

### Large high-grade polymetallic zone identified at Marree Project

### <u>HIGHLIGHTS</u>

- Recently completed field mapping has identified a large series of workings within a 2km<sup>2</sup> radius including a 1.6km long mineralised fault zone with an alteration corridor up to 200m wide at the Mt Freeling Prospect.
- Geochemical assays of field samples collected primarily from mullock heaps has confirmed consistent high-grade base and precious metal values over a large area including peak results of:
  - **2,830 g/t silver;**
  - 33.9% lead;
  - 6.45 g/t gold;
  - 3.23% zinc; and
  - o 2.52% copper.
- At Mt Freeling, nine historical production shafts have been identified, ranging from 10m to 50m deep as well as 17 smaller scale pits and trenches.
- Three additional historical mine areas identified from government records have yet to be investigated.
- Evidence of up to at least three different styles of mineralisation including massive sulphides, breccia zones and carbonate replacement.
- Multiple anomalous pathfinder elements associated with the high-grade mineralisation including arsenic, bismuth, molybdenum, antimony and tin reflect a possible granite derived fluid system.
- Priority work includes completing additional field mapping and geochemical sampling to identify the extent and tenor of any mineralisation.
- Looking ahead, the Company is currently planning exploration drilling to test the defined mineralisation.

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Australian resources company, Cauldron Energy Limited **(ASX: CXU)** ("Cauldron" or "the Company") wishes to update the market on the identification of a new large, high-grade polymetallic prospect at the Marree Base Metals Project in South Australia (Figure 1).

This new prospect, along with the recent discovery of a large resistive body to the southwest of the historical Ooloo Silver-Lead Mine with similar geophysical appearance (please refer to ASX announcement dated 28 May, 2013), highlights the growing potential of this exciting base metal and precious metal region.

Recently completed field mapping has identified a large series of workings within a 2km<sup>2</sup> radius including a 1.6km long fault zone with high-grade polymetallic mineralisation within an alteration corridor up to 200m wide at the Mt Freeling Prospect (Figures 2 and 3).

Geochemical assays of rock chip samples collected from mullock heaps of the old workings has identified very high-grade silver and lead grades over a large area including silver grades up to 2,830g/t and lead up to 33.9%. Individual assay results are presented in Table 1.

Field reconnaissance has identified nine deep production shafts ranging from 10m to 50m deep as well as seventeen smaller scale pits and trenches in the general Mt Freeling region. Many of the larger production shafts have very few remaining ore grade rocks in the mullock heaps.

Preliminary reconnaissance surrounding the Mt Freeling Prospect has identified further clusters of historical workings with similar high grades of polymetallic mineralisation.

The primary geological unit within the Mt Freeling Prospect is the Neoproterozoic aged Billy Springs Formation which is a unit within the Wilpena Group sediments. The Billy Springs Formation is dominated by green siltstone but also has a widespread but patchy intraformational limestone unit. One occurrence of the limestone unit is at the Mt Freeling Prospect.

Evidence of up to at least three different styles of mineralisation including massive sulphides, breccia zones and carbonate replacement have been observed at the Mt Freeling Prospect.

Veins of massive sulphides dominated by galena (lead) and silver, and ranging in size from a few centimetres up to a metre wide, have been mapped at the Mt Freeling Prospect. These veins are visible on ridges and are concealed under scree slopes in valleys along the length of the main 1.6 km long mineralised zone.

Isolated breccia zones of both the siltstone country rock as well as the limestone beds are evident in outcrop. The breccia zones are concentrated where cross cutting faults occur and are often mineralised. Along the fault zones, silicification of the siltstone beds is common resulting in the fracturing of this unit and the subsequent creation of breccia zones.

Carbonate replacement of the limestone beds has occurred in part of the prospect area where metals such as lead, silver and zinc have partially replaced the limestone beds. There is a large historical adit (underground drive) located in a limestone cliff along the Mt Freeling Prospect with high-grade mullock rocks sampled.



