

# Arctic Geophysics Inc.



Geophysical Surveys • Prospecting • Consulting

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## **Geophysical Survey with 2D Resistivity Klaza River, Yukon**

Mount Nansen Area, Ladybug Claims

N62 05 15.2 W137 07 56.3

FOR

Steve and Laurie Harasimiuk

Bonnyville Oilfield Service & Supply Ltd

Box 6409, Bonnyville, Alberta, T9N 2G9

AUTHOR

Philipp Moll

WORK PERFORMED

June 28th 2012

DATE OF REPORT

Sept 20<sup>th</sup> 2012

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## 1. Introduction

This geophysical investigation was done for Steve and Laurie Harasimiuk, Bonnyville Oilfield Service & Supply Ltd. The survey, using 2D Resistivity, was conducted to prospect the tenures mentioned below for the localisation of possible targets for placer gold. The ground was tested with one 2D measuring line of 395m in length, the depth of investigation is approx. 75m.

## 2. Placer Claims

Grant Number	Claim Name	Owner
Lease IW00337 changed to P 509529 - 38	Ladybug Claims	Laurie Harasimiuk

## 3. Location

The placer property is located on a short, nameless, right tributary of Victoria Creek at the foot of Mount Nansen, map number 115I03. The owner of the property calls this tributary "Ladybug Creek".

## 4. Access

The exploration site was accessed via the Mount Nansen gravel road.

## 5. Goal

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

### Placer Prospecting

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

## 6. 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 0.5m to 100m by varying the electrode spacing. – Therefore, this prospecting concept is based on the use of 2D Resistivity.



**Figure 1: 2D Resistivity measurement, Stefan Ostermaier, Arctic Geophysics Inc., Yukon 2009**

## 7. Use of Geophysical Methods

### 7.1. 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>
- 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.

### 7.2. 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. This array is appropriate to image horizontally running layers as is needed for placer prospecting.

The 2D Resistivity imaging system, used for this survey, allows measurements with a depth of up to 100m. 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.

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

<sup>2</sup> Ditto

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

<sup>4</sup> Ditto

## 7.3. Processing

### Resistivity

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

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

## 7.4. Interpretation

The interpretation of the profiles should be verified by physical prospecting methods such as digging test holes/trenches, drilling, or shafting.

## 8. Profile image

In the **Resistivity profile** the interpreted layer interfaces are marked with a black line. The profiles show ground-layers approximately 15% thicker than they are in reality. The thickening of the model layers is caused by the inversion software. The **correction factor** of 0.85 for the determination of the true layer thickness has been established by the Arctic Geophysics Inc. team on the basis of numerous geoelectrical profiles verified by drilling, trenching, and mining done by our customers.<sup>6</sup>

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. This means: the layers there will also show up approximately 15% thicker than they are expected in reality. At the measuring sticks in the profile image as well as in the interpretation text, the layer thicknesses and depths have been recalculated to the expected real values.

## 9. Resistivity Survey at Ladybug Creek

### Preliminary Note!

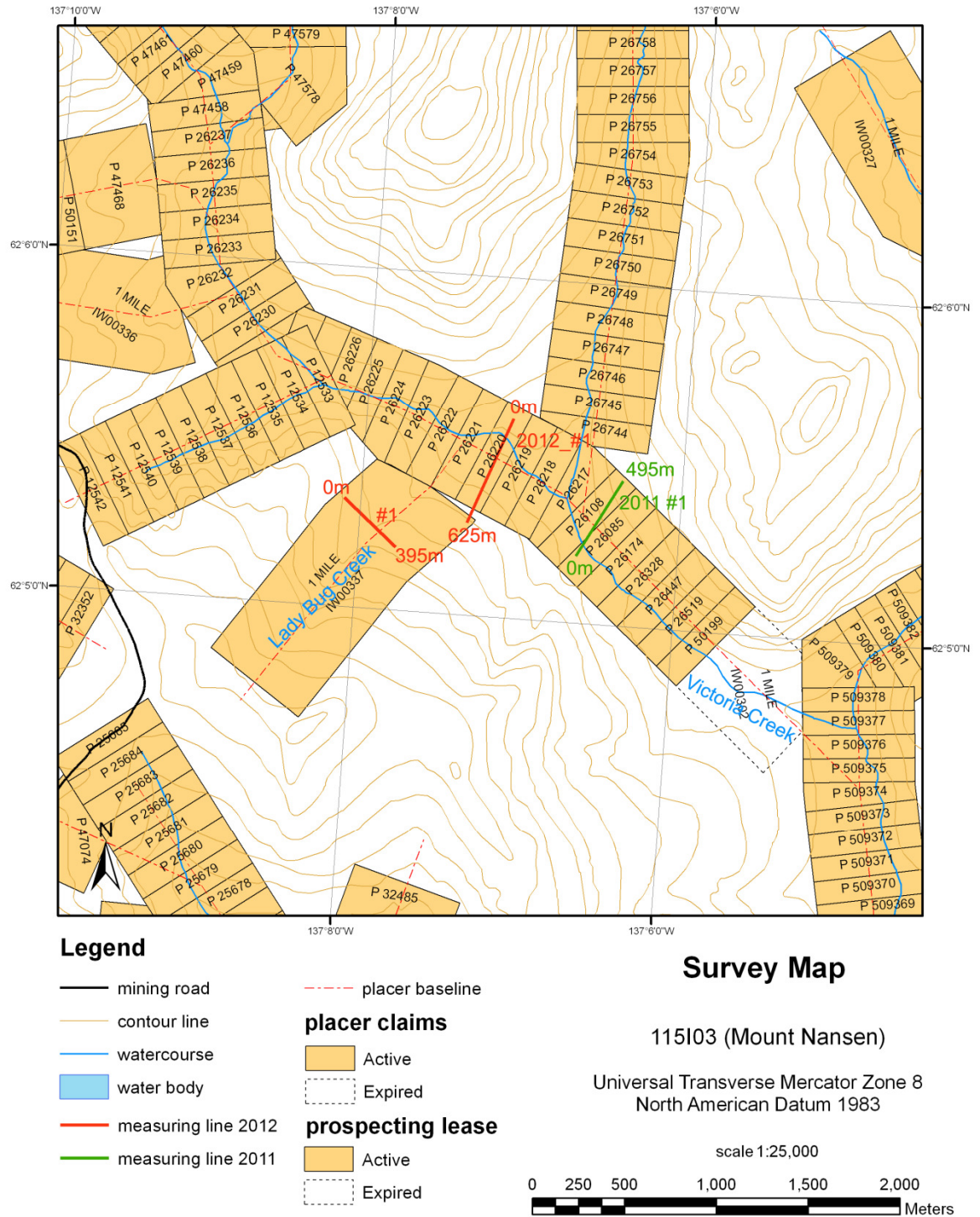
The subsurface information of this study is an interpretation and cannot be guaranteed.

