



GroundTruth Exploration Inc.

Box 70, Dawson YT, Y0B 1G0 (867) 993-5612

GEOPHYSICAL REPORT on the Independence Creek Placer Prospecting Lease

Whitehorse, Yukon Territory

Independence Creek:

Lease No.: IW00339 – Owner: Brodie Klemm 100%

NTS # 115J/13, 14

Latitude: 62.966° N Longitude: 139.5241° W

Whitehorse Mining District

WORK PERFORMED: September 23rd, 2013

REPORT DATE: October 20, 2013



120287



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Table of Contents

Summary	3
1.0 Location and Access	3
2.0 Property	3
3.0 Physiology and Geology	4
4.0 Resistivity Survey Procedure(s)	5
4.1 Resistivity Survey Theory Applied to Placer Exploration	5
5.0 Magnetic Survey Procedure	6
5.1 Magnetic Field Theory Applied to Placer Exploration	6
6.0 Resistivity and Magnetic RESULTS	7
6.1 DC Resistivity Interpretation:	8
6.2 Magnetic Survey Results:	9
6.3 Combined Interpretation:	9
7.0 Conclusion/ Recommendations	9
8.0 Statement of Expenditures	9
9.0 Certification	10
10.0 List of Figures	10
11.0 Supersting R8 IP Technical Specifications	10



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Summary

A High Resolution Resistivity survey and coincident detailed Total Magnetic Field ground survey was conducted on the Independence Creek placer lease to map bedrock profile and classify overburden material. The lease is located 120km South of Dawson on Independence Creek which flows directly into the Yukon River (figure 1).

The survey was conducted by Groundtruth Exploration on September 23rd, 2013. The property was accessed by helicopter based at the mouth of Coffee Creek. A total of 2 resistivity profiles were set up and read using 3 separate arrays. A detailed ground magnetic survey was ran for one day over the resistivity profiles at 25m line spacing parallel to the resistivity profile. The Resistivity Survey was read using a Supersting R8 resistivity meter with 84 electrodes spaced at 3m then 1.5m. The MAG survey was done using a GEM Systems GSM-19T Proton Magnetometer in 'walk mode', with a GPS tagged reading being recorded every 0.5 of a second.

The resistivity survey was successful in profiling bedrock depth and detecting permafrost depth interval. The detail mag survey was successful in focusing magnetic placer channel interpreted location over resistivity profile.

1.0 Location and Access

The prospecting lease is located 120km South of Dawson City within the Yukon river drainage system in west-central Yukon Territory. It is centered at 62.966° N, 139.5231° W, on NTS mapsheet 115J/13 & 115J/14 (Figure 1). It is accessible in winter on the Yukon river via snowmobile, and accessible by helicopter year round. Neighbouring Thistle Creek (~10km to the north) has placer mines which are currently accessed from Dawson City by barge on the Yukon River to the mouth of Thistle creek.

2.0 Property

The Independence Creek Placer Prospecting lease Tenure:

Location: Independence Creek, IW00339

Length: 5 miles

Expiry: October 3/2013 (renewed)

(Figure 2)

140°0'0"W

130°0'0"W

120°0'0"W

70°0'0"N

70°0'0"N

N



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Placer Lease Locator

Figure:

