

Review of Burt Plain Reconnaissance Geochemical Sampling (EL27337)

First-pass reconnaissance geological mapping and geochemical sampling was conducted on Burt Plain tenement, EL27337, in June, 2010. 113 biochem and 12 multi-element rock chip samples were collected from four key target areas identified from review of historical exploration data (Figure 1). Raw data can be found at: S:\Geology\Aileron - Reynolds Range \ Geochemistry \Biogeochem\EL27337_BG_101105_Report. Mulga sub-species, *Acacia aneura*, is the most densely vegetated plant species on EL 27337 and was the dominant tree exploited for sampling (105 samples). Other species were sampled to add to the collective regional dataset, including *Corymbia opaca* (4 samples), *Eromophila* (3 samples) and *Atalaya hemiglauca* (1 sample).

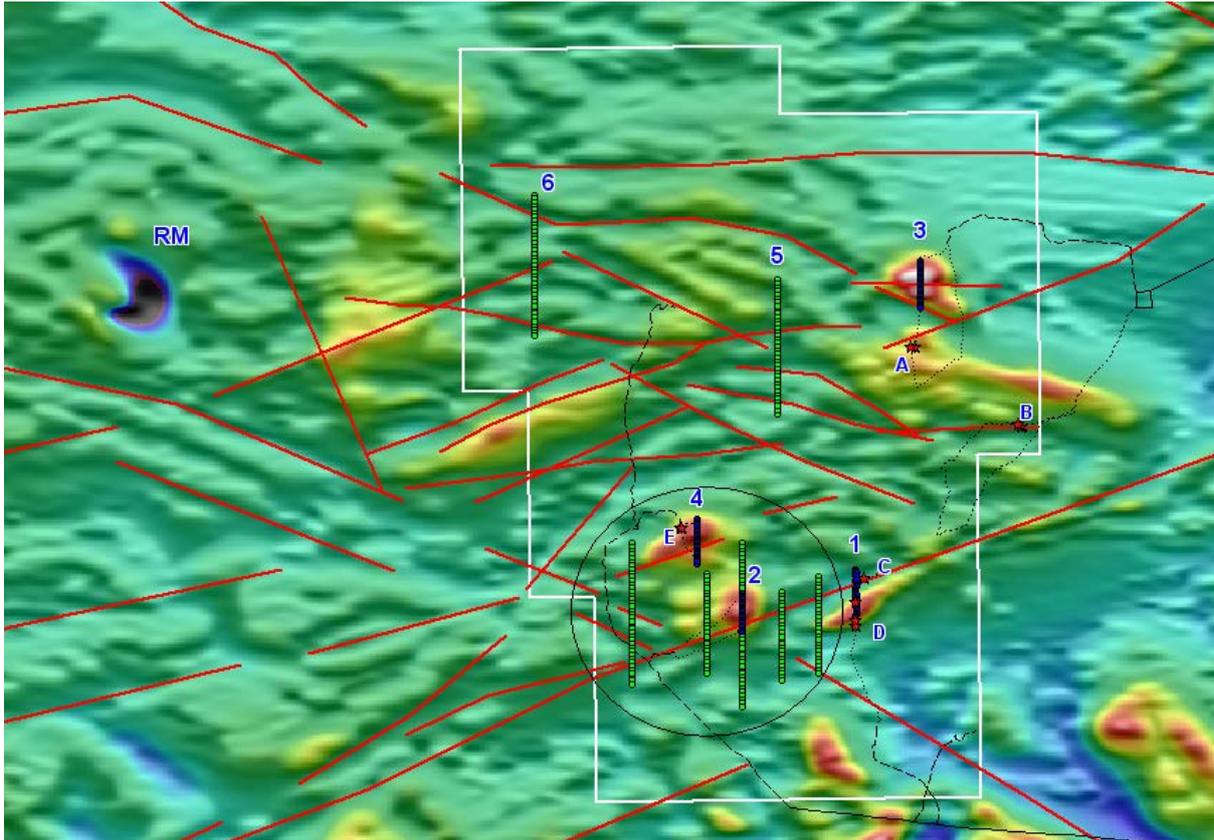


Figure 1. Aeromagnetic image showing the four completed biochem traverses (1-4, blue dots), rock chip samples (red stars, A-E), proposed biochem traverses (green triangles, includes new targets 5 and 6 see below), interpreted structures (red lines), key zone of intersecting structures (black circle) and a reversely magnetized interpreted intrusion (RM). Note that Target 3 and RM lie along the east-west-trending, northern edge of a large, regional-scale gravity ridge. This structure could potentially have tapped upper mantle source material critical for forming Nolan's type mineralization.