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

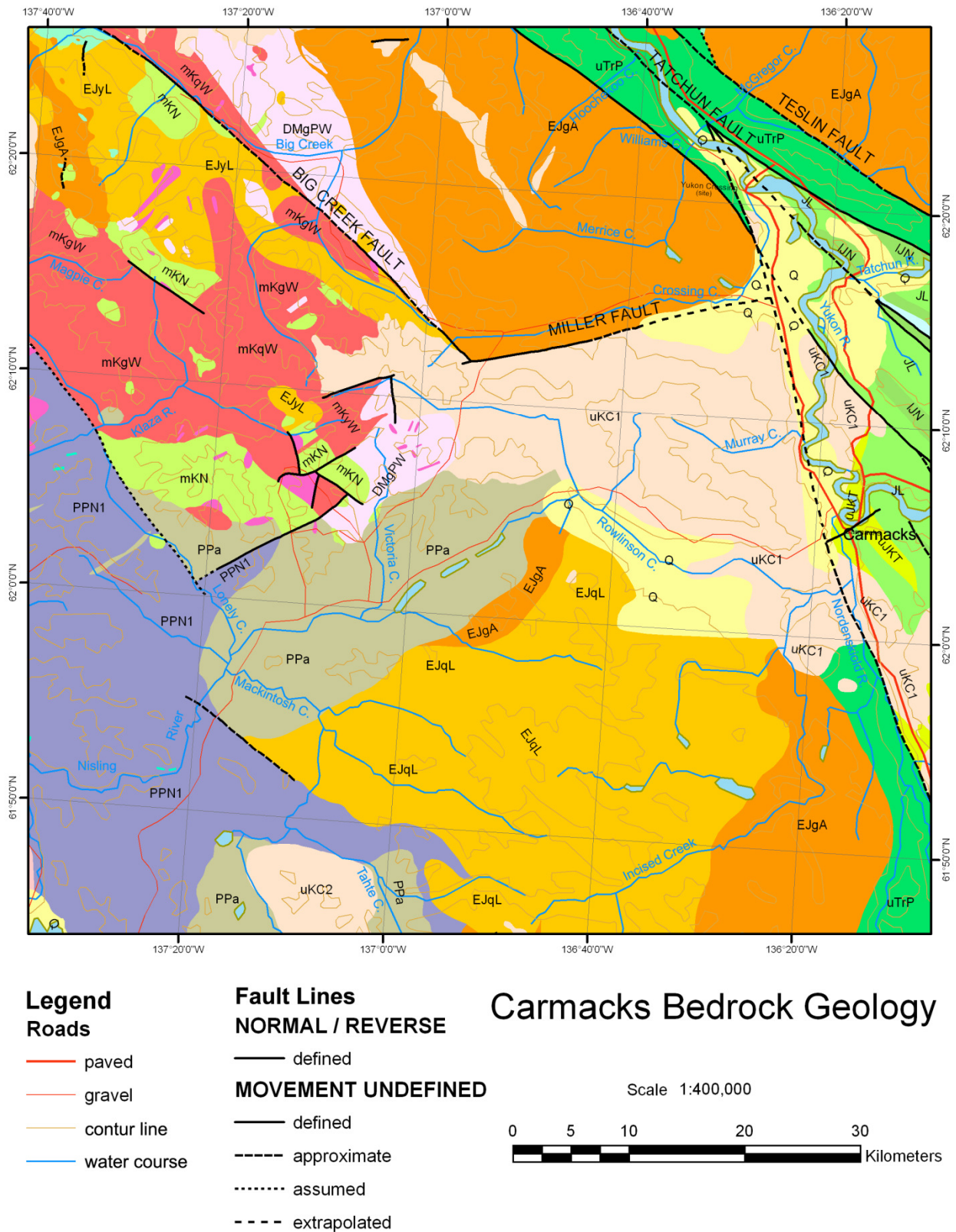
<sup>6</sup> Program settings in RES2DINV for modifying the layer thickness do frequently not work well for our use and could falsify the profile. That's why this mode was not used.

