The Little Duke-Mount Freda-Evening Star Mineral System, Cloncurry District Based on Core Lithologies

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Executive Summary

Ausmex Mining Group Limited ***(Ausmex, AMG,*** *or the* ***Company)*** hold mining leases that include the historic high gold mine Mt Freda, and previously mined high grade copper mines Evening Star & Canteen, that contains mineralisation that indicates a close spatial proximity to a larger underlaying mafic or ultramafic intrusion (potential IOCG mineralisation). The Company also holds an 80% beneficial interest in two exploration subblocks within EPM15923 under a Joint Venture with Round Oak Minerals Pty Ltd (100% subsidiary of Washington H Soul Pattinson). The two exploration subblocks contain the Golden Mile suite of historic high-grade gold mines, including the Little Duke IOCG target.

Units of tuffisite that cross-cut Soldiers Cap Group lithologies have been identified in cores from Little Duke. These tuffisite breccias are similar in appearance to tuffisites pipes described previously from Evening Star and Mount Freda prospect. They played an important role in mineralisation as they provided a conduit for metal transport.

The presence of these metal-rich breccias indicates that Little Duke and Evening Star are proximal to the magmatic metal source that produced epithermal high-grade gold mineralisation and cobalt-copper mineralisation in the area.

Cu and Co systematics provide a vector for mineralisation in the area. Samples with low contents of Cu and Co are considered to be distal to the igneous metal source and reflect hydrothermal fractionation in an epithermal environment. However, samples with elevated Cu and Co, up to 10,000 ppm Cu and 30,000 ppm Co, are considered proximal to the metal source.

Co and Cu concentrations are therefore useful vectors for mineralisation.

The mean molar Cu/Au ratio of samples from Little Duke viz., 52,455 ± 61,097, is typical of mineral systems derived from an alkaline igneous source. However, a significant population of Au-rich samples yield ratios ranging from ~100 to 10,000, that are typical of epithermal systems.

Mineralisation at Mount Freda is epithermal in character (Collerson 2019) forming at depths less than 1000 m .

Thus the depth to the igneous metal source at Canteen (Little Duke and Evening Star), indicated by the elevated Co and Co data from LD19RC025, suggest that mineralisation (igneous source) may be encountered within 1000 m of these Co and Cu- rich samples.

These reconnaissance observations have significant implications for better understanding the Cloncurry Belt IOCG mineral system and hence, the IOCG prospectivity of the area, thus the exploration strategy for Ausmex.

1 Introduction

This report was commissioned by Ausmex Mining Group Ltd, to comment on sulphide rich intervals in diamond drill core (LD19RC025) recovered from their Little Duke prospect (ASX Market Release 10th October 2019).

The Little Duke - Mount Freda - Evening Star mineral system lies adjacent to the Canteen magnetic anomaly, a highly prospective IOCG target in the mineral rich Cloncurry district that has recently been identified and drill targeted by Newcrest Mining Limited.

Rationale for the investigation was to:

- Comment on the significance of sulphide-rich intervals in LD19RC025;
- Better understand Little Duke - Mount Freda - Evening Star mineral system; and
- Comment on the prospectivity of the region.

This report discusses these sulphide-rich lithologies and comments on reconnaissance assay data obtained by p-XRF (portable X-rat fluorescence spectrometer).

These discordant sulphide-rich lithologies appear similar to sulphide-rich tuffisites lithologies previously reported from an adjacent prospect at Evening Star (ASX Market Release 1st July 2019).

2 Caveat

Interpretation of the sulphide-bearing units as tuffisite, was based on close inspection of photographs of LD19RC025 provided by Ausmex Limited.

In view of this, it is recommended that a field visit be undertaken to inspect textures in the core and collect samples of individual lithologies for a multi-element litho-geochemical study. This will provide data to compare these assays with assays reported previously from Evening Star (ASX Market Release 1st July 2019).

3 Mount Freda - Evening Star Mineral System

3.1 Background

The Little Duke-Mount Freda-Evening Star mineral system, is located proximal to a number of significant IOCG deposits in the Eastern Succession, Rocklands, Starra, Mount Elliot, SWAN, Mount Dore and Mount Freda. (Collerson, 2019). All of these systems display a characteristic poly-metallic association of Cu-Au-Ag-Mo and Re (Duncan *et al.,* 2014). The same association is also seen in mineral systems between Guilded Rose to Mount Freda and Evening Star, as well as at Mount Cobalt, further to the south (Collerson, 2019).

Location of the Mount Freda and Evening Star deposits are shown in Figure 1.