REE biochem assays were normalized to chondrite and upper continental crust to remove alternating periodic table elemental effects and to assess the potential for airborne dust contamination (complete charts series is saved under Traverse 1 UCC to Traverse 4 UCC tabs in the above excel file). Individual sample plots of REE's (Figure 2) indicate pronounced negative Ce anomalies indicative of normal plant biological activity and indicates the absence of airborne dust contamination. Most samples have a normal crustal horizontal pattern except for several samples from Traverse 2 and to a lesser degree Traverse 1. These samples have slightly elevated LREE's relative to HREE's, possibly indicating subtle hydrothermal activity.

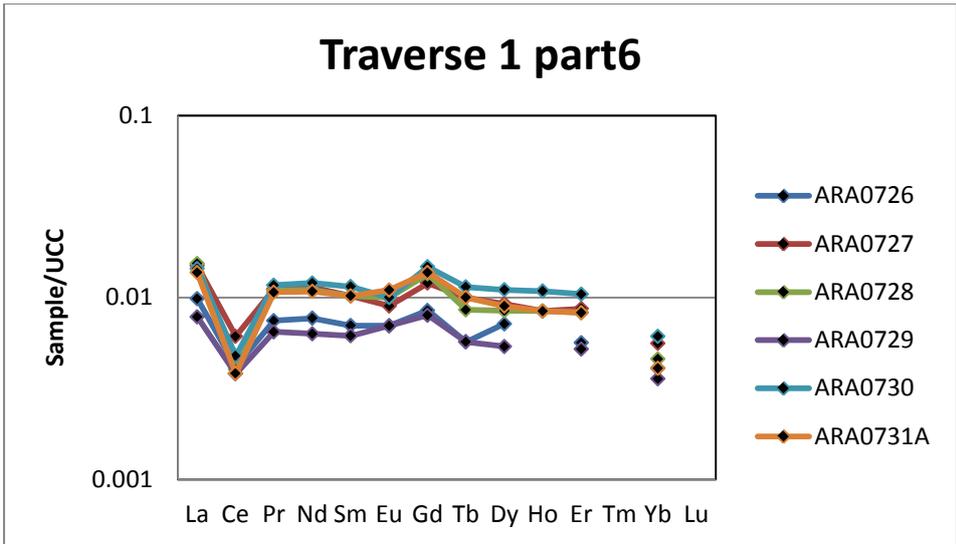


Figure 2. Typical REE plot for individual biochem samples. The negative Ce anomaly indicates that these samples are not affected by airborne dust contamination and the general horizontal form of the data indicates that samples have not been affected by hydrothermal alteration.

Raw assay data was plotted to compare relative elemental levels between different traverses and to identify anomalous results within the Burt Plain dataset (Figure 3, Traverse Element Plots tab in above file). Note that La, Nd and Ho were used as a proxy for REE to avoid analyzing each individual element. Anomalous levels were determined arbitrarily by visual inspection of each individual chart. Identified anomalies are presented in Table 1 below and data statistics (average, high, low) are shown in the Average tab in the excel file above. All anomalies are associated with Mulga except Cd, Zn, Cu \pm U on Traverse 3 that were identified by sampling *Eromophila*. Data comparison identified three distinct elemental signatures including:

1. REE \pm P (Traverses 2 \pm 1) Figure 4, 5
2. Base metals, Cd-Mo \pm Zn-Cu-U \pm S (Traverse 3) Figure 6
3. Cr-Ni \pm Co (Traverse 4) Figure 7

