



| [ARIS11A] | | | | ARIS Summary Report | | | | | | | | | | | | | |
|------------------------------|--|---|--|--|------------------|--------------|---------------|----------|--------------------|---------------------|--|--|--|--|--|--|--|
| Regional Geologist, | Kamloops | | | Date Approv | ed: | 1999.(| 04.06 | | Off Confid | 1 999 .10.21 | | | | | | | |
| ASSESSMENT RE | PORT: 2580 | 6 | | Mining Divisi | ion(s): | Ve | ernon | | | | | | | | | | |
| Property Name: | Yeoward M | ountain | | | | | | | | | | | | | | | |
| Location: | NAD 27 NAD 83 | Latitude: Latitude: 0821.01W | 50 10 00 50 10 00 | Longitude: Longitude: | 118 24 118 24 | 4 00 4 04 | UTM: UTM: | 11 11 | 5557881 5558101 | 400012 399936 | | | | | | | |
| Camp: | N19, | 00200111 | | | | | | | | | | | | | | | |
| Claim(s): | Nugget | | | | | | | | | | | | | | | | |
| Operator(s): Author(s): | McLeod, J McLeod, J | James W. James W. | | | | | | | | | | | | | | | |
| Report Year: | 1998 | | | | | | | | | | | | | | | | |
| No. of Pages: | 18 Pages | | | | | | | | | | | | | | | | |
| Commoditles Searched For: | Goid, Silw | er, Copper, Le | ad, Zinc | | | | | | | | | | | | | | |
| General Work Categories: | DRIL, GE | OL, GEOC, P | HYS | | | | | | | | | | | | | | |
| Work Dens: | Drilling | Bartine in the | | | | - | | | | | | | | | | | |
| | DIAD Geochemi SAMF Eleme Geologica GEOL Physical TRAL | Diamond si icai P Sampling/a ants Analyzed d Geological . Trail | urface ssaying For : Multiek (25.0 h (1.0 km;) | (Thole(s);XRP) (6 sample(s);) oment a;) | (13.1 m) | | | | | | | | | | | | |
| Keywords: | Carbonife | rous-Triassic, | Jurassic, Py | rrhotite, Schists, S | ilocan Gr | oup, T | uffs, Valhail | a Piuto | nic Complex | | | | | | | | |
| Statement Nos.: | 3126204 | | | | | | | | | | | | | | | | |
| MINFILE Nos.: | | | | | | | | | | | | | | | | | |
| Related Reports: | 24552, 24 | 670 | | | | | | | | | | | | | | | |

REPORT

ON

THE NUGGET CLAIM GROUP YEOWARD MOUNTAIN AREA VERNON MINING DIVISION BRITISH COLUMBIA

NTS 82L/1W Latitude 50°10'N Longitude 118°25'W

On Behalf of

Harold V. Arnold

By

JAMES W. McLEOD, P.Geo. Delta, British Columbia

January 8, 1999

GEOLOGICAL SURVEY BRANCH ASSESSMENT REFORT

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INTRODUCTION

During the period August 15 - August 28, 1998, the writer supervised a core drilling program on the Nugget mineral claim located on the northwest flank of Yeoward Mountain in the Vernon Mining Division of British Columbia.

The program first required some trail rehabilitation work to provide access from the Yeoward-Monashee Creek road to the property. The subsequent exploration work consisted of core drilling using a hand-held JKS-Boyles Packsack drill.

The fieldwork program was undertaken in the search for base and precious metal mineralization.

The current field work and report is being undertaken on behalf of H.V. Arnold, the claim owner, of Vernon, British Columbia.

LOCATION AND ACCESS

The Nugget mineral claim group is located on the northwest-facing slope of Yeoward Mountain on the south side of Monashee Creek. The claim area may be located on reference map, NTS 82L/1W at latitude 50°10' north and longitude 118°25' west.

Access to the property was provided during this program by traveling on Highway #6 east of the Town of Lumby, B.C. for 33 kilometres to the Yeoward-Monashee creek (South Fork) road, approximately one km. east of the Goldpan campsite, then on a good gravel road which crosses Monashee creek and parallels the north side of Yeoward creek for 10 kilometres which brings you to within 0.5 km. of the Nugget 2 west claim boundary. The last one km. along a trail to the drill site is provided by all terrain vehicle (ATV).



PROPERTY AND OWNERSHIP

The Nugget claim group consists of two contiguous lode mineral claims comprising a total of 15 units which are described as follows:

Nugget - tenure number, 259063 - 10 units; anniversary date, October 21.

Nugget 2 - tenure number, 259133 - 5 units; anniversary date, August 4.

