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GOLD FIELDS EXPLORATION PTY. LIMITED
DRILL CORE LOG AND ASSAY DATA

PROJECT: Red Hills

HOLE NUMBER: RH 14R

Page: 7.

ULV. PRESS

INTERVAL		RECOVERY		DESCRIPTION	ASSAY DATA in ppm unless otherwise shown											
From	To	m	%		Sample No.	From	To	Rec. %	Cu	Pb	Zn	Ag(AAS)	Ag(EA)	Au(EA)	Au(check)	S
				Mineralization: Unmineralized apart from minor veinlet py and 357.3-360.6m qtz-carb veinlets up to 1mm thick with py-sp est. 0.1% related to adjacent mineralized sediments.												
360.6	372.7	12.1	97	<u>MIXED SEDIMENTARY SEQUENCE (HOST ROCK HORIZON)</u> Mixed sequence of tuffaceous sandstone, siltstone, grey siliceous shale and possible cherts and carbonates. Upper contact sharp without any sign of disruption by overlying(?) ignimbrite. Lower contact quite gradational. Considerable variation in grain size, textures and lithologies over intervals as thin as 1cm. Similar marked variations in mineralization and alteration. Some evidence of syn-sed. brecciation, slump folding. The dominant lithology is a pale green-grey medium-coarse grained tuffaceous sandstone which typically contains fine feldspar crystals in khaki sericitic groundmass. Interbedded and sometimes disrupted by these coarser clastics are fine grained grey siliceous (cherty?) shales which are often finely laminated, bedding e.g. 58°/LCA @ 361.0m, 72°/LCA @ 365.4m. The coarser clastics sometimes contain angular clasts of the grey cherty seds. both mineralized and unmineralized as well as minor semi-mass. sulphide clasts e.g. 362.8-365.5m. Generally the coarser units are moderately-strongly altered mainly sericite with minor chlorite, finer units appear less altered. From 365.4m an increasing amount cream carbonate clasts, spherulites, oolites up to 4mm diam. often with concentric banding, sometimes with nuclei of granular sp or gn. By 369.3m rock more uniform grey-brown with "oolites" up to 1cm in diam. often deformed and elongated along possible bedding defined by layered concentrations of these e.g. 70°/LCA @ 371.7m.												
				Mineralization: The mixed sequence is mineralized throughout but the style and quantity is quite variable. The best mineralized sections are generally the coarser units which carry syngenetic fine dissem. and coarser blebs of py >= sp with minor gn as well as mineralized clasts up to 3cm in size and with up to 10% sulph-	2825	360.6	362.0	91	120	0.17%	0.54%	15	16	<0.1		1.4%
					2826	362.0	363.4	95	90	0.30%	0.63%	21	21	0.4		0.6%
					2827	363.4	364.8	98	260	0.36%	0.60%	20	20	0.8		0.7%
					2828	364.8	365.5	97	600	1.30%	2.45%	53	59	0.4		1.7%
					2829	365.5	366.9	98	610	0.62%	1.58%	33	40	2.6	2.5	1.4%

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INTERVAL		RECOVERY		DESCRIPTION	ASSAY DATA in ppm unless otherwise shown											
From	To	m	%		Sample No.	From	To	Rec. %	Cu	Pb	Zn	Ag(AAS)	Ag(FA)	Au(FA)	Au(check) S	
				ide and vein fracture mineralization. Generally the finer "cherty"	2830	366.9	368.3	94	380	0.50%	1.41%	28	33	1.3	1.3	1.1%
				units are less mineralized with vein-fracture sp-py-minor gn	2831	368.3	369.7	98	250	0.30%	0.87%	17	19	2.8	2.6	1.0%
				more prominent than dissem. (syngenetic?) sulphides.	2832	369.7	371.1	100	210	0.22%	0.41%	22	23	0.2		0.8%
				Evidence for continuing mineralization from "oolitic" clasts	2833	371.1	372.7	100	210	0.32%	0.43%	180	165	0.1		0.5%
				with granular gn or sp nuclei enclosed in ashy sericitic matrix												
				containing blebs of sulphide, also pressure shadow sulphides												
				around some clasts.												
				Comment: This sequence is interpreted as equivalent host horizon												
				to massive sulphide in RHS. However environment appears to												
				have been more active with frequent influxes of coarserepiclastic												
				detritus, synsedimentary tectonic disturbances and brecciation of												
				semi-massive sulphide apparently forming in the vicinity. Presence												
				of possible oolites syn-mineralization has important genetic												
				implication for host environment.												
372.7	398.5	25.8	100	<u>ASHY PYROCLASTIC? POSSIBLY REWORKED</u>												
				Uniform light grey fine grained rock with prominent cream-coloured												
				carbonated (siderite) clasts. The rock is continuous with the												
				above sedimentary sequence. However lack of clear bedding and												
				overall uniformity do not favour pure clastic origin. Carbonate												
				clasts mostly spherical up to 1cm diam. but usually 2-4mm are												
				widely distributed forming up to 20% of rock.												
				These possible "oolites" sometimes show crude sorting or are												
				conc. in layers which may be a primary layering e.g. 63°/LCA												
				@ 383.2m. Some clasts are elongated in this general direction.												
				Some appear recryst. others have good concentric banding e.g.												
				272.7-276.0m Groundmass is fine grained sericitized ashy												
				material which is generally uncleaved and competent.												
				Very minor pink felsic lava and grey fine siliceous rock occurs	2834	372.7	379.0	97	90	70	250	4	2.8	< 0.1	< 0.1%	
				as clasts 3-8mm in size.												
				<u>Mineralization:</u> increases down hole from very minor up to 10%	2835	379.0	381.0	100	90	580	460	< 2	0.9	< 0.1	0.2%	
				sulphides over 20cm intervals in basal 3m. Mostly syngenetic	2836	381.0	383.0	100	80	440	620	< 2	0.3	< 0.1	< 0.1%	
				blebs/grains with lesser amounts as nuclei of carb. clasts,	2837	383.0	385.0	100	60	500	600	< 2	0.4	< 0.1	0.2%	
				and minor vein and fracture mineralization.	2838	385.0	387.0	100	60	700	750	< 2	0.2	< 0.1	< 0.1%	
				372.7-380.0m minor veinlets predom. py.	2839	387.0	389.0	100	70	1000	1200	< 2	0.4	0.1	< 0.1%	