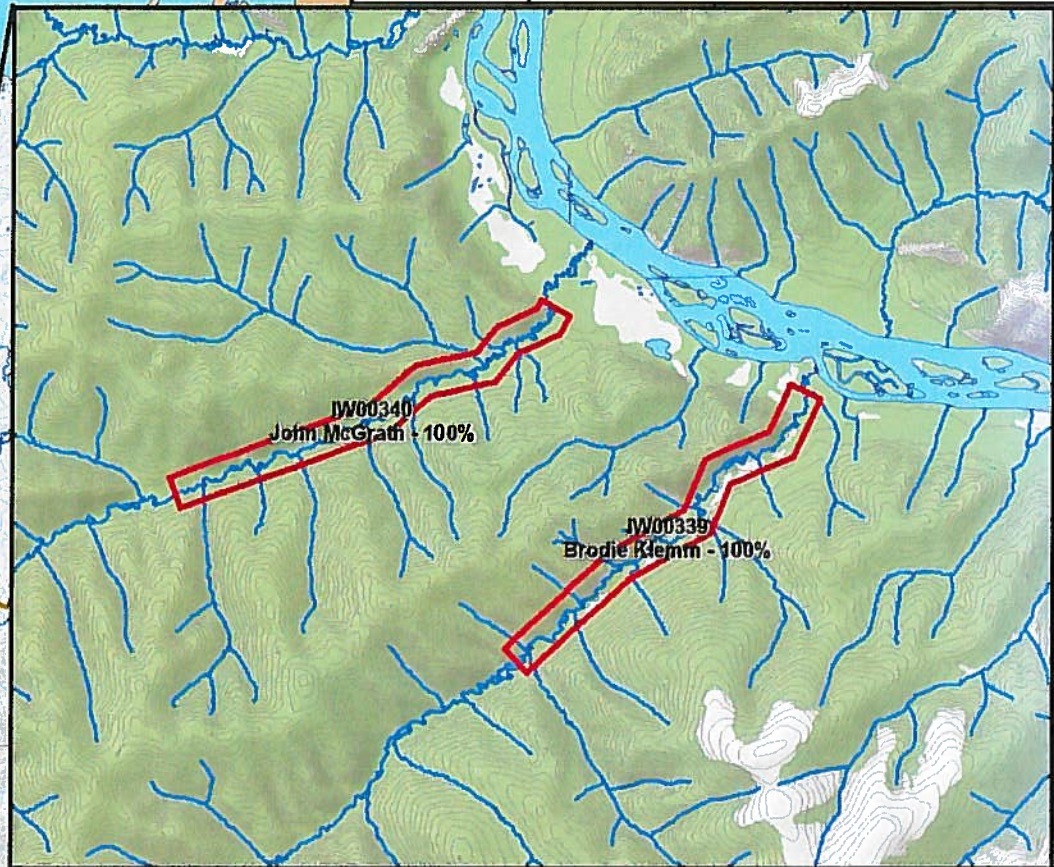
Prepared By: I. Fage

Date: Sept 25/13

Figure 1

Scale: 1 : 5,000,000

Datum: NAD83, Albers



65°0'0"N

65°0'0"N

Dawson

Mayo

Beaver Creek

Carmacks

Ross River

Haines Junction

Whitehorse

Watson Lake

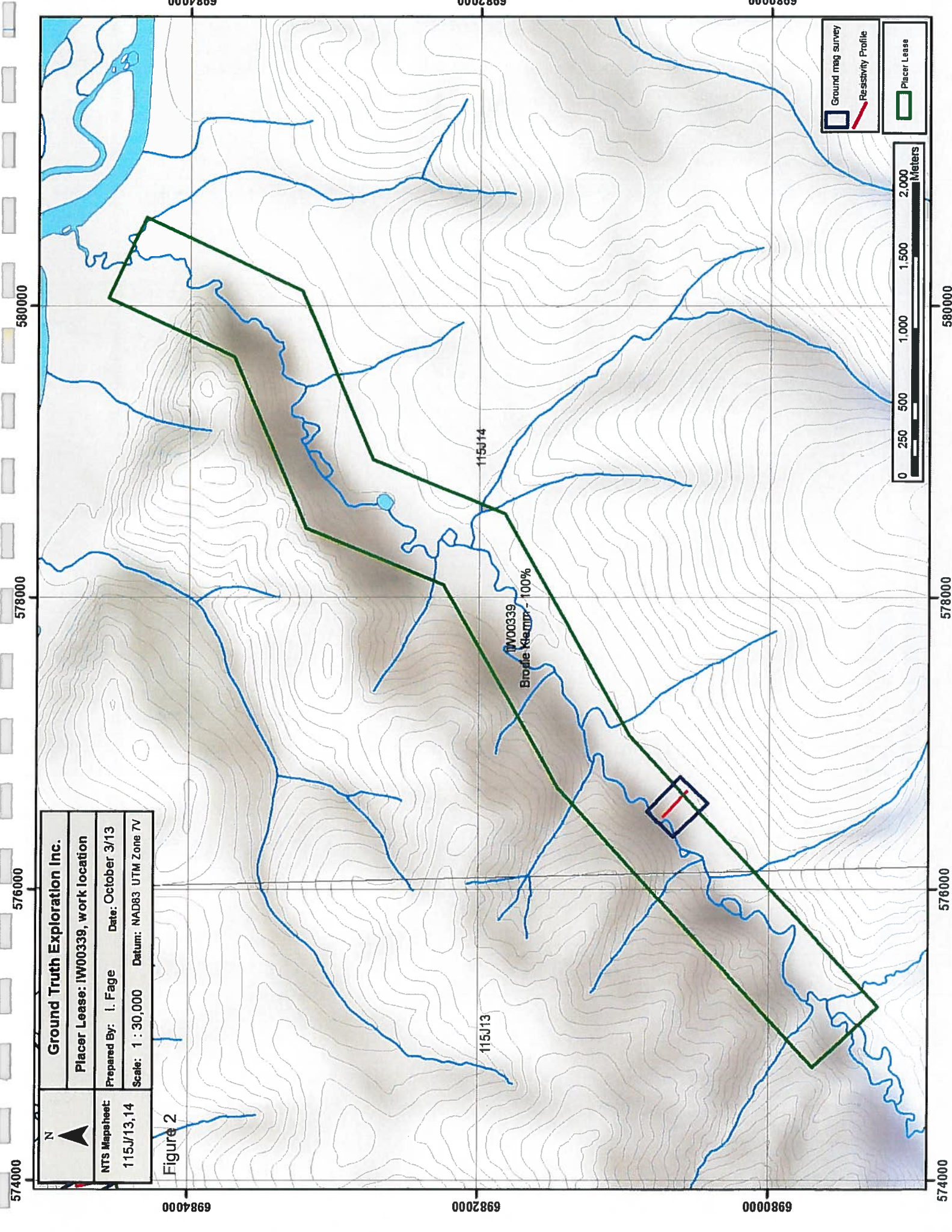
60°0'0"N

60°0'0"N



140°0'0"W

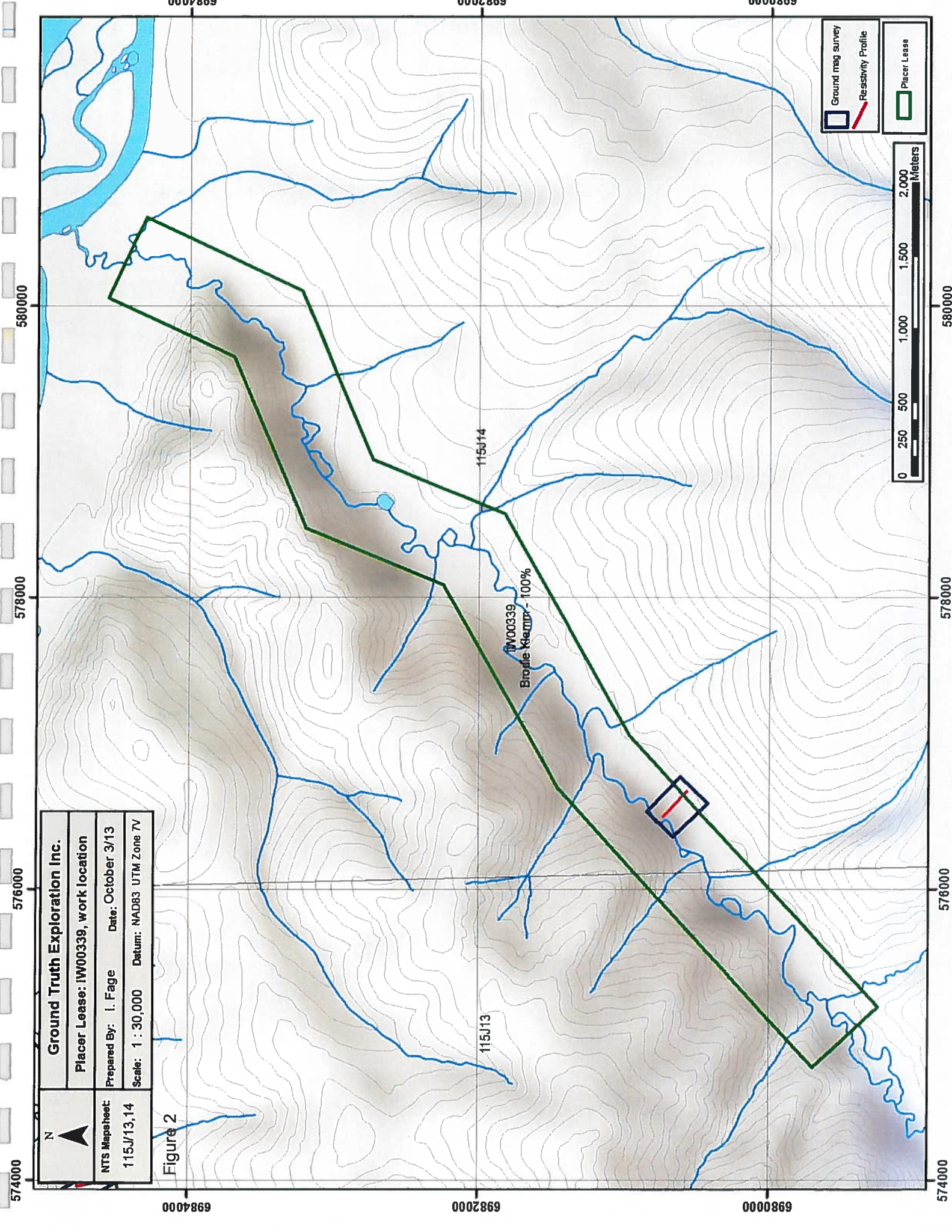
130°0'0"W



	Ground Truth Exploration Inc.	
	Placer Lease: IW00339, work location	
NTS Mapsheet: 115J/13, 14	Prepared By: I. Fage	Date: October 3/13
Scale: 1 : 30,000		Datum: NAD83 UTM Zone 7V

Figure 2

Ground mag survey	Resistivity Profile	Placer Lease
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3.0 Physiology and Geology

The Independence Creek placer prospecting lease is located within the Yukon-Tanana Terrane. The landscape is composed broad valleys bordered by moderately sloped, tree covered hills ranging in elevations from 1200 to 5000 feet. The area experiences typical climatic conditions for central Yukon Territory with short, warm and dry summers and cold winters. Temperatures range from -20°C to -60°C in the winter and +10°C to +30°C in the summer.

The Independence Creek placer lease is completely underlain by a Devonian-Mississippian metamorphic unit. The southern headwaters of Carlisle creek are underlain by an early Jurassic plutonic unit but this is outside of the placer lease (approx. 10km away). See Figure 3.

Legend for Figure 3: Regional Geology:

