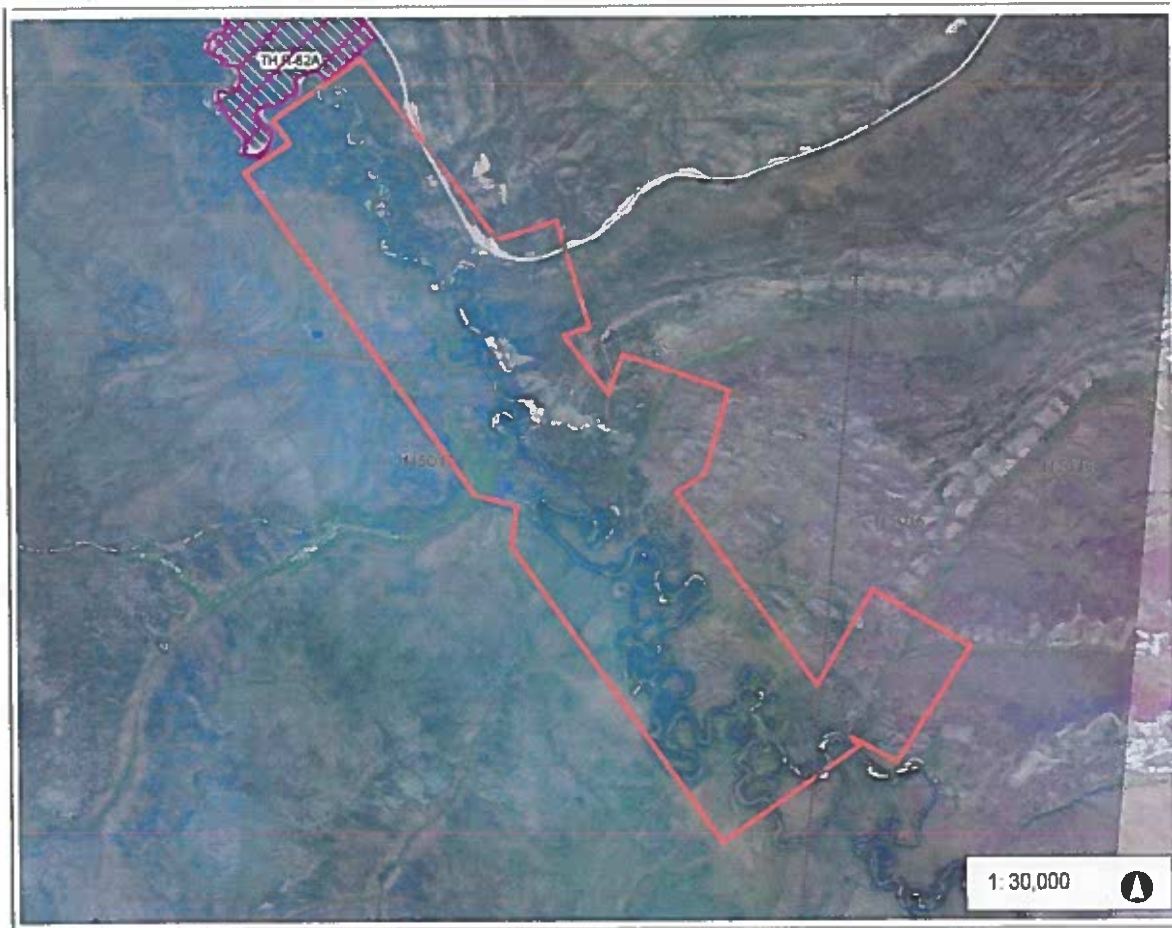


16-065

**TARGET EVALUATION CAMPAIGN AT  
FLAT CREEK (ZEK PROPERTY).  
(Map 115O15e, 115O15f, 115O16)**

**July - September 2016**

**by Sandro Frizzi, geologist and prospector**



*Satellite view of Zek Property*

*Brief introduction:*

*Since 2012 our placer exploration company (Yukon Exploration Green Gold) is investing energy and funds to prospect the lower part of Flat Creek and its tributaries.*

*This project started after reading old documents belonging to YCGC (Yukon Consolidate Gold Corp), the historical dredge enterprise successfully active along the Klondike during the first half of last century.*

*According with these old documents, YCGC acquired and maintained for almost 30 years the placer rights along the last 3 miles of Flat Creek, after verifying the credibility of several prospects performed by previous claim owners.*

*Since the first gold rush, Flat Creek has been known for hosting a noticeable amount of glacial-related fine gold in its gravel bars and, possibly, coarser gold in the deepest gravel.*

*During our first prospecting expeditions we found few areas with signs of old-timers activities: shafts, trenches and old mining camps (see map in the next pages).*

*After the historical information we started to examine the area through the modern geological and structural maps, together with the maps of the glacial activities occurred in the neighbors.*

*Then we moved to 3D morphological models.*

*We decided that the area hosts a great potential, together with some serious turnoff: the potential lies in being locate right along the eastern margin of the Klondike Plateau and for this reason is acting as natural collector of creeks coming straight from that good goldfield; the turnoff derives from be located right along the Tintina Trench and for be covered by pre-Reid glacial till.*

*After considering these obstacles, we decided to start a preliminary testing campaign along the floodplain. Our target will be the usual: testing the bedrock. We were aware to be facing a big challenge; our chances of success will depend from the thickness of those glacial materials which are covering the floodplain.*

*The key is to locate areas with shallow layers of till, where the contact with some kind of ancient alluvial deposition could be reachable by our equipment.*

*We'll need some luck.*

*During July of 2016 we drove our excavator Komatsu PC138 along the floodplain of Flat Creek to start the first phase of testing.*

*The crew was composed by a geologist (Sandro Frizzi) and an operator/truck driver/field helper (Bruce McArthur). A geophysicist (Boris Logutov) has been employed (unfortunately) only at the very end to select new areas to test.*

*As usual, many of our friends (Max, Charlie, Rocco, Sasha, Joerg and Lou) helped and supported us with a great enthusiasm.*

*To all of them will always go my deepest appreciation.*

*Sandro Frizzi*

## Location of Flat Creek

The Zek Property is located along the lower part of Flat Creek, starts 3 kilometers upstream from the junction with All Gold Creek (this area belong to First Nation) and runs upstream for 3 miles.

It lies 53 km south east of Dawson City, right along the eastern margin of the Klondike Plateau and its easily accessible from Dawson by driving along the Klondike until km 661: the first post is right beside the highway, 350 meters down the valley (toward west). During 2016 we built a trail to reach the lower part of the property (#1 on the "map of access roads").

To reach the central part of the property (claim Zek 2 and the central part of the lease ID 01304) the access road (#2 on the map) is located at km 654.5 of Klondike Highway, right after the rest area "Tintina Trench" (on the west side). That dirt road runs for 9 kilometers and reach the floodplain of Flat Creek right in the central part. During 2016 we upgraded that road by fixing the bad sections and cleaning the overgrowth. Today is well drivable with a 4x4.

