



BC Geological Survey  
Assessment Report  
34448

## **Geophysical Survey with 2D Resistivity Spruce Creek, British Columbia**

**ON PLACER TENURES 589801, 838454, 838457, 1015235 and 1016854  
ATLIN MINING DIVISON**

**MAPSHEET 104N11**

**Latitude 59° 32' 44.7''N, Longitude 133° 28' 29.4''W**

**WORK PERFORMED ON October 3<sup>th</sup> – 15<sup>th</sup> and October 17<sup>th</sup> 2013**

**OWNER: CASAVANT, TREVOR ORIN VICTOR – 5214 45 AVE; UEGREIULLE, AB; T9C 1A2  
CASAVANT, VICTOR GEORGE– BOX 2044; VEGREVILLE, AB; T9C 1T3**

**CONSULTANT: ARCTIC GEOPHYSICS INC. – BOX 747 DAWSON CITY YT, Y0B 1G0**

**AUTHORS: PHILIPP MOLL, STEFAN OSTERMAIER**

**DATE SUBMITTED: November 15<sup>st</sup> 2013**

Table of Contents

1. Introduction ..... 4

2. Crew ..... 5

3. Fieldwork - Schedule ..... 5

4. Geophysical Method ..... 6

5. Use of Geophysical Methods ..... 6

    5.1. Instrumentation ..... 6

    5.2. Data Acquisition ..... 7

    5.3. Processing ..... 7

    5.4. Interpretation..... 7

6. Mining History of Spruce Creek ..... 8

7. General Geology..... 9

    7.1. Bedrock ..... 10

    7.2. Physiography, Glaciation, Placer Deposits at Spruce Creek..... 14

8. Profile image ..... 18

9. Line Arrangement ..... 18

10. Geophysical Implications ..... 18

11. Placer Targets in Profiles..... 18

12. Survey Map ..... 20

13. Profiles: Interpretation and Recommendation..... 21

    Line\_01..... 21

    Line\_02..... 23

    Line\_03..... 25

    Line\_04..... 27

    Line\_05..... 29

    Line\_06..... 31

    Line\_07..... 33

    Line\_08..... 35

    Line\_09..... 37

    Line\_10..... 39

    Line\_11..... 41

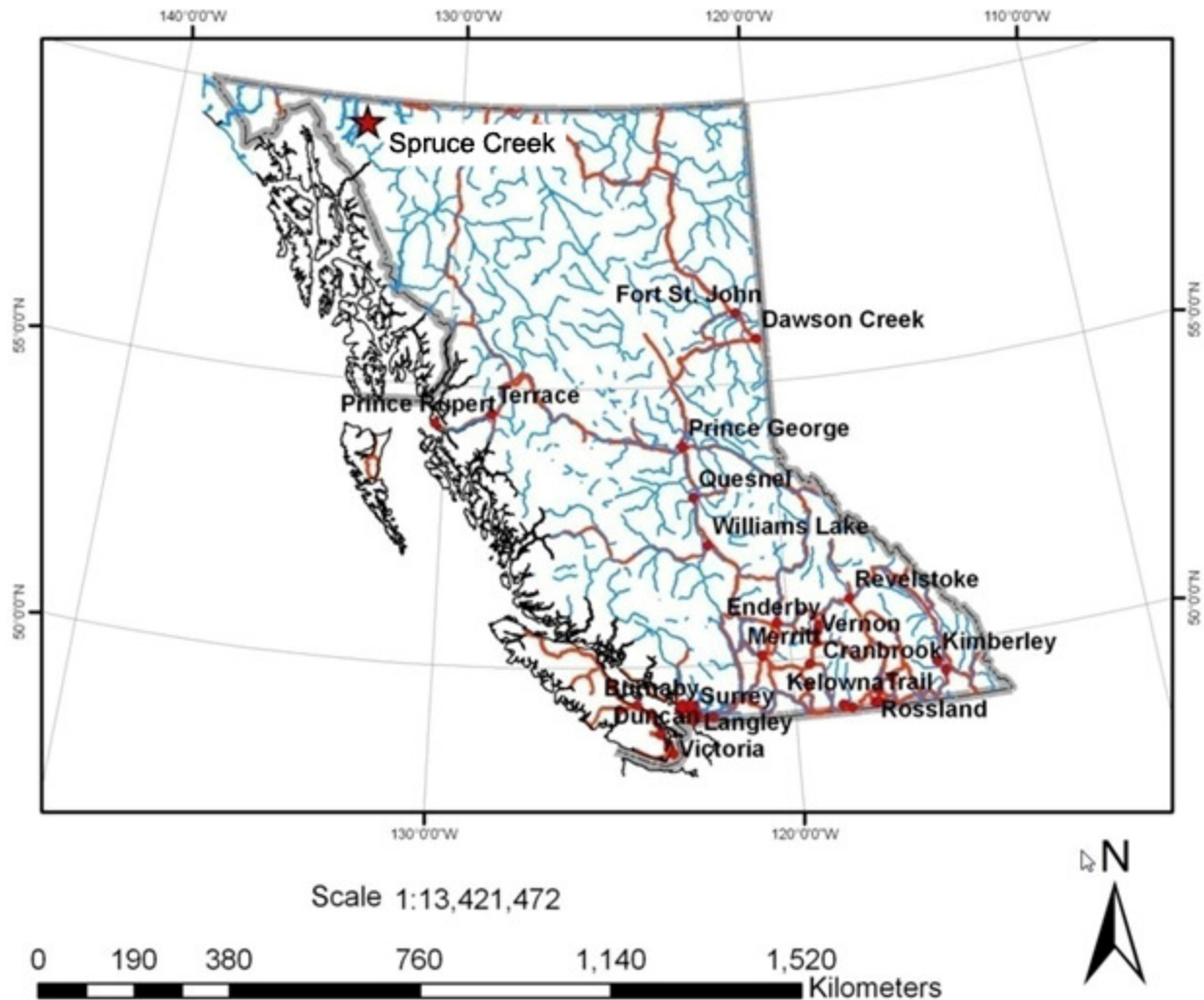
    Line\_13..... 43

14. Conclusion ..... 45

15. Gallery .....	48
16. Qualifications .....	50
17. Confirmation .....	50
Appendix .....	51
Literature.....	51
Geophysical Data Table.....	52
List of Costs .....	53
GPS-Data .....	54

## 1. Introduction

The Atlin gold rush was an off shoot of the 1898 Klondike gold rush. Gold mining activities have continued in Atlin to the present day; and although some of the traditional creeks have been thoroughly mined out there are still potentially rich placer areas to be discovered.



The geology of the Atlin area shows extensive signs of glaciation. At Spruce Creek (Atlin BC) commercial placer gold deposits are potentially sitting in glaciofluvial gravels, glaciolacustrine sediments, till on top of bedrock, and pre-glacial gravels which have been preserved.

This geophysical survey, using 2D Resistivity, was done on the placer tenures listed in the table below, at Spruce Creek (Latitude 59° 32' 44.7"N, Longitude 133° 28' 29.4"W) for CASAVANT, TREVOR ORIN VICTOR and CASAVANT, VICTOR GEORGE.

Tenure Number	Claim Name	Owner
589801	SJ	CASAVANT, TREVOR ORIN VICTOR – 100%
838454	KEY HOLE	CASAVANT, TREVOR ORIN VICTOR – 100%
838457	SJBT	CASAVANT, TREVOR ORIN VICTOR – 100%
1015235	LD SPRUCE	CASAVANT, TREVOR ORIN VICTOR – 50% CASAVANT, VICTOR GEORGE – 50%
1016854	SS	CASAVANT, TREVOR ORIN VICTOR – 50% CASAVANT, VICTOR GEORGE – 50%

The claims are approx. 16km east of Atlin and were accessed via the Surprise Lake Road and the mining road servicing upper Spruce Creek, upper Otter Creek and Rose Creek.

A total of 3 940m of measuring line was produced during the survey.

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

1. Depth and topography of bedrock
  - Paleochannels
2. Sedimentary stratification
3. Groundwater table
4. Mining/prospecting history

This geophysical survey using Resistivity is delivering subsurface information as the foundation for a systematic advanced prospection with technological means such as trenching, drilling, or shafting.

## 2. Crew

Survey Leader: Stefan Ostermaier  
 Assistance in the field: David Jennings  
 Support, Documentation: Philipp Moll, Stefan Ostermaier

## 3. Fieldwork - Schedule

**Fieldwork:** 3<sup>rd</sup> – 15<sup>th</sup> and 17<sup>th</sup> October 2013

## 4. Geophysical Method

**Resistivity** is not a time domain geophysical method such as Ground Penetrating Radar or Seismic. Resistivity measures a material property. In the Resistivity model the different underground zones are material-dependently differentiated according to their electrical conductivity. Thus, Resistivity promises good chances in respect of measuring the kind and character of the subsurface materials as well as the groundwater distribution, which would be of interest for placer mining. The equipment used (see below) allows for measuring of layer interfaces in depths from 1m to 100m by varying the electrode spacing. – Therefore, this prospecting concept is based on the use of 2D Resistivity.



Figure: 2D Resistivity measurement, Stefan Ostermaier, Arctic Geophysics Inc., Yukon 2009

## 5. Use of Geophysical Methods

### 5.1. Instrumentation

For this survey a lightweight, custom-built 2D RESISTIVITY and INDUCED POLARIZATION (IP) imaging system with rapid data acquisition was used. The system includes:

- “4 POINT LIGHT” EARTH RESISTIVITY METER<sup>1</sup>
- 96 ELECTRODE CONTROL MODULES<sup>2</sup>

---

<sup>1</sup> Constructed and produced by LGM (Germany)

- 96 STAINLESS STEEL ELECTRODES<sup>3</sup>  
480m MULTICORE CABLE: CONNECTOR SPACING: 5m<sup>4</sup>

This system weighs approximately 120 kg which is about one third of regular standard equipment. It can be run with a 12V lead battery. The equipment facilitates high mobility and rapid data acquisition with a small crew.

## 5.2. Data Acquisition

### Resistivity

The data acquisition is carried out by the automatic activation of 4-point-electrodes. Thus several thousand measurements are taken, one every 1-2 seconds. The AC transmitter current of 0.26 to 30 Hz is amplified by the electrode control modules, up to a maximum of 100mA and 400V peak to peak. The voltage measured at the receiver electrodes (M, N) is also amplified. In this geoelectrical survey the **Schlumberger-array** was used. The Schlumberger array is appropriate to image horizontal layers as is needed for placer prospecting.

The 2D Resistivity imaging system, used for this survey, allows measurements with a depth of up to 90m. With a depth to bedrock of more than 6m, an electrode spacing of 5m can be used for placer surveys. This allows the measuring of large profile lengths in short time with a horizontal measuring resolution of 2.5m. This quantification has proven itself to be reliable in the determination of the bedrock topography and sedimentary arrangement for placer investigation at the most environmental conditions.

## 5.3. Processing

### Resistivity

The measured Resistivity data were processed with the **RES2DINV** inversion program<sup>5</sup>.

Schlumberger arrays, used in this geoelectrical survey, is appropriate to measure subsurface conditions predominantly showing a horizontal zoning of the ground materials.

## 5.4. Interpretation

In this survey the interpretation of the Resistivity models is high likely since the data quality is very high and the data structure of the models is most plausible!

The resistivity profile is the basic source for the interpretation of placer-related subsurface aspects of overburden and bedrock.

---

<sup>2</sup> Ditto

<sup>3</sup> Constructed and produced by GEOANALYSIS.DE (Germany)

<sup>4</sup> Ditto

<sup>5</sup> Produced by GEOTOMO SOFTWARE (Malaysia)

## 6. Mining History of Spruce Creek<sup>6</sup>

The gold production from the gravels of this creek exceeds the combined production from all the other creeks of the camp. Gold was discovered on Spruce Creek a short distance below the mouth of Eureka Creek. After a few years it was realized that as a rule preglacial gravels of Spruce Creek valley were richer than the other creeks but were covered with a greater depth of overburden and mostly could be worked only by underground methods. The result has been that these gravels have been worked more slowly than that of the other creeks, and after continuous production for more than fifty years production, in 1950 is being continued at a high rate. The ground was so high grade that owners of single claims were able to operate for long periods, with the result that consolidations of holdings to be held by companies took place more slowly than on other creeks.

Hydraulicking "as attempted in 1902 and possibly in 1899 but "as not successful possibly because of shortage of water, low gradient, and lack of areas for disposal of tailings. A steam shovel "as installed in 1905 but its operation "as not successful. Hydraulicking "as carried on from 1910 to 1914 at the lower end of the valley where it widens out and there is room for tailings, but the material handled consisted of fluvio-glacial deposits and only low recoveries were made.

Most of the work done until 1912 was below Discovery and largely consisted of driving slopes into the banks of the present creek to reach the Yellow gravels and driving workings on the old bedrock, and mining the upper two feet of it and about four feet of the gravel. Where the new channel crossed the old, the Yellow gravels were at the surface and could be worked without driving a slope, but these surface gravels were worked out very early. By 1912 much of the bedrock gravel of the old channel below Discovery had been worked and intensive exploration to find the channel upstream from Discovery was started. However, the pre-glacial channel upstream gradually becomes deeper, and as a bedrock drain "as extended up the creek it became feasible to work the gravels found, and in recent years the bulk of the production has come from shaft operations.

A steam shovel and a mobile sluicing plant were installed by a company in 1934 to wash gravel in the present creek bed, tailings from previous operations and the gravel of the pre-glacial channel where it was accessible. The operation "as successful and the same company installed another shovel and plant lower down the valley and operated both until 1939 when the limits of the properties that were owned were reached. Another company installed a shovel and sluicing plant above the other surface operation in 1941 and operated that year and in 1942. These

---

<sup>6</sup> Black, J. M.: Report in the Atlin Placer Camp, 1953



surface operations extended from near the lowest part of the known length of the old channel upstream to about 2,000 feet below Discovery.

The major operation in 1950 is from a shaft about 200 feet deep near the mouth of Dominion Creek. Workings extend about half a mile upstream from the shaft.

Most of the bedrock gravel of the pre-glacial channel within the area outlined on Figure 2 has been mined. A few isolated patches of unmined gravel may occur, but their location and extent is unknown because most of the old workings were not mapped when mined. Possibly younger beds contain gold in amounts that would make possible its recovery by underground mining, but the location and extent of these is unknown.

Gold in the deposits overlying the bedrock gravel has only been recovered near the present course of Spruce Creek, and no information is available as to the richness of these deposits in the section that has been mined.

It is improbable that any pre-glacial gravel occurs northwest of the point indicated on Figure 2, because it is probable that the lowest part of Spruce Valley and of Pine Valley at this point was glaciated. Preglacial gravel extends upstream beyond the mouth of Dominion Creek an unknown distance. The movement of ice was generally across the upper part of the valley and it is probable that the pre-glacial gravels were undisturbed during glaciation.

Gold occurs in surface gravels near the head of the valley and was found shortly after the discovery of the gold in the lower part of the valley. The surface gravel of the upper valley was worked for many years by individual miners shovelling in to sluices. A dredge was built in 1905 and was operated for a short time in 1905 and 1906 but could not handle successfully large boulders that were encountered. The surface gravels of the upper part of the valley in a section that extends from about two miles to about 35 miles above the mouth of Dominion Creek were explored in 1941 by numerous holes drilled to a depth of about 30 feet. J. Acheson who had the holes drilled believes that gold occurs in the gravel in recoverable amounts.

## 7. General Geology<sup>7</sup>

The survey area at Spruce Creek is located in the Cache Creek Terrain west of Surprise Lake.

---

<sup>7</sup> W. Gruenwald, B. Sc.: Geological, Geochemical and Geophysical Report on the Eagle, Margarita and Butterfly Claims, Atlin Mining Division, BC, 1984

Black, J. M.: Report in the Atlin Placer Camp, 1953

Asg, C. H.: Origin and Tectonic Setting of Rocks in the Atlin Area, BC (NTS104N), Ophiolitic, Ultramafic and Related, Geological Survey Branch, Bulletin 94, 1994

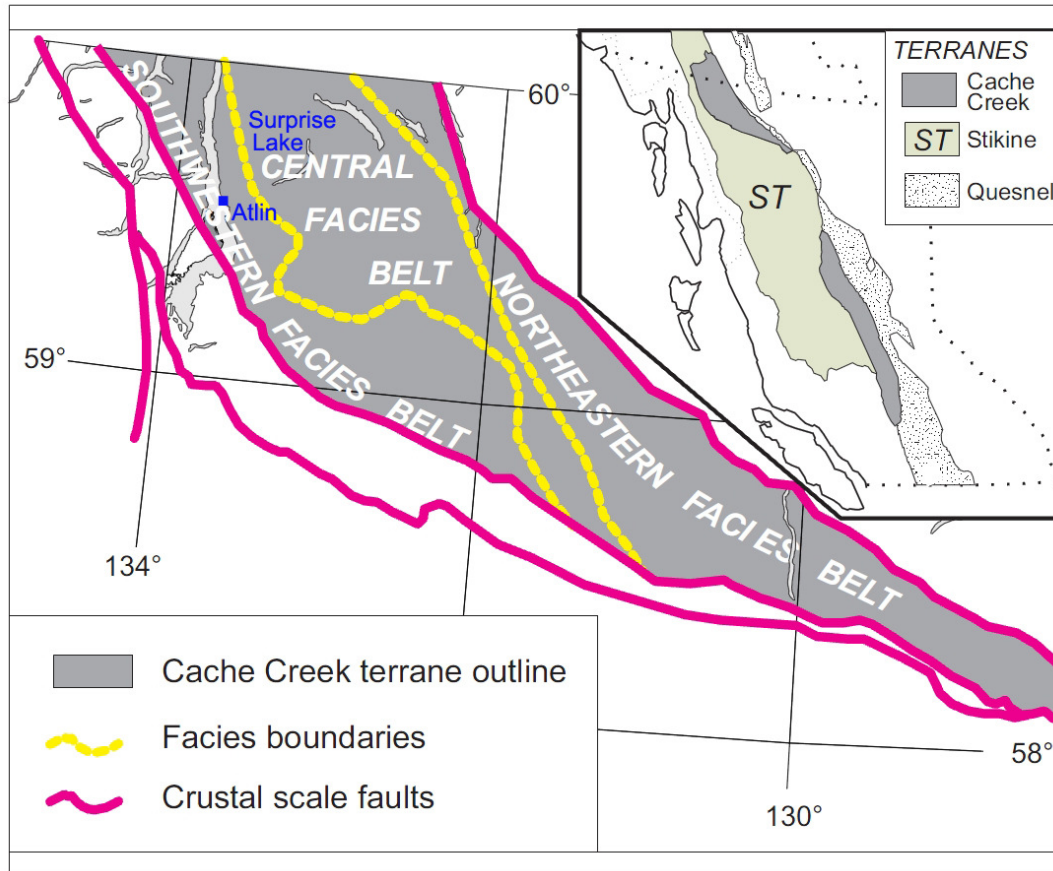


Figure: Cache Creek Terrain<sup>8</sup>

### 7.1. Bedrock

During the upper Paleozoic (Permo-carboniferous 360 - 250 million years ago) common components of the contemporary Cache Creek bedrock complex were created: Quartzite, argillite, greenstone<sup>9</sup>, and marble.

In the Mesozoic (250 - 65 million years ago) numerous irregular bodies of ultrabasic rocks have intruded into host rock dominated by the above mentioned rock types (Atlin Intrusions). The majority of these bodies were altered to masses of quartz-carbonate with variable amounts of greenish nickel-chromium micas.

During the Jurassic period (200 - 145 million years ago) granitic intrusions occurred in the Cache Creek area: for example the granodiorite body at Mt. Carter north of Atlin, and the alaskite<sup>10</sup> quartz monzonite masses of the Surprise Lake Batholith east of Atlin.

