ASSessment Report

Geology of the Mizzenmast and Mainmast Claims
Camp McKinney Mine Camp Area
South-Central British Columbia

Location: 1.2 km southwest of the Camp McKinney mine, 20 air-km northeast of Osoyoos, south-central British Columbia.

Greenwood Mining Division
N.T.S.: 82E/3E
Latitude: 49° 06' N
Longitude: 119° 13' E

Claims:
Mizzenmast: 5287(9)
Mainmast: 5288(9)

Owner and Operator:
Nexus Resource Corporation
3280-666 Burrard Street,
Vancouver, British Columbia, V6C 2X8

Work Period: July 17 to 22, 1989.

Report Author: Gary Benvenuto, consulting geologist.

Report Date: August 29, 1989.
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ASSESSMENT REPORT
GEOLOGY OF THE
MIZZENMAST AND MAINMAST CLAIMS
AUGUST, 1989

SUMMARY

LOCATION AND ACCESS: The claims are in the Greenwood Mining Division (N.T.S. 82E/3E), 20 air-km northeast of the Okanagan Valley town of Osoyoos, south-central British Columbia. They are 1.2 km southwest of the old Camp McKinney mine camp and situated on the gently sloping, lower reaches of the southeasterly flank of Baldy Mountain. Access to the claims from Osoyoos is via Highway No.3 to the Baldy Mountain ski hill road, then along a powerline access road - a 48 km or 50 minute drive. A network of old and new logging, ranching and powerline access roads provide access to most parts of the claims.

PREVIOUS EXPLORATION ON THE PROPERTY: The Mainmast claim covers a 350 x 350 m area in which at least four shallow shafts and four trenches were blasted through pyritic quartzite and interbedded meta-argillite, perhaps at the turn-of-the-century. More recently (1980), Rock Creek Joint Ventures conducted a soil sample geochemical survey on their RCJV 19 claim, now covered by the Mainmast claim. In 1987, Wapiti Exploration Inc. conducted VLF-EM geophysical, limited rock sampling and geological mapping surveys on their Billie 1-6 claims, also now covered by the Mainmast claim.

1989 WORK PROGRAM: Three days of geologic mapping, prospecting, and chip-sampling were conducted by Gary Benvenuto, consulting geologist, and Jeff Hicks, assistant geologist, between July 17 and 22, 1989. A large proportion of time involved searching for outcrops of bedrock. The four rock chip and one grab samples collected, were analyzed for 30 elements by I.C.P. and for gold by atomic absorption.

ECONOMIC GEOLOGY SETTING: The claims are in the Camp McKinney area which encompasses a past-producing gold mine and numerous, proximate, old prospects on which five, main, gold-bearing veins were explored during the turn-of-the-century.

The Cariboo-Amelia gold mine, 1 km northeast of the Mainmast claim, produced a total of 137,180 tons grading 0.6 oz/ton gold from a 0.9 to 1.2 m thick, easterly striking quartz vein, between 1894 and 1963. A parallel quartz vein on the Sailor Group of claims (also owned by Nexus) that adjoins the Mainmast claim to the north, was explored in shafts and drifts in the late 1890's. This vein is apparently up to 1.2 m thick. Quartz vein material in the waste dump on the Sailor claim contains up to 0.78 oz/t gold.

PROPERTY GEOLOGY: Northwest-striking, steeply northeast-dipping, metasedimentary rocks of the Late Paleozoic (?) Anarchist Group underlie the eastern part of the property (Mainmast claim). These rocks appear to be in the or amphibolite metamorphic facies and include quartzite and thinly interbedded quartzite, meta-siltstone, and meta-argillite.
Diorite and quartz diorite of the Jurassic and Cretaceous Nelson Plutonic rock complex underlies the western part of the property (Mizzenmast claim). The covered contact between the metasedimentary rocks and the intrusive appears to be located near the western margin of the Mainmast claim.

An extensive blanket of glacial till on the property hinders geologic mapping and mineral exploration.

**MINERALIZATION:** The program failed to locate significant gold or base metal mineralization. The pyritic quartzites and metaargillites at the old workings in the central part of the Mainmast claim do not contain significant concentrations of gold (up to 71 ppb gold over 30 cm). Only one obvious quartz vein was intersected in a shallow shaft; it is 1 m thick and contains a low background concentration of gold (10 ppb).

It appears that the pyritic quartzite beds were mistaken for quartz veins at the old workings. This has been an ongoing problem at the Camp McKinney mine area because the quartzite commonly lacks sedimentary textures due to recrystallization.

**CONCLUSIONS AND RECOMMENDATIONS:** The preliminary, reconnaissance geologic mapping and prospecting program failed to identify mineralization that warrants additional exploration. However, proximity of the property to the gold bearing vein at the Cariboo-Amelia mine and those explored on claims adjoining the property, suggests the property warrants additional, more detailed exploration for gold.

