

GEOLOGY & PROSPECTING REPORT

THE LUMBY PROPERTY

CLAIMS: OK  
HAZ 5

MINING DIVISION: VERNON

N.T.S.: 82L 7W

LATITUDE: 50° 15' North

LONGITUDE: 118° 57' West

OWNER: Zicton Gold Limited

OPERATOR: Zicton Gold Limited

CONSULTANT: Allen Geological Engineering Ltd.

AUTHORS: Douglas R. Halliwell,  
M.Sc. (Applied), B.Sc., F.G.A.C.

Alfred R. Allen,  
M.A.Sc., B.A.Sc., P.Eng.

DATE: July 31, 1991

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**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**21,561**

## MAPS

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Laboratory Assay Report

## **1.0 INTRODUCTION**

The Deafies Creek area of the OK and HAZ 5 claims was selected for geological and prospecting since shallow precious and base metal mineralization has previously been discovered by trenching and surface rock sampling. Furthermore, a broad east-west AEM conductive zone has been detected on the adjacent Quinto property to the east; it is reasonable to assume that the conductor extends west onto the Zicton property. At the nearby Quinto Mine, such conductors are associated with east-west shears and precious and base metal mineralization. It is hoped that the 1991 geological mapping and prospecting can aid in locating sites for future trenching and drilling programs.

## **2.0 LOCATION AND ACCESS**

The town of Lumby is located in the northern Okanagan region of South-Central British Columbia about 25 kilometres east of Vernon. The OK and HAZ 5 claims form a two-claim contiguous block of claims located 8.5 kilometres north of Lumby in the headwaters area of Deafies Creek. These two contiguous claims are located within Vernon Mining Division and, along with the BS-3 and HOL 1-4 claims east of Lumby, comprise the seven current claims of Zicton Gold Limited. Refer to Map 1.

The claims are accessed by two paved all-weather roads, one between Lumby and Shuswap Falls, and the other through Trinity Valley. Closer to the property, access is by all-weather gravel roads, including the Deafies Creek Road and a network of old and recent logging roads. Access and drainage patterns have recently been affected by current logging activities and, in June-July 1991, the roads were frequented by a fleet of three logging trucks (it wasn't possible to borrow a truck radio from the logging company to monitor the position of logging trucks). The property lies roughly between Kilometre 2 and Kilometre 5 on the east-west Deafies Creek Road and enjoys reasonable access by automobile. Improved access (through "washouts", etc.) can be afforded by truck, preferably with four-wheel drive vehicles. Future expansions of roads and human activity southeast of the claims and south of Deafies Creek may improve access to the claims.

## **3.0 PROPERTY**

Zicton Gold Limited owns and operates the Lumby Property's northwest and southeast claim blocks, shown in Map 2. The northwest claim block, for which this assessment report is written, is comprised of the following contiguous claims, all of which are in good standing:

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The town of Lumby is located in the northern Okanagan region of South-Central British Columbia about 25 kilometres east of Vernon. The OK and HAZ 5 claims form a two-claim contiguous block of claims located 8.5 kilometres north of Lumby in the headwaters area of Deafies Creek. These two contiguous claims are located within Vernon Mining Division and, along with the BS-3 and HOL 1-4 claims east of Lumby, comprise the seven current claims of Zicton Gold Limited. Refer to Map 1.

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Claim	Record No.	No. of Units	Due Date
OK	2016	20 (5Nx4W)	Sep. 20/91
HAZ 5	1845	10 (5Sx2W)	July 11/91
-----			
Total		30 units	

#### 4.0 PHYSIOGRAPHY

The village of Lumby is located 8.5 kilometres to the south in White Valley, at the southwest base of Saddle Mountain at an elevation of 500 metres above sea level. Saddle Mountain peaks at 915 metres elevation three kilometres northeast of Lumby.

The OK and HAZ 5 claim area is drained by the east to southeast flowing Deafies Creek. The topography includes a rounded 363 metre summit located in the central eastern area of the OK claim and a 398 metre ridge on the northwest corner of the claim. Deafies Creek flows east across the southern area of the OK and HAZ 5 claims at elevations between 274 metres (in the southwest) and 213 metres (in the southeast). Refer to Map 3.

The two claims exclude any cultivated land and, prior to logging activities, were completely covered in mixed forest, mostly coniferous forest. There is a network of roads, buildings and human activity to the southeast of the claims south of Deafies Creek.

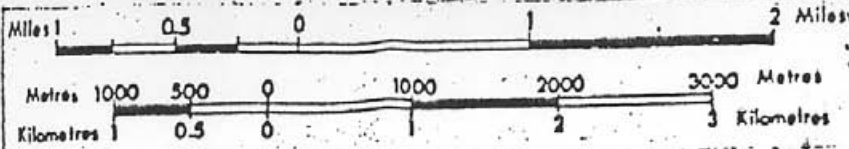
#### 5.0 PREVIOUS WORK

##### 5.1 Lumby Area

Gold and silver mineralized veins were first discovered on Saddle Mountain in the early 1900's by a Lumby school teacher (i.e. Teachers Zone). From 1960 to 1970, good grade silver, lead, zinc and copper ore was mined by open pit and shipped to the Trail Smelter. In 1971, F.K. Explorations Ltd. sold their 50 ton per day mill to Alberta Gypsum and conducted an exploration project designed to outline ore reserves.

Between 1974 and 1979, a 50 to 150 ton per day mill was built and operated by Coast Interior Ventures (N.P.L.). The Chaput logging family of Lumby operated the mill between 1979 and 1981. Production from 1975 to 1981 was estimated at between 30,000 and 40,000 tons. Concentrate was treated by Cominco at Trail. In 1980, the mill was increased to a capacity of 150 tons per day.





D-BES 2025 (10)  
 5N14W  
 29276  
 29277

Area 3 C 2036 (10)	Area 4 C 2037 (10)
Area 2035 (10)	Area 2032 (10)

D-BES 2  
 2053 (10)  
 2514W



DK-1  
 2137 (7)  
 4433E

P.S. 5  
 2010 (9)  
 5314W

P.S. 6  
 2011 (9)  
 5314E

No. 2  
 ZICTON GOLD LIMITED  
 MINERAL CLAIMS AND  
 ADJOINING QUINTO CLAIMS

ALLEN GEOLOGICAL ENGINEERING LTD.  
 per Alfred R. Allen  
 Alfred R. Allen, P.Eng.

Drawn by A.R.A.	Date 31/7/91	Scale 1:50,000
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Z90-2  
 OK  
 2016  
 (9)  
 5N14W

Z89-1  
 5N14W

H.A. 5  
 1845 (7)  
 (5312W)

P.S. 3  
 2008 (9)  
 5314W

P.S. 4  
 2009 (9)  
 5314E

B.S. 5  
 2006 (9)  
 5314W

B.S. 4  
 2005 (9)  
 5314W

P.S. 2  
 2007 (9)  
 5314E

P.S. 7  
 2012 (9)  
 5313W

HOL 1  
 2130 (7)  
 5314W

HOL 2  
 2131 (7)  
 5314E

HOL 3  
 2132 (7)  
 5314E

HOL 4  
 2133 (7)  
 5314W

QUIN  
 1936 (3)  
 2578E

B.S. 5  
 2004 (9)  
 5N14W

B.S. 1  
 2002 (9)  
 5N14W

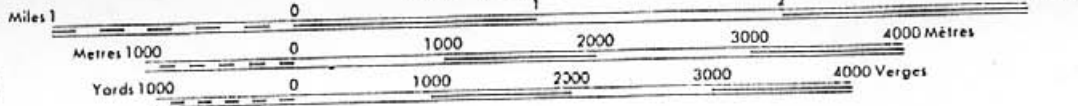
B.S. 2  
 2003 (9)  
 5N14E

WHITE VALLEY

Lumby

Blue Springs

Scale 1:50,000 Echelle



No. 3

**ZICTON GOLD LIMITED**  
**TOPOGRAPHY AND**  
**MINERAL CLAIMS**

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ALLEN GEOLOGICAL ENGINEERING LTD.  
*per Alfred R. Allen*  
 Alfred R. Allen, P.Eng.

