Dawson City, 20 october 2016

-Geological and Geophysical survey -

Excelsior Creek:

Prospecting for placer deposit with a GPR (ground penetrating radar)

on Lease IW 00492

(map 115J15)

Satellite view of prospecting lease IW 00492

Report and exploration done by geologist Sandro Frizzi

GPR survey done by geophysicist Boris Logutov

Introduction:

The 15th of October 2016 Yukon Exploration Green Gold Inc. organized an expedition to Excelsior Creek with the intent to perform a geophysical/geological survey along the prospecting lease IW 00492, owned by the company for the last three years.

The members of the expedition were: geophysicist Boris Logutov with field-helper Sasha Reshetov and geologist Sandro Frizzi with field-helper Fedor Mikhailytchev.

To get to the creek, which is located 132 km south of Dawson City, the team used an helicopter 'Jet Ranger', rented by local company "Fireweed".

This geophysical/geological campaign follows three preliminary expeditions conducted by geologist Sandro Frizzi along the entire Excelsior Creek Valley in 2014, 2015 and 2016. During his days in the field, Sandro focused his attention on the gravel exposed along the floodplain, then he measured the width of the alluvial deposition along different cross-section of the valley and searched for exposed bedrock to test. He also recorded and mapped the presences of old hand-mining activities occurred along the lower part of the property during the first gold rush: long trenches, pits, big piles of tailings, shafts (these are scattered along the entire length of the creek). The existence of old mining operations dating back to 1905 has been reported in old documents (Martha Black owned part of these claims).

This GPR survey was planned for purpose of finding depth and profile of bedrock across the valley, in order to evaluate the thickness and the accessibility of the potentially mineable material. This data should also help our company to choose the right heavy equipment (excavator) to employ at Excelsior Creek in order to perform an extended bulk-sampling campaign, hopefully during the next summer (2017).
The remote location of this area is only reacheable by heavy equipment via Yukon River (by navigating on a barge) and require serious investments for mobilization.
For this reason the preliminary exploration to precede the bulk-sampling campaign, was done with extreme accuracy: the wrong evaluation of the mining potential of this area could cause a significant financial lost for the mining exploration company involved.
The responsibility of the geologist is definitely heavy.

The GPR survey performed during this latest prospecting campaign was succesful and helped us to locate the bedrock's profile and depth. The results achieved during this expedition, together with some observation from our previous prospecting, are reported in the next pages.

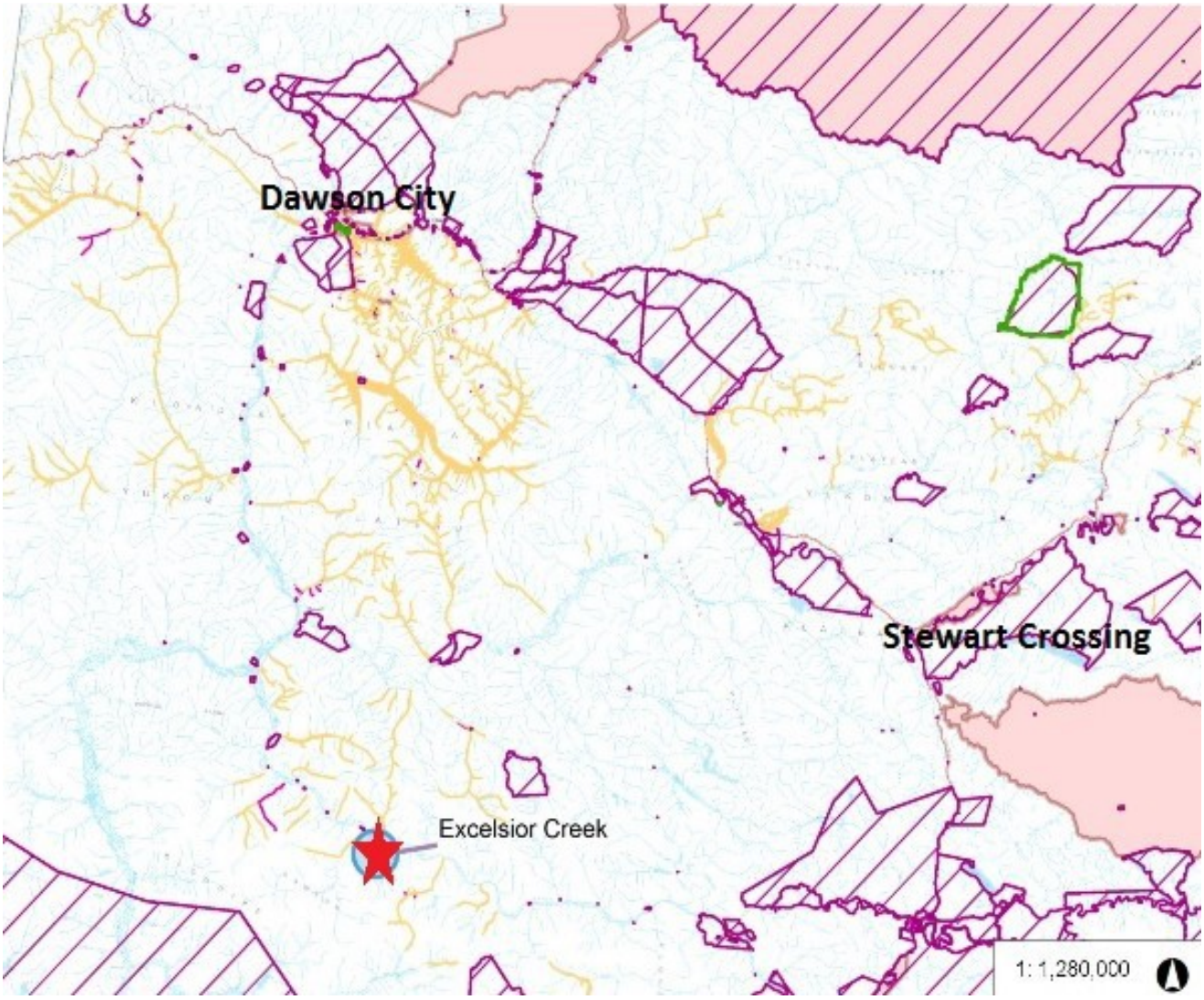
Sandro Frizzi

Location of Excelsior Creek

The 3 mile of lease IW 00492 have been staked along the lower part of Excelsior Creek, a left limit tributary of Yukon River located 134 km south of Dawson City (on a straight line) and 123 km west of Pelly Crossing. The creek is not accessible by any road or trail; the only way to reach it is by boat: 165 km upstream the Yukon River from Dawson City, or 152 km downstream from Pelly Crossing (52 km down the Pelly River until the junction with the Yukon River and then 100 km downstream the Yukon).

