

**VLF-EM PROSPECTING REPORT**

on the

**PINE CREEK PLACER CLAIMS**

**Tenure #746362**

Located in the Atlin Mining Division

NTS Map 104N/12E  
Latitude 59°35'N, Longitude 133°34'W  
UTM Map 104N.053



Report by

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Prospector

Exploration and  
Development Work  
Recorded 2011/Nov/01  
Event #5119867

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### APPENDIX:

History

A Golden Loaf

Gold Gold Gold

MinFile No. 104N030 Pine Creek

## **PINE CREEK PLACER CLAIM**

### **SUMMARY**

Pine Creek in the Atlin area of northern British Columbia has been a major producer of placer gold. The main ore zone or gold-bearing gravels appear to have faulted off immediately upstream from this claim.

The pay streak appears to follow the old Surprise Lake Fault. In recent times this fault zone has been offset by recent intrusions.

This VLF M-16 Survey attempts to find the continuation of the Surprise Lake Fault and it appears that the fault zone has been located. Next we need to define the zone along its strike and across the claim.

### **CLAIM INFORMATION**

The property is located in the Atlin Mining Division and consists of one placer claim staked pursuant to the current computerized staking.

Tenure Number I.D. 746362, Pine Creek Bolder Pile. The placer claim consists of five cells totalling 81.95 hectares. There is considerable overlap with adjoining claims.

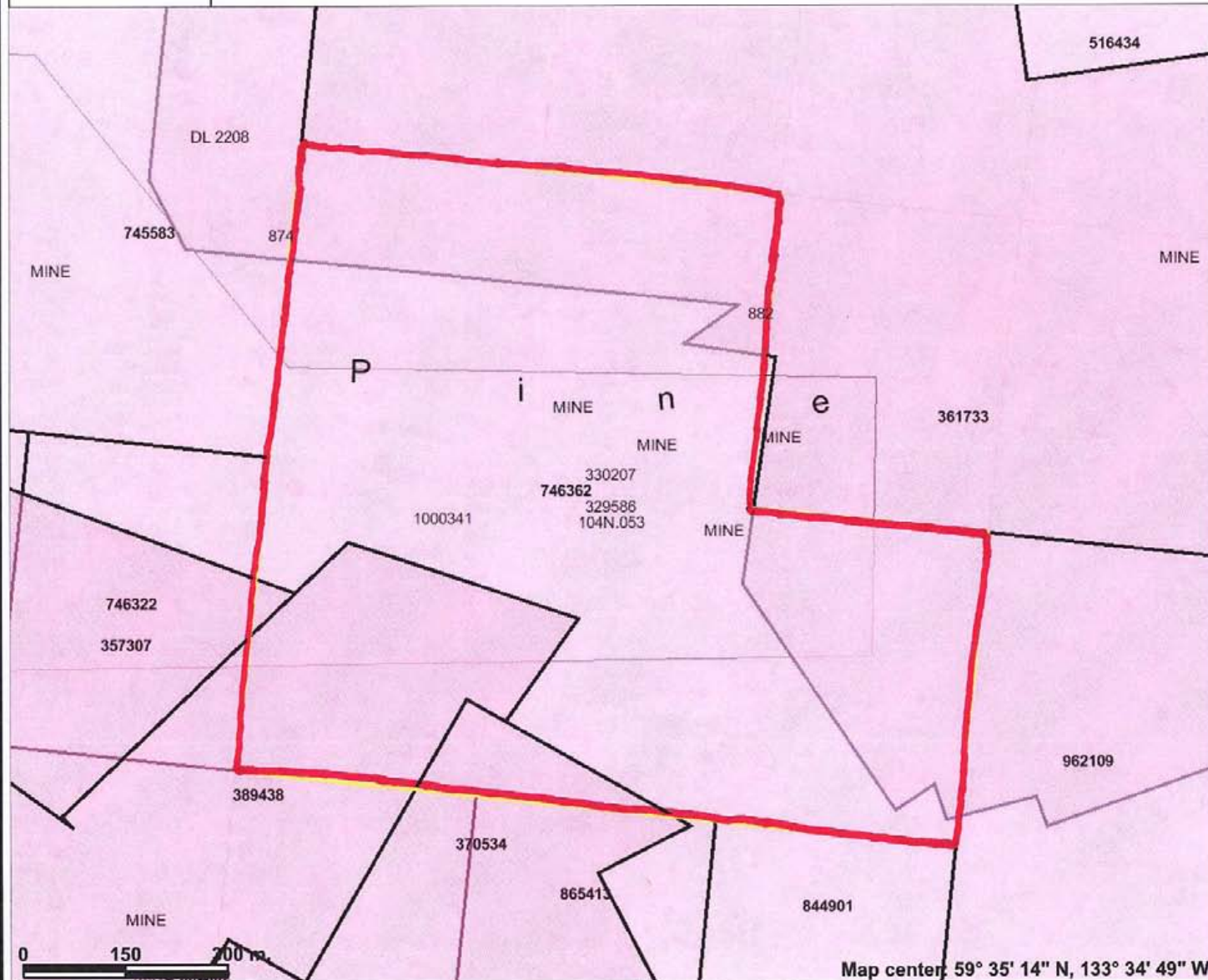
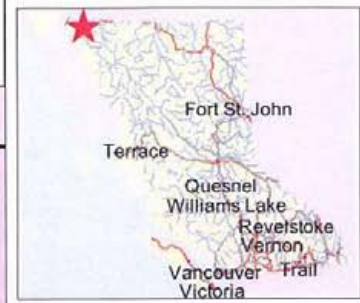
The current anniversary date is 5 November 2018 (with the acceptance of this Prospecting Report).

The boundaries of this placer claim are well established by the MTO defined cell boundaries and the surveyed placer mining claims that this claim overlaps.



Mineral Titles  
Online BC

# Pine Creek Bolder Pile ten# 746362, Map# 104N.053



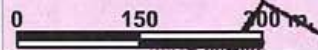
**Legend**

- Indian Reserves
- National Parks
- Conservancy Areas
- Parks
- Federal Transfer Lands
- Placer Tenure (current)
- Placer Claim
- Placer Lease
- Placer Reserves (current)
- Placer Claim Designation
- Placer Lease Designation
- No Staking Reserve
- Conditional Reserve
- Release Required Reserve
- Surface Restriction
- Recreation Area
- Others
- MTO Grid (MTO)
- First Nations Treaty Related Lands
- First Nations Treaty Lands
- Integrated Cadastral Fabric
- Survey Parcels
- BCGS Grid
- Contours (TRIM)
- Contour - Index
- Contour - Index.Indefinite
- Contour - Index.Depression
- Contour - Index.Depression Indefinite
- Contour - Intermediate
- Contour - Intermediate.Indefinite
- Contour - Intermediate.Depression

Map center: 59° 35' 14" N, 133° 34' 49" W

Scale: 1:8,842

Claim Map



This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

## **HISTORY**

History of gold mining in the Atlin area started in 1898 with Fritz Miller and Kenny McLaren staking their discovery claim immediately upstream from the Pine Creek Boulder Pile placer claim. However, there were signs of previous work, possibly Russian prospectors from Alaska when Alaska was a Russian Territory. By the year 1899 there were more than 3,000 people camped in the Atlin area.

Gold production from Pine Creek between 1898 to 1916 was recorded as: 138,144 troy ounces (that is 4,017,917 grams) of gold. See placer gold production of B.C., Bulletin 28, by S. Holland, 1950.

The largest recorded nugget found in the Atlin Camp was found in 1889 on Spruce Creek and weighed in at 83 troy ounces. See Appendix: A Golden Loaf.

Various parts of the Atlin Mining Camp have been mined by underground methods. Using shafts, adits and then drifting along the channel axis along bedrock. The channel axis is oftentimes the old buried riverbed that follows the old Surprise Lake Fault. These bedrock channels are often called basal channels.

## **LOCATION AND ACCESS**

The Pine Creek Boulder Pile placer claim is located approximately 7 km east of Atlin, B.C. along the Pine Creek Valley Road.

The claim is centred at Latitude 59°35'N and Longitude 133°34'W on NTS Map Sheet 104N/12, UTM Map 104N.053.

