

**YUKON TERRITORIAL GOVERNMENT  
EXPLORATION INCENTIVES PROGRAM  
PROJECT 96 - 061**

**TARGET EVALUATION  
HERBERT CREEK**

**MAY 24 - NOVEMBER 15, 1996**

**TRANSVERSE MERCATOR PROJECTION CO-ORDINATES  
latitude 64° 19' - longitude 140° 41'  
PLACER CLAIM SHEET 116C-7**

**prepared by  
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## 1. Property Description

The property which we investigated is Herbert Creek, a tributary of Bruin Creek in the Fortymile River watershed. Herbert Creek enters on the left limit approximately 4½ miles upstream of the mouth of Bruin Creek. It is located in the Dawson mining district, and can be found on NTS map/ claim sheet 116-C7. The co-ordinates are latitude 64°19', longitude 140° 41'. The property covers approximately 3 miles and includes 36 placer claims, P28015 through P28048, P28303 and P28304. The area is shown on Map 1.

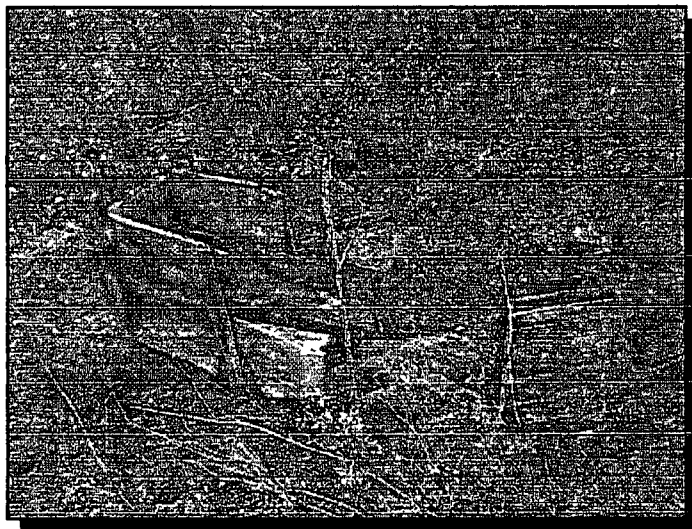
There is good access to the target location via an eight mile long bush road, suitable for four-wheel drive, which is a spur of the government maintained Clinton Creek Road. The Clinton Creek Road branches off from the Top of the World Highway.

Herbert Creek is a relatively small creek in a narrow steep-sided valley. Klondike schist bedrock outcrops can be seen along the valley rim. Surface gravel consists of slabby slide rock from the valley sides, and poorly sorted, angular, sandy gravel.

The valley is in permafrost. Vegetation consists of small black spruce with alder along the edges of the creek channel.

## 2. Summary of Previous Relevant Investigation

Herbert Creek was an active placer mining area in the early days. The entire creek was staked from its confluence with Bruin Creek to its headwaters. Many of the claims were traded and sold for large amounts of money. For example, one claim is recorded as having sold for \$5,000 in 1911, the equivalent of approximately 300 ounces of gold at that time. Herbert Creek was known as a good gold producer, and was particularly noted for its coarse gold, according to oldtimers in the Dawson area.



**Old rocker and riffles found in Herbert Creek**

There is evidence of large scale hand-mining on the creek, including numerous shafts, open cuts, and abandoned equipment in the valley. Many old camps and cabins are still evident.

We undertook a prospecting project in Bruin Creek in 1993. As part of this project we investigated the ground at the confluence of Herbert and Bruin Creeks. Using a hydraulic excavator, we dug 3 pits and 2 trenches. We obtained some colours and flakes by

panning samples from the gravel excavated, although we did not confirm an accurate grade figure.

### **3. Objectives**

The overall objective for this project was to define a placer gold deposit of sufficient size and grade to support a large scale placer mining operation. To do this we established more specific objectives as follows:

Our first objective was to thoroughly explore the creek on foot and from the air to locate and map the areas where most of the old workings are located. We were particularly interested in reports we had heard of a large steam boiler which had been used to mine the creek in the early 1930's and was said to be still on site. The ground where the steam boiler was used was said to be particularly rich.