There is a dominant siderite (iron carbonate) alteration along the Mt Freeling Prospect fault zone which is up to 200m wide. Along this structure, there are also common veins up to 2m thick with zonation of minerals such as silica, siderite and iron as well as metals including lead and silver. Away from the main mineralised zones the siderite alteration is not as prevalent and the veining becomes dominated by silica and iron with significantly less metals (Refer Table 2).

The silicification and siderite alteration occurring at the Mt Freeling Prospect is very similar to that seen at the historical Ooloo Mine. Both silicification and siderite alteration are likely to create a high resistivity response due to a reduction in the porosity of the rocks.

The recently re-processed Induced Polarization (IP) survey from the Ooloo region has identified two resistive bodies with one being the historical Ooloo Mine. Evidence of nearidentical silicification and siderite alteration occurring at the Ooloo Mine suggests that a similar geochemical system to the Mt Freeling Prospect appears likely which enhances the likelihood of identifying similar mineralisation at the recently identified Ooloo Southwest Prospect.

Preliminary investigation of the regional structures has shown that most of the polymetallic mineralisation identified to date is concentrated within the Mt Freeling Prospect region. This suggests the presence of a potentially deep localised source such as a granite pluton located below the Mt Freeling Prospect area.

Further evidence to support the granite derived fluid system is shown by the presence of multiple pathfinder elements including arsenic, bismuth, molybdenum antimony and tin that have significantly elevated values within the high-grade ore samples.

### Exploration

Cauldron is currently completing sulfur and lead isotope work on selected samples from the Mt Freeling Prospect and surrounding areas to determine the likely source and age of the mineralisation.

Additional field reconnaissance is needed to determine the full extents of the mineralised zone. Only one of the four PIRSA reported historical workings in the region have been investigated. Emphasis for future exploration is the region to the north of the Mt Freeling Prospect which includes the historical Pastime Mine (Pb-Ag) as well as the region to the south where the historical Hills Silver Mine (Ag-Pb) is reported to occur (Figure 4).

- Future exploration priorities at the Mt Freeling Prospect are:
  - Complete additional field mapping and geochemical sampling to identify the extent and tenor of any mineralisation;
  - Identify additional historical mine workings including the Pastime and Hills Silver historical mines;
  - Complete sulfur and lead isotopes to determine the age and likely source of the mineralisation;
  - Determine geological models to explain the widespread distribution of the mineralisation;



- Review geophysics to assess whether any additional geophysical surveys could be beneficial to the project; and
- Once the full Mt Freeling Prospect area has been explored, exploration targets will be prioritised and possible drill sites identified in preparation for reverse circulation (RC) drilling to test for continuation of surface mineralisation at depth.

This exploration will help determine how prospective these deposits are for any future mining operation.

### **Geological Overview**

Mineralisation is located in Proterozoic aged Adelaidean sediments within the Curnamona Province. Within the Marree Project, previous geological interpretation had these units covered by more recent sediments that are more favourable for sandstone hosted uranium mineralisation (e.g. Beverley and Beverley Four-Mile Uranium Deposits).

The Company has determined outcropping Proterozoic units, favourable for base metal mineralisation, are much more extensive than previously believed.

Within the Marree Project, there are several silver-lead-zinc-copper prospects that were identified and mined from the 1860's to the late 1930's. Some of these prospects indicate multiple lodes over several hundred metres strike. They appear as small scale operations with exceptional metal tenor.

### **Geological Models for Mineralisation**

The most likely geological models for base metal mineralisation in the Marree Project area based on all data accumulated to date include structurally related breccia style mineralisation as well as carbonate alteration and replacement mineralisation models.

The structurally related breccia style mineralisation model is that hydrothermal fluids from granitic sources are injected into late cross cutting structures. Field observations have identified fault related silicified zones where the siltstone country rock is silica flooded. Subsequent folding of the rocks has created highly cleaved siltstone along the axial plane of the fold but the silica flooded siltstone is not prone to folding and is more likely to fracture rather than fold. Mineralised breccia zones within the silicified siltstone unit have been identified.

