

Kay 15 Claim


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## ESKAY CREEK PROJECT

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## INTRODUCTION

## objective

The objective of the 1989 drill programme on the Eskay Creek Project was to test the property for gold and silver mineralization at depth. This report presents data on four holes that were drilled for a total of 838.4 metres on the Kay 15 claim.

## Location and Access

The Eskay Creek project area is located 83 kilometers ( 52 miles) north-northwest of Stewart, B.C. (Figure 1) and 37 kilometers (23 miles) east of the Prime Resources Corporation and cominco Limited SNIP Deposit. Access is by helicopter from Bronson, Stewart or Bell II on the Stewart-Cassiar Highway, 25 kilometers east. Tom MacKay Lake, 5 kilometers to the west is suitable for float plane landings, and an unused track runs from the property to the lake shore. An abandoned short airstrip is situated 10 kilometers south of the property.

Road access within the region is currently under review, and several different development corridors are proposed. One such corridor would pass within 20 kilometers of the project area.

## Physiography

The Eskay Creek Project is located on the Prout Plateau within the eastern flank of the Coast Mountains. The Prout Plateau is a rolling massif ranging from 850 to 1300 meters elevation above sea level, characterized by severely glaciated, rocky terrain and subalpine vegetation. Relief on the property is approximately 200 meters and is locally sharp.

The property straddles a ridge, with Argillite Creek on the west and Eskay creek on the east. Both creeks drain north and join Mackay Creek, a tributary of the south-flowing Unuk River. The Unuk River valley is located approximately 2.5 kilometers east of the property, comprising a relatively narrow, heavily forested canyon.

## Climate

There is no meteorological data for the immediate project area. Historical records and current operating experience suggest that annual precipitation exceeds 300 mm , much of which falls as snow. Summer conditions last from late June to the end of September, and are characteristically coast insular or temperate and wet. Winter conditions span the remaining calendar months, during which snow accumulations can exceed 10 meters. Winter conditions are difficult to predict, as the controlling factor is a


PRIME EXPLORATIONS LTD. CALPINE RESOURCES INC. ESKAY CREEK PROJECT

LOCATION MAP
continuous onslaught of warm, moist low pressure systems from the Gulf of Alaska which rise over the Coast Range and dump snow along the divide regions. The interior region immediately east is usually dominated by an arctic high pressure cell, which can become extremely well-entrenched, resulting in outflow conditions which can see both prolonged spells of cold, dry weather and high wind conditions.

Notwithstanding the unpredictable nature of the local weather, year long operations can be sustained by maintaining a properly winterized camp and providing a programme of avalanche control. Numerous other year round development projects are underway within the region, and the current exploration programme at Eskay has clearly demonstrated that cost-effective winter exploration campaigns can be mounted.
claims
The Eskay Creek Property consists of thirty 2-post mineral claims located in the Skeena Mining Division (Figure 2). The claims are situated in NTS map-sheet $104 \mathrm{~B} / 9 \mathrm{~W}$, centered about $56^{\circ} 37^{\prime}$ north latitude, and $130^{\circ} 29^{\prime}$ west longitude. Claim descriptions are as follows:

| Claim Name | Record Nos. |  | Location Date |
| :--- | :--- | :--- | :--- |
|  |  |  | Expiry Date |
| TOK 1-6 | $37248-37253$ |  | May 25, 1972 |

## History

The Eskay Creek area has undergone numerous exploration campaigns since discovery in 1932. The property is now operated on a joint venture basis between Calpine Resources Incorporated and Consolidated Stikine Silver Limited, with Prime Explorations Ltd. as the Project Manager.

Drilling
A winter drill exploration programe was initiated in mid-January of 1989 and completed in early May comprising 13, 467.9 metres in 54 holes of $N Q$ core. The drilling was done under contract by Falcon Drilling Ltd, of Prince George, British Columbia. All core was logged, split and stored on site at the calpine camp.

Drill holes CA89-38 to 41 inclusive are submitted for this assessment report. Each drill hole has a length of approximately 200 metres with a lithology consisting of interlayered andesites and black argillites in the top part of each hole, and rhyolites and felsic volcanics bottoming the holes.


The split core samples were sent to Bondar-Clegg Laboratories in North Vancouver for gold and silver assays. Selected pulps were sent to TSL Laboratories, Saskatoon, for check analysis. Core samples sent to Bondar Clegg were fire assayed with an AA finish for $A u$ and $A g$ using a one assay ton sample size. If the gold value was $>0.100$ ounce per ton, then the sample was re-assayed with a gravimetric finish. Samples with $>.750$ ounce per ton Au were analyzed for metallic gold (metallic sieve assay). Analytical procedures are shown in Appendix I.

Core samples sent to TSL Labs were fire assayed with a gravimetric finish for gold. Silver was assayed using an acid digestion (HCL-HNO3) with an AA finish.

Core logging and splitting was done under the supervision of $G$. McArthur. A list of contractors is shown in Appendix II and statement of qualifications is shown in Appendix III. The drill logs, assays and drill hole plan map and $A u$ cross section for holes CA89-38 to 41 are shown in Appendix IV.

The statement of Expenditures is in Appendix $V$.

## GEOLOGY

## Regional Geology

The Eskay Creek area lies within the Intermontane tectonic belt, containing Stikine terrane rock assemblages. The Unuk River area is underlain by a thick, weakly metamorphosed Upper Triassic to Lower Jurassic volcanic and sedimentary arc-related units overlain by Middle Jurassic successor basin sedimentary units (Britton et al, 1989). Inconclusive evidence of late Triassic deformation exists. Large-scale northeast plunging vertical folds and major north-trending cataclastic and fault zones are thought to be principally related to late Jurassic to early Cretaceous plutonism and orogenesis.

Regional geological mapping by the Geological Survey of Canada, the British Columbia Ministry of Energy, Mines and Petroleum Resources and Newmont Mining Corp. (Granduc Mines Ltd.) has resulted in selective areal map coverage and a working stratigraphic column (Figure 3). Government reconnaissance mapping is on-going, and revision to the current understanding is anticipated. Rock unit correlation is based upon fossil control and gross unit similarities to adjacent southern map areas where more detailed geological mapping has been undertaken.

Stuhini Group
Upper Triassic volcanic and sedimentary rocks tentatively correlated to the Stuhini Group occur east of the Unuk River and

## STRATIGRAPHIC COLUMN - 21 ZONE

0

PILLOWED ANDESITES, PHLOW BRECCIAS
hyaloclastite

MUDSTONE, black, pyrite-rich, fossififerous
ANDESITE SLLLS AND FLOWS
ANDESITE CRACKLE BRECCIA

GRAPHTIC ARGHLITE
TRANSITION ZONE DEBRIS BRECCIAS
RHYOLITE-MUDSTONE RHYTHMITE

BRECCIA, LAPHLLI, and ASH TUFFS

RHYOLITE BRECCIA,
minor MASSIVE RHYOLITE

ASH and LAPHLLI TUFFS

MUDSTONE
VESHCULAR FLOW TOP BRECCIA

DACITE TUFF
LITHIC TUFF

MUDSTONE with minor GREYWACKE

FIGUAE: 3
west of Harrymel Creek. Stuhini rocks include variably deformed and metamorphosed siltstone, wacke, conglomerate and limestone overlain by basalt to andesite flows and breccias and locally dacite pyroclastic tuffs and breccias.

Hazelton Group
Unuk River Formation:
Earliest Lower Jurassic Unuk River Formation occur at moderate elevations east of the Unuk River and west of Harrymel creek. The Unuk comprises a relatively monotonous sequence dominated by green andesite tuffs, flows and subordinate pyroclastic rocks, intercalated with wacke, siltstone, and minor conglomerate.

Betty Creek Formation:
Overlying the Unuk is the Lower Jurassic Betty Creek Formation, outcropping throughout the Unuk valley. The Betty Creek comprises red, maroon to green volcaniclastic conglomerate, andesite and dacite pyroclastic tuff and breccias with intercalated grit and arenaceous wacke.

Mount Dilworth Formation:
Overlying the Betty Creek is the Lower Jurassic Mount Dilworth Formation, outcropping on the Prout Plateau and at higher elevations west of Harrymel Creek and east of the Unuk River. The Mount Dilworth comprises dacite to rhyolite pyroclastic breccias, bedded tuff and subordinate flows and flow breccias.

Salmon River Formation:
Late Lower Jurassic Salmon River Formation outcrops north and west of the Prout Plateau. It comprises a drab sequence of grey siltstone, fine-grained arenite, chert and limestone.

Bowser Group
Ashman Formation:
Middle Jurassic units thought to be equivalent to the basal Ashman Formation occur on the Prout Plateau in the vicinity of Tom Mackay Lake. Ashman rocks include chert pebble conglomerate, grey to black mudstone and wacke and subordinate limestone and mafic volcanic flows.

Cenozoic to Recent subaerial olivine basalt flows and tephra are distributed widely in the region, though none are reported on the Prout Plateau. Deposits are widespread in the major river valleys, such as the Unuk, as well as in the Cone Glacier area, west of Harrymel Creek. Valley bottom deposits tend to be characterized by palisade-type sheet flows. At higher elevations ice-contact cones, domes and tephra fields predominate. Numerous felsic and mafic dykes, thought to be coeval with the young volcanic deposits, are locally abundant.

## APPENDIX I

## Analytical Procedures - Bondar-Clegg Ltd., Vancouver <br> PROCEDURE FOR ASSAY AU ANALYSIS

Fire Assay Procedure:
A prepared sample of one assay ton (29.166 grams) is mixed with a flux which is composed mainly of lead oxide. The proportions of the flux components (the litharge, soda, silica, borax glass and flour) are adjusted depending upon the nature of the sample. silver is added to help collect the gold. The samples are fused at $1950^{\circ} \mathrm{F}$ until a clear melt is obtained. The $30-40$ gram lead button that is produced contains the precious metals. It is then separated from the slag. Heating in the cupellation furnace separates the lead from the noble metals. The normal-sized precious metal beads that are produced are transferred to test tubes and dissolved with aqua-regia. This solution is analyzed using Atomic Absorption by comparing the absorbance of these solutions with that of standard solutions. In case of high grade samples, the precious metal bead is parted to separate the silver and the remaining gold is weighed.

Comments:
As part of routine quality control duplicate analyses are done for about $15 \%$ of the samples. Also, all samples which are over 0.20 ounce per ton on the original fusion are run again to verify the results. If a sample gives erratic results, such as 0.10 , $0.020,0.30$, these are indicated on the report. It is suggested that a new split should be taken from the reject for preparation and analysis by metallics sieve procedure. These assay results will always be signed by the registered assayer.

## PROCEDURE FOR ASSAY $\mathrm{Cu}_{1} \mathrm{~Pb}, \mathrm{Zn}$, AND Aq_ BY ATOMIC ABSORPTION ANALYSIS

Samples of 0.5 grams are weighed with 0.25 gram duplicates and digested in glass beakers with concentrated nitric and hydrochloric acids. The beakers are heated on the hot plate until the solution completely dries, and then the samples are redissolved with dilute hydrochloric acid. The solutions are run by Atomic Absorption, using the appropriate lamp and wavelength for each element. The absorbency for each element is recorded and compared to a standard series to determine the amount present.

The procedure is similar for assay Ag by Atomic Absorption, except the sample weight is 3 grams and hydrofluoric acid is also added during the digestion. Background correction is introduced in analyzing Ag on the A.A. to overcome the matrix problem.

Comments:
All samples having a value greater than $20 \% \mathrm{Cu}$ or $\mathrm{Pb}, 10 \% \mathrm{Zn}$, or 10 ounces per ton Ag have to be rerun by classical methods.

APPENDIX I

## Analytical Procedures

## BIBLIOGRAPHY

Aldrick, D.J., Britton, J.M., Webster, I.C.L. and Russell, C.W.P., (1989); Geology and Mineral Deposits of the Unuk Area, B.C. GSB Open File Map 1989-10

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Creek Fault). The major structure on the property appears to be a shallow northeast plunging asymmetric anticline. Fold limbs are either faulted and/or steeply dipping. The Eskay Creek Property is characterized by highly altered and gossanous rhyolitic units which host several gold-silver and minor base metal occurrences.

Gold mineralization is hosted within both rhyolite breccia and graphitic mudstone formations, beneath barren andesite flows. Disseminated stibnite is ubiquitous to the mudstone unit, developing into high grade massive stibnite-realgar bands up to 20 feet thick at the mudstone-rhyolite contact. Footwall alteration is intense, comprising sericite and gypsum in highly sheared rhyolite tuff and breccia. Associated sulphide minerals include stibnite, arsenopyrite and pyrite.