The exploration potential of the property may actually be enhanced by the extensiveness of glacial overburden which limited the effectiveness of previous prospecting and soil/silt sampling for gold. Biogeochemical sampling for gold may partly overcome the overburden problem. Therefore, a small scale, reconnaissance program of sampling needles and/or branches of fir trees is recommended.

Initially, the biogeochemical survey should cover the area of the old workings in the central part of the Mainmast claim, the area of the southeastern projection of the Granite vein, and the trace of a prominent topographic lineament at the north end of the Mainmast claim, which parallels the Camp McKinney mine and Sailor veins. The source of any biogeochemical gold anomalies might be located with detailed VLF-EM and magnetometers surveys over the anomalies to locate possible associated conductive, altered zones, followed by trenching. In addition, all creek draws should be prospected and mapped.
LOCATION AND ACCESS: (Greenwood Mining Division; N.T.S. 82E/3E)

The Mizzenmast and Mainmast claims (the property) are located in the Camp McKinney area of south-central British Columbia, 20 air-km northeast of the town of Osoyoos in the Okanagan valley, and 12 air-km north of the border between British Columbia and the United States (Figure 1).

The northeast corner of the property is just 1.2 km southwest of the Cariboo-Amelia mine, a major gold producer at the turn-of-the-century.

Road access to the property from Osoyoos is as follows: easterly 35 km on Highway No.3 to the Baldy Mountain ski hill turnoff, then northwesterly along the ski hill road 12 km (or 1.5 km west of the Camp McKinney mine site), then south and west about 900 m along a powerline access road to the area of the legal corner post of the Mainmast claim (a 50 minute, 48 km total drive). The property is also accessible from the Okanagan Valley town of Oliver (20 km north of Osoyoos) by a recently upgraded and extended, good, gravel road that intersects the Baldy Mountain ski hill road just north of the Mizzenmast claim (road not shown on available maps). There is a complex network of narrow, old and new logging roads (2-wheel and 4-wheel drive) that provide access to various parts of the property. The southern part of the property is more easily reached by a logging/ranch road, branching from the Baldy Mountain ski hill road 3 km north of Highway No.3, and following the north side of McKinney Creek.

TOPOGRAPHY AND VEGETATION:

The property is located on the gently, southerly sloping, low relief, basal part of the southeasterly flank of Baldy Mountain of the Okanagan Highlands. Elevations on the property range from 1,160 m (3,800 ft) in the south, to 1,525 m (5,000 ft) in the north. Average slope angles generally are about 5 to 7°, but in the northeast corner of the Mizzenmast claim the slope is about 15°.

The property is transected by four main creek draws, two of which are branches of McKinney Creek. In the northern part of the Mizzenmast claim, the draws which McKinney Creek and a tributary to the west follow, are locally steep-sided to near vertical. Creek water may not be suitable for drinking because the area is used for grazing cattle.

The high voltage powerlines of the former West Kootenay Power and Light Company, and a natural gas pipeline cross the northern part of the Mizzenmast claim. Another high voltage powerline is located just north of the Mizzenmast claim.

Extensive glacial drift blankets the area. Most of the steeper, treeless, small ridges on the property appear to comprise moraines or erosional remains of glacial drift.

Outcrops of bedrock occur in a variety of settings including ridge crests, creek draws, and just below local breaks from steeper to gentler slopes. Most outcrops appear glaciated and have low
FIGURE 1: Topographic map showing the location of the Mizzenmast and Mainmast claims relative to the Camp McKinney Mine and the Okanagan valley town of Osoyoos, south-central British Columbia (N.T.S. 82E/3E). The topographic contour interval is 100 feet.
FIGURE 2: Claims map showing the location of the Mizzenmast and Mainmast claims (outlined in thick line) in the Camp McKinney area of south-central British Columbia (N.T.S. 82E/3E). The Mainmast claim is 1.2 km southwest of the Camp McKinney mine (inverted crossed hammers).
relief. They are relatively rare on the property, perhaps forming 1 or 2% of the area.

The slopes are covered by second and third stage growth of evergreens, or by recent, logging clearcuts. Evergreens include Lodgepole pine, Tamarack, Hemlock, Spruce and Douglas Fir. Deciduous trees, including aspen and willow, are common along portions of the creek draws.

The property is located in the Interior Dry Belt which receives precipitation of 20 to 50 cm per year. Annual, winter accumulations of generally less than 1 m of snow are common.