Atlin is reached by car from Jacks Corner on the Alaska Highway (Mile 865) by about 98 km south of Whitehorse, Y.T., along the Alaska Highway. At Whitehorse, Y.T., there is quite a number of businesses set up which support mining along with a major airport. Access to the placer claim from Atlin is by a good gravel road.

# LOCATION MAP

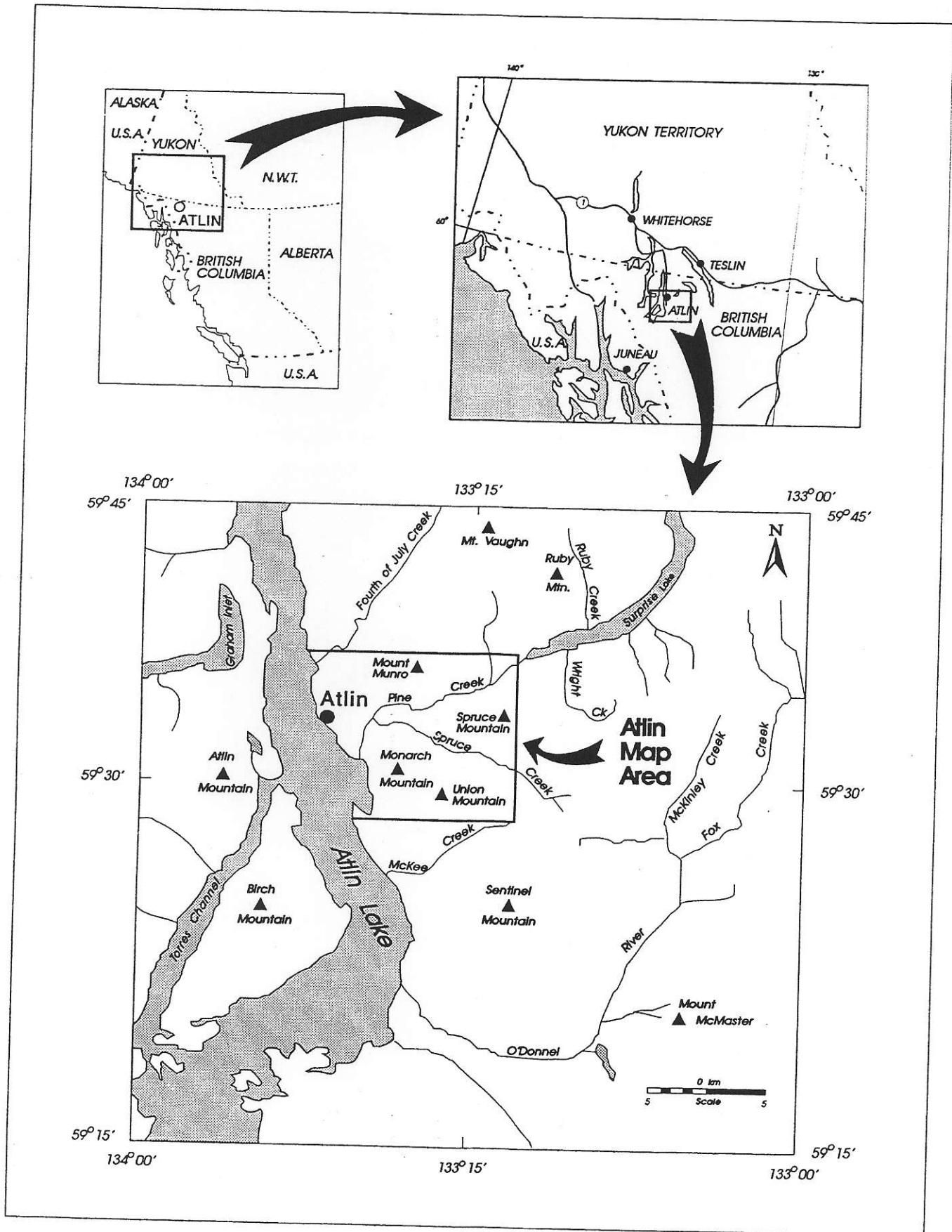


Figure 1-3. Location of the Atlin map area.

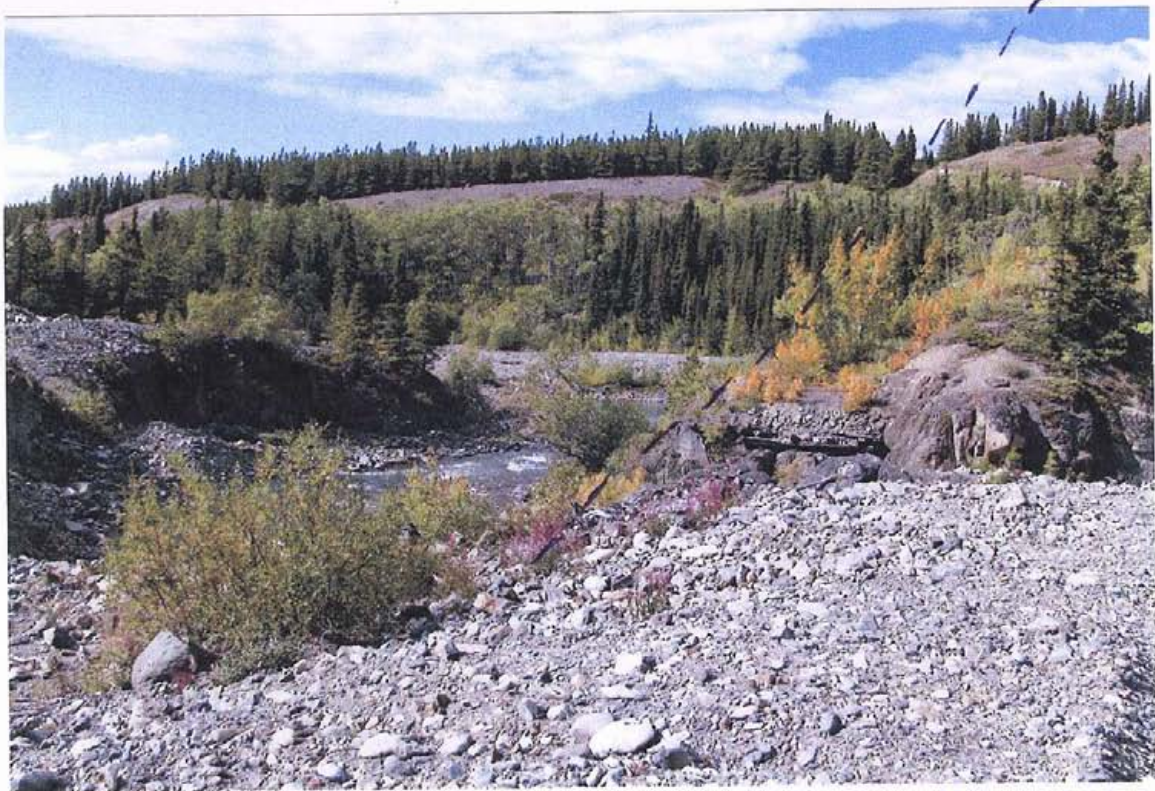
## **GEOLOGY**

Geology of the Atlin area was mapped from 1951 to 1955 by J.D. Aitken, of the Geological Survey of Canada. See Map 1082. In From 1966 to 1968, J.W.H. Monger, also of the Geological Survey of Canada, published GSC Paper 74-47. Blodgood et al (1989) conducted 1:50,000 scale geological mapping. Lefebvre and Gunning, 1989, compiled a 1:20,000 geological map.

In 1994, the B.C. Geological Survey Branch published Bulletin 94 by Chris Ash which provides a very good understanding of the geology, complete with a 1:25,000 geological map. It appears this was updated in 2004 by Geoscience Map 2004-4 Geology of the Atlin Area, N.W. B.C. Also in 2003, the Geological Survey of Canada published Open File 1562, Geoscience Map 2003-1, Quaternary Geology of the Atlin Area 104N.

Most of this placer claim is covered by old tailings from previous placer workings which have been plowed flat to comply with environmental requirements. The broad valley terminates at hillsides of older river material. There is some bedrock on the east side of the claim. See pictures.