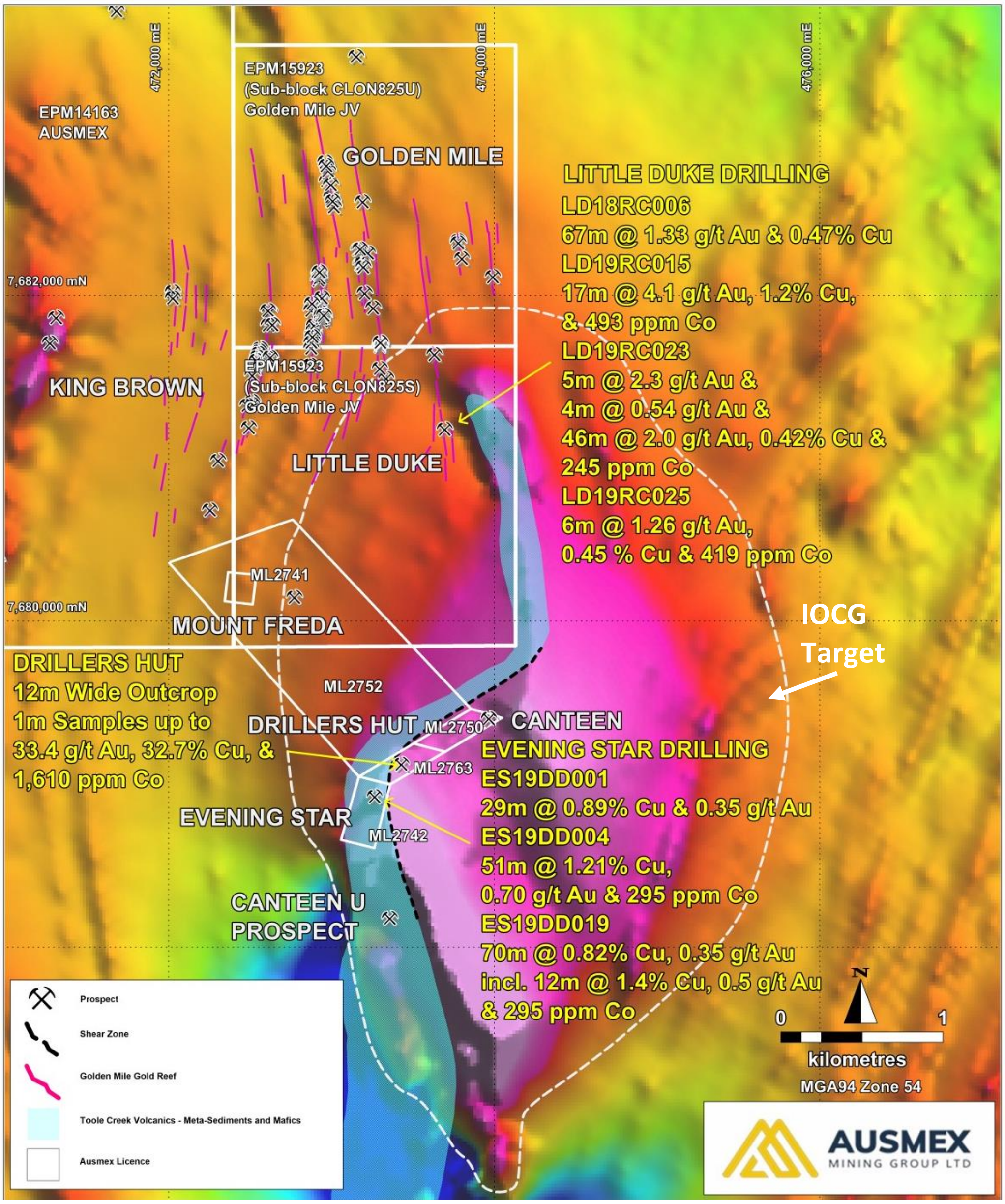

Figure 1: Mt Freda Complex Location plan. Note the close proximity of the Golden Mile to the massive 3 km x 5 km Tier 1 IOCG target that Ausmex shares with Newcrest Mining Limited, (Ausmex controls 30% of the IOCG target) as well as much of the higher crustal level hydrothermal-epithermal system.

Geochemical analysis by Collerson (2019) indicated that the high-grade Au (and PGEs) within the Mt Freda-Evening Star mineral system were transported by hydrothermal fluids derived from a deeper large inferred igneous intrusion, shown in Figure 2. These fluids generated hot spring epithermal deposits at the surface. (Refer to ASX releases on 30th August 2018, 10th September 2018, 8th & 26th October 2018, 9th & 15th November 2018, for Mt Freda Complex Exploration drilling results). Source: QLD Gov. Mt Isa TMI GSQ open file dataset Survey GSQ1029 & Exco IOCG Roadshow release 2012.

Reconnaissance assay data reported by Collerson (2019) for chip samples collected from the Evening Star, Mount Freda and Iron Duke deposits are given in Table 1.

Samples from Ausmex Mount Freda-Evening Star-Drillers Hut mineral system are significantly enriched in Sc, Co, F, Ni, Cu, Ni and Ag relative to Upper Crustal abundances (Table 1). They also show anomalism in Pd, Pt and Au. The low concentrations of Cu in Mt Freda, compared to Evening Star and Iron Duke is inferred to reflect the fact that Mount Freda is largely an epithermal system.

This enrichment in transition metals and precious metals strongly suggests supply of these elements from a mafic to ultramafic alkaline source, such as that discovered at Mount Cobalt (Collerson, 2019).

Table 1: Summary of Assay Data for Chip Samples from Little Duke-Evening Star-Mount Freda Mineral System

	Upper Crust*	Evening Star	Mount Freda	Iron Duke
Scandium	11 ppm	27 & 64 ppm	2 & 46.5 ppm	8.6 & 49.4 ppm
Fluorine		259 & 394 ppm	107 & 109 ppm	n.d.
Cobalt	10 ppm	140 & 170 ppm	608 & 969 ppm	150 & 1379 ppm
Copper	25 ppm	8 wt. %	70 & 169 ppm	1 & 4 wt. %
Nickel	20 ppm	240 & 360 ppm	52 & 70 ppm	35 & 524 ppm
Silver	50 ppb	0.3 & 0.5 ppm	0.9 & 1.4 ppm	2 & 9 ppm
Palladium	0.5 ppb	1.8 & 1.9 ppb	n.d.	0.7 & 1.7 ppb
Platinum		0.8 & 0.9 ppb	0.6 ppb	0.9 & 3.3 ppb
Gold	1.8 ppb	0.26 & 1.58 ppm	1.9 & 10 ppm	0.3 & 11 ppm

* From Taylor and McLelland (1995)

3.2 Sulphide-rich Tuffisite in Evening Star Cores

Core from Evening Star ~80-90 m in ES19-DD001 and at ~160 m in ES19-DD003) contain distinctive units of carbonate and sulphide-rich tuffisite, a matrix-supported, heterolithic, hydrothermal breccia are observed at, where they are associated with chalcopyrite-bearing crackle breccias. These are shown in Figure 2.

The units of tuffisite are interpreted to represent a syn-epithermal mineralisation degassing vent, where volatiles were derived from a deeper igneous source.