## 10. Survey Map<sup>7</sup>



<sup>7</sup> <http://www.yukonminingrecorder.ca/PDFs:1150/03>


## 11. Bedrock Geology Map – Overview<sup>8</sup>



<sup>8</sup> Gordey, S.P. and Makepeace, A.J. (comp.) 1999: Yukon bedrock geology in Yukon digital geology, S.P. Gordey and A.J. Makepeace (comp.); Geological Survey of Canada Open File D3826 and Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Open File 1999-1(D)

# Legend

## QUATERNARY


 Q: QUATERNARY: unconsolidated glacial, glaciofluvial and glaciolacustrine deposits; fluvial silt, sand, and gravel, and local volcanic ash, in part with cover of soil and organic deposits

## EARLY TERTIARY

 ETfN: NISLING RANGE SUITE: orange and buff weathering light-coloured feldspar porphyry dyke and flow rocks of intermediate to acid composition


## LATE CRETACEOUS TO TERTIARY


 LKdP: PROSPECTOR MOUNTAIN SUITE: coarsely crystalline gabbro and diorite

 LKqP: PROSPECTOR MOUNTAIN SUITE: quartz monzonite, biotite quartz-rich granite; porphyritic alaskite and granite with plagioclase and quartz-eye phenocrysts; biotite and hornblende quartz monzodiorite, granite, and leucocratic granodiorite with local alkali feldspar phenocrysts (Prospector Mountain Suite, Carcross Pluton)


 LKfP: PROSPECTOR MOUNTAIN SUITE: quartz-feldspar porphyry

## MID-CRETACEOUS


 mKgW: WHITEHORSE SUITE: biotite-hornblende granodiorite, hornblende quartz diorite and hornblende diorite; leucocratic, biotite hornblende granodiorite locally with sparse grey and pink potassium feldspar phenocrysts (Whitehorse Suite, Casino granodiorite, McClintock granodiorite, Nisling Range granodiorite)


 mKqW: WHITEHORSE SUITE: biotite quartz-monzonite, biotite granite and leucogranite, pink granophyric quartz monzonite, porphyritic biotite leucogranite, locally porphyritic (K-feldspar) hornblende monzonite to syenite, and locally porphyritic leucocratic quartz monzonite (Mt. McIntyre Suite, Whitehorse Suite, Casino Intrusions, Mt. Ward Granite, Coffee Creek Granite)

 mKyW: WHITEHORSE SUITE: hornblende syenite, grading to granite or granodiorite (Whitehorse Suite)


 mKN: MOUNT NANSEN: massive aphyric or feldspar-phyric andesite to dacite flows, breccia and tuff; massive, heterolithic, quartz- and feldspar-phyric, felsic lapilli tuff; flow-banded quartz-phyric rhyolite and quartz-feldspar porphyry plugs, dykes, sills and breccia (Mount Nansen Gp., Byng Creek Volcanics, Hutshi Gp.)

## UPPER CRETACEOUS


 uKC1: CARMACKS: augite olivine basalt and breccia; hornblende feldspar porphyry andesite and dacite flows; vesicular, augite phyric andesite and trachyte; minor sandy tuff, granite boulder conglomerate, agglomerate and associated epiclastic rocks (Carmacks Gp., Little Ridge Volcanics, Casino Volcanics)


 uKC2: CARMACKS: acid vitric crystal tuff, lapilli tuff and welded tuff including feeder plugs and necks; felsic volcanic flow rocks and quartz feldspar porphyries; green and purple massive tuff-breccia with feldspar phyric fragments (Carmacks Gp., Donjek Volcanics, some rocks formerly mapped as Mt. Nansen Gp.; the felsic part of the Carmacks Gp. is difficult to distinguish from similar Tertiary and mid-Cretaceous (Mt. Nansen) felsic volcanic strata)


## UPPER JURASSIC AND LOWER CRETACEOUS

 uJKT: TANTALUS: massive to thickly bedded chert pebble conglomerate and gritty quartz-chert-feldspar sandstone; interbedded dark grey shale, argillite, siltstone, arkose and coal; at one locality includes red-weathering dacite to andesite flows at base (Tantalus)


## EARLY JURASSIC

 EJgA: AISHIHIK SUITE: medium- to coarse- grained, foliated biotite-hornblende granodiorite; biotite-rich screens and gneissic schlieren; foliated hornblende diorite to monzodiorite with local K-feldspar megacrysts; may include unfoliated monzonite of the Long Lake Suite (Aishihik Suite)


