Placer gold exploration in the

Yukon Territory

TARGET EVALUATION CAMPAIGN AT VAL PROPERTY (CLEAR CREEK).

(Map 115P12)

June - September 2015



by Sandro Frizzi, geologist and prospector

Introduction:

During the springtime of 2012 we started prospecting the lower end of Clear Creek, from the bridge located along the Klondike Highway (≈3 km from its mouth), to a few kilometers upstream.

The decision of targeting this particular area came after a research dedicated to the underexplored sections of this watershed.

Clear Creek was one of the major placer gold producers of the Yukon and is probably the most underexplored among the historical goldfields.

While examining satellite images, our attention was catalyzed by signs of potential benches lying along both sides of the lower part of the creek.

This is an area, which has been traditionally avoided by prospectors due to evidence of deep bedrock (lies in the middle of the Tintina Trench), where the dynamics of the valley have been complicated by the presence of the Tintina Fault.

It's also indubitable that a huge amount of gold coming from Clear, Zinc and Barlow Creek, has been travelling and consequently depositing somewhere along this lower section of Clear Creek. Since the beginning of our research we were aware that this is a long, wide stretch of thick

gravel deposition, and represents a big challenge for the research of placer gold.

Nevertheless, the pot on the table is definitely big and we decided to move on a play of our hand: we will work to intercept the pay streak hidden across this extended valley.

In June of 2012, during a few days of preliminary expedition, with great surprise, we started to find a lot of evidence of prospecting and small mining activity, distributed along the entire area. These signs from the past evidently belong to different ages and today are represented by barely noticeable remains of hand-dug trenches, pits and piles of tailings.

The oldest of these work-sites are covered by spruces of 80+ years old.

There are also more recent signs of tests done with heavy equipment, concentrated along the old/abandoned road that runs along the creek (in 2014 we fixed and cleaned that road which is now in excellent condition).

We recorded trenches done by dozers, probably during the 70s-80s and test pits done by excavators, apparently in the late 80s. The majority of these pits are still open and have never been reclaimed.

The scarves of human activities are definitely more than what we were expecting!

All these old work-sites are randomly distributed along the floodplain and up the hillside located on the right side of the creek.

The random distribution of those is proof of the attempts of the miners to locate a precise area to target (this floodplain is definitely huge). Not an easy mission.

It's also evident that these old-timers were encouraged by some kind of gold discovery: there work has been done persistently and with great investments of energy.

We decided at first to start panning the loose material coming from old pits and trenches and we started immediately recovering small flakes of gold (colors), the first ones just a few meters away from the Klondike highway.

We recovered just fine specimens rarely larger than 2mm, extremely flattened and light, similar to the ones commonly panned from the gravel-bars of the Stewart River and along the McQuesten (which are our neighbors and part of the same flat).

In several days of testing we collected mostly small amounts of colors, but in some cases we panned some noticeable quantities (>20 per pan).

During this first campaign we only used hand-tools (picks shovels and pans) and we prospected roughly two dozens of old-sites scattered throughout the area (4 kilometers upstream the creek by 300-400 meters of distance from the baseline).

We found traces of gold at the majority of the sampled stations.

The extension of this superficial deposition of fine gold is definitely impressive!

After this preliminary exploration we decided to stake 3 miles of prospecting lease and to plan further testing, this time with heavy equipment.

In 2013 we could only dedicate less than two weeks of exploration to this project. With the help of an excavator Komatsu PC 138 we decided to test this fine-gold deposition through the depth.

We also tried to reach some bedrock along the property in order to find coarser gold.

We managed to recover the fine gold from different layers, up to the maximum depth allowed by our excavator: 5.5m.

In some of the new pits, where we dug through layers of bigger boulders (25-40 cm), we recovered exciting quantities of colors, however still far from be profitable.

During the very last days of this short campaign, after failing to find signs of bedrock (way too deep for our medium-size excavator), we decided to go looking for benches along the hillside located on the right side of the valley. By the end of the very last day of digging, after being frustrated by a persistent, thick coverage of glacial till (mostly sand with minor gravel and few cobbles), we uncovered what appeared to be the remain of an ancient fluvial (or glacio-fluvial) deposition.

This deposit of coarse/layered gravel is thick enough to require way more work than what we could have possibly done during this last day of our exploration season. That was an exciting discovery, occurred too late in the season.

We decided to finish the job in 2014 and we staked 39 claims (the Val Property) along the plateau.

The summer of 2014 has been very busy for our crew, as we were testing Big Creek and Bell Creek, but we managed to dedicate few days of work to our new Val Property. In September we went back to the discovered bench on the plateau. In short time we exposed big part of that deposition, but the deepest section (the most important) still remained cover by the glacial till. This deposition became more complicated to classify (see the description of pit 28 on chapter 7). We tested the cut for gold at several depths, without significant results.

Once again we couldn't manage to expose the lower part of the deposition, until the bedrock: the cut has been made along the eastern, steep edge of the plateau and it will require much more work to be completed (the road has to be destroyed in order to dig further down and a new road has to be built at lower elevation in order to move the excavator few steps down the hillside).

Too much work for this short exploration campaign: the project was postponed.

That was it for the summer of 2014. While driving the excavator back to the highway we dug few new pits along the floodplain to test during the season of 2015.

The past summer of 2015 has been entirely dedicated to test along Val property at Clear Creek. We are still chasing two main targets:

Reach some bedrock to possibly verify the existence of the most wanted of our targets: an expected rich deposition of coarse gold belonging to Clear Creek, Barlow Creek and Zinc Creek.
Try to evaluate the extension and the value of the fine gold deposition of glacial origin, and

possibly try to find profitable layers to mine.