The claims cover an area of 375 hectares (927 acres).

The claims are owned by Mr. Harold V. Arnold of 4410 25th Street, Vernon, British Columbia, V1T 4S6.

TOPOGRAPHICAL AND PHYSICAL ENVIRONMENT

The property lies on the western flank of Yeoward Mountain (which rises to 2,131 metres or 6,990 feet) and ranges in elevation from 1,220 to 1,830 metres (4,000 - 6,000 feet) mean sea level.

The claim area occurs in rounded to steep mountainous conifer covered (spruce, cedar and pine) terrain which forms a gentle plateau to moderate to steep north slope down to Monashee Creek.

The biotic position of the property is generally sub-Alpine which is transitional between the Interior wet belt and the Alpine zone.

The area experiences approximately 120 cm. (50 inches) of precipitation per year, of which 15 to 20 cm. occur as a snow equivalent.



HISTORY

| Та | ble | 1 |
|----|-----|---|
| - | | _ |

| Year | Work Performed | By Whom |
|--------------|--|-------------------------------|
| Pre-1962 | 3 pits (shaft) approx. turn-of-century. | N/A |
| 1962-73 | Hand trenching, prospecting. | Harry Arnold |
| 1974 | Reconnaissance geochemical survey on 400' x 400' grid. | Phil Nielsen |
| 1975-77 | Prospecting | Harry Arnold |
| 1978 | Reconnaissance geochemical survey on 100' x 400' grid. | Clem Paseika |
| 1979 | Bulldozer trenching. | Dave King |
| 1980-92 | Prospecting, physical work on road and Yeoward Creek trail. | Harry Arnold |
| 1993-Present | Road work, mapping, geophysics and rock geochemistry and drilling. | Carbon Reef Resources Inc. |

REGIONAL GEOLOGY

The general area is underlain by a westerly trending package of sediments and volcanics of the Thompson Assemblage which has been assigned a Carboniferous-Permian (possibly to Triassic) age, formerly referred to as the Cache Creek Group. The Thompson Assemblage is seen to be overlain unconformably on the north by mixed sediments and volcanics assigned to the Slocan Group which are thought to be of Triassic or older age. The Slocan Group is in turn overlain on the north by volcanic rocks of the Nicola Group which are assigned a Triassic age.

The general area has been affected by Valhalla Complex intrusive events of Jurassic age. The intrusive rocks observed in the general area are most often as granodiorite to diorite (rhyodacite to andesite) composition.

The general area has undergone folding, faulting and fracturing and rock alteration which is suggestive of regional stress; possibly compression toward the northeast, generating the broad undulatory or repeating folds and the attendant changes of dip such as is observed along Monashee Creek;



The offsets in some of the highly graphitic beds which may serve as markers are examples of faulting; the abundant quartz veins or sills offer examples of fracture closure and welding and various degrees of rock alteration together may indicate close-at-hand, underlying intrusive activity. Generally speaking, mineralization found in the area is as vein fillings of galena, dark coloured sphalerite, chalcopyrite, most always associated with arsenopyrite and possibly tetrahedrite and accompanying silicification. The silver and gold values encountered are thought to be associated with the arsenopyrite.

5

Localized occurrences throughout the general area of Tertiary plateau basalts are observed as cap and/or confined valley flows.

PROPERTY GEOLOGY

The Nugget group is underlain by interlayered sediments and more abundant tuffaceous volcanics with east-west striking contacts and southerly dips which exhibit low to moderately strong alteration as chlorite, sericite, talc and silicification which appears related to the observed sulphide mineralization. The silicified (mineralized) zones are often normal to one another i.e. as a set, with a general trend of northwest - southeast with a varying dip direction. The silicified areas are seen to occur as flat to steeply dipping. The sediments generally occur as aphanitic to fine grained schists and phyllites. The schists are often carbonaceous (graphitic). The volcanics range from vitric and lithic flow tuffs to crystalline tuffs and aphanitic to fine and medium grained volcanics of rhyodacite composition. These rocks are seen to express low to moderate alteration as chlorite, sericite and pervasive and widespread silicification as quartz stringers (<1mm) to large veins of several metres in thickness. Minor limonite with cubic "boxwork" structure (after pyrite) and localized, accompanying manganese stain are observed in several locations on the property.



Mineralization reported from the property and examined by the writer occurs as:

- a) Galena-sphalerite-chalcopyrite-chalcocite?-cerussite?-quartz "eyes"-tetrahedrite and arsenopyrite with silver and gold values; and
- b) Pyrrhotite-sphalerite (black)-chalcopyrite-pyrite-minor quartz.

