Report
on a

## Soil Geochemical Survey

## Hat Project

Lat. $58^{\circ} 11^{\prime} 38^{\prime \prime} \mathrm{N}$ and Long. $131^{\circ} 37^{\prime} 53^{\prime \prime W}$
Sheslay Mining District, Atlin Mining Division, British Columbia.

Assessment Report Submitted to:
Mineral Titles Division,
Geological Survey Branch,
Ministry of Energy and Mines, Victoria, B.C.
Dates of Work: August 23 to September 2, 2005

Work Permit No: SMI-05-0101459-0615
Statement of Work Event No 4047964

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Certification: T.E. Lisle, P. Eng.
E.Ostensoe, P. Geo.

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### 0.0 SUMMARY

During August and September 2005, T.E. Lisle, P. Eng. and E.A. Ostensoe, P. Geo., carried out a geochemical soil sampling program on a section of the Hat Project claims located in the Sheslay District of the Atlin Mining Division, northwestern British Columbia. The claims had previously been explored by the owners intermittently between 1994 and 2001, and by various mining companies between 1970 and 1994

The 2005 survey work was directed to the western section of the Gossan Creek zone, one of three areas in the claims where significant concentrations of copper and gold mineralization had been identified. The survey involved the collection of 95 soil samples taken at 50 metre centers on six east-west lines tied into an earlier survey line (2001 survey, line 6).

The samples were analyzed at an accredited laboratory in Vancouver. Resulting assays ranged up to 179 ppb gold; 1,794 ppm copper; 205.2 ppm arsenic and 290 ppm barium, with locally elevated levels of cobalt, nickel and zinc,

The assay data confirms the results of earlier survey work, and appears to indicate a northeasterly trend to anomalous areas of interest. The results also confirm a widespread distribution of anomalous concentration of the same elements in the soils of the Hat claims, and points to a need for a more comprehensive exploration program to better evaluate toe economic potential of the claims.

This report presents the details of the 2005 geochemical soil survey on the Hat claims, and presents the results of the work on maps accompanying the report.


### 1.0 INTRODUCTION

### 1.1 Introduction.

The Hat property is located in the Sheslay District of northwest British Columbia. The geologic setting here is similar to other areas of the Cordillera that host numerous copper -gold and copper molybdenum porphyry deposits. During the 1970's, porphyry coppergold deposits at Polar Creek, and Dick Creek, and a skarn deposit at Copper Creek in the western part of the district were explored by a variety of geological, geochemical, and geophysical surveys and bulldozer trenching. The mineralized zones at Copper and Polar Creeks, and at the Kid-Grizzley prospect slightly further to the west were also drill tested.

During the late 1970's, the area now occupied by the Hat Claims was subjected to similar surveys as above, and by bulldozer trenching. The claims lie about 9 kilometres to the south of an access road between Telegraph Creek and the Golden Bear Mine. The construction of this road in the 1980's gave better access to the area, and led to the discovery of a high-grade gold occurrence (Wolverine) a few kilometers south of the Hat claims. Significantly, this occurrence saw renewed exploration in 2004 and, the Dick Creek deposit in the western part of the district was drill tested in 2004 and 2005 with significant copper-gold intercepts reported.

The Hat Project area is in Map Sheet 104J that was the subject of a provincial regional geochemical survey in 2000. The results of the survey, released in 2001, included a number of samples in the Sheslay district that are clearly anomalous in gold and base metals. (ref. BC RGS 55/GSC Open File 4011).

Lisle and Ostensoe have extensive experience in the Sheslay District, and have held claims in the Hatchau Lake area since 1994. Since that time, they have carried out small exploration programs that at times were supported by grants from the now defunct BC Prospectors Assistance Program. During the period August 23 to September 2, 2005, the owners carried out a geochemical survey on a section of the claim group and the results of that work are described herein.

### 1.2 Property

E. Ostensoe and T.E. Lisle are the co-owners of the claims that comprise the Hat Project. Recent changes to provincial mining regulations allowed for the conversion of Legacy claims to the new cell claim designations and this change has resulted in new tenure numbers and claim size. As presently constituted, the following describe the tenures in the Hat Property.

## Hat Claim Map

## Mineral Titles Layers $\square \quad$ Hat Tenure <br> All Mineral Tenures

Topographic Layers
$+\quad$ Railways 1:20K ( $<100 \mathrm{~K}$ )
_-...- Roads 1:20K (<100K)
-Gravel Road
-Paved Road
Rough Road

- Lakes 1:20K (<100K)
- Rivers 1:20K (<100K)

BC Border Layers
BC Border 1:50K


SCALE 1:41,697


| Old <br> Name | New <br> Tenure\# | Issue <br> Date | Total <br> Cells | Current <br> GTD | Total <br> Hectares | Assessment <br> @ $\$ 4.00 / H$ | Assessment <br> @ $\$ 8.00 / H$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Hat 3 | 511709 | $2005 / \mathrm{Apr} / 26$ | 15 | $2005 / \mathrm{Sep} / 30$ | 324.014 | $\$ 1,296.06$ | $\$ 2,592.11$ |
| Bob 2 | 507814 | $2005 / \mathrm{Feb} / 24$ | 15 | $2005 / / \mathrm{sep} / 30$ | 255.738 | $\$ 1,022.95$ | $\$ 2,045.90$ |
| Hat | 501290 | $2005 / \mathrm{/an} / 12$ |  | $2006 / / \mathrm{Jan} / 12$ | 204.528 | $\$ 818.11$ | $\$ 1,636.22$ |
| Hat 4 | 515549 | $2005 / \mathrm{Jun} / 29$ |  | $2005 / \mathrm{Sept} / 30$ | 187.587 | $\$ 750.35$ | $\$ 1,500.70$ |
| Bob 1 | 515550 | $2005 / \mathrm{Jun} / 29$ |  | $2005 / \mathrm{Sept} / 30$ | 715.865 | $\$ 2,863.46$ | $\$ 5,726.92$ |
| Total |  |  |  |  | $\mathbf{1 , 6 8 7 . 7 3 2}$ | $\$$ | $\$$ |

Annual Filing Fees @ \$0.40/Hectare
$\$ 675.0928$

### 1.3 Location and Access

The Hat claims are located in Northwest British Columbia in Map sheet 104J/4E (104J012/104J013/104J022 and 104J023), and are centered approximately on Coordinates $131^{\circ} 37^{\prime} 53^{\prime \prime} \mathrm{W}$, and $58^{\circ} 11^{\prime} 38^{\prime} \mathrm{N}$. The property is adjacent to Hatchau Lake that is situated 95 km west of Dease Lake and 50 km northwest of Telegraph Creek.

