Waratah
889384
104B/10W
104B 204,
296

3. Faults: 095°/65°N (ENE lineaments)
035°/45°SE (Handel Break)

Many ENE topographical lineaments were mapped in the central baseline area and although actual field evidence of faulting could not be documented, faulting was inferred by the inability to trace veins across the ENE trending depressions.

2.2.2 Mineralization (Figures 6 and 7)

Mineral occurrences containing gold on the Waratah property may be classified into three categories: copper-gold, native gold-pyrite, and copper-lead-zinc-silver-gold quartz veins. All mineralization except for those of the second category is developed within the agglomerate.

Copper-Gold Quartz Veins

By far the greatest number of mineral showings are of the copper-gold type. Mineralization consists of pyrite, chalcopyrite, magnetite and arsenopyrite within quartz-chlorite vein structures. Minor amounts of bornite, chalcocite and native copper have been noted. Better gold grades occur with the highest sulphide content and with zones of chalcopyrite, magnetite and arsenopyrite mineralization; however, high gold grades are most often associated with higher copper values. The gold is assumed to be contained within the sulphide facies as no visible gold has been noted to date. Silver is a minor constituent, occurring in quantities similar to that of gold. Vein widths vary from several centimetres to 1.65 metres and their occurrences are controlled by northwest-southeast and more northerly trending fracture planes. Larger veins are commonly zoned; more massive sulphide mineralization is located on the hanging wall and footwall contacts separated by a leaner section of quartz veining. The best examples of this type of mineralization are the Bluff, Swamp and No. 7 veins.

Native Gold-Pyrite Quartz Veins

The Golden Arrow showing and a second vein west of the Golden Arrow are the only occurrences of this vein type. The veins are located on the eastern part of the Waratah property. The distinguishing characteristics of the vein type are the different host rock, restricted alteration halo and structural orientation.

The Golden Arrow showing consists of a relatively unaltered monzonite intrusive body hosting a 10 to 30 cm wide quartz-chlorite vein mineralized with pyrite, native gold and an unidentified steely blue mineral that is associated with the gold deposition. The pyrite exhibits a number of textural styles including fine disseminations, coarse crystalline grains, and banding which may indicate more than a single phase of pyrite deposition. Base metal and silver values are slightly above detection limit.

Wallrock alteration is restricted to a few centimetres on either side of the vein structure. The dominant alteration minerals are chlorite and pyrite.

The Golden Arrow vein is controlled by east-northeast trending fracture with a moderate southerly dip and is offset by several northwest-southeast faults with minor right lateral movement.

Copper-Lead-Zinc-Silver-Gold Quartz Veins

The final category of mineralization is characterized by the presence of galena and sphalerite. The introduction of lead and zinc is accompanied by lower gold values generally ranging between 0.010 and 0.100 ounces per ton and in one case, a higher silver assay (Sample 21727, 6.69 ounces per ton Ag). Other aspects of the veining such as gangue mineralogy and alteration are similar to the copper-gold type. Typical of these veins are numerous stringers on the west side of the peninsula south of camp and a vein found along the eastern boundary of the property.

2.2.3 Alteration

Intensely altered zones of up to 3.0 metres wide are developed around the veins. The alteration and degree of fracturing is strongest adjacent to the vein walls where original volcanic textures are obliterated. A foliated fabric is imparted parallel to the vein contact in these areas. The alteration envelope consists of pervasive chlorite-carbonate penetrated by a network of carbonate-quartz-pyrite veinlets. Although gold values are normally low, elevated values (0.010 to 0.150 ounces per ton range) often occur in the altered wallrock adjacent to the vein. Pyrite is the primary sulphide mineral present in the altered zone and is found in carbonate-quartz veinlets or as sporadic blebs, coarse euhedral crystals and finer disseminations. It was found in a number of the drill holes that the alteration envelope lacks the normal magnetic signature associated with the agglomerate host indicating destruction of magnetite during the mineralizing process.

Two other alteration types have been found in addition to the main chlorite-carbonate-pyrite envelopes described above. Both have been recognized in drill holes only.

