Preliminary Compilation Report on the Fletchers Gully Gold Deposit Crossland EL 25076 Allia

Introduction

The Fletchers Gully prospect lies 45km south of Daly River approximately 180km south-southwest of Darwin. Vehicle access from the Daly River road is via 40km of station road and is limited due to steep terrain and seasonal restrictions.

The tenement lies in the Proterozoic, Burrell Creek formation of the Finniss River group and covers an area of approximately 16.6km comprised of 5 graticular blocks. The tenement has been explored by a number of companies under different licensing blocks.

History

Alluvial Gold was discovered in Fletchers Gully in 1905 and the area was declared a goldfield in 1910. It was mined intermittently until 1940, with the most active mining between 1918 and 1929. Both lode and alluvial deposits were worked. The total recorded production is 2450 ounces at an average grade of 2.19 ounces per ton. Reports range from 70 to 75.09kg of gold, with approximately 10kg from alluvial workings and 75% of the reported gold produced from the Bigmouths Reef. The reef extends for 70m and was worked to a depth of 30m with an average grade of 4 ounces of gold per ton. In 1906 small scale Tin workings began in some small pegmatite veins in the vicinity with a recorded production of 4.2 tons of concentrate.

Geology

Fletchers Gully lies within Early Proterozoic sediments of the Burrell Creek Formation conformably overlain to the west and south by the Chilling Sandstone, together making up the Finniss River Group. The sediments were folded during the 1870-1780Ma Top End Orogeny around major NW-NNW axes represented by the Muldiva Anticline and Chilling Syncline. The anticline appears to plunge to the east.

Regionally the area is near a flexure in trend of the Burrell Creek. The strike changes from NS to ESE along a projection of NE trending Rock Candy Fault. Locally the sediments are isoclinally folded about an ESE axis with the predominant foliation striking at 125 degrees. Secondary shear zones and quartz veining lie on NE and NW trends. The NNE trending Giants Reef Fault lies on the western flank of the inlies of Finniss River Group sediments and numerous parallel structures splay off the fault.

The area consists of quartzites, siltstones and shales with an average dip of 75 degrees. Some siltstones and shales are variably carbonaceous and ferruginous which are locally sericitized and tourmalinized. More ferruginous and carbonaceous outcrops occur in the vicinity of Bigmouths Workings. The Pang Quees and Bigmouths workings occur within a central shear zone, associated with minor faulting near the axis of the anticline.

Late in the orogenic cycle the sediments were intruded successively by the Wangi Basics, the Allia Creek Granite and Murra-Kamangee Granodiorite. The Allia Creek outcrops about 1km to the north of the area. Middle Proterozoic sediments of the Tolmer Group unconformably overlie the Early Proterozoic sedimentary rocks and granites which are overlain by remnants of Cretaceous cover.

Mineralisation

Gold occurs in quartz veins or reefs in metamorphosed slate, phyllite and metaquartzite adjacent to the Allia Granite, close to the axis of the north-west trending Muldiva Anticline. The veins are associated with sub vertical shear zones and low angle tensions gashes mostly thin but ranging from 6cm to nearly 1m wide. A halo (in some cases mapped up to 2m in extent) of secondary pyrite, arsenopyrite and malachite occurs associated with the quartz veining.

The Bigmouths Workings occupy a shear dipping at 80 degrees to the NE in the axis of the anticline. Pang Quees occupies two near vertical shear zones, approximately 15 metres apart. Ore bearing quartz veins within shear zones occupy two sets of apposing intersecting fracture systems dipping at 50 degrees NE and 30 degrees SW. These extend up to a distance of 3 metres into surrounding phyllites and are associated with secondary pyrite, arsenopyrite and malachite mineralisation.

Structural Geology

Regional Structure

A preliminary regional structure from air photo interpretation by Majoribanks (1989): Upright isoclinal folds with generally steep south-plunging fold axes and NNW axial-plane trends dominate. Strong penetrative axial-plane is developed. Structures reflect regional deformation and metamorphosis and are characteristic of the Pine Creek Geosyncline rocks.