Steeply dipping faults and associated fractures appear to be a major controlling feature of the mineralization. Mechanically induced fracture systems formed channels which divided the mineralizing hydrothermal fluids. This produced the pattern of high grade ore zones surrounded by overlapping lower grade zones. Secondary control of gold mineralization was provided by host rock lithology.

## RECOMMENDATION

Additional drilling needs to be done in order to delineate the extent of gold/silver mineralization. This should be done in conjunction with a summer exploration programme consisting of geological mapping, prospecting, and geophysical surveys to define additional drill targets.
(1) Andesite flows, breccia and tuff with interbedded wacke and siltstone,
(2) Tuffaceous wacke, mudstone, and conglomerate,
(3) Dacite lapilli, crystal and lithic tuffs interbedded with black mudstone and waterlain tuff,
(4) Rhyolite lapilli tuff and breccia,
(5) Pillowed andesite flows and breccias with interbedded carbonaceous mudstone, and
(6) Medium to thin-bedded conglomerate, wacke and mudstone.

Well preserved micro and macrofossils are locally abundant in most sedimentary units, providing relatively rigid stratigraphic control and indicating a predominately subaqueous depositional environment. Units 1 to 3 are tentatively correlated to the Betty Creek Formation, unit 4 to the Mt. Dillworth and units 5 and 6 to the salmon River and/or Ashman Formations. Stratigraphic assignment may change pending the results of additional government mapping planned for 1989.

The major structure on the property appears to be a shallow northeast plunging asymmetric anticline with a steep eastern limb. The western limb is cut by the major Argillite Creek fault. The fold closes across the northermost portion of the property at Mackay Creek, and it appears likely that favourable rhyolite geology may be preserved at depth north and east of the \#23 showing area.

Penetrative cleavage is observed in sedimentary rocks and the upper portion of the rhyolite, striking 030/75-80w. All other units are relatively undeformed. Metamorphic rank is subgreenschist. A northeast-trending vertical fault of unknown displacement separates rocks of units 5 and 6 (Argillite Creek fault). A similar, parallel structure is postulated to underlie Eskay Creek upstream from the camp. Major and minor north and east-trending faults of unknown attitude and displacement have been mapped within units 3, 4 and 5. Numerous airphoto lineaments are suspected to represent faults, though some may be joints. Plans by whiting portray many short-length faults, some of which coincide with airphoto features. Descriptions of the Northend prospect report flat-lying, small-displacement faults occupied by barren quartz veins. These are reminiscent of minor structures reported at the Snip and Johnny Mountain Deposits to the north in the Bronson Creek area, and may reflect the presence of low-angle reverse faults and \or post-mineral extension fissures.

## CONCLUSIONS

The Eskay Creek Property is underlain by Lower to Middle Jurassic volcanic and sedimentary rocks of the Hazelton Group separated from the nearby Triassic Bowser Group of marine-basin sediments by a possibly deep-seated fault structure (Argillite

## Intrusive Rocks

Government mapping has not located any intrusive rocks on the Prout Plateau. Elsewhere in the region a variety of intrusives are documented, including Triassic gneissic quartz diorite stocks, Jurassic diorite and gabbro stocks and feldsparporphyritic granodiorite and syenite stocks and sills, and Tertiary feldspar-porphyritic monzonite stocks and felsic or basic dyke swarms. The eastern contact of the Tertiary coast plutonic Complex is approximately 25 kilometers southwest of Eskay Creek.

## Metamorphism

According to Britton et al (1989) regional metamorphic rank is lower greenschist, characterized by saussuritized plagioclase feldspar, chlorite after mafic minerals, and white mica after clay. Metamorphic rank locally increases to lower amphibolite within one kilometre of the coast Plutonic Complex. Contact metamorphic hornfels zones are common adjacent to the larger igneous intrusives.

## Deformation

Folding:
Outcrop to regional scale, upright to slightly overturned vertical folds are documented both in the Eskay Creek area and the surrounding region. Fold axes trend 020 to $035^{\circ}$ North, plunging 0 to $15^{\circ} \mathrm{N}$. On the Prout Plateau a schistose rock fabric is present which may reflect this phase of deformation.

Faulting:
Topographic lineaments are abundant in the area, and many likely reflect faults or joints. Documented structures are rare, including small displacement normal and reverse faults. A major $150^{\circ} \mathrm{N}$-trending schistose shear zone occupies the lower Unuk River valley, which to the north bifurcates or joins a major northtrending mylonite and cataclasite band underneath the Harrymel creek valley and a major vertical fault under clouter and Argillite Creeks on the Prout Plateau. Recent movement on the Harrymel structure is normal, however the zone is postulated to be an older, deep-seated major fault zone of unknown displacement.

## Property Geology

The Eskay creek Property is underlain by Lower to Middle Jurassic volcanic and sedimentary rocks of the Hazelton Group. Rock units are west-facing, striking $060^{\circ} \mathrm{N} / 15-70 .^{\circ} \mathrm{W}$. Dips are steepest in the central and southern portion of the property, and become more shallow to the north. From oldest to youngest units, the stratigraphic section includes:

## APPENDIX II

## Contractor Services

## APPENDIX II

## Contractor Services

## CONTRACTOR

| Central Mountain Air Ltd. | Transportation - <br> P.O. Box 998 <br> Smithers, British Columbia |
| :--- | :--- |
| VoJ 2N0 |  |
| Falcon Drilling |  |
| 1901 Olgilvie Street |  |
| Prince George, British Columbia | Drilling |
| Jaycox Industries |  |
| P.O. Box 3633 |  |
| Smithers, British Columbia | Expediting |
| VoJ 2NO |  |
| Northern Mountain Air Ltd. |  |
| P.O. Box 368 | Transportation - |
| Prince George, British Columbia | Helicopter |
| V2I 4S2 |  |

## APPENDIX III

## Certificate of Qualifications

## APPENDIX III <br> Certificate of Qualifications

I, David W. Mallo of 4775 Hermatige Drive, Vancouver, British Columbia hereby certify:

1. I am a graduate of Brandon University (1981) and hold a BSa (Spec) degree in geology.
2. I have been employed in my profession by various mining companies since graduation.
3. I am presently employed as a senior geologis with Prime Explorations Ltd., of 1000-808 West Hastings street, Vancouver, British Columbia.


David W. Mallo Senior Geologist

DATED at Vancouver, British Columbia, this 14th day of July, 1989.

## CERTIFICATE OF QUALIFICATIONS

I, Gerald F. McArthur of Delta, British Columbia hereby certifiy:

1. I am a geologist with a business address at 11135 Monroe Drive, Delta, British Columbia, V4C 7T2.
2. I am a graduate of the University of British Columbia with a BS geology (1973).
3. I have practised my profession in" mineral exploration since graduation.
4. I am a Fellow of the Geological Association of Canada and a Professional Geologist registered in the Province of Alberta.


DATED at Vancouver, British Columbia, this 26 th day of June, 1989

## APPENDIX IV

## Diamond Drill Summary

Diamond Drill Logs and Assays
Drill-Au Section 1:1000



LOCATION: 969.451N 708.697E
AZIM.: $45^{150}$
ELEV.: 99.1 m
LENGTH: 154.4 m CORE LENGTH: NQ
STARTED: March 7-8/89
COMPLETED: March 10/89 - lost hole
PURPOSE: test zone upper tier holes
CORE RECOVERY: Lost hole in fault unable to reenter for survey below 50 m

HOLE NO.: CA-89-38 PAGE NO: 1
PROPERTY:
CLAIM NO.:
SECTION: $2+50$ S
LOGGED BY: GF. McArthur
DATED LOGGED: March 9/89
DRILINGG CO.: Falcon
ASSAYED BY: Bondar Clegg

| From | To | Description | $\begin{gathered} \text { Sample } \\ \text { No. } \\ \hline \end{gathered}$ | From | To | Length | Au ppb | Au oz/t | Ag ppm | ASSAYS <br> Ag oz/t | Pb ppm | Cu ppm 2n ppm | As ppm | Sb ppm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

HANGING WALL ANDESITE
no recovery
$\begin{array}{lll}14.0 & 78.3 & \text { UPPER ANDESITE } \\ & \text { - andesite fine grained brown-greenish }\end{array}$

- white calcite veining
- crackle breccia filling
- several (4) calcite events different color white (black-dol?)
- interbedded with blark argilite
- pyrite lam beds
4.0. 4.7
- crackle breccia with internal white calcite remmed by aline blark-brown calcite vein $20^{\circ}$ to core axis
7.2-7.
- calcareous vein breccia
7.47 .5
calcite fracture $15-20^{\circ}$ to core axis
8.2
- grey calcite breccia
oxidized rubble

| 109350 | 5.3 | 9.5 | 4.2 |
| ---: | ---: | ---: | ---: |
| 109351 | 3.8 | 5.3 | 1.5 |
| 109532 | 10.5 | 11.1 | 0.6 |
| 109353 | 14.8 | 16.3 | 1.5 |
| 109354 | 23.5 | 25.0 | 1.5 |
| 109355 | 26.0 | 27.5 | 1.5 |
| 109356 | 30.8 | 31.3 | 0.5 |
| 109537 | 36.0 | 38.0 | 2.0 |
| 109358 | 40.5 | 42.0 | 1.5 |
| 109359 | 42.0 | 43.5 | 1.5 |
| 109360 | 43.5 | 45.0 | 1.5 |
| 109361 | 45.0 | 46.5 | 1.5 |
| 109362 | 46.5 | 48.0 | 1.5 |
| 109633 | 48.0 | 49.5 | 1.5 |
| 109364 | 49.5 | 51.0 | 1.5 |
| 109365 | 51.0 | 52.5 | 1.5 |
| 109366 | 62.5 | 64.0 | 1.5 |
| 109367 | 54.0 | 55.5 | 1.5 |
| 109668 | 55.5 | 57.0 | 1.5 |
| 109369 | 57.0 | 58.5 | 1.5 |


| $<0.002$ | $<0.02$ |
| :--- | :--- |
| $<0.002$ | $<0.02$ |
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| $<0.002$ | $<0.02$ |
| 0.002 | $<0.02$ |
| $<0.002$ |  |



| From | To | Description | Sarmple No. | From |  | Length | Au ppb | Au oz/t | Ag ppm | ASSAYS <br> $\mathrm{Ag} \mathrm{oz} / \mathrm{t}$ | Pb ppm | Cu ppm | Zn ppm | As ppm | Sb ppm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

- dark green chloritic veins with calcite \& pale green mineral, interval $50^{\circ}$ to core axis
14.3
- calcite vein $45^{\circ}$ to core axis cut by calcite-quartz $60^{\circ}$ to core axis
14.7-16.4
- argillite unit, bedding $50^{\circ}$ to core axis
14.7
- oxidized calcite vein
15.3
$\overbrace{15.4}{ }^{\text {pyrite }}$
- pyrrhotite blade
15.8
- bedding $50^{\circ}$ to core axis, calcite vein $30^{\circ}$ to core axis, calcite vein $80^{\circ}$ to core axis
16.25-16.4
- calcareous xlite zone
16.5-26.0
- andesite
- crackle breccia white-black calcite
19.4-22.0
- broken ground \& oxidized
22.5
- calcite vein dark grey rims
23.5
-2 cm calcite vein $65^{\circ}$ to core axis
242
- ribbon banded grey-white calcite vein $50^{\circ}$ to core axis, white calcite vein $75^{\circ}$ to core axis, white calcite vein $.70^{\circ}$ to core axis
26.0-26.7
- argillite

- calcite vein $65-70^{\circ}$ to core axis
- calcareous zone $60^{\circ}$ to core axis
26.7-30.0
- andesite
- grey white calcite crackle breccia
black shale chips
27.2
- calcite vein $60^{\circ}$ to core axis
27.3-28
- crackle breccia with argillite chips

30-30.9

- andesite green brown with grey \&
white crackle breccia
30.9-31.2
- black argilite chip breccia
- grey calcareous matrix
- argillite with andesite fragments
- trace pyrrhotite blades
31.2 - 31.9
- green brown andesite with grey calcite crackle breccia
31.9-32.3 Andesite
- black matrix white calcareous angular
fragments
- bladed pyrrhotite 3-5\%
32.3
- andesite
32.6 - 33.0
- grey calcite crackle breccia \& white calcite vein $15^{\circ}$ to core axis
33.0
- oxidized fractured zone
33.5 - 34.9
- crackle breccia grey calcite
- black argillite chips

