YMIP Number: 09-094

Prospecting Report
Technical Report

Pelly River Alluvial Gold
January, 2010

Claims:
P 50559 Eagle
P 50560 HappyFish

501K Lat:62 23 35 Long: 133 53 40

Author: Jim Coates

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List of Claims
HappyFish P 50559
Eagle P 50560

Names and addresses of persons involved
Jim Coates
Martina Knopp
Don Coates
Kyle Russell
Geoff Hodgeson
Yannick Theireux

Description of Work

Pelly River Alluvial Gold

Anomalously high fine alluvial gold showings in river gravel were noticed in September of 2008 at a point bar of the Pelly River approximately 50 km downstream of Faro. Values were in excess of 30 colors per pan along an exposed cut bank.

Exploration of the area was conducted during the summer of 2009 and winter 2010. Geomorphologic analysis was conducted during the winter of 2009 to determine the potential reasons for the high gold values in this setting.

Initial reconnaissance was conducted on July 17,18, 2009 by Jim Coates, Don Coates and Kyle Russell. Test pitting was conducted by hand to supply samples for hand-panning. The linear extent of the pay gravels along the river bank was established. Sampling was then conducted on the surface at 25 m intervals to determine the aerial extent of surface pay gravels.

A Keene portable miniature sluicebox was set up, and two 1.0 cubic meter pits were excavated by hand and sluiced. Sluice water was discharged back into the test pits, which were then re-filled and reclaimed.

Table 1. Bulk Sample Test Pit Results

Pit#	Sample Volume	Colors	Colors/Liter	Height (above river)	Black Sand
1	20 l	250	12.5	0.0	1
2	20 l	550	27.5	1.0	1.5
3	20 l	360	18	1.3	3.5
4	20 l	260	13	1.5	2.0
5	20 l	265	13.2	1.8	5.5
6	20 l	265	13.2	2.0	
7	20 l	120	6	2.2	

Gold was fine and flattened, with values of 20 to 50 colors per pan (Figure 2). Average values in the upper 0.5 m strata of the HappyFish claim are 29.44 colors/pan in a group of 63 samples. Values were greater close to river level, close to 2.0 m below the level of the current alluvial plain. The bulk samples showed a much lower rate of recovery than the panning, with over 80% of values not recovered by the sluicebox. This is likely due to the hydrophobic nature of fine, flattened gold. In all cases, gold values increased towards the river level, where maximum grades of over 100 colors per pan were found. Larger flakes were found towards the river level.

A more detailed sampling program was undertaken in September 3-12, 2009 by Jim Coates and Martina Knopp. Samples were taken in a grid at 10 m intervals over the non-vegetated portion of the point bar. 0.01 m3 samples were taken at the surface, panned and the heavy mineral portions were analyzed.

A distinct pay streak was identified in the surface gravel (Figure 1). Pay extended 0.5 m from the surface then decreased dramatically. The streak was crescent-shaped, 20 m in width and 250 m in length over the gravel bar along the edge of an erosional scarp 1.2 m high (Figure 3). Values ranged from 30 to 120 colors per pan, accompanied by small garnets near the river and magnetite towards the inside of the river bend. Excavations to 0.5 m, 0.75 m and 1.0 m revealed decreasing gold values with depth. The pay appears to be confined to the upper meter of gravel in this location. Average pay for this region is estimated to be $80.00 - $120.00 /cubic meter. The values diminished dramatically towards the river edge at the point of the meander bend as well as inland. However, the pay may continue beneath the erosional scarp. High values were found on the upstream side of the meander bend along a 400 m section of river (Figure 4).

Reserves in the identified surface pay streak are roughly 2,500 cubic meters at an average of $100/m3, with a probable value of $100,000 to $250,000.

Table 2. Gold Values (Colors/pan) n=63. Average colors 29.44.

Pan Sample #	Colors/Pan
1	20
2	25
3	14
4	38
5	22
6	32
7	61
8	11
9	13
10	54
11	8
12	2
13	25
14	8
15	2
16	22
17	20
18	10
19	9
20	8
21	12
22	6
23	2
24	4
25	6
26	2
27	36
28	54
29	67
30	61
31	106
32	77
33	36
34	28
35	28
36	36
37	77
38	106
39	6
40	36
41	18
42	1

43	0
44	0
45	0
46	13
47	120
48	100
49	7
50	61
51	6
52	57
53	52
54	72
55	26
56	27
57	32
58	42
59	4
60	1
61	8
62	1
63	17

The site was characterized and the upstream portions of other sharp meander bends on the Pelly River were prospected. These results indicated higher than average concentrations of fine gold at all targeted locations. This corner is the sharpest oxbow meander bend along this section of the Pelly River. The fluvial dynamics are being further affected by a logjam cutting off the upstream part of the meander bend and a fresh bypass channel. The high gold values were found in erosional materials near the river level. Depositional sediments had very low gold values. It appears that this deposit has been uncovered by the current course of the river but not deposited by it.