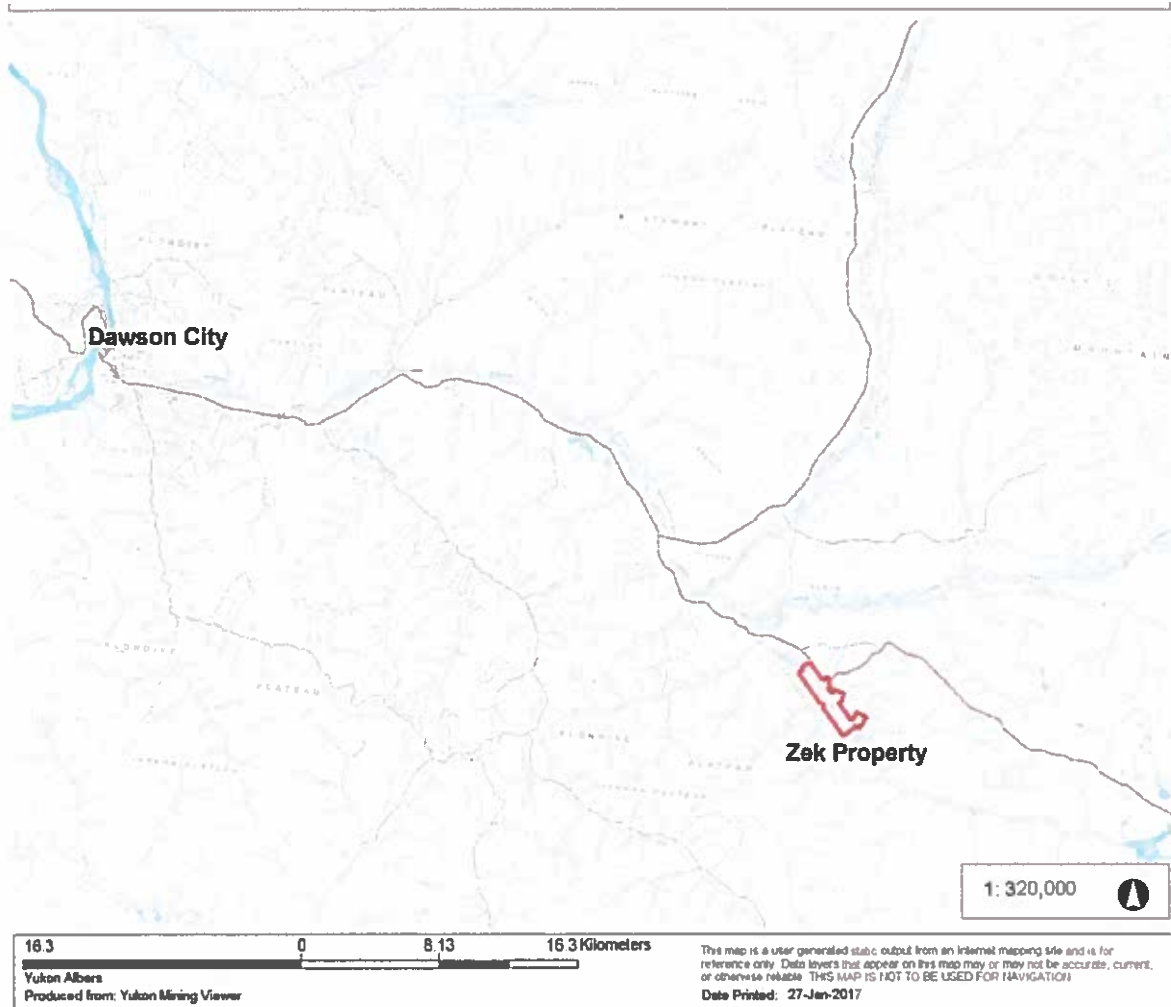
Two other trails (#3 and 4 on the map), both rough and tough and accessible only by ATVs or with vehicle on tracks, are located on the left limit of Flat Creek. Them access starts at the mouth of All Gold Creek, at km 670. They runs right on the floodplain for 4 km (#3) and 5.5km (#4). They will be handy to drive in the heavy equipment on tracks.

For any emergency the best point of reference for rescuers or helicopters could be represented by the Klondike Highway (excellent landing spots at km 661, at Tintina Rest area, or at km 654.5).