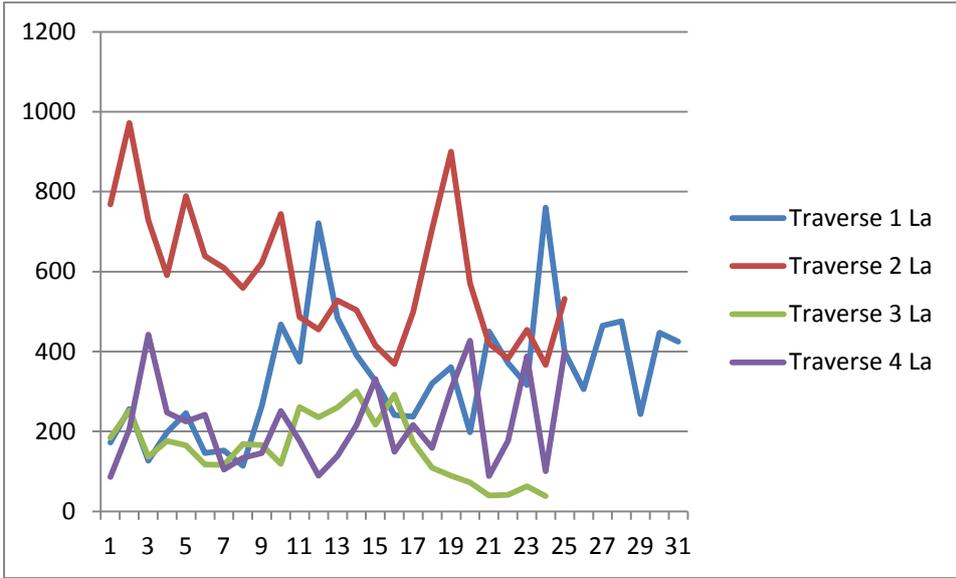


Figure 3. Typical chart comparing specific elemental concentrations between all four traverses, allowing to identify anomalous samples within the Burt Plain dataset. Anomalous levels for La were determined arbitrarily at +500ppb.

Traverse #	Elevated Element	Sample #	Level (ppb)	Anomalism Cut-off	
1	La	ARA0712, ARA0724	721, 760	+500ppb	
	Nd	ARA0710, ARA0712, ARA0713, ARA0724	330, 505, 356, 488	+350ppb	
	K	ARA0711, ARA0717, ARA0722	12434, 11116, 8213	+11000ppm	
	Th	ARA0704, ARA0707	43, 26	+30ppb	
	Fe	ARA0704, ARA0705	201, 210	+150ppm	
2	La	ARA0741 - ARA0754, ARA0758-ARA0760, ARA0765	768, 972, 728, 591, 789, 639, 609, 559, 622, 744, 486, 534, 455, 528, 504, 706, 900, 571, 532	+500ppb	
	Nd	ARA0741 - ARA0754, ARA0757 - ARA0760, ARA0763, ARA0765	671, 857, 606, 537, 737, 595, 509, 463, 553, 609, 441, 477, 375, 393, 407, 410, 567, 704, 427, 356, 410	+350ppb	
	Ho	ARA0741, ARA0742, ARA0745, ARA0759	15, 20, 17, 15	+15ppb	
	Th	ARA0741, ARA0762, ARA0763	38, 35, 42	+30ppb	
	Cr	ARA0761A	1.4	+1ppm	
	Co	ARA0742	0.09	+0.08ppm	
	Ca	ARA0760	18190	+16500ppm	
	Fe	ARA0762	215	+150ppm	
	Mn	ARA0749, ARA0762	262.2, 237.1	+220ppm	
	Ba	ARA0750, ARA0759	50.89, 69.72	+50ppm	
	Na	ARA0771, ARA0772, ARA0774, ARA0779A, ARA0786, ARA0790	127, 106, 103, 134, 112, 103	+90ppm	
	P	ARA0742, ARA0744	936, 971	+950ppm	
	3	K	ARA0771, ARA0780, ARA0784, ARA0790	11493, 11053, 11342, 11681	+11000ppm
		Th	ARA0766, ARA0769	34, 31	+30ppb
Mo		ARA0771, ARA0772, ARA0774, ARA0777A, ARA0784, ARA0791	1.06, 2.05, 0.86, 0.83, 0.69, 0.51	+0.5ppm	
S		ARA0782	1143	+1400ppm	
Ca		ARA0786, ARA0789, ARA0790	19469, 21598, 18321	+16500ppm	
Mn		ARA0780	276.8	+220ppm	
P		ARA0773, ARA0780, ARA0781, ARA0784	1003, 1020, 995, 1009	+950ppm	
Cd		ARA0775, ARA0776, ARA0777B	342, 179, 227	+20ppb	
U		ARA0775, ARA0776, ARA0777B	33.5, 21.6, 24.2	+10ppm	
Zn		ARA0775, ARA0776, ARA0777B	19.5, 14.9, 15.4	+2ppm	
Cu		ARA0775, ARA0776, ARA0777B	14, 12, 90	+50ppb	
4		Cr	ARA0808, ARA0810 - ARA0815	1.3, 1.5, 1.1, 1.8, 1.2, 2.8, 1.8	+1ppm
		Co	ARA0814	0.09	+0.08ppm
	Ni	ARA0800, ARA0814	2, 2.3	+1.6ppm	
	Mn	ARA0816, ARA0822	246, 220.3	+220ppm	
	Ba	ARA0803, ARA0807, ARA0818, ARA0819A	83.2, 73.7, 92.27, 90.23	+50ppm	