Our next objective was to sink shafts to bedrock in the area where most of the old workings are located. The purpose of this shafting work was to enable us to sample the bedrock gravel, and also to determine the depth of the overburden and the depth of the gravel deposit. We also wanted to test for gold values in the excavated material.

We planned to run bulk samples of the excavated gravel. Because of the reported coarse nature of Herbert Creek gold; there is less likelihood of finding coarse gold in small samples, and larger samples give more meaningful results.

### **4. Equipment Used**

- To gain access to the property over the course of the project, we used: a 4x4 truck, a 4 wheel drive ATV, a river boat with a outboard motor, and two snowmachines.
- To collect and process grab samples we used: several round point shovels, and 10 inch gold pans equipped with grizzly pans.
- To sink shafts using fire to thaw the permafrost we used: round point shovels, a long iron bar, a pick, and several 5 gallon buckets.
- To sink shafts using steam we used: a steam boiler with an 8 gallon boiler and 6 foot steam point, steam hose, round point shovels, 5 gallon pails, and rope to haul the buckets out of the shaft.
- To process the bulk samples we used: A small sluice plant with a 1 foot wide by 4 foot long sluice run equipped with nomad matting and expanded metal. A portable 1½ inch pump with gasoline engine provided water for sluicing.
- To process the concentrate from the bulk samples we used: a 2 lead spiral gold wheel with a recirculating water pump. The samples were weighed using a gunpowder scale capable of weighing to 0.1 grains.

## 5. Method and Work Performed

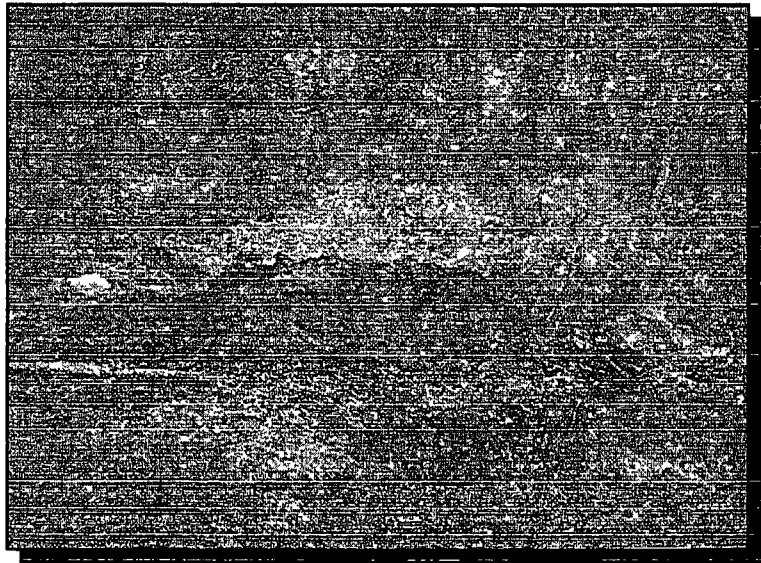
In the first phase of the project, we spent 5 days making a preliminary reconnaissance survey of the creek. We used a 4x4 truck to get part way into the property and a 4 wheel drive ATV to get to the mouth of Herbert Creek. From there we walked up the creek, sampling exposed gravels and mapping locations of previous mining activity.

We eventually found the old steam boiler. It is located approximately 500 feet up a left limit gulch, about 2 miles from the mouth of Herbert Creek. We found the remains of 5 old cabins in this general area. There are also numerous old shafts and their dump piles. There is also evidence of an extensive hillside ditch dug to direct water for sluicing or ground-sluicing.

In the next stage of the project we made a trip into the area using a river boat to travel down the Fortymile River from our mining camp to the confluence of Bruin Creek and the Fortymile River. From there we walked up Bruin Creek to Herbert Creek. This was very difficult going because there were many thick glaciers still unmelted in Bruin Creek from the previous winter. We further explored Herbert Creek, taking pans and mapping. We established a base camp near the mouth of Herbert Creek. We also brushed out a trail up the creek from the mouth to the area where most of the old workings are located.