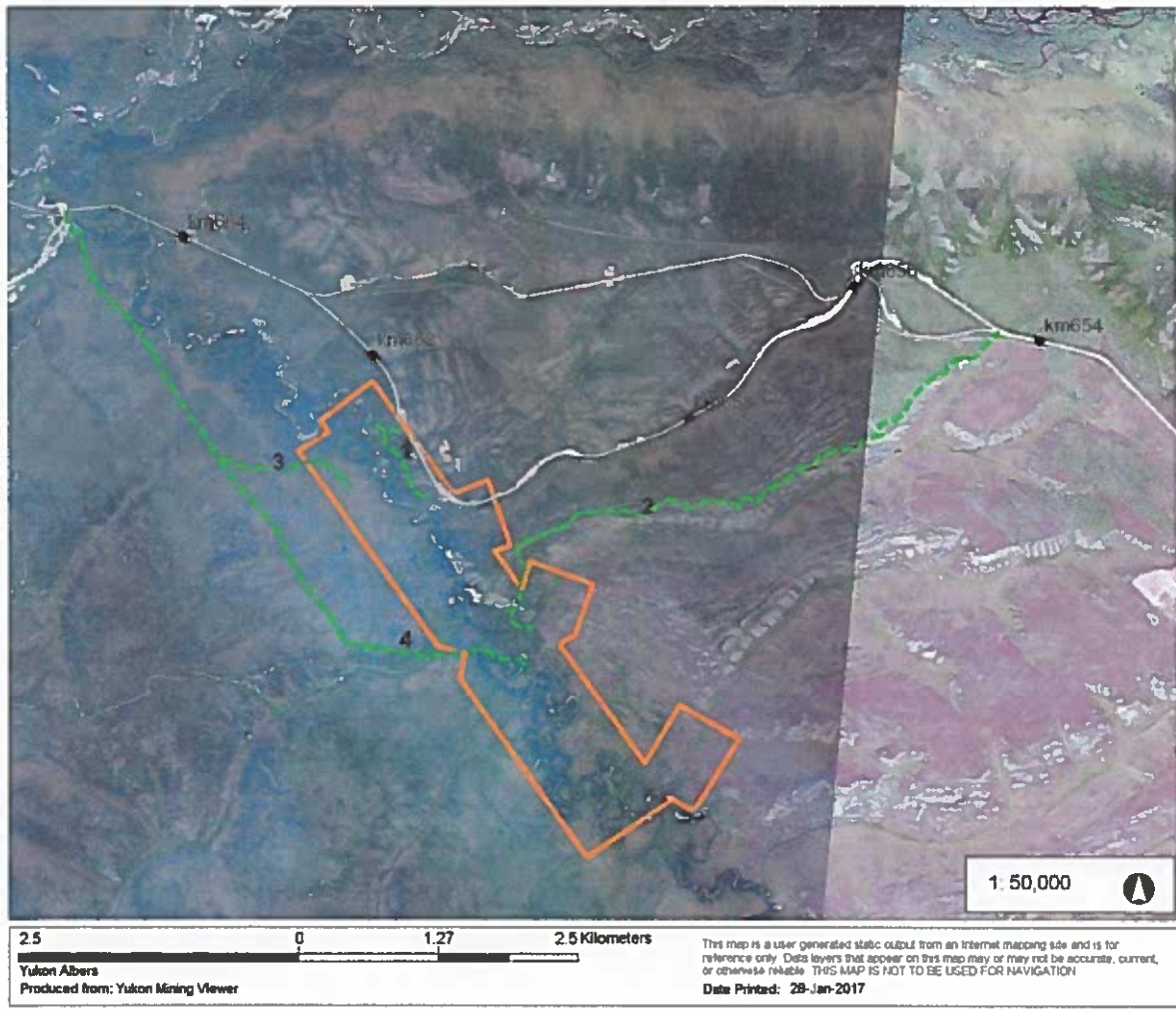
# Location of Zek Property on map

North  $\Delta$



## Map of access roads

Scale 1:50,000



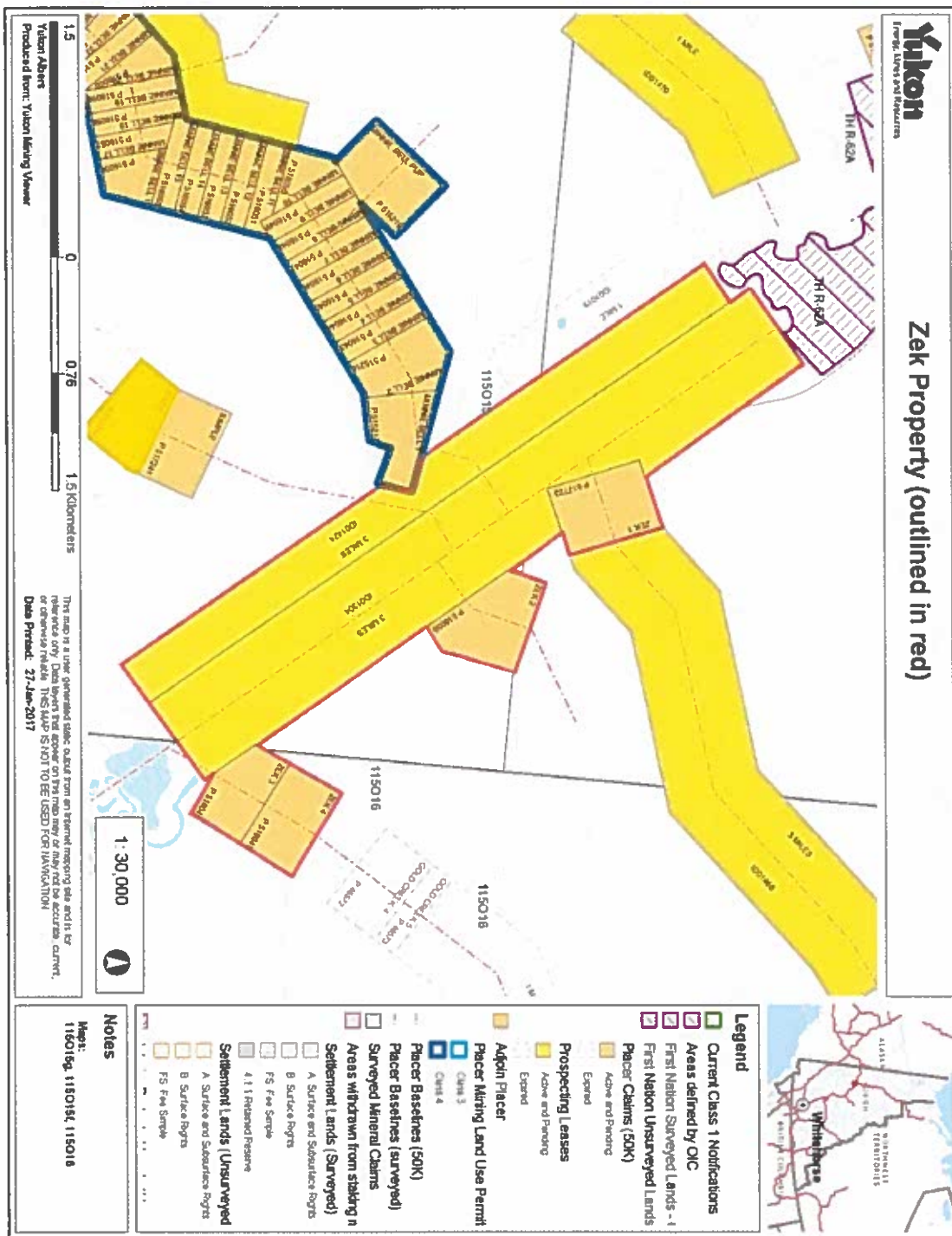
Dirt roads are marked in green and numbered.

Road # 2 is drivable with 4x4 vehicle in any weather condition.

Road # 1, 3 and 4 are only accessible by equipment of tracks or ATV.

**Note:** road #1 has been entirely built by us. The #2 is an existing road restored by us.

# The Zek Property



## **Reasons for staking the Zek Property**

This property has been carefully planned and staked with the purpose to cover a number of different sections of territory with high potential for placer gold depositions. We also tried to avoid those areas where the coverage of glacial till is way to thick to allow our research and an eventual profitable mining operation.

The claims Zek1 (discovery), Zek2 (discovery), Zek3 and Zek4 (co-discovery), have been located at the mouth of three right limit tributaries, where the upper layer of floodplain, made of glacial till, is not as thick as it is toward east (where the Klondike Highway is located).

During the first part of our prospecting campaign, along Zek3 and Zek4 we found remains of old-timers mining activities and also signs of a camp (see "map of signs of previous works"). The traces of small cabins and old garbage dump are the proves of persistent activities.

We tested the sands of glacial origins along the three tributaries and small specs of gold have been easily found here and there.

Our goal is to scout for ancient alluvial gravel, not related with the glacial till coverage.

Along the main floodplain (Flat Creek) we staked 3 miles of prospecting lease (IDO1304) and another 3 miles (IDO1424) on its left limit, to cover the mouth of the tributaries coming down from the Klondike Plateau.

Our preliminary panning campaign performed along the sand and gravel-bars of Flat Creek revealed a noticeable diffusion of small specs of gold, definitely connected with the massive presence in the area of materials of glacial origin.