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Drawn by A.R.A.	Date 31/7/91	Scale 1:50,000
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00' 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100'

The property was acquired by Quinto Mining Corporation in 1983. Quinto has since staked additional mineral claims, conducted surface exploration, and carried out underground exploration and development over an enlarged area. The objective is to renew precious metals production in addition to commence mining of the industrial mineral, graphite. The mine vein system was discovered to contain excellent silver, lead, zinc and copper mineralization.

Airborne magnetic and electromagnetic surveys on the Quinto property were extended over the northwest corner of the BS-3 claim in Zicton Gold's southeast claim block, where anomalous zones were detected. The HOL 1-4 claims were staked in 1976 and were conveyed to Zicton Gold on August 6, 1987. The BS-3 claim was acquired in 1987 by Zicton Gold, in that year, receiving the following work: grid construction, geology, magnetic surveying and VLF-EM surveying.

## 5.2 OK, HAZ 5 Claims

Zicton Gold Limited claims include the BS-3, HOL 1-4; located on the east boundary; and the OK, HAZ 5; located four kilometres to the northwest of the Quinto property.

The HAZ 5 claim was staked by Sid Johnson on June 28-July 2, 1984 and recorded in Vernon on July 11, 1984. It was conveyed to Zedco Petroleums Ltd. on July 11, 1984.

The OK claim was staked by John Hilton on September 14-16, 1985 and recorded in Vernon September 20, 1985. It was conveyed to Zedco Petroleums Ltd. on September 21, 1987.

The OK and HAZ 5 claims have since been conveyed to Zicton Gold Limited.

Previous claim owners had conducted exploratory work adjacent to the east boundary of the OK claim. A shear zone was investigated by stripping and an outcrop of vein quartz measuring three metres by one metre was sampled. The shear zone includes iron oxidized gouge and can be traced along strike for 20 to 25 metres. In 1989, trenching exposed a mineralized zone and Diamond Drill Hole Z89-1 drill-intersected quartz veinlets with pyrite and associated disseminated sulphides within black argillites and (to a lesser extent) grey tuffs. In 1990, Diamond Drill Hole Z90-2 was collared just five metres lower in elevation, just downhill from the trench, and 49 metres from Hole Z89-1 at a bearing of N75°E from it. The angle hole (i.e. -65°) had a bearing of N5°E and a hole length of 61.6 metres. Hole Z90-2 intersected only traces of precious metal mineralization and traces of sulphides (pyrite, pyrrhotite, chalcopyrite) within quartz stringers and (black and grey) argillite. NQ core recovery was estimated at 90% overall.

## 6.0 THEORY

Extensive field programs on the Quinto property to the southeast have determined that some of the sizable, shallow precious metal deposits are located within large sheared (+/- graphitic) zones. Mineralization appears to be more likely to be detected by VLF-electromagnetic surveys than magnetic ones. The possible spatial correlation of positive geological and VLF-electromagnetic results in areas of shallow overburden would be useful in exposing new mineralization on surface and in designing future stripping, trenching and drilling programs. Supporting data could also be obtained by soil sampling after a small orientation soil sampling survey is carried out over areas of known mineralization to determine optimum soil sampling horizons, size of material to be sampled, and elemental associations.

Budgetary restrictions limited exploration work during the July 1991 program to geological mapping, prospecting and rock sampling within the broad (i.e. one kilometre wide) east-west belt of known precious and base metal mineralization and the suspected western strike-extension of the east-west airborne VLF-electromagnetic anomalous zone (i.e. Vance Zone) which covers much of the central portion of the claim block.

## 7.0 GEOLOGY

The regional geology is shown in Map 4 and the accompanying geological legend. The local geology, conductive zones and mineralized zones appear in Map 5.

Outcrops are minimal. None of the land is under cultivation. Mapping by the Geological Survey of Canada has, however, provided considerable geological detail over the area and is available in Open File Paper #637 (Okulitch, 1987) and Memoir #296 (Jones, 19xx).

The stratigraphy is summarized as follows:

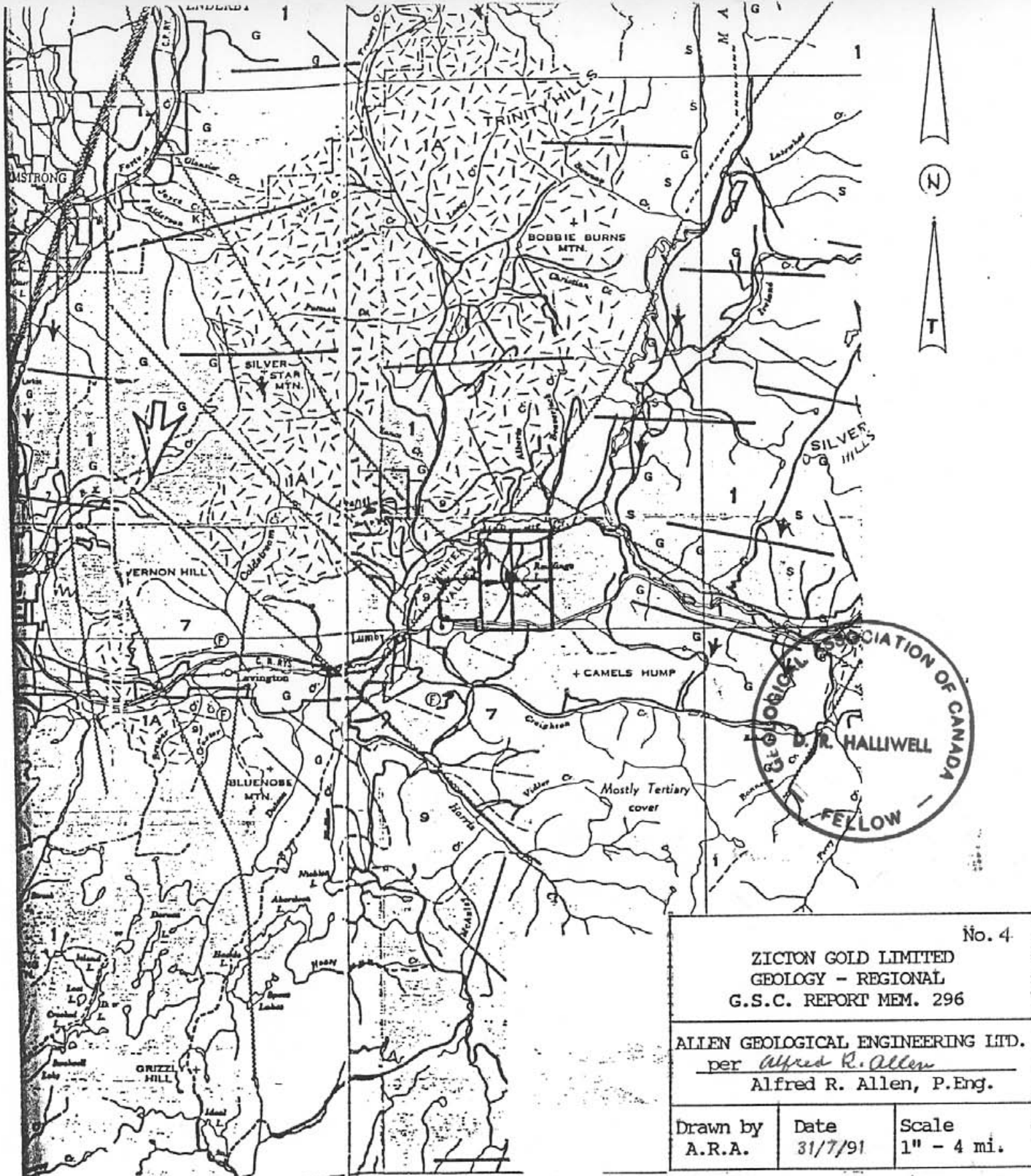
Shuswap Terrane (Mt. Ida Group).