<sup>8</sup> British Columbia Geological Survey Branch, Bulletin 105v25C05, Chapter 5

<sup>9</sup> Term for green schist including chlorite, actinolite, epidote

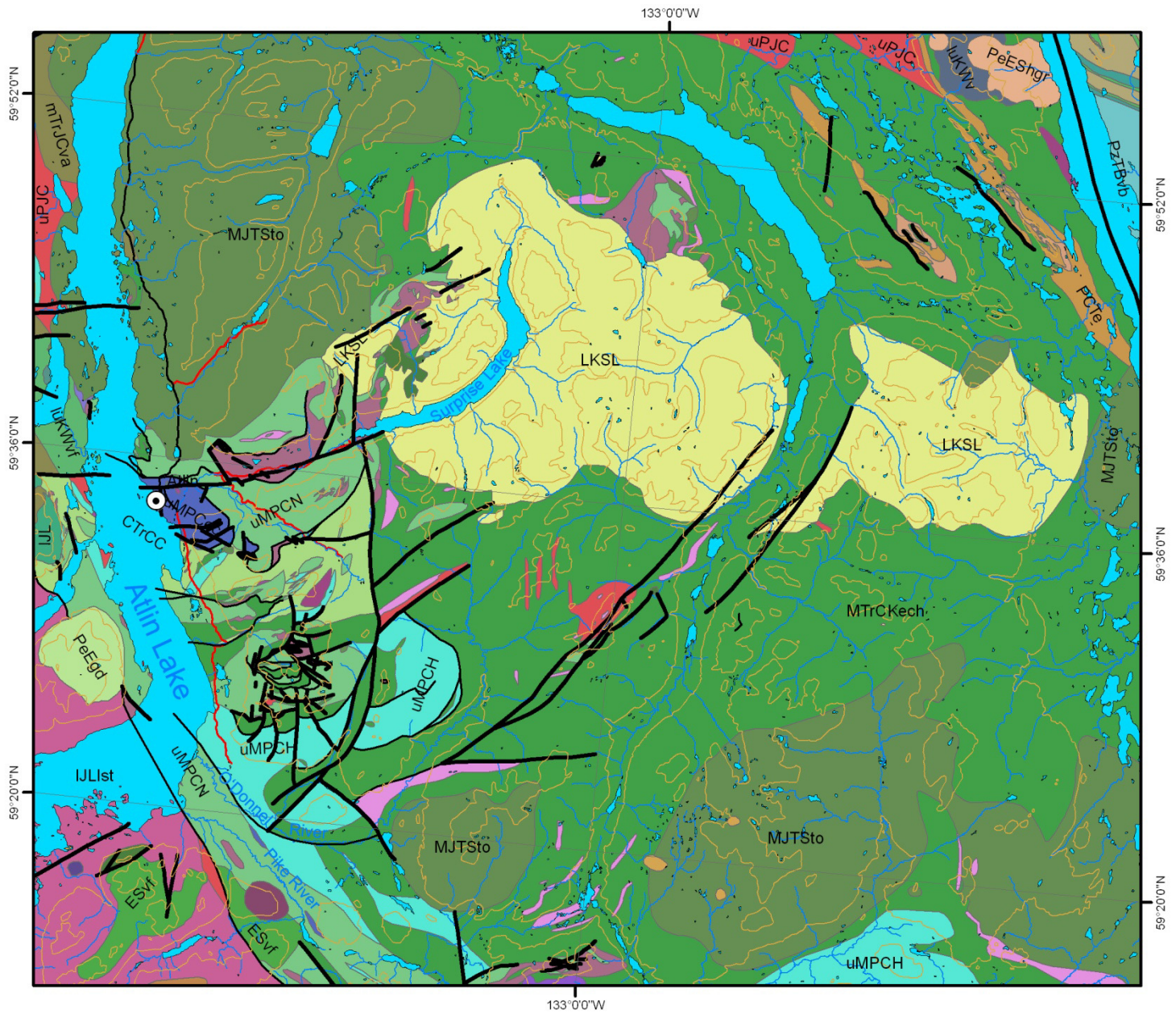
The youngest rocks mapped in the Atlin area are the olivine basalt flows and scoria near the headwaters of Volcanic and Ruby Creeks.

Today the host rocks for the above mentioned intrusions are the sedimentary, metamorphic, and volcanic rocks of the Cache Creek Group seen in the Bedrock Geology Map below.

Lode gold occurrences, which are thought to be the source of the Atlin placer gold deposits, are found in quartz veins, veinlets and/or stockworks associated with structural features such as faults or shear zones within, along, or near intrusive bodies.

---

<sup>10</sup> American term for alkali feldspar granite



## Legend

- |              |               |
|--------------|---------------|
| communities  | <b>Faults</b> |
| gravel road  | Fault         |
| paved road   | Thrust        |
| watercourse  |               |
| waterbody    |               |
| contour line |               |

## Atlin Area Bedrock Geology Map

Scale 1:500,000

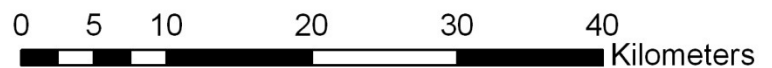


Figure: Bedrock Geology Map – Atlin Area<sup>11</sup>

<sup>11</sup> Massey, N.W.D., MacIntyre, D.G., Desjardins, P.J. and Cooney, R.T., 2005: Digital Geology Map of British Columbia: Tile NO8 Northwest B.C., B.C. Ministry of Energy and Mines, Geofile, 2005-8, scale 1:250,000

## Bedrock Geology

### STRAT\_UNIT

	CTrCC - Paleozoic to Mesozoic - Cache Creek Complex undivided sedimentary rocks
	DCog - Paleozoic - Unnamed orthogneiss metamorphic rocks
	ESv - Cenozoic - Sloko Group undivided volcanic rocks
	ESvf - Cenozoic - Sloko Group rhyolite, felsic volcanic rocks
	ESvl - Cenozoic - Sloko Group coarse volcanoclastic and pyroclastic volcanic rocks
	LKSL - Mesozoic - Surprise Lake Plutonic Suite granite, alkali feldspar granite intrusive rocks
	LKWfp - Mesozoic - Windy Table Complex feldspar porphyritic intrusive rocks
	LMPCN - Paleozoic - Cache Creek Complex - Nakina Formation gabbroic to dioritic intrusive rocks
	MJTSdr - Mesozoic - Three Sisters Plutonic Suite dioritic intrusive rocks
	MJTSto - Mesozoic - Three Sisters Plutonic Suite tonalite intrusive rocks
	MTrCKech - Paleozoic to Mesozoic - Cache Creek Complex - Kedahda Formation chert, siliceous argillite, siliciclastic rocks
	MTrCKelm - Paleozoic to Mesozoic - Cache Creek Complex - Kedahda Formation limestone, marble, calcareous sedimentary rocks
	MIPItk - Cenozoic - Tuya Formation alkaline volcanic rocks
	PCFv - Paleozoic - Cache Creek Complex - French Range Formation undivided volcanic rocks
	PCTe - Paleozoic - Cache Creek Complex - Teslin Formation limestone, marble, calcareous sedimentary rocks
	PeESHgr - Cenozoic - Sloko-Hyder Plutonic Suite granite, alkali feldspar granite intrusive rocks
	PeESHqd - Cenozoic - Sloko-Hyder Plutonic Suite quartz dioritic intrusive rocks
	PeEgd - Cenozoic - Unnamed granodioritic intrusive rocks
	PzTBIm - Paleozoic - Big Salmon Complex limestone, marble, calcareous sedimentary rocks
	PzTBqz - Paleozoic - Big Salmon Complex quartzite, quartz arenite sedimentary rocks
	PzTBs - Paleozoic - Big Salmon Complex undivided sedimentary rocks
	PzTBvb - Paleozoic - Big Salmon Complex basaltic volcanic rocks
	PzTBvd - Paleozoic - Big Salmon Complex dacitic volcanic rocks
	QM - Cenozoic - Mount Edziza Complex alkaline volcanic rocks
	Qs - Cenozoic - Unnamed undivided sedimentary rocks
	Qvb - Cenozoic - Unnamed basaltic volcanic rocks
	IJL - Mesozoic - Laberge Group undivided sedimentary rocks
	IJLst - Mesozoic - Laberge Group - Inklin Formation argillite, greywacke, wacke, conglomerate turbidites
	IuKWcg - Mesozoic - Windy Table Complex conglomerate, coarse clastic sedimentary rocks
	IuKWv - Mesozoic - Windy Table Complex undivided volcanic rocks
	IuKWvf - Mesozoic - Windy Table Complex rhyolite, felsic volcanic rocks
	mTrJCcg - Mesozoic - Cache Creek Complex conglomerate, coarse clastic sedimentary rocks
	mTrJCst - Mesozoic - Cache Creek Complex argillite, greywacke, wacke, conglomerate turbidites
	mTrJCva - Mesozoic - Cache Creek Complex andesitic volcanic rocks
	uMPCH - Paleozoic - Cache Creek Complex - Horsefeed Formation limestone, marble, calcareous sedimentary rocks
	uMPCN - Paleozoic - Cache Creek Complex - Nakina Formation basaltic volcanic rocks
	uMPCec - Paleozoic - Cache Creek Complex eclogite/mantle tectonite
	uMPCum - Paleozoic - Cache Creek Complex ultramafic rocks
	uPJC - Paleozoic to Mesozoic - Cache Creek Complex mudstone/laminite fine clastic sedimentary rocks

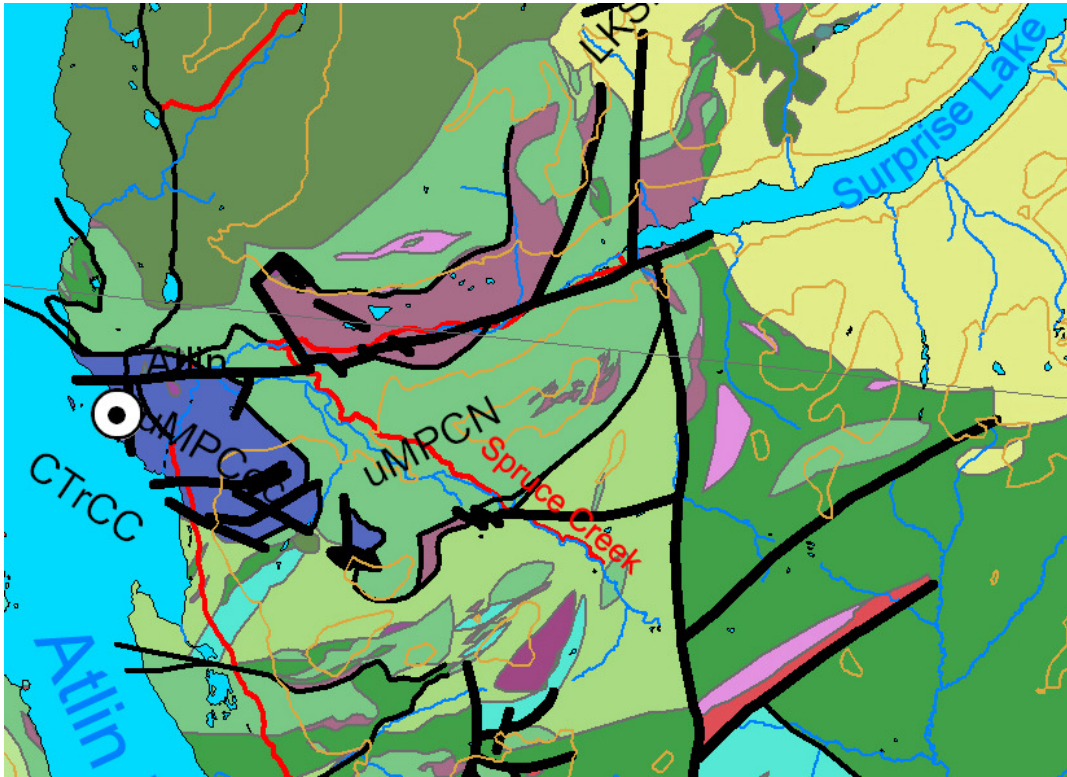


Figure: Bedrock Geology Map – Atlin Area – Spruce Creek<sup>12</sup>

## 7.2. Physiography, Glaciation, Placer Deposits at Spruce Creek<sup>13</sup>

The course of Spruce Creek where yellow placer gravel accumulated, was relatively straight and may have followed a trace of a major fault. Uplift towards the close of the Tertiary period caused the creek to start eroding rapidly and it became entrenched in a canyon in the lower part of its course. Its upper course has not been explored and little is known about it, but probably it is less deeply incised in bedrock.

The absence of cirque basins on upland ridges near the head of the valley suggests that ice did not accumulate there and that glaciation and glacial and fluvio-glacial deposits in the valley resulted from the movement and melting of glaciers that came from outside the valley. The source of the ice was probably the Llewellyn ice field.

<sup>12</sup> Massey, N.W.D., MacIntyre, D.G., Desjardins, P.J. and Cooney, R.T., 2005: Digital Geology Map of British Columbia: Tile NO8 Northwest B.C., B.C. Ministry of Energy and Mines, Geofile, 2005-8, scale 1:250,000

<sup>13</sup> Black, J. M.: Report in the Atlin Placer Camp, 1953

Asg, C. H.: Origin and Tectonic Setting of Rocks in the Atlin Area, BC (NTS104N), Ophiolitic, Ultramafic and Related, Geological Survey Branch, Bulletin 94, 1994

Gravel in Lower Spruce Valley was probably dispersed by the glacier that moved up Pine Valley and at the lowest point of the old valley that has been explored just below the end of the known Tertiary gravel, till and varved clays rest on glaciated bedrock. The valley upstream from this point has been filled with a great thickness of bedded sands, gravels, and till. This unconsolidated material covers the pre-glacial gravel for its known length, and extends up the valley to its head.

At the northwest limit of the known extent of the old channel 50 to 100 feet of sand, gravel, and till overlie it, although nearby the new channel is as much as 30 feet below the old one. About 1 mile upstream banks of unconsolidated material are as much as 150 feet high. Near the mouth of Dominion Creek, Spruce Creek flows between banks 100 feet high and the creek bed is underlain by a further 200 feet of unconsolidated material.

Above the banks are five terraces each about 10 feet high and the old channel here was filled, therefore, to a depth of at least 350 feet. The gradient of the Tertiary channel is less than that of the new channel in the section explored and if the same relationship prevails upstream, it appears that the depth of fill upstream must be greater than 350 feet. Little information is available about the depth, but according to T. Matson a hole near an old dredge was drilled 350 feet did not reach bedrock.

Some of the unconsolidated material appears to have been deposited in a lake that formed behind ice advancing up Spruce Creek, This ice moved over the unconsolidated material and removed some of it, and deposited till. According to O. Millar, more than one pay gravel was found and mined

above the Tertiary gravels on central Spruce and possibly during lulls in the advance of the ice, meltwater scoured channels and concentrated gold on stratum of silt or clay.

Glaciers also moved into Spruce Valley from Little Spruce and Dominion Creek Valleys. The ones that moved into Spruce Valley from the valleys to the southwest modified the form of those valleys and made them U-shaped. It is probably, therefore, that pre-glacial gravel in these valleys was dispersed but, according to M. Edwardson\*, gold-bearing gravel has been found in Dominion Creek about 2k,miles above its mouth at a depth of 30 feet.

The glaciers coalesced to form a glacier that filled the valley and probably three lobes from this glacier continued northeast; one moved down across the slope of Spruce Mountain, another moved up Rant Creek Valley, and a third crossed over to the head of Otter Creek Valley. The lobe that

advanced up Rant Creek Valley modified the valley to nearly a U-shaped and continued over to the head of Snake Creek Valley. The lobe that moved into Otter Valley did so only when the ice

was near its maximum extent, and probably moved through the valley for a comparatively short period and did not appreciably erode it.

At a late state in the glacial period the glacier in Spruce Valley wasted and deposited a considerable thickness of till, some of which was carried downstream by meltwaters. Southeast of the mouth of Dominion Creek a considerable part of the valley floor is covered with morainal material, some of which is rudely sorted, and kame and kettle topography developed. At this time outwash material was deposited on till in the lower part of the valley.

Stephedyke Gulch, a narrow, dry canyon east of the lower part of Spruce Creek probably was a course followed by Spruce Creek at a time when the lower part of what is now its valley was occupied by ice. This course probably was followed for a comparatively short time and little gravel is present in the gulch.

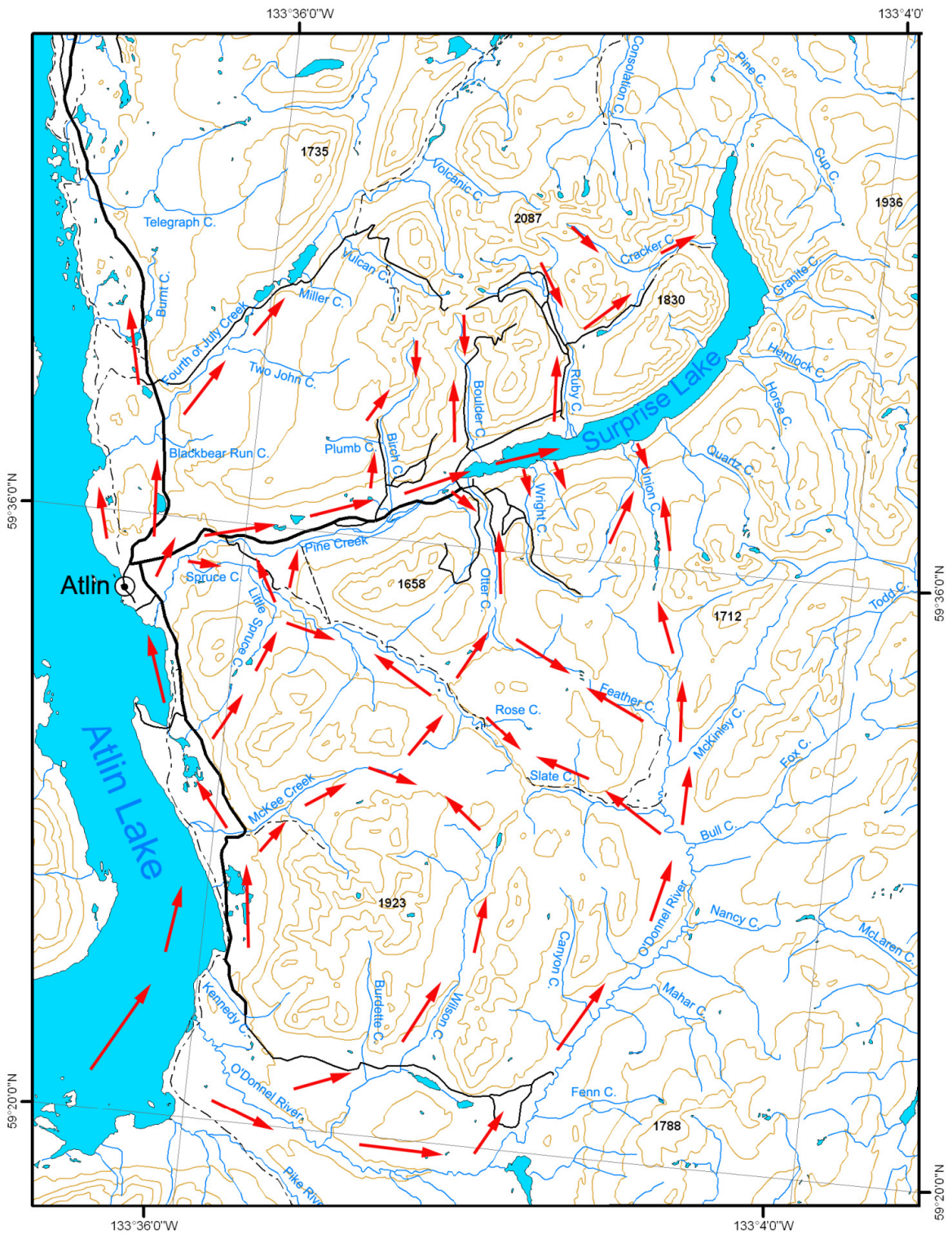
The course of Spruce Creek is more or less central in the valley. In the upper part of its course Spruce Creek flows between low banks and some gold has been concentrated in and near the channel during erosion since the glacial period. In the lower part of the valley, a canyon has been cut with banks as much as 150 feet high. Where the new course is across a rim of the old channel the canyon is cut in bedrock, but for the most part the banks are composed of unconsolidated material. In cutting through the fill, the creek has cut more readily into banks on the outside of curves and thus has come to have a course consisting of a series of curves. Near the lower end of the section in which placer gravel is found the new channel is below the old one, and in this part of the creek bed there was a concentration of gold derived from the old channel.

Figure below: Atlin Ice Movement<sup>14</sup>

---

<sup>14</sup> Black, J. M.: Report in the Atlin Placer Camp, 1953 and Ph. Moll, Arctic Geophysics Inc

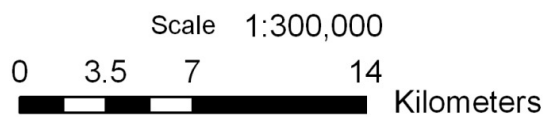




### Legend

- major road
- road
- - - trail
- - - cut line
- contour line
- water course
- waterbody

### Atlin Ice Movement



## 8. Profile image

In the Resistivity profile the interpreted layer interfaces are marked with a black line. The **graphical markings** showing the interpreted layer interfaces in the profiles (using a black line) are done according to the data structure in the profile itself.

## 9. Line Arrangement

The **line locations** were discussed and decided upon by Philipp Moll and Stefan Ostermaier from Arctic Geophysics Inc. according to the communicated intentions of the claim owner. The goal of the survey was to establish the depth to bedrock and other mining relevant subsurface information, such as groundwater.

## 10. Geophysical Implications

The different components of the overburden (till, glaciofluvial/-lacustrine sediments, and non-glacial alluvium) can hardly be differentiated in the Resistivity profiles, because they show quite similar resistivity data and are sometimes too thin to be measured. The reason for the similar resistivity of the overburden materials is the relatively high amount of ground water in the sediments. The rock components of the gravels, clasts, or boulders show low resistivity itself and support the similarity of the resistivity.

However, interfaces between different overburden materials can sometimes be detected anyway. At data interfaces where high conducting overburden layers are sitting on top of low conducting overburden layers, a clay-rich layer could start downwards acting as a seal layer for groundwater.

The interface between overburden and bedrock was clearly measured and realistically interpreted in resistivity models.

## 11. Placer Targets in Profiles<sup>15</sup>

Seal-layers (consisting of clay) described in the “Geophysical Implications, could act as “false bedrock”: The upper part of the clay-layer itself and the material closely on top of it could contain concentrations of placer gold. The interpreted "false bedrock" layers in the profiles are not too likely - but the data structures in the resistivity models indicate its possible existence - so it seems to be reasonable to check the existence of the "false bedrock" since it would be a promising prospecting target for placer gold, laying shallower than bedrock sources.

Clay layers can also protect the deposits underneath from glacial erosion. So, the material below a clay-rich layer could have preserved older placers.