In Holes H87-15, 16 and 17 on the Swamp vein, a tan coloured bleached alteration zone envelopes a flat lying pyrite-chalcopyrite vein. Feldspar grains in the agglomerate are altered to chlorite; clay and carbonate products occur along fractures. In the stronger altered sections, no hint of the original rock textures can been seen. Visually, the zone resembles the extensive K-feldspar alteration type at Skyline's Stonehouse Gold deposit.

The second alteration is an ankerite-bearing zone associated with the intrusive body in the bottom of Hole H87-24. The ankerite has two modes of occurrence: as a pervasive blanket alteration with sericite and in veinlets with coarsely crystalline quartz and minor amounts of sericite and specular hematite. A diagnostic feature of the ankerite is the orange-buff colour which develops in a short period of time once exposed to air.

3.0 MINERAL OCCURRENCES

Prospecting has proven to be a valuable tool in locating mineralized structures. Almost all of the gold-bearing veins were discovered solely by prospecting techniques and much of the credit for the initial success of the program is attributable the fine work performed by the prospectors, Tom Bell and Neil DeBock. Any promising showings were trenched, mapped and chip sampled. A great number of veins containing >.100 oz/ton gold have been found to date. Many more narrow veinlets containing <.100 oz/ton gold were discovered that do not warrant discussion at this time. The table on the following page lists the more significant occurrences (>.100 oz/ton Au, of which many assayed better than 1.000 oz/ton Au) and the characteristics of mineralogy, attitude, etc. Complete assay records are shown on the figures listed and prospecting sample descriptions are appended. The showings marked by an asterisk should be investigated further to develop the potential indicated by their widths, strike potential and gold grades. The other veins are limited by their narrow vein widths.

4.0 GEOCHEMISTRY

4.1 SOIL GEOCHEMISTRY

In order to further assess the mineral potential of the Waratah property and to assist in future prospecting programs, a soil geochemical survey was carried out over the favourable areas on the claim group. This sampling was completed in two parts; the central portion of the property was covered by a grid survey with a 25 metre sample interval and outlying areas were surveyed by a contour sampling method at the same sample interval.

The orientation of the cut grid was determined before any prospecting results were received and was selected on the basis of northeast trending Dighem

Table 2
Mineral Occurrences

Width	Strike Length Exposed	Host	Gangue	Sulphides	Trench	Figures	Notes
?	19 m	agglomerate	quartz carbonate chlorite	pyrite chalcopyrite arsenopyrite pyrrhotite tr native Cu	1	6, 12	Mineralization is controlled along a number of fracture directions on the hanging wall of a NE fault splay from the Handel Break
0.25-1.65 m	55 m	agglomerate	quartz chlorite	pyrite chalcopyrite magnetite arsenopyrite	2-6	8, 13-17	11 holes were drilled at this vein, 10 of which intersected significant gold-bearing quartz veining
0.15-1.30 m	15 m	agglomerate	quartz chlorite	pyrite magnetite chalcopyrite	7 & 8	8, 18 & 19	A chip sample over 1.1 m assayed 10.072 oz/ton gold - highest gold result to date
0.35-1.00 m	30 m	agglomerate	quartz chlorite	pyrite magnetite chalcopyrite	9 & 10	8, 20 & 21	A total of 7 holes drilled. Best chip sample assay - 2.088 oz/ton Au over 1.0 m
?	<5 m	agglomerate	quartz chlorite	pyrite chalcopyrite magnetite	11	8, 22	Mineralization is discontinuous much like the Lake showing
15 cm 20 cm	<5 m	agglomerate	quartz chlorite	pyrite chalcopyrite magnetite	12	8, 23	2 veins
10-15 cm	18 m	agglomerate	quartz chlorite	pyrite magnetite chalcopyrite	13-15	8, 24-26	Mineralization in TR 15 is fault bounded; may not be strike extension of vein in TR 13, 14
5-20 cm	25 m	agglomerate	quartz chlorite	magnetite m. pyrite m. chalcopyrite	16-18	9, 27-29	Mineralization splays into narrow veinlets in TR 16
10-35 cm	30 m	monzonite	quartz chlorite	pyrite native Au	19-21	10, 30-32	Another vein assaying 0.671 oz/ton Au was found 125 m NW of the Golden Arrow vein. Similar appearance but different attitude 135°/5°S
0.70-1.30 m	6 m	agglomerate	quartz chlorite	pyrite magnetite chalcopyrite	22	11, 33	Gold values in the freshly broken vein material higher than original oxidized grab sample
10-35 cm	7 m	agglomerate	quartz chlorite	pyrite	23	11, 34	Highly oxidized outcrop
2-25 cm	50 m	agglomerate	quartz chlorite	pyrite chalcopyrite magnetite		6	Up to 250 m south of the River vein, a number of 2 - 10 cm wide quartz veinlets with PY, MG,CP occur - generally assaying between .010 and .100 oz/ton Au and striking NW dipping steeply to the southwest 2 veins assayed >.100 oz/ton Au
1-2 cm	<5 m	agglomerate	quartz chlorite	pyrite		7	Located near high Au soil on contour line B
10-30 cm	12 m	agglomerate	quartz chlorite	pyrite chalcopyrite sphalerite pyrrhotite		7	Exposed on north shore on Bug Lake west of camp
?	<5 m	agglomerate	quartz chlorite	pyrite chalcopyrite		7	Poorly exposed, located 20 m east of helipad
15 cm	<5 m	agglomerate	quartz chlorite	pyrite chalcopyrite		8	Located to the northwest of Swamp vein