To prepare this expedition we invested our winter in planning, studying and preparing the right equipment: a towable sluice with special robber matting (custom designed for fine and ultrafine gold recovery); a powerful hydraulic auger-drill with 8 inch rods and carbide bits (the drill is mounted on a mast attachment, specifically made for our Komatsu); a 6 tons excavator (John Deere 60D), light, powerful and easy to move around the soft ground, to feed the sluice.

From June to September we performed an extensive bulk-sampling and we drilled all along the Val Property.

The results of our work are in the next pages of this report.

Sandro Frizzi

1 Location of Val property, at Clear Creek

The Val property is visible on **map 115P12** and is located along the lower part of Clear Creek, 3 km upstream from its mouth.

What we named "Val Property" consists in 48 claims (Val 1-48) and a prospecting lease of 3 miles (ID01103) which will be converted into 32 claims before the 27th day of May 2016 (expiring day).

The claims have been registered at the Mining Recorder Office of Dawson City under the name of the Yukon Exploration Green Gold Inc., a company owned by Mc3 (German enterprise with the 33%), by Mr. Bruce McArthur (33%), and by Mr. Sandro Frizzi (34%). The President of the Y.E.G.G.Inc is Mr. Joerg Lotz.

The 3 miles of lease ID01103 are recorded under the name of Sandro Frizzi.

The property lies on the east side of the Klondike Highway, 137 km south of Dawson City and 58 km north of Stewart Crossing.

An existing secondary road, unpaved, is connecting the claims to the highway.

This road is in good condition and can be driven with trucks or with heavy equipment.



2 The Property

Map 115P12

Scale 1:40,000



The property: 48 claims and 3 miles of lease: 675 hectares (1,667 acres).

3 Workers at Clear Creek

Here is the list of those who contributed to the testing campaigns of 2012-15 at Clear Creek. Many other friends, too many to be listed here, helped us during these years:

- **Bruce McArthur**, businessman and farmer from Trochu, Alberta. Bruce is an excellent operator, a truck driver and an expert of heavy-duty equipment. He's one of the directors of our company and he also participated in several expeditions at Bell Creek and at Big Creek.
- **Joerg Lotz**, civil engineer from Germany and president of Y.E.G.G.Inc. and Emc3. For the past 4 years Joerg has been working in the gold mining industry of the Yukon with excellent results. He performed and conducted a big part of the testing campaign of 2015.
- **Sandro Frizzi**, geologist and prospector from Dawson City. He spent years exploring several goldfields across the Yukon. Sandro organized and supervised this target evaluation campaign since the very beginning.
- **David Algotsson**, miner of Dawson City with years of experience as an operator. David worked with us in 2013-2014.



From left: Luca, David, Roy, Joerg, Sandro and Bruce

4 Equipment

Here is the list of the equipment used at Clear Creek:

- Excavator on tracks Komatsu PC 138. This is a 14-ton piece of equipment with a strong engine and the possibility to dig up to 5.5m of depth. We equipped this excavator with an auger drill on mast attachment. This drill is extremely powerful and use 8" rods with special carbide bits. And excellent tool!



- Excavator John Deere D60. A small/big excavator with great power and low fuel consumption. We used it to dig along the floodplain and to feed the sluice. We also managed to build new roads with it!



- ATV towable wash plant equipped with special robber matting for fine gold recovery. This is a great unit: heavy duty and light enough to be moved around

with a quad. It uses a 2" water-pump. This plant can wash 3-5 cubic meters per hour.



- Three 4x4 trucks (GMC Sierra, Ford F150 and Ford 350) with trailers for the transportation of gears, ATV, and washplant.
- One truck Volvo 18 wheels, with low-bed trailer for the transportation of the excavators.
- Two ATV (Kodiak 600 and Honda Fourtrax 300) with trailers.
- 1 Atco trailer, two 2"water pumps, 1 generator, 1 welder 1 highbanker for handtesting, 1 chainsaw, 1 air-compressor, 2 GPS, compasses, tools (picks, scratchers, portable auger-drills, shovels), stoves, water filters, shotguns, coolers, radios, phones and a standard first-aid package.



Our camp at Clear Creek

5 Locations of pits and drill-holes

Scale 1:40,000























UTM

Easting

Northing

Test-pits

Pit1	370753	7058516
Pit2	370768	7058521
Pit3	370799	7058534
Pit4	370782	7058733
Pit5	370848	7058913
Pit6	371009	7059005
Pit7	370944	7059326
Pit8	371051	7059638
Pit9	370967	7059854
Pit10	370981	7059854
Pit11	370968	7059907
Pit12	370962	7059993
Pit13	370933	7060004
Pit14	370868	7060093
Pit15	370880	7060095
Pit16	370890	7060099
Pit17	370890	7060150
Pit18	370861	7060309
Pit19	370981	7060450
Pit20	370777	7060523
Pit21	Beside 20	
Pit22	370921	7061482
Pit23	370995	7061507
Pit24	371002	7061428
Pit25	371596	7062117
Pit26	Beside 25	
Pit27	371572	7062248
Pit28	371521	7062369
Pit29	371558	7062506
Drill-holes		
1	370609	7058372
2	370635	7058377
3	370784	7058522
4	370814	7058693
5	370760	7058854
6	370837	7061347
7	371087	7061551

8	371243	7061848
9	371507	7062437
10	370811	7060525
11	Beside 10	
12	370827	7060520
13	370851	7060517
14	370869	7060573



End of a working day

6 Test-pits description

Pit 1: at UTM 370753-7058516.

3m x 8m x 1.8m (depth). Groundwater at – 120cm.

Below the organic coverage (50cm) it immediately starts to be alluvial sediment composed of sand, gravel, pebbles (the picture is showing a representative mix from this pit) and minor cobbles toward the north end of the trench. They all are well rounded. We panned along the trench and found few flakes of gold where



the boulders start. We decided to target these boulders and to dig another trench in the immediate proximity: pit 2.