The carbonate alteration and replacement model is closely related to the structural model and can be associated together as seen at Ooloo historical mine and the Mt Freeling Prospect. Carbonate alteration in the form of siderite which is an iron carbonate is created by the chemical alteration of the primary rocks by hydrothermal fluids. This is often associated with fault structures. Carbonate replacement is more specifically associated with ore minerals replacing a sedimentary carbonate unit such as the limestone unit seen at Mt Freeling Prospect.



Further exploration is needed to determine the likely economic importance of the various mineralisation models seen at the Marree Project area to date.

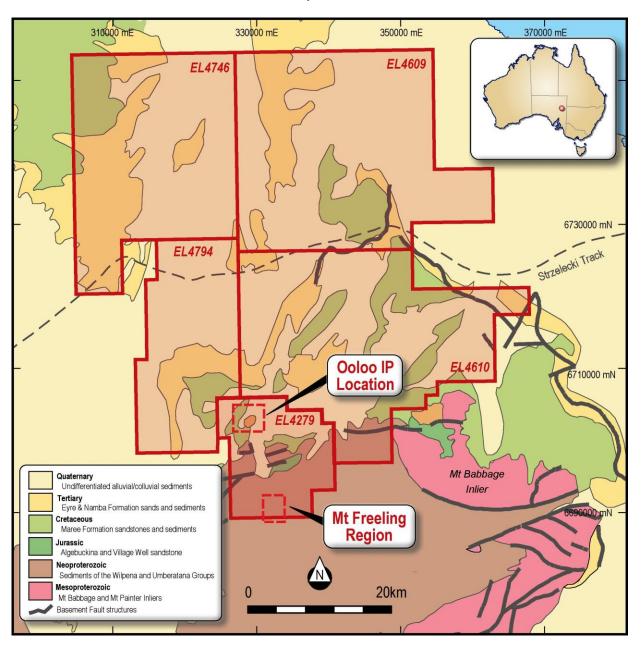
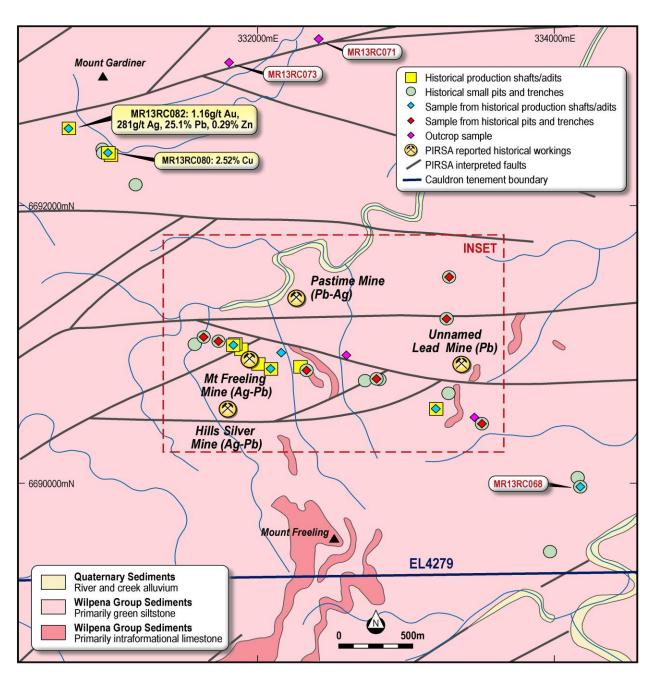


Figure 1:

 Regional location map & geology image for the Mt Freeling and Ooloo Project Areas.





**Figure 2:** Location of the Mt Freeling Prospect showing the samples collected as well as the high grade assay results. The image shows the location of the reported PIRSA-reported historical workings as well as the recently identified historical workings from field work completed. The geology and structural image shown in the background was published by PIRSA in 1997. The inset box of the main Mt Freeling Prospect area is shown in Figure 3