This deposit may be the result of the river cross-cutting a buried ancient fluvial channel. The distribution of the gold across the meander bend plain indicates that it is likely coming from a point source just upstream of the meander bend. This appears to be 1-2 meters below the surface, almost at the current river level. The paleo-channel appears to lie at a 80-90 degree angle to the current course of the Pelly River. The best chance of a economically viable deposit is within this paleo-channel, which may require the use of geophysics and careful drilling to delineate. If gold values in this channel are similar to those discovered on the section of the exposed riverbank this may be a valuable deposit.

The decreasing values across the meander bend point bar and with depth indicate that the gold found there is likely originating from the erosional bank of the river upstream. A more detailed analysis of this is required to see if a richer deposit lies upstream.

A geophysics survey was attempted in March, 2010 to attempt to determine depth to bedrock, as well as distinguishing old river channels buried beneath alluvial silt deposits. An AGI SuperSting R1/IP Resistivity and Induced Polarization Meter using 48 m and 96 m 28 electrode cables was used. Access to the site was to be by snowmobile, however an unusually warm winter meant that the Pelly River was partially thawed in many places and unsafe to travel on. A secondary location at the mouth of Horton Creek upstream of Ross River was chosen. The geomorphic setting at this point is almost identical as the downstream site and was recommended by Bill LaBerge as a promising location for similar fine-grained fluvial placers. Sampling was conducted by using wood fires to thaw river gravels, which were then excavated and placed in sample bags (Figure 6). The samples were removed from the site and processed in Whitehorse by hand-panning. The samples yielded an average of 65 colors per pan at the upper gravel-silt contact 150 m upstream of the confluence of Horton Creek and the Pelly River. Panning 1.2 km upstream in Horton Creek revealed no traces of gold or abundant heavy minerals such as garnets and black sands.

Geophysics were performed across the mouth of Horton Creek (Figure 5). Thick river icings covered much of the ground, providing poor galvanic electrode coupling with the surface. With great effort electrodes were placed and a geophysical survey was initiated (Figure 5). A software problem with the SuperSting unit resulted in a corrupted data file and unusable geophysics images. However, the site was promising enough that four claims were staked across the mouth of Horton Creek, extending along the confluence with the Pelly River and up to the Horton Creek alluvial fan.
In all 32 person –days were spent on the Pelly River Alluvial Gold Project, with the majority worked by Jim Coates.

Bedrock Geology Encountered

During the placer exploration several interesting hardrock features were noted in the exposures along the Horton Creek Canyon. Intrusive sills and dikes were observed cross-cutting massive calcite with quartz veins (Figure 7). Extensive mineralization in and adjacent to these sills was observed and samples were taken. This area has been staked and drilled before by Allan Carlos, with high gold and silver values found in volcanic breccia. It is not currently staked, and may be a good candidate for further exploration and staking.

Conclusions and Recommendations

The Pelly River alluvial gold may comprise a massive low-grade gold deposit containing pockets of extremely high grades. Some of these deposits appear to be in paleochannels which have been cross-cut and exposed by the current Pelly River. Using a combination of detailed geomorphic analysis and the targeted use of placer-specific geophysics these deposits may be identified and delineated. The majority of the gold is extremely fine-grained and is difficult to recover using conventional sluicing or jig techniques. High-gravity centrifugal or froth-flotation separation may be necessary for complete recovery.

This type of deposit may best be mined using a combination of extremely lightweight equipment such as small rubber-tracked backhoes and high-volume pontoon-mounted suction dredges. The deposits at the mouth of Horton Creek may be mined using more conventional heavy equipment due to the proximity of the Robert Campbell Highway.