Monashee Group (Archean or Later). Granitoid and augen gneiss, mica-sillimanite-garnet schist, quartzite, marble, slate, phyllite, limestone.

Sicamous Formation (Archean or Later). Limestone, sericite schist, graphitic schist.

Eagle Bay Formation (Archean or Later). Chlorite schist, sericite schist, slate, limestone, quartzite. Minor conglomerate.





No. 4

ZICTON GOLD LIMITED  
GEOLOGY - REGIONAL  
G.S.C. REPORT MEM. 296

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ALLEN GEOLOGICAL ENGINEERING LTD.  
per Alfred R. Allen  
Alfred R. Allen, P.Eng.

Drawn by A.R.A.	Date 31/7/91	Scale 1" - 4 mi.
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III (a)

45'

on map-area, British Columbia, showing also distribution of Shuswap

Scale: One Inch to Four Miles =  $\frac{1}{253,440}$

QUATERNARY  
PLEISTOCENE AND RECENT **LEGEND**

21 *Glacial, lacustrine, and fluvial gravel, sand, silt, and clay*

TERTIARY  
OLIGOCENE OR MIOCENE  
KAMLOOPS GROUP

20 *Basaltic lava and flow breccia; minor rhyolitic lava and breccia; local sandstone, shale, conglomerate, coal*

CRETACEOUS OR TERTIARY

19 *Pink to red syenite and quartz syenite; pink and white mottled granite*

JURASSIC AND/OR CRETACEOUS  
COAST INTRUSIONS

18 *Granite, granodiorite and allied rocks*

TRIASSIC  
UPPER TRIASSIC  
NICOLA GROUP

17 *Andesite; minor basalt; some limestone and conglomerate*

(?) LOWER AND/OR UPPER TRIASSIC  
SLOCAN GROUP

16 *Slate, quartzite, limestone; phyllite, mica schist; may be in part equivalent to 17*

CARBONIFEROUS (?) AND PERMIAN  
CACHE CREEK GROUP (13-15)

15 *DIVISION C: mainly limestone; minor argillite, quartzite, and andesite lava, breccia, and tuff*

14 *DIVISION B: mainly andesite lava and tuff; minor argillite, quartzite and limestone*

13 *DIVISION A: mainly argillite*

WINDERMERE (?) OR EARLY PALÆOZOIC

12 *Argillite, phyllite, schist, quartzite, limestone, conglomerate*

WINDERMERE (?) OR CAMBRIAN

11 *BADSHOT FORMATION: limestone and marble; minor argillite*

WINDERMERE OR (?) CAMBRIAN  
HAMILL SERIES

10 *Quartzite, staurolite schist, argillite, phyllite; minor limestone*

WINDERMERE OR EARLIER

9 *OLD DAVE INTRUSIONS: serpentized, ultramafic dykes*

CENOZOIC

MESOZOIC

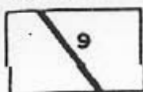
PALÆOZOIC

PROTEROZOIC AND/OR PALÆOZOIC



PROTERC

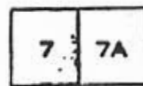
WINDERMERE OR EARLIER



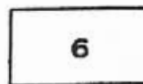
OLD DAVE INTRUSIONS: serpentized, ultramafic dykes

SHUSWAP TERRANE

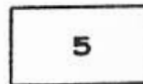
ARCHÆAN OR LATER



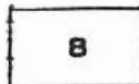
MOUNT IDA GROUP (1-7)  
 EAGLE BAY FORMATION: chlorite and sericite schist, slate, limestone, quartzite; minor conglomerate  
 7A. Predominantly limestone



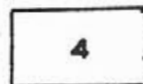
SICAMOUS FORMATION: flaggy limestone, sericite schist, graphite schist



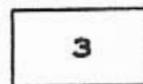
MARA FORMATION: argillite, slate, sericite and chlorite schist, limestone



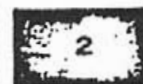
CHAPPERON GROUP  
 Argillite, chlorite schist, mica schist; quartzite, limestone. May be equivalent to Mount Ida group, in part



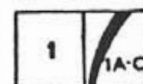
TSALKOM FORMATION: green andesite and agglomerate, chlorite schist, slate



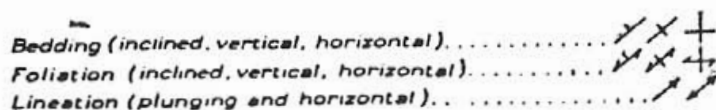
SILVER CREEK FORMATION: slate, sericite schist, garnetiferous quartz-mica schist



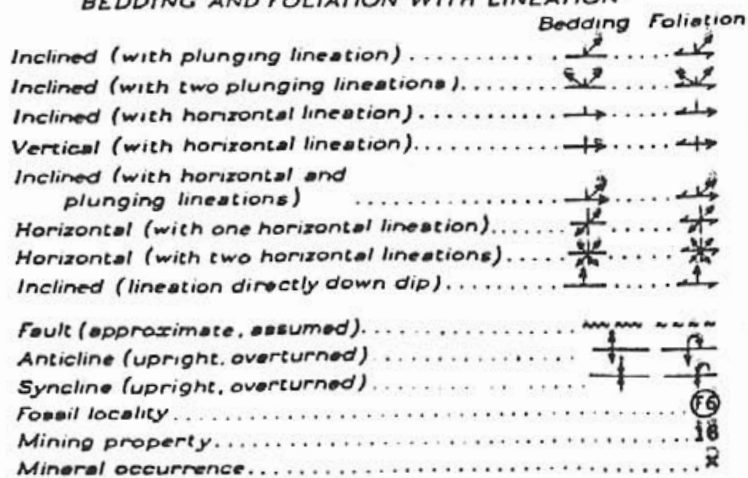
CHASE FORMATION: quartzite calcareous quartzite; garnetiferous quartz-mica schist



MONASHEE GROUP  
 1. Granitoid gneiss, augen gneiss, mica-sillimanite-garnet schist; quartzite, marble, hornblende gneiss, slate phyllite  
 1A. Limestone  
 1B. Quartzite  
 1C. Hornblende gneiss