Table 1. List of anomalous elements for each traverse, sample numbers, assay values and anomalism cutoff levels. Note that all anomalies are from Mulga samples except Cd, U, Zn and Cu for Traverse 3 which are from Eromophila.

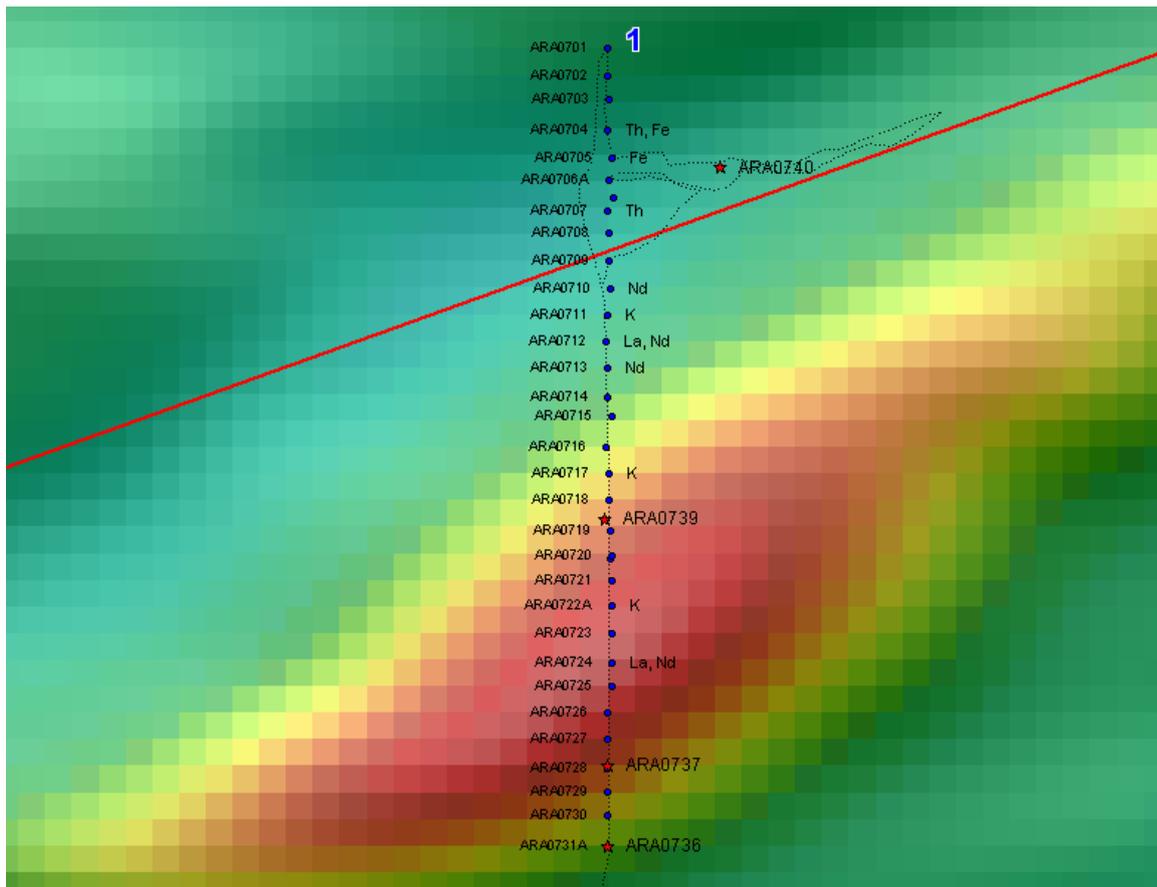


Figure 4. Traverse 1 biochem samples (blue dots) and rock chip samples (red stars), walking tracks (dashed lines) and aeromagnetic image (field of view =3km). Field evidence from rock chips indicates that the magnetic high is related to a magnetite bearing pegmatite and associated quartz-magnetite veins. The several hundred meter long quartz \pm hematite crackle breccias at ARA0740 is part of a presumably younger brittle deformation event, unrelated to pegmatite intrusion (i.e. different events have utilized the same structural corridor).