Figure 1. Pelly River 2009 Sample Map

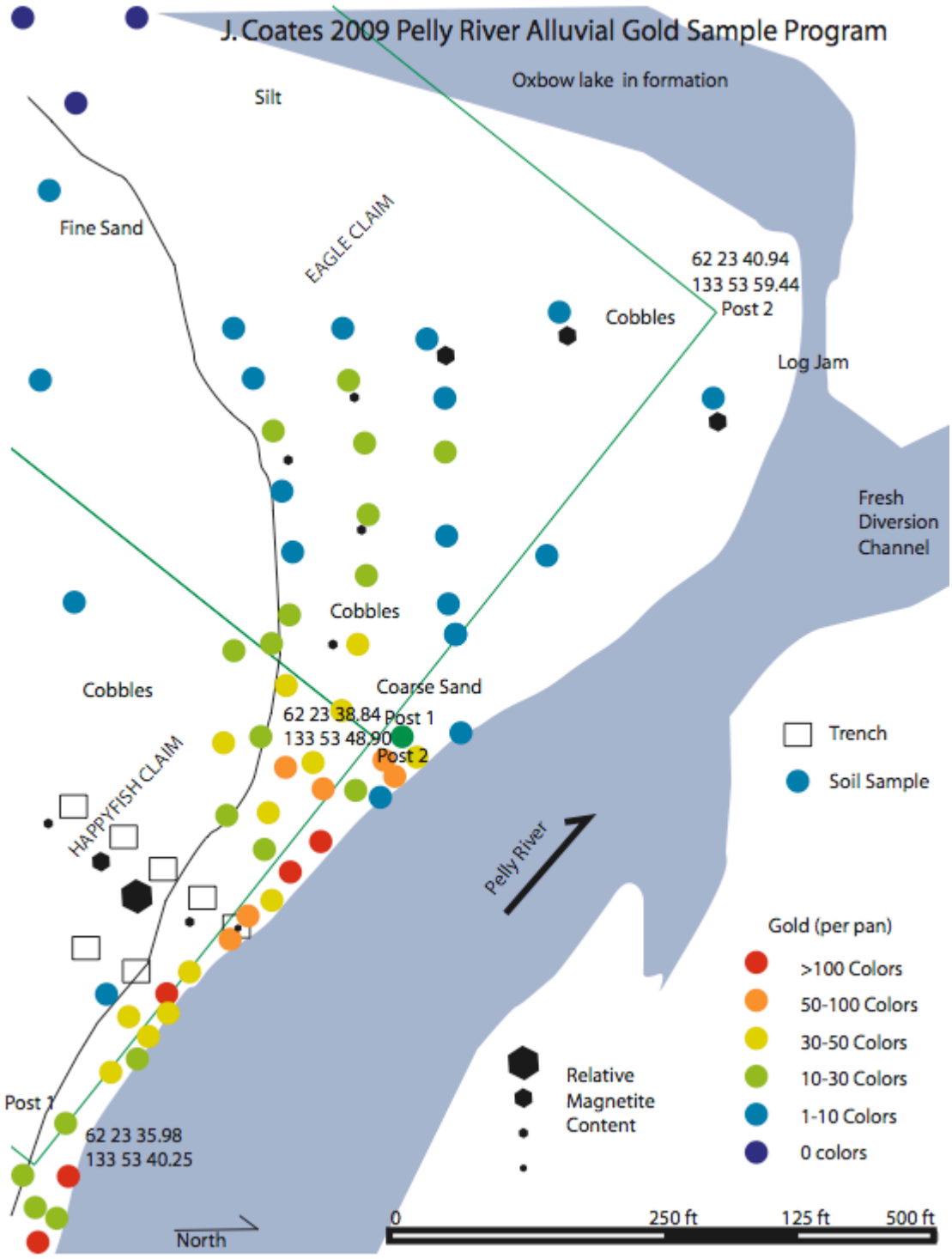


Figure 2. Typical pan showing 30-50 colors from HappyFish claim

Figure 3. HappyFish claim looking downstream from discovery site

Figure 4. HappyFish claim looking upstream towards pay source

Figure 5. Boat at initial discovery site.

Figure 6. Horton Creek Geophysics

Figure 6. Winter alluvial sampling at Horton Creek

Figure 7. Horton Creek hardrock sampling

June 25, 2009

Pelly River

8:45am
9:00am: Fuel @ Takhini Gas
11:00am: Fuel @ Carmacks
2:00pm: Launch boat @
① Faro boat ramp
Pan (2 cl/pan)