Devonian-Mississippian

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

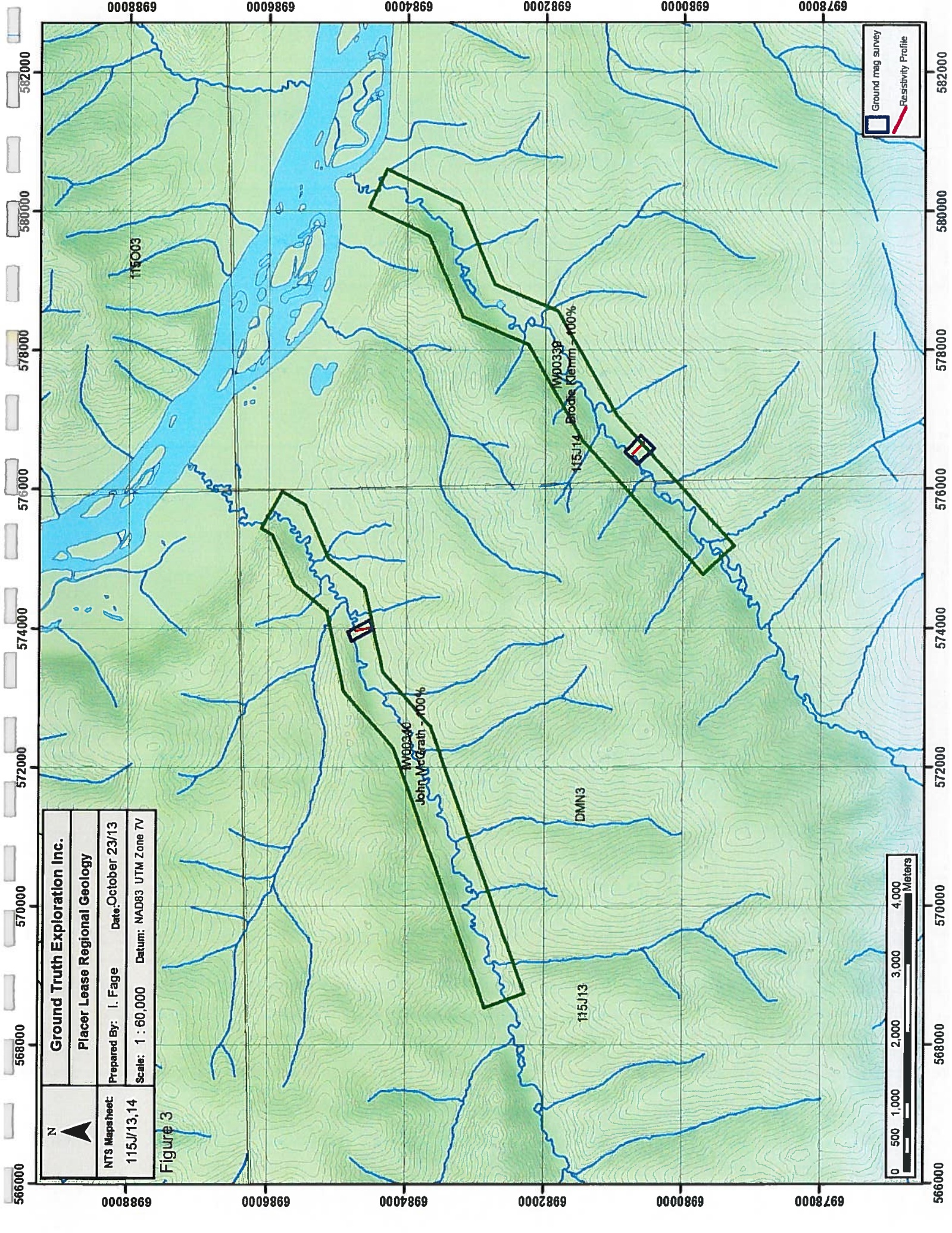
Early Jurassic

EJgA	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)
-------------	--

EJqL	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)
-------------	---

Upper Cretaceous

uKC1	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)
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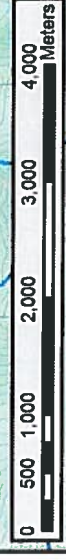
 N	Ground Truth Exploration Inc.	
	Placer Lease Regional Geology	
NTS Mapsheet: 115J/13,14	Prepared By: I. Fage	Date: October 23/13
	Scale: 1 : 60,000	Datum: NAD83 UTM Zone 7V

Figure 3





4.0 Resistivity Survey Procedure(s)

Ground Truth crews used a 206-L helicopter based out of the Coffee Project camp to gain access to the placer leases surveyed. The pre-arranged traverses were located using Ashtech GPS, then cut & chained at 5M, for the 415M traverses.

The DC Resistivity survey was completed using Advanced Geoscience Inc., Supersting instrument (instr. specs. Addendum). The instrument is placed at a center point of the traverse; referred to as **electrode #42**, with 42 electrodes on either side. The Supersting gathered apparent Resistivity component only, using the following arrays:

1. Schlumberger Inverted **S13 Array** (with expanding AB and MN dipoles) A=1.5
2. Schlumberger Inverted **S13 Array** (with expanding AB and MN dipoles) A= 3M
3. Extended Dipole Dipole **DD Array** (with expanding AB and MN)
4. Strong Gradient **SG Array**

The equipment comprises; Supersting (combined transmitter/ receiver), switch box, motor generator with 6 x 14 electrode cable= 84 electrodes.

When doing small A spacings <3M, the stainless electrodes are put into the ground at a lesser depth to help avoid coupling.

Contact Resistances (CRS) are the governing factor for collecting good data, giving high Signal/Noise ratio.

CRS are taken before survey, and attempts always put forward to keep them below the 2 kohm threshold when doing IP

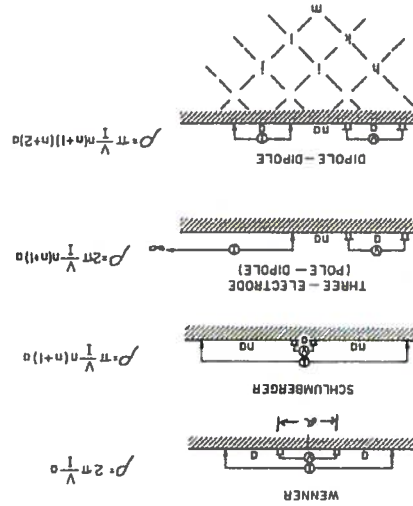
effects simultaneously.

The traverse is also surveyed using differential GPS to produce an accurate terrain file, for post processing.

The survey result is presented here-in using Earth Imager, and Surfer software.

4.1 Resistivity Survey Theory Applied to Placer Exploration

High Resolution DC Resistivity surveys can be applied to placer exploration by exploiting unique petrophysical properties of overburden and bedrock material. Measurement of the apparent resistivity at depth on continuous profiles provides a method to discriminate between overburden (muck/gravel) and bedrock interface. The results are mapped in symbolized section figures and interpreted. Ideally





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these interpretations should be validated by drilling or test pits to confirm the resistivity based interpretation.

5.0 Magnetic Survey Procedure

The Equipment necessary to complete the survey consisted of:

Magnetometer Field Unit:	GEM Systems GSM-19T Proton Magnetometer
Base Station:	GEM Systems GSM-19T Proton Magnetometer
Data Processing	Laptop Computer
Software:	GEM Systems proprietary magnetometer upload, download software, MapInfo mapping software, Oziexplorer for grid planning and GPS interface.
Grid Establishment:	Garmin map76cx GPS (x3) Machete, Flagging, Marker

The magnetometer survey was conducted according to the following specifications:

Field Magnetometer Observation Frequency: 1 reading per 0.5 of a second.

Base Station Magnetometer: Set to record an observation every 20 seconds for the duration of the survey.

Levelling: None required

5.1 Magnetic Field Theory Applied to Placer Exploration

In a placer setting, magnetite derived from bedrock weathering is concentrated in the main channel of a creek or river where the water flow has the highest velocity and the greatest turbulence. As a result, minerals with high specific gravity (magnetite, ilmenite, gold, etc.) are preferentially concentrated in this region of the stream, while material with lower specific gravity is winnowed from the sediment. High concentrations of "black sand" (magnetite, ilmenite, chromite) are often recorded in auriferous pay streaks where the stream bed has remained relatively immobile from some period, permitting hydraulic concentration to build up a significant volume of these materials.



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The materials comprising black sand are magnetically susceptible. Magnetite has a very high magnetic susceptibility of $1200-19200 \times 10^{-3}$ SI units, ilmenite ranges from $300-3500 \times 10^{-3}$ SI units, and chromite measures from $3-1100 \times 10^{-3}$ SI units. Average magnetic susceptibilities for sedimentary, igneous (excluding ultramafic) and metamorphic rocks are: 0-10, 3-160 and 0-70 $\times 10^{-3}$ SI units respectively. Fluvial sediments register magnetic susceptibility in the range of 0-2 $\times 10^{-3}$ SI units. There is consequently a significant susceptibility contrast between gravels enriched with black sand and average gravels/ underlying bedrock.

6.0 Resistivity and Magnetic RESULTS

DC Resistivity Surveys:

Survey 1: 84 Electrodes spaced at 1.5m, 126m horizontal length

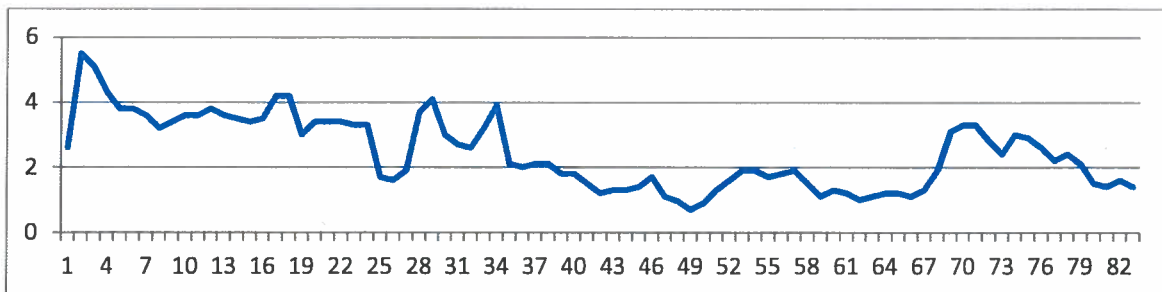
Arrays Read: (1) Inverse Schlumberger (Si3A)

Survey 2: 84 Electrodes spaced at 3.0m, 252m horizontal length

Arrays Read: (1) Inverse Schlumberger (Si3A), Dipole-Dipole (xDD)

Contact Resistance on Independence Creek Survey:

CONTACT RESISTANCES (CRS) in Kohm's/3M



No difficulties encountered placing the 84 electrodes along the traverse. No contacts were supplemented to lower CRS. Crews simply pushed electrodes by hand, limiting depth as to avoid coupling for these smaller dipole surveys. Multiple horizontal layers; first being conductive, second being resistive impedes the DC Resistivity survey, decreasing penetration exponentially.