34.9 - 38.7
- oxidized broken ground
- andesite, calcite vein
38.7
- oxidized \& broken ground
- andesite breccia black matrix argillaceous
40.2
- conglomerate
41.3
- calcite crackle breccia
41.7
pyrrhotite blade in black matrix
andesite breccia
42.0-42.6
- grey calcite breccia
- minor black argillite chips
43.0 - 43.1
- conglomerate fragments rounded in black argillite matrix
43.25-43.6
- bedded crystallite (crinoids?) $45^{\circ}$ to core axis
43.6-44.5
- amydules in Andesite volcanic-pillows
- argilite chip grey calcite crackle breccia
45.5 - 46.5 Andesite
- grey calcite crackle breccia
46.5-48.5 Andesite
- crackle breccia
48.5-54.8
- andesite with zones of grey calcite crackle breccia
- black argillite chips in breccia

54.8-57.6
- black cherty argillite $45^{\circ}$ to core axis with andesite breccia fragments
- disseminated pyrrhotite blades
57.6-60.1
- green brown andesite breccia grey calcite matrix, black cherty argillite chips
60.1 - 62.2
- cherty argillite, bedding $45^{\circ}$ to core axis, $60^{\circ}$ to core axis, $60^{\circ}$ to core axis
62.2-66.0
- andesite breccia, with grey calcite crackle breccia, chilled volcanic amydolidal
66.077 .7 - andesite unit with argillaceous interbed, cherty
- brown fine grained
- amydules calcareous
- interanal calcite crackle breecia 77.2 dark
grey black calcite
- crackle brecria filling $66 . .4,67,70 \cdot 71$, 68.5
- calcareous matrix
- vuggy vein $66.6,67.3,40^{\circ}$ to core axis, $25^{\circ}$ to core axis
- vein 66.7, $20^{\circ}$ to core axis, $35^{\circ}$ to core axis

| 77.77 | 78.3 | argillite bedded | 109382 | 77.0 | 78.5 | 1.5 | 0.002 | 0.04 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

contact $45^{\circ}$ to core axis
$78.3 \cdot 77.8$

- bedding $85^{\circ}$ to core axis

| From | To | Description | Sample <br> No. | From | To | Length | Au ppb | Au oz/t | Ag ppm | ASSAYS <br> $\mathrm{Ag} \mathrm{oz} / \mathrm{t}$ | Pb ppm | Cuppm | Zn ppm | As ppm | Sb ppm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |


|  |  | 78.2 <br> - $45^{\circ}$ to core axis <br> - pyritic layers $60^{\circ}$ to core axis <br> - calcite veining $15^{\circ}$ to core axis <br> - base of argilite is cherty |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 78.8 | 154.4 | FELSIC VOLCANIC UNIT <br> - fine to coarse ash tuffs <br> - large flow banded or fine siliceous flow <br> - fragments 60 cm range <br> - some glassy sections <br> - possible coarse to fining upward | 109383 | 78.5 | 80.0 | 1.5 | $<0.002$ | $<0.02$ |
| 78.3 | 79.5 | - siliceous greyish rhyolite fine ash tuff 1.2 cm fragments <br> - oxidized - broken ground, fault |  |  |  |  |  |  |
| 79.5 | 84.0 | - grey matrix supported, banded fragments 2-4cm <br> - light greenish harder fragments <br> - blocky subrounded | 109384 109385 109386 | $\begin{aligned} & 80.0 \\ & 81.5 \\ & 83.0 \end{aligned}$ | $\begin{aligned} & 81.5 \\ & 83.0 \\ & 84.5 \end{aligned}$ | $\begin{aligned} & 1.5 \\ & 1.5 \\ & 1.5 \end{aligned}$ | $\begin{gathered} <0.002 \\ 0.004 \\ 0.003 \end{gathered}$ | $\begin{aligned} & 0.03 \\ & 0.05 \\ & 0.05 \end{aligned}$ |
| 84.0 | 84.4 | - greenish matrix light green clasts matrix soft <br> - fine grained 1-2 cm fragments |  |  |  |  |  |  |
| 34.4 | 87.0 | - coarse grained 2.5 cm fragments | $\begin{aligned} & 109387 \\ & 109388 \end{aligned}$ | $\begin{aligned} & 84.5 \\ & 86.0 \end{aligned}$ | $\begin{aligned} & 86.0 \\ & 87.5 \end{aligned}$ | $\begin{aligned} & 1.5 \\ & 1.5 \end{aligned}$ | $\begin{aligned} & 0.003 \\ & 0.003 \end{aligned}$ | $\begin{aligned} & 0.06 \\ & 0.14 \end{aligned}$ |
| 37.0 | 87.4 | - matrix supported 70\% matrix |  |  |  |  |  |  |
| 37.4 | 87.5 | - fine ash, $45^{\circ}$ to core axis | 109389 | 87.5 | 89.0 | 1.5 | 0.008 | 0.10 |
| 37.5 | 91.7 | - ash tuff, matrix supported 89.5 - 9 <br> - closely packed fragments | 109390 | 89.0 | 90.5 | 1.5 | 0.010 | 1.75 |



| From | To | Description | Sample <br> No. | From | To | Length | Au ppb | $\mathrm{Au} 02 / \mathrm{t}$ | Ag ppm | ASSAYS <br> Ag oz/t |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | fragments to 2 cm, mineralized fractures | 109424 | 141.10 | 142.5 | 1.5 |  | 0.002 |  | 0.04 |
|  |  | splaherite, pyrite disseminated pyrite | 109425 | 142.5 | 144.0 | 1.5 |  | $<0.002$ |  | 0.02 |
|  |  | in matrix | 109426 | 144.0 | 145.5 | 1.5 |  | $<0.002$ |  | 0.02 |
|  |  | 111-112 | 109427 | 145.5 | 147.0 | 1.5 |  | $<0.002$ |  | 0.03 |
|  |  | - dark grey matrix | 109428 | 147.0 | 148.5 | 1.5 |  | 0.002 |  | 0.02 |
|  |  | 112-115.6 | 109429 | 148.5 | 150.0 | 1.5 |  | 0.002 |  | 0.02 |
|  |  | ash, angular to rounded, 2-4 cm | 109430 | 150.0 | 151.5 | 1.5 |  | 0.002 |  | 0.02 |
|  |  | - veinlet with pale greenish mineral | 109431 | 151.5 | 153.0 | 1.5 |  | $<0.002$ |  | 0.02 |
|  |  | $60^{\circ}$ to core axis | 109432 | 153.0 | 154.5 | 1.5 |  | <0.002 |  | 0.02 |

## 115.6-115.7

- heavy pyrite disseminated in matrix
115.6 - 117.5
- fine ash, matrix dominant, dark grey matrix 116
- sulfide disseminated pyrite
116.2
- fracture \& veinlet $30-35^{\circ}$ to core
axis
116.5
- sphalerite disseminated \& pyrite
disseminate in matrix
116.9
- pyrite disseminations
117.3
- pyrite disseminations
117.4
- fabric in ash $45^{\circ}$ to core axis
118.4
- blotchy alternation
119.9
- fabric $60^{\circ}$ to core axis
- light grey white fragments in dark grey matrix
- fragments irregular to rounded

121-124

- more grassy fragments



## 122

minor veinlet
123.5

- minor veinlet $65^{\circ}$ to core axis

123 - 133.8

- light greenish grey fragments in darker grey matrix
ash 2-4 cm
129-133.8
- coarse ash base fragments $6-8 \mathrm{~cm}$
130.4
- broken ground
133.8 - 138.1
- dark grey fragments in dark grey
sericitic matrix
- foliation $50^{\circ}$ to core axis
- pyritic matrix
134.5
- calcite vein $50-60^{\circ}$ to core axis
135.5
- calcite fracture $50-65^{\circ}$ to core axis


## 138.1-147.8

- coarse ash tuff
- light green fragments \& glassy fragments subrounded in darker green matrix
142.2
-15 cm fragments, flow banded
145-145.4
- siliceous grey fragment 40 cm
146.3 - 146.5
-20 cm green grey siliceous fragment
147.8-148
- finer grained foliation $45^{\circ}$ to core axis

148-154.4

- finer ash tuff

- light grey green fragment in darker green matrix fragment 2-4 cm subrounded


## END OF HOLE

- drill hole lost in fauit

LOCATION: 969.451N 708.697E

```
\begin{tabular}{|c|c|c|c|c|}
\hline AZIM.: 150 & ELEV.: 99.1 m & & & \\
\hline DIP: -77 & LENGTH: 203.3 & \multicolumn{3}{|c|}{DIP TEST} \\
\hline & CORE LENGTH: NQ & Meterage & Dip & Azimuth \\
\hline STARTED: & & 102.7 m & -78 \({ }^{\circ}\) & \(149^{\circ}\) \\
\hline COMPLETED: & & 203.3 m & -78 \({ }^{\circ}\) & \(149{ }^{\circ}\) \\
\hline
\end{tabular}
```

PURPOSE:
CORE RECOVERY:

DRIL HOLE LOG

| From | To | Description $\begin{gathered}\text { Sample } \\ \text { No. }\end{gathered}$ | From | To | Length | Au ppb | Au oz/t | Ag ppm | ASSAYS <br> $\mathrm{Ag} ~ 02 / \mathrm{t}$ | Pb ppm | Cu ppm Zn ppm | As ppm | Sb ppm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0 | 3.0 | CASING AND OVERBURDEN |  |  |  |  |  |  |  |  |  |  |  |
| 3.0 | 8.9 | PILLOWED INTERMEDIATE VOLCANICS <br> - maroon pillowed volcanics with pale green quench tinds <br> - pillows from 0.5 to 0.8 m in depth along core length <br> - rinds up to 1 cm wide <br> - trace pyrrhotite along fractures at $75^{\circ}$ to core axis and in matrix between pillows also 1\% pyrite |  |  |  |  |  |  |  |  |  |  |  |
| 8.9 | 79.5 | INTERMEDIATE VOLCANIC FLOWS AND INTERLAYERED BLACK ARGILIITES <br> - Intermediate Volcanics (Andesites) <br> - pale to medium green <br> - aphanitic to fine grained phaneritic <br> - locally amygdular <br> - locally brecciated (crackle breccias) <br> - occassional ?? chill margins <br> - crackle breccia matrix: light grey calcite, $1.3 \%$ pyrite, $1-3 \%$ pyrrhotite, trace chlorite, trace epidote <br> - Graphitic Argilites (mudstones) (eurinic shales) |  |  |  |  |  |  |  |  |  |  |  |



- dark grey to black
- layer/bedding denoted by lighter, coarser grained, pyrite rich layers (3-5\% pyrite)
- lode costing indicating way-up direction (in up-hole direction)
- lighter layers commonly 1 cm wide
- darker, finer grained layers commonly 0.75 cm wide, occassionally up to 10 cm wide
- crystallites occassionally seen in darker, thicker layers
- cocassional light grey calcareous layers
8.9 - 9.1
- calcareous, dark grey, argillite layer
- no layering
9.1-13.9
- anderite crackle breccia
- trace pyrrhotite, trace pyrite
13.9 - 14.3
- calcareous, dark grey, layered argillite, layers at $40^{\circ}$ to core axis
14.3-19.6
- andesite flow locally brecciated
19.6 - 22.0
- graphitic argillite
- bedding at $65^{\circ}$ to core axis
22.0-23.6
- andesite crackle breccia
23.6 - 24.3
- dark grey, layered calcareous graphitic argillite, layers at $45^{\circ}$ to core axis
24.3
- andesite flows, locally brecciated, trace pyrite, 1\% pyrrhotite

|  |  |  | Sample <br> No. |  |  |  |  |  |  | ASSAYS Ag oz/t |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| From | To | Description |  | From | To | Length | Au ppb | Au oz/t | Ag ppm | $\mathrm{Ag} \mathrm{oz/t}$ | Pb ppm | Cu ppm Zn ppm | As ppm | Sb ppm |

24.6-30.0

- rusted rubble zone as in 31.0-31.2
and 91.5 to 32.0
27.4-27.5
- calcite vein at $45^{\circ}$ to core axis
46.5 to 46.7
intense, oxidation zone
- slightly rubbly
49.7-54.5
- debris flow
- Lithic wacke to 51.2
- medium grained
- devitified glass shards, abraded andesite and shaley fragments
- grades to argillite
- brades to argilite
- andesite fragment from 51.3 to 51.7

1\% pyrite, $2 \%$ pyrrhotite throughout
54.5-60.9

- andesite flows and crackle breccias
- trace pyrite, trace pyrrhotite
60.9-63.5
- andesite breccia with a calcareous argillite matrix
- trace pyrrhotite
63.5 - 64.8
- graphitic argillite
- bedding at $45^{\circ}$ to core axis
- $5 \%$ andesite clasts in layers
- 1名 pyrite in lighter layers
64.8-79.5
- andesite
66.1
- calcite vein at $25^{\circ}$ to core axis