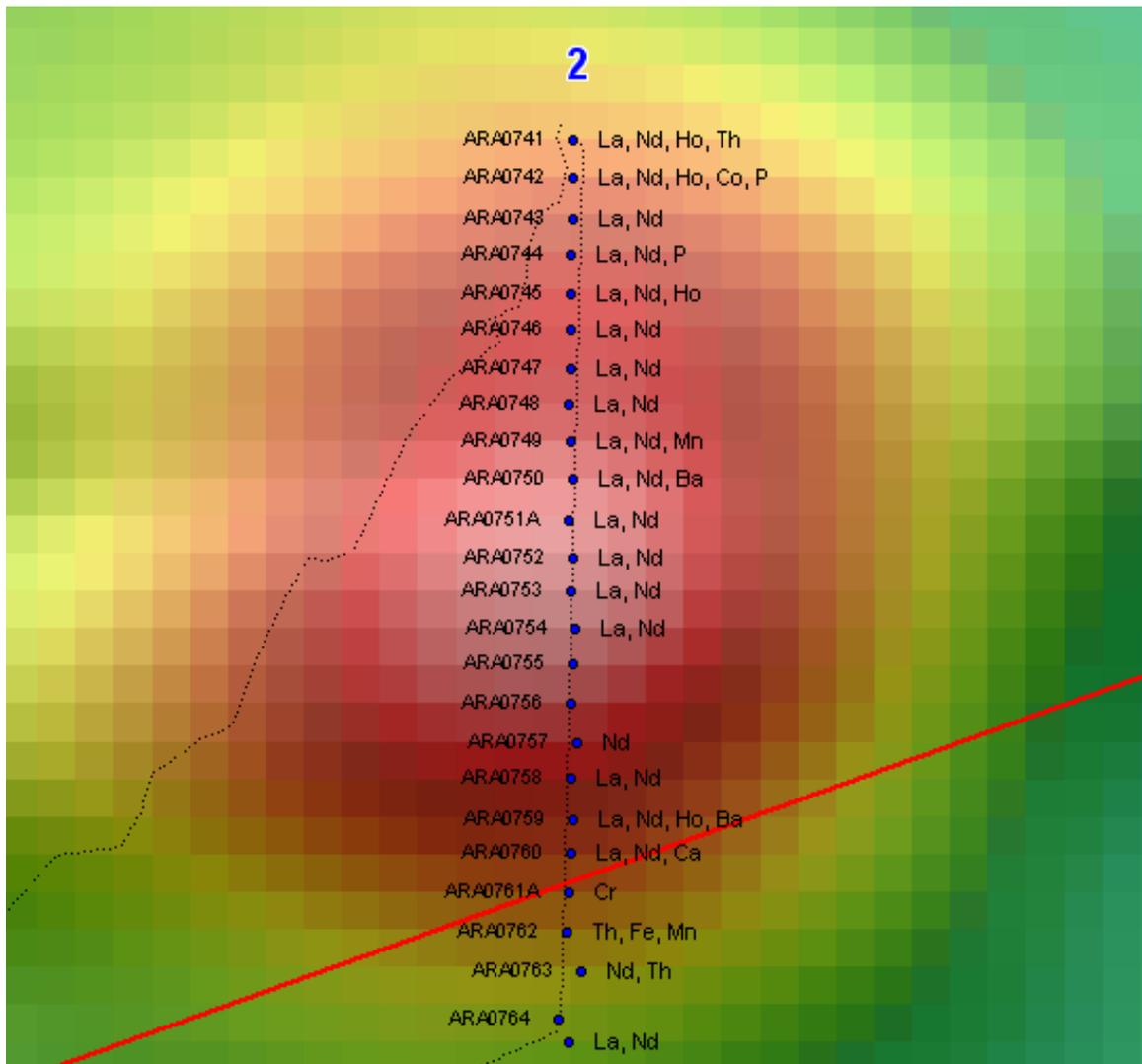


Figure 5. Traverse 2 biochem samples (blue dots) and aeromagnetic image (field of view =2km). REE anomalism is observed throughout the traverse which is restricted to the magnetic high feature. Highest values are in the central and northern zone. Further sampling is required to identify the edges of the anomaly.