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6.1 DC Resistivity Interpretation:

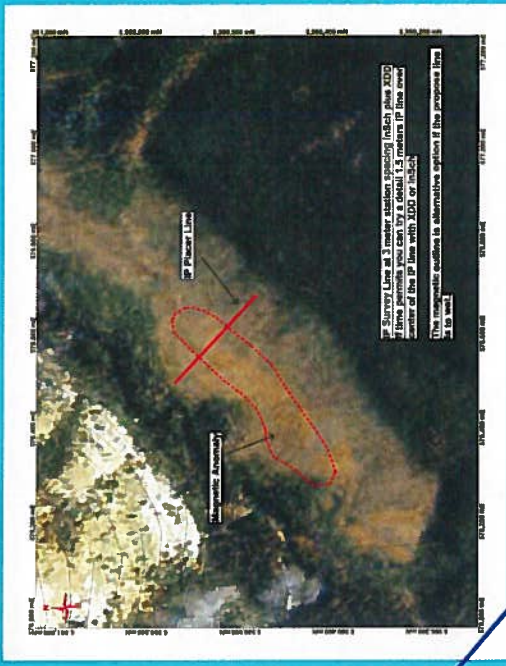
The Si3A array – 1.5M survey resistivity shows that the swamp averages 3M thick across the traverse, and the permafrost averages between 3 to 5M thick. Two vertical anomalies; A and B appear at 119M and 145M N.

The Si3B – 3M survey shows little contrast between bedrock and the permafrost compared to the 1.5M survey.

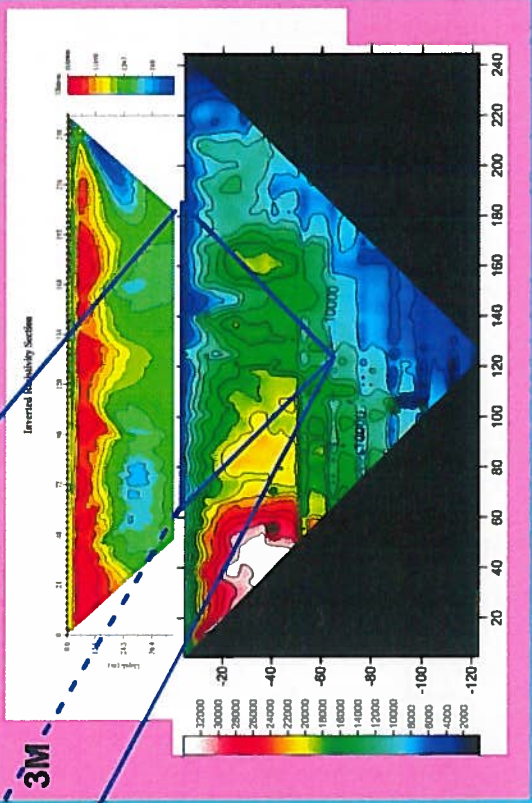
The xDD survey shows a trough under 144N where the Si3A-1.5M indicates an interruption in the permafrost.

(See interpretation Figures 4-7)

Figure 4

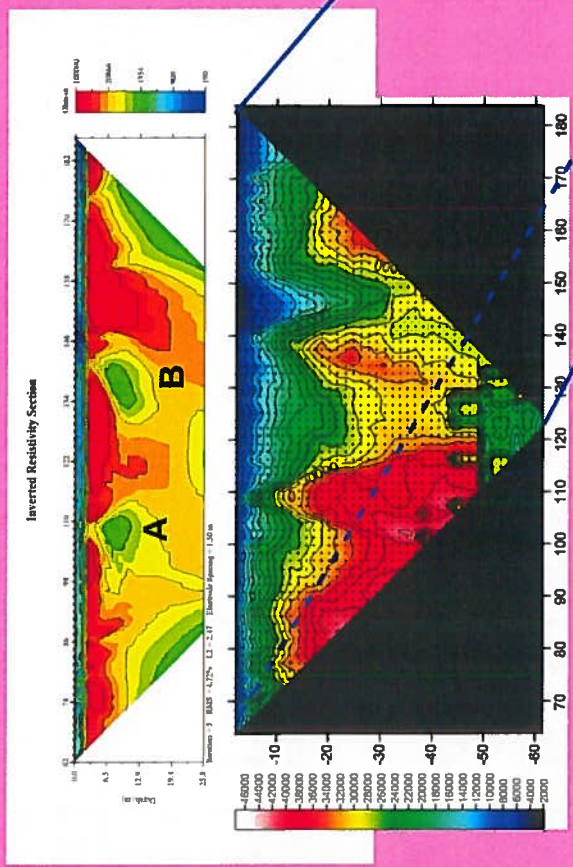


DC Resistivity Imaging
IW003339
 Placer Lease
 Yukon River South Area

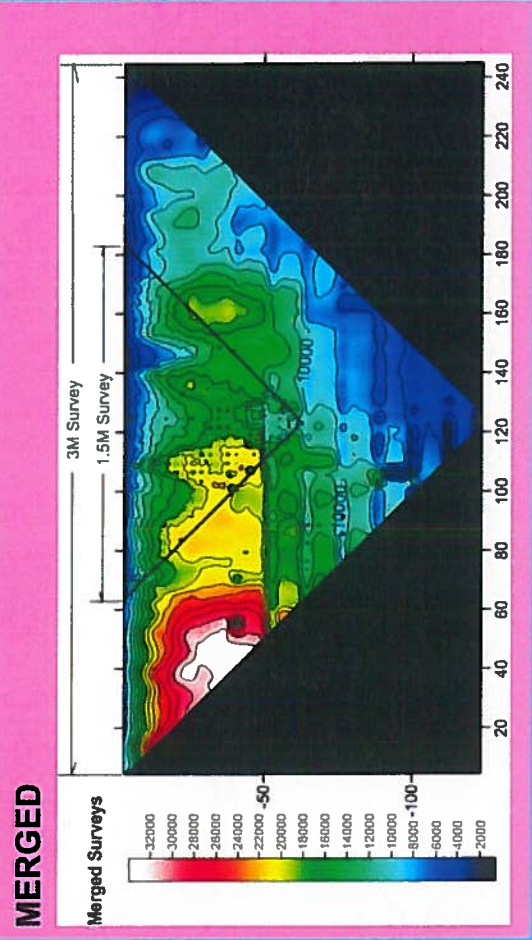


NOTE: Looking S-W on all sections.

1.5M



3M



Placer Lease IW 00339 (Independance Creek)

DC Resistivity Imaging
Schlumberger Inverted Array- SI-3
 AB=expanding MN=expanding