CLAIMS INFORMATION:

The Mast Group comprises two, adjoining mineral claims staked by Nexus Resource Corporation in 1988 (Figure 2). The claims are 100% owned and operated by Nexus. The claims data is as follows:

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<th>No. of units</th>
<th>Date Staked</th>
<th>Expiry Date</th>
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<td>5287(9)</td>
<td>20</td>
<td>Sept. 20, 1988</td>
<td>Sept. 20, 1990</td>
</tr>
<tr>
<td>Mainmast</td>
<td>5288(9)</td>
<td>9</td>
<td>Sept. 21, 1988</td>
<td>Sept. 21, 1992</td>
</tr>
</tbody>
</table>

Notes:
1. Expiry date after filing of the assessment work described in this report.
2. The Mainmast claim is reduced from 16 to 9 units because it overlaps several claims.

PREVIOUS EXPLORATION ON THE PROPERTY:

The earliest phase of exploration on the property may be in the late 1890's during the period of most of the underground development on prospects in the area. The shallow, surface workings in the east-central part of the Mainmast claim may date back to this period. They comprise at least four shafts and four trenches scattered within a 350 x 350 m area, that explore pyritic quartzite and meta-argillite. The quartzite intervals and beds may have been mistaken for quartz veins. The pyritic intervals locally contain weakly anomalous gold concentrations.

It is not until 1980 that exploration on the property is documented in the public records (Assessment Reports 8930 and 9867, by G. Allen). Rock Creek Joint Ventures conducted a reconnaissance-scale, soil sampling survey for copper, lead, zinc, arsenic and gold on the RCJF 19 claim, which is now covered by the Mainmast claim. Weakly anomalous copper was detected in scattered locations. However, the significance of soil sampling results is questionable due to the widespread blanket of glacial till in this area.

In 1987, Wapiti Exploration Inc. conducted a VLF-EM geophysical survey, minor geological mapping, and rock sampling on their Gold Hill property, which included the Billie 1-6 claims, now covered by the Mainmast claim (Kregosky, 1987). The VLF-EM survey was conducted on north-south grid lines spaced 100 m apart. In the area of the old surface workings now covered by the east-central Mainmast claim, the EM survey detected six, discontinuous, north-westerly trending, weak conductive zones. These are parallel to the bedding in this area and may reflect sheared intervals of meta-
argillite. A seventh, weakly conductive zone appears to coincide, at least in part, with an east-west trending creek lineament in the northeast corner of the Mainmast claim. A contact between the plutonic rocks, to the southwest, and metasedimentary rocks, which appears to trend southeasterly through the Mainmast claim, apparently was not detected by the VLF survey.

1989 WORK PROGRAM:
The assessment work program comprised three days of geologic mapping, prospecting, and chip-sampling on the Mizzenmain and Mainmast claims. It was conducted by Gary Benvenuto, consulting geologist, and Jeff Hicks, assistant geologist, between July 17 and 22, 1989. Searching for outcrops of bedrock consumed a considerable proportion of the time period.

The four chip samples and one grab sample collected, were analyzed for 30 elements by standard I.C.P. analyses, and for gold by atomic absorption at Acme Laboratories in Vancouver (Appendix 2).

ECONOMIC GEOLOGY SETTING:
The claims are located in the Camp McKinney area of a past-producing gold mine and numerous, proximate, old prospects on which five main, gold-bearing veins were explored during the turn-of-the-century (Figure 4).

The Cariboo-Amelia gold mine, located 1 km northeast of the Mainmast claim, produced a total of 137,180 tons grading 0.6 oz/ton gold and 0.24 oz/ton silver from a 0.9 to 1.2 m thick, easterly striking quartz vein, between 1894 and 1904, 1940 and 1946, and 1960 and 1963.

A parallel gold-bearing quartz vein located on the Sailor, Kamloops, and Minnie-Ha-Ha claims (also owned by Nexus Resource Corp.), located 600 m north of the Mainmast claim, was explored by shafts and drifts in the late 1890's. This vein is apparently up to 1.2 m thick on the Sailor claim, where sampling by Nexus of quartz vein material in the waste dump yielded up to 0.78 oz/t gold (Walker, 1988).

On the Granite claim, which is surrounded on three sides by the western part of the Mainmast claim, a northwesterly striking quartz vein of unknown thickness, cutting diorite, was explored by two shafts. A grade of 0.24 oz/ton gold was reported for the vein. A five-stamp mill was erected on the claim in 1899, but no production is recorded. The southeasterly strike-projection of the vein, onto the Mainmast claim, is covered with extensive overburden.