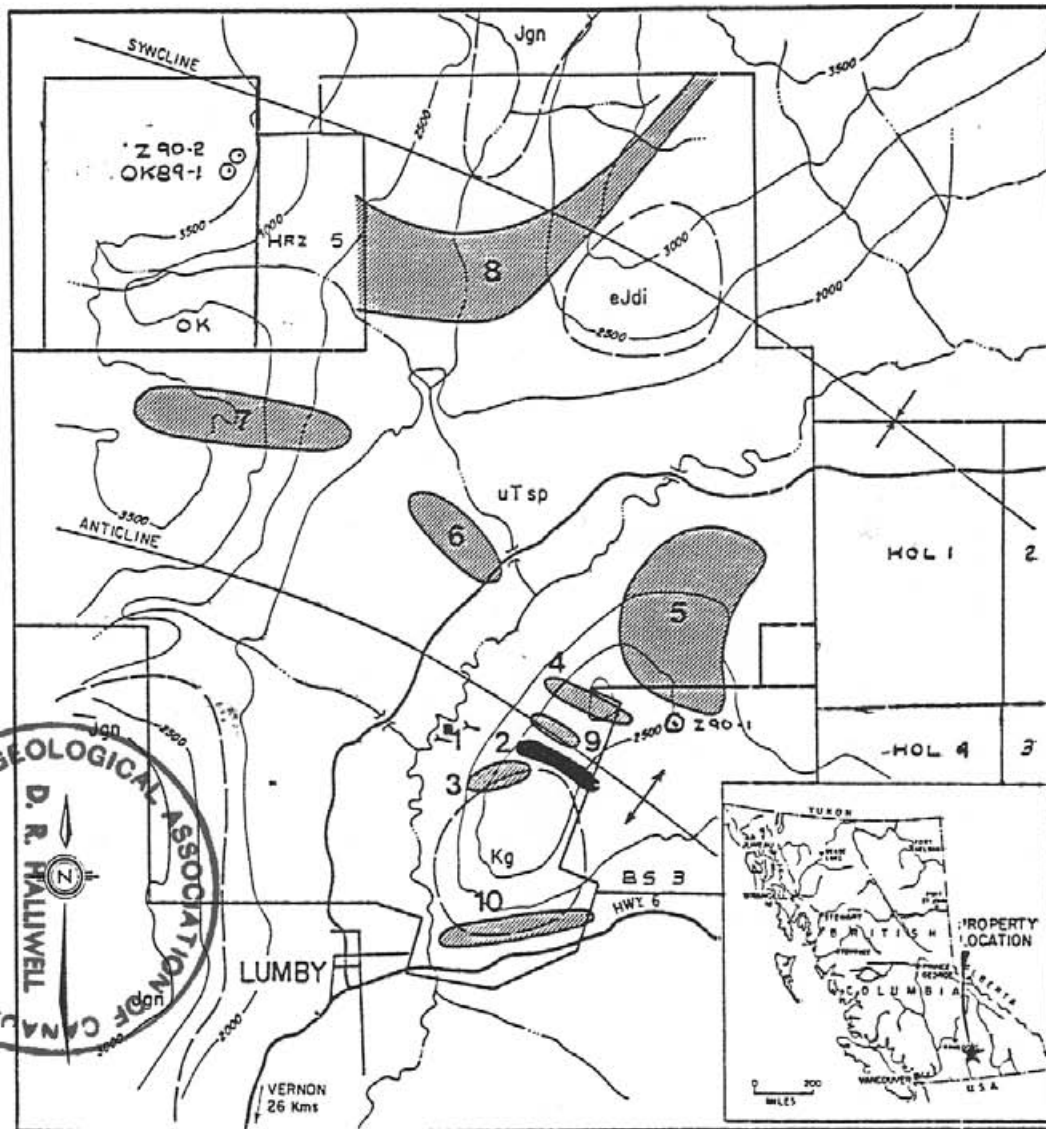
BEDDING AND FOLIATION WITH LINEATION



Geology by H.M.A. Rice, 1945, 1946, and by A.G. Jones, 1947-1951

To accompany G.S.C. Memoir 296 by A.G. Jones

Cartography by the Geological Survey of Canada, 1959



## LEGEND

■ ADITS, MILL

● TARGET ZONE

- 1 MINE ZONE; Ag, Pb, Zn, Cu, Au VEINS
- 2 PLATEAU ZONE; Au VEINS, PROPOSED MINING
- 3 CONTACT ZONE; Ag-Au VEIN, Au SOIL ANOMALY
- 4 CLIFF ZONE; Au VEINS, Au SOIL, GROUND/AIRBORNE VLF/EM ANOMALY
- 5 SADDLE NORTH ZONE; AIRBORNE EM ANOMALY
- 6 COOPER'S ZONE; 10-30 m WIDE QUARTZ/SULPHIDE VEIN
- 7 DEAFIES ZONE; AIRBORNE VLF ANOMALY
- 8 VANCE ZONE; AIRBORNE EM ANOMALY
- 9 SADDLE ZONE; Au SOIL, GROUND EM ANOMALY, Au FLOAT
- 10 TEACHERS ZONE; Zn, As, Ag, Au VEINS, Au SOIL, AIRBORNE VLF ANOM.

## GEOLOGY

Kg	GRANDIORITE
Jgn	GRANITE, QUARTZ MONZONITE
eJdi	DIORITE
uTsp	VOLCANICS AND SEDIMENTS

No. 5

ZICTON GOLD LIMITED  
GEOLOGY  
GEOPHYSICAL ANOMALIES  
D.D. HOLES Z90-1

ALLEN GEOLOGICAL ENGINEERING LTD.  
per *Alfred R. Allen*  
Alfred R. Allen, P.Eng.

Drawn by A.R.A.	Date 31/7/91	Scale 1:50,000
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KILOMETRES 0 0.5 1 2 3 4 KILOMETRES

JW.



Cache Creek Group (Carboniferous? & Permian). Limestone. Minor argillite, quartzite, andesite lava, breccia and tuff.

Nicola Group (Upper Triassic). Andesite, limestone, conglomerate. Minor basalt.

Coast Intrusions (Jurassic and/or Cretaceous). Granite, granodiorite, allied rocks.

Kamloops Group (Oligocene or Miocene). Basaltic lava, breccia, sandstone, shale, coal.

Faults in the Lumby area include four major north-striking faults, three northwest-striking ones, and one northeast one. One major anticline and one major syncline strike northwesterly across the Lumby area.

A diorite stock is partially exposed 1.6 kilometres north of Lumby. A granitic intrusive is located adjacent to the southwest corner of the BS-3 claim, and granodiorite outcrops ten kilometres to the southwest in the Brewer Creek drainage area. Another granitic exposure occurs in the Harris Creek drainage area twelve kilometres south of Lumby. Each of the intrusives is adjacent to or penetrated by fault zones.

A mineralized shear zone in the north-central area of the OK claim strikes at  $255^{\circ}$  and is close to vertical. A large exposure of quartz is located at the east end of the shear zone. From this outcrop, the shear has been exposed by stripping and trenching for 26 metres westerly. Twenty-three to 24 metres of this shear quartz and massive sulphides have been exposed and sampled. This showing is composed of fine to coarse cubic pyrite, chalcopyrite, limonite, arsenopyrite and sphalerite. There is also a 0.3 metre zone of fragmented white quartz and pyrite, remarkably similar to those located in the Quinto Mine workings.

## 8.0 OBJECTIVES & METHODOLOGY

The objective of the geological surveying and prospecting of the Deafies Creek Area is to locate additional outcrops and possible mineralization within this high priority area along strike of known Deafies Creek mineralization in the vicinity of the two drill holes and the trenched/ stripped area along strike of the Quinto Vance airborne electromagnetic anomaly. Any mineralization encountered in areas of shallow overburden, with or without spatially-coincident VLF-EM conductors, would warrant future stripping, trenching and diamond drilling programs. Analyses of mineralized and, to a lesser extent, barren rock samples for precious and base metals is warranted; much care being used to perform the gold analyses after suitable sample preparation on a large enough representative sample.