---

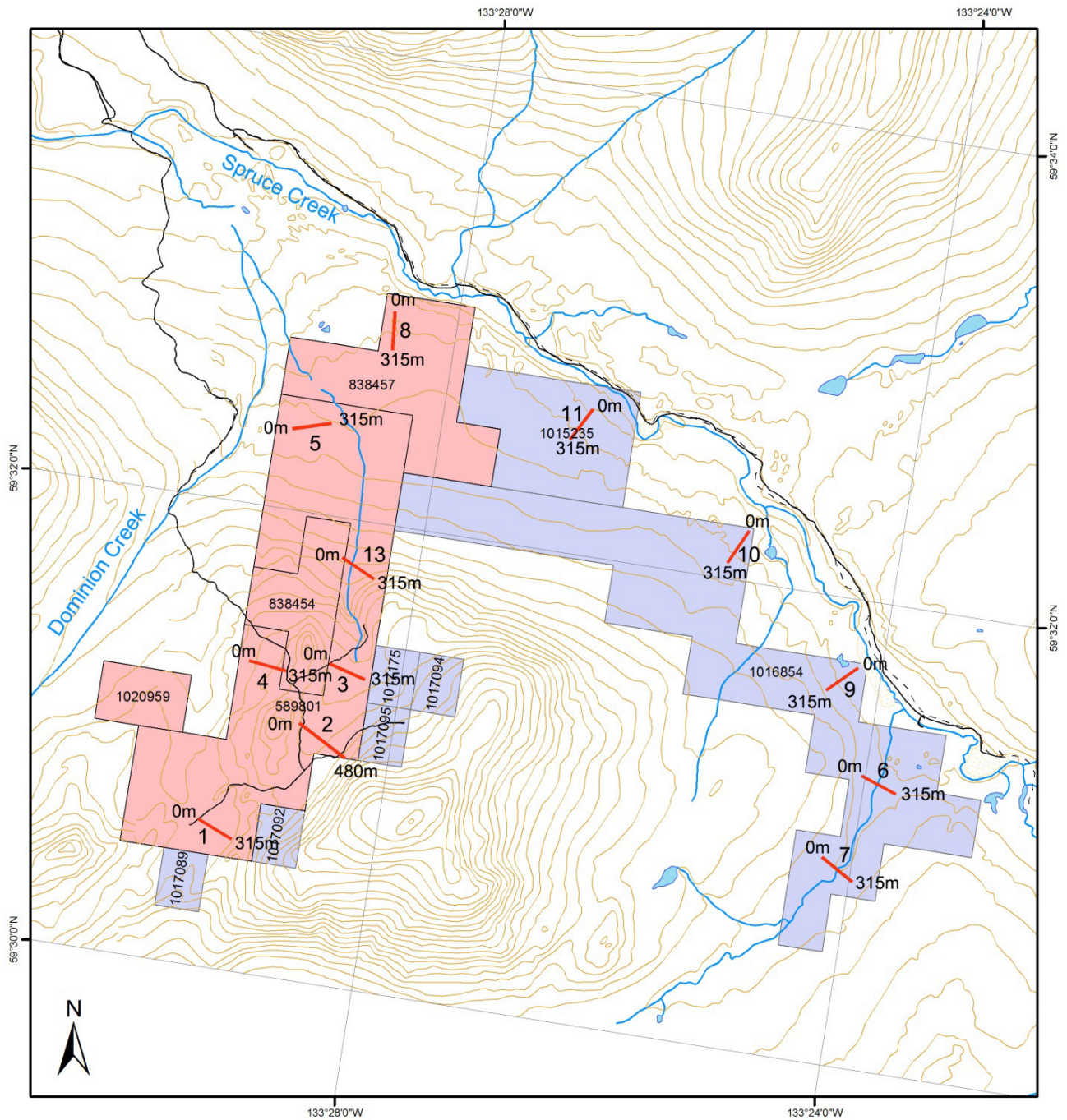
<sup>15</sup> Discussion between William LeBarge and Philipp Moll

Normally, glaciofluvial gravels have much higher potential for placer gold deposits than till, especially if they reworked pre-existing placers or eroded and re-depositing gold-bearing bedrock.

The general case is that glacial till will incorporate placer gold into it and dilute rich paystreaks into a larger volume lower grade deposit which may be uneconomic. So placer gold in till is actually fairly rare in most settings, and usually only occurs when the glacial activity is right on top of a bedrock gold source. But this actually may be the case in the survey area .

All of the sandy, gravelly, silty, and clay-containing sediments at Spruce valley can potentially contain placer gold. Each new sediment discovered when doing physical prospecting would be worth sampling.

# 12. Survey Map



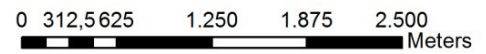
## Legend

- measuring line
- watercourse
- road
- waterbody
- trail
- claims 100% / 50%
- contour line

## Survey Map Part1

WGS84

Scale 1:40.000



# 13. Profiles: Interpretation and Recommendation

## Line\_01

### Line 01

2D Resistivity, Schlumberger array  
64 Electrodes: spacing 5m, Horizontal resolution 2.5m  
Horizontal and vertical measure in [meter], Iteration error in [%]  
Vertical exaggeration in model section display: RES 1.0  
Data acquisition: Stefan Ostermaier, 5th Oct 2013  
Processing: Philipp Moll, 6th Oct 2013

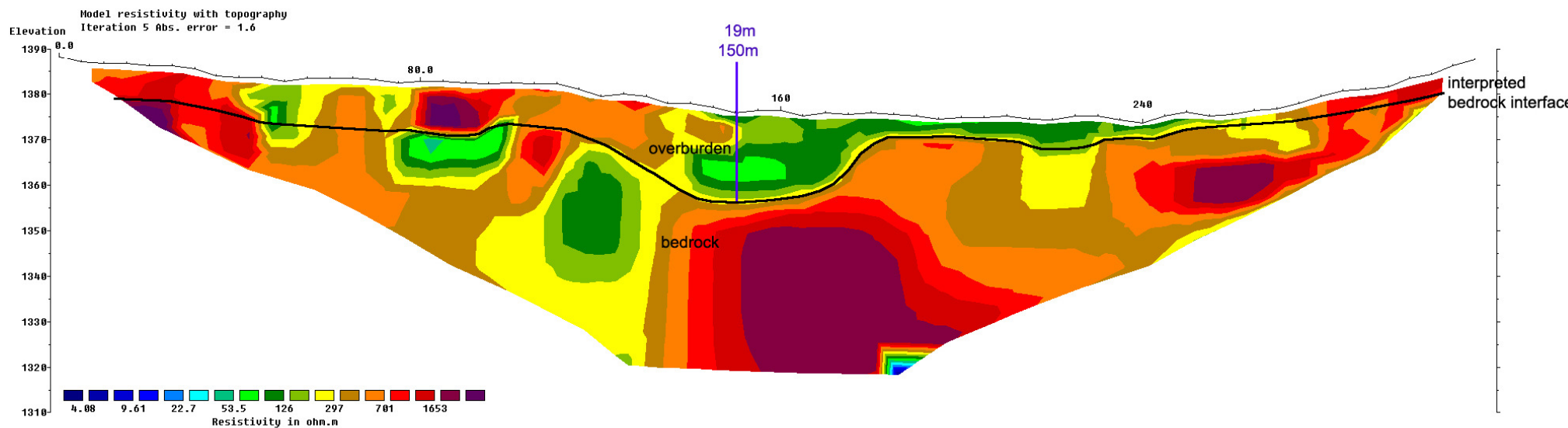
### Arctic Geophysics Inc.



Geophysical Surveys • Prospecting • Consulting

www.arctic-geophysics.com  
Box 747, Dawson City, Yukon Territory, Y0B 1G0, Canada  
Phone: 867-993-3671 (Cell), info@arctic-geophysics.com

### Interpretation



Horizontal scale is 29.02 pixels per unit spacing  
Vertical exaggeration in model section display = 1.00  
First electrode is located at 0.0 m.  
Last electrode is located at 315.0 m.

Unit Electrode Spacing = 5.00 m.

This 2D Resistivity measuring result is an interpretation of geophysical data.  
We recommend the verification of the profile by drilling or trenching.

## **Interpretation**

Resistivity profile\_01 suggests 3-19m of overburden on top of bedrock.

The uppermost resistivity layer, 3-19m thick, is showing a heterogeneous data pattern (green/yellow/brown /orange /red). This layer interpreted to be **overburden** seems to be dominated by recent fluvial and colluvial sedimentation - not showing a glacial origin. At both the beginning and the end of the profile the red data areas were observed in the field as talus. Alternatively the red data area from 270m to the end of the profile, could be (less likely) coarse glacial till. The green data area in the center of the profile, 150-265m, should contain more fine sediments such as sand, silt, and clay; also the water saturation should be higher.

At 130-180m in the profile there is a distinct 19m deep channel-like shape in the interpreted **bedrock** interface. This indicates the possibility of a paleochannel.

In the interpreted bedrock at 95-135m there is a lateral change in resistivity values (green/yellow as opposed to red), this could be an alteration zone.

## **Recommendation**

We recommend drilling at 150m in the profile where bedrock is expected at 19m depth. If the interpreted paleochannel exists and is gold bearing, the amount of placer gold should be highest in this area.

# Line\_02

## Line 02

2D Resistivity, Schlumberger array  
96 Electrodes: spacing 5m, Horizontal resolution 2.5m  
Horizontal and vertical measure in [meter], Iteration error in [%]  
Vertical exaggeration in model section display: RES 1.0  
Data acquisition: Stefan Ostermaier, 6th Oct 2013  
Processing: Philipp Moll, 7th Oct 2013

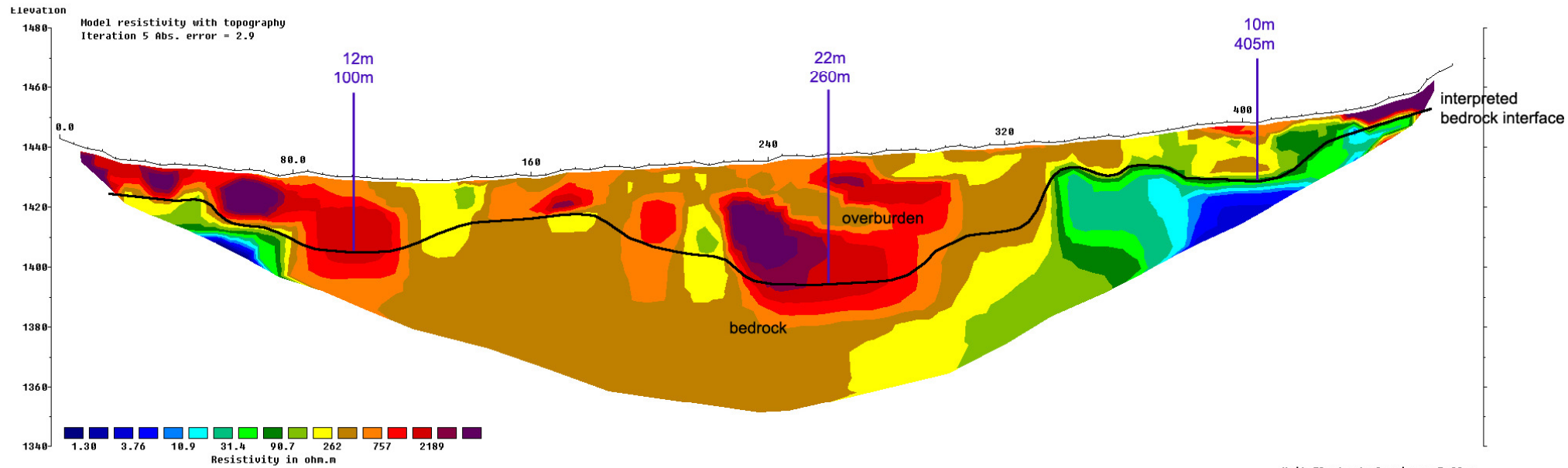
## Arctic Geophysics Inc.



Geophysical Surveys • Prospecting • Consulting

www.arctic-geophysics.com  
Box 747, Dawson City, Yukon Territory, Y0B 1G0, Canada  
Phone: 867-993-3671 (Cell), info@arctic-geophysics.com

## Interpretation



Horizontal scale is 19.24 pixels per unit spacing  
Vertical exaggeration in model section display = 1.00  
First electrode is located at 0.0 m.  
Last electrode is located at 475.0 m.

This 2D Resistivity measuring result is an interpretation of geophysical data.  
We recommend the verification of the profile by drilling or trenching.

## **Interpretation**

The resistivity profile\_02 indicates an overburden thickness of 3-22m.

The topmost resistivity layer shows a very heterogeneous data pattern (green/yellow/brown /orange /red). This layer is interpreted as **overburden** and appears to be dominated by colluvial sediments, due to its location practically in a mountain pass: In this profile we see the colluvium (talus) at both ends, from 0m to 115m and from 380m to the end of the profile - observation in the field. The predominantly brown data zone in the center of the profile is most likely also colluvium with a certain amount of fine sediments such as sand, silt or clay mixed in and a higher water saturation. The red data zones at 80-115m and 230-300m on top of the interpreted bedrock interface could be dominated by glaciofluvial sediments with the fine sediments washed out.

The interpreted **bedrock** interface shows three possible paleochannels: one at 65-130m, 12m deep; a second one at 180-335m with a depth of up to 22m; and a third one at 380-420m, 10m deep. The interpreted bedrock shows a data change along the profile starting at 300m to the end of the profile, where the resistivity decreases. This data transition could indicate a change of the bedrock type.

## **Recommendation**

We recommend drilling at 260m in the profile where the interpreted main channel in the bedrock is expected at 22m depth. If the interpreted paleochannel exists and is gold bearing, the amount of placer gold should be highest in this area. However, the other two channels should not be neglected; additional drill holes at 100m with an expected bedrock depth of app. 12m, and at 400m with a interpreted depth to bedrock of 10m, are recommended.



# Line\_03

## Line 03

2D Resistivity, Schlumberger array  
64 Electrodes: spacing 5m, Horizontal resolution 2.5m  
Horizontal and vertical measure in [meter], Iteration error in [%]  
Vertical exaggeration in model section display: RES 1.0  
Data acquisition: Stefan Ostermaier, 7th Oct 2013  
Processing: Philipp Moll, 8th Oct 2013

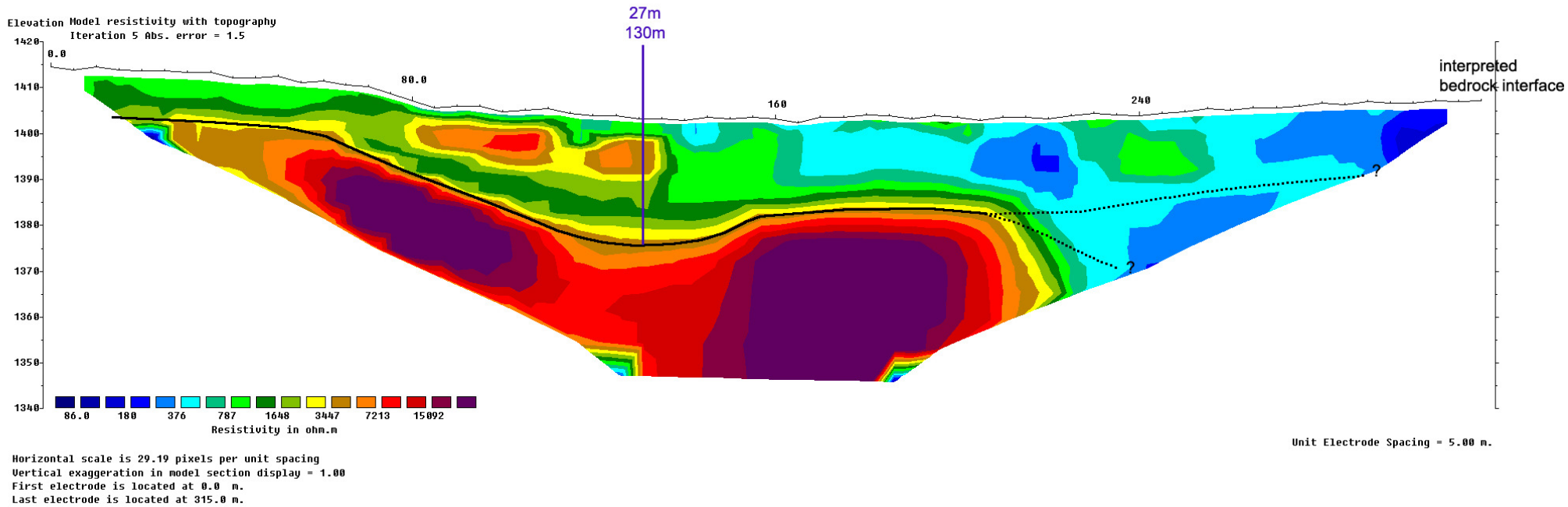
## Arctic Geophysics Inc.



Geophysical Surveys • Prospecting • Consulting

www.arctic-geophysics.com  
Box 747, Dawson City, Yukon Territory, Y0B 1G0, Canada  
Phone: 867-993-3671 (Cell), info@arctic-geophysics.com

## Interpretation



This 2D Resistivity measuring result is an interpretation of geophysical data.  
We recommend the verification of the profile by drilling or trenching.

## **Interpretation**

Resistivity profile\_03 indicates an overburden thickness of 10-27m on top of bedrock.

The uppermost resistivity layer, interpreted as **overburden**, that appears to be 10-27m thick, shows a wide range of resistivity data (blue/turquoise/green/yellow/brown /orange /red). From 0-160m the layer is less well conducting (green-red) with a distinct layered structure between 80m and 140m, that could be of glaciofluvial origin: the low conducting interlayer (yellow/red) might have higher outwash of fine sediments.

From 160m to the end of the profile the interpreted layer is indistinct with lower resistivity values (blue-green). This shift in resistivity values is most likely caused by a change in water-saturation; the blue data zones represent higher water saturation due to topography. Alternatively the overburden could be dropping even deeper past 220m. If this would be the case, a deep paleochannel would start at 220m.

At 115-150m the interpreted **bedrock** interface apparently forms a 27m deep paleochannel, which would be filled with galciofluvial gravels near bedrock.

The interpreted bedrock shows a significant lateral bedrock change (purple - blue) at 220m, where the resistivity values drastically decrease.

## **Recommendation**

We recommend drilling at 130m in the profile where bedrock is expected at 27m depth. Also a drill hole at 240m seems to be reasonable to test, if the bedrock actually drops in this area; a depth of no more than 20m is expected according to the main interpretation .

# Line\_04

## Line 04

2D Resistivity, Schlumberger array  
64 Electrodes: spacing 5m, Horizontal resolution 2.5m  
Horizontal and vertical measure in [meter], Iteration error in [%]  
Vertical exaggeration in model section display: RES 1.0  
Data acquisition: Stefan Ostermaier, 8th Oct 2013  
Processing: Philipp Moll, 8th Oct 2013

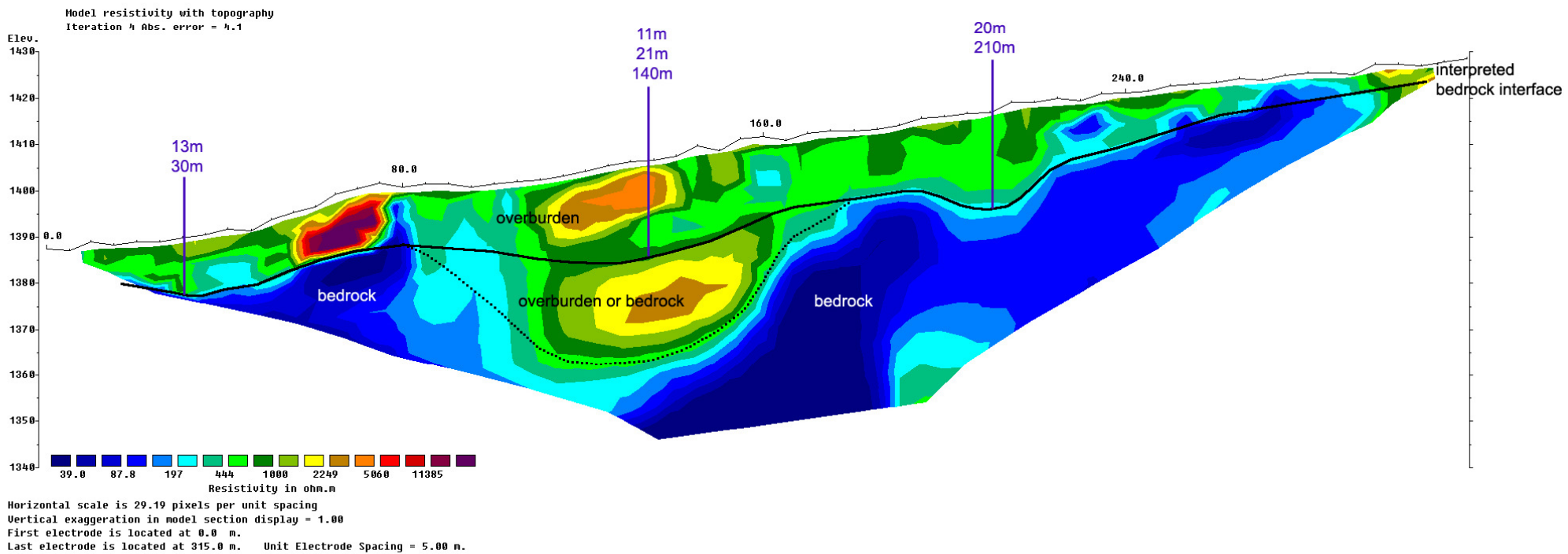
## Arctic Geophysics Inc.



Geophysical Surveys • Prospecting • Consulting

www.arctic-geophysics.com  
Box 747, Dawson City, Yukon Territory, Y0B 1G0, Canada  
Phone: 867-993-3671 (Cell), info@arctic-geophysics.com

## Interpretation



This 2D Resistivity measuring result is an interpretation of geophysical data.  
We recommend the verification of the profile by drilling or trenching.

### **Interpretation**

Resistivity profile\_04 shows 4-21m, possibly 33m of interpreted overburden on top of bedrock.