The claims lie mainly north of the Hackett River Lineament that drains Hatchau Lake northwest to the Sheslay River. Elevations in the claim area range from about 625 to 1300 metres above sea level. The slope to the north of the main Hackett River valley is relatively steep to about the 1000 metre elevation, but becomes flatter to the north towards Level Mountain. Some of the creeks are deeply incised into the south escarpment, and the area is thinly forested with poplar and spruce, and locally by bushy marshes and muskegs.

An all weather road connects Dease Lake to Telegraph Creek, and a limited access mine service road* branches from the main road near Telegraph Creek and passes about 8-10 km . south of the Hat claims. There is an overgrown airstrip located at the confluence of the Hackett River and the Sheslay River some 13 km west of the Hat claims. For practical purposes, the easiest current access is by float-equipped aircraft to Hatchau Lake, or by helicopter from the Golden Bear Mine Road. Helicopter access would be preferable and necessary to establish camps on the upper slopes.

[^0]
### 1.4 References.

1) Gabrielse, H. 1998. Geology of the Cry Lake and Dease Lake Map Areas, North Central British Columbia, GSC Bulletin 504.
2) Jackman, W. and Friske, PWB. (2001). Regional Stream Sediment and Water Data, Dease Lake, British Columbia (NTS 104J) BC RGS 55/GSCC Open File 4011
3) Lisle, T.E. (1997) Geological and Geochemical Report on the Hat, Bob and Ken mineral claims, Atlin Mining Division, B.C. Assessment Report 24935
4) Ostensoe, E, and Lisle, T. E. 1996 Report of Work, Hat Project, Atlin MD, BC, Assessment Report 24388
5) Panteleyev, A. McMillan, W.J. Preto, V.A, -1974 Geological Fieldwork,. Geochemical Sampling, Geology and Magnetics of the Kaketsa Stock. 104J/4W

- 1973 Kaketsa Stock. Geology Exploration and Mining in BC. 1972, pp 547-549

1988. GAC. The Gangue, MDD. Ore Deposit Models: Epithermal Au-Ag Low Sulphidation.
6) Schmidt, A. 1978 Linecutting and Geochemical Surveys, Ski Property, Atlin M.D., B.C. Assessment Report 6835
7) Vyselaar, J. 1979. Combined Linecutting, Geochemical and Geophysical Report, Ski Property, Atlin M.D., B.C. Assessment Report 7482.
8) Miscellaneous Private file notes and reports on the geology and exploration of the Hat claim area assembled from various sources between 1976 and 2005

### 2.0 GEOLOGY

### 2.1 Regional Setting

The Hatchau Lake area is in the intermontaine belt where the Stikine Plateau merges with the Coast Mountains. This area is coincident with the northern margin of tectonic terrain Stikinia where structural trends are dominantly west-northwest and northerly.

The claim area is within a zone of crustal rifting, marked by northerly trending belt of Miocene to Recent aged volcanoes (TQw) including the Level Mountain.Volcano. This zone crosses the Nahlin and King Salmon Faults, regional northwest structures related to terrain boundaries. An important epithermal gold-silver occurrence, located at Heart Peak, to the west of the Level Mountain volcano, and an epithermal gold-copper occurrence at the Hat property near the southern boundary of Level Mountain, indicates that these young volcanic complexes may have potential for the development of precious metal deposits.

The Hat property is in the Sheslay district where the Level Mountain basalts intrude and overlie sections of the Stuhini Group ( TrJt ), an arc assemblage of andesitic to basaltic volcanic and related sedimentary rocks of upper Triassic age. The Stuhini Group is similar to, and correlative with, the Nicola and Takla formations mainly to the east and southeast that host a significant number of productive porphyry copper ( + -Au, Mo) deposits of both the alkaline and calc-alkaline suites. The Hat property is located in a central area where a north-south trending section of the Stuhini formation abuts the Nahlin-King Salmon faults, and where the formational trend swings northwest-southeast sub parallel to these faults.

The region is marked by a number of intrusions that range in size from batholiths to dykes. The intrusions are commonly late Triassic to early Jurassic in age, are calc-alkalic to alkalic in composition ( $\mathrm{Ejg} / \mathrm{Ejd}$ ) and, in part, coeval with the Stuhini volcanic rocks. The large Moosehorn Batholith to the south of the Sheslay district is largely diorite in composition but ranges from gabbro to quartz monzonite.

A surprisingly large number of mineral occurrences are present in the Sheslay District and many are spatially related to the Kaketsa Stock and other smaller intrusions. Exhalative sulphide mineralization is present in volcanic sedimentary rocks near Copper and Dick Creeks, and porphyry-style copper-gold mineralization has been investigated at Kaketsa Mountain, at the Kidd-Grizzley, and at Dick Creek in the west section of the district.

### 2.2 Geology of the Hat Claims

The Hat claim area is underlain by a large dioritic stock that trends generally east west. The stock intrudes Stuhini volcanic and related sedimentary rocks near the south contact of Level Mountain Volcanics. Mapping and regional magnetic surveys indicates that the
central core of the intrusion is a magnetite-rich medium to coarse-grained gabbro. Phases of the intrusion are similar to the more common Kaketsa-type medium-grained diorite found mainly to the west, but neither the size nor architecture of the intrusion has been fully defined. Monzonite to syenite dykes are scattered throughout the Hat claims.