Composite sampling of outcrops on the Saddle Mountain Grid and adjacent areas was carried out and the outcrops, subcrops or (rarely) float were sampled. Two or three fist-sized rocks weighing less than 10 pounds comprised samples that were sent to Chemex Labs in North Vancouver for sample preparation and precious and base metal analyses. The sample preparation method allowed for nugget or free gold effects and involved the pulverization of a large 300 to 400 gram split to approximately minus 150 mesh, sieving the pulp through a minus 150 mesh screen, and examining the plus 150 mesh fraction for metallics. The analyses for gold was performed with a 10 gram sample, nitric acid- aqua regia digestion, and fire assay with an atomic absorption finish. Analyses for cobalt, copper, iron, lead, manganese, molybdenum, nickel, silver and zinc were performed by induced coupling plasma (ICP) following nitric acid- aqua regia digestion. Results were expressed at the geochemical or trace level in ppb, ppm and % (Fe only). The shipment of rocks was hand-delivered to Chemex on July 8, 1991. Instructions were given at that time to discard coarse rejects after 30 days and pulps after 90 days.

## 9.0 RESULTS

Geological mapping and prospecting of the OK and HAZ 5 claims on July 4-7 (inclusive) was carried out in the vicinity of the existing two trenches and two drill holes, as well as along strike of this known mineralization within the western strike extension of Quinto Mining's Vance (VLF-Electromagnetic Anomaly) Zone. A total of 21 rock samples were collected and sent to Chemex Labs in North Vancouver for sample preparation and analyses for base and precious metals. Results appear in Map 6.

The OK and HAZ 5 claims are underlain by Cache Creek Group argillite and andesite flows and tuff intruded by granitic to granodioritic Coast Intrusions. These are cut by east-west trending quartz veins and shear zones, best exposed in the strippings and trenches in the east-central OK claim near Drill Holes Z89-1 and Z90-2 almost due north of Kilometre 3 on the Deafies Creek Road. Cross-cutting relationships between the Cache Creek volcano-sedimentary sequence and the later acid intrusives can be seen along and near the powerline in the western OK claim, near and "under" gravel roads.

From several structural attitude measurements, the Cache Creek Group sediments strike  $137^{\circ}$  and dip  $25^{\circ}$  northeast in the west-central portion of the OK claim near the powerline, and strike  $106^{\circ}$  and dip  $20^{\circ}$  southwest in the central OK claim near Kilometre 4 on the Deafies Creek Road. In the east-central OK claim, the lower trench trends approximately  $075^{\circ}$ - $255^{\circ}$  over a distance of approximately 25 to 30 metres. The wavy, undulating, subvertically-dipping contact between argillite and granodiorite

averages  $040^{\circ}$ , subparallel to the orientation of the quartz veins and shear zone. A shear zone cutting argillite in the west-central portion of the OK claim, just north of the intersection of the powerline with the Deafies Creek Road strikes  $100^{\circ}$  and dips  $70^{\circ}$  northeast.

The lower trench just uphill from Hole Z90-2 contains quartz veins and shears subparallel to an argillite-granodiorite contact (argillite lies downhill and to the south). The quartz veins (Samples 91-D-4,6 and 7) are gossanous (hematitized-limonitized), weakly to non-calcareous and vuggy; and contain trace fracture-related pyrite and chalcopyrite. The argillite (Samples 91-D-5,9) is gossanous, weakly to strongly calcareous, occasionally brecciated, and can be moderately magnetic (due to presence of pyrrhotite). Sample 91-D-5 contains 2-3% pyrite (after limonite), 1-2% chalcopyrite (with secondary bornite and covellite) and 1% pyrrhotite; all appear to be fracture-related. The granodiorite (Sample 91-D-8) is greenish-grey, medium- to fine-grained, massive, phaneritic to aphanitic and chloritized.

Sample 91-D-10 from the upper trench includes sheared, calcareous argillite with fracture-related pyrite (after limonite), chalcopyrite (altering to malachite locally?) and possible native copper within quartz veins and veinlets having large hematite selvages.

The northern portion of the HAZ 5 claim is underlain by non-calcareous granodiorite (Sample 91-D-12), laminated andesite tuff (Sample 91-D-13) and lesser amphibole porphyry (i.e. diorite). The streamcut in the northeast corner of the HAZ 5 claim exposes granodiorite-andesite (Sample 91-D-14) overlying argillite.

The western portion of the OK claim is underlain by hypabyssal granodiorite-andesite with calcite veinlets and pyrite (Sample 91-D-15). Just north of the powerline-Deafies Creek Road intersection are hematized, limonitized, calcareous, pyritic and (occasionally) sheared argillites (Samples 91-D-16,17) and lesser pyroxene amphibole porphyritic diorite (Sample 91-D-18). Further north, gossanous-silicified-calcareous argillite (Sample 91-D-19) is found in contact with leucocratic granodiorite (Sample 91-D-20). Angular xenoliths of argillite in granodiorite are common. Argillite outcrops and subcrops are very common in roadcuts and under the road within the central portion of the OK claim.

In the north-central OK claim along the claim boundary with the KS-1 claim is siliceous argillite, or argillaceous quartzite (Sample 91-D-21) and graphitic (<5%), calcareous argillite (Sample 91-D-22).

In the south-central OK claim, calcareous gossanous argillite containing trace chalcopyrite (Sample 91-D-24) and granodiorite outcrop.

Sheared argillite from the lower trench contains up to 35 ppb Au, 853 ppm Cu, 382 ppm Co, 108 ppm Ni, 30 ppm Pb, 164 ppm Zn and >15.00% Fe (Samples 91-D-5,9). Quartz veins from the lower trench contain up to 89 ppm Cu, 12 ppm Pb and 102 ppm Zn (Samples 91-D-4,6,7). The granodiorite contains up to 92 ppm Zn (Sample 91-D-8). The argillite from the upper trench contains up to 124 ppm Cu, 12 ppm Pb and 112 ppm Zn (Sample 91-D-10). All sampled from the trench areas contain negligible amounts of gold and silver below the lower detection limits of 5 ppb Au and 0.5 ppm Ag with the exception of Sample 91-D-5, which contains 35 ppb Au.

Elsewhere on the OK and HAZ 5 claims, all gold and silver values were less than the above-mentioned lower detection limits. High Cu values (141-142 ppm) were obtained from a laminated andesite (to dacite) tuff in the northern HAZ 5 claim and from chalcopyrite-bearing siliceous argillite from the north-central OK claim. A high Pb value of 44 ppm and a high Zn value of 248 ppm were obtained from a porphyritic diorite outcrop just north of the powerline-Deafies Creek intersection (Sample 91-D-18). High Pb (16 ppm) and zinc (178 ppm) values were also obtained from a gossanous, calcareous argillite outcrop just north of the Deafies Creek Road in the south-central OK claim.

## 10.0 DISCUSSION

The geological mapping and prospecting survey confirmed the existence of base and precious metal quartz vein- and shear-related mineralization with an east-west trend. Mineralization is related to gossans, carbonate-veinlets, silicification and fracture-related pyrite, pyrrhotite, chalcopyrite and other sulphides within quartz veins and sheared (+/- graphitic) argillite.

Previous stripping, trenching and diamond drilling was not guided by systematic grid surveys. The discovery was largely the result of good luck. Geological, geophysical and geochemical grid surveys would improve understanding of the exploration potential of the Deafies Creek area, and guide future trenching and diamond drilling.

The existing two trenches warrant enlargement, detailed geological mapping and sampling.