On the Anarchist claim, which adjoins the northwestern corner of the Mainmast claim, three quartz veins from 0.6 to 1.4 m thick, occur in a 9 m wide, north-northeasterly striking zone of "granite". Two shafts were driven on the thickest vein between 1894 and 1897. This vein contained an average of 0.53 oz/ton gold over 1.4 m. In 1981, Empire Resources drilled four diamond drill holes totalling 143 m beneath the two shafts. These intersected the vein, but it contained only minor concentrations of gold and silver.
GEOLOGY:

Introduction:
Northwest-striking, steeply northeast-dipping, metasedimentary rocks including quartzite and thinly interbedded quartzite, meta-siltstone, and meta-argillite underlie the eastern part of the property (Mainmast claim). An intrusive complex comprising diorite to quartz diorite underlies the western part of the property (Mizzenmast claim). The contact between the metasedimentary rocks and the intrusive appears to be located near the eastern margin of the Mainmast claim, under an extensive blanket of till.

Metasedimentary rocks: age and correlation
The metasedimentary rocks form part of the Anarchist Group of greenstone, quartzite, greywacke, limestone and locally paragneiss (Little, 1961). They appear to be of the upper greenschist to amphibolite metamorphic facies. The age of these rocks appears problematic. Little (1961) indicates they are possibly Permian and/or Triassic and that they cannot be distinguished with confidence, from other formations of possibly Carboniferous to upper Triassic (i.e. Nicola, Cache Creek and Kobau Groups) in the Kettle River map sheet area.

The compilation of Map Sheet 82E/W (Open File 1969) by Tempelman-Kluit (1969) indicates the Anarchist Group is Carboniferous or older. However, Fyles (1989) in a report on the geology of the rocks in the Rock Creek - Greenwood area, 3.5 km east of the property, assigns the easternmost part of the Anarchist Group to the Knob Hill Group, which is believed to be Late Paleozoic, based on a single fossil occurrence 35 km east of Rock Creek.

Diorite to quartz diorite intrusives: age and correlation:
Intrusive rocks on the Mizzenmast claim form part of the extensive Nelson Plutonic rock complex of Jurassic and Cretaceous ages.

Lithologies:
Metasedimentary rocks:
Generally sparse outcrops indicate the metasedimentary rocks comprise, at least in part, a complexly interbedded succession of thin to thick (?) bedded quartzite and thin bedded to laminated, interbedded quartzite, meta-siltstone, meta-argillaceous siltstone and meta-argillite. The following descriptions are based on hand sample examinations.

Quartzite:
On a fresh surface, the quartzites generally are sub-opaque white. Very locally, the white quartzite contains up to 20% patches of sub-translucent medium grey to blue-grey. This colour is associated with the occurrence of stringer pyrite, and may result from recrystallization of the quartz. This colouration, and the general lack of sedimentary textures probably led previous workers to locally misidentify the quartzite as quartz veins.

Individual quartz grains in the quartzite are generally indistinct. However, very locally it displays a distinct, very fine, granular or sugary texture. Locally, the quartzite contains a few percent chloritic (?) dits that may be alter mafic grains.
Disseminated pyrite is locally common in the quartzite, particularly at the old workings in the Mainmast claim. Locally, pyrite forms 1 to 4%, fine to very fine, anhedral, disseminated grains. It is irregularly disseminated along irregular, stringer-like fractures cutting the quartzite. These fractures locally also contain irregular patches of chlorite.

Bedding in the quartzite varies from indistinct to thin bedded to laminated. Individual beds are generally separated by thin interbeds of meta-argillite and/or meta-argillaceous siltstone. These interbeds form minor to a few percent to locally 15% of the quartzite intervals. They vary from delicate, 0.5 to 1 mm thick wispy laminations to layers to 1 cm thick. Bedding in quartzite with a higher proportion of meta-argillite interbeds, locally displays small-scale, tight, recumbent folding.

The quartzite is generally moderately to strongly fractured and cut by a closely spaced fracture cleavage. Rusty fractures are common to abundant. Locally, the fractures are hematitic.

**Meta-siltstone:**
This lithology superficially strongly resembles quartzite, but is apparent from its relative softness. It appears to comprise predominantly sausserite(?) altered feldspar and a small percentage of altered mafic grains.

**Meta-argillite:**
On a fresh surface the meta-argillite is near black. It appears to comprise predominantly fine grained hornblende that is weakly to locally strongly chlorite-altered. Biotite(?) appears to form up to a few percent of the meta-argillite. Locally, it contains a few percent, clear reddish brown pyroxene(?) and a few percent feldspar grains. The meta-argillite commonly cleaves along irregular, micaceous partings spaced about 1 to 5 mm apart.

Locally, the meta-argillite contains 1 to 2%, to very locally, 5 to 7%, very fine, disseminated pyrite. There appears to be an association with the occurrence of pyrite and shearing.

Thicker intervals of meta-argillite (to 0.5 m wide) contain from 5 to 10%, interbeds of quartzite, 0.5 to 5 cm thick.