The intrusion is of interest due to extensive areas of alteration that occur around the northwest and southeast contacts, and to widespread copper and gold mineralization found in its vicinity. To the northwest, a wide zone described as light gray or green-gray to cream coloured fine-grained diopside-plagioclase-silicate hornfels is reported. To the south of the stock, a very large conspicuous bright-orange gossan marks an area of extensive carbonate-silica-argillic? alteration and zones of breccia centered over an area of intense faulting and fracturing along Gossan Creek, and to the west of Hatchau Lake.

### 2.3 Mineralization

Significant concentrations of copper and gold mineralization have been extensively explored at a number of prospects in the Sheslay District (Copper Ck., Dick Ck., KiddGrizzley, Kaketsa Mtn., and Wolverine). The style of mineralization is varied and includes porphyry, exhalative, vein and skarn zones.

Work at the Hat property indicates that known copper and gold mineralization is concentrated mainly in three areas:
a) Hoey Prospect.

A northerly trending cluster of veins and lenses of specular hematite with subordinate pyrite and chalcopyrite occur immediately northeast of Hatchau Lake. Sampling by the writers yielded assays up to 8.1 ppm Au and $23,530 \mathrm{ppm} \mathrm{Cu}$. Of interest is the presence of elevated levels of cobalt +-As, and Ni., and slightly elevated levels of Ag and W. Written descriptions (A Panteleyev) suggest a similarity with mineralization the PET prospect located further along the south Level Mountain contact north of Sheslay.
b) Hat North.

A very large $\mathrm{Cu}+-\mathrm{Au}$ gold in soil anomaly is present about 3 km north of Hoey. The area is largely drift covered, but limited outcrop and trenches expose minor magnetite, pyrite and chalcopyrite in weak to moderately altered dioritic rocks. Assays ranged up to about $0 .!\% \mathrm{Cu}$. A sample of float collected from a drift covered area to the east of the trenches showed significantly higher concentrations of Cu and Au . Insufficient work has been completed on this zone to determine the style of mineralization.
c) Gossan Creek.

The large alteration zone noted above immediately northwest of Hatchau Lake is characterized low sulphide concentrations including finely disseminated chalcopyrite, pyrite and a very fine unidentified dark gray sulphide. Well banded and comb textures,
are present but not common. Breccias and adjacent rocks show evidence of multiple brecciation and deposition, and soil and rock geochemistry show that the alteration zones are variably anomalous in copper, gold, arsenic and barium. Background data also show that scattered highs of $\mathrm{Zn} . \mathrm{Pb}$. and Sb . have been noted but are not common. Silver content is mainly low. Of interest is a grab sample of silicified (chalcedonic) breccia that assayed 966 ppb Au.; 4,951ppm Cu.; 2,752ppm As.; 2.8 ppm Ag.; 21ppb Sb., and 213 ppm Co.
These characteristics appear to suggest the presence of a 'Low sulphidation epithermal system' where narrower discrete mineralized conduits may be obscured by broad alteration haloes. The presence of elevated levels of cobalt and nickel, elements not commonly associated with these types of deposits, indicates that the mineralization may be more complex, and may have a relationship to the Hoey mineralization noted earlier.

### 3.0 WORK PROGRAM

### 3.1 Introduction.

The owners drove to Dease Lake with camp, groceries and exploration equipment and chartered a fixed-wing aircraft to Hatchau Lake about 90 kilometres to the west of Dease Lake. Hatchau Lake lies on the southern perimeter of the Hat property and a camp was established near the northwest corner of the lake. A radiotelephone was set up at the camp for communication with the aircraft company. Travel and fieldwork occupied 11 days, from August 23 through September 2, 2005.

Prior to leaving Dease Lake for the property, the owners met with representatives of the Tahltan First Nation at the band office in Dease Lake. The purpose of the meeting was to advise them of our claims and to apprise them of our work plans.

Some of the previous work at the property had been directed to the main Gossan Creek area with a few long traverse lines extended to the west section of the property (Formerly HAT 4 claim before conversion to cell claims). The soil chemistry from samples on the westerly lines had shown a few sites with anomalous levels of copper, gold etc. and the 2005 work was directed expanding the data in this area.

### 3.2 Sampling Procedure.

A total of 95 soil samples were collected from a small grid located near the west end of the previous grid. A control point on Line $8+00 \mathrm{~S}$ at $19+00 \mathrm{~W}$ on an old line was located and a compass and belt chain line run easterly for 185 metres, then north for 100 metres to establish a new station $7+00 \mathrm{~S}$ at $17+00 \mathrm{~W}$. From this point, a sub base line was run north to $4+00 \mathrm{~S}$ and $17+00 \mathrm{~W}$ and stations marked at 50 metre intervals. Six east-west cross lines were established and marked at 50 metre intervals mainly between $13+50 \mathrm{~W}$ and $21+00 \mathrm{~W}$. Because line 6 from a previous survey covered much of the area between the new lines $5+00 \mathrm{~S}$ and $6+00 \mathrm{~S}$, a new line was not established in this area.

The sample grid was tied in to two points of the old Line 6+00S. E Trex GPS readings were also collected at a number of grid points on the survey, and these points are noted on Figure 3 to this report. Some of the grid lines were also tied off at $13+00 \mathrm{~W}$ and $21+00 \mathrm{~W}$.

The Sheslay area has been glaciated, and bedrock is partly obscured by a thin veneer of glacial till. In some areas, the till may be up to a few metres thick. A typical soil profile includes a few centimeters of dark organic material that is commonly underlain by a brown clayey soil that varies to dark brown, or to red brown and in some areas yellow brown with depth. Experience in the area has shown that the clay-rich tills can significantly mask bedrock and subcrop mineralization, therefore when sampling, there is a need to penetrate the surficial cover as deep as possible.