 EJyL: LONG LAKE SUITE: resistant, dark weathering, massive, coarse- to very coarse- grained and porphyritic, mesocratic hornblende syenite; locally sheared, commonly fractured and saussuritized; locally has well developed layering of aligned pink K-feldspar tablets (Big Creek Syenite)

 EJqL: LONG LAKE SUITE: massive to weakly foliated, fine to coarse grained biotite, biotite-muscovite and biotite-hornblende quartz monzonite to granite, including abundant pegmatite and aplite phases; commonly K-feldspar megacrystic (Long Lake Suite)


## LOWER AND MIDDLE JURASSIC, HETTANGIAN TO BAJOCIAN

 JL: LABERGE: poorly sorted, medium bedded to massive arkosic sandstone and minor shale with interbeds and thick members of resistant heterolithic pebble and boulder conglomerate; recessive, dark brown weathering, thin bedded, dark brown to greenish, silty shale (Laberge Gp.)


## LOWER JURASSIC, PLEINSBACHIAN TO TOARCIN

 IJN: NORDENSKIOLD: resistant, reddish brown weathering, massive, khaki-green dacite tuff with fresh plagioclase, hornblende and biotite; grades locally to pale green, punky weathering, salt and pepper textured, massive sandstone; interbedded conglomerate (Nordenskiold Dacite)


## UPPER TRIASSIC, CARNIAN TO NORIAN

 uTrAK2: AKSALA: massive to thick bedded limestone; minor thin bedded argillaceous to sooty limestone; coarsely crystalline, massive dolostone; minor laminated chert; massive to poorly bedded, limestone conglomerate debris flows and fanglomerate (Hancock mb. of Aksala)

## UPPER TRIASSIC, CARNIAN AND OLDER (?)

 uTrP: POVOAS: augite or feldspar phyric, locally pillowed andesitic basalt flows, breccia, tuff, sandstone and argillite; local dacitic breccia and tuff with minor limestone; greenschist, chlorite schist, chlorite-augite-feldspar gneiss, amphibolite (Povoas)

## PROTEROZOIC AND PALEOZOIC

 PPa: AMPHIBOLITE: metamorphosed mafic rocks including amphibolite (1) and ultramafic rocks (2) of unknown association; i.e.) may belong in part or entirely to Nisling, Nasina, and Slide Mountain assemblages and (3), mafic-ultramafic intrusions within Nasina assemblage

## LATE DEVONIAN TO MISSISSIPPIAN

**DMgPW: PELLY GNEISS SUITE - SOUTHWEST:** foliated medium grained, homogeneous biotite granite gneiss to biotite or hornblende granodiorite gneiss; massive to strongly foliated dioritic to granodioritic gneiss; includes interfoliated amphibolite, quartz-mica schist and phyllite (Selwyn Gneiss, Pelly Gneiss, N. Fiftymile Batholith, Moose Creek Orthogneiss)

## DEVONIAN, MISSISSIPPIAN AND(?) OLDER

**DMN3: NASINA:** quartzite, micaceous quartzite, quartz muscovite (chlorite; feldspar augen) schist, and minor metaconglomerate and metagrit as in (1), but may locally include significant Nisling Assemblage