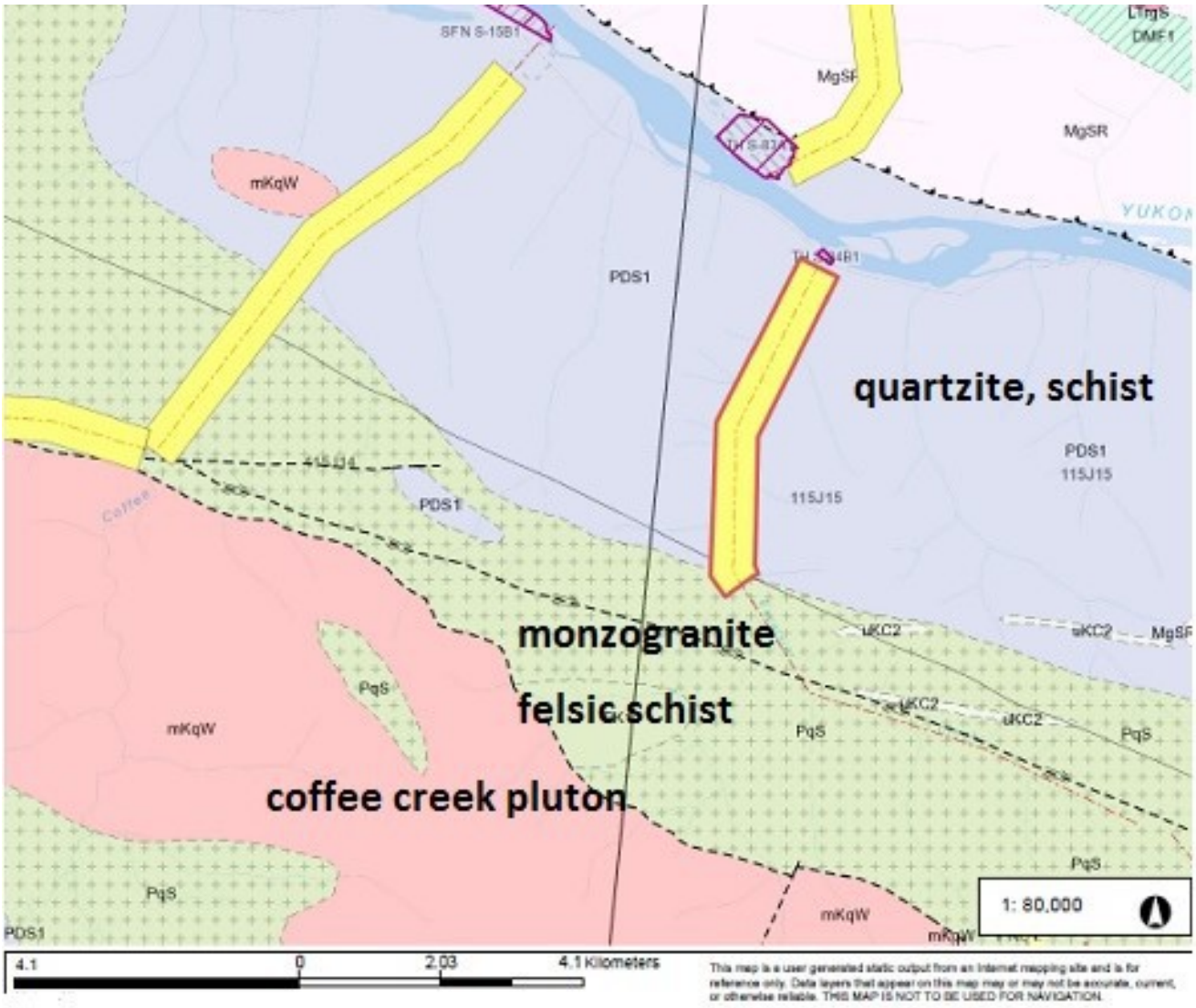
At this time the area is extremely remote, however, a new road from Dawson City to Coffe Creek (located 5 km downstream from Excelsior) has already been planned and approved by the Yukon governmen, requested by Gold Corp in order to allow this hard-rock company to create access a future gold mine, which will be located along the so called “Coffe Property”.

The work for the new road should start within a year from now and it will open the area to the placer mining industry as well. In our case this new access will solve all the problematics connected with the transportation of the heavy equipment on our mining site.



location of Excelsior Creek on government map 115J15

Bedrock geology



Legend:

- **PDS1**: Yukon Tanana (Ediacaran to Devonian; 635-375).

  Quartzite, psammite, schist.

  Metamorphic rocks.

- **PqS**: Yukon Tanana (Permian; 264-252).

  Monzogranite, augen gneiss.

  Intrusive, metamorphic.

- **PK1**: Yukon Tanana (Permian; 271-251).

  Felsic schist, phyllonite.

  Metamorphic.

- **MkqW**: Coffee Creek Pluton (Cretaceous; 105-90).

  Monzogranite.

  Intrusive (felsic).

Several outcrops of these different rock-types are well exposed all along the valleysides and on the hills located in the southern part of the map.