From a close examination of the wide variety of rocks here represented, it is easy to record the long travelling of the majority.

Pit 2: at UTM 370768-7058521.

5m x5 m x 4m (depth). Groundwater at -100cm.

This pit is practically an extension of pit 1, toward the coarser deposition. The percent of boulders is increasing (see picture) and so is the amount of gold recovered. We performed here a quick bulk-sampling with noticeable results (see the chapter "Gold"). This is a typical gravel-bar deposition where pit 2 remains at



the tip of the deposition (coarser material = higher energy = more gold) and pit one is located in the middle of the same bar (smaller rocks = less gold).

To determine with precision the amount of gold deposited in this layer of gravel is practically impossible: these pits are near by the creek (\approx 30m) and the presence of groundwater make the fine gold recovery extremely difficult.

This gold is also extremely flattened and floats away from the sluice as soon an excessive amount of water is pumped into the sluice.

Pit 3: at UTM 370799-7058534.

3m x 3m x 2m (depth). Groundwater at -80cm.

This one has been dug in the neighborhood of pit 2, in order to look for big cobbles. We found only sand, silt, fine gravel and pebbles: not enough energy for a gold deposition. No specs in the pan.

Pit 4 : at UTM 370782-7058733

4.5m x 4m x 4.5m (depth).

We dug it at the beginning of a dead meander and, under a small coverage of overburden (<70cm), we exposed a high-energy type of deposition (cobbles) where we recovered a conspicuous quantity of fine gold (similar to what happened at pit 2).

Note: at this time we can't produce a precise evaluation of the gold recoveries, as we still don't know the rate of loss of our wash plant.

To shoot out numbers while dealing with this type fine and ultrafine placer gold it will be simply inaccurate and unprofessional.

The gravel-bar depositions are still delicate matters to evaluate and out in the field it's almost impossible to perform reliable estimations of the losses (the small flattened flakes, swept away from the water-flow, are often travelling too far away from the tailings to be checked).

This type of calculation is still a challenge for expert mining-engineers and it requires time and sophisticated equipment to perform a serious evaluation.

For the moment we're happy to observe that the gold recovered from some of these pits definitely deserves a serious consideration.

Pit 5: at UTM 370848-7058913

3m x 5m x 4m (depth).

It has been dug toward the upper part of the same ancient meander of pit 4, this pit intercepts a medium-low energy type of deposition. Still allowed us to recover few tiny specs of gold by panning the coarser gravel

Pit 6: at UTM 371009-7059005.

4m x 6m x 3.5m (depth). Groundwater at -80cm.

We dug right beside an existing old pit, just to test the intuition of the old-timers for these types of deposits (see picture).

We recovered just few colors, nothing to get too excited about.

Around this area there are several old pits excavated at different times.

By the analysis of satellite images it is easy to notice that this is a crossing point of dead meanders from different old-timers The performed ages. extensive exploration campaigns along floodplain. this stretch of It's impressive to observe their ability to find the right depositional areas (...without using Google Earth!).



Pit 7: at UTM 370944-7059326.

2.5m x 3m x 2.5m (depth).No groundwater.

At this small pit we exposed silt, sand and some small gravel. It's located close to a dead meander, evidently too far from the depositional area

Pit 8: at UTM 371051-7059638.

4m x 5m x 4.5m. Groundwater at -120cm.

This pit has been dug close to the internal curve of an active meander (at the legal distance of > 30m), right where the modern deposition should be found. As expected we recovered good gold from a thick layer of pebbles and cobbles immersed in the usual matrix of gravel and sand.

The gold is represented by the usual flattened/small flakes that seem to be scattered along the entire floodplain.

Note: it must be said, however, that even when the number of the colors in our sluice is definitely great, the total weight of recovered is much less amazing.



Pit 9 -10 11: at UTM 370967-7059854.

4mx5mx3.5m – 3mx4mx3.5m – 3mx3mx3m.

Three pits dug at short distance from each other, due to significant quantity of gold that we panned from the first one.

From the satellite images it is evident that this area is another crossing point of old and recent meanders (a lot of depositional events).



The chances of good deposits are reasonably high.

In fact, when we first approached this area, we immediately noticed evidence of several mining activities attributable to different periods, to begin with the first gold rush (according with the age

of the trees growing on top of the old tailing piles).

We hand-sluiced a couple of cubic meters of material and we recovered a decent amount of gold, to confirm our expectations.

Here we used a high-banker, feed by hand-shoveling. It seems to improve the recovery of this fine gold.

Pit 12-13: at UTM 370962-7059993.

3m x 2m x 2.5m – 3m x 3m x 3m .

Two small pits dug with the only purpose to verify if our interpretation of the depositional trend through the reading of satellite images has been correct.

Both the pits have been specifically chosen in the peripheral area of two old meanders and, in theory, there shouldn't be much gold there.

In fact, we dug and tested the gravel and, from a low-energy type of deposit (silty sand, small gravel and very few pebbles) we couldn't recover any gold!

Pit 14-15: at UTM 370868-7060093.

4mx5mx4m – 4mx4mx 4.5m.

Two other pits dug with the purpose to double check the behavior of the fine gold deposition away from the expected 'good areas' of a meander. Both the holes are located outside the external bend of an ancient meander (see satellite image of pits locations). An insignificant amount of gold has been recovered from the processed material.

Pit 16: few meters NE from pit 15.

Hand pit: 1.5m x 1m x 0.6m (depth).

This is a small hand-pit dug with the intention to test the surface of a modern meander cut off by the new course of the creek just two years ago (on Goggle Earth, the picture of 2005 shows this meander still active and full of water). This newly abandoned section of the creek is now an excellent source of information regarding the latest fine gold deposition of the modern Clear Creek. This tiny pit revealed a conspicuous amount of gold (>20 colors per pan) lying up to 60cm of depth.

