany
- Visit of geophysical field courses, University of Karlsruhe, Germany
- Working for Arctic Geophysics Inc. since June 2007 (foundation)
Geophysical field surveys using 2D Resistivity, Induced Polarization, Magnetics: Data acquisition, processing, interpretation, documentation
- Geophysical surveying for Mining Exploration in the Yukon since 2005, and geological prospecting for precious metals and minerals in the Yukon, NWTs, and Alaska since 1989
- Publications:
 - a. Numerous Assessment Reports about geophysical surveys done for Yukon mining companies, filed at Yukon Mining Recorder
 - b. Geophysical survey (45 field days) for Yukon Government: Yukon Geological Survey,
 - c. <http://virtua.gov.yk.ca:8080/lib/item?id=chamo:164867&theme=emr> "2D resistivity / IP data release for placer mining and shallow quartz mining - Yukon 2010 : Los Angeles Creek, Wolf Creek, Ladue River, and Rice Creek ; Philipp Moll and Stefan Ostermaier"

12 Confirmation

I have prepared this report entitled "Geophysical Geophysical Survey with 1D Resistivity for Placer Investigation, Cement Creek 2014" for assessment credit, and have interpreted the data. The survey was carried out by Arctic Geophysics Inc.

Schutterwald, Germany, 14th Dec 2014

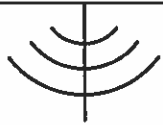
"Signed" Philipp Moll



Philipp Moll

13 Addendum
13.1 Cost

Arctic Geophysics Inc.



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Survey Location: Cement Creek, Placer Claim P509833

Invoice # 20140814

Date: 14th Aug, 2014

Quantity	Description	Amount \$CAN
Geophysical Survey		
1 days	Geoelectrical 1D-Resistivity Imaging System: Earth Resistivity Meter, 4 electrodes, 2x200m and 2x10m mono-cable, PC, software, GPS Plus Survey leader, 550.--/day	550.--
1 day	Field Assistant, 250.--/ day	400.--
1 day	Working data, Documentation, 400.-- /day Printing / Binding /Shipping	400.-- 60.--
		NET Amount \$ 1 410.--
GST Number 846363216RT0001		G.S.T. (5%) \$ 70.50
Total Due		\$ 1 480.50