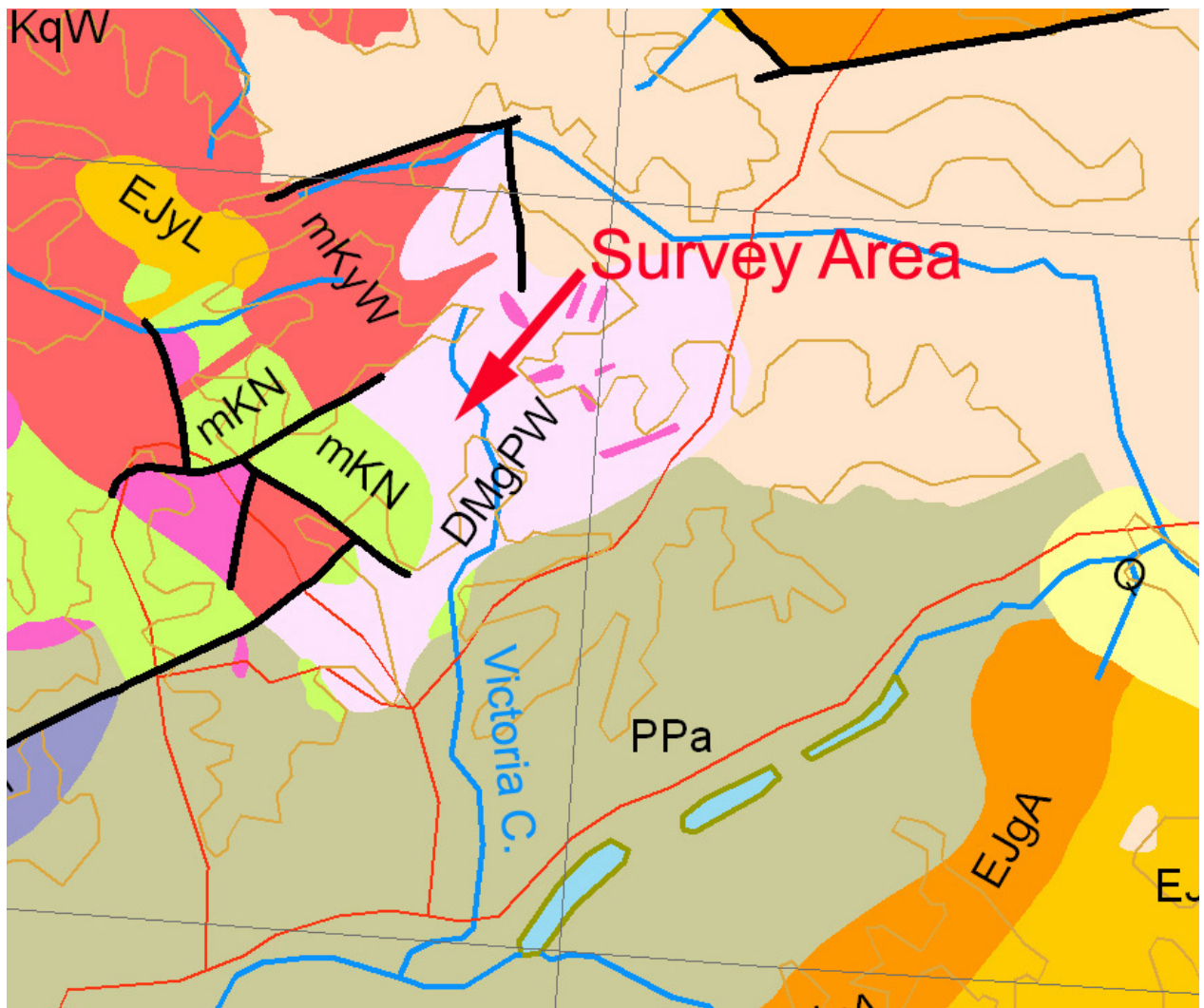
**DMN4: NASINA:** quartzite, micaceous quartzite, quartz muscovite (chlorite; feldspar augen) schist, and minor metaconglomerate and metagrit as in (1), but may locally include significant Klondike Schist Assemblage

## LATE PROTEROZOIC AND PALEOZOIC

**PPN1: NISLING:** dark grey to brown, biotite-muscovite-quartz-feldspar schist, quartzite and micaceous quartzite, garnetiferous; felsic chlorite-biotite orthogneiss; rare amphibolite; minor(?) two-mica gneiss and hornblende diorite gneiss; may include Nasina Assem. (Nisling assem.)

**PPN2: NISLING:** bleached white-weathering, white to grey, coarsely crystalline, flow banded, feldt marble; graphite, chert, metabasite and calc-silicate lamina are common (Nisling assem.)

## 12. Bedrock Geology Map – Survey Area



## 13. Geology

### 13.1. Bedrock

In the survey area of **Klaza River**, the bedrock basically shows resistivity data between 1000-2000 Ohm meters. 95% of the bedrock shows around 200 Ohm meters: This data would basically fit with Pelly Gneiss seen in the Bedrock Geology Map.

The bedrock in the profiles shows patterns with highly varying resistivity, which might be caused by changes of the bedrock type and/or mineral composition, and changing amounts of weathering and water saturation in the rock.<sup>9</sup>

### 13.2. Physiography / Glaciation / Placer Gold Deposits

The overburden measured in this survey consists of virgin material.

In the survey area the overburden shows heterogeneous resistivity data. The heterogeneity of the data might be caused by different kinds/shapes of the sediments: The local deposits might be dominated by glacial till in addition to glaciofluvial, possibly glaciolacustrine deposits, and modern stream-gravels, and colluvium. Furthermore, the overburden show different amounts of groundwater and permafrost.

Pre-glacial river gravel, most likely bearing placer gold, was eroded by the glacier. The glacier might have produced large deposits of till. When the ice started thawing, till was transported by melt-water creating glaciofluvial deposits, which could have re-concentrated pre-glacial placer gold. The glacial melt-water drainage could have played a significant role even at small tributaries such as "Ladybug Creek": First, melt-water from up the slope could have run down the Ladybug streambed. Second, melt-water from Victoria Creek which was hindered to flow down valley by ice damming could have run perpendicular to Victoria valley (along Ladybug). These scenarios could have produced bedrock channels bearing valuable placer gold deposits in Ladybug Creek. Alternatively, those auriferous glaciofluvial deposits could sit in till instead of bedrock. The bedrock sources are estimated to be richer.

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<sup>9</sup> Weathering significantly changes the conductivity of rocks. Bedrock gets fractured by frost wedging, faults, and other mechanical influences in the subsurface. The fractures produce cavities which get filled with water. This increases the conductivity and decreases the resistivity. Fractured bedrock starts chemical weathering which increases the pore volume of the rock that is filled with (stationary) water collecting high amounts of solved minerals. The resistivity is reduced even more. Larger fractures in the rock can become penetrated by water saturated sediments. – All these factors could have significantly decreased the resistivity of the local bedrock. All these influences might have controlled the varying resistivity in the bedrock measured in the profiles.