Pit 17: bank along the same meander of pit 16, few meters upstream.

40m x 7.5m (height).

Pit 17 is a cut into the bank done by the erosive action of the creek.

We cleaned up the cut by using our excavator. This is an interesting exposure of many different depositional layers (phases) of Clear Creek at this point. We tested all these layers by panning on site and, where the clasts are bigger than 15-20cm, we recovered the best amount of fine/flattened specs of gold. The material eroded



from this bank is the main source of the gold recovered at pit 16 (this floating gold is passing through continuous episodes of erosion and re-concentration).

Pit 18: at UTM 370861-7060309.

4m x 5m x3.5m (depth).

This pit has been dug in the middle of the floodplain and far enough from the influence of the modern creek or meanders as well.

We exposed a layer of big cobbles (\approx 20 cm) where we managed to recover just few colors.

Pit 19: at UTM 370981-7060450.

4m x 4.5m x 3m

We dug this pit by the end of a new road, built with the purpose to move the exploration toward the base-line of the creek.

In order to arrive there, Joerg spent few days of hard work cutting down trees and moving a big amount of old/dead logs with the great help of his friend Charlie.



After stripping the thick organic coverage, few cubic meters of sand, medium-size gravel and pebbles have been processed through our towable wash plant. The result was the recovery of a substantial amount of fine gold.

Pit 20-21: at UTM 370777-7060523.

4m x 3.5m x 4m – 3m x 3.5m x 2m.

These two pits, dug few meters apart, were meant to test the margin of the floodplain where a plateau rises along the right side of Clear Creek. Before the road begins to climb towards the hill, we located these two pits, beside an extended hole dug by old-timers.

In both the pits, the amount of sand increases dramatically. Two meters down we exposed layers of gravel and pebbles. The upper layer of sand is signing the boundary between the alluvial deposition and the thick coverage glacial till, which affect the entire plateau toward north.

We tested these pits by panning on site and we didn't recover gold (**note**: later in the season we found gold at drill-hole 11, just few meter toward east from here).

In regard of the old existing pit: this is a quite extended work (\approx 30m x 60m x 4m of depth); we couldn't determine the purpose of this wide excavation, which seems to be part of a small-size mining operation.



Pit 22-23-24: at UTM 370995-7061507.

4m x 5m x 5.5m. – 3.5m x 4m x 4m – 4.5m x 5m x 4.5m

These three pits have been dug along the hillside to the plateau which dominates the right side of Clear Creek. This plateau shows a roundish and smooth morphology

and is evidently covered by a thick layer of glacial till, mostly sand. The pits that we dug here are serving different purposes than the previous ones: 1) we are trying to determine the extension and the thickness of this glacial coverage, 2) we are prospecting for remains of ancient benches, 3) we are hoping to be able to uncover some higher portion of bedrock (apparently too deep along the floodplain).

At this time we didn't expect to find any good value of gold in this glacial till.

At Pits 22-23 and 24 we exposed meters of pure/medium-size sand mixed with a very minor amount of gravel and pebbles.

Note: later on, during our drilling campaign of August, we recovered gold from the glacial sand at drill-hole 7 which is located just few meters away from here. The gold is the same type than the fine one recovered from the gravel-bars along the floodplain. It seems to be a bit coarser and less flat (but we didn't recover enough samples to be totally sure about it).

Pit 25-26: at UTM 371596-7062117

 $3.5m \ge 3.5m \ge 4m - 3.5m \ge 4m \ge 4m$. These two pits are located at Belleview Point (the place deserves that name for its fantastic view on the Clear creek Valley and toward the McQuesten River).



We decided to dig here because, according with the morphology of the area, which resembles a pensile terrace, we individuate good possibilities to reach some bedrock.

The digging revealed actually an opposite reality: here the coat of glacial till is thicker than expected and it runs down the entire ridge, until the floodplain. Frustrated, we moved to the next station.

Pit 27: at UTM 406869-7087613

2.5m x 3.5m x 3.5m.

Similar situation than what recorded at pits 25-26. The only interesting observation is a significant increase of round pebbles (still mixed with sand, which remain the predominant material).

Pit 28: at 371572-7062369

30m x 10m x 6.5m (depth).

This is a cut into the hillside, done beside the road and parallel to it. It has been planned to fix the road during the summer of **2013**.

The excavation exposed accidentally few sequences of coarse gravel, buried under the usual package of glacial till which seems to form big part of this hill.

This discovery brought up the only different depositional event occurred along this monotonous side of the valley.

After removing few cubic meters of a chaotic mix of sand and gravel, suddenly appeared a deposition made by horizontal layers of moderately-classified gravel, some with signs of weak imbrications (see picture on next page).

On the surface of this deposition there is a crust of well cemented conglomerate (see picture below) made by iron oxides and much probably indicates an ancient original piezometric level of groundwater.

This hard crust probably saved this deposition from been eroded away by the glacial flows which deposited the sands that is covering it.

Since the time of its discovery we are trying to complete the cut of this hillside with the hope to arrive to expose some bedrock to test for gold.

Unfortunately the position of this cut, located along a steep hillside and the considerable vertical extension of this deposition, are slowing down our attempts. We are expecting to complete this work by the very beginning of next summer (2016).



The origins of this deposition are not totally clear at this time: glaciofluvial? Lacustrine? Outwash?

Here below are some observations recorded in our field-book during 2014-15:

- "...The material deposited, represented by well rounded clasts, appears to be classified (only along few layers), and is certainly much less chaotic than in the surrounding glacial till. The amount of sand decreases dramatically."
- "...In two of these layers there are signs of weak imbrications which show an unexpected direction of the water-flow: toward North (?). This is the opposite direction respect to the one of the modern Clear Creek.

To complicate the scenario the direction of the layers seems actually be dipping toward SE (!)."