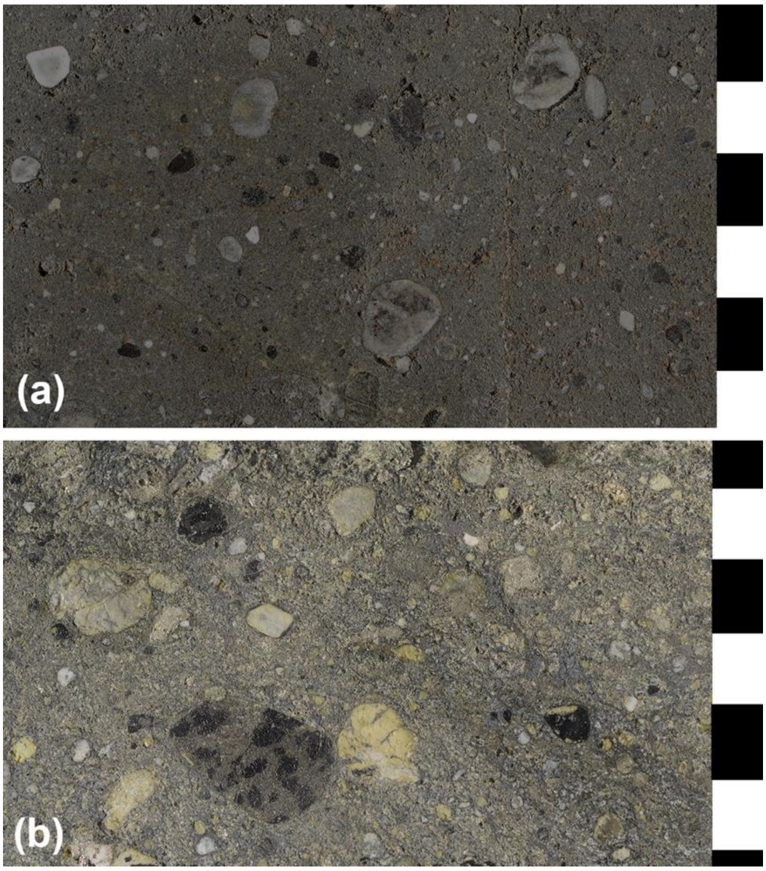

Figure 2: (a) Heterolithic tuffisitic in core from ES19-DD001 at 83.6-84 m (b) Unit of heterolithic tuffisite in core from ES19-DD001 at depth interval 88 - 88.3 m. Matrix appears to be sulphide rich. This lithology was also observed near the bottom of ES19-DD003 at ~160 m associated with crackle breccia. The tuffisite is interpreted as a syn-epithermal mineralisation degassing vent from a deeper igneous intrusion.

4 Sulphide-bearing tuffisite in Little Duke Core

Diamond core (LD19RC025) recently recovered from Little Duke contain similar sulphide-rich units, between~119 m and ~120 m and again at ~ 132 m. These are shown in Figures 3 to 5.

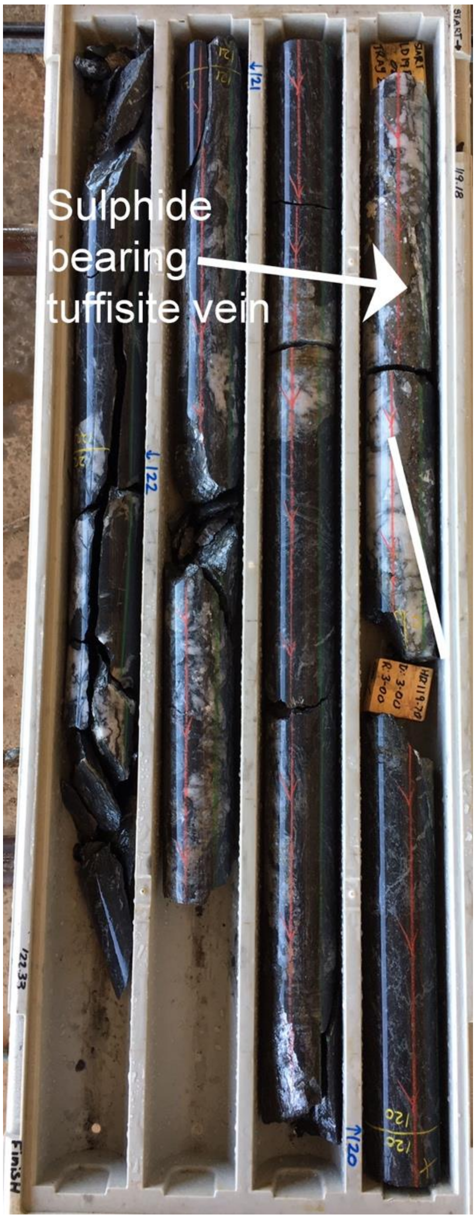

Figure 3: LD19RC025 showing steeply dipping vein of sulphide-rich tuffisite cutting Soldiers Cap Group lithologies.

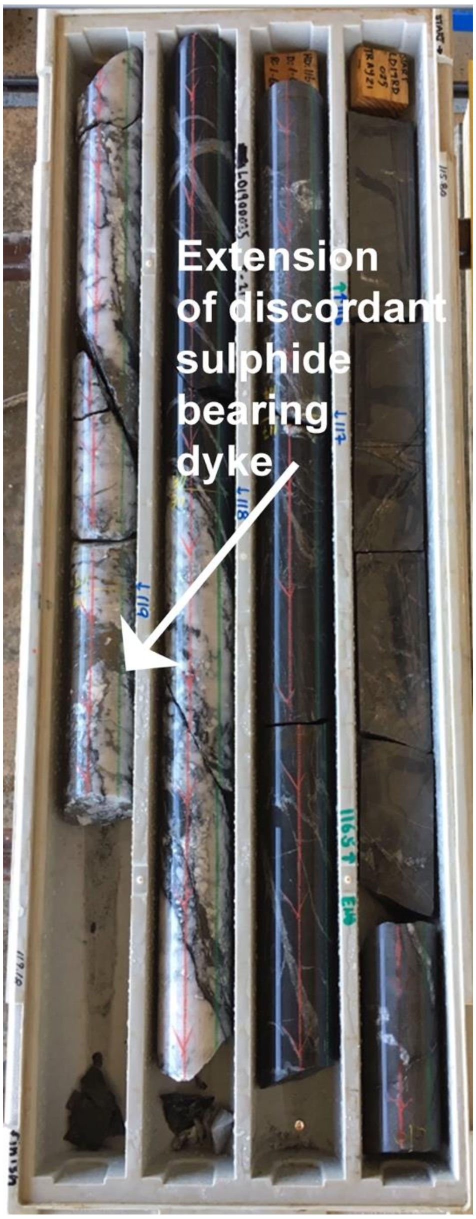

Figure 4 LD19RC025 showing steeply dipping vein of sulphide-rich tuffisite cutting Soldiers Cap Group lithologies.

Figure 5: LD19RC025 showing highly acid embayed quartz grain in sulphide-rich tuffisite at a depth of ~ 132m.

These textures are remarkably similar textures previously seen in core from Evening Star (Figure 2).

Tuffisite is a matrix supported heterolithic intrusive pyroclastic breccia that forms in hydrothermal gas/fluid streams that advance ahead of ascending columns of magma. Although similar in appearance pyroclastic tuffs (volcanic ash deposits), relationships in the core show that the lithology is intrusive in origin.

The veins of tuffisite are interpreted as syn-epithermal mineralisation degassing vents, where metal transporting volatiles are derived from a deeper igneous source.