Table 2
Mineral Occurrences

Vein	Location	Attitude	Width	Strike Length Exposed	Host	Gangue	Sulphides	Trench	Fi
Lake	378250E 6283490N	015°/20°E 048°/50°SE	?	19 m	agglomerate	quartz carbonate chlorite	pyrite chalcopyrite arsenopyrite pyrrhotite tr native Cu	1	6
*Bluff	378580E 6283750N	160-170°/50-80°NE	0.25-1.65 m	55 m	agglomerate	quartz chlorite	pyrite chalcopyrite magnetite arsenopyrite	2-6	8.
*Swamp	378650E 6283870N	100-150°/55-70°NE	0.15-1.30 m	15 m	agglomerate	quartz chlorite	pyrite magnetite chalcopyrite	7 & 8	8,
*No. 7	378600E 6283600N	100-145°/55-70°SW	0.35-1.00 m	30 m	agglomerate	quartz chlorite	pyrite magnetite chalcopyrite	9 & 10	8,
L. Helipad	378490E 6283780N	?	?	<5 m	agglomerate	quartz chlorite	pyrite chalcopyrite magnetite	11	
U. Helipad	378500E 6283770N	007°/76W 026°/50°E	15 cm 20 cm	<5 m.	agglomerate	quartz chlorite	pyrite chalcopyrite magnetite	12	
X-Cut	378640E 6283820N	355-005°/55-65°W	10-15 cm	18 m	agglomerate	quartz chlorite	pyrite magnetite chalcopyrite	13-15	8,
Mag	378880E 6283690N	140-155°/75-80°SW	5-20 cm	25 m	agglomerate	quartz chlorite	magnetite m. pyrite m. chalcopyrite	16-18	9
*Golden Arrow	318480E 6284180N	065-075°/60-80°S	10-35 cm	30 m	monzonite	quartz chlorite	pyrite native Au	19-21	10
*U. Gold Bug	375750E 6283600N	130°/80°NE	0.70-1.30 m	6 m	agglomerate	quartz chlorite	pyrite magnetite chalcopyrite	22	
L. Gold Bug	375740E 6283680N	127°/72°SW	10-35 cm	7 m	agglomerate	quartz chlorite	pyrite	23	
River	379350E 6284010N	140-150°/45-90°SW	2-25 cm	50 m	agglomerate	quartz chlorite	pyrite chalcopyrite magnetite		
--	377800E 6283120N	095°/35°SW	1-2 cm	<5 m	agglomerate	quartz chlorite	pyrite		
--	377700E 6283300N	125°/10°SW	10-30 cm	12 m	agglomerate	quartz chlorite	pyrite chalcopyrite sphalerite pyrrhotite		
*--	6283540N 375740E	090°/70°S ?	?	<5 m	agglomerate	quartz chlorite	pyrite chalcopyrite		
--	6283885N 378580E	012°/72°NW	15 cm	<5 m	agglomerate	quartz chlorite	pyrite chalcopyrite		