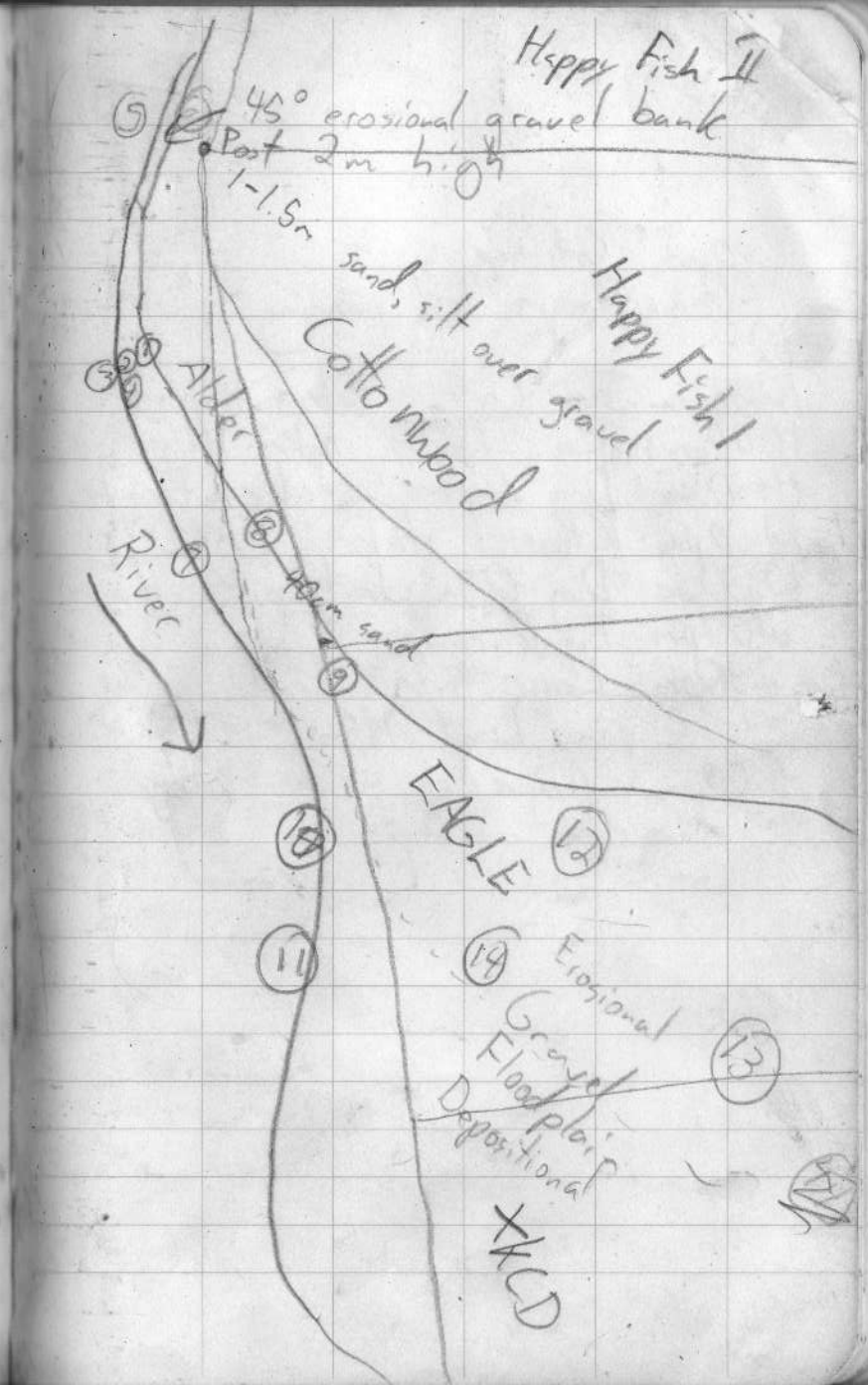
.. Bedrock on S-side exposed 2km downstream Faro
Possible nugget trap
② Pan (1 cl/pan)
(2 cl/pan)
(7 cl/pan)
③ Pan (1 cl/pan)
(3/pan)

④ Rusty sections exposed on bank - possible magnetite sand cross-channel exposures
5:15pm: Arrive at site
Pan (20 cl/pan)

Sluice 160 ℓ gravel, screened to <½". with Keene sluicebox

Recover approx 600-800 colors ~0.6-0.8 g

① silt @ top of bank 6 cl/pan
② Gravel @ silt contact >57 cl/pan
③ Gravel @ river edge >52 cl/pan
④ Gravel 1m above river level >42 cl/pan
4-5 >1mm flakes red garnets
⑤ Gravel @ water level 26 cl/pan
⑥ Gravel @ silt contact top of bank 27 cl/pan 2m above water
⑦ Gravel @ waters edge 32 cl/pan
⑧ Sluice test 160 ℓ gravel
⑨ Top of gravel beneath 40 cm silty sand 42 cl/pan
Considerable magnetite & garnet to 2mm
⑩ Edge of river depositional 4 cl/pan
⑪ " " cl/pan
⑫ Top of gravel under 40cm silt 8 cl/pan
⑬ Surface gravel 1 cl/pan
⑭ Bench gravel @ surface 17 cl/pan