A granite intrusion to the north post-dates regional folding and metamorphism but is partially within and controlled by a regional anticlinal structure.

A later ENE structure cross-cuts regional NNQ fold axes. Structure is marked by faulting and in part by kinking or open folding of the bedding. Drag against the faulting indicates a sinistral strike-slip component along it but a large dip-slip component is also suspected. E-W bedding strikes to north of fault with NW strikes to the south.

All the known gold workings lie within the cross structure at the position where the single Fletcher's Gully fault feathers out at its SW end into a number of smaller en-echelon faults. Smaller faults pass between the Bigmouth and Pang Quees workings, with a 150m sinistral displacement of marker greywacke beds.

Cross structure is parallel to a number of other cross faults in the area which are sub-parallel to the Giants Reef Fault to the west.

Prospect-scale

Former gold workings lie on a limb between two major regional folds, all on different stratigraphic horizons.

To the SW of Bigmouths Workings a number of several metre wide parasitic folds occur of an 80m zone. Belong to regional fold generation but have anomalous shallow plunges (10-20° to the ESE). Away from Bigmouths the regional steep plunges are resumed.
Pang Quees lies on the SW limb of a steep SE plunging anticline. The axial region is well defined with the fold axis truncated to the north by the Fletchers Gully cross fault.
A late generation of folding is present in many outcrops with folds of low amplitude and steep plunging. Folds caused by horizontal shear stress parallel to bedding planes. This postdates regional folding but probably predates cross-faulting. It is not thought to be significant to mineralisation.

Work conducted and tenement history
1982: EL4042 granted to Silver Coin Mining and Prospecting. Comprised of four graticular blocks.
1983: Tracks rehabilitated.
1984: Silver Coin employed P.R. Evans and Associates to conduct geological studies and a sampling program. Regional assessment with air photo and landsat image interpretation.
1985: Silver Coin employed Staples Geophysical Services. Gridded prospect (at 100m E-W 50m N-S at a bearing of 125 degrees) and sampled composite rock chips in the grid area, specifically on outcropping quartz veins, carbonaceous and ferruginous shales/ siltstones or where secondary pyrite mineralisation was evident. 70 samples analysed by AAS or fire assay for gold and arsenic. Thirteen shallow costeans excavated and sampled.
December 1985: Joint venture between Silver Coin and JLV Constructors Pty Ltd.
1986: Re-employed Staples Geophysical Services. Induced Polarization survey completed by Solo Geophysics (November 1986): 8 line kilometres of chargeability/resistivity measurements at a dipole spacing of 25m, using gradient array configuration.
May 1987: ERL71 contained within EL4042 was granted.
1987-1988: Access and drill pads prepared. 2 costeans were excavated.
1988: JLV Constructions Pty Ltd went into receivership and the joint venture agreement terminated.
July 1989: Joint venture Agreement was signed between Silver Coin and Renison Limited.
August 1989: Joint venture commenced exploration. Staples Geophysical Survey grid re-established and slope corrected. Areas of know workings were grid mapped and sampled on a local 25m x 25m grid at 1:500 scale. Surrounding area outcrop mapped and sampled at 1:1000 scale. RGC Exploration structural geologist, Roger Majoribank, visited contributing to structural geology locally and regionally.
October 1989: 27 hole 1223m RC drilling program completed by Civil Resources –Qld suing CD350 track mounted rig. Sample collected at 2m intervals.
October 1992: EL 7704 of 9 blocks granted to Robert Michael Biddlecombe for a period of 6 years.
August 1993: Mount Carrington Mines Ltd acquired an 80% interest in the title.