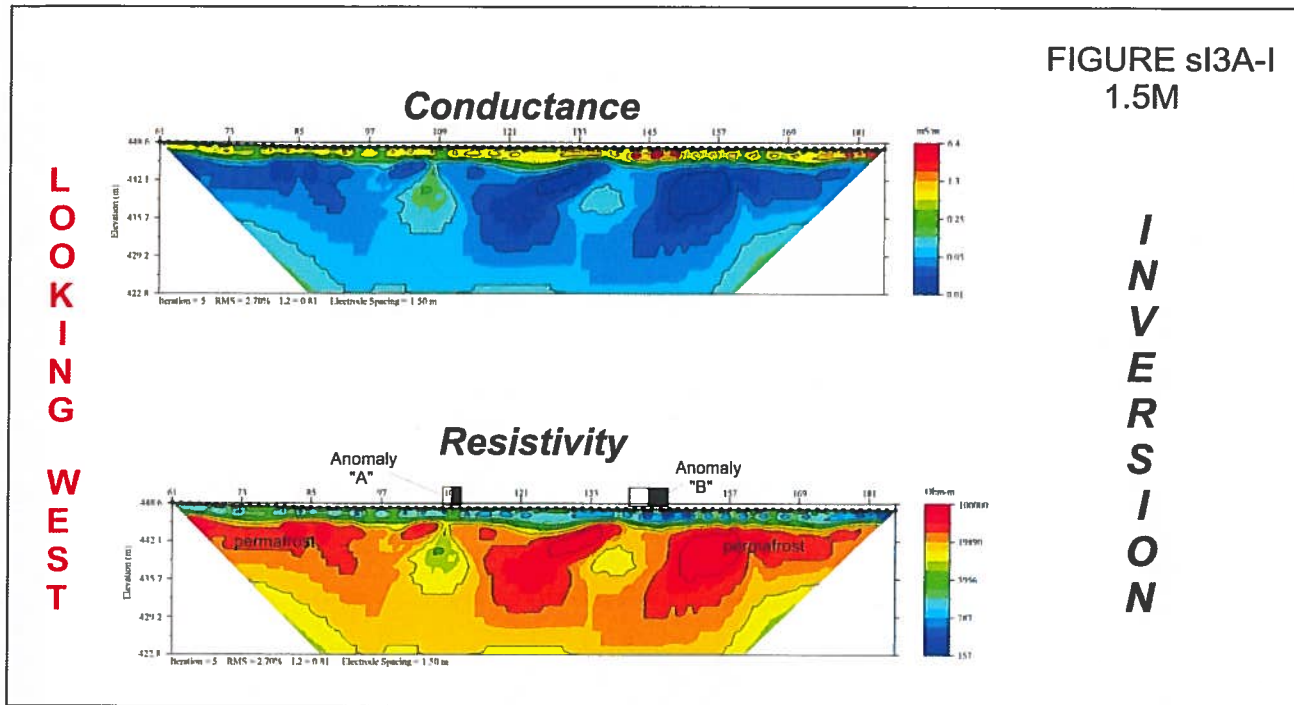


FIGURE sI3A-I
1.5M

LOOKING WEST

INVERSION

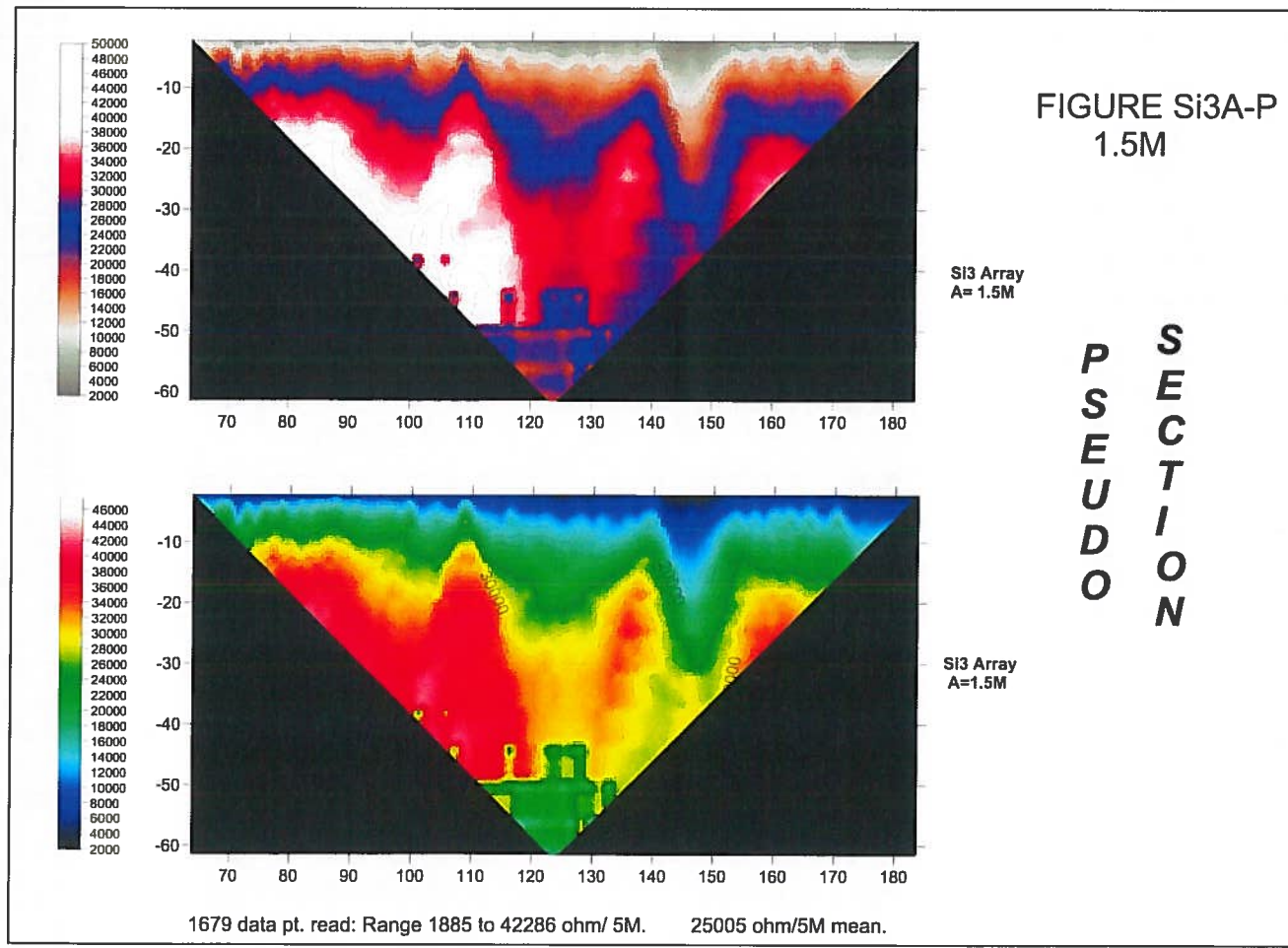


FIGURE Si3A-P
1.5M

PSEUDO SECTION

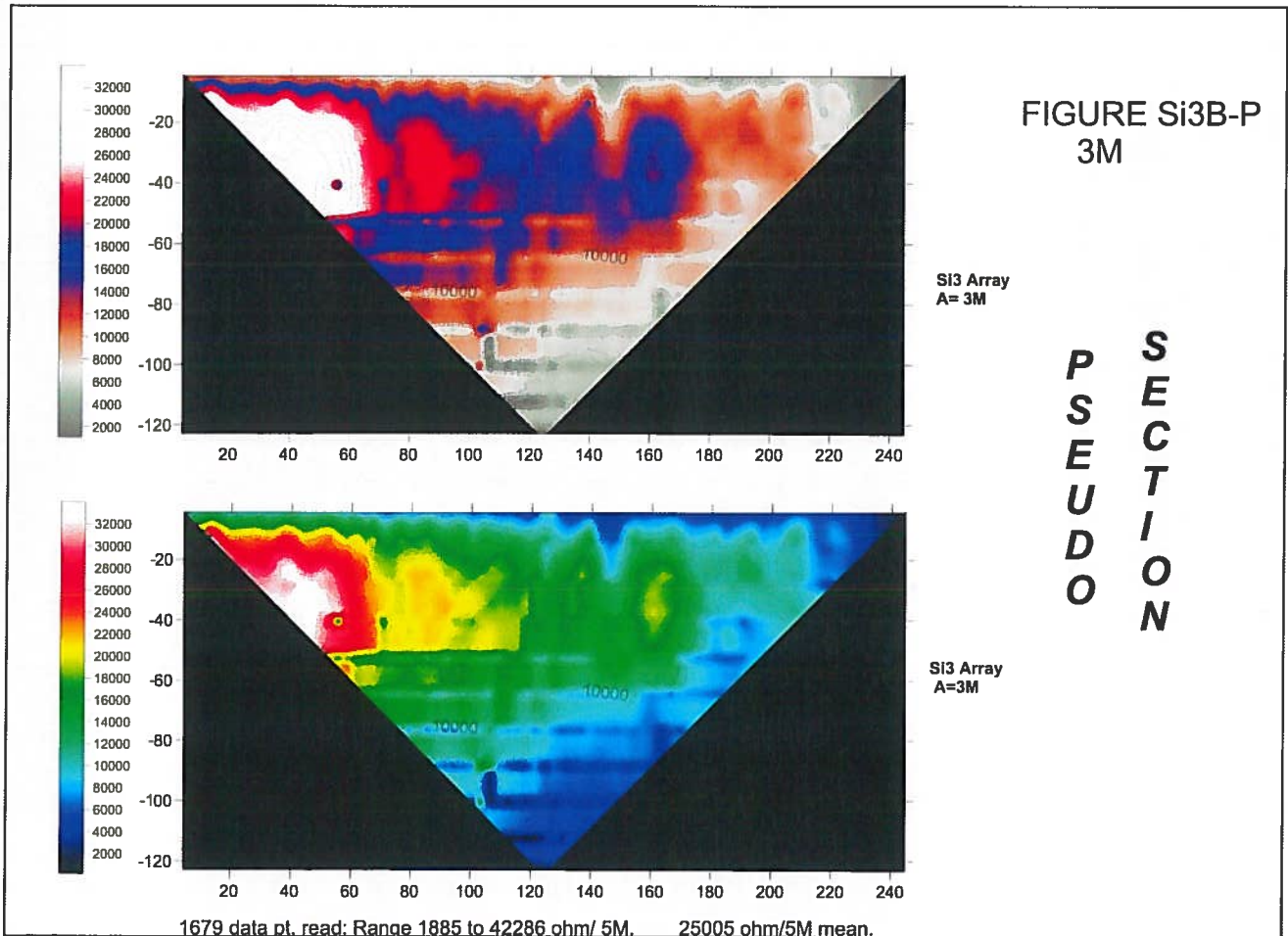
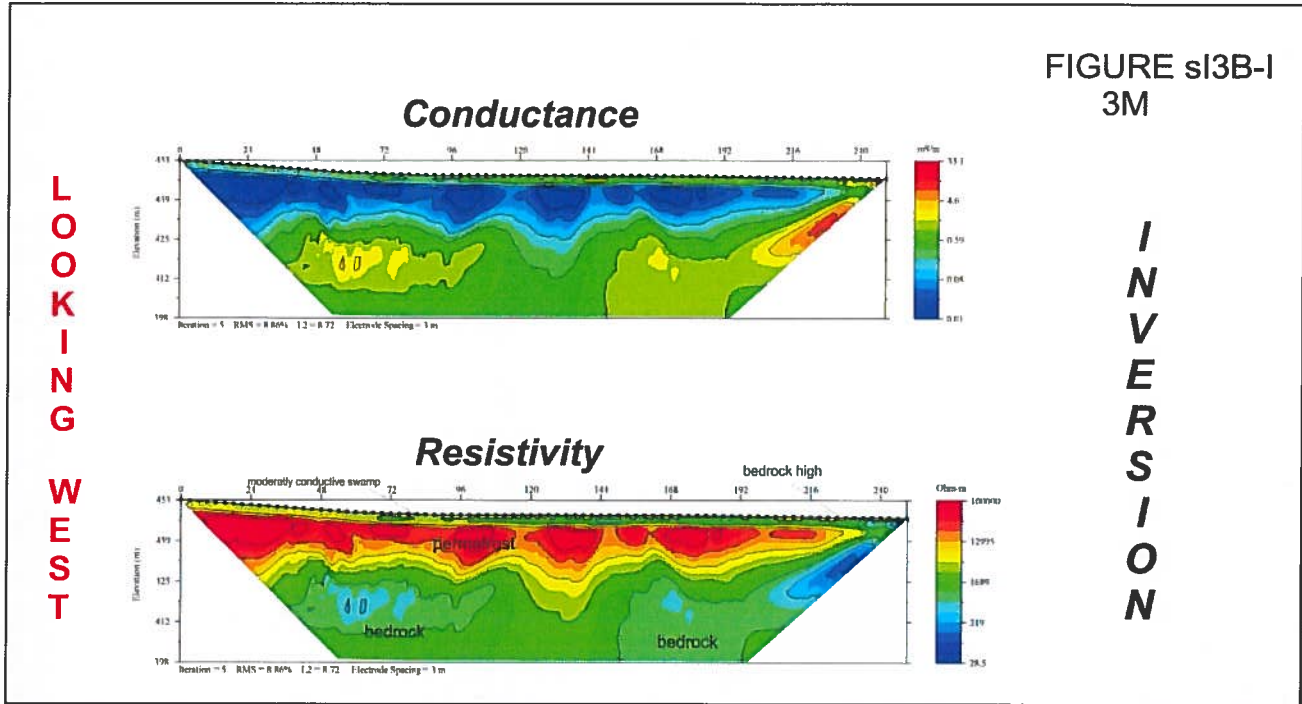
SI3 Array
A= 1.5M

SI3 Array
A= 1.5M

1679 data pt. read: Range 1885 to 42286 ohm/ 5M. 25005 ohm/5M mean.

Placer Lease IW 00339 (Independance Creek)

DC Resistivity Imaging
Schlumberger Inverted Array- SI-3
AB=expanding MN=expanding



Placer Lease IW 00339 (Independance Creek)