The general case is that glacial till will incorporate placer gold into it and dilute placers into a larger volume lower grade deposit which may be un-economic. 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 Ladybug Creek.

At a lower chance silt- and/or clay-rich layers showing a glaciolacustrine origin could appear in the survey area at Ladybug Creek. Those glaciolacustrine deposits could have been created at melt-water basins caused by ice damming between Ladybug Creek and Victoria Creek. Clay layers protect the deposits underneath from glacial erosion. So, the material in and below clay-rich layers ("false bedrock") could have preserved older placers.

Each new sediment discovered when doing physical prospecting would be worth sampling.

# 14. Profile – Interpretation

## Lady Bug Creek Line 01

2D Resistivity/IP, Schlumberger array

80 Electrodes: spacing 5m, Horizontal resolution 2.5m

Horizontal and vertical measure in [meter], Iteration error in [%]

Vertical exaggeration in model section display = 1.00

Data acquisition: Stefan Ostermaier, Franz Piechotta 28th June 2012

Processing: Stefan Ostermaier, 28th June 2012

Arctic Geophysics Inc., Yukon

## Arctic Geophysics Inc.

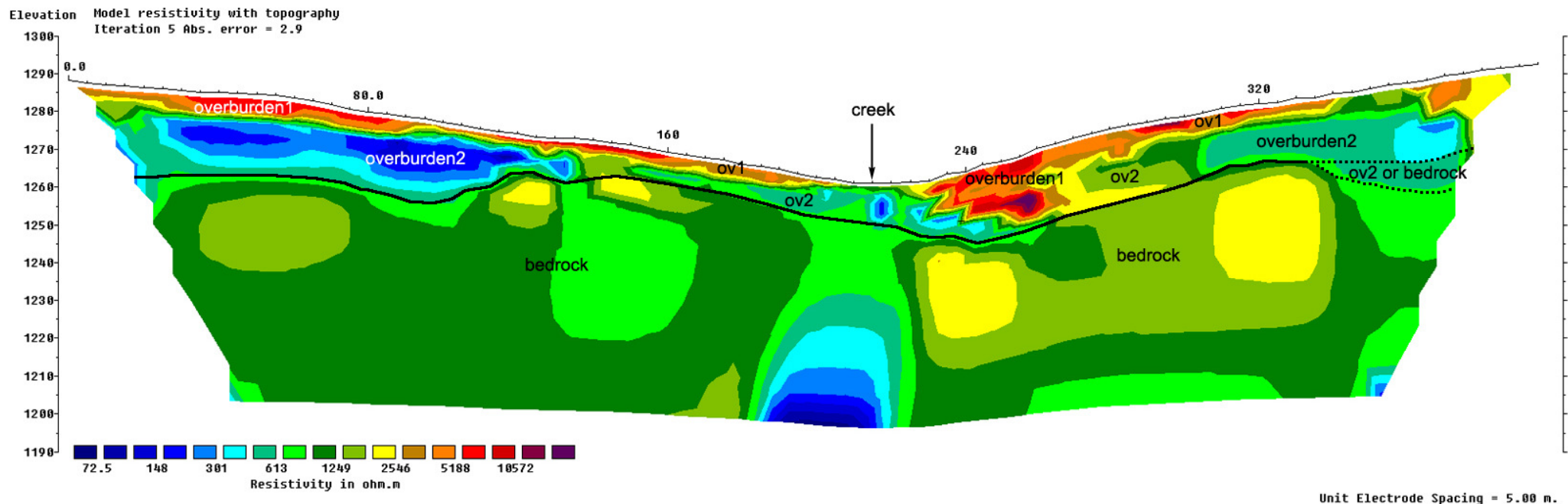


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overburden1: continuously frozen overburden: gravel

overburden2: thawed water saturated gravel (groundwater table), or clay/silt

bedrock: most likely intermediate and mafic magmatites

— bedrock interface

..... alternate bedrock interface

The profile might show the ground-layers up to approximately 15% thicker than they are in reality.

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

## **Interpretation**

This resistivity profile might show 7-19m of overburden on top of bedrock. The overburden is double-layered.

At 0-120m in the profile there might be a bedrock bench covered with two overburden layers with different resistivity: The topmost layer (red, overburden1) is low conducting and 1-3m thick; it seems to be frozen gravel potentially consisting of glacial till and glaciofluvial deposits below modern river gravel and colluvium.

The layer below (blue, overburden2) is well conducting and could be the glacial till and/or glaciofluvial deposits in water-saturated conditions. Alternatively and less likely, this layer could be a silt-/clay-rich sediment showing a glaciolacustrine origin.

At 80-115m there seems to be a paleochannel, approx. 19m deep at 95m, possibly filled with glaciofluvial gravel below till. This possible channel might have been formed by glaciofluvial streams.

At 120-240m the overburden is still double-layered. The topmost layer (overburden1) is likely the same material as described above. The layer underneath (green/turquoise, overburden2) most likely consists of the same materials as interpreted above, it just seems to contain less groundwater.