The topmost resistivity layer, with an interpreted depth of 4-21m, shows a heterogeneous data pattern (turquoise/green/yellow/brown /orange /red). This layer is interpreted as **overburden** of colluvial or possibly glaciofluvial origin. Throughout most of the profile this layer has moderate resistivity values (green) which indicates gravel of some kind. From 55-80m all the way down to bedrock (12m), and at 105-140m to a depth of 11m, areas of higher resistivity (yellow-purple) indicate possible glaciofluvial channel-fillings. Water-saturation does not seem to play a discernible role in this profile. At 270-290m the resistivity values (blue zone) appear to be very low, which could indicate a bedrock outcropping close to the surface.

At 80-160m there seems to be a paleochannel in the interpreted **bedrock** interface. This channel should have a depth of approx. 21m. Alternatively, but less likely, it could have a depth of up to 33m. Another channel-like structure is located at 195-220m, this one with an interpreted depth of 20m. The indicated third possible paleochannel at 30m is almost certainly an artifact introduced by the inversion software.

The interpreted bedrock shows low resistivity values (blue) with a possible zone of higher resistivity at 80-160m which could indicate some kind of intrusion.

### **Recommendation**

We recommend drilling at 140m in the profile where bedrock is expected at 21m or alternatively in a depth of app. 33m. A second drill hole is recommended at 210m where bedrock is expected at 20m.

# Line\_05

## Line 05

2D Resistivity, Schlumberger array  
64 Electrodes: spacing 5m, Horizontal resolution 2.5m  
Horizontal and vertical measure in [meter], Iteration error in [%]  
Vertical exaggeration in model section display: RES 1.0  
Data acquisition: Stefan Ostermaier, 9th Oct 2013  
Processing: Philipp Moll, 10th Oct 2013

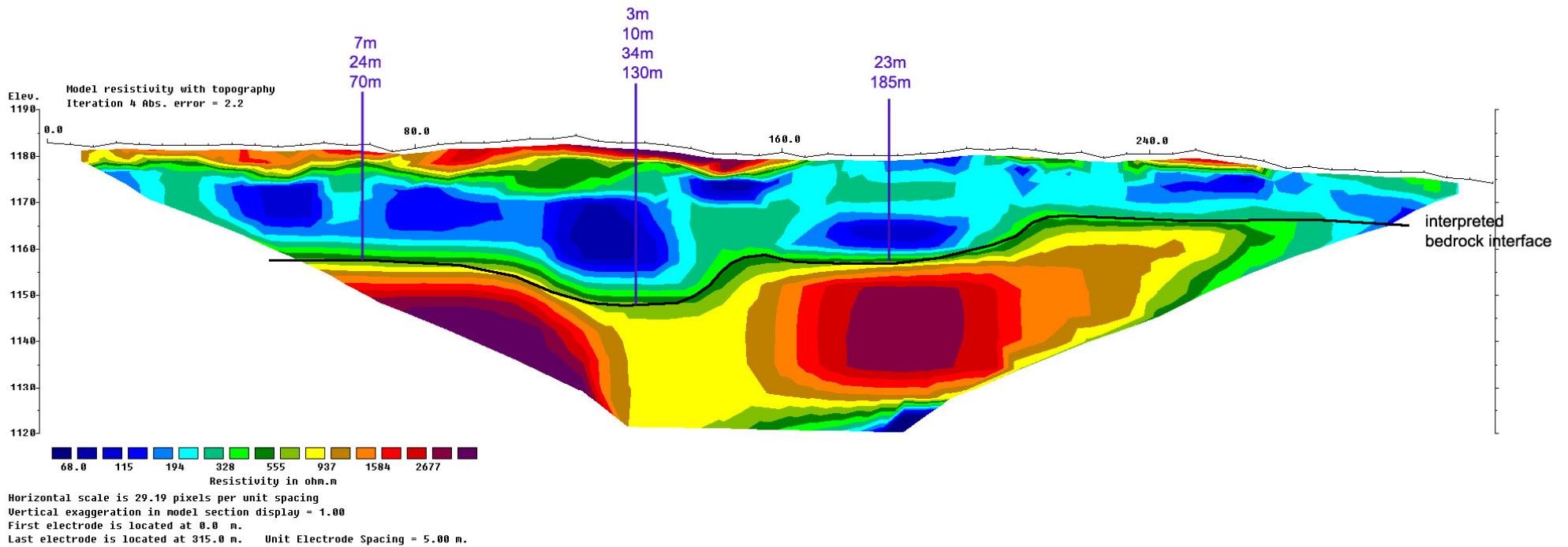
## Arctic Geophysics Inc.



Geophysical Surveys • Prospecting • Consulting

www.arctic-geophysics.com  
Box 747, Dawson City, Yukon Territory, Y0B 1G0, Canada  
Phone: 867-993-3671 (Cell), info@arctic-geophysics.com

## Interpretation



## **Interpretation**

Resistivity profile\_05 shows an interpreted overburden of 10-34m thickness on top of bedrock.

The interpreted **overburden** appears to consist of up to two distinct layers with an overall thickness of 10-34m.

The topmost overburden layer that shows up from 0-165m and 240-265m displays high resistivity values (red) and is most likely coarse glacial till with little fine sediments, which was observed in the field. This layer seems to have an approximate thickness of 3-7m.

The second overburden layer has very low resistivity values (blue, turquoise) and a thickness of 10-25m. The lower resistivity values are most likely due to a larger amount of fine sediments such as sand, silt and clay in the matrix as well as a higher water-saturation due to groundwater. The green data zone between these two distinct layers is most likely a transitional area where both materials are mixed to a certain extent.

At 110-145m the interpreted **bedrock** interface shows a distinct, 34m deep, channel-like structure. Another less distinct paleochannel could be located at 160-205m in the interpreted bedrock interface.

The interpreted bedrock displays consistently high resistivity values throughout the profile.

## **Recommendation**

We recommend drilling at 130m in the profile where bedrock is expected at 34m depth. If the interpreted paleochannel (main channel) exists and is gold bearing, the amount of placer gold should be highest in this area.

A second drill hole at 185m in the profile should also be considered to check the existence of a possible secondary channel, around 23m deep, in the bedrock.

# Line\_06

## Line 06

2D Resistivity, Schlumberger array  
64 Electrodes: spacing 5m, Horizontal resolution 2.5m  
Horizontal and vertical measure in [meter], Iteration error in [%]  
Vertical exaggeration in model section display: RES 1.0  
Data acquisition: Stefan Ostermaier, 10th Oct 2013  
Processing: Philipp Moll, 11th Oct 2013

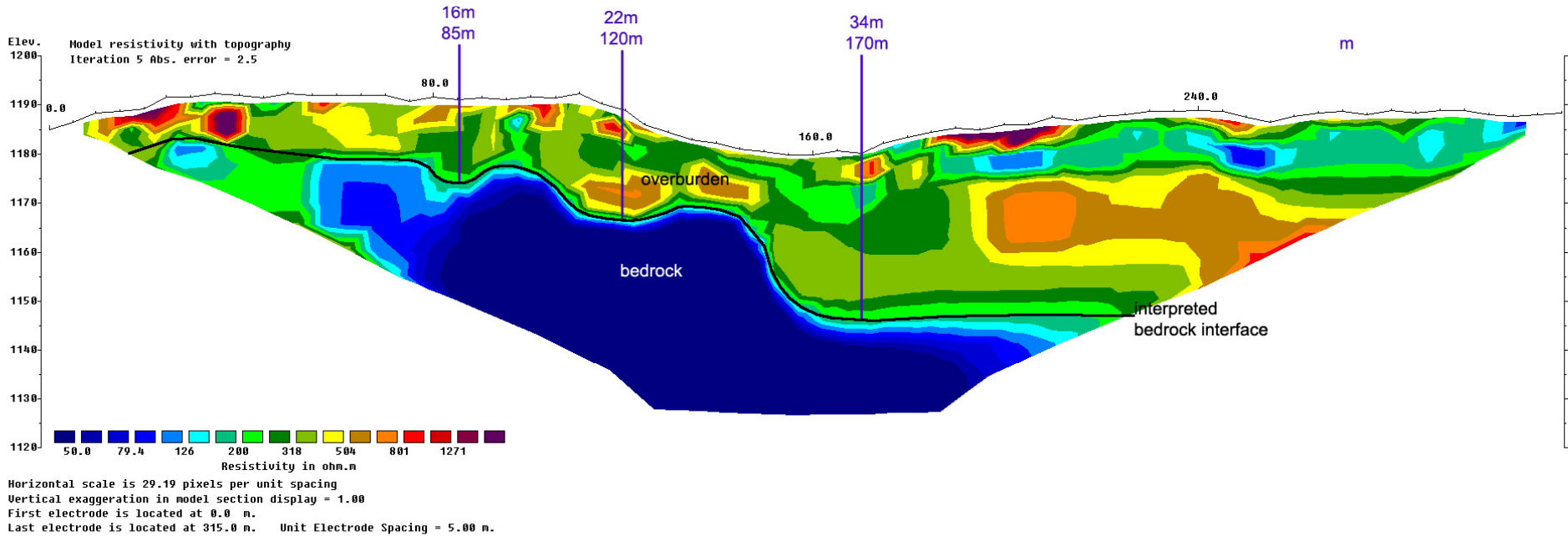
## Arctic Geophysics Inc.



Geophysical Surveys • Prospecting • Consulting

www.arctic-geophysics.com  
Box 747, Dawson City, Yukon Territory, Y0B 1G0, Canada  
Phone: 867-993-3671 (Cell), info@arctic-geophysics.com

## Interpretation



This 2D Resistivity measuring result is an interpretation of geophysical data.  
We recommend the verification of the profile by drilling or trenching.

## **Interpretation**

Resistivity profile\_06 indicates 10-34m of overburden on top of bedrock.

The interpreted overburden has a thickness of app. 10-34m and is most likely glacial till with occasional areas of glaciofluvial material.

In the area from 0-180m the data range of the interpreted overburden is very heterogeneous (blue/green/yellow/brown /orange /red), this indicates glacial till with areas of glaciofluvial sediments (red). This layer is up to 34m thick which might be all overburden.

From 180m to the end of the profile there are up to 4m thick data zones of high resistivity (dark green-red) which might represent coarse gravels probably of glaciofluvial origin.

Underneath this layer an app. 5-8m thick layer of low resistivity data (blue) was detected: this is most likely a deposit with higher water-saturation (groundwater). This implicates the existence of a clay-rich sealing layer below (possibly just a few feet thick and too thin to be measured) acting as "false bedrock".

Underneath this layer there is a third layer mostly uniform with resistivity in the medium to high range (green to orange); certain amounts of this overburden material seems to have a fluvial origin forming the deep cut-in bedrock channel below.

At 80-90m and 105-130m there appear to be 16m and 22m deep paleochannels in the interpreted bedrock interface. At 150m in the profile the bedrock interface seems to drop into a trough-like depression, that seems to continue beyond the end of the measured profile. This feature seems to indicate the 34m-deep main channel.

The interpreted bedrock displays low resistivity values (blue) and seems to be fairly homogeneous.

## **Recommendation**

We recommend drilling at 170m in the profile where bedrock is expected at around 34m depth (main channel). Another drill hole at 120m in the profile is recommended, expected bedrock depth 22m (side channel). A third drill hole at 85m, expected bedrock depth 16m, is not explicitly recommended, since the expected volume of sluiceable material seems very small, however even small channels can have high value placers.



# Line\_07

## Line 07

2D Resistivity, Schlumberger array  
64 Electrodes: spacing 5m, Horizontal resolution 2.5m  
Horizontal and vertical measure in [meter], Iteration error in [%]  
Vertical exaggeration in model section display: RES 1.0  
Data acquisition: Stefan Ostermaier, 11th Oct 2013  
Processing: Philipp Moll, 12th Oct 2013

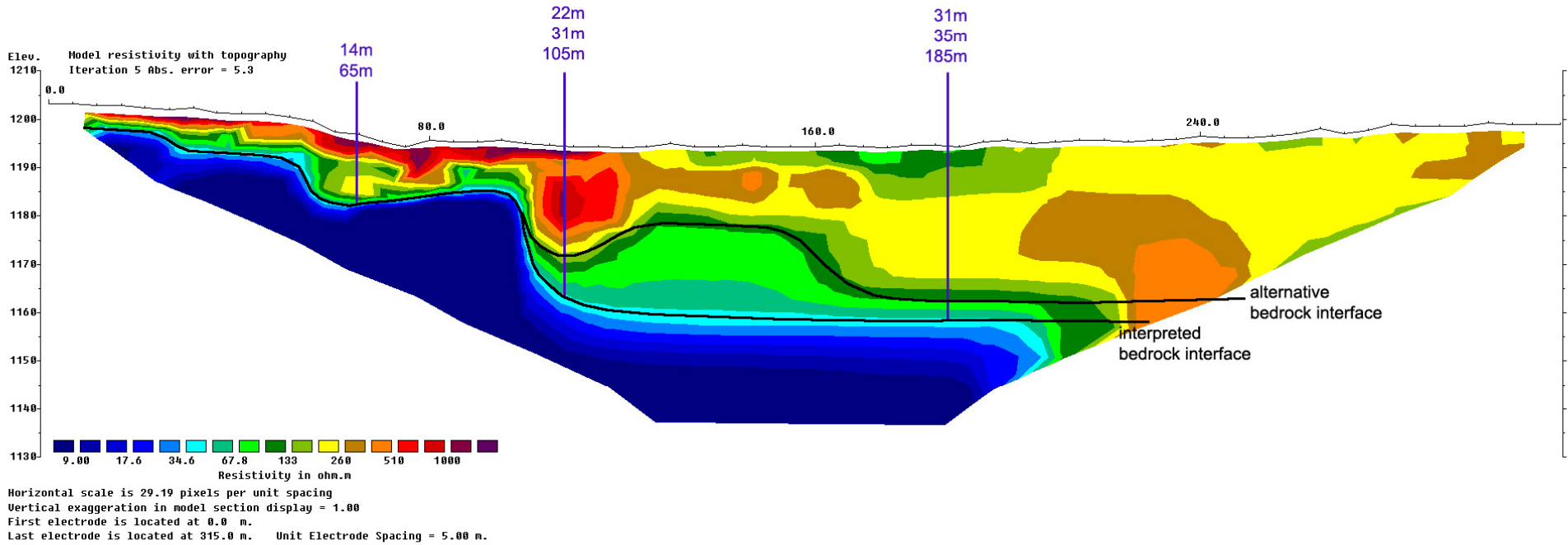
## Arctic Geophysics Inc.



Geophysical Surveys • Prospecting • Consulting

www.arctic-geophysics.com  
Box 747, Dawson City, Yukon Territory, Y0B 1G0, Canada  
Phone: 867-993-3671 (Cell), info@arctic-geophysics.com

## Interpretation



This 2D Resistivity measuring result is an interpretation of geophysical data.  
We recommend the verification of the profile by drilling or trenching.

### **Interpretation**

Resistivity profile\_07 suggests 5-34m of overburden on top of bedrock.

The **overburden** appears to be fairly homogeneous in a layered structure with some possible cut-in structures. The interpreted overburden appears to have an overall depth of 5-34m.

From 0-125m the overburden shows high resistivity values (red) in the profile, with some transitional material underneath (green). This material with a depth of app. 5-20m is probably a gravel deposit of mainly glaciofluvial origin.

The rest of the interpreted overburden shows medium resistivity values (yellow, brown) and is most likely a mosaic of glacial till and glaciofluvial gravel, with a little recent sedimentation on the surface at 135-210m (green).

The interpreted **bedrock** interface shows a similar “tiered” structure as in profile\_06 (located 1km downstream from profile\_07) with three possible paleochannels: two high channels and a deep trough-like main channel.

At 55-80m a 14m deep channel seems to be located. Another channel is possible at 110-125m with a depth of app. 25m. From 160m to the end of the profile the bedrock interface seems to drop again into a 34m deep trough-like depression, that seems to continue beyond the measured profile.

Alternatively and less likely the bright-green dome at around 145m could be overburden instead of bedrock. If this would be the case we would just have two channels: the high channel at around 65m would drop into the main channel at 100m.

The bedrock appears again to be fairly homogeneous and of low resistivity (blue).

### **Recommendation**

We recommend drilling at 65m in the profile where bedrock is expected at 14m depth. And at 110m where the bedrock could be located at 25m or alternatively at 33m. A third drill hole at 145m would be indicated if the bedrock at 110m should be located in a depth of 33m.

# Line\_08

## Line 08

2D Resistivity, Schlumberger array  
64 Electrodes: spacing 5m, Horizontal resolution 2.5m  
Horizontal and vertical measure in [meter], Iteration error in [%]  
Vertical exaggeration in model section display: RES 1.0  
Data acquisition: Stefan Ostermaier, 12th Oct 2013  
Processing: Philipp Moll, 6th Oct 2013

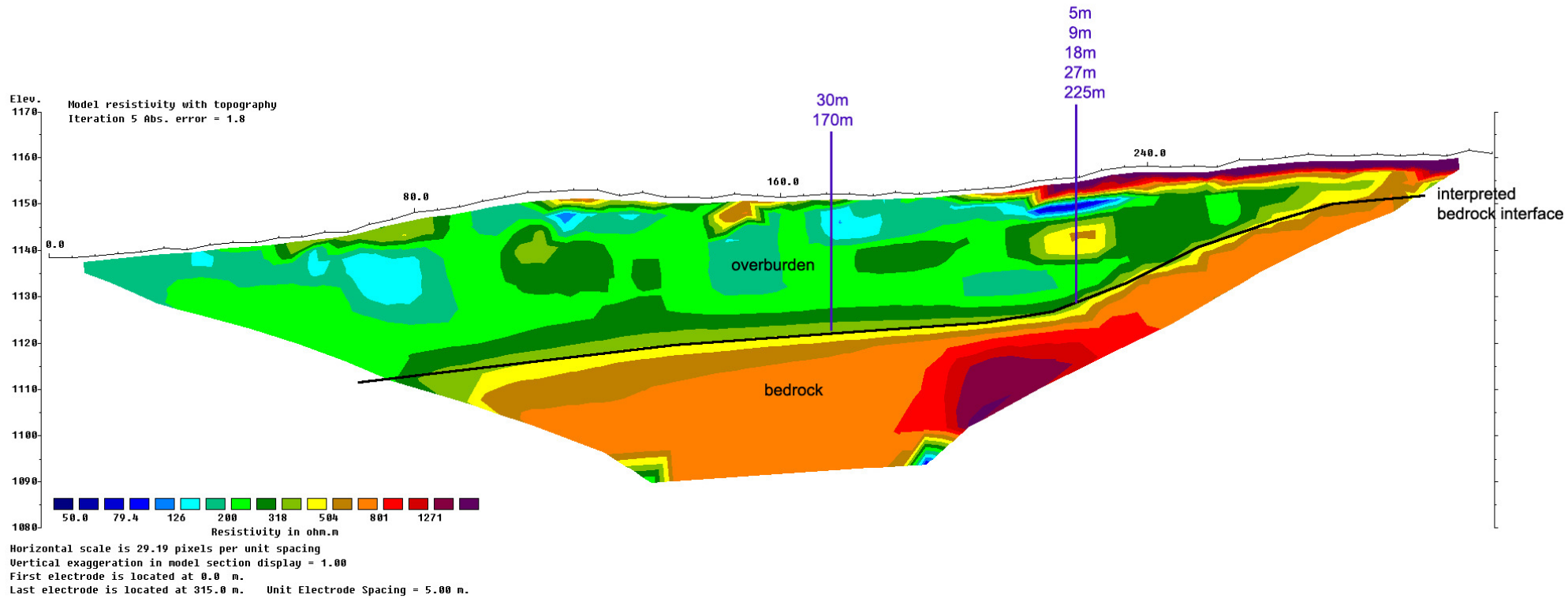
## Arctic Geophysics Inc.



Geophysical Surveys • Prospecting • Consulting

www.arctic-geophysics.com  
Box 747, Dawson City, Yukon Territory, Y0B 1G0, Canada  
Phone: 867-993-3671 (Cell), info@arctic-geophysics.com

## Interpretation



This 2D Resistivity measuring result is an interpretation of geophysical data.  
We recommend the verification of the profile by drilling or trenching.

reconcentrated placer gold. With the same reasoning drill holes at 75m, 110m, 150m and 185m could be contemplated but should only be considered if the channel filling at 225m should prove gold bearing.

### **Interpretation**

Resistivity profile\_08 indicates an overburden thickness of 12-33m.

The **overburden**, that appears to be 12-33m thick in this profile, is interpreted to be composed of two layers that seem to be fairly homogeneous in themselves. The topmost layer shows high resistivity data (red) and is located on the surface from 200m to the end of the profile, with a thickness of app. 5-10m. This layer is probably composed of coarse till with very little fine sediments such as sand, silt or clay. Remnants of this layer may be seen at 105-135m on the surface (yellow/brown) and maybe even from 50m to 85m (green).

The second layer, consisting of the green data zone, is less homogeneous, it is broken up by several areas of higher resistivity values (darker green, yellow and brown); these areas of higher resistivity could be of glaciofluvial origin with little fine sediments. Additionally there are some zones of low resistivity data (blue) that most likely carry a higher percentage of groundwater. Especially noteworthy is the deposit at 165-240m in a depth of less than 10m, and the area from 95m to 135m also with a max. depth of 10m; these areas may show sealing layers, especially in the lower part, that could act as "false bedrock".

The interpreted **bedrock** interface shows no depressions or channels that would suggest themselves as significant placer targets. And the interpreted bedrock shows homogeneous resistivity values.