Outcropping and talus slopes are locally evident, and are mainly composed of green volcanic or volcanic sedimentary rocks of the Stuhini Group. Highly altered limonitic carbonate-silica rock (breccia)? is also present. Notes on the presence of these rock units are added to sample data sheets where space permitted.

All samples were dug with a shovel or a soil-sampling pick. Commonly, the samples were taken at depths of 15 to 30 cm . and details on location, colour, content etc were recorded on data sheets that form part of this report. The samples were air dried for several days then packed in boxes and delivered to Acme Analytical Laboratory in Vancouver.

### 3.3 Laboratory Procedure.

On delivery to the laboratory, the samples were further dried at $60^{\circ} \mathrm{C}$ and screened to obtain the -80 mesh fraction. 15 gram splits were then leached in hot $\left(95^{\circ} \mathrm{C}\right)$ Aqua Regia and samples were analyzed for 36 elements by ICP-MS methods. The results of the analyses are appended in Assay data sheets in appendix 2 to this report.

### 4.0 PROGRAM RESULTS.

Based on previous work, it was expected that elevated levels of some of the more commonly sought elements would be present in the grid, and this was found to be the case. For purposes of display, seven of the elements (Cu. Au. As. Ba. Co. Ni. Zn) have been plotted and are included as figures 4 a to 4 g to this report. Included in the plots are sample sites from the old (2001) 6S line that passes centrally through the grid. Areas of possible interest for these elements are highlighted by contours. The full range of analytic data is included in appendix 2 to this report.

As a generality, there is a wide scattering of anomalous areas that tend to be more concentrated in the central and northeast sections of the grid. Contouring suggests a probable northeast trend for some of the anomalies. Correlation between anomalous elements is locally good but in some areas it is weak or not evident.

### 5.0 CONCLUSIONS AND RECOMMENDATIONS

Previous geochemical work on the Hat claims in the area west of Gossan Creek had shown the presence of anomalous concentrations of copper and gold and related elements in the soils. A more detailed soil survey carried out in 2005 over a section of the same area resulted in anomalous concentrations of the same elements and confirmed the earlier results.

Evidence at Gossan Creek appears to indicate an epithermal mineral system centered on breccia zones at or near major fault structures. The presence of anomalous copper, gold, arsenic, barium, cobalt and nickel in the 2005 soil grid, and evidence of similar mineralization in massive hematite veins located two kilometers east of Gossan Creek indicates that much of the mineralization in the Hat claims may be connected to a very large mineral system the size and shape of which is presently unknown. Some of the mineralization is suspected to relate to late stage volcanism at Level Mountain.

The geology of the 2005 grid area was not mapped. Large sections of the grid are drift covered, however outcropping was noted at a number of points, mainly in the eastern grid. To evaluate the geochemical data, it will be necessary to map the geology, and to extend the grid into areas of interest mainly to the northeast and southwest.

The 2005 work program was one of a number of limited efforts to evaluate the mineral potential of the claims. Like the other programs, this work has yielded results that are encouraging but not sufficient to determine drill targets. To get to the drill testing stage, all known mineralized zones on the property, including the 2005 grid area, should be further evaluated by a comprehensive program of detailed mapping, geochemistry, and geophysics.









## APPENDIX 1 CERTIFICATION

This report was prepared by T.E. Lisle, P. Eng., and E.A. Ostensoe, P.Geo., and is based in part on the work carried out by the authors in 1995, 1996, 2001 and 2005, and in part on background data as described in the section of References.

Thomas E. Lisle, P. Eng. certifies that:

1) He is a qualified consulting geologist with residence in North Vancouver, British Columbia.
2) He is a graduate in geology of the University of British Columbia, and is a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia. He is also a member in good standing of the Geological Association of Canada.
3) He has worked in the mineral exploration sector of the mining industry for more than forty years in western and northern Canada, the United States and Mexico.
4) He , in cooperation with Erik Ostensoe, P. Geo., completed the field work that is the basis for the accompanying report, and he is the principal author of that report.

Erik A. Ostensoe, P. Geo. certifies that:

1) He is qualified consulting geologist with residence in the city of Vancouver, British Columbia,
2) He is a graduate in Honours Geology of the University of British Columbia, and has studied at Queens University, Kingston, Ontario and is a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia.
3) He has worked in the mineral exploration sector of the mining industry for more than thirty-five years.
4) He , in cooperation with T.E. Lisle, P. Eng. completed the field work that is the basis of the accompanying report and collaborated in the preparation of the report.

APPENDIX 2

SOIL GEOCHEMISTRY ANALYTIC DATA



GROUP 10 X - 15.0 GM SAMPLE LEACHED WITH $90 \mathrm{ML} 2-2-2$ HCL-HNO3-H20 AT 95 DEG. C FOR ONE HOUR, DILUTED TO 300 ML, ANALYSED BY ICP-MS. ( $>$ ) CONCENTRATION EXCEEDS UPPER LIMITS. SOME MINERALS MAY BE PARTIALLY ATTACKED. REFRACTORY AND GRAPHITIC SAMPLES CAN LIMIT AU SOLUBIL

- SAMPLE TYPE: SOIL SS80 60C

Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.
Data 1 FA $\qquad$ DATE RECEIVED: SEP 22005 DATE REPORT MAILED:

| $5+00 \mathrm{~S} 20+50 \mathrm{~W}$ | 9 | 133.6 | 6.1118 | . 2 | 59.0 | 30.3 | 978 | 5.05 | 13.6 | . 4 | 7.71 .8 | 29 | 2 | . 3 |  | 130 | . 74 | . 139 |  | 985.0 | 94 | 138 | 161 |  | 62.44 | 015 | 42 | 01 | 9.4 | . $1<05$ | $8<.5$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $5+00 \mathrm{~S} 20+00 \mathrm{~W}$ | 1.4 | 335.9 | 6.9100 | . 3 | 76.6 | 34.5 | 844 | 5.81 | 23.8 | . 5 | 14.12 .3 | 33 | 2 | . 3 |  | 126 | . 76 | 129 | 16 | 686.7 | 96 | 71 | . 280 |  | 2.48 | 028 | 35 | 03 | 9.1 | . $1<.05$ | $10<.5$ |
| $5+00 \mathrm{~S} 19+50 \mathrm{~W}$ | 1.3 | 199.7 | 4.794 | . 2 | 83.8 | 42.9 | 12045 | 5.90 | 27.1 | 4 | 8.71 .6 | 31 | 2 | . 3 |  | 119 | . 98 | 144 |  | 125.1 | 1.07 | 138 | 110 |  | 2.55 | 015 | 49 . 1 | 03 | 13.4 | . $1<.05$ | 8.5 |
| 5+00S 19+00W | 1.5 | 232.8 | 4.769 | 2 | 88.2 | 49.2 | 993 | 6.30 | 45.4 | . 5 | 22.71 .8 | 27 | 1 | 4 |  | 131 | . 83 | 122 | 12 | 2122.9 | 1.12 | 102 | 145 |  | 42.49 | 015 | 33 | 03 | 13.5 | . $2<.05$ | 8.7 |
| $5+00 \mathrm{~S} 18+50 \mathrm{~W}$ | 1.3 | 180.1 | 5.8203 | . 5 | 97.4 | 47.5 | 1441 | 5.68 | 21.2 | 4 | 6.11 .5 | 35 | 4 | . 3 | 2 | 114 | 1.00 | 170 | 10 | 120.1 | 1.02 | 205 | 142 |  | 72.55 | 016 | 40 | 02 | 10.4 | . $1<.05$ | $8<.5$ |
| $5+00518+00 \mathrm{~W}$ | 1.5 | 162.8 | 7.8142 | 4 | 98.5 | 41.8 | 1113 | 6.06 | 30.5 | . 3 | 7.01 .9 | 28 | 3 | 3 |  | 138 | . 82 | 089 |  | 2127.9 | 1.02 | 113 | 191 |  | 2.64 | 017 | $53<1$ | 02 | 13.0 | . $2<.05$ | 9.6 |
| RE $5+00 \mathrm{~S} 18+00 \mathrm{~W}$ | 1.5 | 158.9 | 7.8136 | 4 | 98.7 | 40.8 | 1129 | 6.08 | 30.7 | . 4 | 12.01 .8 | 28 | 3 | 4 |  | 135 | . 80 | . 089 | 12 | 2127.9 | 1.02 | 113 | 189 |  | 62.65 | 016 | $50<1$ | 02 | 12.1 | . $2<.05$ | 9.5 |
| $5+00$ S 17+50W | . 9 | 237.2 | 7.995 | . 1 | 102.8 | 43.5 | 1194 | 5.47 | 26.7 | . 4 | 7.31 .5 | 40 | 2 | . 4 |  | 122 | 1.14 | 098 | 11 | 1123.3 | 1.18 | 120 | . 108 |  | 5.32 | 015 | 55.1 | 03 | 12.7 | . $1<05$ | 8.6 |
| $5+00 \mathrm{~S} 17+00 \mathrm{~W}$ | 8 | 208.8 | 6.293 | . 1 | 104.9 | 47.0 | 1223 | 5.69 | 24.8 | . 5 | 9.31 .4 | 33 | 2 | . 3 |  | 131 | 1.04 | 115 | 11 | 1151.4 | 1.19 | 185 | 135 |  | 2.79 | 014 | $69<1$ | 01 | 13.1 | $2<.05$ | $8<.5$ |
| $5+00 \mathrm{~S} 16+50 \mathrm{~W}$ | 2.4 | 519.4 | 3.367 | . 2 | 118.1 | 95.4 | 1177 | 7.92 | 63.6 | . 6 | 8.11 .1 | 37 | 1 | . 6 | . 2 | 150 | 1.34 | 059 | 10 | 0189.0 | 1.51 | 81 | . 077 |  | 42.69 | 009 | $57<1$ | 02 | 20.3 | . $2<.05$ | 9.6 |
| 5+00S 16+00W | 2.4 | 530.7 | 2.3 41 | . 2 | 131.7 | 80.7 | 832 | 7.51 | 67.3 | . 7 | 12.01 .2 | 28 | 1 | . 3 |  | 123 | 1.06 | . 050 |  | 5154.9 | 9 | 49 | 045 |  | 21.95 | 007 | $22<1$ | 04 | 20.6 | . $2<.05$ | 7 . 8 |
| $5+00 \mathrm{~S} 15+50 \mathrm{~W}$ | 1.5 | 233.1 | 5.4119 | . 3 | 124.8 | 53.3 | 1322 | 6.81 | 30.6 | . 4 | 5.21 .6 | 23 | 2 | . 3 |  | 137 | . 73 | . 058 | 13 | 3155.9 | 1.09 | 144 | 167 |  | 42.91 | 013 | $68<1$ | 02 | 14.5 | . $2<.05$ | $10<.5$ |
| $5+00 \mathrm{~S} 15+00 \mathrm{~W}$ | 9 | 93.5 | 6.5143 | . 3 | 109.8 | 37.3 | 1383 | 5.49 | 14.2 | . 5 | 2.11 .5 | 34 | 2 | . 3 |  | 117 | . 84 | 227 | 10 | 191.9 | 1.01 | 169 | 139 |  | 32.66 | 011 | 20.1 | 02 | 8.4 | . $1<.05$ | $9<.5$ |
| $5+00 \mathrm{~S} 14+50 \mathrm{~W}$ | 9 | 129.4 | 6.499 | 1 | 84.4 | 34.1 | 1200 | 5.76 | 21.6 | . 5 | 6.41 .7 | 35 | 2 | . 3 |  | 139 | . 94 | 086 | 11 | 1129.1 | 1.13 | 199 | 140 |  | 42.74 | 013 | 34.1 | 04 | 15.4 | . $1<.05$ | $9<.5$ |
| $5+00514+00 \mathrm{~W}$ | . 8 | 167.0 | 5.499 | . 1 | 97.1 | 35.8 | 1068 | 5.48 | 17.7 | . 5 | 5.11 .6 | 32 | 2 | . 3 |  | 132 | . 85 | 106 |  | 1138.5 | 1.13 | 138 | . 145 |  | 5.78 | 017 | 51.1 | . 02 | 13.1 | . $1<.05$ | $9 \quad .5$ |
| $5+00 \mathrm{~S} 13+50 \mathrm{~W}$ | 9 | 156.8 | 6.784 | 1 | 92.9 | 37.9 | 1058 | 6.07 | 21.9 | 6 | 5.91 .7 | 37 | 2 | 4 |  | 145 | 88 | 153 |  | 1136.3 | 1.18 | 99 | 128 |  | 32.88 | 012 | $28<1$ | 03 | 5.3 | . $1<05$ | 9.6 |
| 5+50S 17+00W | 2.5 | 589.1 | 4.364 | . 3 | 133.2 | 68.5 | 853 | 6.75 | 42.9 | 3 | 11.41 .0 | 24 | 1 | 3 |  | 127 | 1.18 | . 076 |  | 8269.4 | 1.76 | 57 | 112 |  | 82.76 | 012 | $60<1$ | 02 | 19.7 | . $1<.05$ | 8.5 |
| $6+00 \mathrm{~S} 21+00 \mathrm{~W}$ | 1.1 | 97.3 | 4.361 | . 1 | 60.0 | 23.0 | 731 | 4.54 | 17.0 | . 3 | 6.21 .7 | 23 | . 1 | . 3 |  | 119 | . 58 | . 053 |  | 879.3 | . 84 | 73 | . 145 |  | 31.97 | 014 | 25 | . 03 | 9.1 | . $1<05$ | $6<.5$ |