DC Resistivity Imaging
Extended Dipole Dipole Array
AB=expanding MN=expanding

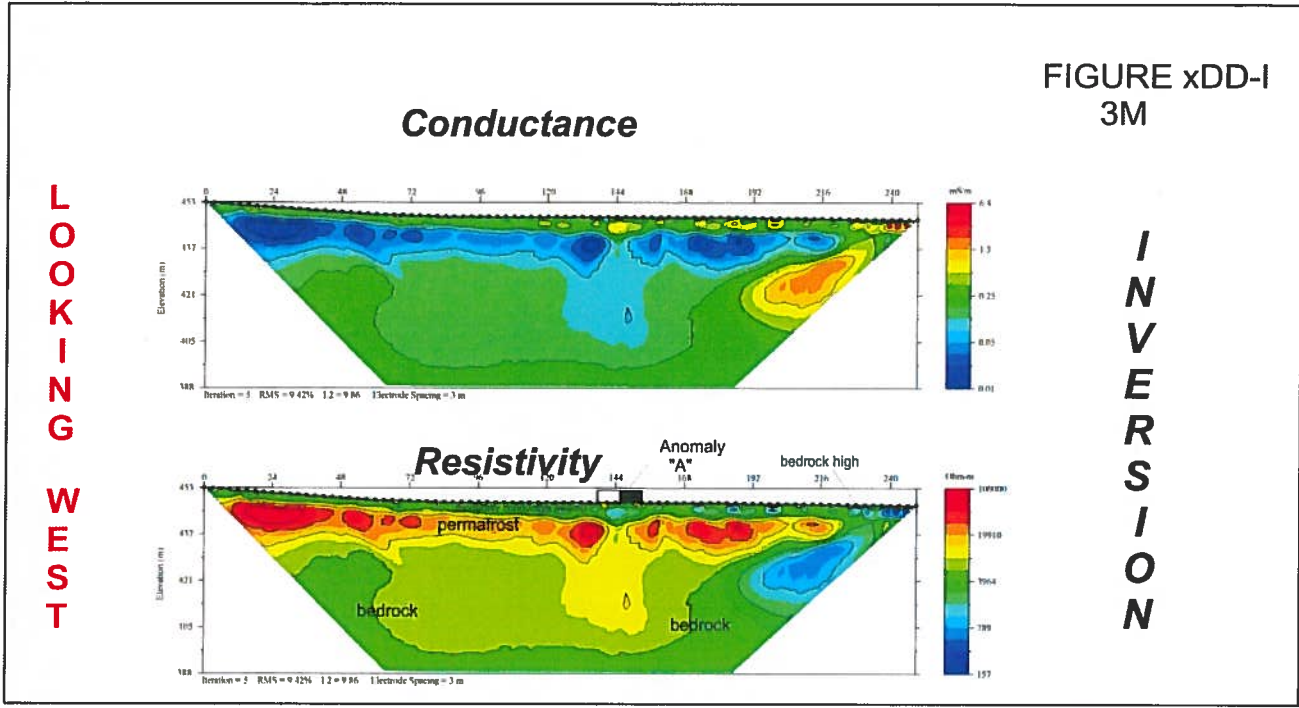


FIGURE xDD-I
3M

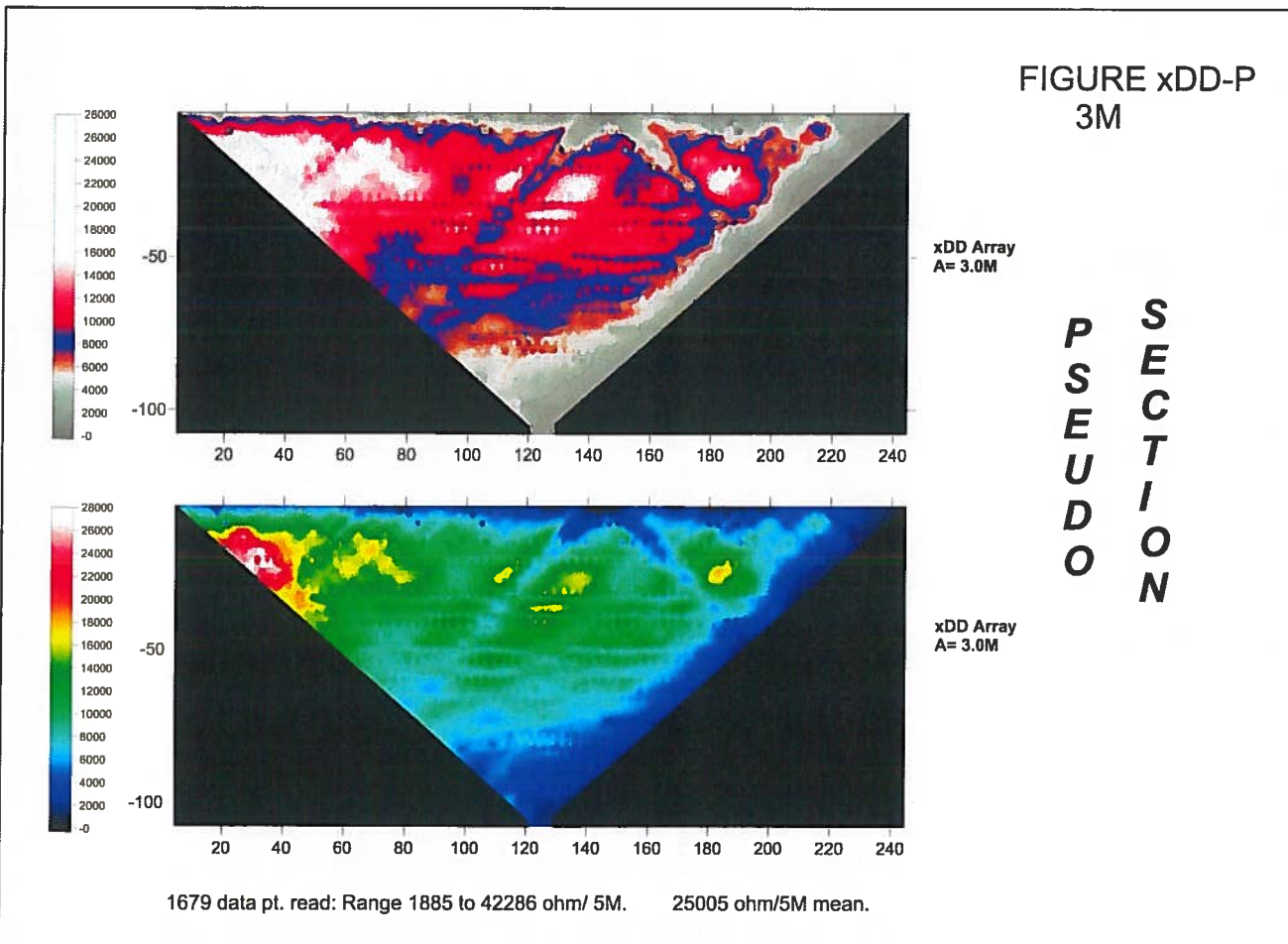


FIGURE xDD-P
3M

8.0 Statement of Expenditures

Additional work is left to the clients discretion. Results need to be proofed by follow-up. The extended dipole is favored on the 3M traverse. The 1.5M schlumberger renders overburden detail two-fold. Magnetic data correlates very well with prospective Resistivity zone at 130-160m. Drill testing along profile can confirm interpreted results from Res/Mag survey.

7.0 Conclusion/ Recommendations

Bedrock depth is interpreted to exist at 20-25m depth along the 252m profile. There is an interpreted entrapment zone with deeper interpreted bedrock basement (~30m) and coincident cross cutting magnetic high lineament. See figure 8 and 9 for interpretation with Inverted Resistivity.

6.3 Combined Interpretation:

The survey is comprised of a total of 2,408 geo-referenced magnetometer readings. The detail survey was successful in locating a creek parallel magnetic high lineament that is interpreted to be associated with magnetite bearing placer channel. See Figure 8

6.2 Magnetic Survey Results:

0080869

0090869

576800

576800

576600

576600

576400

576400

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Independence Detail Mag

Prepared By: I. Fage Date: Oct 5/13

Scale: 1 : 2,000 Datum: NAD83 UTM Zone 7V

NTS Mapsheet:
115J/14

Figure 8



0080869

0090869

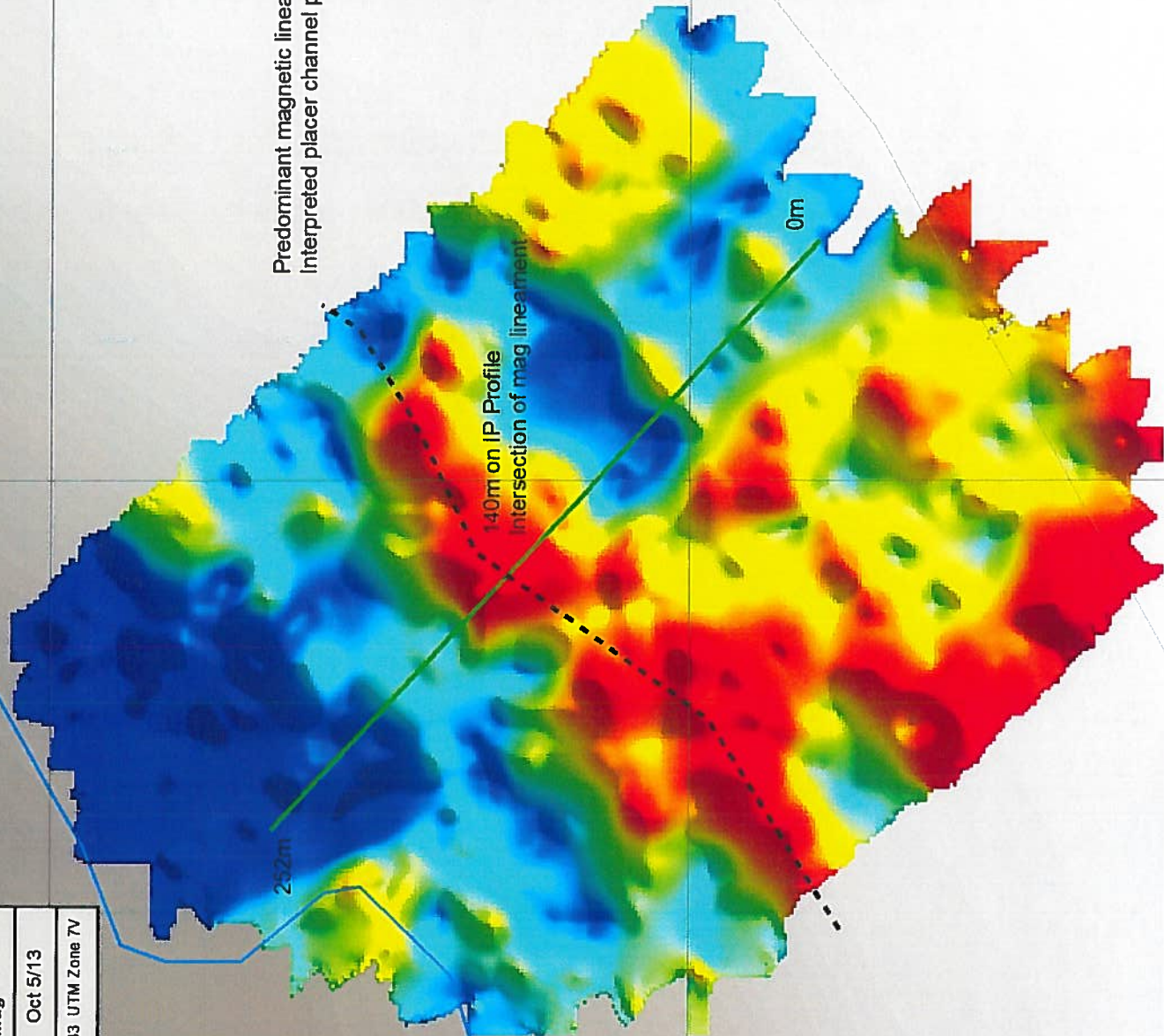
Predominant magnetic lineament,
Interpreted placer channel potential from mag.