## 67.6

- calcte vein at $40^{\circ}$ to core axis
$68.8 \cdot 70.7$
- calcite veining sub-parallel to core axis
- up to 3 cm wide
72.0 - 73.5
- aphanitic andesite blocks, pale green
- 20 to 50 cm across looks somewhat like pillows without unaltered core
$72.2=72.4$
- quartz veining at $40^{\circ}$ to core axis
- 1 cm wide
- 5 quartz veins over interval
79.5 80.0 TRANSITION ZONE
- dark green
- clasts of paler green, chloritized rock (clasts up to 2 cm across - $5 \%$
- original fabric almost obliterated
$80.0 \quad 120.1$ RHYOLTTE UNIT
80.0-81.6
- intensely silicified lapilli tuff
- trace pyrite
81.6-120.1
- moderatelly silicified rhyolite lapilli
tuff units
- 1. $3 \%$ pyrite as coarse grained
( $>2 \mathrm{~mm}$ across) disseminations and
blebs (up to 1.5 cm across)
- $5 \%$ of clasts appear to have been
argillically altered (clay altered) before being silicified
- high fracture density ( $>1$ per cm )

- occassional oxidized fractures
84.2 - 84.8
- andesite pillows (dyke)
- about 10 cm across
- marroon cores grading to pale green vesicular rinds (chill margins)
92.0-92.7
- rubble zone
- high fracture density throughout
- $10 \%$ fractures oxidized
- fine fractures filled with quartz, between 450 to $70^{\circ}$ to core axis


### 120.1121 .0 TRANSITION ZONE

- intensely altered, dark yellow green rock (epidote, chlorite, sericite alteration)
- all original texture obliterated
- blocky
- fracture planes at 30 to $70^{\circ}$ to core axis
121.0180 .3 ANDESITE DYKE
- green-beige to beige, aphanitic
- vesicular, altered (clay alteration) flow
- vesicular, alterio
- trace pyrite
- calcite fracture filling $45^{\circ}$ to $80^{\circ}$ to core axis
:30.3 132.3 TRANSITION ZONE
- intensely altered (original textures oblitered) rhyolite ash flow
- clasts sheared, sheared out in foliation direction (sub-parallel to core axis)
chlorite, sericite, talc alteration

- quartz/calcite veining at $35^{\circ}$ to core axis up to 1 cm wide
- 1 per 20 cm
132.3 134.8 ANDESITE BRECCIA (BRECCIATED DYKE)
- aphanitic beige andesite clasts in unaltered rhyolite glass (ash) matrix
- possibly a brecciated dyke
$134.8 \quad 143.5$ RHYOLTTE
- altered rhyolite lapilli tuff units
- chlorite sericite, talc, minor
- foliations and fracturing at $45^{\circ}$ to core
axis
- $1 \%$ pyrite
141.2-141.3
- amygdular, beige andecite dyke
- wealcly brecciated
142.4-143.1
- spherulites of epidote and chlorite, possibly altered glass unit
$143.5 \quad 145.8$ ANDESTTE DYKE
- light beige 0.1 m chill margins to beige-maroon maroon fine grained phaneritic cores
- weakly brecciated
- trace pyrite
145.8148 .7 RHYOLTTE UNTT
- altered rhyolite lapili tuff to ash
- chlorite, sericite
- $2 \%$ pyrite as fine blebs
- foliations at $40^{\circ}$ to core axis
- fractures filling - quartz/adularia
frequency of 1 per 5 cm up to 2 cm



151.7 - 154.2
- $2 \%$ fragments have a calcite rim, looks like secondary alteration because they are rounded to subrounded compared to the subangular fragments of the remainer of the tuff unit
- color of flow becomes a darker green (a bottle green) as we go to the bottom this unit
- $10 \%$ glassy fragments, slightly chlorite altered
158.4 to 159.7
- 6\% of clasts are almost transparent light green, siliceous with flecks of white calcite in them


### 161.4164 .2 ANDESITE BRECCLA <br> - andesite clasts in a dark green glassy

matrix

- clasts are pale beige, anygdaloidal (filled vessels)
- amygdulls up to 1 mm diameter
- $10 \%$ glassy dark green matrix

| 164.2 | 164.4 | RHYOLITE ASH TUFF | 109522 | 163.5 | 165.0 | 1.5 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

- siliceous
- pale grey-beige
- rhyolite ash flow - coarse grained
- 6\% matrix
- "stylolite" type contacts between clasts

| 164.4 | 166.2 | INTERMEDIATE DYKE | 109523 | 165.0 | 166.5 | 1.5 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

- beige
- fine grained phaneritic
- brecciated from 164.2 to 166.7

- trace pyrite
166.2 169.2 RHYOLTE TUFE
- blotchy calcite blebs in a slightly altered rhyolite tuff
- trace epidote throughout
- light to medium grey in color


## $169.2 \quad 169.8$ ANDESITE BRECCLA

$\begin{array}{llll}109526 & 169.5 & 171.0 & 1.5\end{array}$

- siliceous, pale beige, amygdaloidal andesite clasts in an intensely sheared chlorized matrix
- shears at $35^{\circ}$ to core axis
- $10 \%$ matrix
$169.8 \quad 170.7$ ANDESITE DYKE
- beige, fine grained phaneritic rubble
- 20\% recovery
- trace pyrite on fragments


### 170.7187 .4 RHYOLTE ASH TUFFS

- moderately foliated unit
- foliations range from $30^{\circ}$ to $40^{\circ}$ to core axis
- epidote - calcite alteration of matrix ( $10 \%$ epidote, $10 \%$ calcite) from 170.7 to 173.5 m
173.5-178.1
- rhyolite clasts have been altered to
a pale emerald green
109524166.5
1.5
$\begin{array}{llll}109525 & 168.0 & 169.5 & 1.5\end{array}$
1.0
a pale emerald green
- clasts also siliceous
- $15 \%$ matrix

| 109537 | 186.0 | 187.5 | 1.5 |
| :--- | :--- | :--- | :--- |

- tension gashes ( 1 per 2 cm ) at $50^{\circ}$ to core axis
- calcite filled

178.1-181.7
- $5 \%$ epidote/calcite alteration
181.7 - 183.5
- relatively unaltered moderately foliated rhyolite ash tuff
- light grey, siliceous clasts
- calcite/quartz fracture filling, no preferred orientation to fractures
- unconformable lower contact at $50^{\circ}$ to core axis
- appears to be erosional
183.5 - 187.4
- weakly altered rhyolite ash tuff - coarse grained
183.7 - 183.9
- vesicular (amygdaloidal) volcanic fragment
- breccinted with calcite (quartz as matrix)
- possibly edge of andesite dyke
- pale yellow-beige
187.4 203.3 INTERMEDIATE VOLCANIC FLOWS
- andesite, possibly dacite, dyke swarm
- light green-beige
- aphanitic
- amygdular
- locally breccciated with black, fine grained (cryprocrystalline/aphanitic) matrix (no discernable textures)
- trace pyrite
193.0-193.3
- zone of $15 \%$ calcite blebs in darker
colored volcanic

| 109538 | 187.5 | 189.0 | 1.5 |
| :--- | :--- | :--- | :--- |
| 109539 | 189.0 | 190.5 | 1.5 |
| 109540 | 190.5 | 192.0 | 1.5 |
| 109541 | 192.0 | 193.5 | 1.5 |
| 109542 | 193.5 | 195.0 | 1.5 |
| 109543 | 195.0 | 196.5 | 1.5 |
| 109544 | 196.5 | 198.0 | 1.5 |
| 109545 | 198.0 | 199.5 | 1.5 |
| 109546 | 199.5 | 201.0 | 1.5 |
| 109547 | 201.0 | 202.5 | 1.5 |
| 109548 | 202.5 | 203.5 | 0.8 |

- coarser grained

| From | To | Description | Sample <br> No. | From | To | Length | Au ppb | Au oz/t | Ag ppm | ASSAYS <br> $\mathrm{Ag} \mathrm{oz} / \mathrm{t}$ | Pb ppm | Cu ppm Zn ppm | As ppm | So |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

- trace pyrrhotite
- calcite fracture filling throughout
187.4 to 203.3
- fractures from $50^{\circ}$ to $70^{\circ}$ to core axis
- up to 1 cm wide
- frequency of 1 per 20 cm

END OF HOLE

LOCATION: 969.451N 708.697E

| AZIM.: | ELEV.: 99.1 m |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| DIP: | LENGTH: 230.7 m |  | DIP TEST |  |
|  | CORE LENGTH: NQ | Meterage | Dip | Azimuth |
| STARTED: March 14/89 |  | 115 m | $-78{ }^{\circ}$ | $344^{\circ}$ |
| COMPLETED: |  | 231 m | $-76.7^{\circ}$ | $337{ }^{\circ}$ |

HOLE NO.:CA-89-40 PAGE NO: 1

## PROPERTY; Eskay Creek

CLATM NO.:
SECITON: $2+50 \mathrm{~S}$
LOGGED BY: Christine Swanson
DATED LOGGED: March 16/89
DRHLLING CO.: Falcon
ASSAYED BY: Bondar Clegg

| From | To | Description | Sample No. | From | To | Length | Au ppb | Au oz/t | Ag ppm | ASSAYS <br> Ag oz/t | Pb ppm | $\mathrm{Cu} p \mathrm{pm} \mathrm{Zn} \mathrm{ppm}$ | As ppm | Sb ppm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0 | 3.0 | OVERBURDEN AND CASING |  |  |  |  |  |  |  |  |  |  |  |  |
| 3.0 | 23.6 | ANDESITE FLOWS <br> - pale green <br> - aphanitic to fine grained phaneritic <br> - locally amydular <br> - local crackle breccia with matrix of grey calcite, $1 \%$ pyrite, $1 \%$ pyrrhotite, trace chlorite <br> - occassional calcite fracture filling from $35^{\circ}$ to $55^{\circ}$ to core axis <br> - up to 1 cm wide <br> - frequency of 1 per 30 cm <br> - rusted, intensely fractured zone from 15.2 to 17.1 m <br> 21.5 - 22.8 <br> - calcareous argillite rubble from 21.5 22.6 massive from 22.6 to 22.8 | 109549 109550 109551 | $\begin{array}{r} 7.5 \\ 15.2 \\ 20.0 \end{array}$ | $\begin{array}{r} 9.0 \\ 16.6 \\ 22.0 \end{array}$ | $\begin{aligned} & 1.5 \\ & 1.4 \\ & 2.0 \end{aligned}$ |  | $\begin{aligned} & <0.002 \\ & <0.002 \\ & <0.002 \end{aligned}$ |  | $\begin{aligned} & <0.02 \\ & <0.02 \\ & <0.02 \end{aligned}$ |  |  |  |  |
| 23.6 | 33.1 | ARGLIJTIE <br> - medium grey calcareous layers up to 30 cm thick interlayered with dark black argillite and lighter coarser | $\begin{aligned} & 109552 \\ & 109553 \\ & 109554 \end{aligned}$ | $\begin{aligned} & 24.5 \\ & 27.5 \\ & 32.0 \end{aligned}$ | $\begin{aligned} & 26.0 \\ & 29.0 \\ & 33.5 \end{aligned}$ | $\begin{aligned} & 1.5 \\ & 1.5 \\ & 1.5 \end{aligned}$ |  | $\begin{aligned} & <0.002 \\ & <0.002 \\ & <0.002 \end{aligned}$ |  | $\begin{aligned} & 0.02 \\ & 0.04 \\ & 0.02 \end{aligned}$ |  |  |  |  |


grained pyrite rich layers up to 1 cm thick up to 30.1 m

- calcareous layers make up $60 \%$ of this unit, frequently crystallite-rich"
- bedding at $35^{\circ}$ to core axis
23.8-24.0
- andesite rubble, rounded and rusted
27.2-29.0
- rubbly fractured argillite, oxidized fractures
30.1 - 30.4 , 31.7 - 31.9, 32.6 - 32.8
- andesite breccias with grey calcareous
argillite matrix
30.4 to 33.1
- dark grey black argillite with
lighter, pyrite rich layers
- bedding at $20^{\circ}$ to core axis
- calcite veining at $35^{\circ}$ to core axis up to 4 cm wide
- frequency of 1 per 1 m
- 1- $3 \%$ pyrite overeall