| $6+00 \mathrm{~S} 20+50 \mathrm{~W}$ | 1.2 | 106.9 | 4.596 | 2 | 60.1 | 30.7 | 815 | 5.12 | 20.8 | 3 | 32.51 .7 | 24 | 2 | . 3 |  | 111 | . 73 | 130 |  | 989.3 | 78 | 100 | . 158 |  | 52.07 | 014 | 38<.1 | . 03 | 10.0 | . $1<.05$ | $8<.5$ |
| $6+00520+00 \mathrm{~W}$ | 1.4 | 168.6 | 4.886 | . 2 | 74.3 | 36.0 | 961 | 5.96 | 30.2 | . 3 | 7.41 .8 | 32 | 1 | . 3 |  | 126 | . 77 | 145 |  | 1106.6 | . 91 | 119 | . 168 |  | 2.41 | . 018 | 40.1 | 04 | 11.8 | . $1<.05$ | 8.5 |
| 6+00S 19+50W | 1.6 | 120.3 | 3.860 | 1 | 73.2 | 31.0 | 644 | 5.59 | 30.7 |  | 11.21 .8 | 28 | . 1 | 3 |  | 124 | . 86 | 124 |  | 9108.5 | 98 | 86 | . 202 |  | 52.28 | 020 | 29 |  | 9.8 | . $1<05$ | 8.6 |
| $6+00 \mathrm{~S} 19+00 \mathrm{~W}$ | 1.5 | 157.6 | 4.170 | 2 | 79.0 | 34.9 | 828 | 5.59 | 34.1 | 4 | 6.61 .4 | 30 | 1 | 4 |  | 126 | . 88 | 102 |  | 9117.5 | 1.00 | 85 | 117 |  | 42.37 | 015 | 33.1 | 03 | 13.2 | . $2<.05$ | 8.6 |
| $6+00518+50 \mathrm{~W}$ | 9 | 309.1 | 3.7113 | 2 | 103.4 | 61.3 | 1124 | 5.97 | 25.1 | . 3 | 8.41 .2 | 46 | 2 | . 3 |  | 111 | 1.42 | 263 | 10 | 0113.4 | 1.16 | 109 | 091 |  | 2.20 | 018 | 55<.1 | 01 | 11.0 | . $2<.05$ | $7<.5$ |
| $6+00 \mathrm{~S} 18+00 \mathrm{~W}$ | 1.6 | 191.9 | 4.477 | 2 | 80.8 | 38.9 | 1203 | 5.80 | 33.1 | . 3 | 10.81 .3 | 35 | 2 | . 3 |  | 119 | 1.09 | 143 | 10 | 0122.5 | . 96 | 160 | 104 |  | 62.07 | 016 | $40<11$ | 05 | 13.0 | . $1<.05$ | 7.6 |
| $6+00 \mathrm{~S} 17+50 \mathrm{~W}$ | 1.1 | 180.1 | 4.9136 | 2 | 90.0 | 43.5 | 1173 | 6.01 | 23.2 | . 5 | 7.51 .6 | 32 | 2 | . 3 |  | 123 | . 97 | 162 | 12 | 2126.1 | 1.10 | 185 | . 151 |  | 2.67 | 017 | 56.1 | . 02 | 12.5 | . $1<.05$ | $9<.5$ |
| $6+00 \mathrm{~S} 17+00 \mathrm{~W}$ | 5.4 | 1794.8 | 3.078 | . 7 | 144.8 | 159.6 | 1140 | 8.45 | 204.7 | 6 | 93.01 .3 | 29 | . 1 | 5 |  | 132 | . 97 | 125 | 16 | 6214.3 | 1.54 | 123 | . 107 |  | 62.77 | 020 | . 67 | 02 | 16.2 | . $5<.05$ | 10.7 |
| $6+00 \mathrm{~S} 16+50 \mathrm{~W}$ | 1.3 | 240.5 | 3.783 | . 2 | 129.7 | 48.0 | 1287 | 6.63 | 40.4 | 4 | 7.41 .4 | 32 | . 1 | . 3 |  | 129 | . 96 | . 098 | 11 | 1174.6 | 1.29 | 155 | 108 |  | 52.67 | 017 | 58<.1 | 02 | 15.9 | . $2<.05$ | $9 \quad .5$ |
| $6+00516+00 \mathrm{~W}$ | 1.3 | 217.6 | 3.865 | 1 | 112.1 | 43.8 | 1044 | 6.46 | 35.7 | 6 | 26.21 .4 | 32 | 1 | 4 |  | 126 | . 90 | . 061 | 12 | 2161.3 | 1.34 | 79 | 144 |  | 42.75 | 017 | .31 .1 | . 03 | 13.7 | $2<.05$ | 8.6 |
| $6+00 \mathrm{~S} 15+50 \mathrm{~W}$ | . 7 | 213.8 | 3.7121 | 2 | 129.8 | 43.3 | 1208 | 5.70 | 17.1 | 4 | 3.81 .2 | 37 | . 3 | 3 |  | 107 | 1.33 | 175 | 10 | 0144.6 | 1.32 | 154 | . 138 |  | 2.56 | 019 | $71<1$ | . 03 | 11.2 | . $2<.05$ | $8<.5$ |
| $6+00 \mathrm{~S} 14+50 \mathrm{~W}$ | . 4 | 161.2 | . $7 \quad 30$ | . 2 | 127.0 | 44.5 | 754 | 6.09 | 7.6 | 4 | 4.6 . 8 | 35 | . 1 | 2 |  | 102 | 1.81 | . 087 |  | 7235.4 | 1.46 | 30 | . 069 |  | 1.95 | . 006 | . $24<1$ | . 07 | 20.8 | . $2<.05$ | 7.8 |
| $6+00514+00 \mathrm{~W}$ | 7 | 141.2 | 4.387 | . 1 | 113.5 | 42.1 | 1349 | 5.72 | 15.5 | . 4 | 4.61 .3 | 29 | . 2 | 4 |  | 118 | . 11 | 127 |  | 9183.6 | . 15 | 126 | 095 |  | 62.35 | 011 | $63<1$ | 02 | 14.5 | . $1<.05$ | 8.5 |
| $6+00513+50 \mathrm{~W}$ | 1.2 | 193.6 | 4.386 | . 1 | 154.7 | 50.7 | 1379 | 6.68 | 37.0 | . 5 | 6.91 .4 | 37 | . 2 | . 3 |  | 129 | 1.13 | . 078 | 10 | 0184.5 | 1.32 | 155 | 129 |  | 72.87 | 017 | 68.1 | 01 | 14.9 | . $2<.05$ | 8.6 |
| $6+00 \mathrm{~S} 13+00 \mathrm{~W}$ | 7 | 234.7 | 4.483 | . 1 | 117.0 | 38.8 | 956 | 5.55 | 19.0 | 5 | 54.41 .4 | 41 | . 2 | 4 |  | 134 | 99 | . 095 | 12 | 2162.1 | 1.59 | 114 | 140 |  | 53.25 | 021 | . $53<.1$ | . 02 | 15.3 | . $1<.05$ | $9<.5$ |
| $6+50 \mathrm{~S} 21+00 \mathrm{~W}$ | 1.4 | 228.4 | 3.258 | . 1 | 89.0 | 39.4 | 803 | 5.50 | 18.1 | 3 | 9.31 .1 | 29 | . 2 | . 3 | 1 | 113 | . 88 | 147 |  | 9119.4 | 1.04 | 93 | 105 |  | 62.25 | 014 | $48<1$ | 03 | 11.4 | . $1<.05$ |  |
| STANDARD OS6 | 11.7 | 125.9 | 29.7145 | . 3 | 325.1 | 10.9 | 717 | 2.90 | 21.5 | 6.8 | 48.13 .0 | 40 | 6.4 | 3.4 | 5.0 | 56 | . 87 | . 082 | 13 | 3187.2 | . 59 | 165 | . 081 |  | 1.97 | 073 | . 153.6 | . 23 | 3.3 | $1.8<.05$ | 64.5 |