### **Recommendation**

We recommend drilling at 225m in the profile where a depth to bedrock of 27m is expected. The main target of the drill hole would be the possible existence of "false bedrock" and the material directly on top (5-9m); the second target would be the possible glaciofluvial channel, sitting in till instead of bedrock, with a depth of up to 18m, which could have

# Line\_09

## Line 09

2D Resistivity, Schlumberger array  
64 Electrodes: spacing 5m, Horizontal resolution 2.5m  
Horizontal and vertical measure in [meter], Iteration error in [%]  
Vertical exaggeration in model section display: RES 1.0  
Data acquisition: Stefan Ostermaier, 12th Oct 2013  
Processing: Philipp Moll, 13th Oct 2013

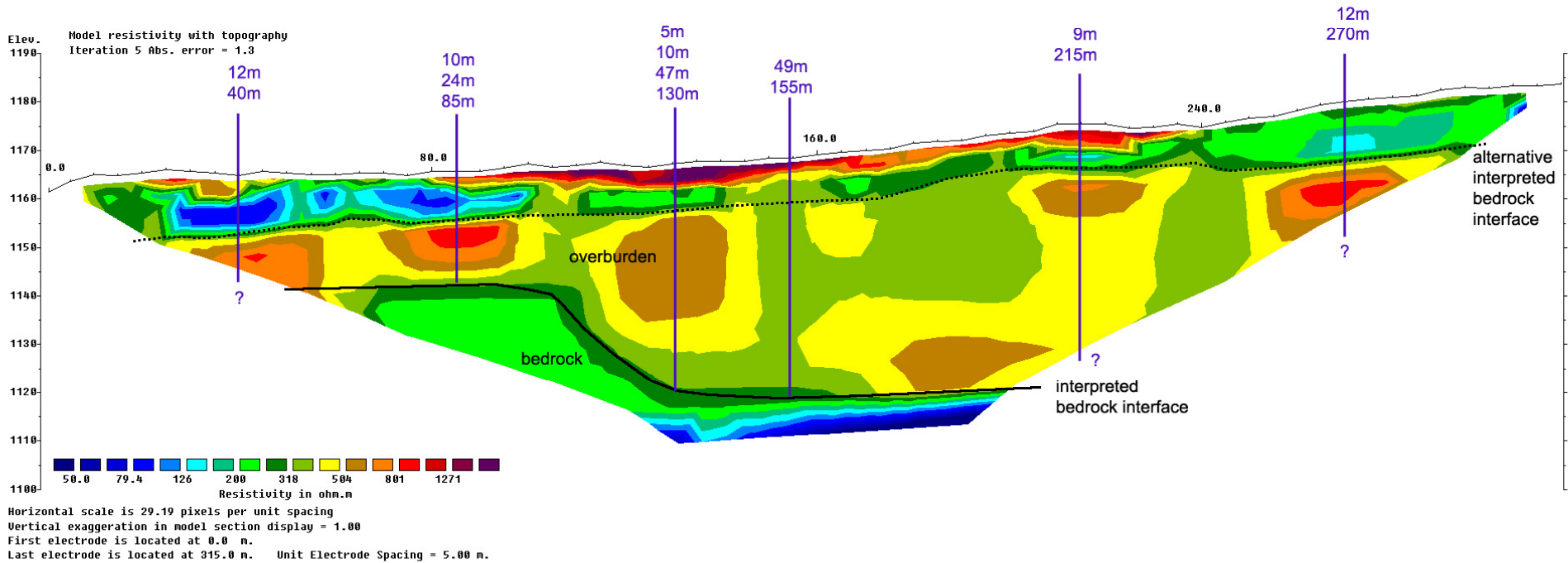
## Arctic Geophysics Inc.



Geophysical Surveys • Prospecting • Consulting

www.arctic-geophysics.com  
Box 747, Dawson City, Yukon Territory, Y0B 1G0, Canada  
Phone: 867-993-3671 (Cell), info@arctic-geophysics.com

## Interpretation



This 2D Resistivity measuring result is an interpretation of geophysical data.  
We recommend the verification of the profile by drilling or trenching.

## Interpretation

Resistivity profile\_09 shows an interpreted overburden thickness of 24-49m.

The profile shows the same two-layered structure as profile\_08. On the surface there is again a layer with high resistivity data (red) from 15-50m and 80-240m with a depth of up to 5m. This material is most likely coarse gravel possibly of glaciofluvial origin. As a second layer there is a low resistivity layer (blue) with an almost universal depth of 10m that is interpreted as groundwater-bearing layer, most likely on top of a sealing layer ("false bedrock"). This groundwater bearing layer seems to be more continuous in this profile. The third layer is interpreted as glacial till and appears to be fairly homogeneous for this kind of material.

The interpreted **bedrock** interface seems to form a trough-like shape with a depth of 24-49m, where the max. depth is located in the trough. At a lower chance the bedrock could alternatively start where the third overburden layer was interpreted (see above).

## Recommendation

We recommend drilling at 130m in the profile, where bedrock is expected at 47m (or less likely 10m); however, special attention should be paid to the material in the groundwater-bearing layer (between 5 and 10m depth) on top of the proposed sealing layer ("false bedrock"). Since this sealing layer appears to be continuous throughout the profile, additional drill holes along the profile (at 40m, 85m, 215m, 270m) could be contemplated because a sealing layer actually could act as a "false bedrock" layer causing concentrations of placer gold in the overlying gravels.

# Line\_10

## Line 10

2D Resistivity, Schlumberger array  
64 Electrodes: spacing 5m, Horizontal resolution 2.5m  
Horizontal and vertical measure in [meter], Iteration error in [%]  
Vertical exaggeration in model section display: RES 1.0  
Data acquisition: Stefan Ostermaier, 13th Oct 2013  
Processing: Philipp Moll, 14th Oct 2013

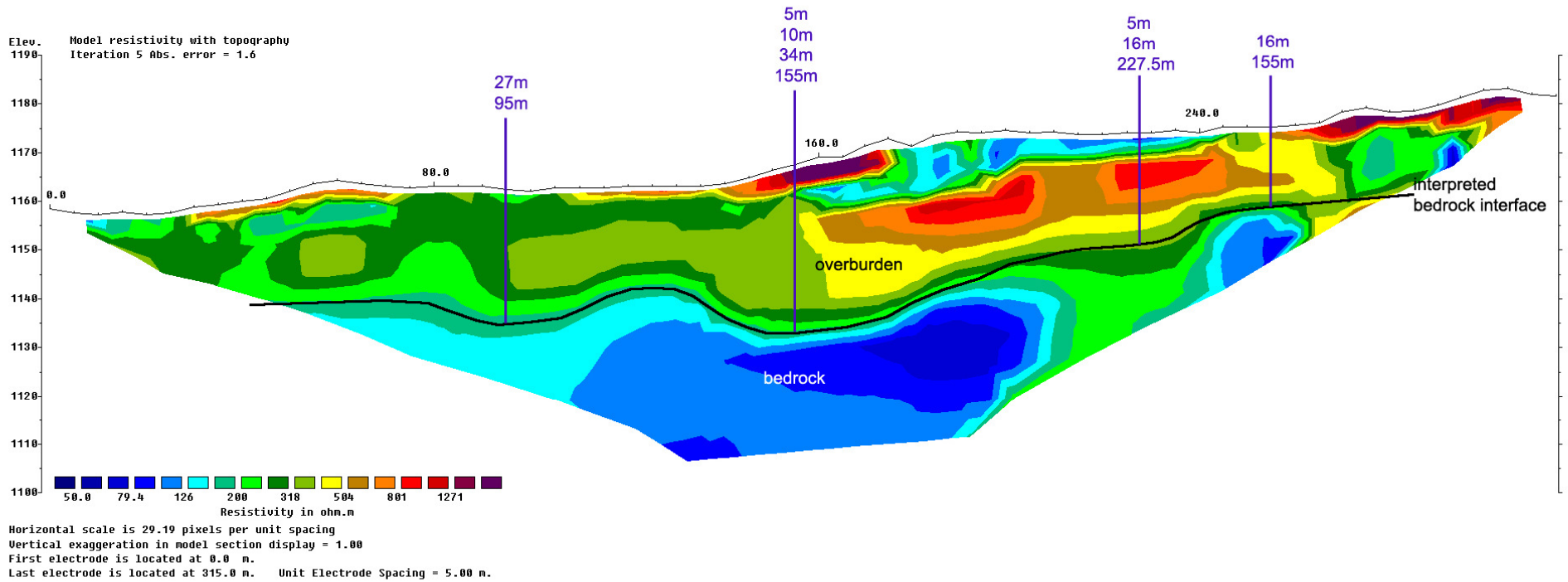
## Arctic Geophysics Inc.



Geophysical Surveys • Prospecting • Consulting

www.arctic-geophysics.com  
Box 747, Dawson City, Yukon Territory, Y0B 1G0, Canada  
Phone: 867-993-3671 (Cell), info@arctic-geophysics.com

## Interpretation



This 2D Resistivity measuring result is an interpretation of geophysical data.  
We recommend the verification of the profile by drilling or trenching.

bedrock" in about 10m depth could exist between 160m and 240m:  
appropriate locations to drill are 185m and 227.5m.

### **Interpretation**

Resistivity profile\_10 suggests 16-34m of overburden on top of bedrock.

The interpreted **overburden** in this profile shows the same three-layered resistivity pattern as the previous two profiles. However, in this profile the three-layer structure is horizontally interrupted between 70m and 160m. The topmost layer with high resistivity values (red) is in evidence from 30-70m, 110-175m and 255m to the end of the profile. As in the previous profiles this is interpreted as coarse gravel possibly of glaciofluvial origin. The second groundwater-bearing layer is only really apparent at the beginning of the profile to 75m with a depth of about 4m, and in the middle of the profile between 155m and 175m starting at 5m depth. From 155-245m there is a low resistivity data zone (blue) which is most likely the same groundwater-bearing layer, but could also be a layer with a higher content of fine sediments such as sand, silt or clay. The third overburden layer seems to be glacial till associated with layers of glaciofluvial gravels. The glaciofluvial material seems to be mainly located in the brown/red data zone and on top of the interpreted channels around 95m and 155m.

The interpreted **bedrock** interface, 16-34m deep, shows two possible channel-like structures, one at 80-110m, 27m deep, and a second one at 135-170m, 34m deep.

The interpreted bedrock is fairly homogeneous with only a slight data variation at 230m in the profile, that could indicate a fault line, but this interpretation is tentative.

### **Recommendation**

We recommend drilling at 95m where bedrock is expected at 27m depth, and also at 155m with bedrock expected at 34m; the possible "false



# Line\_11

## Line 11

2D Resistivity, Schlumberger array  
64 Electrodes: spacing 5m, Horizontal resolution 2.5m  
Horizontal and vertical measure in [meter], Iteration error in [%]  
Vertical exaggeration in model section display: RES 1.0  
Data acquisition: Stefan Ostermaier, 15th Oct 2013  
Processing: Philipp Moll, 16th Oct 2013

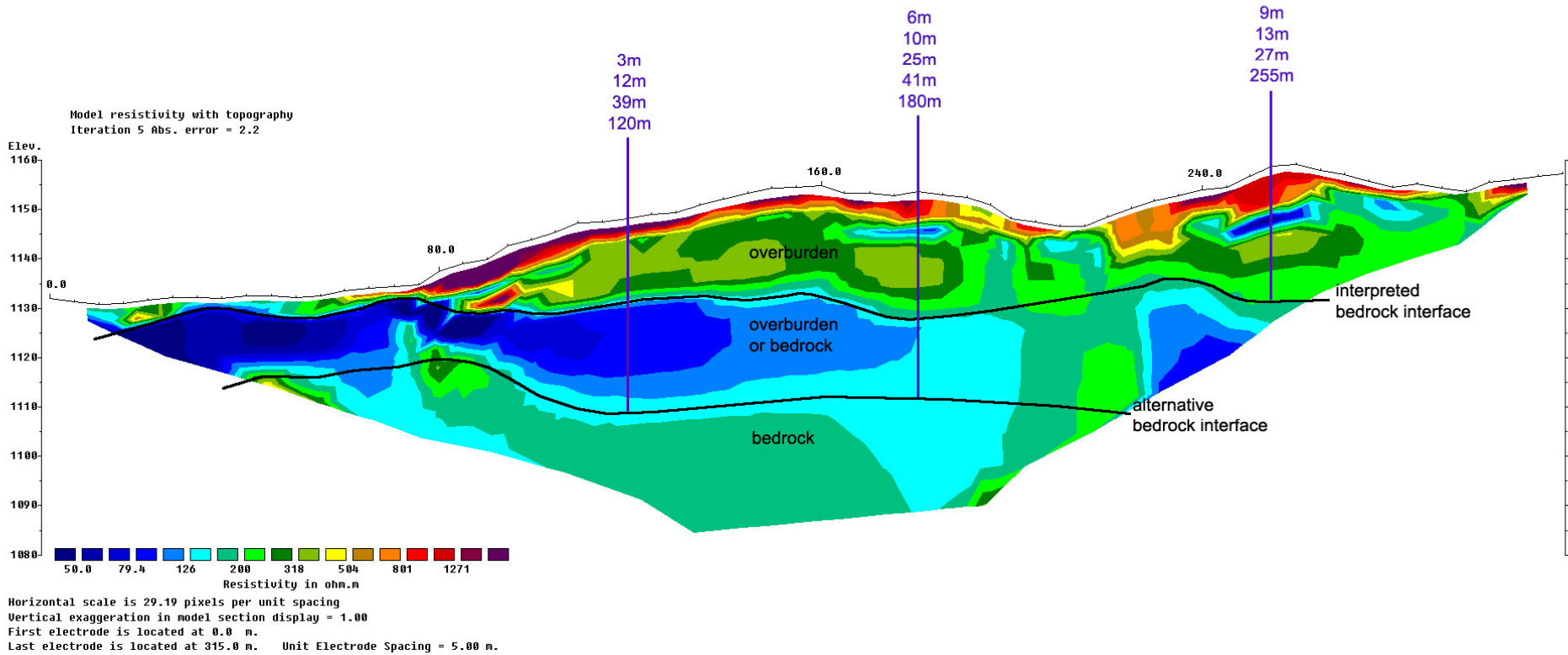
## Arctic Geophysics Inc.



Geophysical Surveys • Prospecting • Consulting

www.arctic-geophysics.com  
Box 747, Dawson City, Yukon Territory, Y0B 1G0, Canada  
Phone: 867-993-3671 (Cell), info@arctic-geophysics.com

## Interpretation



This 2D Resistivity measuring result is an interpretation of geophysical data.  
We recommend the verification of the profile by drilling or trenching.

### **Interpretation**

Resistivity profile\_11 might show 2-27m of overburden on top of bedrock (upper black line in the profile), or possibly 15-41m of overburden on top of bedrock (lower black line).

The interpreted **overburden** shows the same interrupted three-layered data structure that is known from the previous profiles. Below this three-layered structure a thick blue data layer is located which can be overburden or bedrock.

The topmost layer is again a high resistivity data zone (red), having 5m depth, showing continuous data structure throughout the profile, except for the first 60m where it is missing. The second layer, up to 5m thickness, interpreted as groundwater-bearing layer of low resistivity values (blue), possibly sitting on "false bedrock", is interrupted but clearly in evidence at 80-110m, 160-190m and 240-290m. The third layer, interpreted as glacial till and glaciofluvial gravel, is showing moderate resistivity values (green). - Possibly there could be a fourth overburden layer with low resistivity values (blue); this groundwater-bearing or clay-rich layer would likely be dominated by glacial till with glaciofluvial gravel layers especially around the interpreted channel at 120m.

The **bedrock** interface is interpreted in a depth of 2-27m - with an alternative interpretation of 15-41m. The favoured interpretation (bedrock at 2-27m) would suggest an undulating bedrock interface with a possible paleochannel at 160-200m in a depth of 25m. The alternative and less likely bedrock interface calls for a rise in the bedrock at 80m with a trough-like bedrock depression towards the end of the profile with a depth of up to 41m.

The bedrock in both interpretations is fairly homogenous with low resistivity values.

### **Recommendation**

We suggest digging or drilling at 70m in the profile to ascertain which of the alternative bedrock interpretations represents reality. At this location the first interpretation suggests a depth to bedrock of only 2-3m. Should the first interpretation be right, a drill hole at 180m is recommended; here a possible "false bedrock" layer could be at 10m depth, and bedrock at 25m. Should the second interpretation prove to be the correct one, then a drill hole at 120 in the profile would be recommended, where bedrock is expected at 39m.

# Line\_13

## Line 13

2D Resistivity, Schlumberger array  
64 Electrodes: spacing 5m, Horizontal resolution 2.5m  
Horizontal and vertical measure in [meter], Iteration error in [%]  
Vertical exaggeration in model section display: RES 1.0  
Data acquisition: Stefan Ostermaier, 17th Oct 2013  
Processing: Philipp Moll, 18th Oct 2013

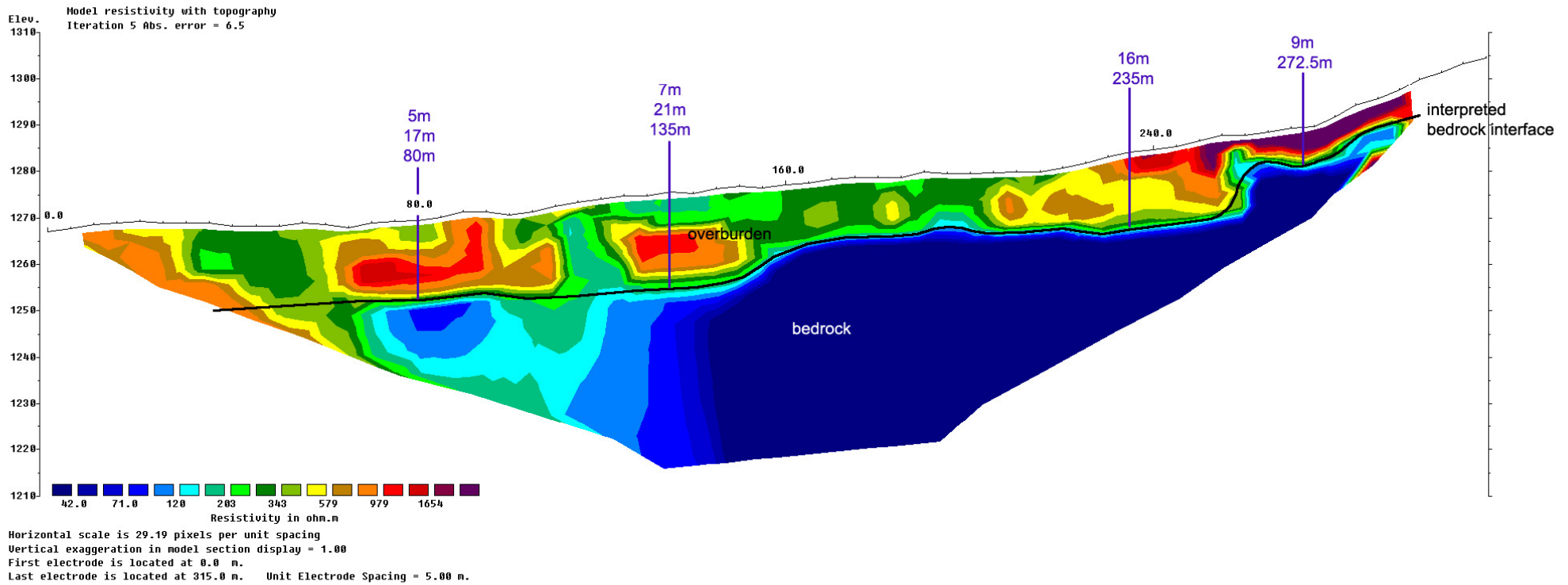
## Arctic Geophysics Inc.



Geophysical Surveys • Prospecting • Consulting

www.arctic-geophysics.com  
Box 747, Dawson City, Yukon Territory, Y0B 1G0, Canada  
Phone: 867-993-3671 (Cell), info@arctic-geophysics.com

## Interpretation



This 2D Resistivity measuring result is an interpretation of geophysical data.  
We recommend the verification of the profile by drilling or trenching.

## **Interpretation**

Resistivity profile\_13 suggests a depth to bedrock of 7-21m.

The uppermost data layer, displaying a heterogeneous resistivity pattern (green/yellow/brown /orange /red), is interpreted as **overburden** with a thickness of 7-21m. The overburden is most likely dominated by recent fluvial sedimentation with some colluvial influence especially from 220m to the end of the profile. From the beginning of the profile to 220m the interpreted overburden shows a matrix of moderate resistivity data (green) in the profile and should represent glacial till. There is an interruption at 60-150m with high resistivity values (yellow-red) that could be remnants of coarse colluvial material i.e. talus; this material would have very little or no fine sediments such as sand, silt or clay. Alternatively this material could be of glaciofluvial origin, which is thought to be unlikely. From 220m to the end of the profile the high resistivity zone (red/violet), interpreted to be overburden, is likely dominated by coarse colluvium which was observed in the field.

The interpreted **bedrock** interface in this profile shows no discernible paleochannel.

The resistivity data in the interpreted bedrock is fairly homogeneous. There is a lateral data change from 60m to 140m in the profile. However, the absolute values of the change are very low and inconclusive. This data change could indicate changes in the mineral composition of the bedrock.

## **Recommendation**

We recommend a drill hole at 135m where bedrock is expected at 21m.

## 14. Conclusion

The following table shows and **estimation** of the value of the interpreted placer targets such as paleochannels and "false bedrock". This estimation includes two parameters: First, the **Likeliness of the Interpretation**, this means an estimation of the likeliness if the profile interpretation formulated above is true or not. Second, the **Gold Potential**, this describes an estimation of the placer gold value, which can be expected at the interpreted placer targets prospected in this survey. Both parameters are developed by the Arctic Geophysics team based on the following aspects: shape and dimensions of the feature based on the data structure in the resistivity profile, soil sampling survey (from Linda Dandy 2007), geological background, and historical/current mining.