- "...The size of the clasts definitely increases toward the bottom of the pit, where a layer of big boulders (> 50cm) has been exposed at -6.5 meters of depth. " (see picture below).
- "...Unfortunately the condition of the slope, steep and unstable, didn't allow us to expose the all deposition. In order to reach the bottom we will have to apply a different strategy and start digging from a lower elevation. To do it, we will have to build a new road below the existing one and parallel to it. The project requires an extra significant investment of equipment, finances and man power, not

affordable at this time. Still, an exhaustive exploration of this deposition could produce important results and is strongly recommended."

- "...We tested the exposed layers by panning and we recovered an insignificant number of ultrafine colors (100 mesh). It must be said that from this type of deposition we are eventually expecting to find coarser gold, concentrate on a possible presence of bedrock. No much gold should be in the upper layers."

Here below we are publishing a bunch of images regarding this particular deposition, with the hope that somebody could possibly come up with the right answer to our questions.



The cut into the hillside

Glacial till covering a different deposition



Conglomerate cemented with iron oxide



The first evidences





Digging deep into the till

Big boulders from the low layers

Pit 29: at UTM 371558-7062506

3m x 3.5m x 4.5m .

This is the last of all our pits. The purpose of it was to intercept a possible extension of the undetermined deposition found at pit 28.

Nothing interesting showed up, just a thick layer of the usual glacial till, here with a conspicuous increase of pebbles and cobbles in a chaotic mix of predominant sand.

No gold has been recovered.

7 Drill-holes description

Let's begin by saying that our drilling campaign of August 2015 didn't achieve the expected results. We decided to drill here just to reach the bedrock, somewhere along the valley (target number 1), but every attempt ended up in frustration. Our new machine, a powerful hydraulic auger with heavy-duty 8 inch rods and special bits, encountered several problems since the beginning of dealing with these terrains. Shallow groundwater, loose gravel and presence of big boulders at depth made the mission impossible.

Since the first holes became evident that the auger is not the right drill for this condition (we recently found out that same negative experience occurred to other miners: auger drill doesn't work at Clear Creek, McQuesten and Stewart River,

while is great in the frozen ground of the Klondike)!

The bedrock along this lower part of Clear obviously Creek is deep and after 20-25 feet of depth the size of the boulders seems to increase dramatically. Big part of the floodplain is interested by the presence of shallow groundwater. After 15-20 feet of



depth, the different loose materials are collapsing along the rods, to create a strong lateral pressure that reduces the rotation (the auger drill doesn't use casing).

To drill through the alluvium at Clear Creek it requires a different type of equipment: rotary + percussion and possibly reverse circulation. Casing is necessary.

We employ the wrong tool and we missed this target; simple as that!

Nevertheless, this defeat won't stop us from planning another drilling campaign (for 2016), this time with the right equipment for this ground.

Before the next season we will be looking to extend our partnership, in order to be able to finance an ultimate exploration campaign with different technical solutions and more men power (see chapter about final recommendations). For now we will analyze the results obtained by drilling the glacial till along the right side of the valley.

Although the hillside didn't revealed presence of higher bedrock, we managed to recover gold from few drill-holes. That gold is still far from indicating a profitable source, but is providing us with excellent information about the dynamics of this important glacial-gold deposition.

Hole 1: at UTM 37069-7058372.



O-1'= organic coverage; 1'-10'=sand, gravel, pebbles, cobbles (groundwater at -5'); 10'-12'=<u>layer of very</u> <u>compacted small gravel</u> <u>with fine specimens of</u> <u>gold in it</u>; 12'-17'=the size of the clasts seems to increase and at -17' the drill stops (grinded quartz has been recovered from the tip of the bit).

Hole 2: at UTM 370635-7058377

0-5'= coarse sand, medium size gravel and pebbles; 5'-8'= minor sand, pebbles, cobbles (water at -4'); 8'-12'= sand and big rocks: the bit stops (the loose material is collapsing along the rods?). No gold.

Hole 3: at UTM 370784-7058522

0-1'= organic; 1'-4'= coarse sand and small gravel (water at -4'); 4'-6.5'= sand, gravel pebbles (the ground become hard at 6.5'); 6.5'-17.5'= the size of clasts is increasing. At -17.5' the drill stops working, probably due to the presence of bigger boulders. <u>Small colors found in the little amount of sand recovered</u> (considered the presence of groundwater in the hole, this is a surprising result).

Hole 4: at UTM 370814-7058693

0-1'= organic coverage; 1'-4'= sand, fine gravel; 4'-18.5'= sand, gravel, pebbles, cobbles, probably boulders (water at -6'). Very hard, unidentified layer at -6.5'. At -18.5 the drill slowly stopped, probably due to the pressure of the loose gravel along the rods.

Hole 5: at UTM 370760-7058854

0-2'= organic; 2'-5'=silt, clay, red sand; 5'-12'= some clay, sand, gravel, pebbles (water at -6.5). at -12' the drill stopped working (pressure of clay along the rods? Wrong type of bit for these fine materials?). We decided to not insist and move on.

Hole 6: at UTM 370837-7061347

We are moving toward the plateau and we are drilling now in the glacial till. o-1'= organic soil; 1'-20'= almost pure sand, with minor amount gravel and some pebbles. After -15' the amount of the gravel increases. No water in the hole and no ice as well. This drill-hole shows a deposit of very loose materials, and these are collapsing along the rods. Around -20' the drill starts to slow down dramatically and we decided to quit drilling. Frustrated, we walked away without testing the samples (which is always a wrong move!).



Hole 7: at UTM 371087-7061551

0-17'= sand with minor amount of small-size gravel and few pebbles; 17'-22'= increase of pebbles and probably cobbles. At -17' the ground is hard to drill, then it become soft again and at -22' is hard. By the behavior of the drill (vibrating as is bumping on a hard surface), we must be on a layer of boulders. We insisted on this hole for long time unsuccessfully, and then we moved the drill few meters away, with similar results (here the drill stopped at -18'). The tip of our bit show signs of grinded rocks: we are probably finding

bigger rocks (from the behavior of the bit this shouldn't be bedrock).