The offset fault passes along the dotted line





## RONKA-EM-16 ELECTROMAGNETIC SURVEY

The VLF EM-16 Receiver, Serial No. 4367, was manufactured by Geonics Inc., Toronto, Ontario.

The VLF EM-16 is a sensitive receiver covering the frequency bands of the VLF (very low frequency) transmitting stations with a means of measuring the vertical field component of the signal. Around the world there are various radio transmitters operating on VLF frequencies. These stations usually communicate with military submarines. The stations are turned on at various times.

The VLF transmitting stations that operate for communications with submarines have a vertical antenna. The antenna current is thus transmitted vertically into the earth, creating a concentric horizontal magnetic field radiating out from around the antenna. When these magnetic fields meet conductive bodies in the ground, there will be secondary fields radiating from these bodies. The VLF EM-16 receiver measures the vertical component of these secondary fields.

In this case, we were looking for a fracture in the earth that is filled with water and probably graphite. The fault should make a good conductor. This works best where the fault lines up in the direction of the VLF transmitter and the transmitter is not very far away. The VLF transmitter in Seattle, Washington does not line up very well with the Surprise Lake Fault at Atlin, B.C. Very poor signal response. Normally we would use the Cutler, Maine VLF transmitting station because of its favourable orientation to the Surprise Lake Fault and the geology of the area. However, the Cutler station was not operating either time the writer was at Atlin.

The VLF EM-16 receiver has two coils - one in the handle and one at the base of the handle. In effect, they are perpendicular to each other. The signal coil is in the handle and has a vertical axis. The reference coil at the base of the handle has a horizontal axis. Each coil is tuned to the same VLF transmitter's signal.

The VLF EM-16 procedure taught at the Advanced Prospecting School by the B.C. Geological Survey follows.

1. Figure out the geology of the area, ie., which way the faults run and any known orebodies. Find a VLF station that lines up with what you are looking for.
2. Lay out your survey lines so that they cross the structure of the geology at a right angle, or as close to one as possible.
3. Find the direction of your primary field by holding the signal coil horizontally and turn around in a 360° circle and find the signal null point. This is detected by a minimum audible signal in the speaker. You will probably be pointing either to or away from the VLF transmitter. Choose the direction pointing toward the null point, or towards the VLF station.
4. The VLF EM-16 receiver is then held vertically with its reference (horizontal) coil in a direction at right angles to the transmitter location. The operator then rotates the instrument in the vertical plane until a minimum signal is registered. Bending forward or backward, hold the VLF EM-16 receiver steady in the minimum signal direction, then the quadrature knob is adjusted to further minimize the sound. After finding the minimum signal strength on both adjustments, the inclinometer is recorded and so is the quadrature.
5. Also at each station other features such as topographical features, ground slope, geology, and mineralization are marked down.

# EM16

## VLF Electromagnetic Unit

Pioneered and patented exclusively by Geonics Limited, the VLF method of electromagnetic surveying has been proven to be a major advance in exploration geophysical instrumentation.

Since the beginning of 1965 a large number of mining companies have found the EM16 system to meet the need for a simple, light and effective exploration tool for mining geophysics.

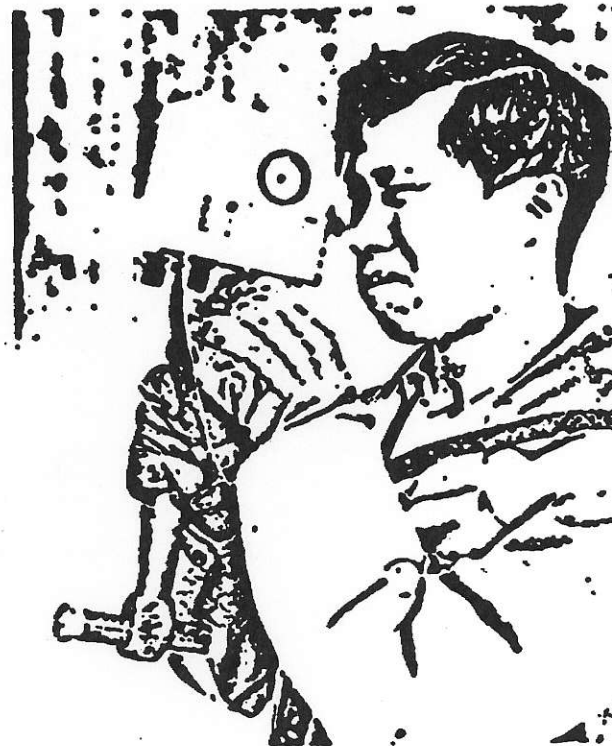
The VLF method uses the military and time standard VLF transmissions as primary field. Only a receiver is then used to measure the secondary fields radiating from the local conductive targets. This allows a very light, one-man instrument to do the job. Because of the almost uniform primary field, good response from deeper targets is obtained.

The EM16 system provides the *in-phase* and *quadrature* components of the secondary field with the polarities indicated.

Interpretation technique has been highly developed particularly to differentiate deeper targets from the many surface indications.

### Principle of Operation

The VLF transmitters have vertical antennas. The magnetic signal component is then horizontal and concentric around the transmitter location.



## Specifications

|                            |  |                             |  |
|----------------------------|--|-----------------------------|--|
| Source of primary field    | VLF transmitting stations.   | Reading time                | 10-40 seconds depending strength.  |
| Transmitting stations used | Any desired station frequency can be supplied with the instrument in the form of plug-in tuning units. Two tuning units can be plugged in at one time. A switch selects either station.  | Operating temperature range | -40 to 50° C.  |
| Operating frequency range  | About 15-25 kHz.   | Operating controls          | ON-OFF switch, battery button, station selector, volume control, quadrature $\pm 40\%$ , inclinometer dial       |
| Parameters measured        | (1) The vertical in-phase component (tangent of the tilt angle of the polarization ellipsoid).<br>(2) The vertical out-of-phase (quadrature) component (the short axis of the polarization ellipsoid compared to the long axis). | Power Supply                | 6 size AA (penlight) alkaline. Life about 200 hours.   |
| Method of reading          | In-phase from a mechanical inclinometer and quadrature from a calibrated dial. Nulling by audio tone.  | Dimensions                  | 42 x 14 x 9 cm (16 x 5.5 x 3.5 in.)  |
| Scale range                | In-phase $\pm 150\%$ ; quadrature $\pm 40\%$ .   | Weight                      | 1.6 kg (3.5 lbs.)  |
| Readability                | $\pm 1\%$ .  | Instrument supplied with    | Monotonic speaker, carry manual of operation, 3 plug-in tuning units (additional frequencies are optional), etc. |
|                            |  | Shipping weight             | 4.5 kg (10 lbs.)   |