## $33.1 \quad 72.8$ ANDESTTE FLOWS

- as before
34.2-35.1
- argillite
- calcareous
- bedding at $20^{\circ}$ to core axis
43.3-51.5
- pillowed andesites
- pillowed andesit
- pillow teatures - pale green quench rinds grading into marroon to green aphanitic to fine phaneritic cores
- amygdular

| 109555 | 34.0 | 35.5 | 1.5 | $<0.002$ | $<0.02$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 109556 | 42.5 | 44.0 | 1.5 | $<0.002$ | $<0.02$ |
| 109557 | 48.0 | 49.5 | 1.5 | $<0.002$ | $<0.02$ |
| 109558 | 53.5 | 55.0 | 1.5 | $<0.002$ | $<0.02$ |
| 109559 | 61.5 | 63.0 | 1.5 | $<0.002$ | 0.03 |
| 109560 | 65.0 | 66.5 | 1.5 | $<0.002$ | $<0.02$ |
| 109561 | 69.0 | 70.5 | 1.5 | $<0.002$ | 0.02 |
| 109582 | 70.5 | 72.0 | 1.5 |  | 0.02 |
| 109563 | 72.0 | 73.5 | 1.5 |  | 0.03 |
|  |  |  |  |  |  |



- pillow breccia with matrix of $50 \%$ clasts of andesite and argillite and $50 \%$ grey calcite, trace pyrite, trace pyrrhotite, trace clorite
51.5 - 72.8
- back into andesite flows
- matrix in crackle breccia as in pillow breceia before
53.1-57.2
- oxidized fractures 1 per 5 cm
71.5 - 71.9
- andesite breccia with argillite matrix
- bedding at $60^{\circ}$ to core axis
- 1-2\% fine grained pyrite in lighter coarser grained layers
- crystallites in finer grained, darker layers
$72.8 \quad 74.0 \quad$ GRAPHITIC ARGD LITE
- a more siliceous argillite
- grey black
- bedding denoted by coarser, pyrite rich siliceous layers (1-2\% pyrite overall)
- occassional cystallites in fine grained darker layers
- bedding at $30^{\circ}$ to $50^{\circ}$ to core axis
- rhyolite clasts (up to 2 cm across)

20\% clasts

- in an argillite matrix (argillite as above)
- 1. $2 \%$ pyrite

| 108565 | 75.0 | 76.5 | 1.5 | $<0.002$ | 0.02 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 108566 | 76.5 | 78.0 | 1.5 | $<0.002$ | 0.02 |


| - rhyolite ash tuff unit | 108566 | 76.5 | 78.0 | 1.5 | 0.02 |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  | 0.0 | 0.002 | 0.0 |


| From | To | Description | Sample No. | From | To | Length | Au ppb | Au 0z/t | Ag ppm | ASSAYS Ag oz/t | Pb ppm | Cu ppm Zn ppm | As ppm | Sb ppm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | - very siliceous <br> - clasts ranging from coarse ash to 7 cm across <br> - pale grey clasts in a darker matrix <br> - 10\% matrix <br> - 1-3\% pyrite as fine grained wispy portions of matrix and as occassional blebs up to 1 cm across <br> - high fracture density, 1 per 3 cm <br> - lower contact at $30^{\circ}$ to core axis <br> - definite contact <br> - moderately foliated, $35^{\circ}$ to core axis from 85.0-85.4 | $\begin{aligned} & 108567 \\ & 108568 \\ & 108569 \\ & 108570 \\ & 108571 \end{aligned}$ | $\begin{aligned} & 78.0 \\ & 79.5 \\ & 81.0 \\ & 82.5 \\ & 84.0 \end{aligned}$ | $\begin{aligned} & 79.5 \\ & 81.0 \\ & 82.5 \\ & 84.0 \\ & 85.5 \end{aligned}$ | $\begin{aligned} & 1.5 \\ & 1.5 \\ & 1.5 \\ & 1.5 \\ & 1.5 \end{aligned}$ |  | $\begin{array}{r} <0.002 \\ <0.002 \\ <0.002 \\ 0.003 \\ <0.002 \end{array}$ |  | $\begin{aligned} & <0.02 \\ & <0.02 \\ & <0.02 \\ & <0.02 \\ & <0.02 \end{aligned}$ |  |  |  |  |
| 85.4 | 91.8 | GRAPHITIC ARGILLTE <br> - as in first argillite but more carbon rich <br> - graphite along shear planes at $55^{\circ}$ to core axis <br> - bedding at $55^{\circ}$ to core axis cross cutting shear planes <br> - 3-5\% pyrite in coarser, pyrite rich layers <br> - occassional calcite veins at $45^{\circ}$ to core axis up to 0.1 cm wide <br> - crystallites in darker layers 90.3 <br> - fossil fragment <br> 85.8-86.1 <br> - 20\% andesite fragments <br> - rubbly | 108572 <br> 108573 <br> 108574 <br> 108575 | $\begin{aligned} & 85.5 \\ & 87.0 \\ & 88.5 \\ & 90.0 \end{aligned}$ | $\begin{aligned} & 87.0 \\ & 88.5 \\ & 90.0 \\ & 91.5 \end{aligned}$ | $\begin{aligned} & 1.5 \\ & 1.5 \\ & 1.5 \\ & 1.6 \end{aligned}$ |  | $\begin{aligned} & 0.002 \\ & 0.002 \\ & 0.002 \\ & 0.002 \end{aligned}$ |  | $\begin{aligned} & 0.05 \\ & 0.05 \\ & 0.04 \\ & 0.03 \end{aligned}$ |  |  |  |  |
| 91.8 | 122.8 | ANDESTTE FLOWS <br> - light to medium green <br> - aphanitic to fine grained phaneritic | $\begin{aligned} & 109576 \\ & 109577 \\ & 109578 \end{aligned}$ | $\begin{aligned} & 91.5 \\ & 93.0 \\ & 94.5 \end{aligned}$ | $\begin{aligned} & 93.0 \\ & 94.5 \\ & 96.0 \end{aligned}$ | $\begin{aligned} & 1.5 \\ & 1.6 \\ & 1.5 \end{aligned}$ |  | $\begin{array}{r} <0.002 \\ <0.002 \\ <0.002 \end{array}$ |  | $\begin{aligned} & <0.02 \\ & <0.02 \\ & <0.02 \end{aligned}$ |  |  |  |  |




- rubble zone from 129.6 to 128.9
- 3- $5 \%$ pyrite as fine grained wispy blebs in matrix and occassional blebs up to 1 cm across from 122.8 to 132.7
- foliations at 40 to $55^{\circ}$ to core axis
- microfractures ( 1 per cm )
- calcite/pyrite filled
- orientation of $30^{\circ}$ to $50^{\circ}$ to core axis
137.3 to 160.1 - breccia units (autobreccia)
- average clast size approximately 10 cm , grading to coarse ash at top of units
- contacts at 148.4, 155.3
- 1-3\% pyrite as microfracture filling with calcite
132.8-160.2
- calcite pyrite alteration - moderate
- microfracture filling
- 5 - $8 \%$ calcite
- 1-3\% pyrite
- at $30^{\circ}$ to $50^{\circ}$ to core axis
147.1-147.3
- $10 \%$ pyrite
- fine grained as fracture filling 143.0-143.2
- intensely brecciated andesite dyke with calcite matrix 152.3
- bleb of pyrrhotite 0.5 cm across
- foliations at $50^{\circ}$ to core axis
155.5 to $156.6,157.0$ to 157.7 weakly
brecciated Andesite dykes
- contacts at $30^{\circ}$ to $45^{\circ}$ to core axis
160.1
- contact with pale emerald green rhyolite $20^{\circ}$ to core axis to 160.3

| 109610 | 142.5 | 144.0 | 1.5 | $<0.002$ | $<0.02$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 109611 | 144.0 | 145.5 | 1.5 | <0.002 | $<0.02$ |
| 109612 | 145.5 | 147.0 | 1.5 | $<0.002$ | $<0.02$ |
| 109613 | 147.0 | 148.5 | 1.5 | $<0.002$ | $<0.02$ |
| 109614 | 148.5 | 150.0 | 1.5 | $<0.002$ | $<0.02$ |
| 109515 | 150.0 | 151.5 | 1.5 | $<0.002$ | $<0.02$ |
| 109516 | 151.5 | 153.0 | 1.5 | 0.002 | $<0.02$ |
| 109650 | 202.5 | 204.0 | 1.5 | $<0.002$ | $<0.02$ |
| 109651 | 204.0 | 205.5 | 1.5 | $<0.002$ | $<0.02$ |
| 109652 | 205.5 | 207.0 | 1.5 | $<0.002$ | $<0.02$ |
| 109653 | 207.0 | 208.5 | 1.5 | $<0.002$ | $<0.02$ |
| 109654 | 208.5 | 210.0 | 1.5 | $<0.002$ | $<0.02$ |
| 109655 | 210.0 | 211.5 | 1.5 | $<0.002$ | $<0.02$ |
| 109656 | 211.5 | 213.0 | 1.5 | $<0.002$ | $<0.02$ |
| 109657 | 213.0 | 214.5 | 1.5 | $<0.002$ | $<0.02$ |
| 109658 | 214.5 | 216.0 | 1.5 | $\leqslant 0.002$ | $<0.02$ |
| 109659 | 216.0 | 217.5 | 1.5 | $<0.002$ | $<0.02$ |
| 109660 | 217.5 | 219.0 | 1.5 | $<0.002$ | $<0.02$ |
| 109661 | 219.0 | 220.5 | 1.5 | $<0.002$ | $<0.02$ |
| 109662 | 220.5 | 222.0 | 1.5 | <0.002 | $<0.02$ |
| 109663 | 222.0 | 223.5 | 1.5 | <0.002 | $<0.02$ |
| 109664 | 223.5 | 225.0 | 1.5 | $<0.002$ | $<0.02$ |
| 109665 | 225.0 | 226.5 | 1.5 | $<0.002$ | $<0.02$ |
| 109666 | 226.5 | 228.0 | 1.5 | $<0.002$ | $<0.02$ |
| 109667 | 228.0 | 229.5 | 1.5 | $<0.002$ | $<0.02$ |
| 109668 | 229.5 | 230.7 | 1.2 | <0.002 | $<0.002$ |


159.5 - 160.0

- intensely altered, oxidized zone (clay calcite alteration)
160.2-161.2
- microfracturing continues
- calcite, trace pyrite
- orientation $30^{\circ}$ to $50^{\circ}$ to core axis
161.2-188.8
- calcite alteration continues as blebs up to 2 cm across and as minor microfracture filling
- $5 \%$ calcite alteration
- rhyolite also altered to pale emerald green color
- original textures almost obliterated in places
- foliations at $20^{\circ}$ to core axis at 182.3
- moderately foliated
160.3-164.7
- foliations at $10^{\circ}$ to core axis
- epidote-calcite-pyrite alteration (moderately altered/foliated)
- $1 \%$ pyrite as fine grained blebs up to 1 mm across
171.5-172.4
- brecciated andesite dyke in calcite matrix
- trace pyrite as disseminations in the andesite
187.2-187.8
- weakly brecciated andesite dyke
- matrix of calcite and pyrite
- 3\% pyrite, $5 \%$ calcite

190.6
- foliations changes to $40^{\circ}$ to core axis
192.5
- back into pale grey rhyolite breccia with calcite alteration
- dendrite microfractures throughout
- calcite veinlets (fracture filling) at $40^{\circ}$ to core axis up to 0.5 cm wide
- frequency of 1 per cm
- trace pyrite along a quartz-calcite fracture filling at 195.3 at $20^{\circ}$ to core axis
- also pyrite in fracture at 196.6 at $30^{\circ}$ to core axis
- blotchy, white-yellow alteration of clasts ("speckled")
- from 195.5 to 206.9 (possibly argillic or sericite alteration)
- 197.2
- pale grey green alteration, then to emerald green alteration at 205.5 to 214.8
- calcite veining at $30^{\circ}$ to $50^{\circ}$ to core axis frequency of 1 per cm from 200.2 to 208.0
- up to 0.5 cm wide
- slightly brecciated andesite dykes at: 202.3 to 202.6, 203.8 to 203.9, 204.3 to 204.5, 206.5 to 207.0
- trace pyrite in quartz-calcite filled fractures
- slight epidote alteration (moss green color) for up to 5 cm on either side of the dykes
209.4-214.8
- trace to $1 \%$ pyrite as occasional blebs up to 0.5 cm wide



## - foliations at 30 to core axis

 214.8-224.3- grey rhyolite breccia
- dendritic microfracturing with calcite as filling
- ranging from $30^{\circ}$ to $50^{\circ}$ to core axis and increasing in intensity towards the bottom of the breccia
- trace pyrite as fine blebs and occasional fracture filling associated with calcite
217.2 - $217.3,221.2$ - $221.4,222.4-222.5$
"emerald green" alteration
- most intense at fracture decreasing in intensity with increased distance from fracture
224.3-230.7 Rhyolite Ash Tuff
- pale grey-green altered ash tuff
- foliations at $15^{\circ}$ to core axis
- quartz-calcite veining (fracturefilling) at $20^{\circ}$ to core axis, frequency of 1 per 10 cm
- adularia fracture filling at $70^{\circ}$ to core axis, frequency of 1 per 10 cm