We used a fixed wing aircraft to survey of the creek from the air. We wanted to be sure that we had not missed anything in our ground reconnaissance.

We made another trip into the property to begin shafting work. We started 5 shafts close to the location of the old steam boiler. We used wood fires to thaw the ground, and then mucked out the thawed material. We had problems with ground water seeping into the shafts, making it difficult to keep the fires burning. We decided to try using a boiler and steam point to thaw the ground, so that water seepage into the pit would not be a problem.



**Sinking a shaft using wood fires to thaw ground**

We also worked on the Bruin access road during this time, cutting out leaners which had fallen across the access road so that a 4x4 truck could transport the boiler and related gear to the bottom of the hill into the valley.

We obtained a portable steam boiler and brought it by truck to the end of the road at the

confluence of Bruin and Herbert Creeks. From there we packed it up Herbert Creek to the project area, about 2 miles up the creek. Using the boiler, we were able to sink a shaft 18 feet. We did not encounter any gravel at this depth. The 18 feet of overburden consisted primarily of black muck, with occasional thin layers of sand, which tended to slough the walls of the shaft. This overburden was laced with occasional logs and roots and other organic material, which made digging difficult. Again ground water seepage into the shaft was a problem, and we had to work quickly to stay ahead of it. Eventually we had to give up on the shaft, due to water and sloughing.

Having failed to find gravel in the shafts which we dug and because of the extensive depth of muck, we decided to do a bulk sampling program in the area near the confluence of Herbert and Bruin Creeks where we had done some previous work. The ground in this area has a shallower depth to gravel than the ground further up the creek. Our objective was to confirm an accurate grade figure for the gravel in this area. We felt that if a mining operation could be operated profitably in this ground, we could use revenue generated to explore the more difficult ground upstream.

We brought a hand sluicing outfit into the property by truck to the end of the access road. From there we manhandled the equipment to the testing sites because the brush was too thick to use the ATV. The test sluice plant is mounted on wheels to facilitate moving it. The sluice plant has a grizzly hopper with 1/4 inch holes, and a 1 foot wide by 4 foot long sluice run equipped with nomad matting and expanded metal.

We shovelled gravel from the spill piles from previously dug trenches into the plant. We used a 1½ inch portable water pump to provide water to the sluice box. We directed the water from the sluice runs into the pits the gravel was excavated from, so that there was no discharge to the creek. We processed 3 bulk samples of 1½ cubic yards each and 1 sample of 2 cubic yards. We cleaned up the sluice runs after each bulk sample. We washed out the nomad mats and stored the concentrate which we obtained in clean 2½ gallon pails. Because we were not able to get the ATV close to the test site, we decided to leave the concentrate and the equipment used on site until we could get to the area after freeze-up using snowmachines.

We returned to the test site after the creek had frozen in late October. We used snowmobiles to haul the pails of concentrate to our camp. We processed the concentrates in our clean-up room using a spiral gold wheel. We weighed the gold which we recovered from the samples using a gunpowder scale. We calculated grade estimates for the deposit using the weight of gold which we had recovered from the bulk samples.

Our work locations are shown on **Map 2**. **Map 3** shows the location of the shafts we dug, and **Map 4** shows the location of the bulk samples which we took.

## **6. Results**

Results of hand sampling revealed the presence of gold in samples taken from areas where bedrock outcrops and rounded gravels were found. In most of the creek, surface gravels are angular and slabby. This angular gravel, probably slide rock from the

hillsides, did not yield any gold. Results of our grab samples can be found in Table 1. We didn't plot these samples on the map as they are not particularly noteworthy.

We found the steam boiler which we had heard was in the creek, and confirmed that this area had been extensively hand mined. This area looked promising because of the numerous old workings. The size of the old dump piles indicates that the miners were probably not drifting out their shafts, so there is likely to be considerable gold still remaining on bedrock.