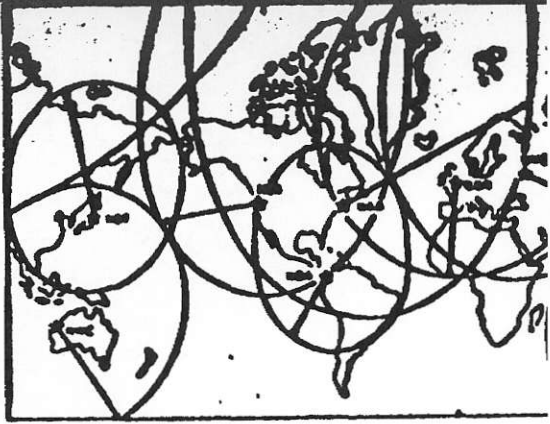
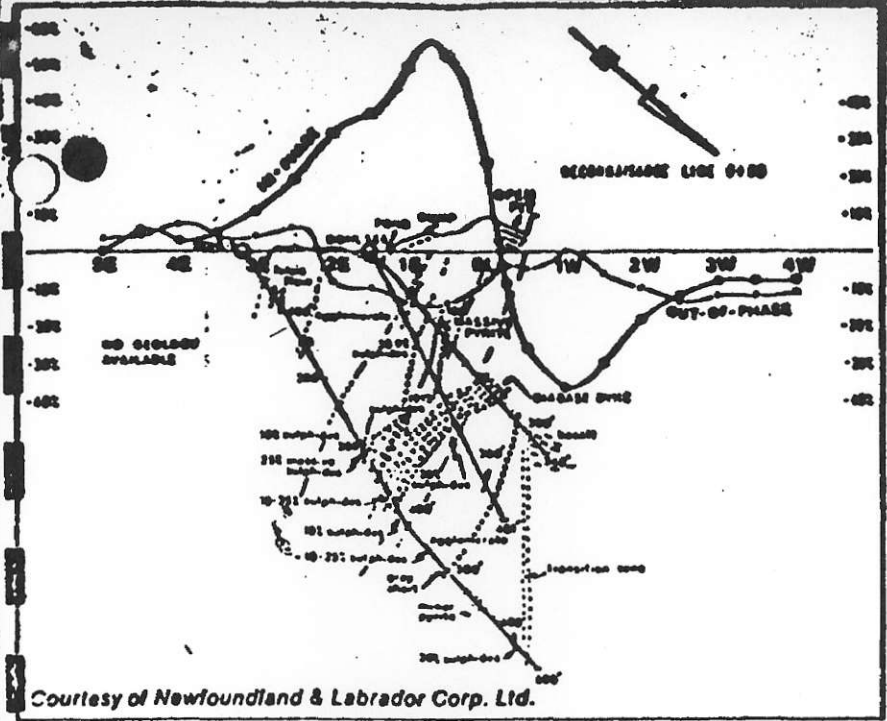


**GEONICS LIMITED**

Designers & manufacturers  
of geophysical instruments

subsidiary of  
Deering Milliken Inc

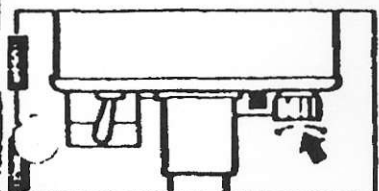
2 Thorncliffe Park  
Toronto/Ontario/  
M4H 1H2  
Tel: 425-1824  
Cables: Geonics



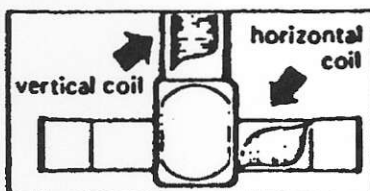
**Areas of VLF Signals**  
 Coverage shown only for well-known stations. Other reliable, fully operational stations exist. For full information regarding VLF signals in your area consult Geonics Limited. Extensive field experience has proved that the circles of coverage shown are very conservative and actually much larger in extent.

Courtesy of Newfoundland & Labrador Corp. Ltd.

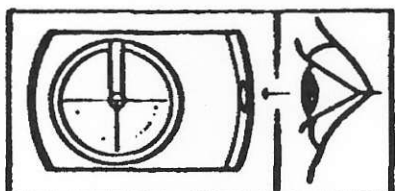
**EM 16 Profile over Lockport Mine Property, Newfoundland**  
 Additional case histories on request.



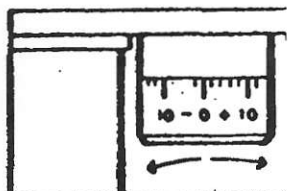
**Station Selector**  
 Two tuning units can be plugged at one time. A switch selects either station.



**Receiving Coils**  
 Vertical receiving coil circuit in instrument picks up any vertical signal present. Horizontal receiving coil circuit, after automatic 90° signal phase shift, feeds signal into quadrature dial in series with the receiving coil.



**In-Phase Dial**  
 Shows the tilt-angle of the instrument for minimum signal. This angle is the measure of the vertical in-phase signal expressed in percentage when compared to the horizontal field.



**Quadrature Dial**  
 is calibrated in percentages and nulls the vertical rature signal in the vertical circuit.

By selecting a suitable transmitter station as a source, the EM 16 user can survey with the most suitable primary field azimuth.

The EM 16 has two receiving coils, one for the pick-up of the horizontal (primary) field and the other for detecting any anomalous vertical secondary field. The coils are thus orthogonal, and are mounted inside the instrument "handle".

The actual measurement is done by first tilting the coil assembly to minimize the signal in the vertical (signal) coil and then further sharpening the null by using the reference signal to buck out the remaining signal. This is done by a calibrated "quadrature" dial.

The tangent of the tilt angle is the measure of the vertical in-phase component and the quadrature reading is the signal at right angles to the total field. All readings are obtained in percentages and do not depend on the absolute amplitude of the primary signals present.

The "null" condition of the measurement is detected by the drop in the audio signal emitted from the patented resonant loudspeaker. A jack is provided for those preferring the use of an earphone instead.

The power for the instrument is from 6 penlight cells. A battery tester is provided.





## EM16 | EM16R | TX27

The EM16 VLF Receiver is the most widely used electromagnetic geophysical instrument of all time. Local tilt and ellipticity of VLF broadcasts are measured and resolved into inphase and quadrature components of VLF response. The EM16 has discovered several base and precious-metal ore bodies and many water-bearing fractures and faults.

The EM16R Resistivity Attachment uses a pair of electrodes to measure the apparent resistivity of the earth. The combined EM16/16R instrument can detect a second earth layer if the layer occurs within the VLF skin-depth. In addition, the EM16/16R can map resistive alteration for gold exploration.

The TX27 is a portable VLF transmitter supplying a VLF field for surveying with either the EM16 or EM16/16R if remote broadcasts are weak, intermittent or poorly coupled with the target. For EM16 surveys, the TX27 antenna consists of a long (typically 1 km) grounded wire.



## Specifications

### MEASURED QUANTITIES

EM16: inphase and quadrature components of the secondary VLF field, as percentages of the primary field

EM16R: apparent resistivity in ohm-metres, and phase angle between  $E_x$  and  $H_y$

### PRIMARY FIELD SOURCE

EM16: ferrite-core coil

EM16R: Stainless-steel electrodes, separated by 10 m: impedance of sensor is 100 M $\Omega$  in parallel with 0.5 pf

### SENSOR

9.8 kHz

### OPERATING FREQUENCY

15 to 25 kHz (optionally to 30kHz) depending on VLF broadcasting station

### MEASURING RANGES

EM16: inphase:  $\pm 150\%$   
quadrature:  $\pm 40\%$

EM16R: 300, 3K, 30K $\Omega$ -m  
phase: 0 - 90°

### POWER SUPPLY

EM16/EM16R: 6 alkaline "AA" cells

### DIMENSIONS

EM16/EM16R: 53x30x22 cm

### WEIGHTS

EM16: 1.8 kg; shipping: 6.2 kg

EM16R: 1.5 kg; shipping: 6 kg

#### PRODUCTS

- Conductivity Meters
- Metal Detectors
- Time Domain Systems
- VLF Systems
- Borehole Probes
- Data Acquisition
- Software
- Third Party Software

#### Downloads

Catalogue

## PROBLEMS

The Cutler, Maine station was shut off both times when the survey was attempted. The other frequency that was available was the Seattle frequency but it did not work very well. It is suspected that a large granite intrusive immediately south of the survey area might have had some influence on the signal. The writer was only able to obtain a very weak readable signal when the instrument was pointed about 90 ° out of proper orientation. However, a very weak signal was recorded and it shows a conductor (fault) very close to where it was suspected that one would be found. The VLF receiver was taken to a <sup>Geophysics</sup> ~~Geodesics~~ ~~hos.~~ in Vancouver and checked out. It appears to be working properly. Then back to Atlin and the survey was rerun.

## DISCUSSION OF RESULTS

The VLF EM-16 survey was able to pick up two different crossovers. One was a water pipe going down to a power generator. The other is a crossover where the fault was suspected to be located. The water pipe was a very good sharp response. It was not buried very deeply. The fault was covered by a flow of volcanics that contains a large amount of magnetite. Then there is a considerable depth of river gravel and boulders over the volcanics.

A long time ago, a major fault formed between Surprise Lake and a point close to where the town of Atlin is located. This major fault was easily eroded and the ancient riverbed of Pine Creek was formed. Gold mineralization was concentrated in the old Pine Creek riverbed. Ultramafic rocks intruded this area and the fault made a good porous conduit for gold-bearing solutions to travel through.