Resistivity Line	Channel Depth / Location	Likeliness of Interpretation	Gold Potential
01	19m / 150m	moderate	moderate

Resistivity Line	Channel Depth / Location	Likeliness of Interpretation	Placer Potential
02*	12m / 100m 22m / 260m 10m / 405m	low moderate high	moderate high moderate-high

\* Soil sampling high

Resistivity Line	Channel Depth / Location	Likeliness of Interpretation	Placer Potential
03	27m / 130m	high	high-very high

Resistivity Line	Channel Depth / Location	Likeliness of Interpretation	Placer Potential
04*	13m / 30m 21m (43m) / 140m 20m / 210m	low moderate (low) high	moderate high-very high moderate

\* Soil sampling high

Resistivity Line	Channel Depth / Location	Likeliness of Interpretation	Placer Potential
05	34m / 130m 23m / 185m	high high	High-very high moderate-high

Resistivity Line	Channel Depth / Location	Likelihood of Interpretation	Placer Potential
06	16m / 85m 22m / 120m 34m / 170m	very high very high very high	moderate high very high
	"False Bedrock" Depth / Location	Likelihood of Interpretation	Placer Potential
	10-12m / 190-300m	low-moderate	moderate

Resistivity Line	Channel Depth / Location	Likelihood of Interpretation	Placer Potential
07	14m / 65m 22m / 105m 35m / 185m	high moderate high	moderate-high High very high

Resistivity Line	Channel Depth / Location	Likelihood of Interpretation	Placer Potential
08	9m / 225m	low-moderate	low- moderate

Resistivity Line	Channel Depth / Location	Likelihood of Interpretation	Placer Potential
09	49m / 155m	moderate	very high
	"False Bedrock" Depth / Location	Likelihood of Interpretation	Placer Potential
	10-12m / 20-100m 200-300m	low-moderate	moderate

Resistivity Line	Channel Depth / Location	Likelihood of Interpretation	Placer Potential
------------------	--------------------------	------------------------------	------------------

10	27m / 95m 34m / 155m	very high very high	moderate-high high-very high
	"False Bedrock" Depth / Location	Likelihood of Interpretation	Placer Potential
	5-12m / 150-240m	low	low-moderate

Resistivity Line	Channel Depth / Location	Likelihood of Interpretation	Placer Potential
11	39m 120m 25m /180 m 27m / 255m	moderate high moderate-high	high high high
	"False Bedrock" Depth / Location	Likelihood of Interpretation	Placer Potential
	10-13m / 170-260m	moderate	moderate

Resistivity Line	Channel Depth / Location	Likelihood of Interpretation	Placer Potential
13	21m / 135m 16m / 235m 9m / 272,5	high high high	moderate high moderate

## 15. Gallery



2D Resistivity line\_02 (Ostermaier)





Resistivity Line\_01 (Ostermaier)

## 16. Qualifications

### Philipp Moll

Box 747, Dawson City, Yukon, Y0B 1G0

Phone: 001-867-993 3671 (Canada)

01149 (0)781 970 5893 (Germany)

Email: [philipp.moll@arctic-geophysics.com](mailto:philipp.moll@arctic-geophysics.com)

### Certificate of Qualifications



I, Philipp Moll, currently residing at "Am Buchenrain 9, 77746 Schutterwald, Germany, do hereby certify that:

1. I have studied Geology at the University of Freiburg, Germany.
2. I have visited of geophysical field courses at the University of Karlsruhe in Germany.
3. I have been working for Arctic Geophysics Inc. since June 2007 (foundation). For this company I have carried out geophysical field surveys using 2D Resistivity, Induced Polarization, and Magnetics: Data acquisition, processing, interpretation, documentation.
4. I have done 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
5. I have written the following publications/reports:

A) Numerous Assessment Reports about geophysical surveys done for Yukon mining companies, filed at Yukon Mining Recorder, Dawson City and Whitehorse, Yukon.

B) Publication about a geophysical survey (45 field days) for the Yukon Government: Yukon Geological Survey:

<http://www.geology.gov.yk.ca/recent.html> Open Files:

Moll, P., & Ostermaier, S., 2010. 2D Resistivity/IP Data Release for Placer Mining and shallow Quartz Mining - Yukon 2010. Yukon Geological Survey Miscellaneous Report MR-4. [PDF Report](#) [10.3 MB Data Profiles, 45.4 MB 

## 17. Confirmation

I have prepared this report entitled 2D Resistivity Survey on the Spruce Creek Property for assessment credit, and reviewed the data contained in the report titled: "Geophysical Survey with 2D Resistivity Spruce Creek, British Columbia". The survey was carried out by Arctic Geophysics Inc.

Schutterwald, Germany, 15<sup>th</sup> November 2013

"Signed and Sealed" Philipp Moll



---

Philipp Moll

## Appendix Literature

### Location-specific

Asg, C. H.: Origin and Tectonic Setting of Rocks in the Atlin Area, BC (NTS104N), Ophiolitic, Ultramafic and Related, Geological Survey Branch, Bulletin 94, 1994

Black, J. M.: Report in the Atlin Placer Camp, 1953

British Columbia Geological Survey Branch, Bulletin 105v25C05, Chapter 5

KERR, DAWSON AND ASSOCIATES LTD. 1984 "GEOLOGICAL, GEOCHEMICAL AND GEOPHYSICAL REPORT - on the – EAGLE, MARGARITA AND BUTTERFLY CLAIMS, ATLIN MINING DIVISION, BRITISH COLUMBIA"

W. Gruenwald, B. Sc.: Geological, Geochemical and Geophysical Report on the Eagle, Margarita and Butterfly Claims, Atlin Mining Division, BC, 1984

### Literature – Background

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

Evans A.M. Erzlagerstättenkunde, Ferdinand Enke Verlag Stuttgart (1992)

Griffiths, D.H.,Turnbull, J. and Olayinka,A.I. Two dimensional resistivity mapping with a computer-controlled array, First Break 8: 121-129 (1990)

Griffiths, D.H. and Barker, R.D. Two-dimensional resistivity imaging and modeling in areas of complex geology. Journal of Applied Geophysics 29 : 211 - 226. (1993)

Keller, G.V.and Frischknecht, F.C. Electrical methods in geophysical prospecting. Oxford: Pergamon Press Inc. (1966)

Loke M.H. and Barker R.D. Rapid least-squares inversion of apparent resistivity pseudosections by a quasi-Newton method. Geophysical Prospecting 44: 131-152 (1996)

Ostenoe Eric A. "Report on the Gladstone Creek, Placer Gold Property, Kluane Area" (Feb 1984), for: CATEAR RESOURCES LTD.

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

Massey, N.W.D., MacIntyre, D.G., Desjardins, P.J. and Cooney, R.T., 2005: Digital Geology Map of British Columbia: Tile NO8 Northwest B.C., B.C. Ministry of Energy and Mines, Geofile, 2005-8, scale 1:250,000

British Columbia: Whole Province, B.C. Ministry of Energy and Mines, Geofile 2005-1, scale 1:250,000

## Geophysical Data Table

Rock type	Resistivity range ( $\Omega\text{m}$ )
Granite porphyry	$4.5 \times 10^3$ (wet) – $1.3 \times 10^6$ (dry)
Feldspar porphyry	$4 \times 10^3$ (wet)
Syenite	$10^2$ – $10^6$
Diorite porphyry	$1.9 \times 10^3$ (wet) – $2.8 \times 10^4$ (dry)
Porphyrite	$10$ – $5 \times 10^4$ (wet) – $3.3 \times 10^3$ (dry)
Carbonatized porphyry	$2.5 \times 10^3$ (wet) – $6 \times 10^4$ (dry)
Quartz diorite	$2 \times 10^4$ – $2 \times 10^6$ (wet) – $1.8 \times 10^5$ (dry)
Porphyry (various)	$60$ – $10^4$
Dacite	$2 \times 10^4$ (wet)
Andesite	$4.5 \times 10^4$ (wet) – $1.7 \times 10^2$ (dry)
Diabase (various)	$20$ – $5 \times 10^7$
Lavas	$10^2$ – $5 \times 10^4$
Gabbro	$10^3$ – $10^6$
Basalt	$10$ – $1.3 \times 10^7$ (dry)
Olivine norite	$10^3$ – $6 \times 10^4$ (wet)
Peridotite	$3 \times 10^3$ (wet) – $6.5 \times 10^3$ (dry)
Hornfels	$8 \times 10^3$ (wet) – $6 \times 10^7$ (dry)
Schists	
(calcareous and mica)	$20$ – $10^4$
Tuffs	$2 \times 10^3$ (wet) – $10^5$ (dry)
Graphite schist	$10$ – $10^2$
Slates (various)	$6 \times 10^2$ – $4 \times 10^7$
Gneiss (various)	$6.8 \times 10^4$ (wet) – $3 \times 10^6$ (dry)
Marble	$10^2$ – $2.5 \times 10^8$ (dry)
Skarn	$2.5 \times 10^2$ (wet) – $2.5 \times 10^8$ (dry)
Quartzites (various)	$10$ – $2 \times 10^8$
Consolidated shales	$20$ – $2 \times 10^3$
Argillites	$10$ – $8 \times 10^2$
Conglomerates	$2 \times 10^3$ – $10^4$
Sandstones	$1$ – $6.4 \times 10^8$
Limestones	$50$ – $10^7$
Dolomite	$3.5 \times 10^2$ – $5 \times 10^3$
Unconsolidated wet clay	$20$
Marls	$3$ – $70$
Clays	$1$ – $100$
Oil sands	$4$ – $800$

## List of Costs

### 2013 Statement of Costs

#### Spruce Creek Geophysical Program

Project Conducted from October 3rd to October 20th 2013

Date	Item	Contractor	Description	Days	Km	Item Cost	Total
3.10.2013	Driving Dawson-Atlin	Arctic Geophysics Inc.	Field Crew (2 people)	1	706	\$908.30	\$908.30
4.10.2013	Inspection of ground	Arctic Geophysics Inc.	Field Crew (2 people)	1	45	\$544.75	\$544.75
5-15, .17.10.2013	Geophysical Lines	Arctic Geophysics Inc.	Field Crew (2 people)	12		\$1 130.00	\$13 560.00
14.10.2013	Thanksgiving Day	Arctic Geophysics Inc.	Field Crew (2 people)	1		\$650.00	\$650.00
	Transportation	Arctic Geophysics Inc.	Vehicle	12		\$70.00	\$840.00
		Arctic Geophysics Inc.	Kilometres		548	\$0.55	\$301.40
20.11.2013	Driving Atlin-Dawson	Arctic Geophysics Inc.	Field Crew (2 people)	1	706	\$908.30	\$908.30
	Accommodation/meals	Atlin Mountain Inn		14		\$119.70	\$1 675.80

**Sub-Total**

**\$19,388.55**

Report			
Data	Arctic Geophysics Inc.	Data processing, interpretation	\$525.00
Report	Arctic Geophysics Inc.	Report Preparation	\$700.00

**Sub-Total**

**\$1 225.00**

**Total Value of Work**

**\$20 613.55**

Total Person Days = 26

## GPS-Data

### Line01

Electrode No.	Location in Profile [m]	GPS-Coordinates ddd° mm' ss.s'' WGS 1984	GPS-Accuracy [m]	Post [ * ]
1	0	N59 30 37.6 W133 29 29.1	3	*
2	5	N59 30 37.5 W133 29 28.7	3	
3	10	N59 30 37.4 W133 29 28.4	3	
4	15	N59 30 37.4 W133 29 28.2	3	
5	20	N59 30 37.3 W133 29 27.8	3	
6	25	N59 30 37.2 W133 29 27.6	3	
7	30	N59 30 37.2 W133 29 27.3	3	
8	35	N59 30 37.1 W133 29 27.0	3	
9	40	N59 30 37.0 W133 29 26.7	3	
10	45	N59 30 37.0 W133 29 26.4	3	
11	50	N59 30 36.9 W133 29 26.1	3	
12	55	N59 30 36.8 W133 29 25.8	3	
13	60	N59 30 36.8 W133 29 25.5	3	
14	65	N59 30 36.7 W133 29 25.2	3	
15	70	N59 30 36.7 W133 29 24.9	3	
16	75	N59 30 36.6 W133 29 24.6	3	
17	80	N59 30 36.5 W133 29 24.4	3	
18	85	N59 30 36.5 W133 29 24.2	3	
19	90	N59 30 36.4 W133 29 23.8	3	
20	95	N59 30 36.3 W133 29 23.5	3	
21	100	N59 30 36.3 W133 29 23.3	3	
22	105	N59 30 36.2 W133 29 23.0	3	
23	110	N59 30 36.2 W133 29 22.6	3	
24	115	N59 30 36.1 W133 29 22.4	3	
25	120	N59 30 36.0 W133 29 22.1	3	
26	125	N59 30 36.0 W133 29 21.8	3	
27	130	N59 30 35.9 W133 29 21.5	3	
28	135	N59 30 35.9 W133 29 21.2	3	
29	140	N59 30 35.8 W133 29 20.9	3	
30	145	N59 30 35.8 W133 29 20.6	3	
31	150	N59 30 35.7 W133 29 20.3	3	
32	155	N59 30 35.7 W133 29 20.1	3	
33	160	N59 30 35.6 W133 29 19.7	3	
34	165	N59 30 35.5 W133 29 19.5	3	
35	170	N59 30 35.5 W133 29 19.2	3	
36	175	N59 30 35.4 W133 29 19.0	3	
37	180	N59 30 35.4 W133 29 18.7	3	
38	185	N59 30 35.3 W133 29 18.4	3	
39	190	N59 30 35.2 W133 29 18.0	3	
40	195	N59 30 35.2 W133 29 17.8	3	
41	200	N59 30 35.1 W133 29 17.4	3	
42	205	N59 30 35.0 W133 29 17.2	3	
43	210	N59 30 35.0 W133 29 16.9	3	
44	215	N59 30 34.9 W133 29 16.6	3	

<b>Electrode No.</b>	<b>Location in Profile [m]</b>	<b>GPS-Coordinates ddd° mm' ss.s'' WGS 1984</b>	<b>GPS-Accuracy [m]</b>	<b>Post [ * ]</b>
45	220	N59 30 34.8 W133 29 16.3	3	
46	225	N59 30 34.8 W133 29 16.0	3	
47	230	N59 30 34.7 W133 29 15.7	3	
48	235	N59 30 34.7 W133 29 15.4	3	
49	240	N59 30 34.6 W133 29 15.1	3	
50	245	N59 30 34.5 W133 29 14.8	3	
51	250	N59 30 34.5 W133 29 14.5	3	
52	255	N59 30 34.4 W133 29 14.2	3	
53	260	N59 30 34.3 W133 29 13.9	3	
54	265	N59 30 34.3 W133 29 13.6	3	
55	270	N59 30 34.2 W133 29 13.3	3	
56	275	N59 30 34.2 W133 29 13.0	3	
57	280	N59 30 34.1 W133 29 12.8	3	
58	285	N59 30 34.1 W133 29 12.6	3	
59	290	N59 30 34.0 W133 29 12.2	3	
60	295	N59 30 34.0 W133 29 11.9	3	
61	300	N59 30 33.9 W133 29 11.6	3	
62	305	N59 30 33.8 W133 29 11.3	3	
63	310	N59 30 33.8 W133 29 11.1	3	
64	315	N59 30 33.7 W133 29 10.9	3	*

**Line02**

<b>Electrode No.</b>	<b>Location in Profile [m]</b>	<b>GPS-Coordinates ddd° mm' ss.s'' WGS 1984</b>	<b>GPS-Accuracy [m]</b>	<b>Post [ * ]</b>
1	0	N59 31 06.1 W133 28 46.4	3	*
2	5	N59 31 06.1 W133 28 46.2	3	
3	10	N59 31 06.0 W133 28 46.0	3	
4	15	N59 31 05.9 W133 28 45.7	3	
5	20	N59 31 05.8 W133 28 45.5	3	
6	25	N59 31 05.7 W133 28 45.1	3	
7	30	N59 31 05.7 W133 28 44.9	3	
8	35	N59 31 05.6 W133 28 44.6	3	
9	40	N59 31 05.5 W133 28 44.4	3	
10	45	N59 31 05.4 W133 28 44.1	3	
11	50	N59 31 05.4 W133 28 43.8	3	
12	55	N59 31 05.3 W133 28 43.5	3	
13	60	N59 31 05.2 W133 28 43.3	3	
14	65	N59 31 05.1 W133 28 43.0	3	
15	70	N59 31 05.0 W133 28 42.7	3	
16	75	N59 31 05.0 W133 28 42.4	3	
17	80	N59 31 04.9 W133 28 42.1	3	
18	85	N59 31 04.8 W133 28 41.9	3	
19	90	N59 31 04.7 W133 28 41.6	3	
20	95	N59 31 04.6 W133 28 41.2	3	
21	100	N59 31 04.6 W133 28 41.0	3	
22	105	N59 31 04.5 W133 28 40.8	3	
23	110	N59 31 04.5 W133 28 40.4	3	
24	115	N59 31 04.4 W133 28 40.1	3	
25	120	N59 31 04.3 W133 28 39.9	3	
26	125	N59 31 04.2 W133 28 39.6	3	
27	130	N59 31 04.1 W133 28 39.4	3	
28	135	N59 31 04.0 W133 28 39.1	3	
29	140	N59 31 04.0 W133 28 38.8	3	
30	145	N59 31 03.9 W133 28 38.5	3	
31	150	N59 31 03.8 W133 28 38.2	3	
32	155	N59 31 03.7 W133 28 38.0	3	
33	160	N59 31 03.7 W133 28 37.7	3	
34	165	N59 31 03.6 W133 28 37.4	3	
35	170	N59 31 03.5 W133 28 37.1	3	
36	175	N59 31 03.4 W133 28 36.8	3	
37	180	N59 31 03.4 W133 28 36.5	3	
38	185	N59 31 03.3 W133 28 36.2	3	
39	190	N59 31 03.2 W133 28 36.0	3	
40	195	N59 31 03.1 W133 28 35.7	3	
41	200	N59 31 03.1 W133 28 35.4	3	
42	205	N59 31 03.0 W133 28 35.2	3	
43	210	N59 31 02.9 W133 28 34.9	3	
44	215	N59 31 02.8 W133 28 34.6	3	
45	220	N59 31 02.7 W133 28 34.4	3	
46	225	N59 31 02.6 W133 28 34.0	3	
47	230	N59 31 02.6 W133 28 33.8	3	



<b>Electrode No.</b>	<b>Location in Profile [m]</b>	<b>GPS-Coordinates ddd° mm' ss.s'' WGS 1984</b>	<b>GPS-Accuracy [m]</b>	<b>Post [ * ]</b>
48	235	N59 31 02.5 W133 28 33.5	3	*
49	240	N59 31 02.4 W133 28 33.3	3	
50	245	N59 31 02.4 W133 28 32.9	3	
51	250	N59 31 02.3 W133 28 32.7	3	
52	255	N59 31 02.2 W133 28 32.4	3	
53	260	N59 31 02.1 W133 28 32.1	3	
54	265	N59 31 02.1 W133 28 31.8	3	
55	270	N59 31 02.0 W133 28 31.5	3	
56	275	N59 31 01.9 W133 28 31.3	3	
57	280	N59 31 01.8 W133 28 31.0	3	
58	285	N59 31 01.7 W133 28 30.7	3	
59	290	N59 31 01.7 W133 28 30.5	3	
60	295	N59 31 01.6 W133 28 30.2	3	
61	300	N59 31 01.5 W133 28 29.9	3	
62	305	N59 31 01.4 W133 28 29.7	3	
63	310	N59 31 01.3 W133 28 29.4	3	
64	315	N59 31 01.3 W133 28 29.1	3	
65	320	N59 31 01.2 W133 28 28.8	3	
66	325	N59 31 01.1 W133 28 28.5	3	
67	330	N59 31 01.1 W133 28 28.3	3	
68	335	N59 31 01.0 W133 28 28.0	3	
69	340	N59 31 01.0 W133 28 27.7	3	
70	345	N59 31 00.8 W133 28 27.5	3	
71	350	N59 31 00.7 W133 28 27.2	3	
72	355	N59 31 00.6 W133 28 26.9	3	
73	360	N59 31 00.5 W133 28 26.6	3	
74	365	N59 31 00.5 W133 28 26.3	3	
75	370	N59 31 00.4 W133 28 26.0	3	
76	375	N59 31 00.4 W133 28 25.8	3	
77	380	N59 31 00.3 W133 28 25.5	3	
78	385	N59 31 00.2 W133 28 25.3	3	
79	390	N59 31 00.1 W133 28 25.0	3	
80	395	N59 31 00.0 W133 28 24.7	3	
81	400	N59 30 59.9 W133 28 24.4	3	
82	405	N59 30 59.9 W133 28 24.2	3	
83	410	N59 30 59.8 W133 28 23.9	3	
84	415	N59 30 59.7 W133 28 23.7	3	
86	425	N59 30 59.6 W133 28 23.1	3	
87	430	N59 30 59.5 W133 28 22.8	3	
88	435	N59 30 59.4 W133 28 22.5	3	
89	440	N59 30 59.4 W133 28 22.3	3	
90	445	N59 30 59.3 W133 28 22.0	3	
91	450	N59 30 59.2 W133 28 21.7	3	
92	455	N59 30 59.2 W133 28 21.4	3	
93	460	N59 30 59.1 W133 28 21.1	3	
94	465	N59 30 59.0 W133 28 20.9	3	
95	470	N59 30 59.0 W133 28 20.7	3	
96	475	N59 30 59.0 W133 28 20.4	3	*