This time we collect just two half-buckets (for a total of 5 gallons) of sand to test and we recovered three small flakes of gold.

Hole 8: at UTM 371243-7061848

1'-27.5'=sand, gravel, pebbles (the percent of pebbles and cobbles in the till is increasing toward the north). At -7' the ground become quite hard and at -10' is soft again. At 27.5' the drill quit rotating probably for the collapsing of the loose sediments. We panned some of the sand recovered and we found gold in small flakes. Under the microscope this fine gold is showing to be the same type of the one recovered from the pits dug along the floodplain: possibly less flattened (but we can't confirm it, due to the scarcity of specimens).



These observations are probably the only important

results of our drilling campaign. From the negative side: until this point no bedrock has been reach, nowhere along this property. With our equipment we can't go deep enough!

Hole 9: at UTM 371507-7062436

0-21.5'= Sand, gravel, pebbles. This hole confirms the increasing of the bigger clasts toward the north side of the hill.

After drill-hole number 9 we decided to move back to the floodplain for an extreme attempt to reach some bedrock. We decided to scout for bedrock in the proximity of the plateau (where the bedrock should be rising) and to find frozen ground (the permafrost represents the best condition for drilling with an auger). We will target an area with the right characteristics, located at UTM 370827-7060520.

Hole 10: at UTM 370811-7060525

O-1.5'= organic soil; 1.5' 7'=black muck (permafrost starts at -4.5'); 7'-13' sand, gravel, pebbles. At -13 the drill hit something and kept spinning for long time without going down. We moved to a new hole.

Hole 11: just few meters away from hole 10

Same pattern than at hole 10. Here we managed to reach the depth of 25' before hit something too big and hard for our drill.

From panning the recovered samples we obtained several little flakes of gold (7!). The usual gold, fine and flattened, definitely in a noticeable quantity for be coming from a 8' hole.

Hole 12: at UTM 370827-7060520

Here is repeating what's happened at hole 10: the drill stopped. We are probably in a high-energy depositional area and there are boulders at depth. The proof of



that is represented by the gold recovered in a noticeable quantity (for a drill hole) at 11. Unfortunately the presence of hard, frozen muck doesn't allow us to dig a large test-pit with the excavator.

Hole 13: at UTM 370851-7060517

0-2'= organic; 2'-6'= black muck (permafrost at -5'); 6'-19' sand, gravel, pebbles and probably cobbles (hard layer around -13'). At -19' the drill stopped against something particularly hard.

Hole 14: at UTM 370861-7060573

0-2'=organic; 2'-7'= black much (frozen at -6'); 7'-14'= sand, pebbles and probably cobbles. Ground hard since -8'. The drill stopped at-14': once again the bit is spinning but is not going down. A second attempt has been done few meters away and ended up in the same way: stop at -16'. And that was our final hole, late at night.

Geology at Val Property



cale 1:200,000

The Val property is located in the middle of the Tintina Trench, an extended linear valley covered by unconsolidated clastic deposits (silt, sand and gravel) which here runs along a SE-NW direction, toward the Alaska.

The Tintina Trench is the physiographic expression of the Tintina Fault, a great tectonic structure that on this point divides the two geological provinces of Yukon Tanana (an extended metamorphic-rocks package visible in blue on the western side of the Trench; here mostly represented by orthogneiss) from the Selwin Basin (on the eastern side: a clastic/limestone group of sedimentary rocks, where the most commons are: sandstone, shale, phyllite, grit, conglomerate, marble).

The loose coverage of the Tintina Trench belongs to the Quaternary and here at Val Property appears to be quite consistent and deep (at this time we can't really give estimation about the depth, as we didn't manage to reach any portion of bedrock during our exploration campaigns).

According with the geological map of the Yukon, the yellow stripe visible toward the northern part of the Val Property represents a bunch of outcrops composed by clastic sedimentary rocks (shale, conglomerate, siltstone, claystone) from the Lower Tertiary. These rocks have been discovered by H.S.Bostock and mapped in 1964. In that area, at this time we only recorded the presence of a conglomerate strongly cemented by iron oxides. This conglomerate appears to sign an ancient piezometric level (groundwater) in a gravel deposition of uncertain origin (see our description of pit 28 at page 30 of this report). Before the next summer we will dedicate an expedition specifically to search for the outcrops reported by Bostock. They will hopefully help us to identify an area with shallow bedrock to test for coarser gold.



View of the valley toward south (Mc Questen at the very end)

Glacial deposition

The lower section of Clear Creek, where the Val Property is located, lies on the eastern boundary with the Klondike Plateau. Consequently, it has been affected during the ice ages by marginal (still energetic) glacial activities which originate where on our days are located the valleys of Mayo, Stewart and McQuesten.

According to the map of the glacial limits published by A.Duk-Rodkin for the Geological Service of Canada, between the Pliocene and the early Pleistocene (\approx 3 Ma), huge flows of melt water occurred, passing by the mouth of McQuesten River and running through the lower portion of Clear Creek Valley. This flows carried with them a great amount of loose materials which built that thick coverage of glacial till visible on both sides of Clear Creek (especially along the right limit plateau, where is creating a divider between the creek and the Klondike Highway).

During this past summer of 2015 we tested the first few meters of this glacial till (on the right side) and we obtained interesting results: there is gold in those sands, and the samples collected are represented by small-size, light, flattened flakes similar to the ones recovered from the gravel-bars along the floodplain. That gold is indubitably the same and so is its genesis: glacial gold of secondary deposition, grinded for the long transportation.