At 240-260m overburden1 looks thicker and is interpreted in the same way as shown above. Around 245m there could be another channel, 19m deep at 245m.

At 260-300m the double-layer of the overburden stays. Layer1 on the surface might be still the same. Overburden2 seems to be partly frozen.

After 300m the topmost layer, overburden1, seems to lose frost.

The layer below (overburden2) shows quite homogeneous resistivity data. This deposit could be dominated by silt/clay showing a glaciolacustrine origin. Alternatively, it could be a gravel deposit with a fine matrix.

At 320m a bedrock bench might start. At 325m the overburden seems to be 19m deep. Around 360m the bedrock interface is tentative: It could be 18m or 25m deep. In the second case another channel would be located.

The bedrock data are various which might indicate mineral changes in the rock or discontinuous weathering of the hypothetical Pelly Gneiss.

## 15. References

### Literature

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)

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

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

### Maps

<http://www.yukonminingrecorder.ca/PDFs:1151/03>

Gordey, S.P. and Makepeace, A.J. (comp.) 1999: Yukon bedrock geology in Yukon digital geology, S.P. Gordey and A.J. Makepeace (comp.); Geological Survey of Canada Open File D3826 and Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Open File 1999-1(D)

## 16. Qualification

### Philipp Moll

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### Certificate of Qualifications

I, Philipp Moll, currently residing at "Am Holderstock 6, 77652 Offenburg, 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 Ladybug Creek Property for assessment credit, and reviewed the data contained in the report titled: "Geophysical Survey with 2D Resistivity.

The survey was carried out by Arctic Geophysics Inc.

Offenburg, Germany, 20th September 2012

"Signed and Sealed" Philipp Moll



Philipp Moll

# Addendum

## Cost

### Arctic Geophysics Inc.



Geophysical Surveys • Prospecting • Consulting

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**Service:** 2D Resistivity survey for placer investigation, 5 measuring lines

**Survey Locations:**

IW00337	Klaza River	Laurie Harasimiuk, ex 21 <sup>st</sup> Sept 2012
P 26220	Victoria Creek	44995 Yukon Inc., ex 1 <sup>st</sup> Nov 2012
IW00342	Klaza River	Robert Harasimiuk, ex 29 <sup>th</sup> Nov 2012
IW00343	Klaza left tributary	Rob's Offroad Mechanical, ex 29 <sup>th</sup> Nov 2012
IW00345	Klaza left tributary	Bonnyville Oilfield Service & Supply Ltd, ex 29 <sup>th</sup> Nov 2012

**Invoice # 2012713**

Date: 13th July, 2012

Quantity	Description	Amount \$CAN
<b>Mob/Demob</b>		
2 days	Vehicle 70.--/ day [50% share with other customer]	70.--
700 Km	\$ 0.55/km [50% share with other customer]	192.50
2 days	Driving 450.--/day, operator + assistant [50% share with other customer]	450.--
<b>Geophysical Survey</b>		
5 days	Geoelectrical 2D-Resistivity Imaging System + Survey Leader, 880.--/day	4400.--
5 days	Field assistant, 250.--/ day	1250.--
1/2 day	Working data, Documentation, 2 operators 600.-- /day	300.--
<b>NET Amount</b>		<b>\$ 6 662.50</b>
<b>GST Number 846363216RT0001</b>		<b>G.S.T. (5%) \$ 333.12</b>
<b>Total Due</b>		<b>\$ 6 995.62</b>
<b>Costs for this survey at Lease IW00337 (today: Ladybug Claims) 1/5 (20%)</b>		<b>\$ 1399.12</b>

# Arctic Geophysics Inc.



Geophysical Surveys • Prospecting • Consulting

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**Survey Location:** Klaza River, IW00337, today Ladybug Creek: Laurie Harasimiuk, **ex 21<sup>st</sup> Sept 2012**

**Invoice #** 20120920

Date: Sept 20th, 2012

Services provided:

Quantity	Description	Amount \$CAN
<b>Documentation</b>		
1 day	Report writing @ \$350.--/day	350.--
	Printing/Binding/Shipping	50.--
<b>NET Amount</b>		\$ 400.--
<b>GST Number</b> 846363216RT0001		<b>G.S.T. (5%)</b> \$ 20.--
<b>Total Due</b>		<b>\$ 420.--</b>