At a later date, various large granite intrusives came into the area and the major fault was subject to offset faulting. Also there were volcanic flows that came down and filled up the old Pine Creek riverbed. (That is a prospector's view of the geology. Think of how eloquently it could have been described if the writer was a geologist.)

Pine Creek today is offset at many places. The richest placer deposits have been found in these offset areas. The map in Bulletin 94 shows the fault offsets to the east of this placer claim. However, the fault zone disappears as it comes onto this claim. Where did it offset to? To the north or to the south? The VLF EM-16 survey shows that there is a conductor to the north. It will take more work to outline this conductor.

## **VLF EM-16 SURVEY LOG**

### **First Attempt**

Unable to get Station NAA (Cutler) to null. Lots of static.

Station NLK (Seattle) is off the air.

Took VLF instrument to Vancouver and had it checked. Instrument seemed to be in good working order.

### **Second Attempt** (a month later)

Station NAA (Cutler) was off the air.

Station NLK (Seattle) was working however it was responding oddly. It would not null when in the direction of Seattle.

The line was run in a north 350° direction. The Surprise Lake Fault in this area is suspected to run from 60° to 90° easterly.

Weather miserable; very cold and wet.

Travelling across a flat area, rehabilitated placer tailings.

Started from GPS 0580131E, 6606126N.



# VLF EM-16 SURVEY NOTES (condensed)

gps station

Dip Angle      Vertical Quadrature

End of the line, Edge of Cliff above piwe creek.

(A)

+9      -8

+6      -7

+4      -8

+2      -11

+2      -9

(B)

+0      -8

-2      -8

-4      -8

(C)

-3      -6

-2      -8

-5      -11

-10      0

-14      -12

-15      -25

-20      -25

(D)

-23      -4

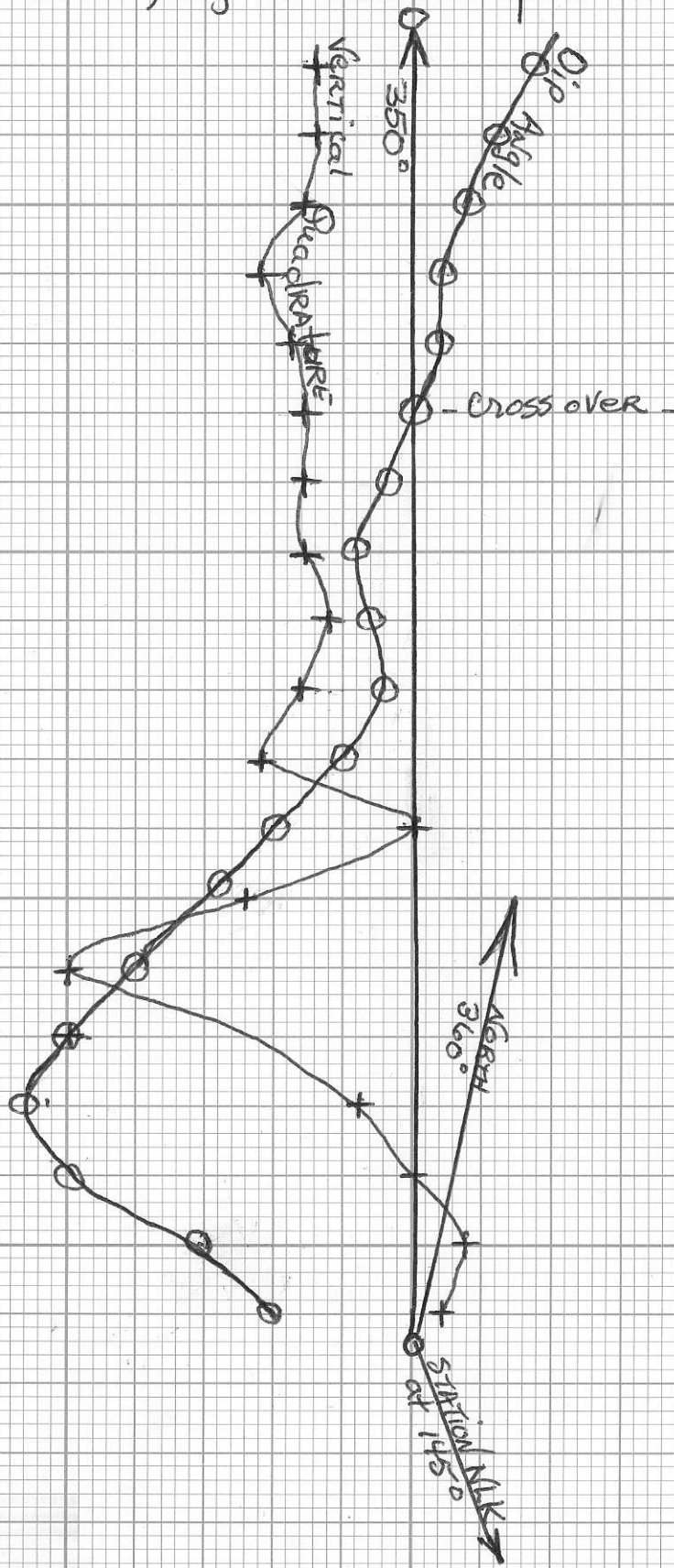
-20      +0

-15      +4

(E)

-10      -2

→ Road to Hydro dam →



## Notes

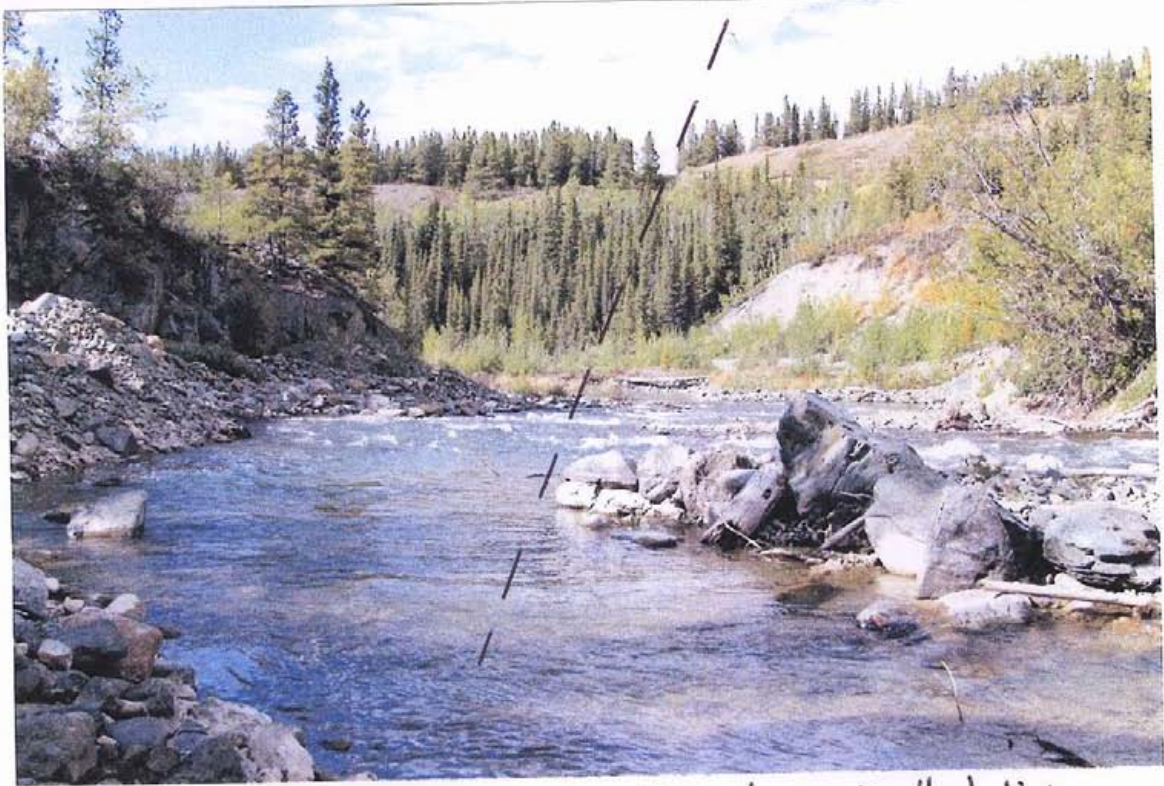
1. There is a road that runs down to the power dam from the Spruce Creek Road. The first station was on this road at GPS 0580131E, 6606126N. Flagged and marked.  
STATION (E)
2. The crossover at 0580093E, 6606270N was on a small rise in the ground in a wooded area. It is well marked with ribbon and tags.  
STATION (B)
3. From the cliff down to the river (end of line) GPS 0580083E, 6606305N, it appears there is a volcanic flow with two metres of old river gravel above it. The current riverbed has moved to the north to get around this hard rock flow that has filled up the old river channel. STATION (A)

The next two pictures show the area where the riverbed offset to the north. At this point, the bedrock gets deeper.