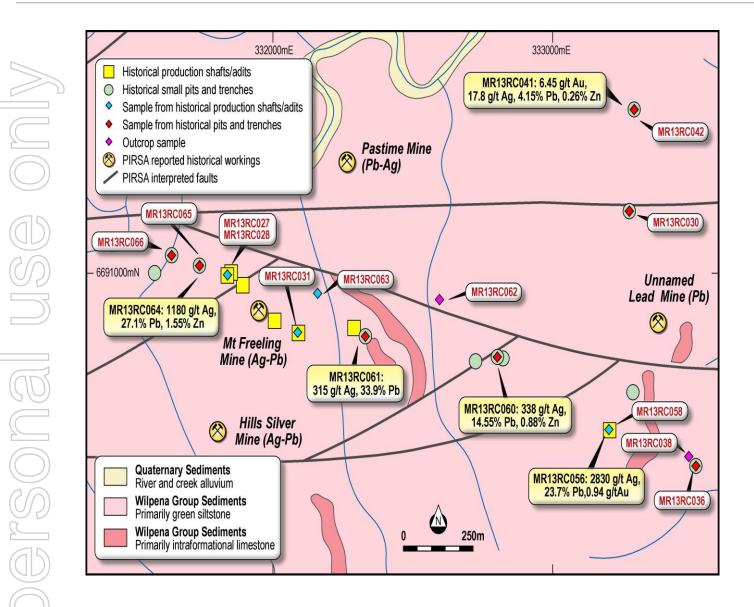


Figure 3: The main mineralised Mt Freeling Prospect showing the location of samples collected as well as the high grade assay results.



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Historical production shafts/adits

Historical small pits and trenches

Outcrop sample

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**Onnamed** 

Lead Mine (Pb)

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Sample from historical production shafts/adits

Sample from historical pits and trenches

PIRSA reported historical workings PIRSA interpreted faults

Cauldron tenement boundary

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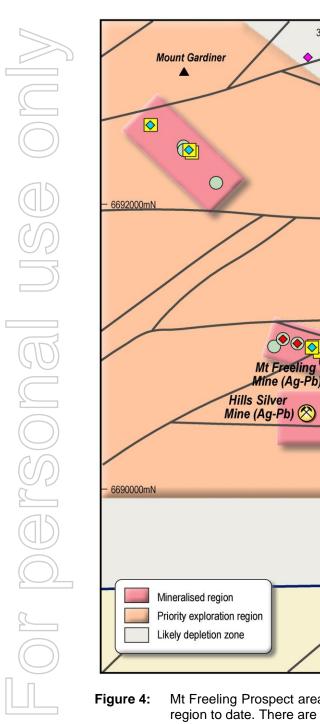
**Pastime Mine** 

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(Pb-Ag)

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Mount Freeling



**Ire 4:** Mt Freeling Prospect area showing the locations of proven mineralisation identified in the region to date. There are also large areas which have not yet been explored but based on current findings are likely to contain significant mineralisation. There are also three reported PIRSA historical working occurrences which have yet to be explored by Cauldron but are likely to contain significant mineralisation. The area to the east of the main Mt Freeling mineralised structure has had preliminary exploration completed which has shown no evidence that significant mineralisation occurs in this region although the same structures have been proven to continue through this region.