**Line03**

<b>Electrode No.</b>	<b>Location in Profile [m]</b>	<b>GPS-Coordinates ddd° mm' ss.s'' WGS 1984</b>	<b>GPS-Accuracy [m]</b>	<b>Post [ * ]</b>
1	0	N59 31 22.4 W133 28 35.9	3	*
2	5	N59 31 22.3 W133 28 35.6	3	
3	10	N59 31 22.3 W133 28 35.3	3	
4	15	N59 31 22.3 W133 28 34.9	3	
5	20	N59 31 22.2 W133 28 34.6	3	
6	25	N59 31 22.1 W133 28 34.3	3	
7	30	N59 31 22.1 W133 28 34.0	3	
8	35	N59 31 22.1 W133 28 33.7	3	
9	40	N59 31 22.0 W133 28 33.4	3	
10	45	N59 31 22.0 W133 28 33.1	3	
11	50	N59 31 21.9 W133 28 32.8	3	
12	55	N59 31 21.9 W133 28 32.5	3	
13	60	N59 31 21.8 W133 28 32.2	3	
14	65	N59 31 21.8 W133 28 32.0	3	
15	70	N59 31 21.8 W133 28 31.6	3	
16	75	N59 31 21.8 W133 28 31.2	3	
17	80	N59 31 21.7 W133 28 31.1	3	
18	85	N59 31 21.7 W133 28 30.7	3	
19	90	N59 31 21.6 W133 28 30.4	3	
20	95	N59 31 21.6 W133 28 30.1	3	
21	100	N59 31 21.5 W133 28 29.8	3	
22	105	N59 31 21.5 W133 28 29.5	3	
23	110	N59 31 21.4 W133 28 29.2	3	
24	115	N59 31 21.4 W133 28 28.9	3	
25	120	N59 31 21.3 W133 28 28.6	3	
26	125	N59 31 21.3 W133 28 28.3	3	
27	130	N59 31 21.2 W133 28 28.1	3	
28	135	N59 31 21.2 W133 28 27.7	3	
29	140	N59 31 21.2 W133 28 27.4	3	
30	145	N59 31 21.2 W133 28 27.1	3	
31	150	N59 31 21.1 W133 28 26.8	3	
32	155	N59 31 21.0 W133 28 26.5	3	
33	160	N59 31 21.0 W133 28 26.1	3	
34	165	N59 31 20.9 W133 28 25.8	3	
35	170	N59 31 20.9 W133 28 25.5	3	
36	175	N59 31 20.9 W133 28 25.2	3	
37	180	N59 31 20.8 W133 28 24.9	3	
38	185	N59 31 20.8 W133 28 24.6	3	
39	190	N59 31 20.8 W133 28 24.3	3	
40	195	N59 31 20.7 W133 28 24.0	3	
41	200	N59 31 20.7 W133 28 23.7	3	
42	205	N59 31 20.6 W133 28 23.3	3	
43	210	N59 31 20.6 W133 28 23.0	3	
44	215	N59 31 20.6 W133 28 22.7	3	
45	220	N59 31 20.5 W133 28 22.5	3	
46	225	N59 31 20.5 W133 28 22.1	3	
47	230	N59 31 20.5 W133 28 21.8	3	

<b>Electrode No.</b>	<b>Location in Profile [m]</b>	<b>GPS-Coordinates ddd° mm' ss.s'' WGS 1984</b>	<b>GPS-Accuracy [m]</b>	<b>Post [ * ]</b>
48	235	N59 31 20.4 W133 28 21.6	3	
49	240	N59 31 20.4 W133 28 21.2	3	
50	245	N59 31 20.3 W133 28 20.9	3	
51	250	N59 31 20.3 W133 28 20.6	3	
52	255	N59 31 20.2 W133 28 20.3	3	
53	260	N59 31 20.2 W133 28 20.0	3	
54	265	N59 31 20.1 W133 28 19.7	3	
55	270	N59 31 20.1 W133 28 19.4	3	
56	275	N59 31 20.0 W133 28 19.0	3	
57	280	N59 31 20.0 W133 28 18.8	3	
58	285	N59 31 19.9 W133 28 18.5	3	
59	290	N59 31 19.9 W133 28 18.2	3	
60	295	N59 31 19.8 W133 28 17.9	3	
61	300	N59 31 19.8 W133 28 17.6	3	
62	305	N59 31 19.7 W133 28 17.3	3	
63	310	N59 31 19.7 W133 28 16.9	3	
64	315	N59 31 19.8 W133 28 16.8	3	*

**Line04**

<b>Electrode No.</b>	<b>Location in Profile [m]</b>	<b>GPS-Coordinates ddd° mm' ss.s'' WGS 1984</b>	<b>GPS-Accuracy [m]</b>	<b>Post [ * ]</b>
1	0	N59 31 19.9 W133 29 16.3	3	*
2	5	N59 31 19.9 W133 29 16.0	3	
3	10	N59 31 19.9 W133 29 15.8	3	
4	15	N59 31 19.9 W133 29 15.4	3	
5	20	N59 31 19.9 W133 29 15.1	3	
6	25	N59 31 19.8 W133 29 14.8	3	
7	30	N59 31 19.8 W133 29 14.5	3	
8	35	N59 31 19.8 W133 29 14.2	3	
9	40	N59 31 19.8 W133 29 13.9	3	
10	45	N59 31 19.8 W133 29 13.6	3	
11	50	N59 31 19.8 W133 29 13.2	3	
12	55	N59 31 19.7 W133 29 13.0	3	
13	60	N59 31 19.7 W133 29 12.6	3	
14	65	N59 31 19.7 W133 29 12.4	3	
15	70	N59 31 19.7 W133 29 12.1	3	
16	75	N59 31 19.6 W133 29 11.8	3	
17	80	N59 31 19.6 W133 29 11.5	3	
18	85	N59 31 19.7 W133 29 11.2	3	
19	90	N59 31 19.6 W133 29 10.9	3	
20	95	N59 31 19.6 W133 29 10.5	3	
21	100	N59 31 19.5 W133 29 10.2	3	
22	105	N59 31 19.5 W133 29 09.9	3	
23	110	N59 31 19.5 W133 29 09.6	3	
24	115	N59 31 19.5 W133 29 09.3	3	
25	120	N59 31 19.5 W133 29 09.0	3	
26	125	N59 31 19.5 W133 29 08.6	3	
27	130	N59 31 19.5 W133 29 08.2	3	
28	135	N59 31 19.5 W133 29 07.9	3	
29	140	N59 31 19.5 W133 29 07.6	3	
30	145	N59 31 19.5 W133 29 07.4	3	
31	150	N59 31 19.5 W133 29 07.1	3	
32	155	N59 31 19.4 W133 29 06.8	3	
33	160	N59 31 19.4 W133 29 06.5	3	
34	165	N59 31 19.4 W133 29 06.1	3	
35	170	N59 31 19.4 W133 29 05.8	3	
36	175	N59 31 19.4 W133 29 05.5	3	
37	180	N59 31 19.4 W133 29 05.2	3	
38	185	N59 31 19.3 W133 29 04.9	3	
39	190	N59 31 19.3 W133 29 04.6	3	
40	195	N59 31 19.3 W133 29 04.3	3	
41	200	N59 31 19.3 W133 29 03.9	3	
42	205	N59 31 19.2 W133 29 03.6	3	
43	210	N59 31 19.2 W133 29 03.2	3	
44	215	N59 31 19.1 W133 29 02.8	3	
45	220	N59 31 19.1 W133 29 02.4	3	
46	225	N59 31 19.1 W133 29 02.1	3	
47	230	N59 31 19.1 W133 29 01.9	3	

<b>Electrode No.</b>	<b>Location in Profile [m]</b>	<b>GPS-Coordinates ddd° mm' ss.s'' WGS 1984</b>	<b>GPS-Accuracy [m]</b>	<b>Post [ * ]</b>
48	235	N59 31 19.1 W133 29 01.7	3	
49	240	N59 31 19.1 W133 29 01.4	3	
50	245	N59 31 19.1 W133 29 01.2	3	
51	250	N59 31 19.1 W133 29 00.8	3	
52	255	N59 31 19.0 W133 29 00.6	3	
53	260	N59 31 19.0 W133 29 00.2	3	
54	265	N59 31 19.0 W133 28 59.9	3	
55	270	N59 31 19.0 W133 28 59.5	3	
56	275	N59 31 19.0 W133 28 59.2	3	
57	280	N59 31 18.9 W133 28 59.0	3	
58	285	N59 31 19.0 W133 28 58.7	3	
59	290	N59 31 18.9 W133 28 58.4	3	
60	295	N59 31 18.8 W133 28 58.0	3	
61	300	N59 31 18.9 W133 28 57.7	3	
62	305	N59 31 18.8 W133 28 57.3	3	
63	310	N59 31 18.8 W133 28 57.0	3	
64	315	N59 31 18.8 W133 28 56.8	3	*

**Line05**

<b>Electrode No.</b>	<b>Location in Profile [m]</b>	<b>GPS-Coordinates ddd° mm' ss.s'' WGS 1984</b>	<b>GPS-Accuracy [m]</b>	<b>Post [ * ]</b>
1	0	N59 32 20.7 W133 29 13.2	3	*
2	5	N59 32 20.7 W133 29 13.0	3	
3	10	N59 32 20.7 W133 29 12.8	3	
4	15	N59 32 20.8 W133 29 12.3	3	
5	20	N59 32 20.9 W133 29 11.9	3	
6	25	N59 32 20.9 W133 29 11.6	3	
7	30	N59 32 20.9 W133 29 11.3	3	
8	35	N59 32 21.0 W133 29 11.0	3	
9	40	N59 32 21.0 W133 29 10.8	3	
10	45	N59 32 21.0 W133 29 10.4	3	
11	50	N59 32 21.1 W133 29 10.1	3	
12	55	N59 32 21.1 W133 29 09.8	3	
13	60	N59 32 21.2 W133 29 09.5	3	
14	65	N59 32 21.2 W133 29 09.2	3	
15	70	N59 32 21.2 W133 29 08.9	3	
16	75	N59 32 21.3 W133 29 08.6	3	
17	80	N59 32 21.3 W133 29 08.3	3	
18	85	N59 32 21.4 W133 29 08.0	3	
19	90	N59 32 21.4 W133 29 07.7	3	
20	95	N59 32 21.5 W133 29 07.4	3	
21	100	N59 32 21.5 W133 29 07.1	3	
22	105	N59 32 21.6 W133 29 06.7	3	
23	110	N59 32 21.6 W133 29 06.5	3	
24	115	N59 32 21.7 W133 29 06.1	3	
25	120	N59 32 21.7 W133 29 05.8	3	
26	125	N59 32 21.8 W133 29 05.5	3	
27	130	N59 32 21.8 W133 29 05.2	3	
28	135	N59 32 21.8 W133 29 04.9	3	
29	140	N59 32 21.9 W133 29 04.6	3	
30	145	N59 32 21.9 W133 29 04.2	3	
31	150	N59 32 21.9 W133 29 03.9	3	
32	155	N59 32 22.0 W133 29 03.7	3	
33	160	N59 32 22.0 W133 29 03.3	3	
34	165	N59 32 22.1 W133 29 03.0	3	
35	170	N59 32 22.1 W133 29 02.7	3	
36	175	N59 32 22.1 W133 29 02.3	3	
37	180	N59 32 22.1 W133 29 02.1	3	
38	185	N59 32 22.2 W133 29 01.8	3	
39	190	N59 32 22.2 W133 29 01.5	3	
40	195	N59 32 22.3 W133 29 01.2	3	
41	200	N59 32 22.3 W133 29 00.9	3	
42	205	N59 32 22.4 W133 29 00.6	3	
43	210	N59 32 22.4 W133 29 00.3	3	
44	215	N59 32 22.5 W133 28 59.9	3	
45	220	N59 32 22.5 W133 28 59.7	3	
46	225	N59 32 22.5 W133 28 59.5	3	
47	230	N59 32 22.5 W133 28 59.1	3	

<b>Electrode No.</b>	<b>Location in Profile [m]</b>	<b>GPS-Coordinates ddd° mm' ss.s'' WGS 1984</b>	<b>GPS-Accuracy [m]</b>	<b>Post [ * ]</b>
48	235	N59 32 22.6 W133 28 58.8	3	
49	240	N59 32 22.6 W133 28 58.5	3	
50	245	N59 32 22.7 W133 28 58.1	3	
51	250	N59 32 22.7 W133 28 57.9	3	
52	255	N59 32 22.8 W133 28 57.6	3	
53	260	N59 32 22.8 W133 28 57.3	3	
54	265	N59 32 22.9 W133 28 57.0	3	
55	270	N59 32 22.9 W133 28 56.7	3	
56	275	N59 32 23.0 W133 28 56.4	3	
57	280	N59 32 23.1 W133 28 56.0	3	
58	285	N59 32 23.1 W133 28 55.8	3	
59	290	N59 32 23.2 W133 28 55.5	3	
60	295	N59 32 23.2 W133 28 55.2	3	
61	300	N59 32 23.3 W133 28 54.9	3	
62	305	N59 32 23.4 W133 28 54.6	3	
63	310	N59 32 23.5 W133 28 54.3	3	
64	315	N59 32 23.6 W133 28 54.0	3	*

**Line06**

<b>Electrode No.</b>	<b>Location in Profile [m]</b>	<b>GPS-Coordinates ddd° mm' ss.s'' WGS 1984</b>	<b>GPS-Accuracy [m]</b>	<b>Post [ * ]</b>
1	0	N59 31 15.3 W133 24 00.7	3	*
2	5	N59 31 15.2 W133 24 00.4	3	
3	10	N59 31 15.2 W133 24 00.1	3	
4	15	N59 31 15.2 W133 23 59.8	3	
5	20	N59 31 15.0 W133 23 59.6	3	
6	25	N59 31 15.0 W133 23 59.2	3	
7	30	N59 31 14.9 W133 23 58.9	3	
8	35	N59 31 14.9 W133 23 58.6	3	
9	40	N59 31 14.8 W133 23 58.3	3	
10	45	N59 31 14.8 W133 23 58.0	3	
11	50	N59 31 14.7 W133 23 57.7	3	
12	55	N59 31 14.7 W133 23 57.5	3	
13	60	N59 31 14.6 W133 23 57.1	3	
14	65	N59 31 14.6 W133 23 56.8	3	
15	70	N59 31 14.5 W133 23 56.5	3	
16	75	N59 31 14.5 W133 23 56.2	3	
17	80	N59 31 14.4 W133 23 55.9	3	
18	85	N59 31 14.4 W133 23 55.6	3	
19	90	N59 31 14.4 W133 23 55.3	3	
20	95	N59 31 14.4 W133 23 55.0	3	
21	100	N59 31 14.3 W133 23 54.6	3	
22	105	N59 31 14.3 W133 23 54.3	3	
23	110	N59 31 14.3 W133 23 54.0	3	
24	115	N59 31 14.2 W133 23 53.7	3	
25	120	N59 31 14.2 W133 23 53.5	3	
26	125	N59 31 14.1 W133 23 53.2	3	
27	130	N59 31 14.1 W133 23 52.8	3	
28	135	N59 31 14.0 W133 23 52.6	3	
29	140	N59 31 14.0 W133 23 52.3	3	
30	145	N59 31 13.9 W133 23 52.0	3	
31	150	N59 31 13.9 W133 23 51.7	3	
32	155	N59 31 13.8 W133 23 51.4	3	
33	160	N59 31 13.7 W133 23 51.2	3	
34	165	N59 31 13.7 W133 23 50.8	3	
35	170	N59 31 13.6 W133 23 50.5	3	
36	175	N59 31 13.6 W133 23 50.3	3	
37	180	N59 31 13.5 W133 23 50.1	3	
38	185	N59 31 13.5 W133 23 49.7	3	
39	190	N59 31 13.4 W133 23 49.4	3	
40	195	N59 31 13.3 W133 23 49.1	3	
41	200	N59 31 13.3 W133 23 48.9	3	
42	205	N59 31 13.3 W133 23 48.5	3	
43	210	N59 31 13.2 W133 23 48.2	3	
44	215	N59 31 13.1 W133 23 47.9	3	
45	220	N59 31 13.1 W133 23 47.6	3	
46	225	N59 31 13.0 W133 23 47.3	3	
47	230	N59 31 13.0 W133 23 47.0	3	



<b>Electrode No.</b>	<b>Location in Profile [m]</b>	<b>GPS-Coordinates ddd° mm' ss.s'' WGS 1984</b>	<b>GPS-Accuracy [m]</b>	<b>Post [ * ]</b>
48	235	N59 31 13.0 W133 23 46.7	3	
49	240	N59 31 12.9 W133 23 46.3	3	
50	245	N59 31 12.8 W133 23 46.1	3	
51	250	N59 31 12.8 W133 23 45.8	3	
52	255	N59 31 12.7 W133 23 45.5	3	
53	260	N59 31 12.6 W133 23 45.3	3	
54	265	N59 31 12.6 W133 23 44.9	3	
55	270	N59 31 12.5 W133 23 44.7	3	
56	275	N59 31 12.5 W133 23 44.3	3	
57	280	N59 31 12.5 W133 23 44.1	3	
58	285	N59 31 12.4 W133 23 43.8	3	
59	290	N59 31 12.4 W133 23 43.4	3	
60	295	N59 31 12.3 W133 23 43.1	3	
61	300	N59 31 12.3 W133 23 42.8	3	
62	305	N59 31 12.2 W133 23 42.5	3	
63	310	N59 31 12.1 W133 23 42.3	3	
64	315	N59 31 12.0 W133 23 42.0	3	*

**Line07**

<b>Electrode No.</b>	<b>Location in Profile [m]</b>	<b>GPS-Coordinates ddd° mm' ss.s'' WGS 1984</b>	<b>GPS-Accuracy [m]</b>	<b>Post [ * ]</b>
1	0	N59 30 53.1 W133 24 14.0	3	*
2	5	N59 30 53.0 W133 24 13.7	3	
3	10	N59 30 52.9 W133 24 13.4	3	
4	15	N59 30 52.8 W133 24 13.2	3	
5	20	N59 30 52.7 W133 24 12.9	3	
6	25	N59 30 52.7 W133 24 12.6	3	
7	30	N59 30 52.6 W133 24 12.4	3	
8	35	N59 30 52.5 W133 24 12.2	3	
9	40	N59 30 52.3 W133 24 11.9	3	
10	45	N59 30 52.3 W133 24 11.6	3	
11	50	N59 30 52.2 W133 24 11.4	3	
12	55	N59 30 52.1 W133 24 11.1	3	
13	60	N59 30 52.1 W133 24 10.8	3	
14	65	N59 30 52.0 W133 24 10.5	3	
15	70	N59 30 51.9 W133 24 10.3	3	
16	75	N59 30 51.8 W133 24 10.0	3	
17	80	N59 30 51.7 W133 24 09.7	3	
18	85	N59 30 51.6 W133 24 09.5	3	
19	90	N59 30 51.6 W133 24 09.2	3	
20	95	N59 30 51.5 W133 24 08.9	3	
21	100	N59 30 51.4 W133 24 08.7	3	
22	105	N59 30 51.3 W133 24 08.4	3	
23	110	N59 30 51.2 W133 24 08.1	3	
24	115	N59 30 51.2 W133 24 07.8	3	
25	120	N59 30 51.1 W133 24 07.5	3	
26	125	N59 30 51.0 W133 24 07.3	3	
27	130	N59 30 50.9 W133 24 07.0	3	
28	135	N59 30 50.9 W133 24 06.8	3	
29	140	N59 30 50.8 W133 24 06.5	3	
30	145	N59 30 50.7 W133 24 06.2	3	
31	150	N59 30 50.6 W133 24 05.9	3	
32	155	N59 30 50.5 W133 24 05.6	3	
33	160	N59 30 50.5 W133 24 05.4	3	
34	165	N59 30 50.4 W133 24 05.1	3	
35	170	N59 30 50.3 W133 24 04.8	3	
36	175	N59 30 50.2 W133 24 04.5	3	
37	180	N59 30 50.2 W133 24 04.3	3	
38	185	N59 30 50.1 W133 24 04.0	3	
39	190	N59 30 50.0 W133 24 03.7	3	
40	195	N59 30 49.9 W133 24 03.5	3	
41	200	N59 30 49.8 W133 24 03.2	3	
42	205	N59 30 49.8 W133 24 02.9	3	
43	210	N59 30 49.7 W133 24 02.6	3	
44	215	N59 30 49.6 W133 24 02.4	3	
45	220	N59 30 49.5 W133 24 02.1	3	
46	225	N59 30 49.4 W133 24 01.8	3	
47	230	N59 30 49.3 W133 24 01.6	3	

<b>Electrode No.</b>	<b>Location in Profile [m]</b>	<b>GPS-Coordinates ddd° mm' ss.s'' WGS 1984</b>	<b>GPS-Accuracy [m]</b>	<b>Post [ * ]</b>
48	235	N59 30 49.2 W133 24 01.3	3	
49	240	N59 30 49.1 W133 24 01.0	3	
50	245	N59 30 49.1 W133 24 00.8	3	
51	250	N59 30 49.0 W133 24 00.5	3	
52	255	N59 30 48.9 W133 24 00.2	3	
53	260	N59 30 48.8 W133 23 59.9	3	
54	265	N59 30 48.7 W133 23 59.6	3	
55	270	N59 30 48.7 W133 23 59.4	3	
56	275	N59 30 48.6 W133 23 59.1	3	
57	280	N59 30 48.5 W133 23 58.8	3	
58	285	N59 30 48.4 W133 23 58.6	3	
59	290	N59 30 48.4 W133 23 58.3	3	
60	295	N59 30 48.3 W133 23 58.1	3	
61	300	N59 30 48.2 W133 23 57.7	3	
62	305	N59 30 48.2 W133 23 57.4	3	
63	310	N59 30 48.1 W133 23 57.1	3	
64	315	N59 30 48.0 W133 23 56.9	3	*