5 Chemistry of the Tuffisite from Evening Star

Assays from DD001 and DD003, summarised in Table 2. Tuffisite breccias in DD001 and DD003 cores have high metal contents, e.g., copper (1060 to 9640 ppm; average 8420 ± 3321 and 3290 to 21,700 (2.17%) to ppm; average 8530 ± 7612) gold (0.03 to 0.69 g/t; average 0.36 ±0.18 g/t and 0.19 to 3.36 g/t; average 1.29 ± 1.79 g/t), nickel (107 to 599 ppm; average 339 ± 121 ppm and 92 to 309 ppm; average 233 ± 105 ppm), cobalt (124.5 to 496 ppm; average 295 ± 98 ppm and 82.6 to 222 ppm; average 192 ± 70 ppm) and molybdenum (3.29 to 12.7 ppm; average 6.63 ± 3.37 ppm and 3.84 to 11.1 ppm; average 5.26 ± 1.36 ppm). The tuffisite also contains anomalous bismuth, sulphur and tellurium e.g., bismuth (0.07 to 2.52 ppm; average 0.80 ± 0.89 and 0.28 to 1.24 ppm; average 0.64 ± 0.52 ppm), sulphur (2.8 to 10 wt.%; average 8.2 ± 2.2 and 3.25 to 6.43 wt. %; average 5.6 ± 1.4 wt. %) and tellurium (3.29 to 12.7 ppm; average 6.63 ± 3.37 and 0.7 to 3 ppm; average 0.64 ± 0.52 ppm).

When compared to the mean composition of 155 assays of Soldiers Cap Group host rocks in DD001, the tuffisite is clearly anomalous. For example, copper (553 ± 1075

ppm), gold (0.02 to 0.06 g/t), nickel (90 ± 114 ppm), cobalt (102 ± 135 ppm), molybdenum (2.26 ± 3.14 ppm), bismuth (0.11 ± 0.22 ppm), sulphur (1.14 ± 2.33 wt.%) and tellurium (0.29 ± 0.62 ppm).

Earlier studies of IOCG systems in the Cloncurry district have interpreted the Cu, Au, REE, actinides, S and volatiles to have been sourced from the igneous rocks (granitoids) associated with the Williams-Naraku Batholith via magmatic-hydrothermal fluids (Williams et al., 2015). However, given the element association reported in the current and previous studies (e.g. Collerson, 2019), a more plausible explanation is that the metals were derived from an ultramafic to mafic alkaline source.

6 Chemistry of Little Duke Cores

This interpretation is supported by transition element systematics (Cu and Co) in assays available to date from Little Duke (Figure 6). The high Cu and Co contents in LD19RC025 cearly supports derivation of these metals from an ultramafic - mafic igneous source as suggested previously by Collerson (2019).

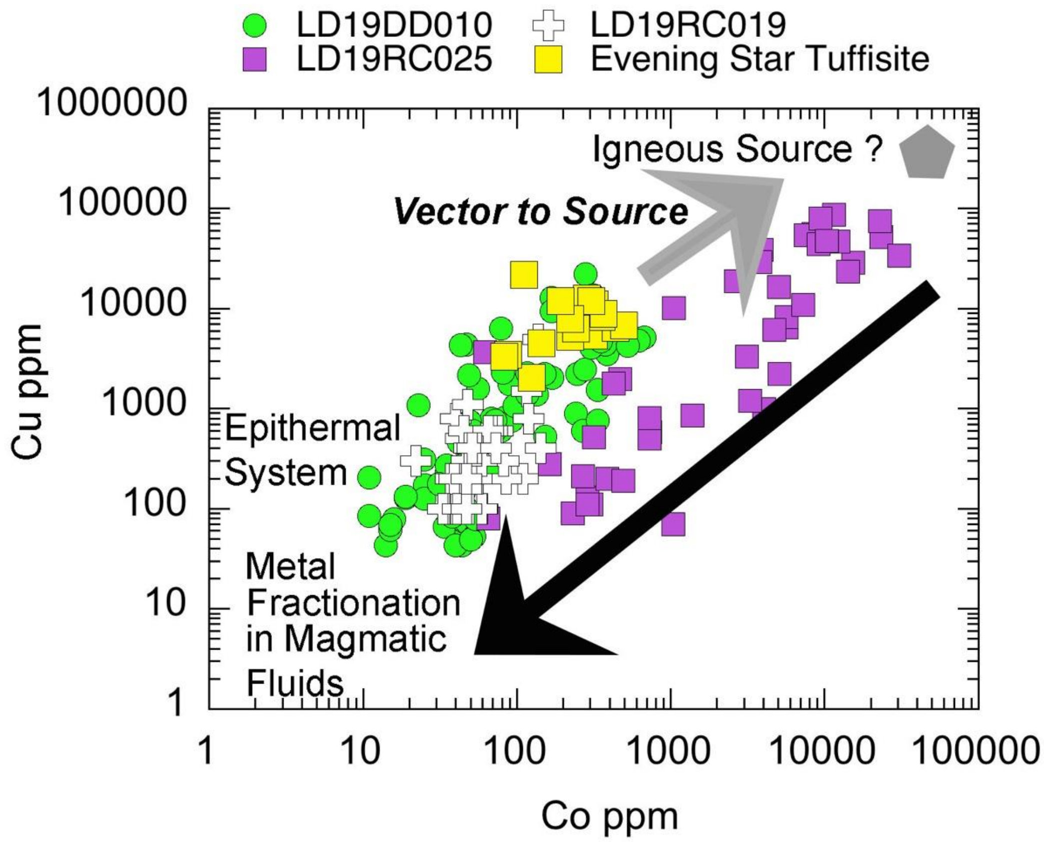

Figure 6: Assays of Little Duke showing covariation between Cu and Co that is the result of igneous fractionation. The high Cu and Co contents in some cores from LD19RC025 indicate derivation of these metals from an ultramafic - mafic igneous source.

The tuffisite from Evening Star is similar in composition to Co and Cu rich samples from LD19RC025. This confirms the role of the tuffisite vents in metal transport in the

Little Duke - Mount Freda - Evening Star mineral system at the Canteen IOCG target.

As assays from LD19RC025 extend to higher Co and Cu values, this suggests that this hole is approaching the igneous source.

As mineralisation at Mount Freda is epithermal in character this indicates a mineralisation depth of < ~1 km. Thus the depth to the igneous metal source at Canteen, indicated by data from LD19RC025, could be encountered within 1000 m of these Co and Cu- rich samples.

A report that discusses the litho geochemistry of diamond core (LD19RC025) shown in Figures 3-5 will be prepared once multi-element assays are available.