The area is also interested by an important/deep system of structures oriented SSE-NNW (Coffee Creek fault, Yukon River Trust, Big Creek fault, etc.).

According with the most recent researches done by several equipe of geologists employed by Kaminac (and other companies) during the latest years of hard-rock exploration performed along Coffee Creek and its surrounding, most of the gold mineralization seems to have hydrothermal origin and it's structurally controlled. The gold here is often associated with pyrite, silica-sericite and small quartz veins.

Surficial geology

The morphology of Excelsior's Valley is clearly revealing its fluvial origing: every cross section analyzed along the valley shows an unmistakable, open “V” shape (included the valleys of the tributaries). The floodplain is well flattened and, along the 3 mile portion where lease IW 00492 has been staked (on the lower portion of Excelsior Creek) the alluvial deposition is for the most part wider than 100 meters across the valley.
This is morphologically the perfect place to host a medium-size placer mining operation.
At this time we didn't record the presence of extended upper benches, beside few small ones located along the external curve of the existing meanders (easy to test).

The gravel is well exposed here and there along the floodpain, to witness a complessive lack of overburden; the moss is directly covering the alluvium. It's mostly composed by well rounded fluvial-related rocks of different size, predominantely cobbles and boulders. Large part of these rocks are of intrusive origins (see picture below). A selection of angular and sub-angular material, belonging to colluvium, is mostly exposed along the valley-sides.

The vegetation of the lower mile and half of lease, toward the mouth of the creek, is made by very large trees, predominantely white spruce, to indicate the absence of shallow permafrost; this evidence is also proven by the GPR cross-sections published on the next pages. On the contrary, small black spruce trees are populating the upper section of the creek and few peripheral patches scattered along the borders, to indicate the existence of shallow permafrost, as confirmed by small excavations done by our crew.

gravel along the floodplain

Geophysical survey

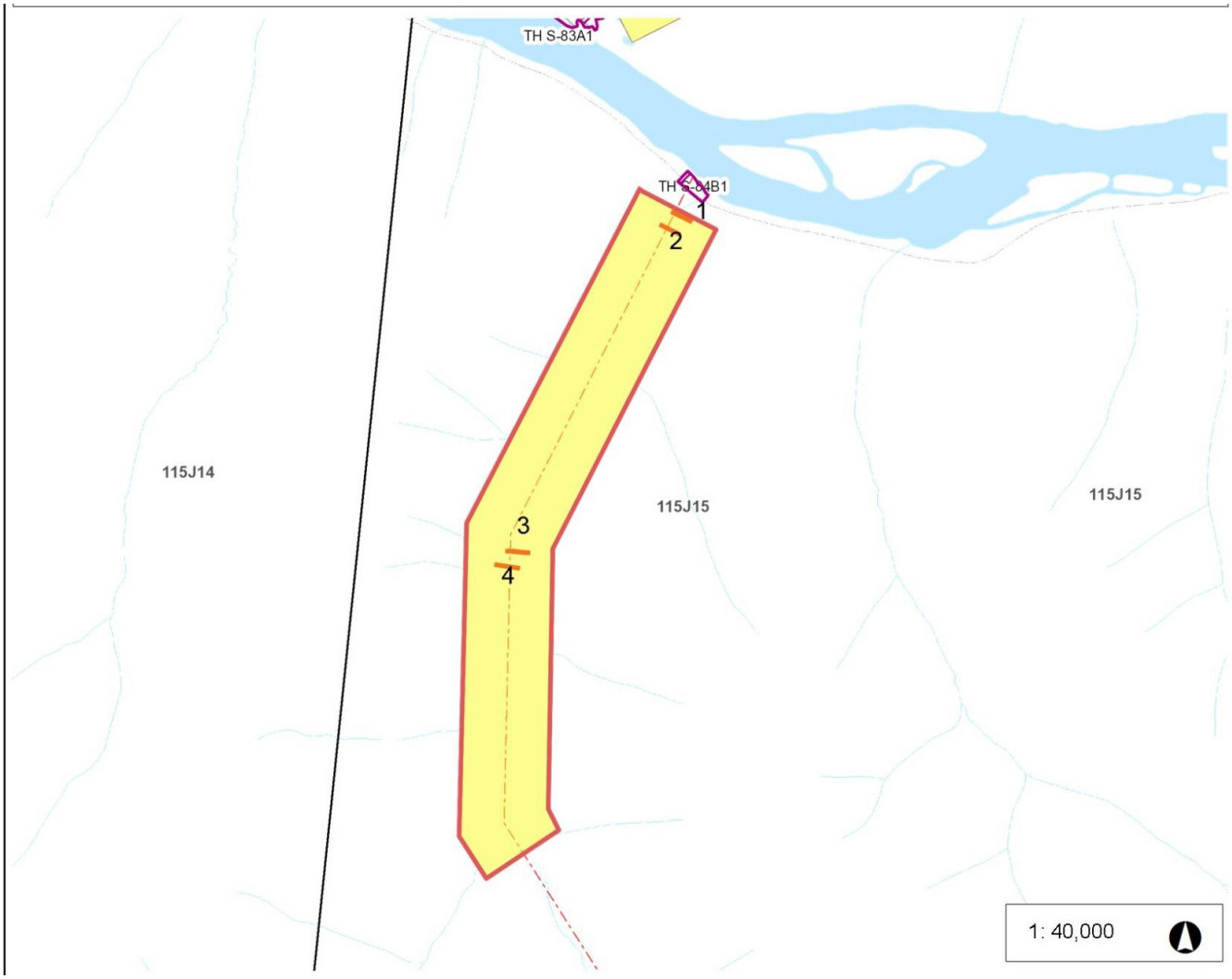
The geophysical survey has been performed by Russian geophysicist/geologist Boris Logutov (Perm University), with the help of field-assistent Sasha Reshetov.
Mr.Logutov used a ground penetrating radar of German/Ucrainan fabrication: EasyRad Pro+ equipped with antennas of 100 MHz able to reach a depth up to 20 meters. The data produced by this electronic device have been elaborated with the use of a 2 modern softwares: Prizm 2.0 and RadMax and analyzed by geologists Boris Logutov and Sandro Frizzi.