## 11.0 RECOMMENDATIONS

The author recommends construction of a Deafies Creek Grid with an east-west baseline passing through the previous trenched area, a 60 metre line-spacing and a 15 metre station-spacing.

Geological mapping (at a scale of 1:2500), magnetometer surveying (to aid in mapping the volcano-sedimentary and intrusive magnetic lithofacies and, possibly, detect magnetite destruction to limonite within shear zones), VLF-electromagnetic surveying (to detect shear zones and sulphide mineralization), and soil sampling are recommended. Geophysical and geochemical surveys would be at the "tight" density of 60 by 15 metres.

Stripping, trenching and (eventual) diamond drilling would follow favourable results on the Grid. Stripping and trenching to enlarge existing trenches would be warranted during the next field season.

Submitted by:

ALLEN GEOLOGICAL ENGINEERING LTD.

Per *Douglas R. Halliwell*  
Douglas R. Halliwell, M.Sc.A., F.G.A.C.

*Alfred R. Allen.*  
Alfred R. Allen, M.A.Sc., P.Eng.

July 31, 1991.



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COST STATEMENT

ZICTON GOLD LIMITED

June-July 1991

OK & HAZ 5 Claims

ALLOWABLE EXPENDITURES		OK, HAZ 5 CLAIMS	* 7% G.S.T. added	
1991 EXPLORATION. ZICTON GOLD.				
Allen Geological Engineering Ltd.				
<b>PROSPECTING SURV</b>	<b>Senior Geologist</b>	<b>A.R. Allen *</b>	<b>1p.x4.0d.x\$30</b>	<b>\$1,284.00</b>
(HOL 1-4 Recce, Grid)	<b>Geologist</b>	<b>D.R. Halliwell *</b>	<b>1p.x4.0d.x\$22</b>	<b>\$963.00</b>
	<b>Field Assistant</b>	<b>R. Dutchak *</b>	<b>1p.x3.0d.x\$17</b>	<b>\$561.75</b>
	<b>Analysees</b>	<b>Chemex Labs, N.Van. *</b>	<b>22eam.x\$16.3</b>	<b>\$359.04</b>
	<b>TOTAL</b>		<b>=</b>	<b>\$3,167.79</b>
<b>EQUIPMENT PURCHA</b>	<b>Field Equipment</b>	<b>Deakin Equipment</b>	<b>=</b>	<b>\$0.00</b>
	<b>Topo Maps</b>	<b>Van. G.S.C. Bldg.</b>	<b>=</b>	<b>\$0.00</b>
	<b>Claim Maps</b>	<b>Van. GoldCom. Office</b>	<b>=</b>	<b>\$0.00</b>
	<b>TOTAL</b>		<b>=</b>	<b>\$0.00</b>
<b>TRAVEL EXPENSES</b>	<b>Vehicle</b>	<b>Allen Geol. Vehicle</b>	<b>1200km.x\$0.2</b>	<b>\$300.00</b>
(Vancouver, Lumby)	<b>Accommodation</b>	<b>DiamondMotel(Lumby)</b>	<b>44% of \$893.</b>	<b>\$393.01</b>
	<b>Meals</b>	<b>Groceries, Restaurants</b>	<b>44% of \$393.</b>	<b>\$173.30</b>
	<b>Senior Geologist</b>	<b>A.R. Allen *</b>	<b>1p.x0.5d.x\$30</b>	<b>\$160.50</b>
	<b>Geologist</b>	<b>D.R. Halliwell *</b>	<b>1p.x0.5d.x\$22</b>	<b>\$120.38</b>
	<b>Field Assistant</b>	<b>R. Dutchak *</b>	<b>N/C(Westban</b>	<b>\$0.00</b>
	<b>TOTAL</b>		<b>=</b>	<b>\$1,147.19</b>
<b>REPORTING</b>	<b>Senior Geologist</b>	<b>A.R. Allen *</b>	<b>1p.x2.0d.x\$30</b>	<b>\$642.00</b>
(Incl. Prep Work)	<b>Geologist</b>	<b>D.R. Halliwell *</b>	<b>1p.x3.0d.x\$22</b>	<b>\$722.25</b>
	<b>Administrative</b>	<b>P. Allen *</b>	<b>1p.x1.0d.x\$22</b>	<b>\$240.75</b>
	<b>Drafting</b>	<b>D.R.Halliwell*</b>	<b>1p.x2.0d.x\$17</b>	<b>\$374.50</b>
	<b>Photocopies</b>		<b>=</b>	<b>\$25.00</b>
	<b>Reproductions</b>		<b>=</b>	<b>\$100.00</b>
	<b>Binding, Printing</b>		<b>=</b>	<b>\$80.00</b>
	<b>TOTAL</b>		<b>=</b>	<b>\$2,184.50</b>
<b>MISCELLANEOUS</b>	<b>Telephone</b>	<b>B.C.TelephoneBills</b>		<b>\$0.00</b>
	<b>Van.Office Rental</b>	<b>Pender Exec. Centre</b>	<b>SmallOff., 1/3</b>	<b>\$208.33</b>
	<b>Computer Rental</b>	<b>1Mo.(Incl.Printer,S/W)</b>	<b>1/3 Mo.</b>	<b>\$208.33</b>
	<b>TOTAL</b>		<b>=</b>	<b>\$416.66</b>
<b>GRAND TOTAL *</b>			<b>=</b>	<b>\$6,916.14</b>

FIELD PERSONNEL. OK, HAZ 5 CLAIMS. JULY 1991.

Personnel	Position	Dates
-----	-----	-----
A.R. Allen	Pres.-Geologist	July 4/91 - July 8/91 (Incl.)
D.R. Halliwell	Senior Geologist	July 4/91 - July 8/91 (Incl.)
R. Dutchak	Field Assistant	July 4/91 - July 6/91 (Incl.)



ALLOCATION OF ALLOWABLE EXPENDITURES TO OK, HAZ 5 CLAIMS

OK CLAIM

PROSPECTING SURV	Senior Geologist	1p.x2.5d.x\$300/d.x1.07 =	\$802.50	
	Geologist	1p.x2.5d.x\$225/d.x1.07 =	\$601.88	
	Field Assistant	1p.x2.0d.x\$175/d.x1.07 =	\$374.50	
	Analyses	18samplesx\$16.32/sample =	\$293.76	
	TOTAL		=	\$2,072.64
TRAVEL EXPENSES (Vancouver, Lumby)	Vehicle	2/3of 1200km.x\$0.25/km. =	\$200.00	
	Accommodation	2/3 of \$393.01 =	\$262.01	
	Meals	2/3 of \$173.30 =	\$115.53	
	Senior Geologist	1p.x0.25d.x\$300/d.x1.07 =	\$80.25	
	Geologist	1p.x0.25d.x\$225/d.x1.07 =	\$60.19	
	Field Assistant	N/C (Westbank Home) =	\$0.00	
	TOTAL		=	\$717.98
REPORTING (Incl. Prep. Work)	Senior Geologist	1p.x1.33d.x\$300/d.x1.07 =	\$428.93	
	Geologist	1p.x2.0d.x\$225/d.x1.07 =	\$481.50	
	Administrative	1p.x0.67d.x\$225/d.x1.07 =	\$160.50	
	Drafting	1p.x1.33d.x\$175/d.x1.07 =	\$249.67	
	Photocopies	50% of OK-HAZ 5 Total =	\$12.50	
	Reproductions	50% of OK-HAZ 5 Total =	\$50.00	
	Binding, Printing	50% of OK-HAZ 5 Total =	\$40.00	
	TOTAL		=	\$1,421.10
MISCELLANEOUS	Telephone	=	\$0.00	
	Van. Office Rental	50% of OK-HAZ 5 Total =	\$104.17	
	Computer Rental	50% of OK-HAZ 5 Total =	\$104.17	
	TOTAL		=	\$208.34
GRAND TOTAL		=	\$4,420.06	