END OF HOLE

LOCATION: 969.451N 708.697E

| AZIM.: $330^{\circ}$ | ELEV.: 99.1 m |
| :--- | :--- |
| DIP: -60 | LENGTH: 224.6 m |
|  | CORE LENGTH: NQ |
| STARTED: March 18, 1989 |  |
| COMPLETED: |  |
| PURPOSE: |  |
| CORE RECOVERY: |  |

DRHL HOLE LOG


HOLE NO: CA-89-41 PAGE NO: 1 PROPERTY: Eskay Creek

CLATM NO.:
SECTION: $2+50 \mathrm{~S}$
LOGGED BY: Christine Swanson
DATED LOGGED: March 19, 1989
DRILLNG CO.: Fallon
ASSAYED BY: Bondar Clegg


0 7.6 OVERBURDEN \& CASING
7.6 ANDESITE \& ARGLLLTIES

- pillowed andesites
- maroon to green with pale green quench rinds (vesicular)

| 109669 | 9.0 | 10.5 | 1.5 | $<0.002$ | $<0.02$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 109670 | 16.0 | 17.5 | 1.5 | $<0.002$ | $<0.02$ |
| 109671 | 22.0 | 23.5 | 1.5 | 0.004 | $<0.02$ |
| 109672 | 28.0 | 29.5 | 1.5 | $<0.002$ | 0.03 |
| 109673 | 31.5 | 33.0 | 1.5 | $<0.002$ | $<0.02$ |
| 109674 | 37.5 | 39.0 | 1.5 | $<0.002$ | 0.02 |
| 109675 | 39.0 | 40.5 | 1.5 | $<0.002$ | 0.02 |
| 109676 | 40.05 | 42.0 | 1.5 | 0.002 | 0.03 |
| 109677 | 42.0 | 43.5 | 1.5 | $<0.002$ | 0.05 |
| 109678 | 43.5 | 45.0 | 1.5 | 0.002 | 0.04 |
| 109679 | 45.0 | 46.5 | 1.5 | 0.002 | 0.03 |
| 109680 | 46.5 | 48.0 | 1.5 | 0.002 | 0.04 |
| 109681 | 48.0 | 49.2 | 1.5 | $<0.002$ | 0.05 |
| 109682 | 50.9 | 52.5 | 1.5 | $<0.002$ | 0.02 |
| 109683 | 52.5 | 54.0 | 1.5 | $<0.002$ | 0.02 |
| 109684 | 54.0 | 65.5 | 1.5 |  | 0.02 |

- ocecasional pillow breccias with matrix of grey calcite, trace chlorite, 1-3\% pyrrhotite, trace pyrite \& occasional filling of pale yellow green, very soft, crystalline, translucent mineral which fizzes in hydrochloric acid (possibly a zeolite)
- calcite fracture filling up to 2 cm wide at $30^{\circ}$ to core axis
- frequency of 1 per 5 cm
19.3
- calcite vein 5 cm across at $30^{\circ}$ to core axis
25.2-26.0 2 calcite veins up to 15 cm arross at $30^{\circ}$
to core axis slightly oxidized
28.5 - $29.2,29.5$ - 30.4, 31.0-31.8
- argillite
- Layers subparallel to core axis

| From | To | Description | $\begin{aligned} & \text { Sample } \\ & \text { No. } \\ & \hline \end{aligned}$ | From | To | Length | Au ppb | Au 02/t | $\mathrm{Ag}_{\text {g pmm }}$ | ASSAYS Ag oz/t | Pb ppm | Cu ppm Zn ppm | As ppm | Sb ppm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 35.3-49.2, 57.5 - $59.2,59.8$ - 65.5 <br> - banded silstone argillite <br> - layers at $20^{\circ}$ to core axis in 35.3 to 49.2 <br> - average of 1 cm width <br> - layers denoted by lighter coarser grained layers \& darker grey black carbonaceous finer grained layers with occasional crystallites <br> - 1-3\% pyrite as blebs, disseminations \& fracture filling associated with calcite <br> - trace sphalerite in calcite filled fracture at 41.0 \& 59.9 <br> - fractures $20^{\circ}$ to $50^{\circ}$ to core axis <br> - no apparent bedding in 57.5 to 59.2 as in 59.8 to 63.5 <br> - calcite fracture filling up to 1 cm wide <br> - frequency of 1 per 10 cm at $30^{\circ}$ to $50^{\circ}$ to core axis <br> 59.2-50.9 Cave <br> $50.9-57.5,59.2-59.8,63.5-64.7$ <br> andesite flow breccia <br> fine grained aphanitic with matrix of grey calcite and pyrite <br> - argillite matrix in outer 10 cm of breccia <br> 64.7-79.3 <br> - andesite flows <br> - fine grained phaneritic with aphanitic chill margins, no quench rinds <br> - 1-3\% pyrite as part of matrix (inclcuding grey calcite, trace chlorite) in crackle breccia | 109685 <br> 109686 <br> 109687 <br> 109688 <br> 109689 <br> 109690 <br> 109691 <br> 109692 <br> 109693 <br> 109694 | 55.5 <br> 57.0 <br> 58.5 <br> 61.5 <br> 61.5 <br> 63.0 <br> 64.5 <br> 66.0 <br> 75.0 <br> 78.1 | 57.0 <br> 58.5 <br> 60.0 <br> 63.0 <br> 63.0 <br> 64.5 <br> 66.0 <br> 67.5 <br> 76.5 <br> 79.5 | $\begin{aligned} & 1.5 \\ & 1.5 \\ & 1.5 \\ & 1.5 \\ & 1.5 \\ & 1.5 \\ & 1.5 \\ & 1.5 \\ & 1.5 \\ & 1.5 \end{aligned}$ |  | $\begin{gathered} <0.002 \\ <0.002 \\ 0.002 \\ 0.002 \\ <0.002 \\ <0.002 \\ <0.002 \\ <0.002 \\ <0.002 \\ <0.002 \end{gathered}$ |  | $\begin{gathered} 0.02 \\ <0.02 \\ 0.03 \\ 0.09 \\ 0.02 \\ <0.02 \\ <0.02 \\ <0.02 \\ <0.02 \\ 0.02 \end{gathered}$ |  |  |  |  |
| 79.3 | 84.7 | GRAPHITIC ARGLLITE <br> - 1-3\% pyrite <br> - layering at $40^{\circ}$ to core axis | 109695 <br> 109696 <br> 109697 | $\begin{aligned} & 79.5 \\ & 81.0 \\ & 82.5 \end{aligned}$ | $\begin{aligned} & 81.0 \\ & 82.5 \\ & 84.0 \end{aligned}$ | $\begin{aligned} & 1.5 \\ & 1.5 \\ & 1.5 \end{aligned}$ |  | $\begin{aligned} & 0.004 \\ & 0.002 \\ & 0.002 \end{aligned}$ |  | $\begin{aligned} & 0.06 \\ & 0.02 \\ & 0.02 \end{aligned}$ |  |  |  |  |


| From | To | Description | Sample <br> No. | From | To | Length | Au ppb | Au oz/t | Ag ppm | ASSAYS <br> Ag oz/t | Pbppm | Cu ppm Zn ppm | As ppm | Sb ppm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | - calcite fracture filling at $15^{\circ}$ to core axis up to 0.3 mm wide <br> - frequency of 1 per 0.5 m | 109698 | 94.0 | 85.5 | 1.5 |  | <0.002 |  | $<0.02$ |  |  |  |  |
| 84.7 | 89.3 | ANDESITE BRECCIA <br> - andesite fragments up to 40 cm wide in an argilite matrix <br> - 40\% argillite <br> - 85.2 - 85.7, 86.9 - 87.4 argillite, no andesite fragments <br> - 3-5\% pyrite as blebs and disseminated in the matrix \& rimming $5 \%$ of the fragments <br> - fragments angular to subangular 89.1-89.3 <br> - sheared argillite with graphite along shear planes ranging from 30 to $80^{8}$ to core axis contact with rhyolite at $80^{\circ}$ to core axis | 109699 109700 109701 | $\begin{aligned} & 85.5 \\ & 87.0 \\ & 88.5 \end{aligned}$ | $\begin{aligned} & 87.0 \\ & 88.5 \\ & 90.0 \end{aligned}$ | $\begin{aligned} & 1.5 \\ & 1.5 \\ & 1.5 \end{aligned}$ |  | $\begin{aligned} & <0.002 \\ & <0.002 \\ & <0.002 \end{aligned}$ |  | $\begin{aligned} & <0.02 \\ & <0.02 \\ & 0.03 \end{aligned}$ |  |  |  |  |
| 89.3 |  | RHYOLITE UNTT <br> B9.3-96.0 <br> - pale grey green dust tuff <br> - no discernable fragment size <br> - layering at $45^{\circ}$ to core axis (folistions also) <br> - 1-3\% pyrite as disseminations \& blebs <br> - occasional oxidized fractures <br> 90.3-90.6 <br> - intensely silicified, massive dust tuff 91.6 - 91.7 <br> - mud seam at $50^{\circ}$ to core axis <br> 93.9 - 94.0 <br> - mud seam at $70^{\circ}$ to core axis | 109702 109703 109704 109705 109706 109707 109708 109709 109710 109711 109712 109713 109714 109715 109716 | $\begin{array}{r} 90.0 \\ 91.5 \\ 93.0 \\ 94.5 \\ 96.0 \\ 97.5 \\ 99.0 \\ 100.5 \\ 100.0 \\ 103.5 \\ 105.0 \\ 106.5 \\ 108.0 \\ 109.5 \\ 11.0 \end{array}$ | 91.5 <br> 93.0 <br> 94.5 <br> 96.0 <br> 97.5 <br> 99.0 <br> 100.5 <br> 102.0 <br> 103.5 <br> 105.0 <br> 106.5 <br> 108.0 <br> 109.5 <br> 111.0 112.5 <br> 12.5 | $\begin{aligned} & 1.5 \\ & 1.5 \\ & 1.5 \\ & 1.5 \\ & 1.5 \\ & 1.5 \\ & 1.5 \\ & 1.5 \\ & 1.5 \\ & 1.5 \\ & 1.5 \\ & 1.5 \\ & 1.6 \\ & 1.5 \\ & 1.5 \end{aligned}$ |  | $\begin{aligned} & <0.002 \\ & <0.002 \\ & <0.002 \\ & <0.002 \\ & <0.002 \\ & <0.002 \\ & <0.002 \\ & <0.002 \\ & <0.002 \\ & <0.002 \\ & <0.002 \\ & <0.002 \\ & <0.002 \\ & <0.002 \\ & <0.002 \end{aligned}$ |  | $\begin{aligned} & <0.02 \\ & <0.02 \\ & <0.02 \\ & <0.02 \\ & <0.02 \\ & <0.02 \\ & <0.02 \\ & <0.02 \\ & <0.02 \\ & <0.02 \\ & <0.02 \\ & <0.02 \\ & <0.02 \\ & <0.02 \\ & <0.02 \end{aligned}$ |  |  |  |  |


| From | To | Description | Sample | From | To | Length | Au ppb | Au oz/t | Ag ppm | ASSAYS <br> $\mathrm{Ag} \mathrm{oz} / \mathrm{t}$ | Pb ppm | Cu ppm | Zn ppm | As ppm | Sb ppm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