Moderately to strongly developed fracturing and shearing locally to commonly cuts the meta-argillite.

**Intrusive Rocks:**

**Diorite to Quartz Diorite:**
Plutonic rocks are exposed in widely scattered areas, generally as patchy, low relief, glaciated(?) outcrops, except in the main creek valleys, where they form bluffs and cliffs.

On a fresh surface, the diorites are medium grey with black speckles and spots of mafic grains. They vary from seriate porphyritic through fine, to fine and medium crystalline.

The porphyries contain phenocrysts of feldpar, or feldspar and hornblende, or feldspar, hornblende and quartz, or feldspar, biotite and quartz. The feldspar phenocrysts vary from light pinkish grey, to pinkish white to white, form 10 to 15% of the rock, and are commonly up to 7 x 8 mm to 10 x 12 mm. Hornblende phenocrysts form up to 10% of the rock, and appear variably biotite(?) altered. Biotite phenocrysts form up to 10% of the diorite and are commonly up to 4 x 5 mm. Quartz commonly forms
grains or patches up to 8 x 10 mm, and up to 5 to 8% of the
diorites.

The diorites vary from moderately magnetic to non-magnetic.
They appear massive, but are cut by a weakly to moderately
developed fracture-cleavage. Locally, the diorites are cut by
abundant, chlorite-lined shears.

The diorites are cut by pegmatite and mafic dykes and locally
quartz veins.

Pegmatite (to Apalite) Dykes and Quartz Veins:
Pegmatite dykes are relatively abundant, forming about
1%, in the diorite exposed along the powerline in the northeastern
part of the Mizzenmast claim. Here, they comprise predominantly
coarse grained feldspar and ≤10% quartz, with minor muscovite. The
thickest dyke of 40 cm width, has a 5 to 10 cm thick core of milky
white quartz. There are other minor occurrences of 2 to 12 cm
thick, white, barren quartz veins cutting the diorite.

The dykes are 0.5 to 4 cm thick, in general, but locally up to
40 cm thick. However, their thickness is quite irregular along
strike and down dip. Several of the more prominent dykes along the
powerline strike 030° and dip vertically.

Apalite dykes very locally cut the diorite. They also cut the
metasedimentary rocks in the east-central Mainmast claim.

Mafic Dykes:
A few, narrow, andesitic(?) dykes cut quartz diorite in
the central part of the Mizzenmast claim. These are medium grey on
a fresh surface, relatively hard and weakly altered. They contain
about 4 or 5%, white feldspar phenocrysts up to 7 mm in diameter.
In addition, the andesite contains about 3% hornblende phenocrysts
up to 2 x 5 mm, and about 1%, clear amber, bladed pyroxene(?)
phenocrysts up to 2 mm long. The groundmass of the andesitic dykes
is clear grey to white and comprises very finely crystalline
dfeldspar. The andesite is strongly magnetic. One of the andesitic
dykes strike 210° and dips 25° northwest.

In the northeast corner of the Mainmast claim, a small bluff
exposes a feldspar porphyritic andesite dyke. It contains about 15
to 20%, 1 to 5 mm diameter, sub-translucent 1light grey feldspar
phenocrysts and about 3%, black biotite phenocrysts. The ground-
mass comprises light brown-appearing, finely to very finely crys-
talline feldspar and biotite. The andesite is moderately magnetic.

Surficial Geology:
The extensive blanket of overburden on the property is a
great hindrance to detailed exploration for gold. Brief
examination of roadcuts indicate that most of the overburden
comprises glacial till or reworked till. The till comprises well-
rounded, poorly sorted boulders and cobbles of predominately
intrusive rocks (diorite and quartz diorite) in a poorly
consolidated, clay and silt matrix. The widely scattered,
generally low relief outcrops of bedrock, suggest the overburden
may be relatively thin, in general. However, in the western part
of the Mainmast claim, several slopes that in aerial photographs
appear to be talus covered, are apparently small moraines.

It appears that the thin layer of soil developed on the
property is derived from weathering of the underlying till, with
rare exception. Therefore, soil sampling for gold or other metals
probably would not serve as an effective exploration tool to locate gold mineralization in bedrock.

MINERALIZATION:

Introduction:
The brief mapping and prospecting program failed to locate significant gold or base metal mineralization on the property. Detailed examination and sampling at the old, shallow surface workings in the east-central part of the Mainmast claim (summarized below) did not result in detecting significant concentrations of gold, which is presumed to be the target of the workings (see Appendix 1 for rock sample descriptions). Only one obvious quartz vein was intersected in these workings; it contains a low background concentration of gold (10 ppb).