8:00 am: Get up,
9:00 am: Begin test panning
10
10:30 am: Jim Coates stakes Happyfish I
11:00 am: Jim Coates stakes Happyfish II
11:30 am: Don Coates stakes Eagle
12:00 pm: K. Russel stakes XKCD
12:30 pm: Dig 0.8m test pit, sluice
2:00 pm: Break camp
2:30 pm: Leave site, head upriver in Lund 18'
5:00 pm: Arrive at Faro Bridge boat ramp

Sept 3, 2009

-Travel to site
-set up camp
-rain, cool wind

Sept 4 2009 J Coates
Pelly River Dr M. Knopp
Happyfish Claim
Overcast, 9°C
8:00 am: Get up, breakfast
Safety meeting
Check in w/ Spot
Sample @ river level
32 c/p

Begin sampling @ 150m intervals along river edge

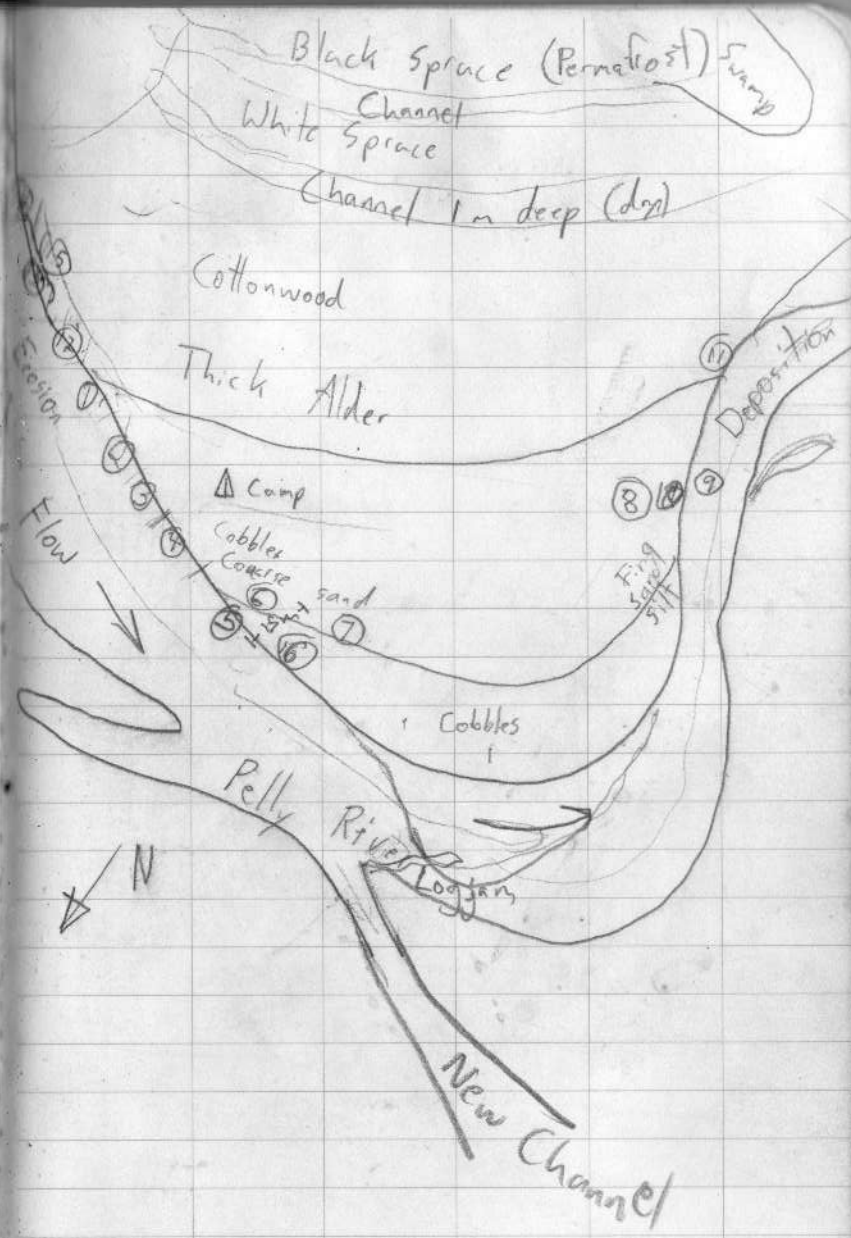
Vegetation Survey

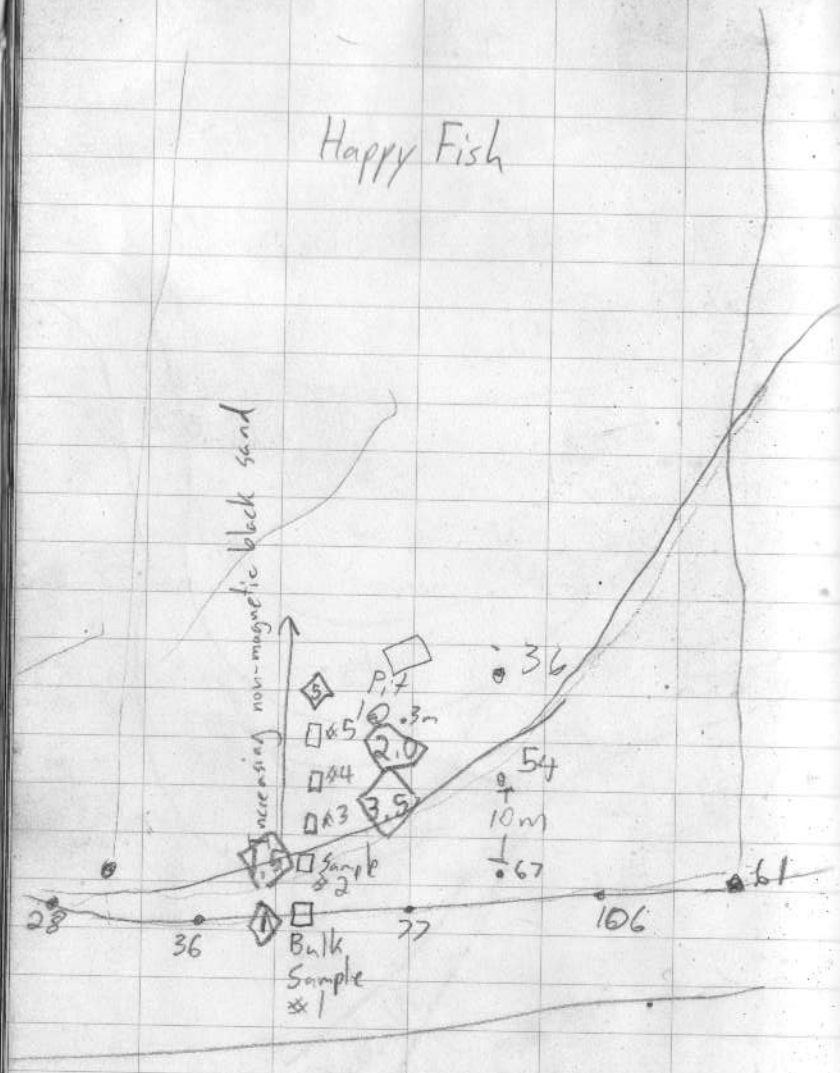
Dig 15 test pits by hand

Cut 2500 ft of line around claim boundaries

Begin excavating pit

	C/T	Counts	50m spacing
①	28	( )	
2	36	(32-40)	
3	78	(60-94)	
4	106	(106-107)	
5	6		
6	36	(34-38)	
7	18	(16-19)	
8	1		
9	0	Sand	
10	0	Gravel	No heavies
⑪	0	Gravel	No heavies
12	13		
13	120	Water level	
14	10	Water level	
15	7	Just below silt @ top of bank	
⑯	61		





Sept 5, 2009
Pelly River, Yukon
Clear, morning fog

Bulk sample testing with gold wheel.

Sample #1 @ river edge
elevation 0.
20 l screened to <12 mm
~250 large colors - 1 mag black sand

Sample #2 @ 1m above
water level. #
20 l screened to <12 mm
>550 large colors
- 27.5 c/l of gravel
- 27000 c/1000 l or m^3
- $\frac{27}{40}$ oz/m^3
- $675.00/$m^3$

25 shovel-fulls raw material
1.5 mag black sand

Sample #3
1.3m above water level
20 ℓ screened material < 12 mm
25 shovels
360 colors 3.5 mag blk sand

Sample #4

1.5m above water level
20 ℓ screened material < 12mm
25 shovels
260 colors 2.0 mag blk sand

Sample #5
1.8m above water level
20ℓ screened material < 12mm
25 shovels
265 colors 5.5 mag-blk sand
Garnets, considerable non-magnetic black sand