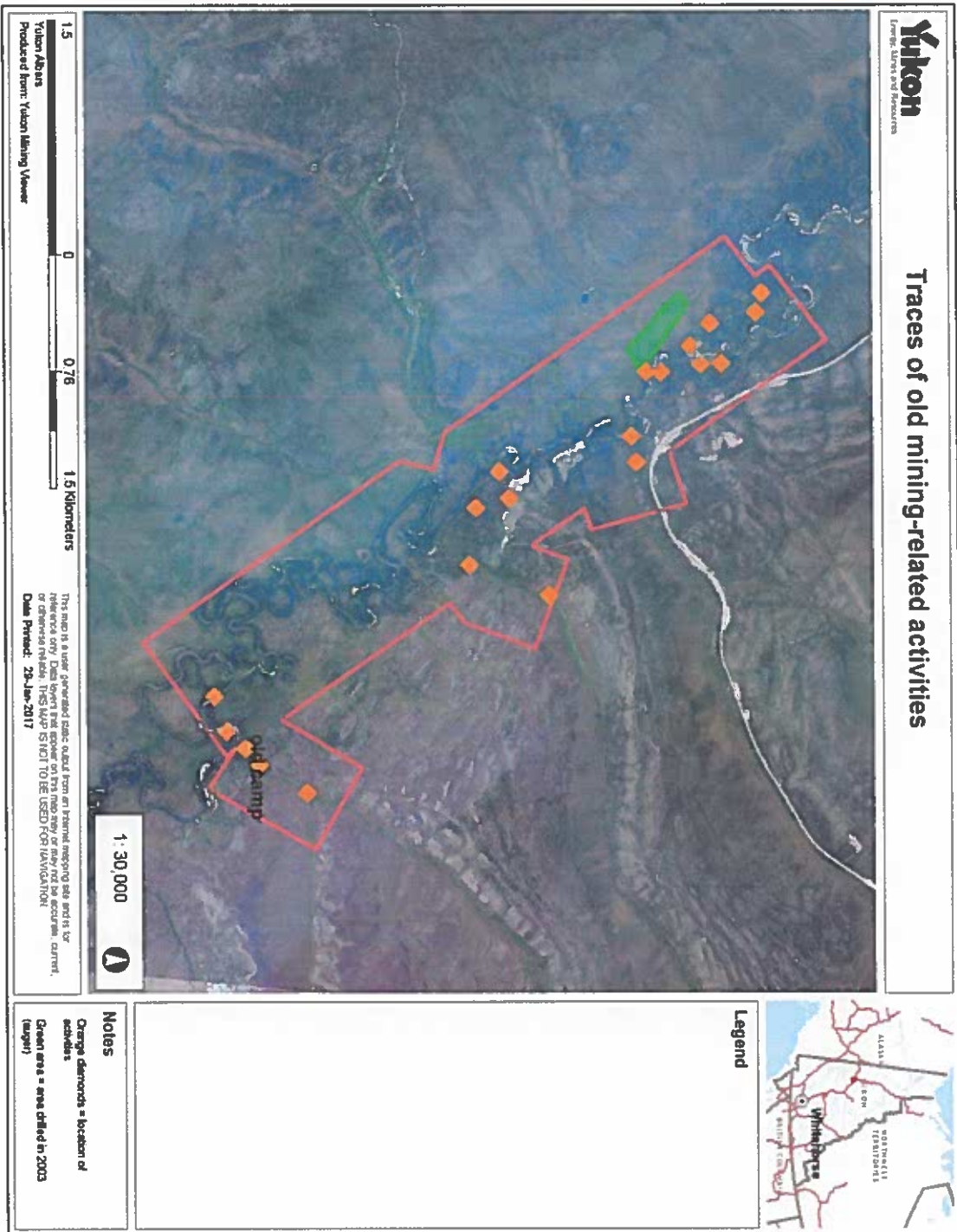
In some gravel-bar the recovered number of fine and ultra-fine gold specimens was more than noticeable.

The upper layers along the floodplain are represented mostly by sand mixed with round pebbles and cobbles. These are part of glacial till, a thick package of sediments with thickness which decreases toward west, where disappears as soon meets the Klondike Plateau.

During summer of 2016 we explored and tested with heavy equipment (and by hand) different areas scattered along the entire property.

The results of our work is reported in the next pages.

# Traces of past mining-related activities



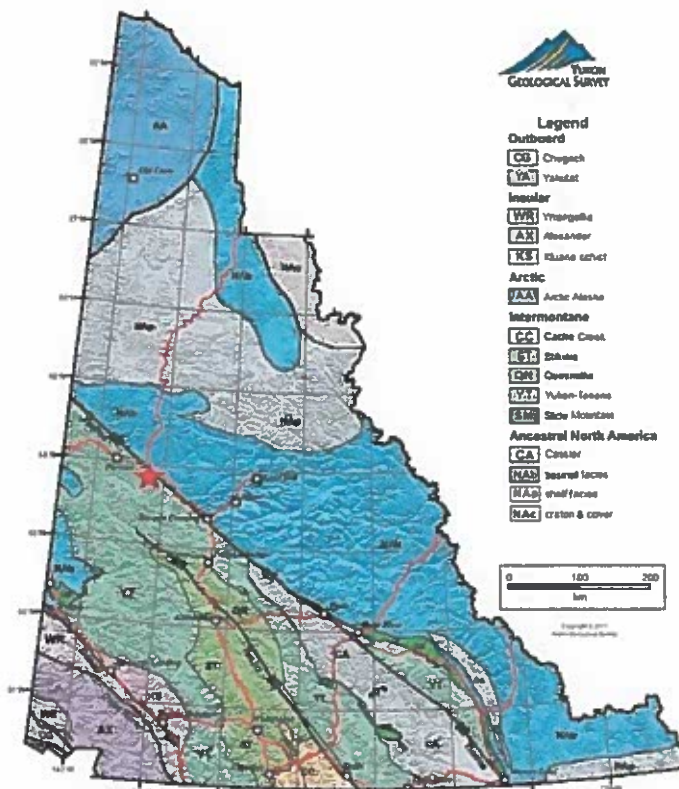


## Bedrock geology

Flat Creek runs parallel to the north-eastern margin of the Klondike Plateau, right where the Tintina Fault separates two main geological province: Yukon-Tanana (toward west) from the "Selwyn Basin" (toward east).

The Yukon-Tanana is an allochthonous mix of exotic elements which overrode the ancient north-American (Laurentia) continental margin. In this province lies the Klondike Plateau. The most representative rocks are: mica-schist, quartzite, greenstone, marble.

The Selwyn Basin is an ancient continental margin basin (late Precambrian to Middle Devonian) characterized by the deposition of thick sequences of black carbonaceous shales. The most representative rocks of the basin are phillyte, shale, sandstone, quartzite and grit.



*Flat Creek (red star)*



Legend:

- **DMgG:** Yukon-Tanana, metamorphic. Late Devonian–Mississippian (365-357). Orthogneiss (Grandodiorite, Quartz-Monzonite).
- **ODS:** Laurentia, metamorphic. Lower Ordovician-middle Devonian (488-380). Quartzite, granitochist, minor schist and marble.
- **PDS1:** Yukon-Tanana, metamorphic. Neoproterozoic-upper Devonian (635-375). Quartzite, mica-schist, marble, greenstone.
- **PCH1:** Laurentia, sedimentary. Neoproterozoic (635-542). Phyllite, shale, sandstone, grit.
- **ITR3:** sedimentary. Paleocene-Eocene (58-48). Shale, clay, sandstone, conglomerate, coal.