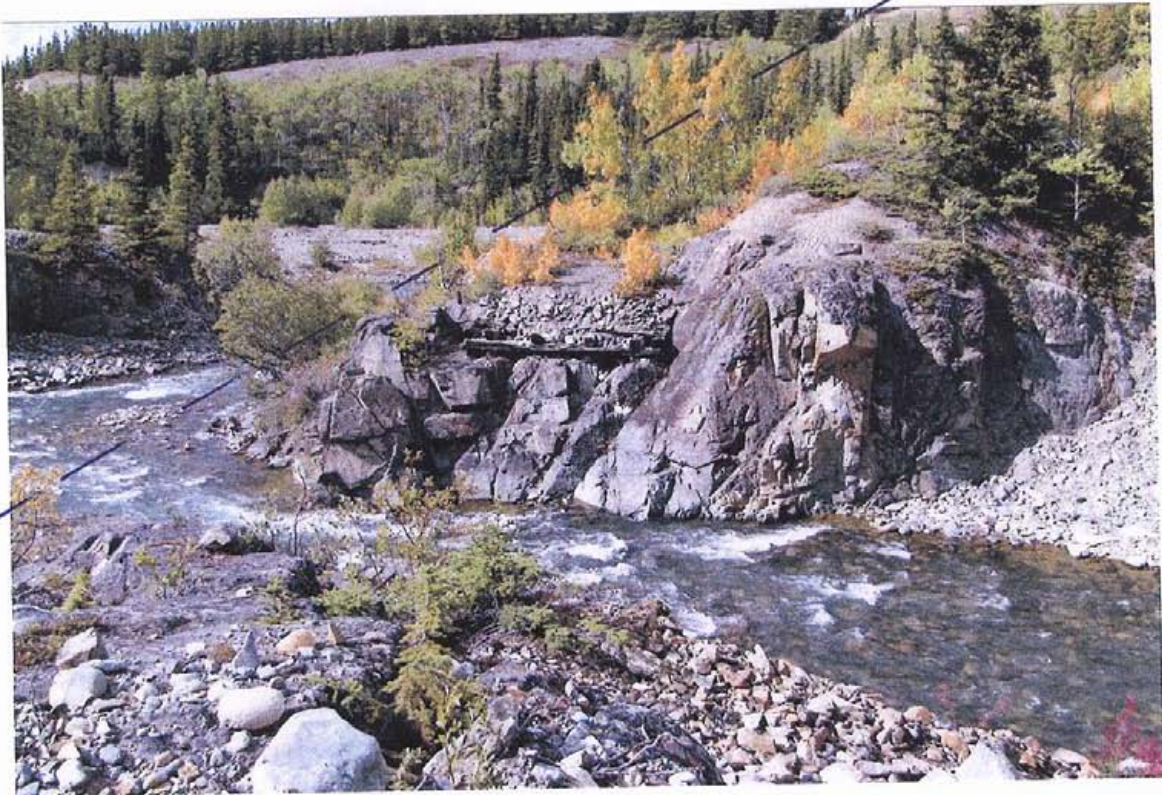
GPS Station (C) = 0580105E, 6606249N

GPS STATION (D) = 0580117E, 6606187N





Major offset fault passes along dotted line



Major off set fault passes along dotted line.

## **CONCLUSIONS**

The VLF transmitting station NLK (Seattle) was way out of line to give good readings. Also, the Seattle signal appeared to be influenced by the large body of intrusive mantle rock between the operator and the Seattle VLF transmitter. Or perhaps it is influenced by the large over-thrust a short distance southerly.

The writer ordered two frequency crystals for VLF stations that are in Northern Europe and which are more in line with the Surprise Lake Fault system. The survey will continue when the crystals are received and the VLF EM-16 receiver can tune to other transmitters.

By then, possibly the VLF station NAA (Cutler) will be working.

Even with all the problems, the VLF EM-16 did a good job and the crossover was very close to where one would suspect it to be.

It is hoped to be able to do infilling lines during the 2012 field season to show this fault system and to locate the old river channel which is currently covered by the volcanic flow.



# PINE CREEK BolderPile Placer Claim

## Expenses. (2011)

|       | INIT. | DATE |
|-------|-------|------|
| PREP. |       | / /  |
| APP.  |       | / /  |

|    |  |                               |                      |    |
|----|--|-------------------------------|----------------------|----|
| 1  | Preperatory SURVEY                                 |                               | 1500 <sup>00</sup>   | 1  |
| 2  | Hip Chain and Compass                              | Total 5 days at               |                      | 2  |
| 3  | line Cutting                                       | \$ 300. <sup>00</sup> per day |                      | 3  |
| 4  | Establishing Boundaries                            |                               |                      | 4  |
| 5  |  |                               |                      | 5  |
| 6  | Prospecting mainly looking for Faults              |                               | 900 <sup>00</sup>    | 6  |
| 7  | and trying to figure out the lay of                |                               |                      | 7  |
| 8  | The land. Panning.                                 | Total of 3 days at            |                      | 8  |
| 9  |  | \$ 300 per day                |                      | 9  |
| 10 |  |                               |                      | 10 |
| 11 | Rental of VLF-EM-16                                | 4 days at \$100/day           | 400 <sup>00</sup>    | 11 |
| 12 |  |                               |                      | 12 |
| 13 | Room and Board at \$125. per day for 16 days =     |                               | 2000 <sup>00</sup>   | 13 |
| 14 |  |                               |                      | 14 |
| 15 | Rental of 4x4 TRUCK for 16 days at 150/day         |                               | 3000 <sup>00</sup>   | 15 |
| 16 |  |                               |                      | 16 |
| 17 | Travel.  |                               |                      | 17 |
| 18 | it is 2285 Kms from Vancouver to Atlin by          |                               |                      | 18 |
| 19 | the speedometer on my truck.                       |                               |                      | 19 |
| 20 | it takes me 4 days to drive one way.               |                               |                      | 20 |
| 21 | Vancouver to Atlin by Road                         |                               |                      | 21 |
| 22 | Mandays 4  |                               | 1200 <sup>00</sup>   | 22 |
| 23 | Air plane Atlin to Vancouver                       |                               |                      | 23 |
| 24 | manday 1   |                               | 300 <sup>00</sup>    | 24 |
| 25 | Travel Atlin to Whitehorse                         |                               |                      | 25 |
| 26 | Manday 1   |                               | 300 <sup>00</sup>    | 26 |
| 27 | Air Plane Vancouver to Atlin <sup>Whitehorse</sup> |                               |                      | 27 |
| 28 | Manday 1   |                               | 300 <sup>00</sup>    | 28 |
| 29 | Travel Whitehorse to Atlin                         |                               |                      | 29 |
| 30 | Manday 1   |                               | 300 <sup>00</sup>    | 30 |
| 31 | Travel Atlin to Vancouver by Road                  |                               |                      | 31 |
| 32 | Mandays 4  |                               | 1200 <sup>00</sup>   | 32 |
| 33 | Fuel 919 Liters @ 1:35/lit =                       |                               | 1233 <sup>90</sup>   | 33 |
| 34 | Report Writing 2 mandays                           |                               | 600 <sup>00</sup>    | 34 |
| 35 | Typing 1 manday                                    |                               | 300 <sup>00</sup>    | 35 |
| 36 | Travel Expenses                                    |                               | 4833 <sup>90</sup>   | 36 |
| 37 | Allowing 50% of Travel Cost                        |                               | 2416 <sup>45</sup>   | 37 |
| 38 |  |                               |                      | 38 |
| 39 | Note 300 per manday includes                       |                               |                      | 39 |
| 40 | WCB, insurance, Taxes, Et.                         | Applicable Expenses           | 11,116 <sup>45</sup> | 40 |

## STATEMENT OF QUALIFICATIONS

I, DAVID JAVORSKY, prospector, state as follows:

That I have prepared this VLF EM-16 Prospecting Report on the Pine Creek Placer Claim.