# GPS-Data

## Lady Bug Creek 2012 Line01

Electrode No.	Location in Profile [m]	GPS-Coordinates Latitude/ Longitude hddd° mm' ss.s"	GPS-Accuracy [m]	Post [ * ]
1	0.0	N62 05 19.2 W137 08 06.3	3	*
2	5.0	N62 05 19.1 W137 08 06.1	3	
3	10.0	N62 05 18.9 W137 08 06.0	3	
4	15.0	N62 05 18.8 W137 08 05.7	3	
5	20.0	N62 05 18.7 W137 08 05.4	3	
6	25.0	N62 05 18.6 W137 08 05.1	3	
7	30.0	N62 05 18.5 W137 08 04.9	3	
8	35.0	N62 05 18.3 W137 08 04.6	3	
9	40.0	N62 05 18.2 W137 08 04.3	3	
10	45.0	N62 05 18.2 W137 08 04.1	3	
11	50.0	N62 05 18.1 W137 08 03.8	3	
12	55.0	N62 05 18.0 W137 08 03.6	3	
13	60.0	N62 05 17.9 W137 08 03.3	3	
14	65.0	N62 05 17.8 W137 08 03.1	3	
15	70.0	N62 05 17.7 W137 08 02.8	3	
16	75.0	N62 05 17.6 W137 08 02.6	3	
17	80.0	N62 05 17.5 W137 08 02.3	3	
18	85.0	N62 05 17.4 W137 08 02.1	3	
19	90.0	N62 05 17.2 W137 08 01.8	3	
20	95.0	N62 05 17.1 W137 08 01.5	3	
21	100.0	N62 05 17.1 W137 08 01.2	3	
22	105.0	N62 05 17.0 W137 08 00.9	3	
23	110.0	N62 05 16.9 W137 08 00.7	3	
24	115.0	N62 05 16.8 W137 08 00.5	3	
25	120.0	N62 05 16.6 W137 08 00.2	3	
26	125.0	N62 05 16.5 W137 07 59.9	3	
27	130.0	N62 05 16.5 W137 07 59.7	3	
28	135.0	N62 05 16.4 W137 07 59.5	3	
29	140.0	N62 05 16.3 W137 07 59.2	3	
30	145.0	N62 05 16.1 W137 07 59.0	3	
31	150.0	N62 05 16.0 W137 07 58.7	3	
32	155.0	N62 05 15.9 W137 07 58.5	3	
33	160.0	N62 05 15.8 W137 07 58.1	3	
34	165.0	N62 05 15.7 W137 07 57.8	3	
35	170.0	N62 05 15.6 W137 07 57.7	3	
36	175.0	N62 05 15.6 W137 07 57.4	3	
37	180.0	N62 05 15.4 W137 07 57.0	3	
38	185.0	N62 05 15.3 W137 07 56.8	3	
39	190.0	N62 05 15.2 W137 07 56.5	3	
40	195.0	N62 05 15.2 W137 07 56.3	3	
41	200.0	N62 05 15.0 W137 07 56.0	3	
42	205.0	N62 05 14.9 W137 07 55.8	3	
43	210.0	N62 05 14.8 W137 07 55.5	3	

<b>Electrode No.</b>	<b>Location in Profile [m]</b>	<b>GPS-Coordinates Latitude/ Longitude hddd° mm' ss.s"</b>	<b>GPS- Accuracy [m]</b>	<b>Post [ * ]</b>
44	215.0	N62 05 14.8 W137 07 55.2	3	
45	220.0	N62 05 14.7 W137 07 55.0	3	
46	225.0	N62 05 14.6 W137 07 54.7	3	
47	230.0	N62 05 14.5 W137 07 54.4	3	
48	235.0	N62 05 14.4 W137 07 54.1	3	
49	240.0	N62 05 14.3 W137 07 53.9	3	
50	245.0	N62 05 14.2 W137 07 53.7	3	
51	250.0	N62 05 14.1 W137 07 53.4	3	
52	255.0	N62 05 14.0 W137 07 53.2	3	
53	260.0	N62 05 13.9 W137 07 52.8	3	
54	265.0	N62 05 13.8 W137 07 52.6	3	
55	270.0	N62 05 13.7 W137 07 52.4	3	
56	275.0	N62 05 13.6 W137 07 52.1	3	
57	280.0	N62 05 13.5 W137 07 51.7	3	
58	285.0	N62 05 13.4 W137 07 51.5	3	
59	290.0	N62 05 13.3 W137 07 51.2	3	
60	295.0	N62 05 13.2 W137 07 51.1	3	
61	300.0	N62 05 13.1 W137 07 50.7	3	
62	305.0	N62 05 13.0 W137 07 50.5	3	
63	310.0	N62 05 12.9 W137 07 50.2	3	
64	315.0	N62 05 12.8 W137 07 49.9	3	
65	320.0	N62 05 12.6 W137 07 49.6	3	
66	325.0	N62 05 12.6 W137 07 49.4	3	
67	330.0	N62 05 12.5 W137 07 49.1	3	
68	335.0	N62 05 12.3 W137 07 48.9	3	
69	340.0	N62 05 12.2 W137 07 48.6	3	
70	345.0	N62 05 12.2 W137 07 48.4	3	
71	350.0	N62 05 12.1 W137 07 48.1	3	
72	355.0	N62 05 12.0 W137 07 47.8	3	
73	360.0	N62 05 11.9 W137 07 47.6	3	
74	365.0	N62 05 11.8 W137 07 47.3	3	
75	370.0	N62 05 11.7 W137 07 47.1	3	
76	375.0	N62 05 11.5 W137 07 46.8	3	
77	380.0	N62 05 11.5 W137 07 46.5	3	
78	385.0	N62 05 11.4 W137 07 46.3	3	
79	390.0	N62 05 11.3 W137 07 46.0	3	
80	395.0	N62 05 11.1 W137 07 45.8	3	*