From the map is well evident the displacement created by the action of Tintina Trench, one of the greatest faults in western North-America.

A 260-miles displacement is assumed, mostly occurred in Cretaceous time (220 miles, against the 40 miles of the lower Paleozoic).

Big portion of this trench appears to be excavated by the Pelly and the Yukon Rivers, before they were deflected from the trench by Pleistocene ice.

## Surficial Geology

The surficial geology at Zek is dominated by glacial features and simply represented by a mantle with various thickness of glacial till mostly related with pre-Reid events (ca 3-2.6 Ma).

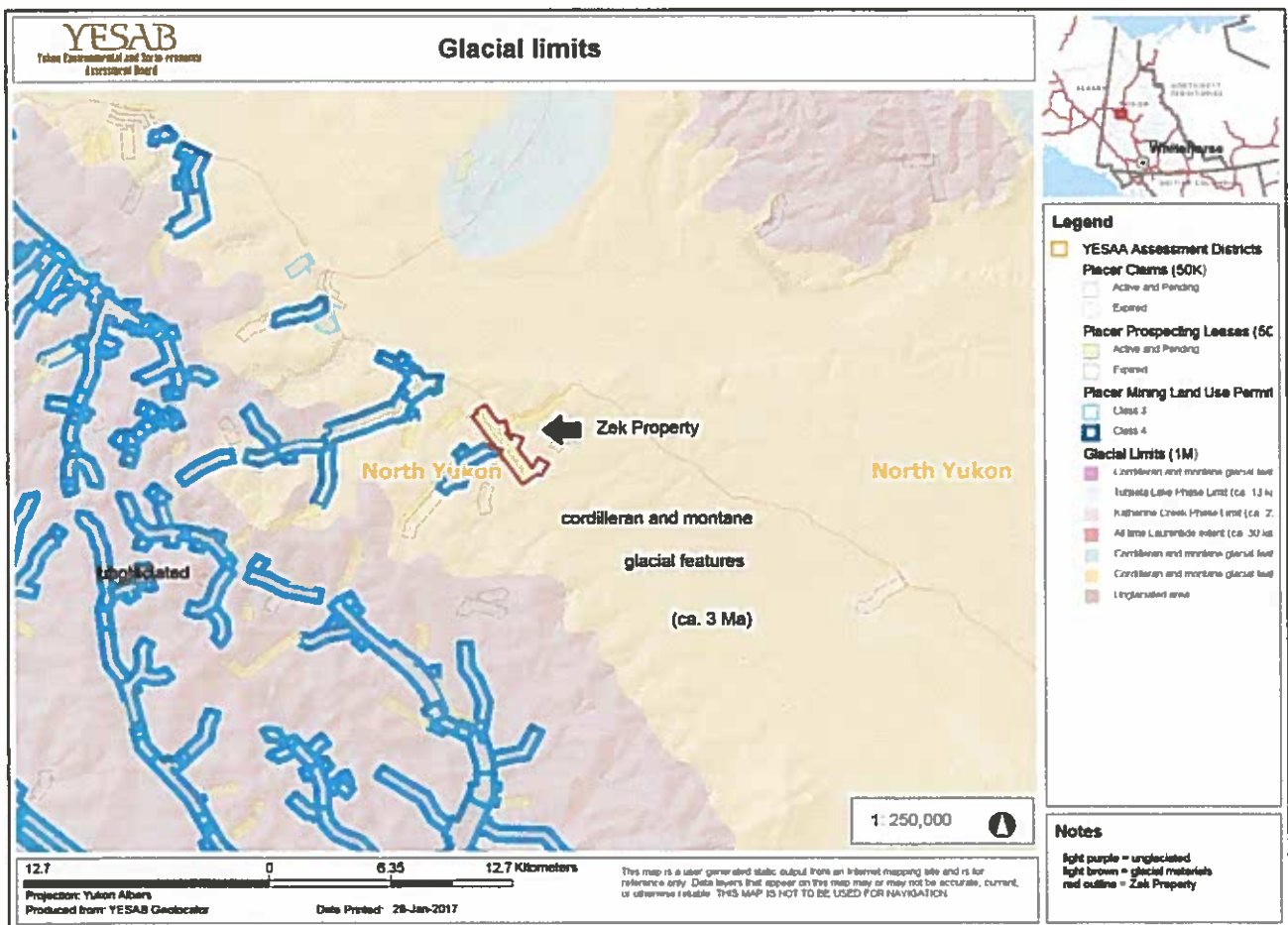
The wide distribution of this materials is well represented on the map published on this page.

This till during the ages has been eroded and re-distributed by successive fluvial events and today is widespread along a more extended area than the original.

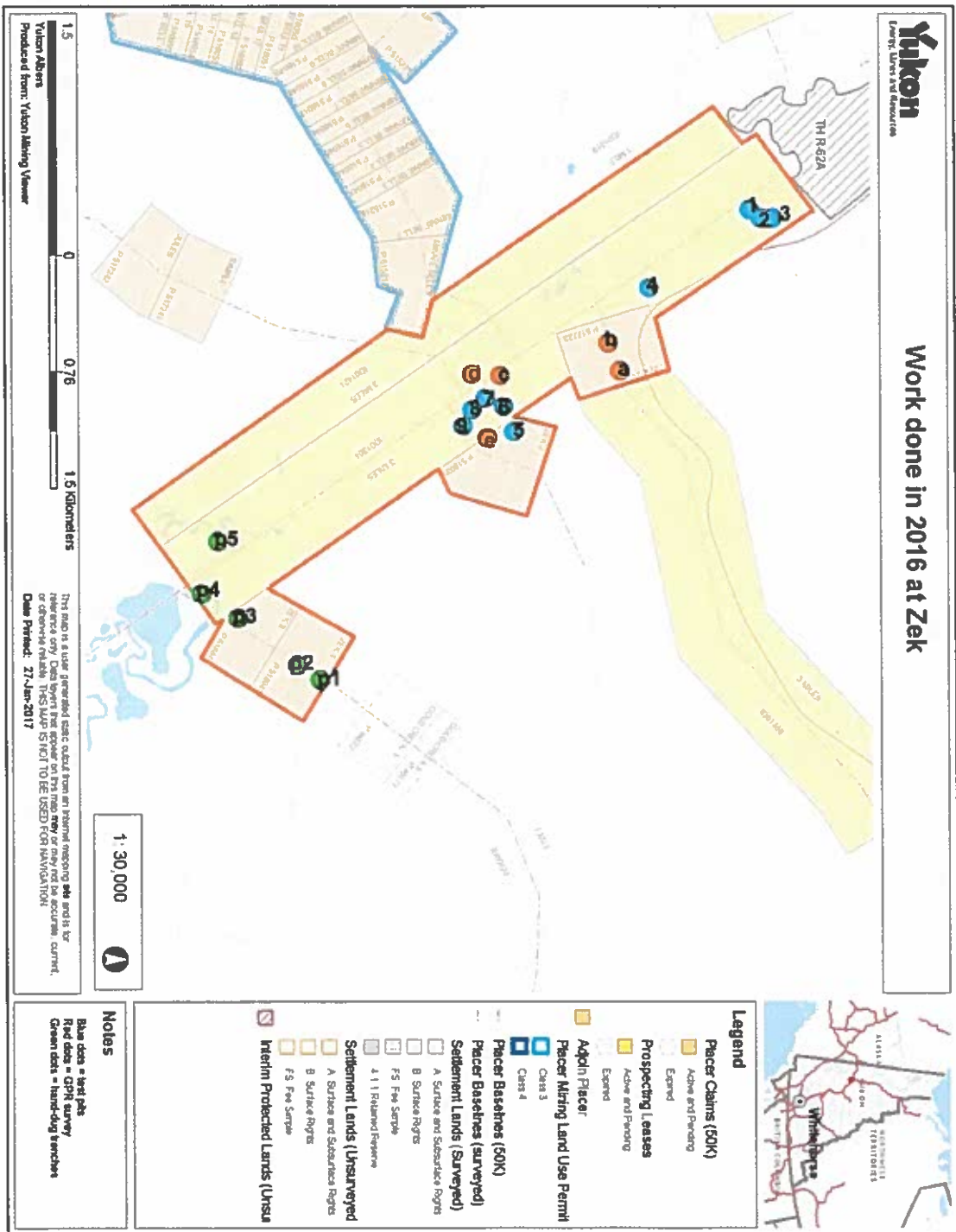
Under this layer we are hoping to discover (by digging) left over portions of ancient alluviums to test for presence of placer gold.