Old Surface Workings, East-central Mainmast Claim:
Four shallow (1.3 to 4.2 m deep) and four shallow trenches (to 15 m long) were blasted by previous workers into bedrock exposures, in a 350 m by 350 m area in the east-central part of the Mainmast claim (Figures 3 and 4). These were relocated using the schematic map included in a report on the Gold Hill property by Kregosky (1987). The age of the workings is unknown, as no reference to them in the public records could be located.

All the workings explore weakly pyritic zones cutting quartzite and interbedded quartzite and meta-argillite. Only one shaft intersected a barren quartz vein. Weakly anomalous gold and copper were detected by chip sampling in only one of these pyritic zones. The scattered locations of the workings appear to reflect the scattered nature of the pyritic zones. Although the zones appear to be fracture and shear-controlled, they do not appear to be related to a single, main structure. It is suspected that the previous workers mistook the quartzite, particularly where interbedded with meta-argillite, for pyritic quartz veins.

Pyritic zones within the quartzite comprise zones of strong fracturing and locally shearing associated with the local occurrence of 1 to 4% disseminated pyrite. The pyrite is very fine to fine grained, anhedral, and generally appears irregularly disseminated along an irregular network of stringer-like fractures. These commonly also contain patches of chlorite (see Appendix 1 for individual rock sample descriptions). Locally, the pyritic quartzite appears a sub-translucent bluish grey, perhaps due to recrystallization of the quartz grains during emplacement of the pyrite. This type most strongly resembles quartz vein material.

Two chip samples, 1.3 m and 3.3 m long, and one grab sample were taken from three workings. They contained low background to perhaps very weakly anomalous concentrations of gold (7, 11 and 34 ppb). The chip sample (#505, Figure 3) with weakly anomalous gold (34 ppb) also contained anomalous arsenic (328 ppm) and weakly anomalous silver (2.3 ppm). This sample was across 1.3 m of a zone of thin bedded, meta-argillaceous quartzite.

One shallow shaft exposes an about 30 cm thick interval of very rusty weathering, sheared, pyritic meta-argillite with quartzite interbeds. The interval contains about 5 to 7% disseminated pyrite. A chip sample across the 30 cm zone, which
**LEGEND**

<table>
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<tr>
<th>Abbreviation</th>
<th>Description</th>
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<td>m-A</td>
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<td>m-A's</td>
<td>meta-argillaceous</td>
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<td>Slsn.</td>
<td>meta-siltstone</td>
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<td>quartzite</td>
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**ABBRIVATIONS:**

- **m-A/m-A's.** Slsn./Qtzt. m-A's.
- Qtzt. common with up to few % diss. Py.

**FIGURE:** Map showing the location and geology at the shallow, surface workings in the central part of the Mina three claim. Also shown are the locations and gold analyses for the three rock samples taken at the workings. The interbedded quartzite and meta-argillite are part of the Archean Group, and may be that the previous workers misidentified the quartzite and pyritic quartzite as quartz vein material. See Figure 4 for location of these workings.

- **502:** 71 ppb Au, 287 ppm Cu/0.3 m width, of Py'. m-A/
  Qtzt. with 5 to 7% diss. Py.
  Occurs in Qtzt. with rare lamds of m-A.
- **503:** grab of waste rock of blue-grey Qtzt. with 3% diss. Py.: 7 ppb Au.
- **501:** chip along cut:
  11 ppb Au/3.3 m width

**SCALE:**

- 0 10 20 30 40 50 METERS

**Notes:**

- Qtzt. with Py'. fractures; few % lamds. of m-A to m-A's Slsn.
- Rocks similar to those at Station #3
- Qtzt. with 1 to 3%, fracture-controlled diss. Py.
- Py'. Qtzt. with 2 to 4% diss. Py.
- Fracture cleavage
  - 80°
- 65°
strikes 300° and dips about 75° northeast, yielded 71 ppb gold (weakly anomalous) and 287 ppm Cu (also weakly anomalous).

The only quartz vein apparent in these old workings is located in the north and south walls of a 3.6 m deep shaft into rusty weathering quartzite near the eastern boundary of the Mainmast claim (sample site #504, Figure 4). The vein does not outcrop and appears to have been intersected in the shaft accidentally. The milky white, coarse grained quartz vein does not contain sulphides. It is up to about 1 m thick, but complexly offset on a series of faults. The vein, overall, strikes about 040° and dips about 30° southeast. It contains background concentrations of gold (10 ppb across 1 m).

It is interesting to note that just north of the area of the workings, there is a prominent topographic lineament that trends east-west across the northern part of the Mainmast claim (Figure 4). This lineament is parallel to the gold-bearing quartz vein on the Sailor, Kamloops and Minnie-Ha-Ha claims, 800 m to the north.