Sample #6 2m above ▽
20ℓ screened
265 colors
Sample #7 2.2m above ▽ =120 colors

Vegetation Survey Sept 4-

Botanicals on Happy Fish:

Wild Flowers on Flood plain
- Aster puniceus (Purple stemmed Aster) Aster
- A. ciliolatus
- difficult to ID off tuned poor

Grasses - Deschampsia caespitosa (tufted hairgrass) or Agrostis scabra (tickle grass)

Other:
- Migrating cranes - pos. sandhill, flocks of 74
- Rumex occidentalis (Western Dock) - southern end in marsh
- Flood plain birds - brown, small
- Flood plain animal tracts - moose, small bear, wolf, beaver
- Possibly caribou poo

Sept 6, 2009
Pelly River
High overcast, calm 12°C
J. Cortes
M. Knopp

Get up
Safety meeting
Reconaissance traverse to south.

Dig test pits by hand
Test screened material in gold wheel.

Excavate deep trench by hand.
All material screened for bulk sample processing

Gold grades improve towards river level.

Maximum grades of over 100 colors/pan found at river edge

Larger flakes found towards river level

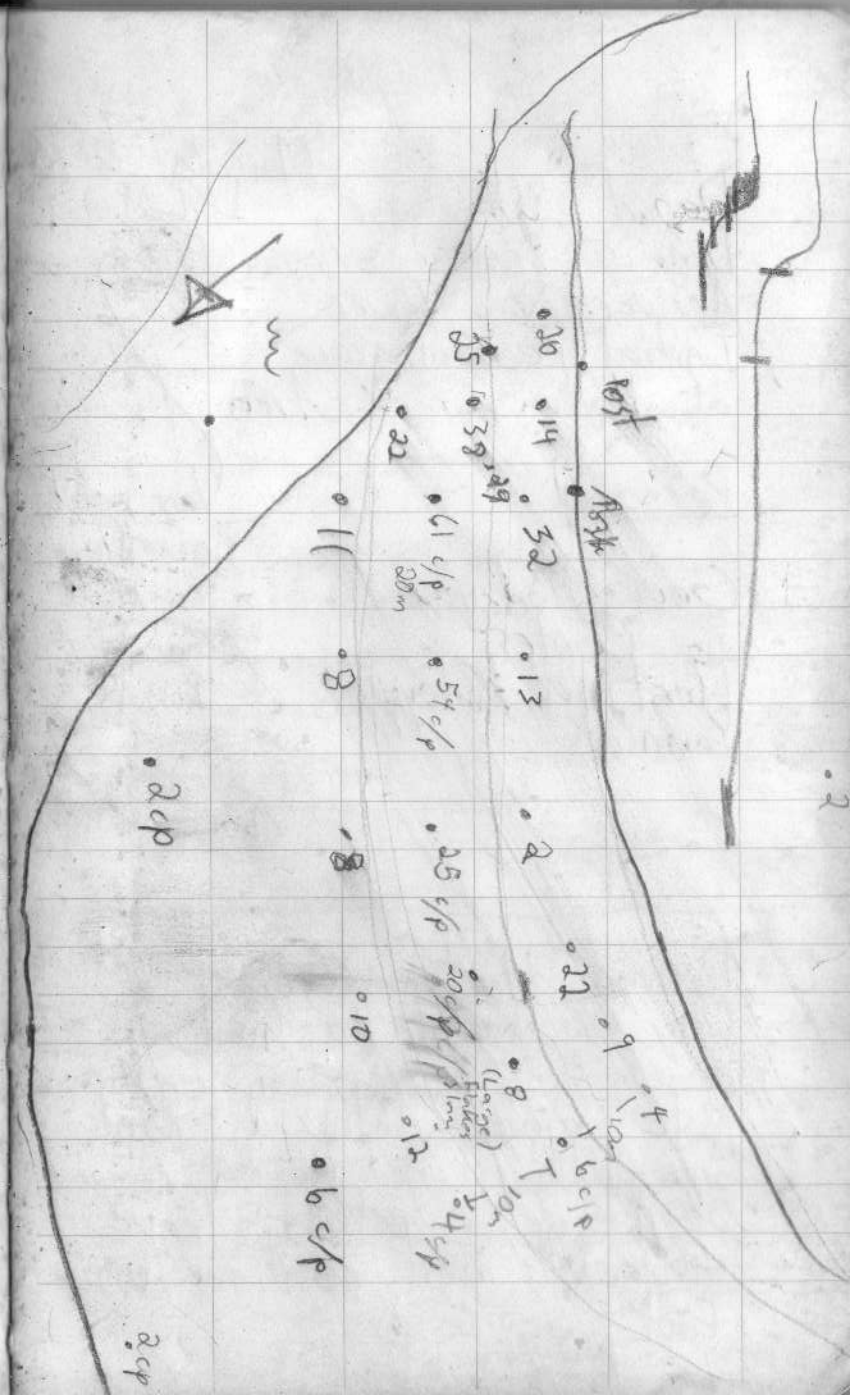
This corner is the sharpest oxbow corner along this reach of the Pelly.