94.5-95.1

- $60 \%$ quartz $\cdot \mathbf{1 0 \%}$ calcite flooding 96.0-125.3 Siliceous
- light grey ash tuff units
- fragments 2.6 cm fining upwards
- intensely fractured, two major fracture sets at $10^{\circ}$ to core axis \& at $30^{\circ}$ to core axis
- frequency of 1 per cm
- 1-3\% pyrite as above but also as occassional fracture filling
- fractures are mostly oxidized \& leached to 1 cm away from fracture from 96.0 $111.1,117.3$ - 117.6
- stylolitic fractures from 109.5-125.8 filled with pyrite, calcite \& chlorite
- quartz fracture filling (flooding) from 111.2-114.9 (as well as minor calcite) 117.1 - 117.3
- mud seam, rubbly
125.8 - 142.3
- rhyolite breccia (auto breccia)
- pale grey
- 1. 3\% pyrite as blebs and occassioal fracture filling
- foliations (weak) at $40^{\circ}$ to core axis
- occasional oxidized fractures
- low fracture density 1 per 30 cm
142.3 - 142.8 Andesite Dike
- pale green
- amygdules filled with chlorite \& calcite
- sericitic? alteration from $141.5 \cdot 142.3$ \& from 142.8 - 143.7 (halo around dyke) (pale yellow, soft, clayish mineral disseminated alecks)

| 109717 | 112.5 | 114.0 |
| :--- | :--- | :--- |
| 109718 | 114.0 | 11.5 |
| 109719 | 115.5 | 117.0 | 109719115.5117 .0 $109720117.0 \quad 118.5$ $109721118.5 \quad 120.0$ $109722 \quad 120.0 \quad 121.5$ $109723121.5 \quad 123.0$ $109724123.0 \quad 124.5$ $\begin{array}{lll}109724 & 123.0 & 124.5 \\ 109725 & 124.5 & 126.0\end{array}$ $\begin{array}{lll}109725 & 124.5 & 126.0 \\ 109726 & 126.0 & 127.5\end{array}$ $109727 \quad 127.5 \quad 129.0$ $109728129.0 \quad 130.5$ 109729130.5135 .0 $109729130.6 \quad 135.0$ 109730133.5135 .0 $\begin{array}{lll}109731 & 133.5 & 135.0 \\ 109732 & 135.0 & 136.5\end{array}$ 109733136.5138 .0 $109734138.0 \quad 139.5$ $109735 \quad 139.5 \quad 141.0$ 109738141.0142 .5 $109737 \quad 142.5 \quad 144.0$ 109738144.0145 .5 109739145.5147 .0 $109740147.0 \quad 148.5$ $109741 \quad 148.5 \quad 150.0$ $109742150.0 \quad 151.5$ $109743 \quad 151.5 \quad 153.0$ 109744153.0154 .5 109745154.5156 .0 $109746 \quad 156.0 \quad 157.5$ 109747157.5 . 159.0 $\begin{array}{llll}109748 & 159.0 & 160.5\end{array}$ $109749160.5 \quad 162.0$ $109750162.0 \quad 163.5$ $109751163.5 \quad 165.0$



| $<0.002$ | $<0.02$ |
| :--- | :--- |
| $<0.002$ | $<0.02$ |
| $<0.002$ | $<0.02$ |
| $<0.002$ | $<0.02$ |
| $<0.002$ | $<0.02$ |
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| $<0.002$ | $<0.02$ |
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| $<0.002$ | $<0.02$ |
| $<0.002$ | $<0.02$ |
| $<0.002$ | $<0.02$ |
| $<0.002$ | 0.002 |

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| From | To | Description | Sample <br> No. | From | To | Length | Au ppb | Au 0z/t | Ag ppm | ASSAYS <br> Ag oz/t | Pb ppm | Cu ppm Zn ppm | As ppm | Sb ppm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 142.8-224.6 Rhyolite Ash Turf | 109752 | 165.0 | 166.6 | 1.5 |  | $<0.002$ |  | $<0.02$ |  |  |  |  |
|  |  | - clast size from 2.6 cm | 109753 | 166.5 | 168.0 | 1.5 |  | $<0.002$ |  | <0.02 |  |  |  |  |
|  |  | - angular to subangular | 109754 | 168.0 | 169.5 | 1.5 |  | $<0.002$ |  | $<0.02$ |  |  |  |  |
|  |  | - increase in fracture denisty to 1 per cm | 109756 | 171.0 | 172.5 | 1.5 |  | $<0.002$ |  | $<0.02$ |  |  |  |  |
|  |  | - no preferred orientation | 109757 | 172.5 | 174.0 | 1.5 |  | $<0.002$ |  | $<0.02$ |  |  |  |  |
|  |  | - pale grey to medium grey | 109758 | 174.0 | 175.6 | 1.5 |  | $<0.002$ |  | $<0.02$ |  |  |  |  |
|  |  | - siliceous | 109759 | 175.5 | 177.0 | 1.5 |  | $<0.002$ |  | $<0.02$ |  |  |  |  |
|  |  | - $30 \%$ fragments are flow banded | 109760 | 177.0 | 178.5 | 1.5 |  | $<0.002$ |  | $<0.02$ |  |  |  |  |
|  |  | - 1\% pyrite as blebs and occasional | 109761 | 178.5 | 180.0 | 1.5 |  | $<0.002$ |  | $<0.02$ |  |  |  |  |
|  |  | fracture filling with calcite | 109762 | 180.0 | 181.5 | 1.5 |  | $<0.002$ |  | $<0.02$ |  |  |  |  |
|  |  | 159.8-162.4 | 109763 | 181.5 | 183.0 | 1.5 |  | $<0.002$ |  | $<0.02$ |  |  |  |  |
|  |  | - sericite alteration | 109764 | 183.0 | 184.5 | 1.5 |  | $<0.002$ |  | <0.02 |  |  |  |  |
|  |  | - pale yellow flecks as in 141.5 to 142.3 | 109765 | 184.5 | 186.0 | 1.5 |  | $<0.002$ |  | <0.02 |  |  |  |  |
|  |  | - occassional zones of fine ash tuff up to | 109766 | 186.0 | 187.5 | 1.5 |  | $<0.002$ |  | <0.02 |  |  |  |  |
|  |  | 30 cm wide | 109767 | 187.5 | 189.0 | 1.5 |  | < 0.002 |  | $<0.02$ |  |  |  |  |
|  |  | 175.1-218.6 | 109768 | 189.0 | 190.5 | 1.5 |  | $<0.002$ |  | < 0.02 |  |  |  |  |
|  |  | - 5\% sericite (yellow clayey flecks) | 109769 | 190.5 | 192.0 | 1.5 |  | < 0.002 |  | <0.02 |  |  |  |  |
|  |  | alteration of clasts | 109770 | 192.0 | 193.5 | 1.5 |  | $<0.002$ |  | <0.02 |  |  |  |  |
|  |  | - moderately foliated with foliations at | 109771 | 193.5 | 195.0 | 1.5 |  | $<0.002$ |  | $<0.02$ |  |  |  |  |
|  |  | $40^{\circ}$ to core axis | 109772 | 195.0 | 196.5 | 1.5 |  | $<0.002$ |  | $<0.02$ |  |  |  |  |
| - |  | - pyrite along with calcite as blebs and | 109773 | 196.5 | 198.0 | 1.5 |  | $<0.002$ |  | <0.02 |  |  |  |  |
|  |  | along dendritic (stylolite-like) fractures | 109774 | 198.0 | 199.5 | 1.5 |  | $<0.002$ |  | $<0.02$ |  |  |  |  |
|  |  | throughout | 109775 | 199.5 | 201.0 | 1.5 |  | $<0.002$ |  | $<0.02$ |  |  |  |  |
|  |  | 168.8-224.6 | 109776 | 201.0 | 202.5 | 1.5 |  | $<0.002$ |  | < 0.02 |  |  |  |  |
|  |  | - calcite filled fractures (tension gashes) 1 | 109777 | 202.5 | 204.0 | 1.5 |  | $<0.002$ |  | $<0.02$ |  |  |  |  |
|  |  | per 2 cm | 109778 | 204.0 | 205.5 | 1.5 |  | $<0.002$ |  | $<0.02$ |  |  |  |  |
|  |  | 170.6-170.7, 201.5-201.6 Andesite | 109779 | 205.5 | 207.0 | 1.5 |  | $<0.002$ |  | $<0.02$ |  |  |  |  |
|  |  | Dykes ${ }^{\circ}$ | 109780 | 207.0 | 208.5 | 1.5 |  | $<0.002$ |  | $<0.02$ |  |  |  |  |
|  |  | 204.6-foliations at $30^{\circ}$ to core axis | 109781 | 208.5 | 210.0 | 1.5 |  | $<0.002$ |  | $<0.02$ |  |  |  |  |
|  |  | 206.0-foliations at $25^{\circ}$ to core axis | 109782 | 210.0 | 211.5 | 1.5 |  | $<0.002$ |  | $<0.02$ |  |  |  |  |
|  |  | 198.8-199.7-6\% clasts in dust tuff, | 109783 | 211.5 | 213.0 | 1.5 |  | $<0.002$ |  | $<0.02$ |  |  |  |  |
|  |  | clasts have pale yellow alteration rims | 109784 | 213.0 | 214.5 | 1.5 |  | $<0.002$ |  | $<0.02$ |  |  |  |  |
|  |  | 197.3-201.5, 205.1-207.7, 211.9 - | 109785 | 214.5 | 216.0 | 1.5 |  | $<0.002$ |  | $<0.02$ |  |  |  |  |
|  |  | 224.6- emerald green clasts in grey ash | 109786 | 216.0 | 217.5 | 1.5 |  | <0.002 |  | $<0.02$ |  |  |  |  |
|  |  | matrix | 109787 | 217.5 | 219.0 | 1.5 |  | <0.002 |  | $<0.02$ |  |  |  |  |



CALPINE RESOURCES INCORPORATED - ESKAY CREEK PROPERTY, B.C.

| DRILL HOLE | Hole Numbe |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Azimuth: | 150 | Elevation: | 99.12 | metres feet |
| Dip: | -45 |  | 325.2 |  |
| Core Size: | NQ |  |  |  |
|  |  | Length: | $\begin{aligned} & 154.4 \\ & 506.6 \end{aligned}$ | metres feet |
| Started: | March 7, 1989 | Line: | 2+41S | 1+14W |
| Completed: | March 10, 1989 |  |  |  |
|  |  | Location: | $\begin{aligned} & 969.45 \\ & 708.70 \end{aligned}$ | Northing Easting |

```
Drilling Company: Falcon Drilling
Logged by:
Assayed by:
G.F. McArthur
Bondar-clegg
```

REF'ORT: V89-01018.4


BORIDAR-ELEEG

Certificate<br>of Analysis

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1 Pwemen Ave.
ablaniver. B.C.
"8




## CERTIFICATE OF ANALYSIS



## Keewatin Engineering

|  | Au | Ag |
| :--- | :--- | :--- |
|  | ozt | ozt |
| .4 .09360 |  | $<.001$ |
| .09375 | $<.001$ | $<.05$ |
| 109390 | .013 | $<.05$ |
| .09405 | .019 | 1.56 |
| .09420 | .001 | .69 |

CAIPINE RESOURCES INCORPORATED - ESKAY CREEK PROPERTY, B.C.
DRILL HOLE LOG Hole Number CA89-39



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Boitar-Cloge & Company Lid.
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``` No Vncourt, B.C.

BONLRR-CLEES

ERECRT: U89-01CE2.4
\begin{tabular}{|c|c|c|}
\hline ELE*ENT & A & A \\
\hline LNIS & 0\%\% & 0'1 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|}
\hline 02 1095: & \multirow[t]{5}{*}{1} & <0. 012 & \(<1.62\) \\
\hline D2; 04517 & & <0.002 & <0.02 \\
\hline 32 309518 & & <0.602 & \(<0.32\) \\
\hline 92109519 & & <0. 002 & <0.02 \\
\hline 121019520 & & \(<0.002\) & <0.02 \\
\hline D2 109521 & & <0.002 & <0.02 \\
\hline 02159522 & & <0.002 & <0.02 \\
\hline 02109523 & & <0.302 & <0.02 \\
\hline 02119524 & & \(<0.002\) & \(<0.02\) \\
\hline 02109525 & & \(<0.002\) & \(<0.02\) \\
\hline 02105526 & & <0.002 & 0.02 \\
\hline 02109527 & & \(<0.002\) & \(<0.62\) \\
\hline 02109528 & & <0.002 & \(<0.02\) \\
\hline 02 109529 & & \(<0.002\) & <0.02 \\
\hline D2 109530 & & \(<0.002\) & \(<0.02\) \\
\hline
\end{tabular}



\title{
TS LABORATORIES \\ div burgenea technical entenfaises limited
}

2-302-4S:h STREET, EAST
SASKATOON, SASKATCHEWAN SiM 6A4
S(306) 931-1033 FAX: \{306) 242-4717

\section*{CERTIFICATE OF ANALYSIS}

SAMPLES) FROM
Prime Exploration Ltd.
10th Floor-Box 10, 808 West Hastings st. Vancouver, B.C. V6C \(2 \times 6\)

SAMPLE(S) OF PulpS
INVOICE \#: 11157
P.O.: Bondar-Clegg

Keewatin Engineering
Au
Ag
oz
ort

109453
<. 001
\(<.05\)
109468
\(.007 /<.001\)
CA -39
109498
109513
. 001
\(<.001\)
\(<.001\)
<. 05
\(<.05\)
\(<.05\)
\(<.05\)

COPIES TO: C. Idziszek, J. Foster INVOICE TO: Keewatin Engineering-Vancouver


CERTIFICATE OF ANALYSIS

SAMPLE(S) fROM Prime Exploration Ltd. 10th Floor-Box 10, 808 West Hastings St. Vancouver, B.C. V6C 2X6