**Line08**

<b>Electrode No.</b>	<b>Location in Profile [m]</b>	<b>GPS-Coordinates ddd° mm' ss.s'' WGS 1984</b>	<b>GPS-Accuracy [m]</b>	<b>Post [ * ]</b>
1	0	N59 32 54.7 W133 28 31.1	3	*
2	5	N59 32 54.5 W133 28 31.1	3	
3	10	N59 32 54.3 W133 28 31.1	3	
4	15	N59 32 54.1 W133 28 31.1	3	
5	20	N59 32 53.9 W133 28 31.1	3	
6	25	N59 32 53.8 W133 28 31.1	3	
7	30	N59 32 53.6 W133 28 31.0	3	
8	35	N59 32 53.4 W133 28 31.0	3	
9	40	N59 32 53.2 W133 28 31.1	3	
10	45	N59 32 53.0 W133 28 31.1	3	
11	50	N59 32 52.9 W133 28 31.1	3	
12	55	N59 32 52.6 W133 28 31.0	3	
13	60	N59 32 52.4 W133 28 31.0	3	
14	65	N59 32 52.3 W133 28 31.0	3	
15	70	N59 32 52.2 W133 28 30.9	3	
16	75	N59 32 52.1 W133 28 30.9	3	
17	80	N59 32 52.0 W133 28 30.8	3	
18	85	N59 32 51.8 W133 28 30.8	3	
19	90	N59 32 51.8 W133 28 30.7	3	
20	95	N59 32 51.6 W133 28 30.7	3	
21	100	N59 32 51.4 W133 28 30.6	3	
22	105	N59 32 51.2 W133 28 30.5	3	
23	110	N59 32 51.1 W133 28 30.5	3	
24	115	N59 32 50.9 W133 28 30.4	3	
25	120	N59 32 50.7 W133 28 30.3	3	
26	125	N59 32 50.6 W133 28 30.3	3	
27	130	N59 32 50.5 W133 28 30.3	3	
28	135	N59 32 50.3 W133 28 30.3	3	
29	140	N59 32 50.1 W133 28 30.3	3	
30	145	N59 32 49.9 W133 28 30.2	3	
31	150	N59 32 49.8 W133 28 30.3	3	
32	155	N59 32 49.8 W133 28 30.3	3	
33	160	N59 32 49.6 W133 28 30.3	3	
34	165	N59 32 49.4 W133 28 30.3	3	
35	170	N59 32 49.3 W133 28 30.3	3	
36	175	N59 32 49.1 W133 28 30.3	3	
37	180	N59 32 49.0 W133 28 30.3	3	
38	185	N59 32 48.8 W133 28 30.2	3	
39	190	N59 32 48.6 W133 28 30.2	3	
40	195	N59 32 48.4 W133 28 30.2	3	
41	200	N59 32 48.2 W133 28 30.2	3	
42	205	N59 32 48.0 W133 28 30.1	3	
43	210	N59 32 47.8 W133 28 30.1	3	
44	215	N59 32 47.7 W133 28 30.0	3	
45	220	N59 32 47.5 W133 28 29.9	3	
46	225	N59 32 47.4 W133 28 29.9	3	
47	230	N59 32 47.2 W133 28 29.9	3	

<b>Electrode No.</b>	<b>Location in Profile [m]</b>	<b>GPS-Coordinates ddd° mm' ss.s'' WGS 1984</b>	<b>GPS-Accuracy [m]</b>	<b>Post [ * ]</b>
48	235	N59 32 47.0 W133 28 29.8	3	
49	240	N59 32 46.9 W133 28 29.8	3	
50	245	N59 32 46.8 W133 28 29.7	3	
51	250	N59 32 46.5 W133 28 29.6	3	
52	255	N59 32 46.4 W133 28 29.6	3	
53	260	N59 32 46.2 W133 28 29.7	3	
54	265	N59 32 46.1 W133 28 29.7	3	
55	270	N59 32 46.0 W133 28 29.7	3	
56	275	N59 32 45.9 W133 28 29.8	3	
57	280	N59 32 45.7 W133 28 29.6	3	
58	285	N59 32 45.5 W133 28 29.6	3	
59	290	N59 32 45.3 W133 28 29.6	3	
60	295	N59 32 45.3 W133 28 29.5	3	
61	300	N59 32 45.1 W133 28 29.5	3	
62	305	N59 32 44.9 W133 28 29.4	3	
63	310	N59 32 44.8 W133 28 29.5	3	
64	315	N59 32 44.7 W133 28 29.4	3	*

**Line09**

<b>Electrode No.</b>	<b>Location in Profile [m]</b>	<b>GPS-Coordinates ddd° mm' ss.s'' WGS 1984</b>	<b>GPS-Accuracy [m]</b>	<b>Post [ * ]</b>
1	0	N59 31 42.7 W133 24 10.9	3	*
2	5	N59 31 42.6 W133 24 11.0	3	
3	10	N59 31 42.5 W133 24 11.2	3	
4	15	N59 31 42.3 W133 24 11.4	3	
5	20	N59 31 42.2 W133 24 11.6	3	
6	25	N59 31 42.1 W133 24 11.8	3	
7	30	N59 31 42.0 W133 24 12.0	3	
8	35	N59 31 41.9 W133 24 12.2	3	
9	40	N59 31 41.7 W133 24 12.5	3	
10	45	N59 31 41.6 W133 24 12.7	3	
11	50	N59 31 41.5 W133 24 13.0	3	
12	55	N59 31 41.4 W133 24 13.2	3	
13	60	N59 31 41.3 W133 24 13.4	3	
14	65	N59 31 41.2 W133 24 13.6	3	
15	70	N59 31 41.0 W133 24 13.9	3	
16	75	N59 31 40.9 W133 24 14.1	3	
17	80	N59 31 40.8 W133 24 14.3	3	
18	85	N59 31 40.7 W133 24 14.6	3	
19	90	N59 31 40.6 W133 24 14.9	3	
20	95	N59 31 40.5 W133 24 15.1	3	
21	100	N59 31 40.4 W133 24 15.3	3	
22	105	N59 31 40.3 W133 24 15.5	3	
23	110	N59 31 40.2 W133 24 15.8	3	
24	115	N59 31 40.1 W133 24 16.0	3	
25	120	N59 31 40.0 W133 24 16.2	3	
26	125	N59 31 39.9 W133 24 16.4	3	
27	130	N59 31 39.7 W133 24 16.6	3	
28	135	N59 31 39.6 W133 24 16.8	3	
29	140	N59 31 39.5 W133 24 17.1	3	
30	145	N59 31 39.4 W133 24 17.3	3	
31	150	N59 31 39.3 W133 24 17.6	3	
32	155	N59 31 39.2 W133 24 17.7	3	
33	160	N59 31 39.1 W133 24 18.0	3	
34	165	N59 31 39.0 W133 24 18.3	3	
35	170	N59 31 38.9 W133 24 18.5	3	
36	175	N59 31 38.8 W133 24 18.7	3	
37	180	N59 31 38.6 W133 24 18.9	3	
38	185	N59 31 38.5 W133 24 19.2	3	
39	190	N59 31 38.4 W133 24 19.3	3	
40	195	N59 31 38.3 W133 24 19.5	3	
41	200	N59 31 38.2 W133 24 19.8	3	
42	205	N59 31 38.1 W133 24 20.0	3	
43	210	N59 31 38.0 W133 24 20.2	3	
44	215	N59 31 37.9 W133 24 20.4	3	
45	220	N59 31 37.7 W133 24 20.6	3	
46	225	N59 31 37.6 W133 24 20.8	3	
47	230	N59 31 37.5 W133 24 21.0	3	

<b>Electrode No.</b>	<b>Location in Profile [m]</b>	<b>GPS-Coordinates ddd° mm' ss.s'' WGS 1984</b>	<b>GPS-Accuracy [m]</b>	<b>Post [ * ]</b>
48	235	N59 31 37.4 W133 24 21.3	3	
49	240	N59 31 37.3 W133 24 21.5	3	
50	245	N59 31 37.1 W133 24 21.7	3	
51	250	N59 31 37.1 W133 24 22.0	3	
52	255	N59 31 36.9 W133 24 22.2	3	
53	260	N59 31 36.8 W133 24 22.4	3	
54	265	N59 31 36.8 W133 24 22.7	3	
55	270	N59 31 36.6 W133 24 23.0	3	
56	275	N59 31 36.6 W133 24 23.1	3	
57	280	N59 31 36.4 W133 24 23.4	3	
58	285	N59 31 36.3 W133 24 23.6	3	
59	290	N59 31 36.2 W133 24 23.9	3	
60	295	N59 31 36.1 W133 24 24.1	3	
61	300	N59 31 36.0 W133 24 24.4	3	
62	305	N59 31 35.9 W133 24 24.7	3	
63	310	N59 31 35.8 W133 24 24.9	3	
64	315	N59 31 35.6 W133 24 25.1	3	*

**Line10**

<b>Electrode No.</b>	<b>Location in Profile [m]</b>	<b>GPS-Coordinates ddd° mm' ss.s'' WGS 1984</b>	<b>GPS-Accuracy [m]</b>	<b>Post [ * ]</b>
1	0	N59 32 13.1 W133 25 16.1	3	*
2	5	N59 32 13.0 W133 25 16.2	3	
3	10	N59 32 12.9 W133 25 16.4	3	
4	15	N59 32 12.8 W133 25 16.5	3	
5	20	N59 32 12.6 W133 25 16.7	3	
6	25	N59 32 12.5 W133 25 16.9	3	
7	30	N59 32 12.4 W133 25 17.0	3	
8	35	N59 32 12.2 W133 25 17.2	3	
9	40	N59 32 12.0 W133 25 17.3	3	
10	45	N59 32 11.9 W133 25 17.5	3	
11	50	N59 32 11.8 W133 25 17.6	3	
12	55	N59 32 11.6 W133 25 17.8	3	
13	60	N59 32 11.5 W133 25 17.9	3	
14	65	N59 32 11.3 W133 25 18.1	3	
15	70	N59 32 11.2 W133 25 18.2	3	
16	75	N59 32 11.1 W133 25 18.4	3	
17	80	N59 32 10.9 W133 25 18.5	3	
18	85	N59 32 10.8 W133 25 18.7	3	
19	90	N59 32 10.6 W133 25 18.8	3	
20	95	N59 32 10.5 W133 25 19.0	3	
21	100	N59 32 10.3 W133 25 19.1	3	
22	105	N59 32 10.2 W133 25 19.3	3	
23	110	N59 32 10.1 W133 25 19.4	3	
24	115	N59 32 09.9 W133 25 19.5	3	
25	120	N59 32 09.8 W133 25 19.7	3	
26	125	N59 32 09.6 W133 25 19.8	3	
27	130	N59 32 09.5 W133 25 20.0	3	
28	135	N59 32 09.3 W133 25 20.1	3	
29	140	N59 32 09.2 W133 25 20.3	3	
30	145	N59 32 09.0 W133 25 20.4	3	
31	150	N59 32 08.9 W133 25 20.6	3	
32	155	N59 32 08.8 W133 25 20.8	3	
33	160	N59 32 08.6 W133 25 20.9	3	
34	165	N59 32 08.5 W133 25 21.0	3	
35	170	N59 32 08.3 W133 25 21.2	3	
36	175	N59 32 08.2 W133 25 21.3	3	
37	180	N59 32 08.1 W133 25 21.5	3	
38	185	N59 32 08.0 W133 25 21.6	3	
39	190	N59 32 07.8 W133 25 21.7	3	
40	195	N59 32 07.7 W133 25 21.8	3	
41	200	N59 32 07.5 W133 25 21.9	3	
42	205	N59 32 07.3 W133 25 22.0	3	
43	210	N59 32 07.2 W133 25 22.2	3	
44	215	N59 32 07.0 W133 25 22.4	3	
45	220	N59 32 06.9 W133 25 22.5	3	
46	225	N59 32 06.8 W133 25 22.6	3	
47	230	N59 32 06.6 W133 25 22.7	3	



<b>Electrode No.</b>	<b>Location in Profile [m]</b>	<b>GPS-Coordinates ddd° mm' ss.s'' WGS 1984</b>	<b>GPS-Accuracy [m]</b>	<b>Post [ * ]</b>
48	235	N59 32 06.4 W133 25 22.8	3	
49	240	N59 32 06.3 W133 25 22.9	3	
50	245	N59 32 06.2 W133 25 23.0	3	
51	250	N59 32 06.0 W133 25 23.1	3	
52	255	N59 32 05.9 W133 25 23.2	3	
53	260	N59 32 05.8 W133 25 23.3	3	
54	265	N59 32 05.6 W133 25 23.5	3	
55	270	N59 32 05.4 W133 25 23.8	3	
56	275	N59 32 05.2 W133 25 23.8	3	
57	280	N59 32 05.2 W133 25 24.0	3	
58	285	N59 32 05.0 W133 25 24.1	3	
59	290	N59 32 04.9 W133 25 24.2	3	
60	295	N59 32 04.8 W133 25 24.4	3	
61	300	N59 32 04.6 W133 25 24.5	3	
62	305	N59 32 04.5 W133 25 24.6	3	
63	310	N59 32 04.3 W133 25 24.7	3	
64	315	N59 32 04.1 W133 25 24.7	3	*

**Line11**

<b>Electrode No.</b>	<b>Location in Profile [m]</b>	<b>GPS-Coordinates ddd° mm' ss.s'' WGS 1984</b>	<b>GPS-Accuracy [m]</b>	<b>Post [ * ]</b>
1	0	N59 32 37.9 W133 26 44.1	3	*
2	5	N59 32 37.7 W133 26 44.4	3	
3	10	N59 32 37.5 W133 26 44.5	3	
4	15	N59 32 37.4 W133 26 44.7	3	
5	20	N59 32 37.3 W133 26 44.8	3	
6	25	N59 32 37.1 W133 26 45.0	3	
7	30	N59 32 37.0 W133 26 45.2	3	
8	35	N59 32 36.9 W133 26 45.3	3	
9	40	N59 32 36.7 W133 26 45.4	3	
10	45	N59 32 36.6 W133 26 45.6	3	
11	50	N59 32 36.4 W133 26 45.7	3	
12	55	N59 32 36.3 W133 26 45.9	3	
13	60	N59 32 36.1 W133 26 46.1	3	
14	65	N59 32 36.0 W133 26 46.2	3	
15	70	N59 32 35.8 W133 26 46.3	3	
16	75	N59 32 35.7 W133 26 46.5	3	
17	80	N59 32 35.6 W133 26 46.6	3	
18	85	N59 32 35.5 W133 26 46.8	3	
19	90	N59 32 35.3 W133 26 46.9	3	
20	95	N59 32 35.2 W133 26 47.0	3	
21	100	N59 32 35.1 W133 26 47.2	3	
22	105	N59 32 34.9 W133 26 47.3	3	
23	110	N59 32 34.8 W133 26 47.4	3	
24	115	N59 32 34.7 W133 26 47.6	3	
25	120	N59 32 34.5 W133 26 47.6	3	
26	125	N59 32 34.4 W133 26 47.8	3	
27	130	N59 32 34.3 W133 26 48.0	3	
28	135	N59 32 34.1 W133 26 48.1	3	
29	140	N59 32 33.9 W133 26 48.3	3	
30	145	N59 32 33.8 W133 26 48.5	3	
31	150	N59 32 33.6 W133 26 48.6	3	
32	155	N59 32 33.6 W133 26 48.8	3	
33	160	N59 32 33.4 W133 26 49.0	3	
34	165	N59 32 33.2 W133 26 49.1	3	
35	170	N59 32 33.1 W133 26 49.1	3	
36	175	N59 32 33.0 W133 26 49.3	3	
37	180	N59 32 32.9 W133 26 49.4	3	
38	185	N59 32 32.7 W133 26 49.6	3	
39	190	N59 32 32.5 W133 26 49.7	3	
40	195	N59 32 32.4 W133 26 49.9	3	
41	200	N59 32 32.2 W133 26 50.0	3	
42	205	N59 32 32.1 W133 26 50.2	3	
43	210	N59 32 31.9 W133 26 50.3	3	
44	215	N59 32 31.8 W133 26 50.5	3	
45	220	N59 32 31.6 W133 26 50.6	3	
46	225	N59 32 31.5 W133 26 50.8	3	
47	230	N59 32 31.4 W133 26 50.9	3	

<b>Electrode No.</b>	<b>Location in Profile [m]</b>	<b>GPS-Coordinates ddd° mm' ss.s'' WGS 1984</b>	<b>GPS-Accuracy [m]</b>	<b>Post [ * ]</b>
48	235	N59 32 31.2 W133 26 51.1	3	
49	240	N59 32 31.1 W133 26 51.1	3	
50	245	N59 32 31.1 W133 26 51.3	3	
51	250	N59 32 30.9 W133 26 51.4	3	
52	255	N59 32 30.8 W133 26 51.6	3	
53	260	N59 32 30.6 W133 26 51.7	3	
54	265	N59 32 30.5 W133 26 51.8	3	
55	270	N59 32 30.3 W133 26 52.0	3	
56	275	N59 32 30.2 W133 26 52.2	3	
57	280	N59 32 30.1 W133 26 52.3	3	
58	285	N59 32 29.9 W133 26 52.4	3	
59	290	N59 32 29.8 W133 26 52.6	3	
60	295	N59 32 29.7 W133 26 52.8	3	
61	300	N59 32 29.5 W133 26 53.0	3	
62	305	N59 32 29.4 W133 26 53.0	3	
63	310	N59 32 29.3 W133 26 53.1	3	
64	315	N59 32 29.1 W133 26 53.3	3	*

**Line13**

<b>Electrode No.</b>	<b>Location in Profile [m]</b>	<b>GPS-Coordinates ddd° mm' ss.s'' WGS 1984</b>	<b>GPS-Accuracy [m]</b>	<b>Post [ * ]</b>
1	0	N59 31 49.9 W133 28 38.0	3	*
2	5	N59 31 49.8 W133 28 37.9	3	
3	10	N59 31 49.7 W133 28 37.8	3	
4	15	N59 31 49.6 W133 28 37.4	3	
5	20	N59 31 49.5 W133 28 37.1	3	
6	25	N59 31 49.5 W133 28 36.8	3	
7	30	N59 31 49.4 W133 28 36.5	3	
8	35	N59 31 49.3 W133 28 36.3	3	
9	40	N59 31 49.2 W133 28 36.1	3	
10	45	N59 31 49.2 W133 28 35.7	3	
11	50	N59 31 49.1 W133 28 35.5	3	
12	55	N59 31 49.1 W133 28 35.4	3	
13	60	N59 31 49.1 W133 28 34.9	3	
14	65	N59 31 49.0 W133 28 34.5	3	
15	70	N59 31 48.9 W133 28 34.4	3	
16	75	N59 31 48.8 W133 28 34.1	3	
17	80	N59 31 48.8 W133 28 33.8	3	
18	85	N59 31 48.6 W133 28 33.3	3	
19	90	N59 31 48.6 W133 28 33.2	3	
20	95	N59 31 48.5 W133 28 32.9	3	
21	100	N59 31 48.4 W133 28 32.5	3	
22	105	N59 31 48.4 W133 28 32.4	3	
23	110	N59 31 48.4 W133 28 32.1	3	
24	115	N59 31 48.3 W133 28 31.8	3	
25	120	N59 31 48.2 W133 28 31.5	3	
26	125	N59 31 48.2 W133 28 31.1	3	
27	130	N59 31 48.1 W133 28 30.8	3	
28	135	N59 31 48.0 W133 28 30.5	3	
29	140	N59 31 47.9 W133 28 30.2	3	
30	145	N59 31 47.9 W133 28 29.9	3	
31	150	N59 31 47.8 W133 28 29.6	3	
32	155	N59 31 47.8 W133 28 29.3	3	
33	160	N59 31 47.7 W133 28 29.0	3	
34	165	N59 31 47.6 W133 28 28.8	3	
35	170	N59 31 47.6 W133 28 28.5	3	
36	175	N59 31 47.5 W133 28 28.3	3	
37	180	N59 31 47.4 W133 28 27.9	3	
38	185	N59 31 47.4 W133 28 27.7	3	
39	190	N59 31 47.3 W133 28 27.4	3	
40	195	N59 31 47.2 W133 28 27.0	3	
41	200	N59 31 47.2 W133 28 26.8	3	
43	210	N59 31 47.0 W133 28 26.2	3	
44	215	N59 31 47.0 W133 28 26.0	3	
45	220	N59 31 47.0 W133 28 25.7	3	
46	225	N59 31 46.9 W133 28 25.3	3	
47	230	N59 31 46.8 W133 28 25.1	3	
48	235	N59 31 46.8 W133 28 24.8	3	

<b>Electrode No.</b>	<b>Location in Profile [m]</b>	<b>GPS-Coordinates ddd° mm' ss.s'' WGS 1984</b>	<b>GPS-Accuracy [m]</b>	<b>Post [ * ]</b>
49	240	N59 31 46.7 W133 28 24.5	3	
50	245	N59 31 46.7 W133 28 24.3	3	
51	250	N59 31 46.6 W133 28 24.1	3	
52	255	N59 31 46.6 W133 28 23.9	3	
53	260	N59 31 46.5 W133 28 23.4	3	
54	265	N59 31 46.4 W133 28 23.0	3	
55	270	N59 31 46.3 W133 28 22.8	3	
56	275	N59 31 46.3 W133 28 22.5	3	
57	280	N59 31 46.2 W133 28 22.0	3	
58	285	N59 31 46.1 W133 28 21.8	3	
59	290	N59 31 46.1 W133 28 21.6	3	
60	295	N59 31 46.0 W133 28 21.3	3	
61	300	N59 31 45.9 W133 28 21.1	3	
62	305	N59 31 45.8 W133 28 20.9	3	
63	310	N59 31 45.7 W133 28 20.6	3	
64	315	N59 31 45.7 W133 28 20.3	3	*