Unfortunately, we were unable to reach gravel in our shafting work due to the deep overburden of frozen muck which was complicated with water seepage. We found 18 feet of black muck mixed with some clay in our deepest shaft. The dimensions of our excavations can be found in Table 2.

The bulk samples which we processed yielded good results in the area at the confluence of Bruin and Herbert Creeks. Grade figures range from 70 yards to the ounces to 120 yards to the ounce. We assume that the purity of the gold is similar to Bruin Creek gold which has previously been assayed at 82-83%. Results from these bulk samples can be found in Table 3.

## **7. Conclusions and Recommendations**

We were somewhat disappointed with the results of this project. Because we were unable to reach bedrock in our shafting work, we couldn't evaluate the placer gravels in the area of the creek where we found most of the old workings. The fact that we did find the overburden to be more than 18 feet deep is not particularly encouraging. This depth of overburden does not preclude a profitable placer operation, but it would add considerably to the expense of mining the area. It should be noted however that if old timers were willing to work this very difficult ground, it must have been worthwhile for them.

The bulk sampling which we did at the mouth of the creek yielded good results. This deposit of approximately 15,000 cubic yards represents minable ground at current gold prices. We expect that surrounding ground would add 150,000 to 200,000 more yards to the reserves in the confluence area of the creek before the valley narrows; this ground probably has similar values to the area which was tested, although this is not confirmed.

The creek has been designated as a Type 4 creek, which means that it does not have significant value as a fish stream. For this reason it would be easy to mine from a regulatory perspective. There is a good access road to the property, further adding to its attractiveness for development.

We believe that this creek has good potential, based on our own bulk sampling results and on the existence of extensive old workings which we found. The depth of the overburden in the area where we carried our shafting work indicates that mining costs would be relatively high. For this reason, we recommend that through exploration work be carried out on the property prior to implementing a mining operation. Drilling the property would give information on the depth of the overburden and depth of the gravel layer; however evaluating the gold content of the gravel may not be accurate if the gold is coarse and unevenly distributed as it is rumored to be. The ground at the mouth of

the creek could be mined profitably to help offset costs of testing further upstream and to establish a foot hold in the area.



**TABLE 1  
RESULTS FROM GRAB SAMPLES**

<b>SAMPLE #</b>	<b># OF COLOURS/ COMMENT</b>
1	0
2	0
3	0
4	0
5	0
6	0
7	0
8	0
9	0
10	0
11	0
12	2 large flakes, bedrock outcrop
13	3 large
14	0
15	0
16	0
17	0
18	1 fine
19	0

<b>SAMPLE #</b>	<b># OF COLOURS/ COMMENT</b>
20	0
21	0
22	0
23	0
24	1
25	5, inc. 3 flakes
26	0
27	0
28	0
29	0
30	1 fine
31	3 large, thick colours, bedrock
32	4 large, bedrock
33	0
34	0