Both types of mineralization occur as vein fillings and the writer feels that the mineralization observed is related to fault contact vein structures which have often experienced post mineralization offset, NW-SE faulting.

PRESENT WORK PROGRAM

The current fieldwork program included rehabilitating approximately one km. of access trail from the Yeoward creek road, along the west boundary of the claims. This access was necessary to transport the water pump, drill, drill rods and fuel to the drill site. A camp was set-up at the south end of the trail, so no camp material needed to be hauled to the claim area.

The drill hole was undertaken using an XRP-sized standard bit and 5 foot core barrel which returned a 1.87 cm.(0.735 inch) core. The vertical drill hole was collared at L6E -2+39N on a fine grained crystal tuff which assayed 104 ppb gold in a surface sample taken in 1996 and the same area responded in the 200 - 400 millivolt range on the self potential (SP) survey conducted at the same time (see Assessment Report, 1996 - #24670). The drill hole, DDH 98-1 (see Figure 4) reached a total depth of 13.1 metres (43^c). The core is stored on the property near the drill site. The core logs is presented as Appendix I.

The core samples were analyzed at Acme Labs. in Vancouver, B.C. by induction coupled plasma (ICP) and assaying for gold (see Appendix II, numbers N1 #1 - #6).

The work program was conducted and the report was prepared on behalf of Harry Arnold of Vernon, British Columbia.

CONCLUSIONS

The drill results from the current program reveal a vertical section through a fairly steeply dipping? fine grained crystal tuff which exhibits narrow zones of quartz-veining (silicification) with possibly accompanying arsenopyrite mineralization containing the higher gold values? The tuff section also exhibits varying degrees of sericite alteration. Widespread pyrrhotite (magnetic) and some pyrite mineralization occurs throughout the tuff section (see Appendix I).

RECOMMENDATIONS

The writer recognizes a number of potential areas of interest regarding the possible discovery of base metal sulphides which could contain significant gold values, but at this time does not recommend a specific program although deeper drilling in the general vicinity of DDH 98-1 is a viable possibility.

Respectfully submitted,

James W. McLeod, P.Geo.

STATEMENT OF COSTS

| Geology and supervision and trail rehabilitation | \$ 700 |
|--|------------|
| Drilling 13.1 metres XRP core @ \$110/metre | 1,440 |
| Transportation | 300 |
| Camp and board, 12 mandays @ \$80 per manday | 960 |
| Geochemical analyses and assays | 120 |
| Report | <u>350</u> |

TOTAL \$ 3,870

CERTIFICATE

I, JAMES W. McLEOD, of the Municipality of Delta, Province of British Columbia, hereby certify as follows:

- I am a Consulting Geologist with an office at #203, 1318 56th Street, Delta, B.C. V4L 2A4.
- 2. I am a Professional Geoscientist registered in the Province of British Columbia and a Fellow of the Geological Association of Canada.
- 3. I graduated with a degree of Bachelor of Science, Major in Geology, from the University of British Columbia in 1969.
- 4. I have practised my profession since 1969.
- 5. This report is based on personal field experience gained by working on the Nugget claim group during 1998.

DATED at Delta, Province of British Columbia this 8th day of January, 1999.

James W. McLeod, P.Geo. Consulting Geologist

Appendix I

(Core Logs)

APPENDIX I

(Drill Hole Log)

Drill Hole No.: 98-1 Azimuth: 0 Total Depth: 13.1 metres Logger: J. McLeod Type: XRPLocation: L6E - 2+39NDip: 90Property: Nugget Gr'p.Area: Yeoward M'tn.Date: August 28, 1998

| <u>Interval (m.)</u> | <u>Recovery (%)</u> | Description |
|----------------------|---------------------|---|
| 0-1.30 | 65 | Broken, rusty fine gr. tuff. Sa. N1-#1. |
| 1.30-4.65 | 95+ | Same f.g. tuff with sl. alter. mafics and feld.s "ghosty", silicweld. breccia and abund. Po (magnetic) pyrrhotite. Sa. N1-#2 - 1.30-1.37 m. Sa. N1-#3 - |
| 4.65-13.1 | 95+ | Similar f.g. tuff and alter., more Po. |