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Eight drill core samples were received for petrological examination; thin-sections were prepared, and the offcuts were subjected to K-stain tests and carbonate stain tests, to assist with identification and interpretation. The rocks are individually described in the accompanying table, with additional comments below.

Comments

Most of the rocks are mildly to moderately sheared and altered, and these factors were responsible for the obliteration of primary textures and minerals; nevertheless, many features have been preserved, and reasonably accurate interpretations are possible.

All the rocks can be categorised as volcanic, and most, if not all, were pyroclastic; in some rocks, shard textures or lava fragments are recognisable. "Flame" occur in 0559 and 0560, as well as in other rocks; the term is avoided because it describes a texture and any genetic connotations seem to have considerable latitude, causing confusion.

Mineralisation, or deposition of sulphides, seems to be related to the introduction of chlorite, or siderite, and largely predates any shearing or schistosity present, though there is weak evidence to the effect that some post-shearing mobilisation occurred. The mineralisation requires further study, using samples with more abundant sulphides.

The rocks are generally reminiscent of the Mt. Lyell host rocks, especially the presence of accessory magnetite; compositions lie in the rhyolite-dacite range.

H.V. Fander, M. Sc.

Sample No.	Rock Type - Composition	Fabric	Minor Minerals	CENTRAL MINERALOGICAL SERVICES Comments
0559 (T.S. 44983) 193.1m	Quartz-Sericite Schist. Streaks, bands and irregular patches of matted parallel fine sericite, embedded fine quartz, dolomite lenses.	Good schistosity, relict perlitic or related textures and devitrification features.	Scattered leucoxene patches and pyrite grains. Quartz phenocrysts.	Relict textures suggest that rock was a lava; mineral assemblage indicates broadly rhyolitic composition.
0560 219.4m	Quartz-Sericite "Schist". Mostly fragments of silicified lava and welded tuff, with quartz, streaks of sericite, chlorite lenses, and carbonate patches.	Good relict textures in individual fragments. Rock as a whole is schistose.	Leucoxenised magnetite throughout. Pyrite grains in chlorite.	Thought to have been a rhyolitic tuff-lava or lithic tuff; carbonate and chlorite probably both pre-date mild shearing.
0561 255.8m	Sheared Tuff. Small poorly-defined fragments of altered lavas, quartz, fresh oligoclase, with interstitial sericite, small chlorite shreds and carbonate grains.	Definite preferred orientation, but not schistose. Relict lava textures in lithic grains.	Leucoxenised magnetite. Isolated euhedral zircon. Apatite.	Critical textural details obliterated, but very probably pyroclastic, with broadly dacitic composition.
0562 296.2m	Sericitised Volcanic. Small fragments of quartz, sericitised feldspar, altered glass, in a matrix of fine-grained schistose sericite and ultrafine quartz.	Semi-schistose, relict fragmental textures. A few ?shard textures in matrix.	Carbonate lenses. Leucoxene aggregates. Magnetite. Trace pyrite, ?chalcopyrite.	Could have been a tuff or tuff-lava, with rhyolitic/dacitic composition; sheared and sericitised.
0563 311.7m	Mineralised Sericite Schist. Mainly fine matted-parallel sericite (hydromuscovite) with siderite patches, fine interstitial quartz, and streaks of sulphides.	Strongly schistose; sericite envelops siderite. Siderite may be pseudomorphous.	Sulphides are pyrite, pyrrhotite, pale sphalerite with rims of fine galena.	Siderite may have replaced earlier porphyroblasts or relict phenocrysts. Origin of rock unknown, could be igneous-related sediment.
0564 379.0m	Mineralised Quartz-Sericite Schist. Mostly fine sericite and quartz; spheroidal-lensoid bodies of lava pseudomorphed by siderite; streaks, patches of sulphides.	Fine schistosity, enveloping the scattered xenoliths. Fine-grained. ?shard textures.	Sulphides are sphalerite, galena, chalcopyrite, pyrite.	Believed to have been a fine-grained pyroclastic rock (?ash) with sporadic embedded lava fragments later sideritised.
0565 417.0m	Mineralised, Sheared Vitric Tuff. Dominantly fine sericite, with embedded silicified/devitrified shards; sanidine fragments; sulphide/chlorite patches.	Fine semi-schistose fabric, but textures well-preserved. Microfractures.	Sulphides are sphalerite (pale and dark), galena, pyrite, possibly others.	Good evidence of origin. Mineralisation probably predates shearing, but pale sphalerite occurs in younger veinlets.
0566 (T.S. 44990) 439.1m	Sheared, Chloritised Tuff. Fragmentary sanidine crystals embedded in micro-crystalline quartz, chlorite, devitrified K-silicate glass; sulphides.	Relict ?flow-banding. "Phenocrysts" may be flow-brecciated in part.	Trace sulphides - sphalerite (dark), pyrite, ?galena. Leucoxene throughout.	Relict textures not well-preserved, and rock may have been lava or tuff-lava. Chlorite and sulphides predate metamorphism.