The particular location of the property, right at the eastern limit of the Klondike Plateau, represents a reasonable incentive for good expectations.

The biggest challenge and the key of success for us will be the location of areas with shallow bedrock and the ability to reach it with excavators or drill.



# Map of the areas tested in 2016



## Fieldwork done during summer 2016

Despite its vicinity with the Klondike Highway, the Zek Property is not easy to reach with heavy equipment: its wide extension, the meandering morphology of Flat Creek, the presence of wet/swampy areas, the high gradient along the right limit slopes and the lack of access roads, contributed to create several problems to our operators.

After choosing the areas to test (on satellite picture at first and then with field exploration), we created a new access (road #1) and restored an existing one (road #2). By July, two main access to the right limit areas were finally done.

As already mentioned in the introduction, for this testing campaign we decided to perform a preliminary bulk sampling, by using an excavator (Komatsu PC138us) of medium size (14 tons). This compact machine is easy to drive in tough country and is able to reach deep ground, thanks to an extended boom.

To test the excavated materials we used a well built high-banker (Gold-Hog) with a particularly long box and special matting to recover the finest specimens of gold.

This high-banker works with a 2 inch Honda, gas-powered water-pump.

We also tested the different layers by panning on site.

Fine gold has been recovered almost from every pit, sometime in noticeable quantity. The gold recovered from these all pits has an indubitable glacial origin and is extremely similar to the specimens collected from the sandbars of Stewart and McQuesten Rivers.

Altogether with our excavator we tested 9 pits, scattered along two main areas (see the "map of tested areas" in the previous page).

The southern part of the property was too difficult to be reached by excavator and we decided to test by had-digging and panning, mostly along the last right limit tributary (green dots on the map).

These areas have been chosen for testing after the discovery (during an early-stage prospect) of old-timers mining activities (first gold rush) conducted in the surrounding of an old camp, today just recognizable through few remains.

Here we collected fine and ultra-fine specs of gold, almost from every tested trench and gravel-bar. This gold shows an indubitable glacial-related provenience.



*Gold collected from pit #1*

### Description of pits dug with the excavator:

Pit #1 = UTM: 620069-7091048. Dimensions: 5m x 6m x 5.5m. This pit has been excavated on an bench located beside the floodplain of Flat Creek, in a lateral area of the right limit, not too far from the remains of an existing old shaft.

The cut reveals a weak diversification of layers, mostly an alternation of low energy materials (preeminently sand with minor round gravel and well rounded pebbles) and medium-size well rounded cobbles, to testify cyclical floods probably related with snow-melting events.

No bedrock has been reached.

No ice in the pit.

Groundwater at -2.5 m.

We processed almost 20 cubic meters of mixed materials (without separate the different layers) and we recovered almost 3 grams of gold. Noticeable amount but definitely far from be profitable. The gold is fine and ultra-fine and part of it was probably lost by our recovery system (high-banker Gold-Hog with special 'fine gold matting').



Pit #2 = Located just few meters away from pit #1, toward east, in a more marginal part of the floodplain. Dimensions: 6m x 8m x 2m. The hole revealed a more silty composition than the previous pit, and presence of ice a -0.5m.

The layer of permafrost is particularly hard and vertically extended. Impossible to break it with our Komatsu PC138. We tried to open a wide cut to exposed the ice to the sun, but after each digging section the progression was too slow and frustrating. In 2 days of steady work we reached 2 meters of depth and at that point we decided to quit. We panned some material and recovered very small specs of gold from almost each pan.

Pit #3 = The purpose of this test pit was to dig just few meters eastern of #2 at the base of the right limit slope. We intended to reach some bedrock, starting right where the valley starts to be incised. The entire hill is covered by glacial till but is also extremely steep and we were hoping that the high grade of steepness could have been related with the proximity of solid rocks.

We dug horizontally into the slope, to reach some wall, in vain.

The first layer of soil, made of fine sand and silt, was extremely frozen and hard to penetrate. After breaking through the ice, we dug for several meters into the hill until we realized that the coverage of till is here extremely thick and compacted, and there are no traces of bedrock once again. We panned for gold with no signs of it.



Pit #4 = UTM620112-7090741. Dimensions: 5.5m x 5.5m x 5m. Water at -1m. This pit is located along the modern floodplain, not too far from the creek. Here we dug a hole which shows the same characteristics of pit #1 (alternate layers of low and medium energy depositions). The groundwater was rapidly filling the hole and the walls were constantly collapsing, complicating the sampling of the different layers. Several specs of fine gold have been panned from the high energy type of deposits.

Pit #5 = UTM 621351-7089760. Dimensions: 3.5m x 10m x 4.5m. This is a trench located on the upper right limit bench which is parallel to the valley and has been carved by the modern Flat Creek, and (perpendicularly) by the right limits tributaries. This trench was simply an attempt to dig through the glacial till, which along this edge has been partially washed away and should be shallower. The goal was to expose some alluvial/ancient deposition.

We reached 4.5 meters of depth with no signs of change in the materials beside an increasing of very round pebbles and cobbles toward the bottom. Panning glacial till doesn't make much practical sense but we did it anyway.

From 10 pans we recovered a dozen of specs, 5 of those larger than 1 millimeter. The gold recovered from pits 1-4 is obviously floating gold coming from this glacial package of sediments (re-mobilized and re-concentrated by the modern creeks).