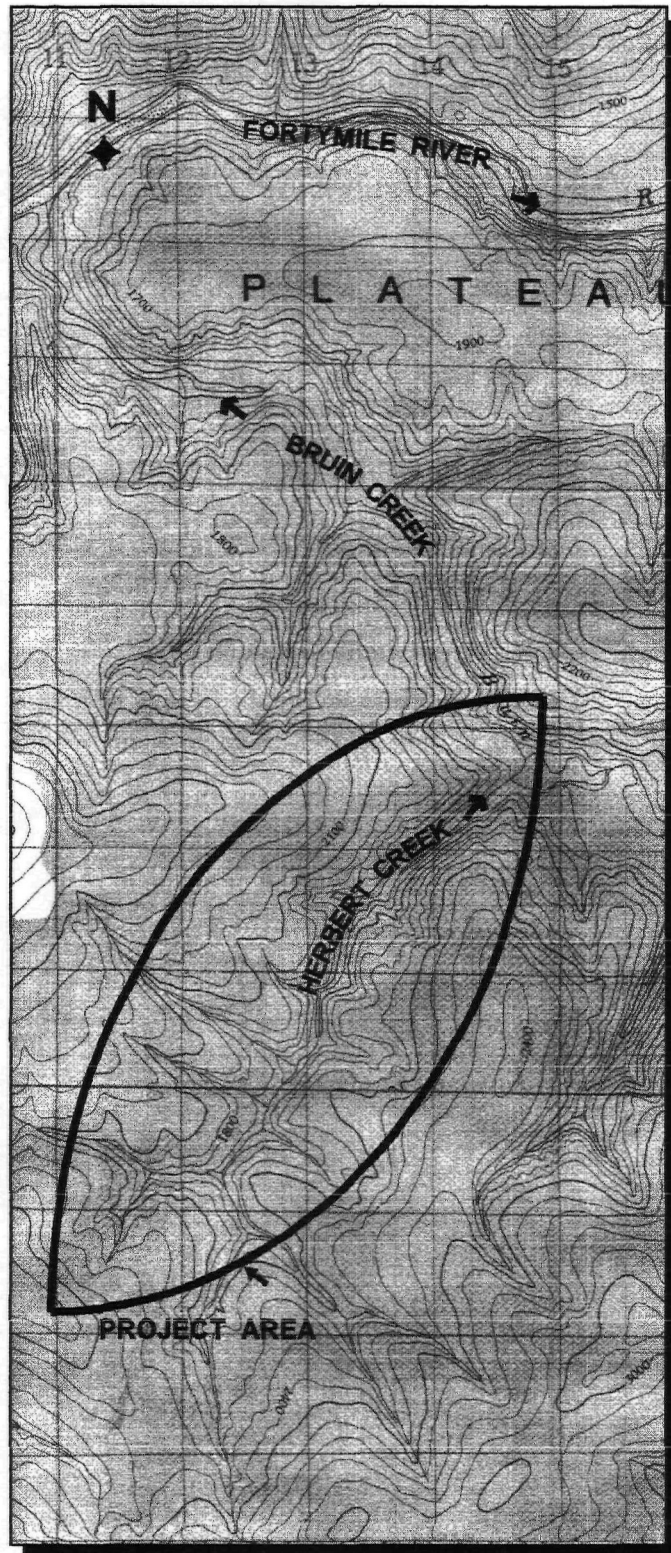
**TABLE 2  
DIMENSIONS OF EXCAVATIONS**

<b>SHAFT #</b>	<b>LENGTH in ft.</b>	<b>WIDTH in ft.</b>	<b>DEPTH in ft.</b>	<b>VOLUME in yd<sup>3</sup> (approx.)</b>	<b>COMMENTS</b>
<b>1</b>	<b>5</b>	<b>4</b>	<b>6</b>	<b>4.5</b>	<b>frozen black muck</b>
<b>2</b>	<b>5</b>	<b>4</b>	<b>7</b>	<b>5</b>	<b>frozen black muck and clay</b>
<b>3</b>	<b>5</b>	<b>4</b>	<b>4</b>	<b>3</b>	<b>frozen black muck with ice lenses</b>
<b>4</b>	<b>5</b>	<b>4</b>	<b>5</b>	<b>3.5</b>	<b>frozen black muck</b>
<b>5</b>	<b>5</b>	<b>4</b>	<b>2.5</b>	<b>2</b>	<b>ground water seepage</b>
<b>6</b>	<b>5</b>	<b>4</b>	<b>18</b>	<b>13</b>	<b>frozen black muck mixed with some clay layers, no gravel</b>