140m on IP Profile
Intersection of mag lineament

252m

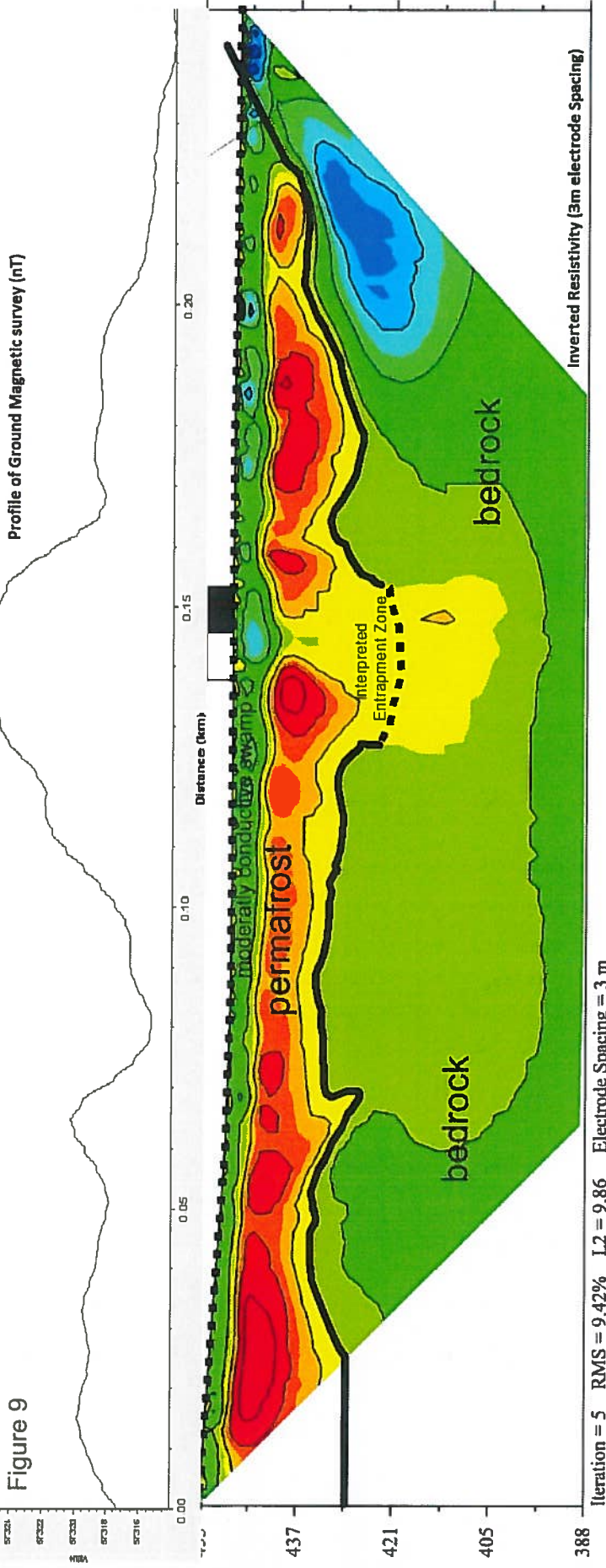
0m

Resistivity Profile (252m)



115J/14

Figure 9



Resistivity Survey: On 5 mile Placer Lease: IW00339



Survey Date: September 23, 2013

Work Performed:

2 Resistivity lines set up and read plus one day of ground magnetic survey on IW00339 lease.

Survey 1: 84 electrodes spaced at 1.5m and 126m horizontal length.

Arrays: Inverse Schlumberger

Survey 2: 84 electrodes spaced at 3.0m and 252m horizontal length.

Arrays: Inverse Schlumberger, Extended Dipole-Dipole

Survey 3: Ground magnetic survey over IP profile line plus 8 mag lines ran at 25m line spacing on either side of IP profile

Survey Operation Daily Cost:

Wages:	
1 Geophysical Operator * \$450/day	\$450
4 Field Assistants * \$350/day	\$1,400
Daily Data Processing: 1h*\$60/h	
Download survey, DGPS, QC Field Data, Package and email to Client/Geophysicist	\$60
Food/Camp:	
Food: Crew of 5 * \$50/day	\$250
Camp: Crew of 5* \$35/day	\$175
Survey Equipment:	
IP/Resistivity Meter: Supersting 8 Channel meter w/cables, electrodes	\$600
Precision GPS: Ashtech Promark 100 differential GPS	\$75
Laptop w/Inversion and Mag processing software for nightly download and review	\$50
Iridium Sat Phone	\$35
Chainsaw	\$50
Radios \$5/day * 5	\$25
Consumable Supplies:	
Electrodes: wear & tear- 2 per profile, \$6 ea	\$12
Calcium Chloride: 4kg per profile, \$2/kg	\$8
Pickets every 50m: 9 per profile, \$1/picket	\$9
Spray paint: 1 can per profile, \$10/can	\$10
Total Cost:	\$3,209

Ground Magnetic Survey: Operator \$400, Walk Mag \$200, Base \$100, Camp \$35, Food \$50	\$785
Processing of Magnetic Data: 2 hours @ \$60/hour	\$120
Assessment Report for Placer Lease: \$1000	\$1,000

Total Expenditures for Assessment on Lease: \$5,114

TLH
Oct 3/13



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9.0 Certification

I, Richard Daigle of Thorold, Ontario certify that I am a graduate Certified Electronic Technologist. I have been practicing Geophysics since 1980.

R. J Daigle

October 2013

I, Isaac Fage of Dawson, Yukon Territory certify that I hold an Advanced Diploma in GIS/Remote Sensing from the Centre of Geographic Sciences (COGS). I am an owner and President of GroundTruth Exploration Inc. I have been working in the Mineral Exploration continuously since 2004.

I. Fage

October 2013

10.0 List of Figures

1. Property Location
2. Tenure
3. Geology
- 4-7. Resistivity Survey
8. Magnetic Survey
9. Combined Survey Interpretation

11.0 Supersting R8 IP Technical Specifications

from www.agiusa.com

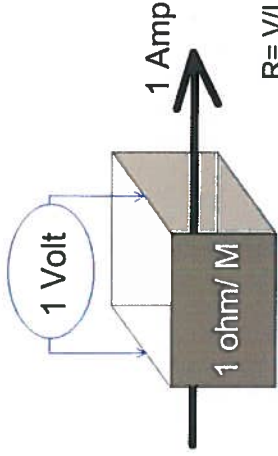
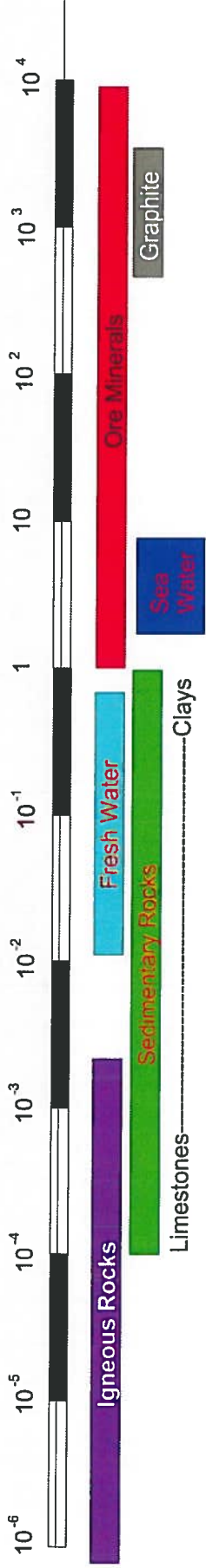


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Measurement modes	Apparent resistivity, resistance, induced polarization (IP), battery voltage.
Measurement range	+/- 10V.
Measuring resolution	Max 30 nV, depends on voltage level.
Output current intensity	1mA - 2000 mA continuous, measured to high accuracy.
Output voltage	800 Vp-p, actual electrode voltage depends on transmitted current and ground resistivity.
Output power	200W.
Input channels	Eight channels.
Input gain ranging	Automatic, always uses full dynamic range of receiver.
Input impedance	>150 MOhm.
Input voltage	Max 10 V.
SP compensation	Automatic cancellation of SP voltages during resistivity measurement. Constant and linearly varying SP cancels completely (V/I and IP measurements).
Type of IP measurement	Time domain chargeability (M), six time slots measured and stored in memory.
IP current transmission	ON+, OFF, ON-, OFF.
IP cycle times	0.5, 1, 2, 4 and 8 s.
Noise suppression	Better than 100 dB at $f > 20$ Hz.
Powerline noise suppression	Better than 120 dB at power line frequencies (16 2/3, 20, 50 & 60 Hz) for measurement cycles of 1.2 s and above.
Total accuracy	Better than 1% of reading in most cases (lab measurements). Field measurement accuracy depends on ground noise and resistivity. Instrument will calculate and display running estimate of measuring accuracy.

Crude apparent CONDUCTIVITY/RESISTIVITY classification



$R = V/I$ ohm's law.

Resistance Voltage (V) / Current (I) in ohms Ω (ohm)
 Resistivity Resistance per unit volume in ohms ρ (rho)
 Conductivity $1/R$ σ (siemens)