[^1]

[^2]
## APPENDIX 3

SOIL DATA FORMS.

GEOCHEMICAL DATA


SURVEY TYPE: S=Soil; SS=Silt; R=Rock Chip
DEPTH: Measured in meters.
HORIZON: Marked A, B, or C
COLOUR: Br, Brown. Bl. Black. R. Red. G. Grey. O. Orange. Dk. Dark. Lt. Light.
MATERIAL: T Till; Co. Colluvium. A. Alluvium. F. Fluvial. GF. Glaciofluvial. O. Organic.
ORGANICS: Visual estimate of organic content.
GRAVEL: Estimate of Gravel sized fragments.
CLAY-SiLT-SAND: Low to moderate to high estimates.

* W.P. 9 Etrex GPs Accorogy 11.0 m . Elevation To sm. $34497 /$ /6453/75

GEOCHEMICAL DATA


SURVEY TYPE: S=Soll; SS=SM; R=Rock Chip
DEPTH: Measured in meters.
HORIZON: Marked A, B, or C
COLOUR: Br. Brown. Bi. Black. R. Red. G. Grey. O. Orange. Dk. Dark. LL. Light.
MATERIAL: T Tu: Co. Colluvium. A. Alluvium. F. Fluvial. GF. Glaciofuvial. O. Organdie.
ORGANICS: Visual estimate of organic content.
GRAVEL: Estimate of Gravel sized fragments.
CLAY-SILT-SAND: Low to moderate to high estimates.

GEOCHEMICAL DATA


SURVEY TYPE: S=Soll; SS=Silt; R=Rock Chip
DEPTH: Measured in meters.
HORIZON: Marked A, B, or C
COLOUR: Br. Brown. BI. Black. R. Red. G. Grey. O. Orange. Dk. Dark. Lt. Light.
MATERIAL: Y Till: Co. Colluvium. A. Alluvium. F. Fluvial. GF. Glaciofuvial. O. Organic.
ORGANICS: Visual estimate of organic content.
GRAVEL: Estirnate of Gravel sized fragments.
CLAY-SILT-SAND: Low to moderate to high estimates.