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	Easting GDA94	Northing GDA94		(	Dre Miner	als		Pathfinder Elements					
Sample_ID			Ag	Pb	Zn	Au	Cu	Bi	Мо	Sb	As	Sn	
			g/t	%	%	g/t	%	ppm	ppm	ppm	ppm	ppm	
MR13RC027	331843	6690996	46.3	2.29	3.23	0.008	<0.05	54.1	0.94	20.1	198	1.6	
MR13RC028	331843	6690996	83.8	4	2.5	0.023	<0.05	116.5	1.54	21.1	591	0.3	
MR13RC030	333267	6691183	6.32	0.31	0.22	0.01	<0.05	8.57	0.21	2.44	48	0.4	
MR13RC031	332085	6690819	40	1.64	0.4	0.034	<0.05	159.5	18.2	25.8	188	0.5	
MR13RC041	333280	6691481	17.8	4.15	0.26	6.45	<0.05	4.1	2.89	291	30900	0.3	
MR13RC042	333280	6691481	80.9	9.04	0.12	3.64	<0.05	7.3	4.5	58.8	23400	0.3	
MR13RC056	333205	6690533	2830	23.7	<0.05	0.937	0.09	2680	5.57	15.3	157.5	2.4	
MR13RC058	333205	6690533	1110	18.6	<0.05	0.362	0.07	1635	6.01	17.6	283	2.3	
MR13RC060	332795	6690755	338	14.55	0.88	0.087	<0.05	309	0.89	165	22.3	0.8	
MR13RC061	332319	6690811	315	33.9	<0.05	0.012	<0.05	272	1.48	144	47.7	1	
MR13RC062	332595	6690923	20.3	0.82	0.05	0.022	<0.05	17.25	1.01	10.6	107.5	<0.2	
MR13RC063	332154	6690939	213	9.78	0.47	0.033	<0.05	68.9	3.09	134	1830	0.7	
MR13RC064	331734	6691026	1180	27.1	1.55	0.153	0.05	1400	6.92	379	3050	1.3	
MR13RC065	331734	6691026	830	13	0.76	0.121	<0.05	1145	2.17	283	583	2.8 <b>(26)</b>	
MR13RC066	331631	6691053	99	2.01	0.24	0.315	<0.05	111	2.68	64.4	5990	6.2 (5)	
MR13RC080	330980	6692336	8.8	<0.05	<0.05	0.006	2.52	13.6	1.25	1.25	63.3	0.7	
MR13RC082	330717	6692544	281	25.1	0.29	1.16	0.1	35	4.75	322	36100	1.4	

## Table 1.Significant geochemical assay results from the Mt Freeling Prospect area. Metals are<br/>shown along with pathfinder elements.

**Note 1:** The tin (Sn) values shown in brackets are from XRF analysis. Only two samples were analysed **Note 2:** Sample MR13RC063 was mullock found away from any historical workings but is most likely to have come from one of the deep production shafts to the south of this location.

Sample_ID	Easting GDA94	Northing GDA94	Ore Minerals					Pathfinder Elements					
			Ag	Pb	Zn	Au	Cu	Bi	Мо	Sb	As	Sn	
	UDAJ4		g/t	%	%	g/t	%	ppm	ppm	ppm	ppm	ppm	
MR13RC036	333512	6690434	0.29	<0.05	<0.05	-0.005	<0.05	0.17	1.78	1.39	57.9	0.6	
MR13RC038	333477	6690464	3.95	0.06	<0.05	0.013	<0.05	3.67	3.05	8.08	111.5	0.2	
MR13RC068	334174	6689980	4.31	0.1	<0.05	0.026	<0.05	4.72	12.1	13.8	475	0.2	
MR13RC071	332326	6693178	0.4	<0.05	<0.05	0.01	<0.05	0.74	2.23	5	1170	<0.2	
MR13RC073	331865	6693071	0.88	<0.05	<0.05	0.014	<0.05	5.33	2.52	8.56	51.6	0.3	

 Table 2.
 Geochemical assay samples collected away from the Mt Freeling Prospect area showing significantly lower tenor of mineral and pathfinder element grades.

### End.

For further information, visit www.cauldronenergy.com.au or contact:

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### **Disclosure Statements**

### Analytical Method For Rock-chip Geochemistry

Laboratory:- Australia Laboratory Services Pty Ltd (ALS)

Techniques used:

ME – MS61	Four Acid "Near Total" Digestion for 48 elements (Inductively Coupled Plasma with both Atomic Emission Spectrometry and Mass Spectrometry finish)
Au – AA23	"Ore" Grade Fire Assay Fusion (Atomic Absorption Spectroscopy)
ME – OG62	Four Acid "Near Total" Digestion for Ore Grade Elements (Inductively Coupled Plasma with Atomic Emission Spectroscopy finish)
ME – XRF05	Resistive element analysis for Tin (X-ray Flourescence Spectroscopy)

### **Competent Person Statement**

The information in this announcement to which this statement is attached that relates to Cauldron Energy Limited's exploration results is based on information compiled by Mr Brett Smith who is a Member of the Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists. Mr Smith is a part-time employee of Cauldron Energy Limited and has sufficient experience relevant to the styles of mineralisation and types of deposits under consideration. Mr Smith is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.' Mr Smith consents to the inclusion in the announcement of the matters based on their information in the form and context in which it appears.