CONCLUSIONS AND RECOMMENDATIONS:

The Mizzenmast and Mainmast claims straddle the area of the contact between diorite of the Nelson Plutonic rock complex to the west, and the Anarchist Group of interbedded quartzite and meta-argillite to the east. An extensive cover of glacial till greatly reduces the effectiveness of geologic mapping.

The preliminary, brief examination and sampling of rocks exposed in the old surface workings in the east-central Mainmast claim, and reconnaissance prospecting of the remainder of the property failed to identify mineralization that warrants additional exploration. However, proximity of the property to the gold bearing vein mined at the Cariboo-Amelia mine and those explored on the claims adjoining the property to the north (i.e. Sailor, Kamloops and Minnie-Ha-Ha claims) and on those which the property surrounds (i.e. Granite, Balmoral and Dynamite claims), suggests the property warrants more detailed exploration for gold.

In some respects, the exploration potential of the property is enhanced by the extensiveness of overburden. The overburden, of course, limits the effectiveness of prospecting. In addition, it may render soil and silt sampling for gold ineffectual, because it appears to comprise predominantly re-worked glacial till and soil derived from it.

It may be possible to overcome some of the problems associated with exploration in an area covered by extensive till, by conducting biogeochemical sampling for gold. Therefore, a small scale, reconnaissance program of sampling vegetation is recommended. Sampling of needles and/or branches of fir trees may be the most effectual, because of the deeper root systems associated with these trees. Initially, the survey should cover the area of the old workings in the east-central part of the Mainmast claim. In addition, the area (southwest corner of the Mainmast claim) of the southeastern projection of the Granite vein and the trace of the prominent topographic lineament at the northern end of the Mainmast claim should be covered by biogeochemical surveys. The source of any biogeochemical gold anomalies might be located by conducting detailed VLF-EM and magnetometers surveys over the anomalies to locate possible associated conductive, altered zones, then by trenching.
REFERENCES


ROCK SAMPLE DESCRIPTIONS
MAINMAST AND MIZZENMAST CLAIMS

501: (Pyritic) quartzite: exposed in 3.6 m long by 0.8 m deep cut trending 090°. Cut exposes ≥4.1 m wide (east-west) zone of rusty weathering quartzite. Quartzite is strongly fractured, opaque white with about 10 to 20%, irregular, translucent grey patches. It contains about 1 to 2%, irregularly disseminated, chloritic(?) dits, and about 2 to 4% pyrite. The pyrite is fine grained, anhedral, and occurs as disseminations in patchy, stringer-like areas that appear fracture-controlled and yield abundant rusty weathering fractures. The quartzite is non-magnetic.

Chips taken every 10 to 15 cm along 3.3 m of the zone exposed in the cut.

11 ppb Au.

502: Pyritic meta-argillite/quartzite: exposed in northeast wall of 2 m deep shaft. This 30 cm wide interval is very rusty and locally gossanous. It comprises moderately to strongly sheared, near black, fine grained (weakly chlorite-altered) hornblende, a few %, clear (red-) brown pyroxene(?), and a few % feldspar. The meta-argillite in this interval contains about 5 to 7%, very fine grained, disseminated pyrite and about 5 to 15%, quartzite interbeds to about 1 cm thick. The pyritic interval forms the southwestern part a more than 65 cm thick interval of meta-argillite to about 5 to 10% interbeds of quartzite. The interval strikes about 300° and dips about 75° northeast, and occurs within a unit of quartzite.

Host...rock: The quartzite to the southwest of the meta-argillite, is sub-opaque white, moderately to strongly fractured, and locally cut by rusty fractures. It contains rare, meta-argillite laminations and bands. It is locally cut by about 1%, irregular, stringer-like fractures filled with chlorite(?) and epidote(?) ± salmon-pink garnet(?).

Chips taken across 30 cm thick pyritic interval.

71 ppb Au, 287 ppm Cu.

503: Pyritic quartzite: grab from waste rock of sub-translucent, medium blue-grey quartzite explored by 2.3 x 2 x 1.3 m deep shaft. Quartzite contains about 3%, irregularly disseminated, very fine to fine grained, anhedral pyrite, most of which appears fracture-controlled. Quartzite also contains 1 to 5%, irregular, stringer-like patches of chlorite(?) ± pyrite. Rusty fractures are common to abundant.

Grab sample (5 x 6 x 10 cm) from waste rock.

7 ppb Au (and 119 ppm Cu).

504: Quartz vein, up to 1 m thick, in north wall of a 1.8 x 4.2 x 3.6 m deep shaft at the end of a cat track. Quartz vein is milky white, coarse grained, moderately to strongly fractured, and contains a few %, limonitic to hematitic fractures. The vein is irregular and complexly fault-jumbled. A few quartz veinlets form splays from the main vein into the hanging wall rocks. A shear cuts part of the lowermost part of the vein. -The vein strikes
(Sample 504 continued)

approximately 040° and dips about 30°SE. It is not exposed at surface and may have been accidentally intersected in the shaft.