* Etrex GPS-NAD 85-Accwocy ism. (wAil) Elev. 827m 345512/6453131

Note: Tie Line $4+505-13+50 \mathrm{w}$ to $4+00 \mathrm{~s}-13+50 \mathrm{w}=58 \mathrm{M}$.

GEOCHEMICAL DATA


SURVEY TYPE: S=SOHI; SS=SH: R=Rock Chip
DEPTH: Measured in meters.
HORIZON: Marked A, B, or C
COLOUR: Br. Brown. By. Black. R. Red. G. Grey. O. Orange. Dk. Dark. Lt. Light
material: t till: Co. Colluvium. A. Alluvium. F. Fluvial. GF. Glaciofuvial. O. Organdie.
ORGANICS: Visual estimate of organic content.
GRAVEL: Extirnate of Gravel sized fragments.
CLAY-SILT-SAND: Low to moderate to high estimates.

GEOCHEMICAL DATA


SURVEY TYPE: S=Soll; $S S=$ Silt; R=Rock Chip
DEPTH: Measured in meters.
HORIZON: Marked A, B, or C
COLOUR: Br. Brown. BI. Black. R. Red. G. Grey. O. Orange, Dk. Dark. Li. Light.
material: t till: Co. Colluvium. A. Alluvium. F. Fluvial. GF. Glaciofuvial. O. Organic.
ORGANICS: Visual estimate of organic content.
GRAVEL: Estimate of Gravel sized fragments.
CLAY-SILT-SAND: Low to moderate to high estimates.

GEOCHEMICAL DATA


SURVEY TYPE: $\mathbf{S}=$ Salt; $\mathbf{S S}=$ Sill; R=Rock Chip
DEPTH: Measured in maters.
HORIZON: Marked A.B. or C
COLOUR: Br. Brown. Br. Black. R. Red. G. Gray. O. Orange. Dk. Dark. Lt Light.
MATERIAL: T Ti: Co. Collurium. A. Alluvium. F. Fluvial. GF. Glactofuvial. O. Organk.
ORGANICS: Visual estimate of organic content.
GRAVEL: Estimate of Gravel sized fragments.
CLAY-SLLT-SAND: Low to moderato to high estimates.

GEOCHEMICAL DATA


DEPTH: Measured in meters.
HORIZON: Marked A, B, or C
COLOUR: Br. Brown. Bi. Black. R. Red. G. Gray. O. Orange. Dk. Dark. Lt. Light.
MATERIAL: T TH: Co. Colluvium. A Alluvium. F. Fluvial. GF. Glaciofuvial. O. Organic.
ORGANICS: Visual estimate of organic content
GRAVEL: Estimate of Gravel delved fragments.
CLAY-SILT-SAND: Low to moderate lo high estimates.


SURVEY TYPE: S=Soli; SS=Sult R=Rock Chip
DEPIH: Measured in molora.
HORIZON: Marked A, B, or C
COLOUR: Br. Brown. BI. Black. R. Red. G. Grey. O. Orange. Dk. Dark. LL. Llght.
material: t Tim; Co. Collurium. A. Alluvium. F. Fhuvial. GF. Glaciohuvial. O. Organic.
ORGANICS: Visuai ustmate of organic contont
GRAVEL: Estimate of Gravel sized fragments.
CLAY-SILT-SAND: Low to moderate to Nigh estimates.

GEOCHEMICAL DATA


SURVEY TYPE: S=Soll; SS=Sul; R=Rock Chip
DEPTH: Measured in meters.
HORIZON: Marked A, B, or C
COLOUR: Br. Brown. Ba. Black. R. Red. G. Gray. O. Orange. Dk. Dark. Lt. Light.
MATERIAL: T TM; Co. Colluvium. A. Alluvium. F. Fluvial. GF. Glaciofuvial. O. Organic.
ORGANICS: Visual estimate of organic content.
GRAVEL: Estimate of Gravel sized fragments.
CLAY-SILT-SAND: Low to moderate to high estimates.

GEOCHEMICAL DATA

Sh-sla\%

 GRAVEL: Estimato of Gravel alzed tragmants.
CLAY-SILT-SAND: Low to moderate to high estimales.

*4. (2) 75-2030w-GuNty - enotect?
75-2030-2050w- Unartered Vorcanies. Fit o oc.

Tie hine: 7teros-2100w to $6+805$ 20+80w $5052 \mu(50)$.

GEOCHEMICAL DATA

LOCATION NS


SURVEY TYPE: $S=$ Soil; $S S=$ Silt: $R=$ Rock Chip
DEPTH: Measured in meters.
HORIZON: Marked A, B, or C
COLOUR: Br. Brown. BI. Black. R. Red. G. Grey. O. Orange. Dk. Dark. Lt. Light.
material: t till; Co. Colluvium. A. Alluvium. F. Fluvial. GF. Glaciofuvial. O. Organic.
ORGANICS: Visual estimate of organic content.
GRAVEL: Estimate of Gravel sized fragments.
CLAY-SILT-SAND: Low to moderate to high estimates.
Appendix 4
Cost Statement
Hat Claims, Geochemical Survey, August 23 to September 2, 2005
Wages, 2 @ \$300.00/day x 11 days ..... \$6,600.00
Analyses: 95 soil samples: Acme laboratory. ..... \$1,616.23
Fixed-Wing Aircraft. Dease Lake-Hatchau Lake Return. ..... \$1,724.84
Camp Costs.2@\$60.00/day x 11 ..... \$1,320.00
Truck Rental. 11 @ \$55.00/day ..... \$ 605.00
Gasoline ..... \$ 425.87
Radiotelephone: ..... \$ 100.00
Report: ..... $\$ 800.00$
Total: ..... \$13,191.94
T.E. Lisle, P.Eng.
E.O Ostensoe, P. Geo.


[^0]:    * The Golden Bear Mine Road is now locked and special permission has to be obtained from Telegraph Creek for access.

[^1]:    Sample type: SOIL SS80 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

[^2]:    Sample type: SOIL SS80 60C. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