Mr. Boris Logutov also collaborated with Yukon Exploration Green Gold Inc. in previous exploration campaigns (Big Creek, Clear Creek and Flat Creek) and the accuracy of the information produced by his geophysical works have been confirmed by the successive bulk-sampling tests performed along the GPR surveyed lines (line 3 at Big Creek has been succesfully mined during this past summer of 2016).

Yukon Exploration Green Gold Inc. is an exploration company with a strong 'green ethical code' and deeply committed in developing and promoting non-invasive prospecting techniques together with responsible mining.
The efficiency of our exploration campaigns has been proven during this past summer by two properties ("Eos" at California Creek and "Oz" at Big Creek) succesfully mined in new areas of previously untouched ground: we opened new productive fields to the placer industry of the Yukon.
In the next pages are published the results (cross-sections) of our GPR survey. The graphic representation of the data produced by the radar has been elaborated and converted in simplified pictures of the bedrock-profile by Mr. Logutov.

Important note: in the 'particular sections' part 1.1 and part 1.2 of line 1 and part 2.1 of line 2, we marked as "overburden" that coverage of loose materials which is much probably formed by accumulation of old tailings and other material excavated during the hand-mining operation occurred by the beginning of the last century. In part 3.1 of line 3, the overburden is actually represented by a layer of colluvium coming from a little gulch located on the left side of the valley.

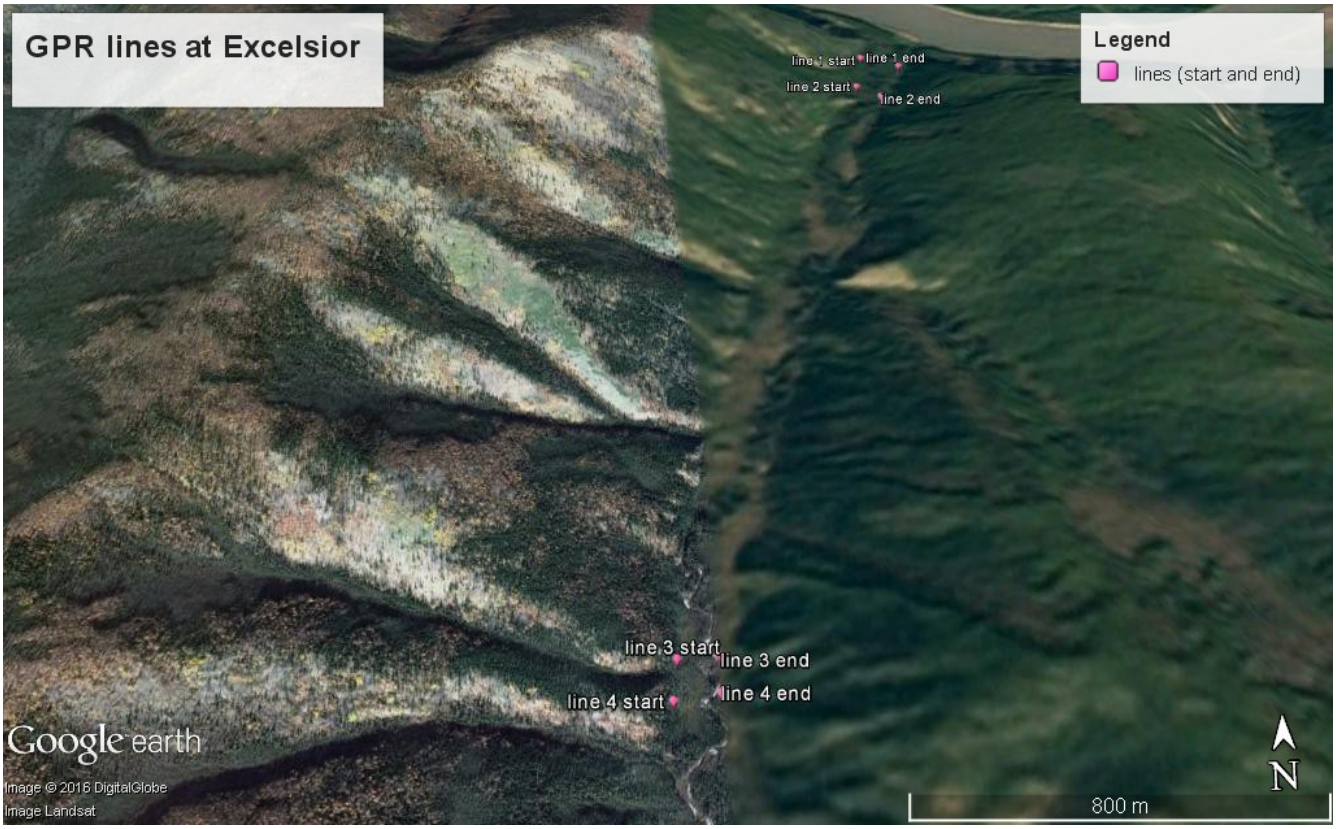
Locations of the four geophysical lines along the lease IW 00492



the lines are marked in orange and numbered

the total length of the lease is exactly of 3 miles

Satellite vision of lines locations



UTM:

line 1: start 603641 – 6974213 length: 158 m
end 603779 – 6974159

line 2: start 603603 – 6974037 length: 125 m
end 603685 – 6973972

line 3: start 602855 – 6971714 length: 110 m
end 602965 – 6971710

line 4: start 602843 – 6971601 length: 115 m
end 602960 - 6971609

Closer view of surveyed lines 1, 2, and 3, 4

Elevations along the surface of each line

line 1

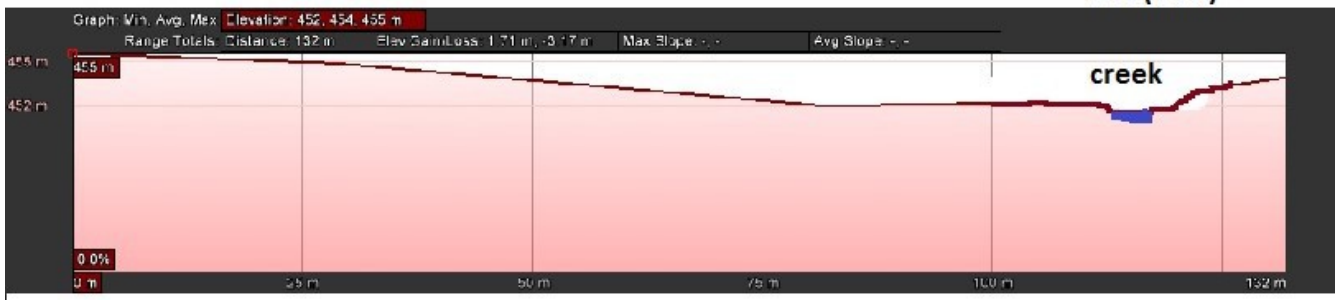
start (west)

end (east)

line 2

start (west)

end (east)



line 3

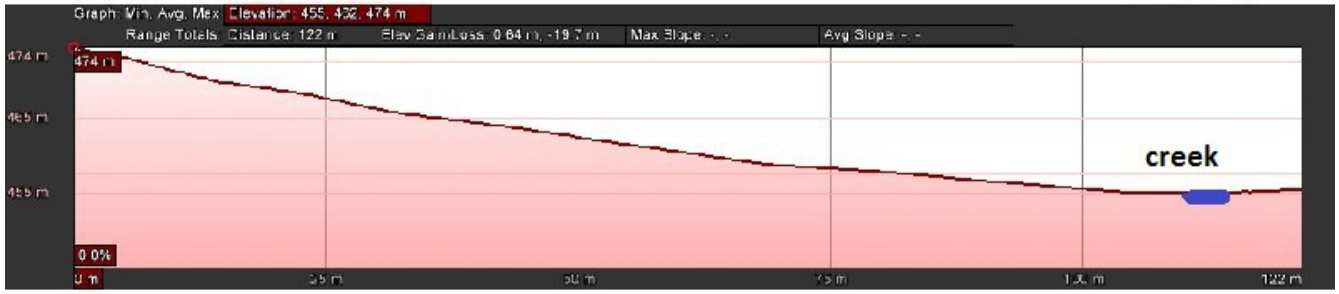
start (west)

end (east)

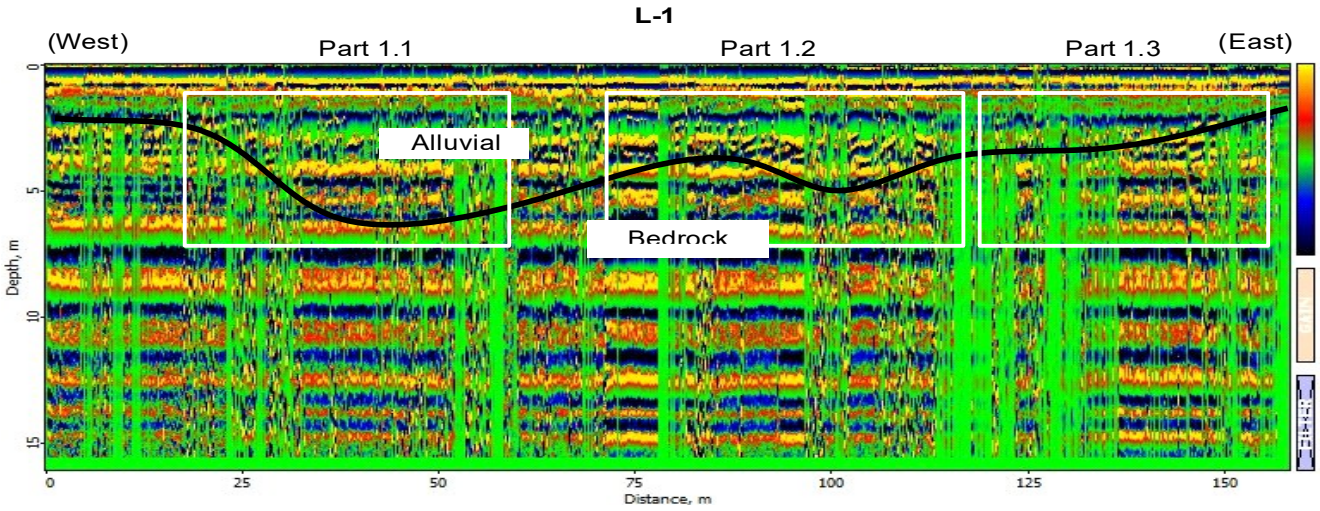
line4

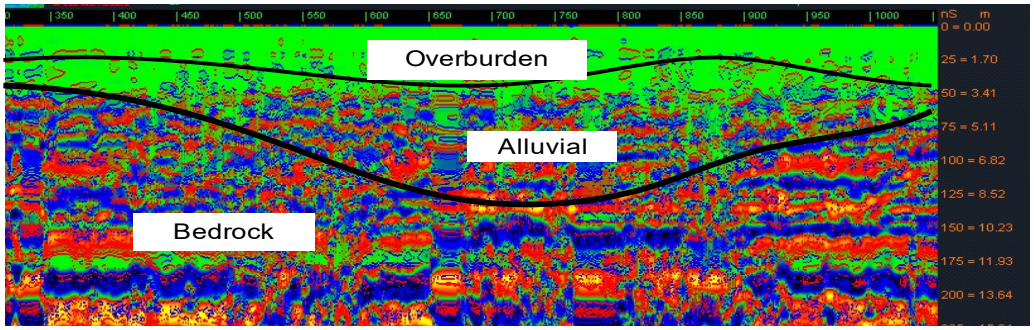
start (west)

end (east)