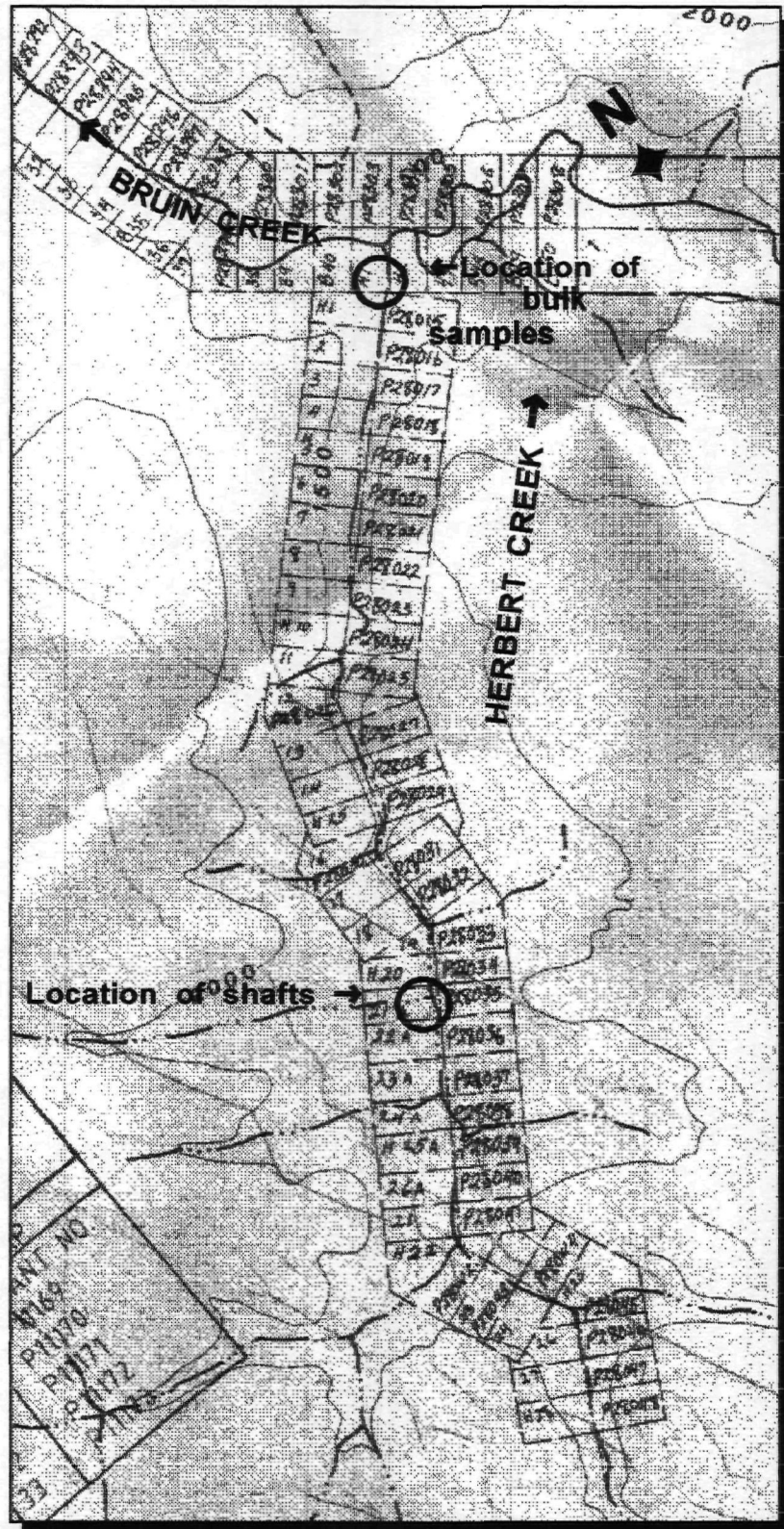
**TABLE 3  
RESULTS OF BULK SAMPLES**

<b>BULK SAMPLE #</b>	<b>VOLUME PROCESSED in yds.<sup>3</sup></b>	<b>GOLD RECOVERED in grams</b>	<b>VALUE in yds<sup>3</sup>/oz</b>	<b>COMMENTS</b>
1	1.5	.67	70	many large colours, one small chunk
2	1.5	.45	103	garnets and flakes, lots of black sand
3	1.5	.39	120	coarse sized orange- coloured gold
4	2	.64	97	lots of black sand, flakes are thick