There is one corner 5-8 km upstream

Sept 7 2009
Pelly River
Clear, 10°C

Spot sample along bar on Happyfish e

		62 23 35.98
HFish	Post 1	133 53 40.25
	Post 2	62 23 38.84
EAGLE	Post 1	133 53 48.70
	Post 2	
		62 23 40.94
		133 53 59.44



Sept 8, 2009

Take boat upstream, sample point ~~par~~ bars on next three major river bends

Bend #1 upstream
Average 9 colors/pan

Bend #2 upstream
Average 6 colors/pan

Bend #3 upstream
Average 8 colors/pan

No parts of bends have greater values than Happy Fish

Some bedrock exposed on north side of river above Happy Fish

Sept 9

Cut line around Happy Fish and Eagle Claims.

Refill + reclaim all sample holes.

Sept 10.

Begin cleaning up site
Further geomorphological assessment of the area.

Pack up camp, boat back up to Faro

Pan river bars on upstream trip.

Drive back to Whitehorse

Sept 10

March 19

Depart Whitehorse
Dine @ Breaburn - Arrive Faro
Arrive @ Ross River
Initial reconaissance
of Horton Creek Area

Too much overflow on river Go to Ross R.

Personnel

Geoff Hodgeson
Jil. Coates
Jorfina Knopp
Yannick

Camp

March 20

Descend Horton Canyon
Use snowmobile to haul geophysics/prospecting equipment
Note igneous intrusive dikes cross-cutting calcite in canyon
Steep ice waterfalls - leave snowmobile and continue on foot

March 21

Reach Pelly River

Start 2 large fires on river gravels

Horton Creek Alluvial fan examined

Thaw gravel - use pickaxes to break up ice + excavate 20 l of soil.

Set up geophysics across Horton Creek alluvial fan.
Take 1 set of Wenner readings
HORT01
Softwar problem
Command file error
Unable to restart
Take down geophysics
Return to camp.

March 2

Leave Camp
Walk down Horton Creek

~~Use~~ Climb canyon walls
Use hammer to collect
samples of breccia

Find hole in ice, dig
out & pan gravel from
Horton Creek Canyon
Pan gravels
No colors

Return to vehicle

Pack up
Drive back to Whitehorse

YMIP Expense Summary		
Daily Living Expenses (30 person/days @ $50 / day)	$	1,500.00
Travel		
Truck (1500 km @ $ 0. 59 /km)	$	885.00
Air (fixed wing)		
Helicopter	$	-
Other (Riverboat 200km)	$	200.00
Snowmobile (3 days @ 150/day) (Owned)	$	112.50
Snowmobile Skimmer (3 days @ $30/day) (Owned)	$	22.50
ATV Transport Trailer (3 days @ $55/day) (Owned)	$	41.25
Truck 4X4 (15 days @ $95/day) (Owned)	$	356.25
Camp Rental (15 days @ 115/day) (Owned)	$	431.25
Analyses / Assay Costs		
Assays	$	-
shipping	$	-
Equipment Rentals / Supplies ***(itemize)***		
Geophysics equipment (AGI SuperSting Resistivity/IP (25% of $800/day) (Owned)	$	600.00
18' boat and motor (10 days @ $225/day) (Owned)	$	562.50
Generator (15 days @ $50/day) (Owned)	$	187.50
Pump 2" trash (15 days @ $50/day) (Owned)	$	187.50
Drill (Foremost Minuteman) (Owned)	$	500.00
Contractors *(itemize)*	$	-
Martina Knopp (9 days @ $325/day)	$2,925	
Don Coates (2 days @ $225/day)	$	500.00
Reclamation	$	500.00
Report Preparation	$	100.00
Other Expenses ***(itemize)***	$	-
Camp / Equipment Fuel/ Supplies	$	250.00
Sample Bags / Equipment	$	25.00
Notebooks, pens, pencils, ect	$25	
TOTAL ELLIGIBLE EXPENSES	$	9,911.25