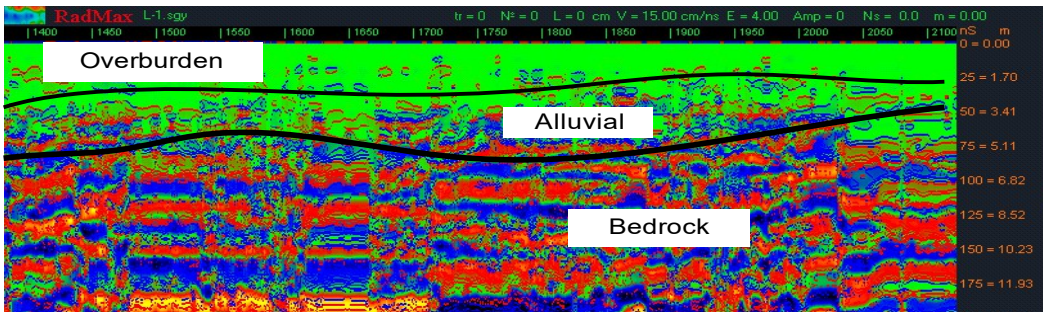


Graphic representations of data produced by the GPR survey (and particulars of each section)

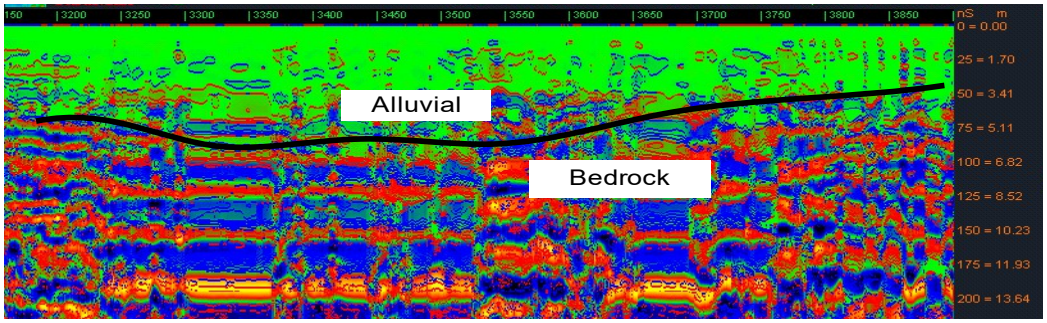




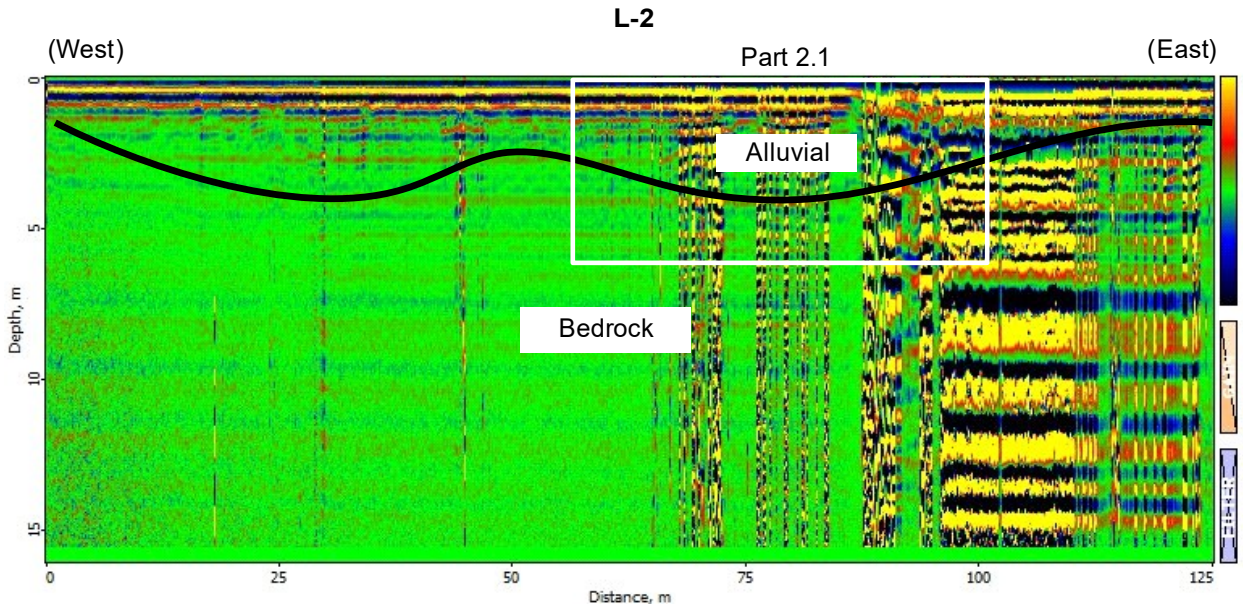
Part 1.1

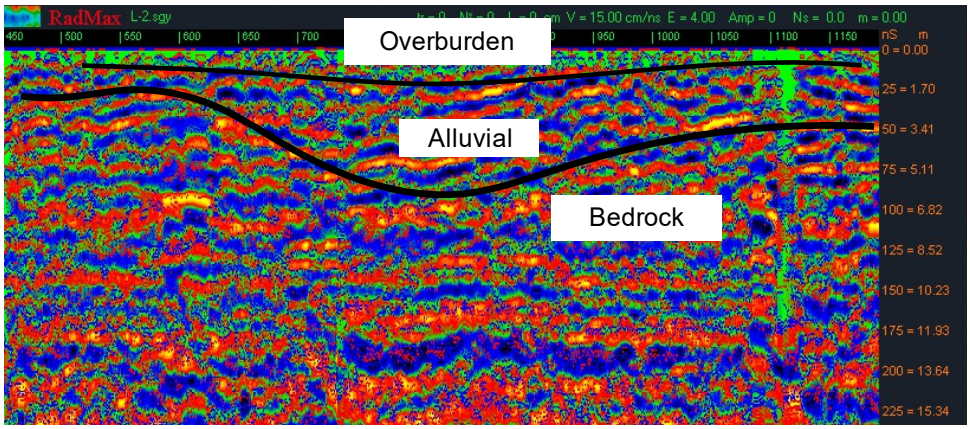


Part 1.2



Part 1.3





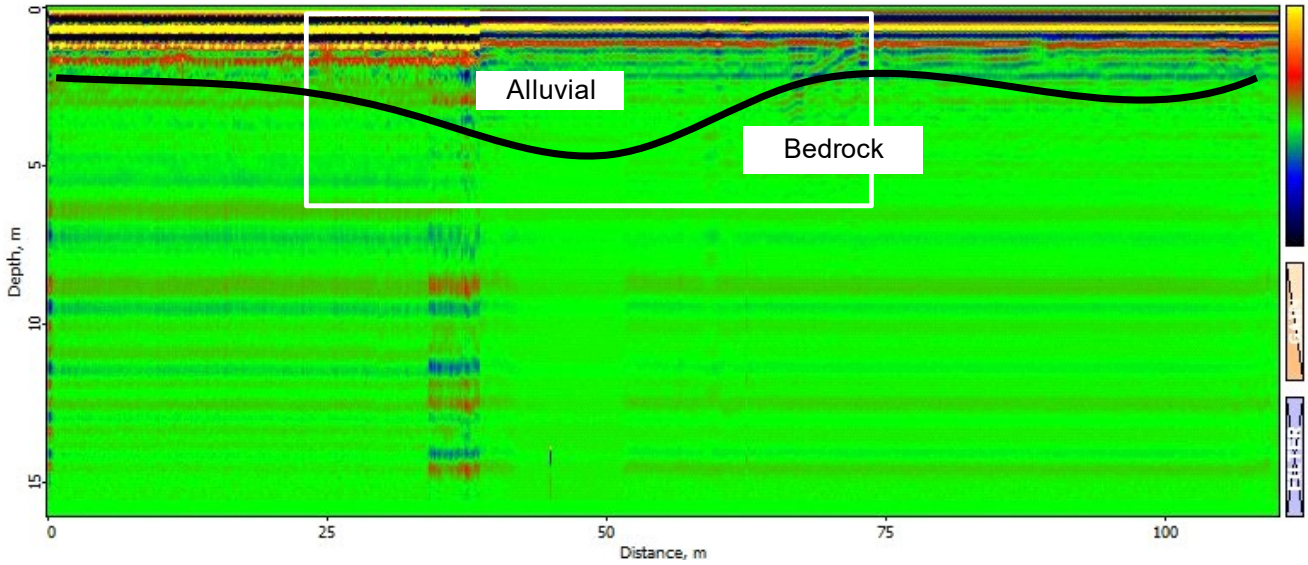
Part 2.1

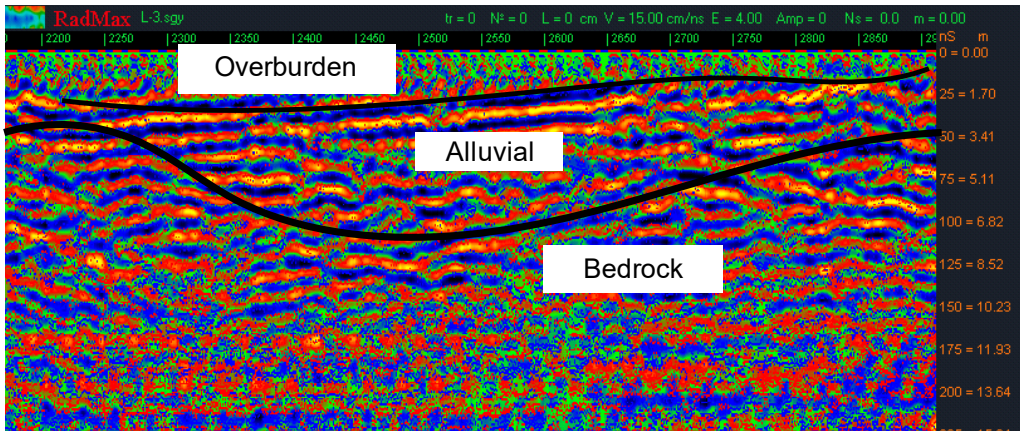
Observations:

Two buried paleochannels have been located toward the west side of the floodplain; them original beds were carving the deepest scars in the bedrock.
That was evidently a time of high-energy flow in the history of the creek, possibly related to a major gradient of the valley.
The most western paleochannel (close to the starting point of our GPR lines) is the deepest and much probably the oldest one.
The modern creek is located along the east side of the floodplain (end of lines 1 and 2). Its action is now depositional and today the stream is much lower in energy, as proven by the existence of meanders scattered along its medium-lower portion.
The deepest point of the bedrock-profile is roughly located at – 7 meters from the surface and it will be our main target during the bulk-sampling campaign planned for the next year.