The thick package of glacial till that dominate the right side of the Clear Creek Valley, extended for several kilometers from south toward north, is now the source of that fine and ultrafine gold, together with the other till deposited along the left side of the creek

The modern Clear Creek has been constantly eroding the hillsides covered by the till and extracting sand and gold. Then it's re-concentrating light/floating specs along the depositional areas of the many meanders visible along the floodplain.

Every meander, ancient or modern, dead or still active, is hosting different amounts of fine and ultrafine gold. Along the active meanders the gold is in a constant movement: it get eroded and removed by seasonal water flows (when snow melts) and deposited again downstream, as soon as the flow reduces its speed. Year after year.

The wide distribution of this fine gold along the floodplain and the surprising amounts recovered from many of the pits tested last summer, are witnessing an impressive richness of the sources. At the end of this fourth season of exploration we can definitely confirm the presence of a huge quantity of fine gold scattered along the valley. We are still working to the final phase of this work: to determine the existence of areas of economical value and to map them for a possible future exploitation.

During the next summer we will apply (in a small scale) the first mining attempt along this property. The idea is to pick different areas, each one measuring less than an acre, among those which showed the best results during our past testing campaigns, and start to process considerable quantities of gravel ($\approx 600 \text{ m}^3$ per site) with the intention to prove the existence of scattered zones with profitable quantities of this type of gold. That will be the ultimate test to verify if these extensive glacial-related deposition can realistically be exploited in the future by mining enterprises.



Recovering fine gold right below the surface



The blue star represents the location of Val Property.

As already mentioned in the introduction, the main purpose of our expeditions along the lower part of Clear Creek, was to search for the gold deposited by Clear Creek, Barlow Creek and Zinc Creek, along the lower section of Clear Creek Valley.

An expected great quantity of placer gold coming from the joining of three proven-rich creek, travelled for ages through this channel and today is obviously lying somewhere on the bedrock under a thick alluvial/glacial coverage.

Since the first attempts to reach a piece of shallow bedrock where start to dig across the valley (in order to intercept the targeted 'pay-streak'), we began recovering fine and ultrafine gold right below the surface. Those specimens immediately revealed different genesis and different characteristics compared with the coarser gold commonly recovered along the three creeks mentioned above. This gold is extremely flattened, it can float, and it's mostly fine or ultrafine (the flakes are rarely > 2mm). A good part (>1/4) of the colors can pass through 100 mesh ("flour gold") and it's extremely difficult to separate them from the black sand.

This type of gold is very similar to the one recovered from the gravel-bars of the Stewart and McQuesten Rivers (previously tested by us): is glacial-related gold; grinded and flattened due to the long transportation incorporated in a thick, sandy glacial till.

The glacial depositions covered the modern floodplain were successively eroded by the action of the creeks. During several processes of erosion, the fine gold has been extracted from the sands and then re-deposited downstream, often more than one time.

At every action of erosion, transportation and successive deposition the flakes of gold were grinded and hammered again, until becoming extremely thin. Along the floodplain the gold seems to be flattened to its maximum extent, while the specimens recovered from the glacial till sampled along the right side of the valley, seems to be more thick and heavy (still very flattened).



Gold recovered at Val Property (65x)



...and at McQuesten River (65x)



CONCLUSIONS

The exploration season of 2015 here in the Yukon is coming to an end. It's now time to look back at the work done during the past summer and to evaluate the quality of the results obtained.

The target evaluation campaign performed by us at Val property was chasing two main targets; both challenging and both important:

-The first one was to expose, prospect and test the bedrock across the floodplain, in order to verify an expected deposition of coarse gold coming from Clear Creek, Barlow Creek and Zinc Creek (these three rich historical creeks are joining few miles upstream from here).

-The second target was to study, test and evaluate an extensive fine and ultrafine glacial-related gold deposition individuated by us in 2012-14.

We also prospected for gravel-bars possibly rich enough to represent profitable targets for mining enterprises.

Note: To complete our work and to prove the presence of fluvial gold on the bedrock, along with discovering shallow lenses with valuable concentrations of fine glacial gold (easy to mine, they could represent an excellent "bonus"), could turn the Val property into one of the most appealing placer target of the region. That's the goal.

Easy accessibility (right along the Klondike Highway), wide mineable extension (\approx 2,000 acres and more to stake), large availability of water (with on top the possibility to re-circulate the water from the ponds located along the dead meanders) and reduced permafrost (present on the marginal areas) are the most appealing features of this property.

It will be the perfect environment for a dredging type of operation.

Let's begin talking about the negative aspects of this campaign.

How easily deductible after reading this report, we succeed only for the 50%. We missed one of the two determined targets: prospecting the bedrock.

The depth of the alluvium along the margins of the valley, away from the central floodplain where the gravel is obviously thicker, proved to be much deeper than what we estimated from the analysis of the topographic maps.

At the mouth of Clear Creek there is an outcrop that we (wrongly) assumed to be gently expanding toward our property, with good chances for shallow bedrock around the southern limit of Val Property (toward the west side of the bridge).

We also expected to find some easy reachable bedrock along the right limit slope (the eastern hillside of the plateau covered by the glacial till and emerging between Clear Creek and the Klondike Highway), where H.S.Bostock located and mapped some sedimentary outcrops in 1964.

The drilling campaign didn't help us to achieve that goal, and since the first holes the new auger-drill revealed to be the wrong tool for this terrain (see chapter regarding the drill-holes description).

We couldn't manage to pass the depth of -25 feet in any of the drilled stations (and the bedrock is definitely deeper than that!).

Our main responsibilities for this failure have been: 1) the great rush to start drilling as soon as possible; 2) an excess of optimism in our chances to detect shallow bedrock somewhere and somehow, soon or later.