HAZ 5 CLAIM

PROSPECTING SURV	Senior Geologist	1p.x1.5d.x\$300/d.x1.07 =	\$481.50	
	Geologist	1p.x1.5d.x\$225/d.x1.07 =	\$361.12	
	Field Assistant	1p.x1.0d.x\$175/d.x1.07 =	\$187.25	
	Analyses	4samplesx\$16.32/sample =	\$65.28	
	TOTAL		=	\$1,095.15
TRAVEL EXPENSES (Vancouver, Lumby)	Vehicle	1/3of 1200km.x\$0.25/km. =	\$100.00	
	Accommodation	1/3 of \$393.01 =	\$131.00	
	Meals	1/3 of \$173.30 =	\$57.77	
	Senior Geologist	1p.x0.25d.x\$300/d.x1.07 =	\$80.25	
	Geologist	1p.x0.25d.x\$225/d.x1.07 =	\$60.19	
	Field Assistant	N/C (Westbank Home) =	\$0.00	
	TOTAL		=	\$429.21
REPORTING (Incl. Prep. Work)	Senior Geologist	1p.x0.67d.x\$300/d.x1.07 =	\$215.07	
	Geologist	1p.x1.0d.x\$225/d.x1.07 =	\$240.75	
	Administrative	1p.x0.33d.x\$225/d.x1.07 =	\$80.25	
	Drafting	1p.x0.67d.x\$175/d.x1.07 =	\$124.83	
	Photocopies	50% of OK-HAZ 5 Total =	\$12.50	
	Reproductions	50% of OK-HAZ 5 Total =	\$50.00	
	Binding, Printing	50% of OK-HAZ 5 Total =	\$40.00	
	TOTAL		=	\$763.40
MISCELLANEOUS	Telephone	=	\$0.00	
	Van. Office Rental	50% of OK-HAZ 5 Total =	\$104.16	
	Computer Rental	50% of OK-HAZ 5 Total =	\$104.16	
	TOTAL		=	\$208.32
GRAND TOTAL		=	\$2,496.08	

**CERTIFICATE**

1155 Lillooet Road  
North Vancouver, B.C.  
V7J 3H7.

July 31, 1991

I, Douglas R. Halliwell, certify that:

I am a graduate of McGill University and hold the following degrees therefrom:

B.Sc., Geological Sciences, 1976.  
M.Sc.A., Mineral Exploration, 1980.

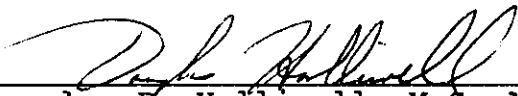
I am a Fellow of the Geological Association of Canada.

I am a Member of the Canadian Institute of Mining and Metallurgy, the Prospectors and Developers Association of Canada, and the Association of Exploration Geochemists.

I have practiced my profession since graduation.

I hold no interest in the property or securities of Zicton Gold Limited or affiliates thereof, nor do I expect to receive any, directly or indirectly.

The report on the Lumby Property, Vernon Mining Division, B.C. is based on examination of the property by the writer on June 29, 1991 - July 3, 1991 and familiarity with the property since March 15, 1991.

  
\_\_\_\_\_  
Douglas R. Halliwell, M.Sc.A., B.Sc., F.G.A.C.



**CERTIFICATE**

5383 Nancy Greene Way  
North Vancouver, B.C.  
V7R 4N2.

July 31, 1991.

I, Alfred R. Allen, certify that:

I am a graduate of the University of British Columbia and hold the following degrees therefrom:

B.A.Sc., Geological Engineering, 1939.

M.A.Sc., Geological Engineering, 1941.

I am a Life Member of the Association of Professional Engineers of the Province of British Columbia.

I have practiced my profession since graduation.

I hold no interest in the property or securities of Zicton Gold Limited or affiliates thereof, nor do I expect to receive any, directly or indirectly.

The report on the Lumby Property, Vernon Mining Division, B.C. is based on examination of the property by the writer on June 29, 1991 - July 3, 1991 and on familiarity with the property since 1984.

*Alfred R. Allen.*

---

Alfred R. Allen, M.A.Sc., B.A.Sc., P.Eng.

CONSENT LETTER

July 1991

The British Columbia Securities Commission  
Vancouver, B.C.

Dear Sirs:

Re: Zicton Gold Limited

I hereby consent to the use of my report of July 31, 1991 on the Lumby Property, Vernon Mining Division, B.C. in any prospectus or statement of material facts or other material to be filed with the British Columbia Securities Commission, or the Vancouver Stock Exchange, by Zicton Gold Limited.

Yours truly,

ALLEN GEOLOGICAL ENGINEERING LTD.

Per: *Alfred R. Allen*

\_\_\_\_\_  
Alfred R. Allen

P.Eng.

Zictonrfr/Allen

**APPENDIX**

**Laboratory Assay Certificate**



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
 212 Brooksbank Ave., North Vancouver  
 British Columbia, Canada V7J 2C1  
 PHONE: 604-984-0221

To: ALLEN GEOLOGICAL ENGINEERING LIMITED \*\*

827 W. PENDER ST.  
 VANCOUVER, BC  
 V6C 3G8

Page Number : 1  
 Total Pages : 1  
 Certificate Date: 15-JUL-91  
 Invoice No. : 19117679  
 P.O. Number :

Project : ZICTON LUMBY  
 Comments: CC: DOUGLAS HALLIWELL

## CERTIFICATE OF ANALYSIS A9117679

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Ag ppm	Co ppm	Cu ppm	Fe %	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Zn ppm
91-A-01 OK	212 294	< 5	< 0.5	10	56	4.09	410	< 2	20	8	72
91-D-01 HOL	212 294	< 5	< 0.5	8	30	3.57	435	< 1	7	10	42
91-D-02 HOL	212 294	< 5	< 0.5	9	10	2.85	910	< 1	8	10	64
91-D-03 HOL	212 294	< 5	< 0.5	2	6	1.54	295	2	9	4	26
91-D-04 OK	212 294	< 5	< 0.5	3	9	2.28	180	2	9	2	10
91-D-05 OK	212 294	35	< 0.5	382	853	>15.00	130	< 1	108	30	56
91-D-06 OK	212 294	< 5	< 0.5	32	89	5.52	680	< 1	17	8	102
91-D-07 OK	212 294	< 5	< 0.5	16	23	4.50	820	< 1	12	12	78
91-D-08 OK	212 294	< 5	< 0.5	14	16	4.09	885	< 1	13	10	92
91-D-09 OK	212 294	< 5	< 0.5	17	112	4.51	675	1	28	6	164
91-D-10 OK	212 294	< 5	< 0.5	22	124	4.59	655	1	30	12	112
91-D-11 OK	212 294	< 5	< 0.5	12	93	4.50	440	4	33	8	320
91-D-12 HAZ 5	212 294	< 5	< 0.5	14	108	5.01	420	1	20	10	102
91-D-13 HAZ 5	212 294	< 5	< 0.5	21	142	4.07	315	1	30	10	48
91-D-14 HAZ 5	212 294	< 5	< 0.5	18	107	3.94	490	3	24	8	142
91-D-15 OK	212 294	< 5	< 0.5	4	7	1.02	385	< 1	11	6	26
91-D-16 OK	212 294	< 5	< 0.5	13	39	4.09	965	< 1	18	8	120
91-D-17 OK	212 294	< 5	< 0.5	12	43	3.13	880	< 1	18	6	118
91-D-18 OK	212 294	< 5	< 0.5	2	4	1.99	1775	1	6	44	248
91-D-19 OK	212 294	< 5	< 0.5	12	67	3.49	440	4	41	10	140
91-D-20 OK	212 294	< 5	< 0.5	7	18	1.84	400	< 1	18	4	44
91-D-21 OK	212 294	< 5	< 0.5	15	141	5.03	400	6	20	10	144
91-D-22 OK	212 294	< 5	< 0.5	3	3	1.24	1945	1	8	10	116
91-D-23 HOL	212 294	< 5	< 0.5	18	93	5.02	1065	< 1	21	8	88
91-D-24 OK	212 294	< 5	< 0.5	19	129	5.62	540	7	24	16	178
91-R-01 HOL	212 294	< 5	< 0.5	9	15	2.55	885	< 1	7	10	58
91-R-02 HOL	212 294	< 5	< 0.5	10	37	3.24	820	< 1	8	10	62