SAMPLE(S) OF Pulps
INVOICE \#: 11253 P.O.:

Bondar-Clegg
\[
\begin{aligned}
& \text { Au } \\
& \text { ozt } \\
& \text { v89-01062.4-109530 } \\
& \text { v89-01062, 4-1.09545 } \\
& \text { Ag } \\
& \text { ozt } \\
& <.05 \\
& \leq .05
\end{aligned}
\]

CALPINE RESOURCES INCORPORATED - ESKAY CREEK PROPERTY, B.C.
- DRILL HOLE LOG Hole Number CA89-40
\begin{tabular}{|c|c|c|c|c|}
\hline Azimuth: & 330 & Elevation: & 99.12 & metres \\
\hline Dip: & -78 & & 325.2 & feet \\
\hline Core Size: & NQ & & & \\
\hline & & Length: & \[
\begin{aligned}
& 230.7 \\
& 757.0
\end{aligned}
\] & metres feet \\
\hline Started: & March 14, 1989 & Line: & 2+41S & 1+14W \\
\hline Completed: & March 17, 1989 & & & \\
\hline & & Location: & \[
\begin{array}{r}
969.45 \\
708.70
\end{array}
\] & Northing Easting \\
\hline
\end{tabular}

Drilling Company: Falcon Drilling
Logged by:
Assayed by: Christine Swanson Bondar-Clegg
```

undir-Cloxe \& Company Lid.
Opembmante.
0, maver, BC.
P:

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BONDRR-CLEGS

Cerificate of Analysis


\begin{tabular}{|c|c|}
\hline FFOHC5: & 1-st \\
\hline
\end{tabular}

Rondiu-Cloins S Cumpant Lad.
Sixamern fe.
vor thayer. 3 C .
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远
BONDAE-LIEES
Cerificate
of Anaiysis
BORNAR-CLEEG


MEST: \(189-1416.4\)
\begin{tabular}{|c|c|c|c|}
\hline \multicolumn{2}{|l|}{PGEEC: \(\because \because!6\)} & -26 & \\
\hline ELESE:T & \(\therefore\) & - & \\
\hline W11: & OT & 3: & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline  & 1 &  & \[
\begin{aligned}
& 40.02 \\
& \angle 0.02 \\
& <0.02 \\
& 6.62 \\
& <0.02
\end{aligned}
\] & \[
\begin{array}{ll}
02 & 16536 \\
12 & 1065 \\
02 & 16638 \\
32 & 105639 \\
02 & 10640
\end{array}
\] & 0 & \[
\begin{aligned}
& <0.02 \\
& 4.202 \\
& <0.02 \\
& 0.02 \\
& <0.62
\end{aligned}
\] &  \\
\hline \begin{tabular}{l}
W2 : \\
D2 1026012 \\
02509603 \\
02 1nekcu \\

\end{tabular} & & \[
\begin{aligned}
& 0.062 \\
& 0.62 \\
& 0.062 \\
& <0.062 \\
& <0.062
\end{aligned}
\] & \[
\begin{array}{r}
<0.112 \\
<3.12 \\
<0.02 \\
<0.02 \\
<0.92 \\
\hline
\end{array}
\] & \[
\begin{array}{l:l}
{[2} & 104641 \\
02 & 0654,2 \\
02 & 109643 \\
02 & 109644 \\
62 & 189645
\end{array}
\] & & \[
\begin{aligned}
& <0.102 \\
& <0.007 \\
& <0.022 \\
& <1.102 \\
& 0.002
\end{aligned}
\] & \[
\begin{aligned}
& \angle 0.2 \\
& <0.12 \\
& \langle 0.52 \\
& \angle 0.02 \\
& 41.02
\end{aligned}
\] \\
\hline  & & \[
\begin{aligned}
& <0.002 \\
& <0.052 \\
& <0.002 \\
& 0.002 \\
& 0.002
\end{aligned}
\] & \[
\begin{aligned}
& <0.02 \\
& <0.02 \\
& <0.02 \\
& <0.02 \\
& <0.02
\end{aligned}
\] & \[
\begin{array}{lll}
02 & 109646 \\
02 & 199647 \\
02 & 105648 \\
52 & 109649 \\
02 & 105650 \\
\hline
\end{array}
\] & & \[
\begin{aligned}
& <0.062 \\
& <0.002 \\
& <0.002 \\
& <0.042 \\
& <0.002
\end{aligned}
\] & \[
\begin{aligned}
& <0.62 \\
& <0.02 \\
& <0.62 \\
& <0.62 \\
& <0.62
\end{aligned}
\] \\
\hline \[
\begin{aligned}
& 32: 19611 \\
& 02109612 \\
& 52 \\
& 109613 \\
& 02 \\
& 1096: 4 \\
& 32 \\
& 309815
\end{aligned}
\] & & \[
\begin{aligned}
& 6.002 \\
& 0.002 \\
& 0.092 \\
& <0.002 \\
& 0.501
\end{aligned}
\] & \[
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& <0.02 \\
& <0.02 \\
& <0.02 \\
& <0.02 \\
& <0.02
\end{aligned}
\] & \[
\begin{array}{ll}
02 & 109651 \\
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02 & 109653 \\
02 & 109654 \\
02 & 106655
\end{array}
\] & \[
C A-40
\] & \[
\begin{aligned}
& <0.002 \\
& <0.002 \\
& <0.002 \\
& <0.002 \\
& <0.002
\end{aligned}
\] & \[
\begin{aligned}
& <0 .[2 \\
& <1.07 \\
& <0.02 \\
& <0.02 \\
& <0.02
\end{aligned}
\] \\
\hline  & & \[
\begin{aligned}
& 0.0012 \\
& <0.002 \\
& <0.002 \\
& <0.002 \\
& <0.102
\end{aligned}
\] & \[
\begin{array}{r}
<0 . E 2 \\
<0.02 \\
<0.02 \\
0.03 \\
<0 . E 2
\end{array}
\] & \begin{tabular}{l}
D2 103656 \\
\(02: 10657\) \\
0213965 \\
02109559 \\
0210060
\end{tabular} & & \[
\begin{aligned}
& <0.002 \\
& <0.002 \\
& <0.062 \\
& 0.002 \\
& <0.062
\end{aligned}
\] & \[
\begin{gathered}
<0.02 \\
<0.02 \\
<0.02 \\
<0.12 \\
0.12
\end{gathered}
\] \\
\hline \[
\begin{array}{ll}
52 & 105621 \\
92 & 109622 \\
12 & 108623 \\
02 & 105624 \\
22 & 109625
\end{array}
\] & & \[
\begin{aligned}
& <0.002 \\
& <0.002 \\
& <0.062 \\
& <0.0102 \\
& <0.062
\end{aligned}
\] & \[
\begin{aligned}
& <0.02 \\
& <0.02 \\
& <0.02 \\
& <0.62 \\
& <0.62 \\
& \hline
\end{aligned}
\] & \[
\begin{array}{l:l}
02 & 09661 \\
52 & 109662 \\
D 2 & 109663 \\
D 2 & 109664 \\
D 2 & 109665 \\
\hline
\end{array}
\] & & \[
\begin{aligned}
& <0.002 \\
& <0.029 \\
& <0.002 \\
& <0.002 \\
& <0.002
\end{aligned}
\] & \[
\begin{aligned}
& <\pi .02 \\
& <0.12 \\
& <0.12 \\
& <0.02 \\
& <0.02
\end{aligned}
\] \\
\hline \[
\begin{aligned}
& 02 \pm[4626 \\
& 02 \\
& 159627 \\
& 82 \\
& 119628
\end{aligned}
\] & & \begin{tabular}{l}
<0.002 \\
< 0.0102 \\
\(<0.002\)
\end{tabular} & \[
\begin{aligned}
& <0.02 \\
& <9.02 \\
& <0.012
\end{aligned}
\] & \begin{tabular}{l}
U2 104665 \\
D2 200667 \\
0210966
\end{tabular} & \(\checkmark\) & \[
\begin{aligned}
& <0.002 \\
& <0.002 \\
& <0.002
\end{aligned}
\] & \[
\begin{array}{r}
<0.02 \\
<0.62 \\
<0.62
\end{array}
\] \\
\hline
\end{tabular}

\title{
TSL LABORATORIES
}

\section*{CERTIFICATE OF ANALYSIS}


Bondar-Clegg

Au
ozt
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\begin{tabular}{lll} 
& \(<.001\) & \\
\(v 89-01062.4-109560\) & \(<.001\) & \(<.05\) \\
\(v 89-01062.4-109575\) & & \(<.05\) \\
\(v 89-01062.4-109590\) & .004 & \\
& & \\
\(v 89-01062.4-109605\) & \(<.001\) & \\
\(v 89-01062.4-109620\) & \(<.001\) & \(C A-40\) \\
\(v 89-01062.4-109535\) & \(<.001\) & \\
\(v 89-01062.4-109550\) & \(<.001\) & \(<.05\) \\
\(v 89-01062.4-109665\) & \(<.001\) & \\
\hline
\end{tabular}

- Bondar-Clexg \& Company Lid.

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- . Iorth Viscouser, B.C.

ITP 2R5
(A) 935-6681 Telen \(04-35 \times 667\)


Certificate of Analysis

ENTEREC


Registered Asszyer, Province of British Columia

Bondar-Cleng \& Company Lid.
- Pemberon de. wh hana:aist, bc. :P IRS (34) \(985-(48)\) TElea \(04-35366\)


BONDAR-CLEGG
Certificate of Analysis

Apr. 716
KEFPRT: \(189-011062.4\)
FKOUECT: UNUK
F'AGE 3


\begin{tabular}{crcccc}
\hline\(D 2109696\) & 0.002 & 0.02 & \(D 2109736\) & \(<0.002\) & \(<0.02\) \\
\(D 2109697\) & 0.002 & 0.02 & \(D 2109737\) & \(<0.002\) & \(<0.02\) \\
\(021 C 9698\) & \(<0.002\) & \(<0.02\) & \(D 2109738\) & \(<0.002\) & \(<0.02\) \\
\(D 2109699\) & \(<0.002\) & \(<0.02\) & \(D 2109739\) & \(<0.002\) & \(<0.02\) \\
\(D 2109700\) & \(<0.002\) & \(<0.02\) & \(D 2109740\) & \(<0.092\) & \(<0.02\) \\
\hline
\end{tabular}
\begin{tabular}{llllll}
\hline 02109701 & \(<0.002\) & 0.03 & 02109741 & \(<0.002\) & \(<0.02\) \\
02109702 & \(<0.002\) & \(<0.02\) & 02109742 & \(<0.002\) & \(<0.02\) \\
02109703 & \(<0.002\) & \(<0.02\) & 02109743 & \(<0.002\) & \(<0.02\) \\
02109704 & \(<0.002\) & \(<0.02\) & 02109744 & \(<0.002\) & \(<0.02\) \\
02109705 & \(<0.002\) & \(<0.02\) & 02109745 & \(<0.002\) & \(<0.02\) \\
\hline
\end{tabular}




\section*{CERTIFICATE OF ANALYSIS}

SAMPLE(S) FROM
Prime Exploration Ltd. 10th Floor-Box 10, 808 West Hastings st. Vancouver, B.C. V6C \(2 \times 6\)

INVOICE \#: 11253
P.O.:

\section*{Rechsck}

Bondar-Clegg

Ag
ozt
\begin{tabular}{lrr} 
V89-01062.4-109680 & \(<.001\) & \(<.05\) \\
V89-01062.4-109695 & \(.004 / .005\) & \(<.08\) \\
V89-01062.4-109710 & \(<.001\) & \(<.05\) \\
V89-01062.4-109725 & \(<.001\) & \\
V89-01062.4-109740 & \(<.001\) & \(C A-41\) \\
& & \(<.05\) \\
\(V 89-01062.4-109755\) & \(<.001\) & \\
\(V 89-01062.4-109770\) & \(<.001\) & \\
V89-01062.4-109785 & \(<.001\) & \\
\hline
\end{tabular}

\section*{APPENDIX V}

\section*{Statement of Expenditures}
APPENDIX V
Statement of Expenditures
March 5 to 25, 1989
Personnel
B.W. Downing, geologist, 5 days @ \(\$ 300 /\) day ..... \(\$ 1500\)
G. McArthur, geologist, 5 days a \(\$ 300 /\) day ..... 1500
C. Swanson, geologist, 5 days @ \(\$ 200 /\) day ..... 1000
\(\$ 4,000.00\)
Drilling
2667.3 feet ( 813 metres) \(N Q\) core \(\$ 23.80 /\) foot ..... \(62,681.55\)
Assays
452 samples for Au, Ag assay sample preparation a \(\$ 16.50 /\) sample ..... \(7,458.00\)```