Pit #6 = UTM 621294-7089720. Dimensions: 6m x 6m x 5.5m. Large pit excavated along the right margin of the floodplain, right at the foot of the upper bench. The glacial deposit is here represented by larger materials, mostly rounded pebbles and cobbles



immersed in a minor amount of sand. The bigger size of these loose rocks is due to a selection made by the gravity (down-slope) and the action of meteoric water and snow melt. No gold has been found.

Pit #7 = Dimensions: 5.5m x 6m x 1.5m. This large pit is just 30 meters away (south-west) from the previous one. The floodplain here is swampy and covered by grass and small spruces, to warn us that the ground is frozen. We decided to start digging anyway and after 0.5 meters we found a solid/frozen layer of muck. Stubbornly we decided to keep digging and to open a large cut to expose the ice to the sun. In three separate attempts of we managed to reach -1.5m of depth, all in black muck, and we decided to quit and to move away. Obviously no panning has been performed in that soil.

Pit #8 = UTM: 621362-7089647. Dimensions: 4.5m x 5m x 5m. Here we dug beside the mouth of the second right limit tributary. The cut revealed a creek deposition in layers. No permafrost and presence of groundwater at -1m.

The well rounded rocks exposed are definitely allochthonous and coming from the erosion of the packages of thick glacial deposits located toward east. We recovered several specs of gold by panning randomly through the extracted materials. No signs of bedrock or of authochtonous alluvium.

Pit# 9 = Located few meters away from pit #8, right beside the creek. This is a small pit (4m x 4.5m x 3.5m) just to test for a possible increasing presence of gold. In fact, the specs collected by panning here are definitely increasing in number and size (few specs around 2-3 mm). We decided to don't perform a bulk sampling with this equipment and instead to come back with a bigger excavator and a 25 tons washplant (shaker).

The genesis of this gold is evidently the same as always: re-mobilized specs, fine-grinded by the action of a long glacial transportation. This gold came from far and probably has nothing to do with the Klondike's gold: under the microscope it shows the same features of the specimens recovered from the sandbars of Stewart/McQuesten Rivers.

#### Description of the hand-dug pits:

Pits P1 and P2: More than pits here we have done a bunch of testing holes concentrated around these two areas (see "map of works done in 2016") which are located along the floodplain of the third right limit tributary of Zek Property. The chosen areas are technically gravel-bars: no sticking out bedrock has been found along the creek (yet).

We recovered several specs of gold, extremely flattened and mostly very small (<80 mesh). Some pan revealed an impressive quantity of gold (> 5mg).

Pit P3: Located at the mouth of this tributary, along a small canyon carved in glacial-related materials and not too far from the remains of an old-timers camp, probably datable to the first gold rush.

We performed here a bunch of panning tests and we collected the usual small specimens of floating gold.

Pits P4 and P5: Here we are along the extended floodplain where the modern Flat creek runs. The valley is very wide and there are no signs of outcrops. We decided, once again, to test two of the many gravel-bars visible along the creek. Some of these are showing the signs of previous works of different ages, the most recent are probably just two decades old.

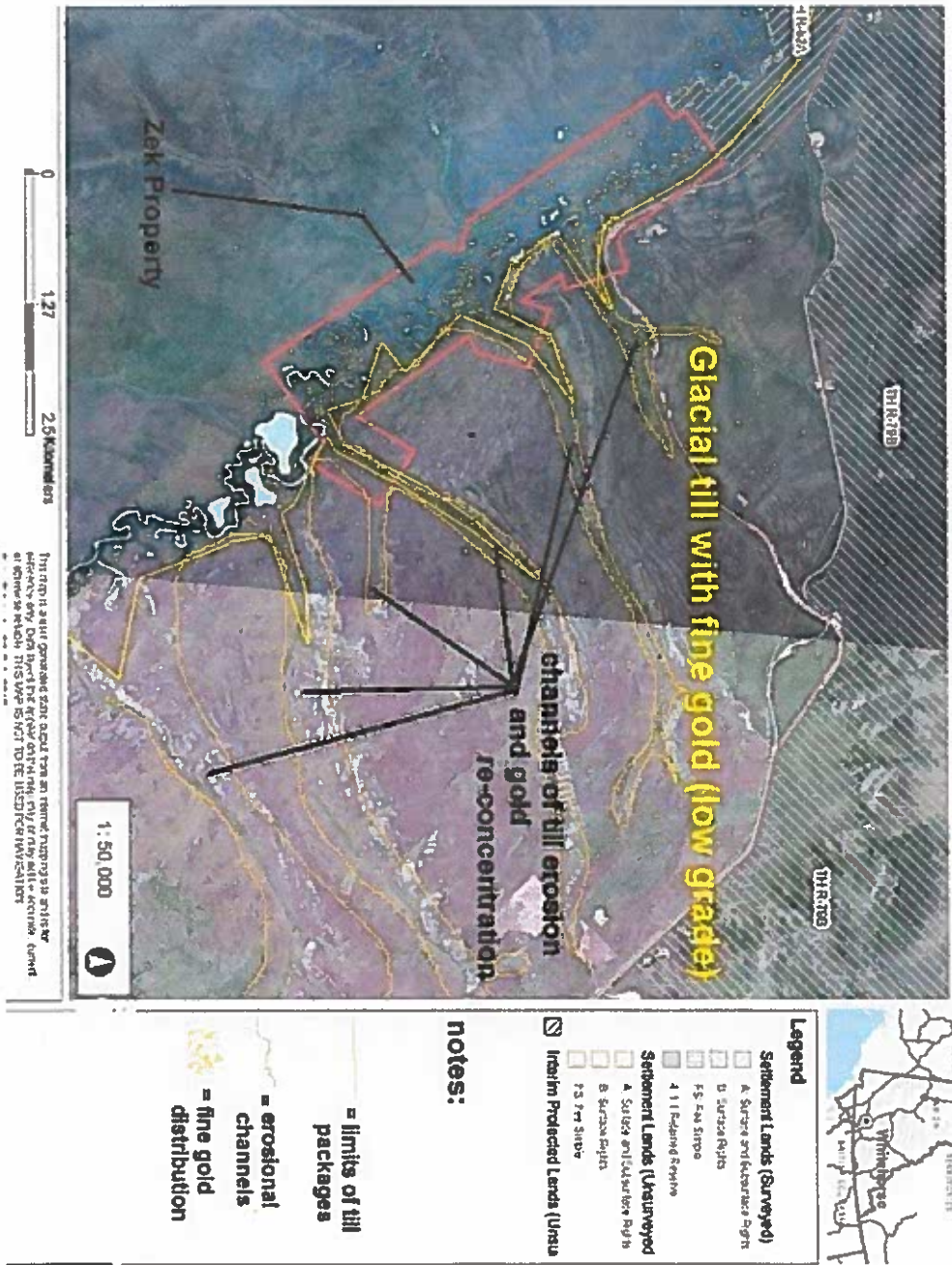
The tested area P4 revealed good amounts of fine and ultra-fine gold, possibly enough to be profitably hand-mined.

At P5 we recovered just 5 small flakes.