Table 2: Chemical of Evening Star Tuffisite

	From Depth	To Depth	Au (pp	Ag (pp	Sc (pp	Co (pp	Cu (pp	Ni (pp	Mo (pp	Zr (pp	Y (pp	W (pp	Te (pp	Bi (pp	Sb (pp	S wt.
Tuffi	80	81	0.4	1.5	31.	315	536	333	3.2	65	37.	8.9	3.2	0.2	0.2	7.8
	81	81.5	0.3	0.5	29.	438	640	333	3.8	67.	30.	2.2	3.8	0.1	0.3	8.1
	81.5	82	0.3	0.9	28.	496	675	449	4.1	52.	36.	3.2	4.1	0.2	0.2	10.
	82	83	0.1	0.5	36	145	449	136	3.7	96.	38.	2.9	3.7	0.0	0.1	3.9
	83	83.5	0.0	0.3	34.	124	203	107	4.3	113	36.	3.7	4.3	0.0	0.2	2.8
	83.5	84	0.4	0.7	27.	261	964	331	6	45.	31.	2.1	6	0.2	0.1	8.0
	84	84.5	0.5	0.8	25.	238	115	326	6.8	40.	34.	2.3	6.8	0.2	0.2	7.8
	84.5	85	0.4	0.8	26	255	115	282	5.4	39.	33.	2.3	5.4	0.2	0.2	7.4
	85	85.5	0.4	0.9	27.	321	111	384	4.7	30.	41.	2.3	4.7	0.4	0.4	9.7
	85.5	86	0.4	0.8	25.	304	106	320	4.3	28	42.	2	4.3	0.4	0.3	9.1
	86	86.5	0.1	0.4	26.	221	523	335	5.7	40.	30.	2.1	5.7	0.8	0.4	8.0
	86.5	87	0.3	0.5	29.	355	822	319	10.	65.	24.	2.4	10.	1.3	0.6	10.
	87	87.5	0.4	0.9	24.	285	126	599	12.	60	25.	3.1	12.	2.2	0.2	10.
	87.5	88	0.6	0.8	25.	366	893	497	11.	54.	27.	2.5	11.	2.4	0.4	10.
	88	88.5	0.1	0.8	26.	304	119	334	12.	59.	29.	2.7	12.	2.5	0.5	10.
Aver			***0.3***	***0.7***	***28.***	***295***	***842***	***339***	***6.6***	***57.***	***33.***	***2.9***	***6.6***	***0.8***	***0.3***	***8.2***
SD			***0.1***	***0.2***	***3.3***	***98***	***322***	***121***	***3.3***	***23.***	***5.5***	***1.7***	***3.3***	***0.8***	***0.1***	***2.2***
ES19-DD003																
Tuffi	159.52	160	0.2	0.1	30.	87.	347	98.	11.	89.	21.	20.	0.9	0.5	0.0	3.6
	160	160.38	0.2	0.1	25.	82.	329	92	8.9	78.	17.	25	0.7	0.3	0.1	3.2
	160.38	161.35	3.3	1.2	17.	111	217	112	6.5	84.	13.	57.	3	1.2	0.1	3.9
	161.35	162	0.1	0.3	20.	241	635	309	5.3	47.	18.	8.6	1.3	0.2	0.0	6.2
	162	163	0.3	0.4	23.	222	784	276	3.8	40.	33.	2.8	1.7	0.4	0.2	6.4
Aver			***1.2***	***0.6***	***20.***	***192***	***119***	***233***	***5.2***	***57.***	***21.***	***23.***	***2.0***	***0.6***	***0.1***	***5.6***
SD			***1.7***	***0.4***	***2.9***	***70***	***846***	***105***	***1.3***	***23.***	***10.***	***30.***	***0.8***	***0.5***	***0.1***	***1.4***

7 Molar Cu/Au Systematics and Metal Sources

Cu/Au ratios and bulk metal content, specifically Au grade, in porphyry-style Cu–Au ± Mo deposits are controlled in part by the chemistry of the magmatic fluid source

(Sillitoe 1997; Heinrich et al. 2005). The wide range of Cu and Au grades in deposits (Kesler 1973; Singer et al. 2005) is also affected by at least two additional factors. First, fluid phase separation into brine and vapour, causes selective Cu–Au fractionation into the vapour (Heinrich et al. 1999). Second, ore grades are controlled by the precipitation efficiency of Cu–sulphides and native gold during fluid cooling (e.g., Ulrich et al. 2001). Thirdly there is the possibility of selective Au enrichment in primary auriferous Cu–sulphides e.g., in bornite (Kesler et al. 2002). Finally, the Au grade of porphyry-style mineral systems increases with decreasing depth of ore deposition and hence lithostatic pressure (e.g., Sillitoe 1997), showing significant enrichment in associated epithermal systems.

Relationships between Au grade and tectonic setting, magnetite content in potassic alteration zones, deposit morphology, and associated rock types indicate that porphyry-style ore deposits and IOCG deposits range between two end-member types (Kesler 1973; Sinclair et al. 1982; Sillitoe 1979). The most Au-rich Cu–Au deposits, which are commonly associated with mafic intrusive rocks are emplaced at around 1 km and usually contain abundant magnetite in the potassic alteration zone. Au-poor porphyry Cu ± Mo deposits occur with intermediate to felsic monzogranite and granodiorite emplaced at 3 km or greater depth and contain little or no hydrothermal magnetite (Cox and Singer 1988).

The Cu/Au ratio of porphyry-style and IOCG ore deposits is likely to be controlled by magma source Sillitoe (1997) and also with the physical - chemical evolution of the ore-forming hydrothermal fluids.

Magma source plays an important role in formation of large Au - rich porphyry-style deposits containing over 200 t of Au in the circum-Pacific region, where formation of these Tier One Au-rich magmatic-hydrothermal ore deposits is interpreted to result from oxidized magmatism which is induced by post-subduction partial melting of stalled oceanic lithospheric slabs, or by mantle wedge melting.

In both cases, the heat for melting and precious metal flux (indicated by presence of Pt and Pd in many of these deposits) is contributed by upwelling mantle plumes that pass through slab tears (Collerson et al., 2015). The former process produces Au-rich adakites while the latter, favors the development of high-K calc-alkaline to shoshonitic compositions which host epithermal Au and porphyry.

A positive correlation between Cu/Au ratio and depth (Sillitoe 1997), suggests that magma source is not the sole factor determining the bulk metal ratio. According to Murakami et al., (2010), the systematic variation of Au/Cu ratios of porphyry-style ore deposits with depth and pressure of ore formation is related to the change in density of cooling magmatic hydrothermal fluids. Fluid pressure controls the extent of fluid phase separation into brine and vapor, resulting in fractionation of ore-forming

components. Fluid density and temperature also affects the differential solubility and selective precipitation of ore minerals. This is reflected in the Au enrichment seen in epithermal vein deposits at shallow crustal levels.