That I performed the VLF EM-16 Survey set forth in this report.

That I am the owner of this mineral tenure.

That I graduated from the B.C. and Yukon Chamber of Mines Prospecting School.

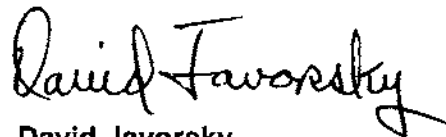
That I graduated from B.C. Geological Survey, Advanced Prospecting School where I was instructed in the operation of a VLF EM-16 Receiver.

That I graduated from the B.C. Ministry of Energy, Mines and Petroleum Resources, Petrology for Prospector's Course.

That I have actively worked as a Prospector for most of the last 40+ years.

That my mailing address is #818 - 470 Granville Street, Vancouver, B.C. V6C 1V5.

Respectfully submitted,



**David Javorsky**  
Prospector

November 1, 2011

Vancouver, B.C.

## **REFERENCES**

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**APPENDIX**

**History**

**A Gold Loaf**

**Gold Gold Gold**

**Minfile No. 104N030**

**Pine Creek**

# APPENDIX

## History



**GOLD!** The lure of gold has haunted man since the beginning of time. The Atlin Gold rush began in 1898, when Fritz Miller, a German immigrant & Kenneth McLaren, a Nova Scotian acted on a tip from Fritz's older brother George. George had come from Juneau Alaska on a pack trip to the Atlin area. While a companion was cooking dinner, he took his gold pan and tested the gravel of the creek and there was GOLD!

Fritz Miller & Kenny McLaren had little difficulty in locating Pine Creek where they quickly found the fortune they were seeking. On July 27th 1898, Fritz presented himself before Captain D'Arcy Strickland of the North West Mounted Police at Tagish Lake to claim Discovery for himself and McLaren.

The rest is history! The word was out! "As rich as the Klondike. Atlin City ... the wonder of 1899", the newspapers proclaimed the new bonanza. This was welcome news for the hundreds of would-be miners struggling towards Dawson City. Most were running short of money and supplies and energy. The nearby coastal cities of Dyea, Skagway and Juneau were affected drastically as practically every able bodied man made straight for the Eldorado in Atlin. They left the stores and businesses to be managed by the comparatively few women in the country.

Before long all the creeks in the Atlin area were staked and dotted with tents and hundreds of miners. A tent-city sprung up on the shores of Atlin Lake. Soon, there were buildings of all kinds, saloons, hotels, banks, restaurants and stores. Sawmills ran 24 hours a day. Boats, large and small plied the waters with goods and passengers brought up through Tagish Lake over the Atlin River. On Pine Creek there was a "city" too, which became known as Discovery. As with all the mining towns, the liquor flowed freely and there was gambling, the games of faro, blackjack and poker, and there were the "ladies of easy virtue" to help the miners spend their money and give them solace from the home sickness which beset most of them. The lure of gold attracted people from every corner of Europe and North America. Pine Creek, Spruce Creek, Ruby Creek, McKee Creek, Birch Creek, are still yielding up gold today.

Different methods of mining have been used, with the use of heavy equipment, dredges, drag lines, excavators and floaters, up through the 20's, 30's, 40's, and 50's to present day 2007. There are still dreamers and gold seekers working the creeks in and around Atlin and they are still finding gold. The price of gold in 2011 was around \$1500 an ounce.

There are some very interesting books on the Atlin area, one being, *Atlin. The Story of British Columbias last gold Rush*, written by Christine Frances Dickinson and Diane Solie Smith. The Atlin Museum is a gold mine of information about the Atlin Gold Rush. Come, stay awhile, there are still some interesting characters around with gold mining stories to tell.

A different breed of "Seekars" are coming to Atlin in recent years from every part of the world. They are looking for the beauty and pristine wilderness. Heliskiers come to ski the slopes, fishermen come for the thrill of catching big lake trout. The music lovers come for the Music Festival.

***For more stories on Atlin's history, please download the Atlin Claim.***



# A Golden Loaf

*Atlin Claim, July 15, 1899.*

**E**ighty-three ounces, 5 penny-weights, 15 grains is the weight of the big piece of gold taken out of Spruce Creek at 126 below by W. West and B. Haffernnen, owners of the claim, at 11:30 o'clock on Saturday morning [July 12, 1899]. The big lump had been named "The West", and to give an idea of what it looks like, just take a loaf of bread, cut it in two and there you have its counterpart in size, though not in value. There is considerable quartz in its make-up.

The lump attended divine service in the Bank of Commerce building the day following its liberation from the now famed claim on Spruce, and no doubt familiarized itself with its future abode, for it passed down the long counter and then passed back again keeping this up for hours.

One devout Christian made the suggestion that it be placed on Rev. Mr. Pringle's contribution plate, but the owner, for reasons better known to himself, didn't think that way.

A *Claim Man* [Atlin Claim reporter], who loves walking and mountain climbing, started out on Tuesday to find the owner. At 126 feet below on Spruce, Mr. West was found standing on a sluice box, in the act of forking out tailings, with four or five onlookers, watching patiently, like gamblers waiting for a pair of kings to feast their eyes on any more that may turn up?

"Any more, Mr. West?"

"None today", he replies, at the same time coming down from his perch and taking a seat on some tailings near by.

"There is where it came out of," pointing to a hole where three men stood shoveling dirt up into the boxes, and not over three feet from the lower right hand stake of his claim.

"I am working this claim in conjunction with M.G. Haffenner, who owns the one above me. We started work on this, the lower, and will work up. We have three men helping us: A. Moses, Tom Warder and R. Nicholls. I was the first to pick up the lump, and as I held it up and smiled to one of the men he let a yell that brought the miners to a standstill. Some thought it was an accident, but older heads knew better, and away down to 150 below skirted the glad news, faster by far than any wire could tell: hill, bench, creek and every nook in circuitous Spruce echoed the glad refrain: picks, shovel, forks and all the warlike weapons of the FREE miner lay at rest while their owners came to worship the new-born babe. About 300 miners congregated, and then the news went out to the Junction, and the Kodak man came in and photographed everything in sight."

Mr. West's home is in Toutle, Wash., and he arrived in the district in August, 1898.

In consequence of this find, properties on Spruce Creek have trebled in value.



Photo: Atlin Historical Society

## Gold Atlin's Life Blood

Since the first claims were staked in 1898, the only mineral of any importance produced in the Atlin camp has been placer gold. According to reliable sources, gold mined in the Atlin camp up to 1946 had an estimated production value of \$15,000,000. Between 1946 and 1953 placer gold production of the Atlin camp was estimated to be worth well over \$1,000,000 in value at that time. However, from 1953 to 1970 serious gold mining in the Atlin camp does not appear to have been a significant event. With the advent of heavy machinery and the coming of the market value of gold in 1970, very serious placer gold

mining began in the Atlin Camp. Between 1970 and 1997, gold placer investment and production values are conservatively estimated to be in the millions of dollars per year. Precise estimates are hard to come by as placer gold investments and production are not public information, but a best guess estimate is that placer gold operations were contributing up to several millions of dollars on wages, goods, supplies, and equipment purchases and leases. All this made it into the economy of Atlin and British Columbia on a yearly basis during that 27 year period.

Story by Clive Aspinall. Taken from Aug. 16, 2002, *Prospector*, Volume 4, Issue 16.