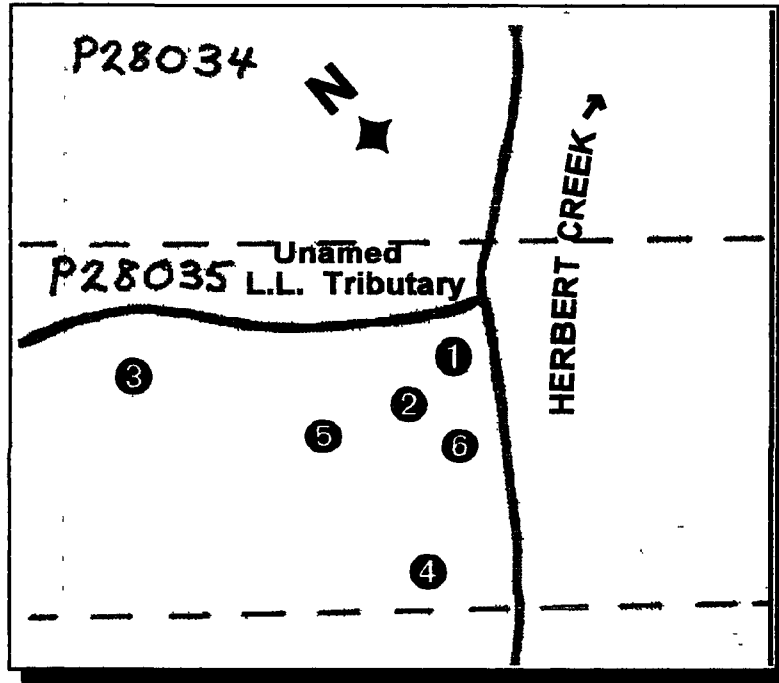
**The average value of the ground tested is 98 cubic yards to the troy ounce.**



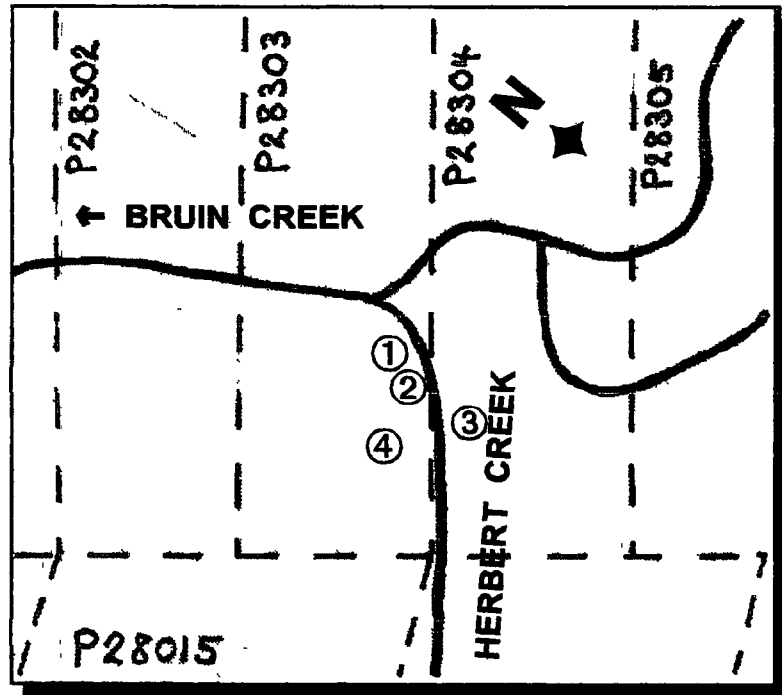
**Map 1 - Property Location**  
**NTS Map 116-C7**  
**scale 5 cm = 3 km**



Map 2 - Work Locations NTS Map 116-C7  
Scale 3.5 cm = 1 km



**Map 3 - Location of Shafts**  
Scale 2 inches = 500 ft



**Map 4 - Location of Bulk Samples**  
Scale 1 inch = 500 ft

**Additional Information**

**People who worked on the Project**

Leslie Chapman	Dawson City, Yukon
Bill Claxton	Dawson City, Yukon
Eric Nelson	Dawson City, Yukon
Titus Charlie	Dawson City, Yukon

**Preparation of the report**

This report was prepared by Leslie Chapman.

**Property Investigated**

The property investigated consists of 36 placer claims, **P28015 through P28048, P28303 and P28304.**