Host rock: (pyritic) quartzite with a few, meta-argillaceous (?) laminations. It is cut by abundant limonitic to hematitic fractures, and commonly contains about 1 to 2%, irregularly disseminated, fracture-controlled pyrite. The quartzite is sub-translucent grey to white, to sub-opaque white. Locally, a fine grained, granular texture is apparent. Fresh surfaces are difficult to obtain because of fracturing.

Chip sample across the 1 m wide vein in the north wall of the shaft.

10 ppb Au.

505: Meta-argillaceous quartzite at the northeast end of an up to 1.8 m deep trench that trends 065° and is 8.6 m long. The trench is mostly floored with water. From the waste rock, trench appears to explore part of a major unit of laminated to banded meta-argillaceous quartzite with about 5 to 10%, wispy laminations of hornblende (+ biotite(?)). The laminations are generally 0.5 to 1 mm thick, but locally to 8 mm thick, and separated by about 1 to 5 mm of quartzite. Milky white quartzite locally forms beds to 6 cm thick (with a few, meta-argillite laminations). These quartzite beds may have previously been misidentified as quartz veinlets. Rusty fractures and shears commonly cut the quartzite.

Chip sample across 1.3 m of quartzite in the northeast wall (end) of the trench.

34 ppb Au, 2.3 ppm Ag, 328 ppm As
**GEOCHEMICAL ANALYSIS CERTIFICATE**

ICP - .500 gram sample is digested with HCl 2:1 HNO3:2H2O 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 limited for Na K and Al. Au detection limit by ICP is 3 ppm.

- Sample Type: Rock
- Sample Analysis by FA/ICP from 10 gm sample

**DATE RECEIVED:** JUL 26 1989  **DATE REPORT MAILED:** Aug 29 1989  **SIGNED BY:** D. TOTE, C. LONG, J. WANG; CERTIFIED B.C. ASSAYERS

**NEXUS RESOURCE CORPORATION PROJECT CM/LB File # 89-2458**

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**APPENDIX 2**

**ROCK SAMPLES: MIZZENWALT AND MAINMAST CLAIMS**
APPENDIX 3

LIST OF EXPENDITURES
GEOLOGIC MAPPING AND PROSPECTING AS ASSESSMENT WORK ON THE MIZZENMAST AND MAINMAST CLAIMS
Camp McKinney Mine Area
Work Period: July 17 to 22, 1989

WAGES:
Gary Benvenuto, consulting geologist,
July 17-19 and 21, 22: total of 5 days, including
1.5 days for mob/demob.:
5 days @ $250/day = $1,250

Jeff Hicks, temporary, assistant geologist,
Same work schedule as Benvenuto.
5 days @ $100/day = $500
Total wages: $1,750

TRANSPORTATION:
Truck rental:
Rental: 5 days x 1 week/7 days @ $225/week = $161
Mileage: 1,318 km @ $0.15/km = $198
Gasoline: $70
Total transportation: $435

ACCOMMODATION:
2 motel rooms in Osoyoos
4 nights @ $97.20/night for 2 rooms:
Total accommodation: $389

MEALS:
5 days of meals for 2 geologists:
Total meals (from receipts): $201

TELEPHONE:
$17

ROCK SAMPLE ANALYSES:
5 rock samples analyzed for 30 elements by I.C.P. and for gold by atomic absorption.
5 samples @ $15.75/sample = $79

SUPPLIES:
Flagging, thread, plastic bags, etc.: $25

ASSESSMENT REPORT:
Writing: 3 days @ $250/day = $750
Drafting: 1 day @ $250/day = $250
Typing and reproduction = $125
Total: $1,125

Total report costs: $1,125

TOTAL ASSESSMENT WORK EXPENDITURES: $4,020
CERTIFICATE OF QUALIFICATIONS

I, Gary L. Benvenuto, of the City of Burnaby, hereby certify that:

1. I am a consulting geologist with an office and residence at 231 North Sea Avenue, Burnaby, B.C., V5B 1K6.

2. I graduated with a BSc. degree in geology from California State University at Los Angeles, California in 1972, and with a PhD. degree in geology from Queen's University at Kingston, Ontario in 1978.

3. I am a fellow of the Geological Association of Canada.

4. I have practised exploration geology with Cominco Ltd. from May to October, 1979, and with Westmin Resources Ltd. from January, 1980 to April, 1985, and have practised as a consulting exploration geologist from May, 1985 to present.

Date: Sept. 1, 1989

Gary Benvenuto
Burnaby, B.C.