Photo: Atlin Historical Society



Photo: Atlin Historical Society

Photo above: Discovery, also known as Pine City during the Gold Rush, housed up to 10,000 people, mostly in tents

Photo left: Gold from McKee Creek mined by the Piccolo Bros 1930.





# GOLD GOLD GOLD GOLD

*I wanted the gold and I sought it,  
Came out with a fortune last fall.  
I wanted the gold and I got it.  
But somehow the gold isn't all.*

Robert Service

**G**OLD! The lure of gold has haunted man since the beginning of time. The Atlin Gold rush began in 1898, when Fritz Miller, a German immigrant & Kenneth McLaren, a Nova Scotian acted on a tip from Fritz's older brother George. George had come from Juneau Alaska on a pack trip to the Atlin area. While a companion was cooking dinner, he took his gold pan and tested the gravel of the creek and there was GOLD!

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Guggenheim's workings on Pine Creek

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Noland Mine






**MINFILE Record Summary**  
**MINFILE No 104N 030**
[XML Extract](#)

|                               |           |                                |  |
|-------------------------------|-----------|--------------------------------|--|
| <a href="#">Print Preview</a> | PDF       | -- SELECT REPORT --            | <input checked="" type="checkbox"/> New Window |
| File Created:                 | 24-Jul-85 | by BC Geological Survey (BCGS) |  |
| Last Edit:                    | 28-Nov-88 | by Mike H. Gunning(MHG)        |  |

**SUMMARY**
[Summary Help ?](#)
**Name** PINE CREEK, GOLD RUN, PANAMA CANAL

**Status** Past Producer  
**Latitude** [59° 35' 49" N](#)  
**Longitude** [133° 32' 06" W](#)
**Commodities** Gold  
**Tectonic Belt** Intermontane

**Capsule Geology** Pine Creek flows west from Surprise Lake into Atlin Lake about three kilometres south of the present townsite of Atlin. The creek is about 20 kilometres long and was the site of the initial discovery of gold in Atlin in 1898. The creek has been mined more or less continuously from that time to the present with both individual, and very large scale, mechanical mining operations by large companies. Hydraulic mining was successful on this creek and relatively little underground work was done.

**NMI** [104N11,12 Au6](#)  
**Mining Division** Atlin  
**BCGS Map** 104N053  
**NTS Map** 104N12E  
**UTM** 08 (NAD 83)  
**Northing** 6607437  
**Easting** 582702  
**Deposit Types**  
**Terrane** Cache Creek

The creek is underlain by a belt of variably altered ultramafic rocks that stretches from Surprise Lake to the town of Atlin. The rocks belong to the lower sections of the Upper Paleozoic Cache Creek Group. In the Pine Creek placer operation areas, the ultramafics are highly talc and serpentine altered.

The placer deposit is about 2 kilometres long and up to 350 metres wide. Like other areas in Atlin the pay gravels are located right above bedrock. Mining ceased at the eastern ends toward Surprise Lake because bedrock became progressively deeper and pits were too deep requiring removal of too much overburden with insufficient room for all the tailings.

Approximately 4,017,917 grams of gold were removed from Pine Creek from 1898 to 1945, the second largest producer in the Atlin gold fields behind Spruce Creek (104N 034, Bulletin 28). However, increased work more recently on Pine Creek allowed it to become the largest producer in the Atlin area from 1956 onward.

**ography**

GSC MEM 37; 307  
 GSC P 62-27; 74-47  
 EMPR P 1984-2  
 EMPR GEM 1969-375; 1970-483; 1971-445; 1972-570; 1973-531; 1974-362, 363  
 GSC EC GEOL 1-4th Edition; 8  
 GSC SUM RPT XII; XIII; 1909; 1910; 1930A  
 GSC SEP RPT 958; 1085  
 EMPR BULL 1, (1931), p. 33; 2, (1930), p. 20; 28, p. 17  
 GSC MAP 1082A  
 EMPR AR 1895-657; 1989-986; 1899-611,644,649,653; 1900-756,772,779; 1901-981,982; 1902-22,31,32,38,40; 1903-19,26,38,39,44,46; 1904-60,63,84,94; 1905-69,75; 1906-50; 1907-49,53; 1908-46,52; 1909- 49; 1910-21,52; 1911-56; 1912-55,57; 1914-75; 1915-59; 1916-43; 1917-75,76; 1918-96,97; 1919-86,88; 1920-71; 1921-75,83; 1922-89; 1924-80; 1925-117; 1926-109; 1927-115; 1928-122; 1929-122; 1930- 124; 1932-69; 1933-87; 1936-B41; 1937-B44; 1938-B29; 1939-103; 1940-88; 1941-83; 1942-83; 1946-194; 1948-172; 1954-168; 1955-82; 1956-138; 1958-78; 1959-146; 1960-121; 1961-127; 1962-136; 1966- 254; 1967-294  
 EMPR MISC PUB (Stratigraphy of the Placers in Atlin, Placer Mining Camp, P.J. & W.M. Proudlock, 1976)  
 EMPR PF (Black, J.M., (1953): Atlin Placer Camp, Unpublished Report, 116 pages; Queenstake Resources Ltd., 1988 Annual Report)  
 NAGMIN June 7, 1985  
 N MINER Aug.22, 1988



## Mineral Titles Online Viewer

### Exploration and Development Work / Expiry Date Change Event Detail

|                        |  |
|------------------------|--|
| <b>Event Number ID</b> | <b>5119867</b>   |
| Recorded Date          | 2011/nov/01  |
| Work Type              | Technical Work (T)   |
| Technical Items        | Geophysical (P), Prospecting (PR), Preparatory Surveys (TS), PAC Withdrawal (up to 30% of technical work performed) (W3) |
| Work Start Date        | 2011/sep/01  |
| Work Stop Date         | 2011/oct/30  |
| Total Value of Work    | \$ 5000.00   |
| Mine Permit Number     |  |

#### Summary of the work value:

|                         |                        |
|-------------------------|------------------------|
| <b>Tenure Numbers</b>   | <b>746362</b>          |
| Claim Name/Property     | PINE CREEK BOLDER PILE |
| Issue Date              | 2010/apr/12            |
| Work Performed Index    | Y                      |
| Old Good To Date        | 2011/nov/05            |
| New Good To Date        | 2018/nov/05            |
| Numbers of Days Forward | 2557                   |
| Area in Ha              | 81.95                  |
| Applied Work Value      | \$ 5737.92             |
| Submission Fee          | \$ 1148.23             |

#### Financial Summary:

|                           |            |
|---------------------------|------------|
| Total Applied Work Value: | \$ 5737.92 |
| PAC name                  | 113058     |
| Debited PAC amount        | \$ 737.92  |
| Credited PAC amount       | \$         |
| Total Submission Fees     | \$ 1148.23 |
| Total Paid                | \$ 1148.23 |

#### Related Summary:

Existing Work Program  
Event Numbers

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### Tenure Detail

**Tenure Number ID** **746362** [View Tenure](#)   
 Tenure Type Placer (P)  
 Tenure Sub Type Claim (C)  
 Title Type Placer Cell Title Submission (PCX)  
 Mining Division  
 Good To Date 2018/nov/05  
 Issue Date 2010/apr/12  
 Demised To  
 Termination Type  
 Termination Comments  
 Termination Date  
 Tag Number  
 Claim Name PINE CREEK BOLDER PILE  
 Old Tenure Code  
 Area In Hectares 81.95

#### Map Numbers:

[104N](#)

#### Owners:

[113058](#) JAVORSKY, DAVID JOSEPH 100.0%

| Tenure Events:         | Submitter              | Event  | Effective Date |
|------------------------|------------------------|--|----------------|
| <a href="#">113058</a> | JAVORSKY, DAVID JOSEPH | AMAL Claim Amalgamation( <a href="#">4567717</a> )                                   | 2010/APR/12    |
| <a href="#">113058</a> | JAVORSKY, DAVID JOSEPH | SOW Exploration and Development Work / Expiry Date Change( <a href="#">4807533</a> ) | 2010/NOV/04    |
| <a href="#">113058</a> | JAVORSKY, DAVID JOSEPH | SOW Exploration and Development Work / Expiry Date Change( <a href="#">5119867</a> ) | 2011/NOV/01    |

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