Molar Cu/Au ratios in representative alkaline and calc alkaline Au and Cu-Au mineral systems are shown in Table 3.

Alkaline systems generally exhibit molar Cu/Au ratios that are lower than molar Cu/Au ratios in deposits hosted by calc alkaline lithologies. Galor Creek in British Columbia an epithermal dominated porphyry deposit has a low molar Cu/Au ratio typical of epithermal deposits.

Table 3*: Cu-Au Systematics of Au-rich deposits*

		Cu	Cu	Cu	Au	Au	Cu/Au	Magma Type
		wt. %	ppm	moles	g/t	moles	molar ratio	
Kalmakyr Ore	Uzbekistan	2.39	23863	375.49	4.09	0.0208	21971	A
Kalmakyr Host Rock	Uzbekistan	0.04	433	6.82	0.05	0.0003	26648	A
Grasberg	Irian Jaya	1.13	11300	177.81	1.05	0.0053	33356	A
Bingham	Utah	0.88	8800	138.47	0.5	0.0025	54550	A-SHO
Bingham	Utah	1.60	16031	252.26	4.14	0.0210	13707	A
Pebble Copper	Alaska	0.3	3000	47.21	0.34	0.0017	27348	A
Kalmakyr	Uzbekistan	0.4	4000	62.94	0.51	0.0026	24309	A
Dal'neye	Uzbekistan	0.59	5900	92.84	0.69	0.0035	26503	A
Galor Creek	BC Canada	17	170000	2675.06	64.00	0.3249	8233	A
Cadia	NSW	0.31	3100	48.78	0.77	0.0039	12478	A-SHO
Goonumbla	NSW	0.5	5000	78.68	0.5	0.0025	30994	A-SHO
Panguna	Bougainville	0.46	4600	72.38	0.57	0.0029	25013	A
Peschanka	Kamchatka	0.51	5100	80.25	0.42	0.0021	37636	A-SHO
Mamut	Malaysia	20	200000	3147.13	15.20	0.0772	40782	A
Mt Milligan	BC Canada	6.8	68000	1070.02	18.50	0.0939	11392	A
Mt Polley	BC Canada	21	210000	3304.48	23.60	0.1198	27579	A
Afton	BC Canada	1.5	15000	236.03	1.20	0.0061	38742	A
Ajax	BC Canada	0.3	3000	47.21	0.19	0.0010	48939	A
Bajo de la Alumbrera	Argentina	0.52	5200	81.83	0.67	0.0034	24055	K-CA
Batu Hijau	Indonesia	0.44	4400	69.24	0.35	0.0018	38965	CA
Ok Tedi	PNG	0.64	6400	100.71	0.64	0.0032	30994	A
Frieda River	PNG	0.61	6100	95.99	0.32	0.0016	59083	K-CA
Oyu Tolgoi	Mongolia	0.83	8300	130.61	0.32	0.0016	80392	CA
Sar Cheshmeh	Iran	1.2	12000	188.83	0.27	0.0014	137753	CA
La Escondida	Chile	1.15	11500	180.96	0.19	0.0010	187598	CA
El Teniente	Chile	0.63	6300	99.13	0.035	0.0002	557901	CA
Olympic Dam	Australia	1.2	12000	188.84	0.5	0.00253	74387	Alkaline (?) IOCG

Prominent Hill	Australia	0.98	9800	154.21	0.75	0.00381	40499	Alkaline (?) IOCG

8 Molar Cu/Au Systematics of Little Duke

Molar Cu/Au ratios calculated for samples from the Little Duke system are plotted in Figure 7. The majority of samples exhibit ratios <100,000 with a mean value of 52,455 ± 61,097 indicating derivation from an alkaline igneous source. The distribution of with low molar Cu/Au ratios, indicating that they are Au-rich reflects the presence of epithermal mineralisation.

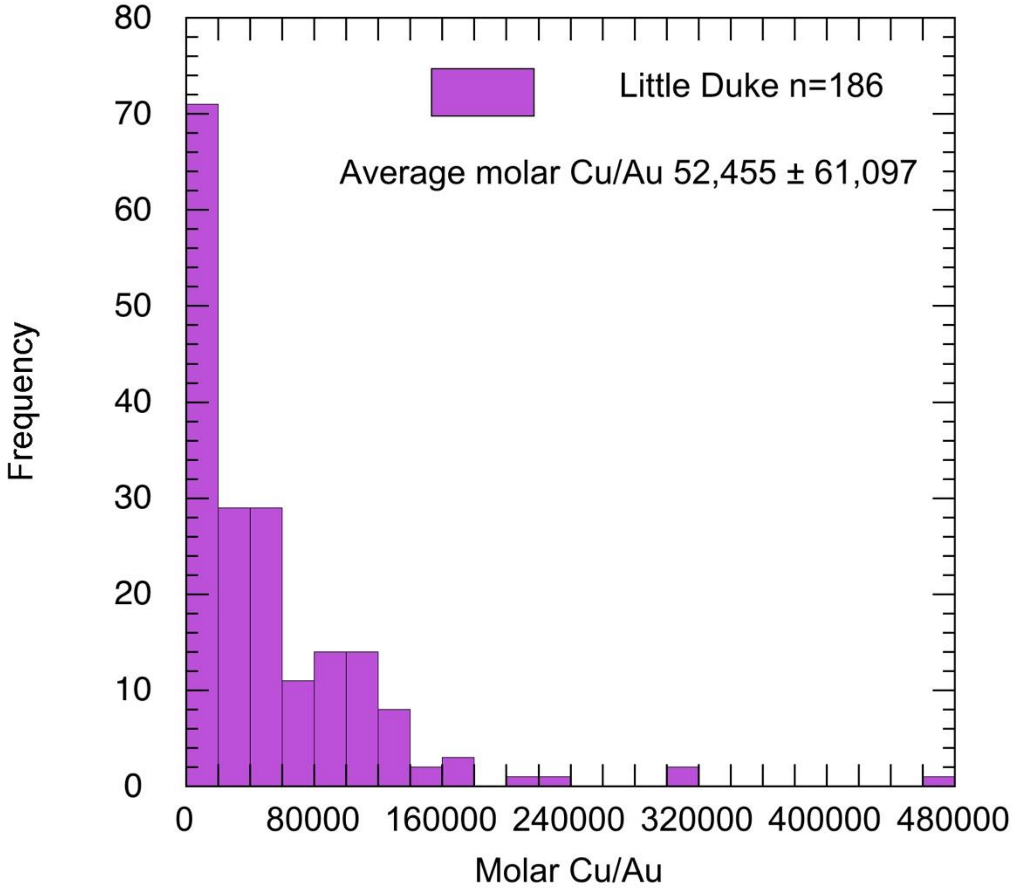

Figure 7: Molar Cu/Au ratios for samples from Little Duke

Molar Cu/Au ratios calculated for Eastern Succession IOCGs are given in Table 4. Except for Eloise, Mt Dore and Mount Colin, molar Cu/Au ratios in all of the other deposits fall in the range exhibited by alkaline IOCG - porphyry (?) deposits.