Instead to stubbornly insist with the drilling campaign we should have invested in a preliminary geophysical prospection, with ground-penetrating radar at first and afterwards with resistivity (these relatively new techniques are extremely helpful but not totally reliable yet and it is always a good idea to overlap two different methods in order to avoid wrong interpretations which can result in a worst fiasco).

In our defense we must say that the availability of those services is still limited in the Yukon and requires weeks of booking in advance. The cost for two campaigns (GPR and resistivity) along a vast area like ours is also pretty elevated (> \$ 15,000 for both).

We tried to bypass this extra cost by drilling more intensively, and that revealed to be a wrong strategy.

We decided however to perform this type of exploration during the next season (2016).

For the moment we will work on the few data collected from the drilling done in August (despite the missing discovery of the bedrock, the campaign produced some other important information).

Let's now pass to the analysis of the good results.

For what's regarding the research along the deposits of fine glacial-related gold, exposed and tested during the past summer, we can actually record several positive surprises and interesting discoveries. We can definitely claim a better understanding of the dynamics relative to this fine gold deposition and we believe more than before that this huge flat encloses the potential to become an important source of gold for the near future. Here below there are some considerations, directly transcribed from our field book:

- "...The fine gold recovered from almost every dug pit, although in different concentration and not always significant (where 'significant' mean > 10 colors per pan or ≈ 0.3 gr/m³ in the sluice), shows the identical glacial-related provenience and the same characteristics to the gold deposited (under similar conditions) along the floodplain of McQuesten River and along the Stewart River.

In order to confirm these similarities we went to test two different gravel-bars at McQuesten and one along the Stewart River (along the riverside, downstream from the airport). The analysis of the specimens under the microscope is confirming our observation."

- "...These three main watercourses which are forming an extensive triangular flatland (Clear Creek, McQuesten River and Stewart River) are re-concentrating tremendous quantities of gold by cutting through thick packages of loose materials belonging to the pre-Reid glacial events. The pre-Reid till appear to be the main source for this fine gold."

- "...Through a 'modern' fluvial erosional action, the gold is constantly in movement: removed and re-deposited by seasonal floods mostly caused by melting snow (April/May). The new deposition occur along gravel-bars, narrow stretches with a very energetic depositional activity (clasts>20cm). Some of these deposits are getting enriched year after year and they can concentrate economical quantity of 'flour gold' (several extremely rich bars have been mined in the past). This means that a 'mature' deposit is more often a rich deposit (repeated

deposition). Those are our targets.

At the tip of a gravel-bar (point of major deposition), the concentration of gold can reach excellent peaks (>30 colors per pan and $\geq 0.5 \text{ gr/m}^3$ in the sluice)."

- "...We chose the areas to test by consulting satellite images, and by applying standard mathematical models for the calculation of the best depositional sections along a meander.

The fieldwork instead is proving that we weren't always right with our prediction and that the research of the right deposit is not easily applicable to mere calculation."

- "...We are meticulously processing an average of 1-3 cubic meters of gravel from every tested pit and in few occasion (pit 2, pit 4, pit8, pit 10 and pit 19) the quantity collected were considerable (≈ 0.3-0.5 gr/m³), but these numbers are not realistic as the rate of losses of our recovery system is still undetermined and probably close to the 30-50% (more than 1/4 of the colors are easily passing through 100 mesh and the larger flakes are so flattened and light that every uncontrolled turbulence of the water in the sluice, caused by the inhomogeneous behavior of the pump, is sweeping them away).

The quantities of processed gold are certainly bigger than what we are recovering"

- "...It's important to keep in mind that the gold of these type of deposits is concentrated in high-grade patches scattered along relatively small areas (usually <100m x 30m) and is only few feet deep.

Outside these depositional areas the presence of gold is close to zero, which make the main target easy to miss."

"...The volume of the pay-dirt to process is very limited and a successful mining operation requires bigger quantities of gold that the ones recovered by us at this time. We are averaging a value of \$6/m³ from the best tested areas, which is still far from been profitable but it definitely representing a strong gold deposition). We will keep working to uncover the entire extension of these areas of fine gold

concentration as we're getting more and more convinced about the possibility to find much better catches somewhere along this huge valley."

- "...Every meander (active or dead) prospected by us revealed at list one section with a noticeable deposition of gold in it.

The lower floodplain of Clear Creek is marked by a countless weaving of meanders of different ages and they all are cutting through pre-Reid glacial depositions: do they all host gold?"

"...at this point we should definitely keep going with our research!"



Gold from pit 8

Recommendations

Here there are some proposed steps to follow for a successful ultimate exploration to perform during the next season, in order to complete the work at Val property:

Regarding the research of fluvial gold and possibly paleo-channels along the bedrock:

- 1) Start with a preliminary survey done with GPR (ground penetrating radar).
- 2) Follow with a resistivity test along the same profile explored with GPR.
- 3) Drill 10 holes across the valley (each hole at distance of 70-100 meters). The locations of the drill-line will be established after the geophysical surveys. The holes will be drilled by using a rotary/percussion system (obviously with casing).

Regarding the research of valuable gravel-bars with glacial-related gold:

The only way to prove the existence of spots with a good economical value will be to apply a form of small-scale mining among some of the many potential sites scattered through this floodplain, starting from the 4-5 pits that showed the best results during the past summer, and then passing to mine new areas randomly chosen along dozens of existing meanders.

This small-scale mining should be performed along cuts with identical extension (for example: $20m \times 20m \times 1.5m$ of depth = 600 m^3 for each pit).

The recovered gold should be meticulously weighed along different sections of the same pit.

The rate of losses of the washplant has to be properly estimated in advance.

This small-scale mining operation could use a 6 ton excavator (cheap on fuel) and a 10-15 m³/hr wash plant (\approx 100 m³/day).

It will probably require two months of work for a crew of two workers but it will produce exhaustive, final answers (and hopefully some value).

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