Mid-1995: Mount Carrington Mines Ltd sold interest to Kalmet Resources NL. The licence was reduced to 5 bocks at the end of the second year and relief from further reduction obtained at the end of the third year. Kalmet Resources NL acquired 75% interest in EL7704 by purchase from Norminco Ltd and arrangements negotiated with R M Biddlecombe.
October 1995: Kalmet Resources NL. Existing 80 x 40m grid extended to the east and north-west. Total of 11.1 line-kilometres gridded. 259 soil samples collected with duplicates at every 20th site. Samples collected from one point adjacent to 40m marker on grid lines. Sample medium was upper 10-15cm of soil mostly combination of B and C horizons. Samples analysed by AMDEL. Small portion pulverised for arsenic analysis – XRFIA, gold was determined by BLEGIA cyanide leach method. Geological mapping was completed over grid extension at a scale of 1:2000.
October 1996: Kalmet Resources NL. 10 hole 990m of RC percussion drilling testing gold-arsenic soil anomaly over approximately 1km strike length. Sampling over 1m intervals.

Results
1986: Anomalous gold in costean 1: 13m interval of 2.4g/t over Pang Quees stope with associated anomalous arsenic reaching nearly 3000ppm. Drives of workings at either end of the interval at 5m depth, previous sample indicates gold mineralisation is restricted to the two zones at depth.
Costean 2: Anomalous gold and arsenic over 16m – continuation of Pang Quees, crosscutting geologic trend at 70 degrees. Further continuation is the New Show: local quartz veining – two 2m wide quartz reefs. Rock chip sampling showed 1.5g/t gold associated with up to 4% arsenic.
Costean at eastern end of Boiler Workings: 16m interval of >0.2g/t gold with 1000ppm arsenic.
Costean 10: 8m interval of >0.2g/t gold and 900ppm arsenic on the strike extension of Bigmouth's Workings. Rock chip along trend returned up to 0.5g/t gold and 1.9% arsenic.
1989: RC drilling: Drill results are mostly disappointing, attempts to intersect the main reef system as Bigmouths were unsuccessful. Wide zones of anomalous gold mineralization with local high grade assays were delineated by surface sampling south and east of Bigmouths. Pattern repeated by the drilling but with less common and more erratic high gold values. No bulk gold tonnage can be inferred. The drilling around Pang Quees was similarly disappointing despite spectacular assay results from underground sampling. It is suspected that gold is localized in high grade pockets with little evidence of extensions of mineralization in drilling adjacent to the workings.
1995: Closed off strong gold-arsenic anomalism to the east, but not conclusively to the north-west

Report Number	Tenement	Company	Work conducted	Recommendations
CR86/102	EL4042	Silver Coin Prospecting JLV Constructors	70 rock chip samples 13 Costeans	- Further work in eastern extensions of both Pang Quees workings and

				Bigmouth's workings. - Further work in Boiler workings. - Geophysical survey involving gradient array induced polarisation to delineate sub-surface pyrite mineralisation, - Ground magnetometer survey to delineate pyrrhotite mineralisation.
CR88/254	ERL71		Follow-up to surface sampling and IP survey Access tracks and drilling pads constructed with TD28 Bulldozer.	Drilling of 6 bore holes to test IP prospective zones.
CR90/261	ERL71	RGC Exploration Pty. Ltd. Joint venture between Renison Ltd and Silver Coin Mining and Prospecting Pty. Ltd dated from 1/7/1989	Establishing grid. Detailed mapping/ sampling of known gold workings and surrounding rocks. 27 hole 1223m drilling program	No potential for economic gold mineralisation. No further work by RGC
CR95/876	EL7704	Kalmet Resources NL	Extending grid, 11.1 line-kilometres extended. 259 soil samples collected. Geological mapping over scale of 1:2000	- Soil geochemical anomalies away from know mineralisation warrant detailed follow-up exploration. RAB drilling needed to extend soil sampling to NW. - Strong anomalism is comprehensively tested by drilling or costeaning. - Prior to any

				earthworks a Sites avoidance Survey be commissioned by the Aboriginal Areas Protection Authority over gridded area. - Traverse mapping be completed over the gridded area and continuity of units along strike be established to allow a more correct interpretation of the geology.
CR96/870	EL7704	Kalmet Resources NL	10hole 990m RC percussion drilling. Covering approximately 1km strike length. Sampled at 1m intervals.	Lack of direct proportional relationship between gold and arsenic values is a matter for further consideration prior to any more field work.

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