This suggests that the metals in Little Duke-Mount Freda-Evening Star mineral system, located proximal to the Canteen magnetic anomaly, were derived from the same alkaline mafic to ultramafic igneous source.

Table 4: Cu-Au Systematics of Eastern Succession IOCG Deposits

	Cu %	Cu ppm	moles Cu	Au g/t	Moles Au	Cu/Au (molar ratio)
Porter Geoconsultancy						
Ernest Henry	1.1	11000	173.09	0.54	0.0027	63137
Ernest Henry	1.25	12500	196.70	0.65	0.0033	59605
Osborne	3.51	35100	552.32	1.49	0.0076	73014
Starra	1.8	18000	283.24	3.8	0.0193	14682
Jubilee	3.37	33700	530.29	2.28	0.0116	45812
Kalman	1.52	15200	239.18	1	0.0051	47112
Eloise	5.5	55000	865.46	1.4	0.0071	121764
Mount Colin	2.59	25900	407.55	0.42	0.0021	191133
Duncan et al., (2014)						
Starra 222	0.7	7000	110.15	1.3	0.0066	16689
Starra 276	1.1	11000	173.09	0.9	0.0046	37882
Starra Total	1.2	12000	188.83	1.6	0.0081	23246
Mount Elliott	1	10000	157.36	0.5	0.0025	61989
SWANN	0.4	4000	62.94	0.3	0.0015	41326
Lady Ella	1.5	15000	236.03	1.3	0.0066	35763
Ernest Henry	1.1	11000	173.09	0.5	0.0025	68188
Osborne	1.4	14000	220.30	0.8	0.0041	54240
Eloise	5.5	55000	865.46	1.4	0.0071	121764
Mount Dore	0.6	6000	94.41	0.1	0.0005	185967

The presence of molar Cu/Au ratios <5000 in Au-rich systems such as Mount Freda, indicates that epithermal enrichment occurred at a high crustal level above IOCGs systems in the Cloncurry area.

9. Summary and Conclusions

Units of tuffisite that cross-cut Soldiers Cap Group lithologies have been identified in cores from Little Duke. These tuffisite breccias are similar in appearance to tuffisites pipes described previously from Evening Star and Mount Freda prospect. They played an important role in mineralisation as they provided a conduit for metal transport.

The presence of these metal-rich breccias indicates that Little Duke and Evening Star are proximal to the magmatic metal source that produced epithermal high-grade gold mineralisation and cobalt-copper mineralisation in the area.

Cu and Co systematics provide a vector for mineralisation in the area. Samples with low contents of Cu and Co are considered to be distal to the igneous metal source and reflect hydrothermal fractionation in an epithermal environment. However, samples with elevated Cu and Co, up to 10,000 ppm Cu and 30,000 ppm Co, are considered proximal to the metal source.

Co and Cu concentrations are therefore useful vectors for mineralisation.

The mean molar Cu/Au ratio of samples from Little Duke viz., 52,455 ± 61,097, is typical of mineral systems derived from an alkaline igneous source. However, a significant population of Au-rich samples yield ratios ranging from ~100 to 10,000, that are typical of epithermal systems.

As mineralisation at Mount Freda is clearly epithermal in character (Collerson 2019) it indicates that depth of mineralisation was < ~1,000 m.

Thus, the depth to the igneous metal source at Canteen, indicated by the elevated Co and Co data from LD19RC025, suggest that mineralisation (igneous source) could be encountered within 1000 m of these Co and Cu- rich samples.

These reconnaissance observations have significant implications for better understanding the Cloncurry Belt IOCG mineral system and hence, the IOCG prospectivity of the area, thus the exploration strategy for Ausmex.

10. Recommendations

It is recommended that a field visit be undertaken to inspect textures in the core and collect samples of individual lithologies for a multi-element litho-geochemical study.

This will provide data to compare these assays with assays reported previously from Evening Star (ASX Market Release 1st July 2019).

Forward Looking Statements

The materials may include forward looking statements. Forward looking statements inherently involve subjective judgement, and analysis and are subject to significant uncertainties, risks, and contingencies, many of which are outside the control of, and may be unknown to, the company.

Actual results and developments may vary materially from that expressed in these materials. The types of uncertainties which are relevant to the company may include, but are not limited to, commodity prices, political uncertainty, changes to the regulatory framework which applies to the business of the company and general economic conditions. Given these uncertainties, readers are cautioned not to place undue reliance on forward looking statements.

Any forward-looking statements in these materials speak only at the date of issue. Subject to any continuing obligations under applicable law or relevant stock exchange listing rules, the company does not undertake any obligation to publicly update or revise any of the forward-looking statements, changes in events, conditions or circumstances on which any statement is based.

Competent Person Statement

Statements contained in this report relating to exploration results and potential are based on information compiled by Professor Ken Collerson, who is a Fellow of the Australasian Institute of Mining and Metallurgy (AusIMM). Professor Ken Collerson is an independent consultant to Ausmex Mining Group Limited and Geologist whom has sufficient relevant experience in relation to the mineralization styles being reported on to qualify as a Competent Person as defined in the Australian Code for Reporting of Identified Mineral resources and Ore reserves (JORC Code 2012). Professor Ken Collerson consents to the use of this information in this report in the form and context in which it appears.

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12. Certificate of Qualified Person

I, Emeritus Professor Kenneth D. Collerson, am the Principal of KDC Consulting (KDC[2]) 33 Cramond St, Wilston, 4051 Queensland, Australia.

This certificate applies to this technical report titled **The Little Duke-Evening Star-Mount Freda Mineral System, Cloncurry District based on Core Lithologies** that has an effective date of 11th October , 2019.

I am a Fellow of the Australasian Institute of Mining and Metallurgy (#100125). I graduated in 1993 as Doctor of Philosophy (Geology) from the University of Adelaide, South Australia and also have a Bachelor of Science degree with 1st Class Honours from University of New England, N.S.W., Australia (awarded in 1997). Emeritus Professorial status at the University of Queensland acknowledges of my contribution to research, management and teaching in the University sector.