CERTIFICATION: B. Coughlin

OK

KS-1 CLAIM

X Sample No. /ppb Au /ppm Ag /ppm Co /ppm Cu /% Fe /ppm Mn /ppm Mo /ppm Ni /ppm Pb /ppm Zn

HAZ 5

LEGEND

**QUATERNARY (PLEISTOCENE AND RECENT)**

21 Glacial, lacustrine, and fluvialite gravel, sand, silt, and clay

**TERTIARY (OLIGOCENE OR MIOCENE)**

20 Basaltic lava and flow breccia, minor rhyolitic lava and breccia, local sandstone, shale, conglomerate, coal

**CRETACEOUS OR TERTIARY**

19 Pink to red syenite and quartz syenite, pink and white mottled granite

**JURASSIC AND/OR CRETACEOUS (COAST INTRUSIONS)**

18 Granite, granodiorite and allied rocks

**TRIASSIC (UPPER TRIASSIC)**

17 Arkosite, minor basalt, some limestone and conglomerate

**(?) LOWER AND/OR UPPER TRIASSIC (SLOCAN GROUP)**

16 Slate, quartzite, limestone, phyllite, mica schist; may be in part equivalent to 17

**CARBONIFEROUS (?) AND PERMIAN (CACHE CREEK GROUP (13-15))**

15 DIVISION C: mainly limestone, minor argillite, quartzite, and andesite lava, breccia, and tuff

14 DIVISION B: mainly andesite lava and tuff; minor argillite, quartzite and limestone

13 DIVISION A: mainly argillite

**WINDERMERE (?) OR EARLY PALEOZOIC (LARDEE SERIES)**

12 Argillite, phyllite, schist, quartzite, limestone, conglomerate

**WINDERMERE (?) OR CAMBRIAN (BADSDY FORMATION)**

11 Limestone and marble; minor argillite

**WINDERMERE OR (?) CAMBRIAN (HAMILI SERIES)**

10 Quartzite, staurolite schist, argillite, phyllite, minor limestone

**WINDERMERE OR EARLIER**

9 OLD DAVE INTRUSIONS: serpentinitized, ultramafic dykes

**SHUSWAP TERRANE**

**MOUNT IDA GROUP (1-7)**

7A EAGLE HAY FORMATION: chlorite and sericite schist, slate, limestone, quartzite, minor conglomerate

7A. Predominantly limestone

**SHUSWAP FORMATION**

6 Heavy limestone, sericite schist, graphite schist

**MARA FORMATION**

5 Argillite, slate, sericite and chlorite schist, limestone

**TSALKOM FORMATION**

4 Green andesite and agglomerate, chlorite schist, slate

**SILVER CREEK FORMATION**

3 Slate, sericite schist, garnetiferous quartz-mica schist

**CHASE FORMATION**

2 Quartzite, calcareous quartzite, garnetiferous quartz-mica schist

**MONASHEE GROUP**

1A Granitoid gneiss, mugaen gneiss, mica sillimanite-garnet schist, quartzite, marble, hornblende gneiss, slate, phyllite

1A. Limestone

1B. Quartzite

1C. Hornblende gneiss

**CHAPERON GROUP**

8 Argillite, chlorite schist, mica schist, quartzite, limestone

May be equivalent to Mount Ida group, in part

**BEDDING AND FOLIATION WITH LINEATION**

Included (with plunging lineation) ...

Included (with two plunging lineations) ...

Included (with horizontal lineation) ...

Vertical (with horizontal lineation) ...

Included (with horizontal and plunging lineations) ...

Horizontal (with one horizontal lineation) ...

Horizontal (with two horizontal lineations) ...

Included (lineation directly down dip) ...

Fault (approximate, assumed) ...

Anticline (upright, overturned) ...

Syncline (upright, overturned) ...

Final locality ...

Mineral occurrence ...

**Geology by H.M.A. Rice, 1945, 1946, and by A.G. Jones, 1947-1951**

To accompany G.S.C. Memoir 296 by A.G. Jones

Cartography by the Geological Survey of Canada, 1959

Approximate magnetic declination, 23° 21' East

Air photographs covering this map-area may be obtained through the National Air Photographic Library, Topographical Survey, Ottawa, Ontario

**Geological Symbols:**

- Outcrop
- Boulder
- △ Subcrop
- Diamond Drill Hole
- Callar Location
- ⊗ Trench Location
- ⊙ Sample Site
- ① Kilometres on Deafies Creek Road
- Gravel Road
- s-x-x-x-x Traverse Route
- QV = quartz vein
- hm = hematite
- lm = limonite
- carb = carbonaceous
- sil = silicification
- gph = graphitic
- py = pyrite
- po = pyrobitite
- opz = opacite
- bn = bornite
- mal = malachite
- sh = shales
- bx = brecciated

AR 21561

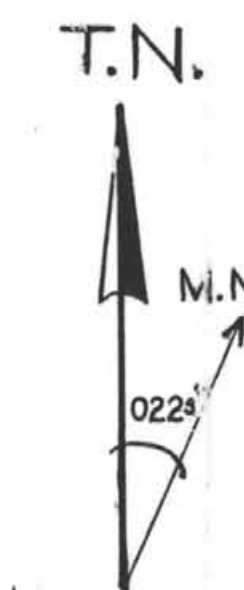
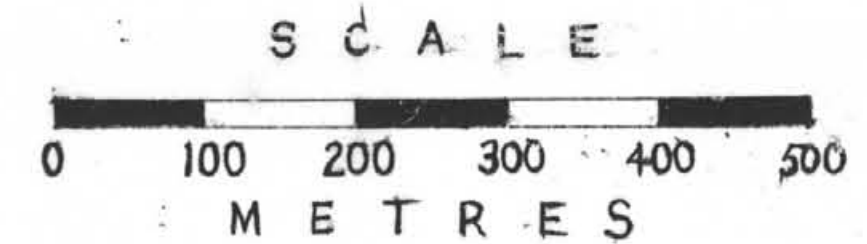


Figure 6  
DEAFIES CREEK AREA  
GEOLOGY, SAMPLE SITES, TRENCH SITES  
& DRILL HOLE SITES. OK, HAZ 5 CLAIMS.

GEOLOGY BY: D.R.H., A.R.A., R.D.  
Drawn By: D.R.H. N.T.S. 82L/7W  
Allen Geological Engineering Ltd.