L-3

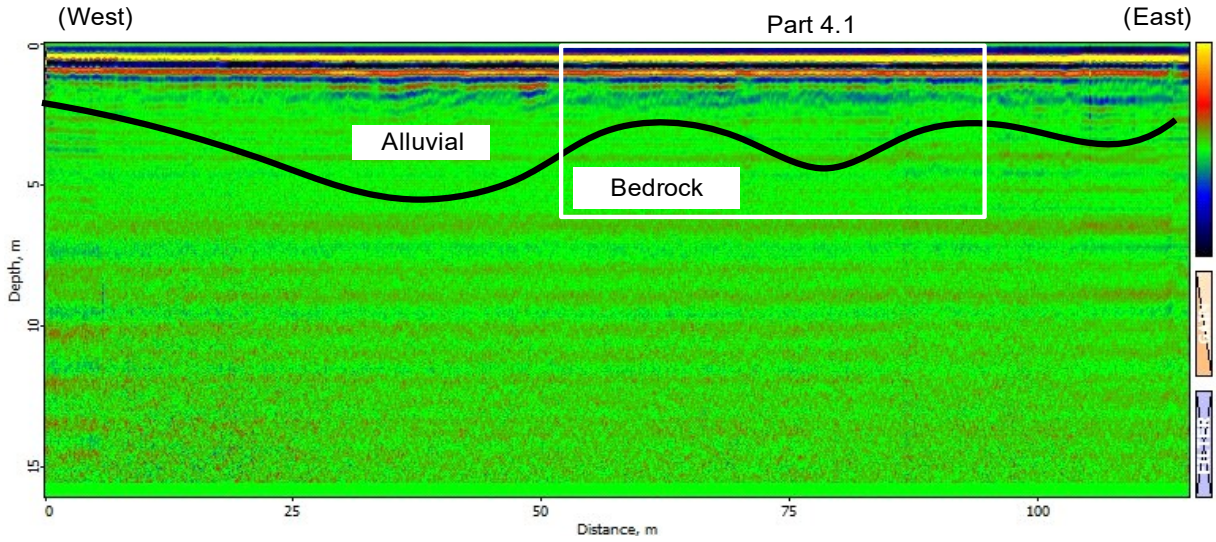
(West) Part 3.1 (East)

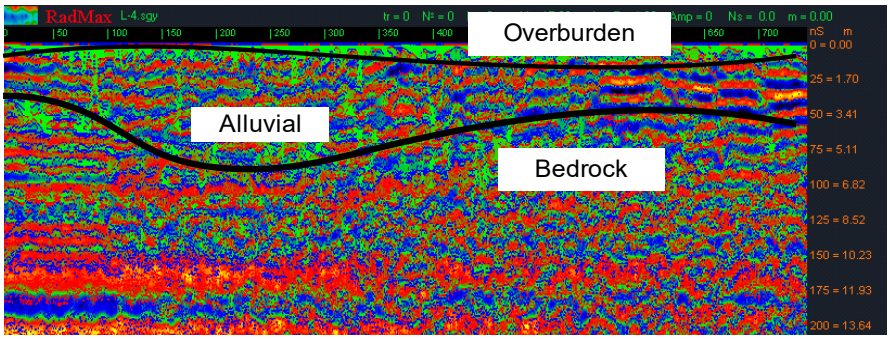




Part 3.1

L-4





Part 4.1

Observations:

the situation here is very similar to the one occurring along the cross-sections 1 and 2: the modern creek occupy the eastern side of the floodplain and two paleochannels are buried on the western side of the section.

The material described as “Overburden” in particular 3.1 is more probably just colluvium slid down from a small gulch located on the left side of the valley.

The material described as “Overburden” in the particular 4.1 could actually be composed by frozen muck, according with the existence of a patch of very small black spruce in the area.

Conclusions

The geophysical/geological exploration campaign performed along Excelsior Creek during this past October of 2016 required the work of 4 persons: geophysicist/geologist Boris Logutov with his field-assistant Sasha Reshetov and geologist Sandro Frizzi with his field-assistant Fedor Mikhailytchev.

Mr. Boris Logutov conducted the geophysical survey along 4 lines chosed and located on the ground by geologist Sandro Frizzi.
Boris used a ground penetrating radar EasyRad Pro+ of German/Ukrainian fabrication, equipped with two antennas of 100MHz for better resolution, up to > 20 meters of depth.
The data produced by the GPR have been converted in graphic by Mr. Logutov with the help of two specific software: Prizm 2.0 and RadMax. The final results have been analyzed and tagged by Sandro and Boris, based on the geological field work conducted by Sandro during three previous expeditions.
Geologist Sandro Frizzi produced this final report which condenses the results of the all recorded oservations.

To conclude, Excelsior Creek is showing the characteristic of a promising target:

- Good mining history, with significant evidences of extended old-timers mining activities (1905?), also documented by local historians and archives (Robert C. Coutts).

- Good geological/structural environment, as confirmed by the massive exploration campaign done in the area during these last years by teams of geologist working for the hard-rock companies involved in the “Coffee Creek project”. Presence of high-grade gold anomalies in the surrounding areas is well proven.

- Favorable morphology and surficial geology with presence of wide floodplain with coarse and rounded alluvial material well visible right below the moss. Absence of thick overburden. Low presences of permafrost, scattered in small patches.

- Moderate depth of bedrock (max 6-8 meters), according with the geophysical survey of this last expedition. The cross-sections produced by Mr. Logutov also revealed the presence of two paleochannels buried under the west side of the floodplain and easily reachable with an excavator.

For the reasons described above, Yukon Exploration Green Gold Inc. decided to plan an extensive bulk-sampling campaign to be conducted along the entire Excelsior Creek during the next mining season.

Sandro Frizzi, geologist and prospector for
Yukon Exploration Green Gold Inc.
1 (604) 500-4109
yukonexploration.ca

Expenses:

- 1 day of helicopter rental: $ 2,200 (not applicable for assessment work report).
- 2 days of work for geophysicist/geologist Boris Logutov (1 field-day + 1 office-day for analysis of data) at $ 400/day (according with official rates of Yukon Geological Survey) = $ 800.
- 6 days of work for geologist Sandro Frizzi (1 preparation day, 1 field-day + 4 office-days for analysis of data and assemblage of final report), at $ 400/day = $ 2,400.
- 1 days of field-work for the two helpers (Sasha Reshetov and Fedor Mikhailytchev) at $ 300/day (according with official rates of Yukon Geological Survey) = $ 600.
- Other expenses (food for the crew, flagging tapes, AAA batteries for GPS and radios, stationery for report, etc.) = $ 180 (not applicable for assessment work report)

Total cost of expedition= $ **6,580**

Expenses to claim for assessment work: **$ 4,200**

Sandro Frizzi for:

Yukon Exploration Green Gold Inc.