Appendix II

(Analyses and Assays)

| AC | ме 1 () | ANA ISO | | ICAL 02 A | LAI | BORA: edit(| TORI ed C | ES L 0.) | TD. | | 852 | 2 E. | HAS | TIN | 35 S | T. 1 | VALEO | UVE | RBC | V6 | A 11 | 26 | Pl | HONE | (604 | 4)25: | 3-31 | .58 | FAX (| 604) | 3 | -171 | .6 | <u>ן</u> |
|---------|---------------|------------|----------|--------------|----------------|----------------|----------------|-------------|-----|------------|----------------------|--------------------|-------------|---|------------|-------------|---------------|-------------|---------------|--------------|--------------|------------|------------------|----------|----------------|-------|---------------|------|-------|-------|------|---|------|---------------|
| A | A | | - | | | | | • | | | | GEO | CHE | MIC | AL | ANA | LYSI | s c | ERI | TFI | CAT | Ē | | | | | | | | | | | A | |
| T | T | | | | | | | | | 2(| <u>Ome</u> 13 · 1 | <u>ga</u> 318 - | Ser 56th | <u>vic</u> st., | es Delt | Inc a BC | . F V4L 2A | rile 4 s | è # ⊔oomit | 980 ted b | 558 y: J. | 7 McLeo | d | | | | | | | | | ť | Ĺ | |
| SAMPLEA | ! . | | Mo | Cu | Pb | Zn | Ag | Ni | Co | Яn | Fe | As | U | Au | Th | ۶r | Cd | SÞ | Bi | v | Ca | P | La | Cr | Mg | Ba | Ti | 8 | AL | Na | ĸ | | Au* | <u></u> |
| | - | | ppm | - ppm | ppm | ppia | ppii | ppa | ppm | ppm | - 7 | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | * | 7 | ppm | ppm | 7 | ppm | 7 | ppm | % | * | * | ppm | ppb | |
| | | | 1 | 11 | 105- | 13434_ | <u> </u> | 2 | 2 | 887 | .22 | 2 | <8 | <2 | 2 | 89 | 31.5 | <3 | <3 | <1 | 18.21 | .017 | 1 | 4 9 | 0 45 . | -1 | - 01 | ~7 | 0/ | 02 | | | | 1 |
| | | [| 3 | 49 | 291 | 59460 | <.3 | | | 980 | 入 | غرر | 100 | ₽ <2 | Ž | 85 | 183.4 | <3 | <3 | <1 | 16.98 | .0192 | Ż. | 1 | 56 | 1 | <.01- | -0- | 05 | .01 | <.01 | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | - | |
| | | | 1 | 3 | 23 | 1692 | <.3 | <1 | 1 | 769 | -154 | - | <u>-</u> | <2 | <2 | 113 | 5.6 | <3 | <3 | <1 | 20.85 | 2510 | - . . | E | 7.78 | - 4. | <.01 | 5 | .02 | .01 | <.01 | <2 | - | |
| | | | 1 | 5 | 1185 | 1023 | < 4 | 2 | 2 | 020 791 | . 10 | ~2 | <8 _0 | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | | 110 | 8.6 | <3 | <3 | <1 | 19.62 | 2012- | - 3 | 38 | 8.05 | 4 - | <.01 | <3 | .02 | .01 | <.01 | <2 | - | |
| 100 | | | · | - | | | | £- | - | 101 | . 17 | 12 | 10 | ~2 | ~2 | 90 | | <u>></u> | \leq | | 17.65 | .018 | 2 | 88 | 8.05 | 6 • | <.01 | <3 | .01 | .01 · | <.01 | <2 | - | |
| | | | 1 | 3 | 180 | 524 | <.3 | 1 | 2 | 793 | . 19 | 2 | <8_ | | | 97 | 2.7 | <3 | <3 | <1 | 19.37 | | 2 | 4 5 | R 47 | 5. | c 01 | ~2 | 01 | 01 | < 01 | ~2 | | |
| 4 | | | 4 | 10 4 | 4174 | 9980 | .3 | 1 | 2 | 788 | | - 3 | <8 | <2 | 2 | 113 | 31.4 | <3 | <3 | <1 | 19.11 | .023 | 2 | -6 | 5-54 | 7 | <.01 | 3 | .08 | .01 | <.01 | <2 | - | |