I have practiced my profession as a Principal Consultant with Salva Resources, HDR Salva and Caracle Creek (Toronto) and as a self-employed consultant for more than 35 years. As a Principal Consultant in mineral exploration I have an excellent record of discovery. I have worked on a variety of multi-commodity metals exploration projects through high-level consulting activities in more than 15 countries.

In a consultancy for Geological Survey of Queensland (2014-2016) using spinifex grass as a biogeochemical exploration medium in the Simpson Desert, in 2014 I discovered a Devonian age alkaline metallogenic province, (Diamantina Province). Importantly, I showed that the Diamantina Province is part of a much larger belt (a plume track) of ~ 440 Ma to 365 Ma igneous activity that extends more than 2000 km from central NSW to the Northern Territory. The entire belt is prospective for a range of metals including scandium, cobalt, PGEs, copper, and gold, as well as for diamond.

Recent industry consultancies include:

- AusMex Ltd September 2018 -Rare Earth Element - Cobalt-Copper-Gold Mineral System at Burra, S.A: Significance of the AusLAMP Magnetotelluric Anomaly
- Hammer Metals August 2018 - U-Pb Titanite Geochronological Constraints on Origin and Age of the Mount Philip Breccia
- Northern Cobalt June 2018 - Review of Wollogorang Project Chemistry: Mineral System and Exploration Vectors.
- Longford Resources Feb. 2018 - present. Targeting Co and PGE mineralisation in the Goodsprings area, Nevada.
- Hammer Metals Feb. 2018 - present. Identification of key mineralisation geochemical vectors, as well as mineralisation and alteration styles in the Mary Kathleen Belt
- Encounter Resources May 2017 - present. Spinifex biogeochemistry proof of concept survey over gold and Co anomalies in the Telfer area, WA
- Laconia Resources Ltd May 2017 - present. Au-Ni-PGE target generation in the Kraaipan Greenstone Belt, Botswana
- Caracle Creek International 2016 - present. Associate Pegmatite Specialist Providing field geological, petrological and geochemical advice for international clients on exploration for LCT pegmatites

- Tyranna Resources June 2016 - present. Improved understanding of calcrete gold geochemistry in the western Gawler Craton that allowed discrimination between true and false calcrete Au anomalies with great success.
- Macarthur Lithium 2016. Provided field geological, petrological and geochemical advice to the MD on lithium exploration in the Pilbara and Yilgarn Cratons. Developed a technique using trace elements in K-feldspar to identify the Li content of the source pegmatite. This IP has global application.
- Impact Minerals Ltd 2015 - present. Petrology and geochemistry of outcrop and drill core samples from Red Hill and Mulga Springs-Moorkaie Intrusions at Broken Hill. Decoded the geochemistry and petrology of PGE-Au-Cu-Ni-Zn mineralisation at Broken Hill, resulting in enhanced understanding of the entire mineral system at Broken Hill, one of Earth's largest accumulations of metals.
- Providence Natural Resources 2012 - present. LCT pegmatite exploration for lithium at Järkvissle in Central Sweden. Currently contracted to find a JV Partner for a JORC Li resource.
- Exco/Copper Chem 2014. Preparation of a geological briefing paper for the Mary Kathleen rare earth Government tender bid.
- Exco 2014. Preparation of a prospectivity assessment for the White Dam area, South Australia, specifically identifying geochemical vectors that allowed improved understanding of the style of mineralisation.
- Chinalco Yunnan Copper Resources Limited 2013 - April 2014.Reviewed and reinterpreted drill core at Elaine and Blue Caesar and developed new model for Cu-Au-Co-REE-U mineralisation in the Mary Kathleen Belt, NW Queensland. I identified the alkaline igneous source of metals in the terrane and demonstrated that these ~1526 Ma alkaline intrusions were emplaced at a shallow crustal depth and produced epithermal mineralisation. As well as improving knowledge of Mary Kathleen Belt mineral systems, this discovery also explains Cloncurry Belt IOCG mineralisation.
- Viti Mining Pty Ltd. 2013 April - Present. Confirmed the existence of world-class very high-grade Mn mineralisation (DSO) at a number of locations on Viti Levu, Fiji. Showed that mineralisation was hydrothermal and occurred as part of an epithermal alteration system above Au-Ag-Cu bearing shoshonite intrusions
- Golden Island Resources Pty Ltd. 2013 April - Present. Undertook a literature review and discovered "lost" reports showing very widely distributed high grade Au and Ag assays (up to 35 g/t) on Waya and Wayasewa. Showed that these islands formed an extension of the shoshonite – gold trend west of Viti Levu, and following recovery of excellent panned concentrate results the islands are now being investigated using soil geochemistry to delineate drill targets.
- Golden Island Resources Pty Ltd. 2013 April - Present. I reprocessed magnetic and gravity data for Viti Levu and discovered a previously unknown ~40 km diameter Au-bearing shoshonite caldera south of Tavua caldera that has never been drilled. The Tavua caldera is host for the >1MOz epithermal Au-Ag Emperor goldmine on Viti Levu.
- Waratah Resources 2012 December. Prospectivity assessment of Gabon and the Republic of the Congo. Reviewed the geochemistry of BIFs in Waratah Resources tenements in Gabon and the Republic of the Congo to facilitate regional exploration and resource estimation.
- ASERA Iron Project 2012. December Geochemical evaluation of Lake Vättern orthomagmatic Fe-Ti-V project, Southern Sweden. Concluded that mineralisation is hosted by an anorogenic anorthosite intrusion not IOCG as previously believed.
- Triton Gold 2012 – August to December. Geochemical interpretation, Au and Mn target assessment on Viti Levu.
- Pacific Wildcat Resources 2011 – July to October. Fieldwork in Kenya and interpretation of DD core from Mrima Hill carbonatite and outcrops of nepheline syenite in a nearby intrusion. Showed that carbonatites and syenites were genetically related forming part of

a >10 km diameter intrusion. Discovered an untested mineral system and identified zones of rare earth mineralisation for a subsequent RC and DD drilling program.

I am responsible for all sections of this draft report and am independent of the Department of Natural Resources and Mines as is described by Section 1.5 of NI 43-101.

I am confident that this report has been prepared in compliance with the JORC 2012 Code and with the instrument NI 43-101.

As of the effective date of the technical report, to the best of my knowledge, information and interpretation in the report contains all scientific and technical details that are required to be disclosed.

Dated 11th October, 2019

Professor Kenneth D. Collerson

Ph.D., FAusIMM