*view of the floodplain from the upper bench (looking west)*

# Sketch of fine gold distribution



## Different attempts to reach the bedrock

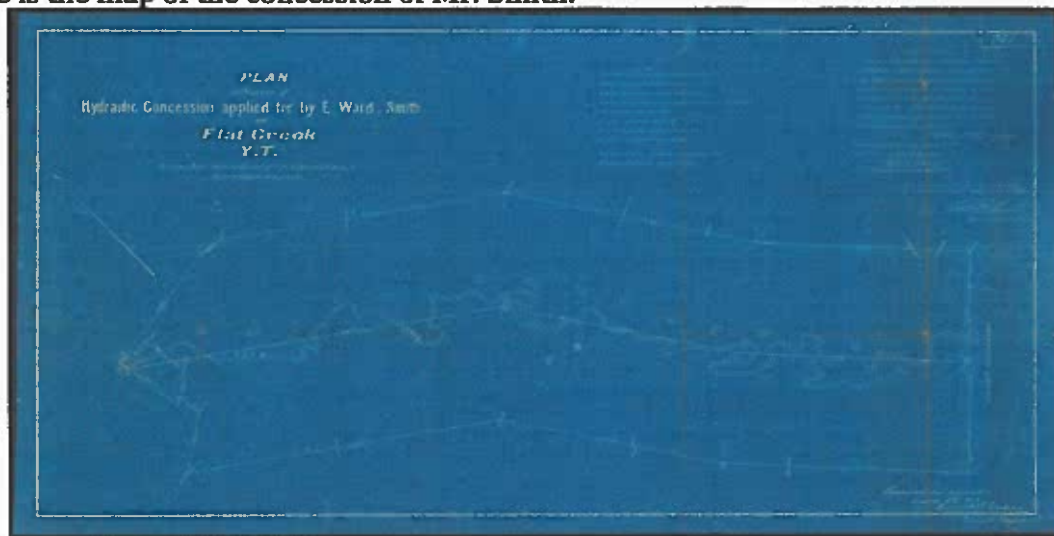
The search of the bedrock along the floodplain of Flat Creek has been the major goal for few placer miners, since the very first gold rush.

The presence of noticeable quantities of "gold dust" along the sandbars of the creek, pushed the old timer to believe that much bigger quantities of metal should be lying deeper down.

In 1905, after testing the ground with a bunch of shafts (some of these have been re-located by us during our first exploration campaign), a Mr. Smith (?) applied for an hydraulic concession along the same section of property which is today occupied by our Zek Property. Evidently these old shafts were revealing the existence of some good gold value or at least enough to justify the expenses for that expensive survey.

Unfortunately, as always happened during the old days, the result of this testing campaign hasn't been recorded.

Here is the map of the concession of Mr. Smith.



In the '30s YCGC (Yukon Consolidate Gold Corp) acquired the property and keep it until the '60s; they also performed some more testing. At this time we are on the waiting list of the Canadian Archives to receive the permission of search in the old documents of the company, donated by YCGC to the Canadian Government and conserved in Ottawa. We're hoping to find the results of them notoriously accurate testing campaigns.

In 2003 Mr. Sylvan Fleurant, expert placer driller of Dawson City, performed a campaign along the central part of the floodplain (see map "traces of old mining-related activities, in the previous pages) by using an hydraulic auger drill of 6 inch. He managed to reach the maximum depth of 55 ft (16 meters) before the presence of bigger rocks stopped the drill. Same destiny occurred in the other holes that he tried to dig: during the all campaign Sylvan didn't manage to reach the bedrock.

During the past October, by the end of our first testing campaign conducted with the use of an excavator, after been frustrated by lack of results, we decided to perform a geophysical survey by using a ground penetrating radar (GPR).

We hired Mr. Boris Logutov, a Russian geophysicist from Perm University, specialized in using a GPR of German-Russian fabrication: the EasyRad Lab Pro+, equipped with antenna of 100MHz and capable of penetrate up to 20 meters of depth.

Due to the late season and to the busy schedule of our Russian friend, we could only dedicate two days of work to this survey and for this reason we decided to speed up the work by concentrating the prospecting procedures around the two main areas where we believe the bedrock could be shallow.

As we couldn't apply the standard grid of lines, we chose to go just for a practical survey and to analyze on site the result indicated by GPR (instead to elaborate them).

At stations **a**, **b** and **c** we obtained reliable results, while at **d** and **e** the device encountered technical problem and "blanked" (probably layers of 'reflectant' material).

The three successful geophysical tests revealed extremely valuable results.

- 1) At **a** and **b** the situation is similar: the upper layer represented by glacial till is 6 meters thick and is covering 4 meters of alluvial deposition. The bedrock lies at 10 meters of depth.
- 2) At **c** sixteen meters of thick package (young alluvial deposition) derived from the erosion of piles of glacial till is covering 8-9 meters of a different type of material, more probably another paleo-alluvium. The bedrock here should be located at – 25 meters of depth.

According with these results we have now three targets to expose during the next mining season (2017). The bedrock along the first two areas could be reached with a 20 tons excavator while at **c** we will have more problems, due to the higher depth to reach and to the presence of groundwater: the only way to arrive to the bedrock there will be drilling. We have to carefully plan it during the winter.



*Boris Logutov (on the right) with Sasha Reshetov*

## Conclusions

The main goal of this first testing campaign conducted along our Zek Property, was to expose and test some bedrock or at least, to find some alluvium preserved from glacial activities. This valley during the ages has been interested by different fluvial events and most of them were probably related with gold transportation.

During the summer we excavated 9 holes with our Komatsu PC138 and we also dug by hand a bunch of pits to test along 5 hard-to-reach areas.

Unfortunately no one of these cuts exposed bedrocks or portions of undisturbed alluvium.

During our days of testing we ended up to constantly digging into a thick mantle of glacial till which is covering the entire property (see map of surficial geology in the previous pages).

Some of our pits (1, 4, 8 and 9) revealed a fluvial related layered deposition, mostly made by well rounded clasts, which are part of a 'modern alluvium', and, once again, these layers are the result of a fluvial erosion done along the thick packages of glacial till located on the east margin of Zek Property (where the Klondike Highway runs).

Basically we didn't uncover nothing new, contrarily to our hopes: we dug over and over in the same glacial related material, just re-arranged here and there by the modern watercourses.

The amount of fine gold that we recovered by sluicing and panning (sometime in very noticeable quantity) is only the product of periodical actions of erosion and re-concentration. This gold is glacial related and coming from out of the Klondike Plateau.

The positive note is that we proved that along certain areas the fine gold lies in noticeable quantity and there is potential for profitable concentrations.

During this first testing campaign we also recorded the wide extension of this fine gold distribution.

However, our target was to expose and to test the bedrock for coarse gold and we didn't achieve it.

By the very end of the season, a geophysical survey revealed us the depth of the bedrock along three locations scattered in two different areas: at 10 and 25 meters.

During the winter we will plan a new expedition, this time we should be more able to reach those important targets. We will try again during the summer of 2017.

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