| 1 | | | 2 | 5 3 | 5482 ' 7117 | 10560 | <u> </u> | <u>+</u> | | 820 | .19 | 4 | <8 | <2 | <2 | 104 | 35.8 | <3 | <3 | <1 | 18.26 | .020 | 2 | 4 8 | 8.59 | 7. | -10.5 | 5 | 05 | .01 | .01 | <2 | - | |
| 1 | | | <u></u> | -15 | 4966 | 37681 | -4 | 2 | 2 | 761 | -21 | 5 | 8> مر | <2 | <2 | 104 | 28.3 | <3 | <3 | <1 | 18.50 | .032 | 2 | 38 | 8.44 | 6 • | <.01 | <3 | .07 | -01 | 01_ | <2 | - | |
| 1.13 | - | 1 | | | | | | | | | | | | | | | 120.7 | | <u></u> | | 18.65 | .1123 | | <u> </u> | Z_ <u>86</u> _ | | <u><01</u> | _<3_ | 06 | 01 | .01 | | | . <i>م</i> لح |
| N1 #1 | 1.5 | 31 11 | 2 | 60 | 37 | 265 | <.3 | 65 | 15 | 424 | 3.23 | 269 | <8 | <2 | 2 | 131 | 1.1 | <3 | <3 | 64 | 2.94 | . 133 | 10 | 67 | R/. | 63 | 08 | 17 | 74 | 07 | 46 | ~ 2 | | |
| N1 #2 | 13 | 5 1 | 1 | 62 | 53 | 286 | .3 | 61 | 16 | 504 | 3.69 | 216 | <8 | <2 | 2 | 122 | 1.3 | <3 | <3 | 81 | 2.76 | .141 | 11 | 43 | 1.00 | 70 | .00 | <3 | .70 | .04 | - 15 | 2 | 10 | 34 |
| RE N1 # | 4., | z | 2 | 61 | 48 | 283 | <.3 | 60 | 16 | 501 | 3.63 | 206 | <8 | <2 | 2 | 121 | 1.3 | <3 | <3 | 80 | 2.71 | .141 | 11 | 41 | .99 | 70 | .09 | -3 | .90 | .04 | .16 | ~2 | · · | |
| NI #3 | | 70 | <1 <1 | 65 65 | 0 | 04 58 | <.3 | 7 | 17 | 658 | 4.64 | 320 | <8 | <2 | 3 | 172 | .6 | <3 | <3 | 94 | 2.53 | .240 | 17 | 18 ' | 1.10 | 30 | .07 | <3 | 1.04 | .04 | - 14 | 2 | 5 | 2.5 |
| | - | 10 4 | | 05 | , | 20 | · | ' | 10 | 210 | 4.37 | 209 | <0 | <2 | 4 | 162 | .0 | د> | <5 | 84 | 2.18 | .217 | 17 | 15 | -99 | 30 | .07 | <3 | .94 | -04 | . 13 | <2 | 5 | 2.5 |
| N1 #5 | 6.5 | 80 1 | 12 | 37 | 686 | 79 | 2.6 | 8 | 17 | 976 | 4.96 | 4669 | <8 | <2 | 3 | 208 | 1.4 | 25 | <3 | 163 | 4.49 | - 218 | 16 | 30 4 | 1 04 | 50 | 0 /. | .7 | 1 92 | 07 | 71 | -2 | / 20 | 1 |
| N1 #6 | 12 | 10 | 1 | 40 | 832 | 66 | 2.9 | 8 | 19 | 956 | 5.34 | 6284 | <8 | <2 | 2 | 211 | 1.6 | 32 | <3 | 147 | 4.38 | .220 | 16 | 28 | 1.78 | 34 | .05 | 3 | 1.67 | .03 | .27 | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | 550 | 12 |
| STANDAR | D C3 | | 25 | 60 | 38 | 155 | 5.1 | - 33 | 12 | 826 | 3.16 | 52 | 22 | <2 | 21 | 28 | 22.4 | 13 | 17 | 71 | .53 | .084 | 17 | 157 | .60 | 148 | .08 | 17 | 1.79 | .04 | 15 | 14 | | ~ ~ |
| STANDAK | 0 6-0 | 2 | 1 | 3 | (| 44 | <u> <.3</u> | 8 | 5 | 590 | Z.05 | <2 | 9 | <2 | 5 | 75 | -2 | <3 | <3 | 39 | .68 | .096 | 8 | 76 | .65 | 240 | .12 | <3 | .99 | .07 | .48 | 2 | - | 1 |
| | | | | i | ъ. | 500 G | DAN S | | חפו | ICERT | EN LIT | Tu 724 | . | 3 .00 | - 1410 | 7.470 | AT 05 | | c to | | | | | | | | | | | | | | |] |

ICP - .5UU GRAM SAMPLE IS DIGESTED WITH 3ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND MASSIVE SULFIDE AND LIMITED FOR NA K AND AL. ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB - SAMPLE TYPE: CORE AU* - IGNITED, AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.(10 GM) Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

NOTE: 1) <u>CORE SECTION</u> IS WHELE SAMPLE WAS TAKEN (METRES). 2) <u>INTELVAL</u> IS LENGTH OF SAMPLE IN (CENTIMETRES).

Data