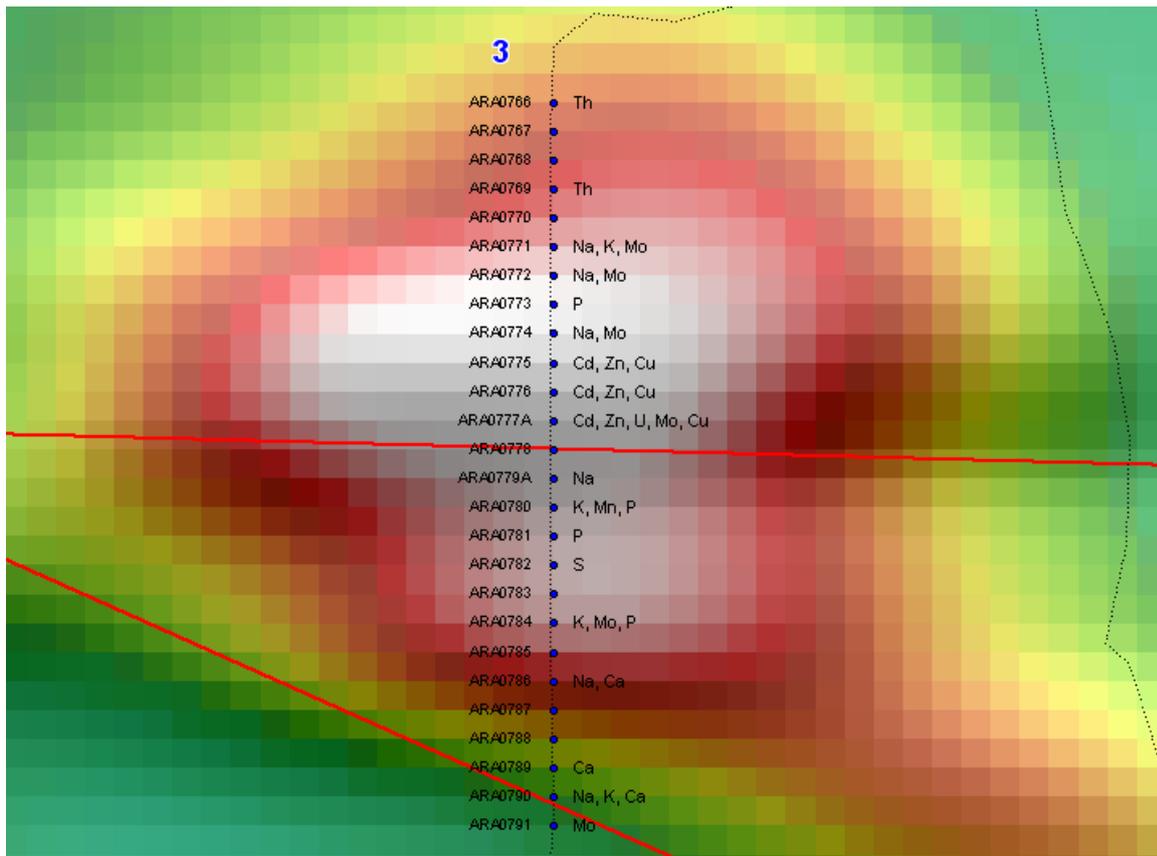


Figure 6. Traverse 3 biochem samples (blue dots), walking tracks (dashed lines) and aeromagnetic image (field of view =2.5km). Note how peak base metal anomalies are coincident with the peak magnetic high which is also where the eromophila is best developed. The metal assemblage is consistent with a magmatic signature.

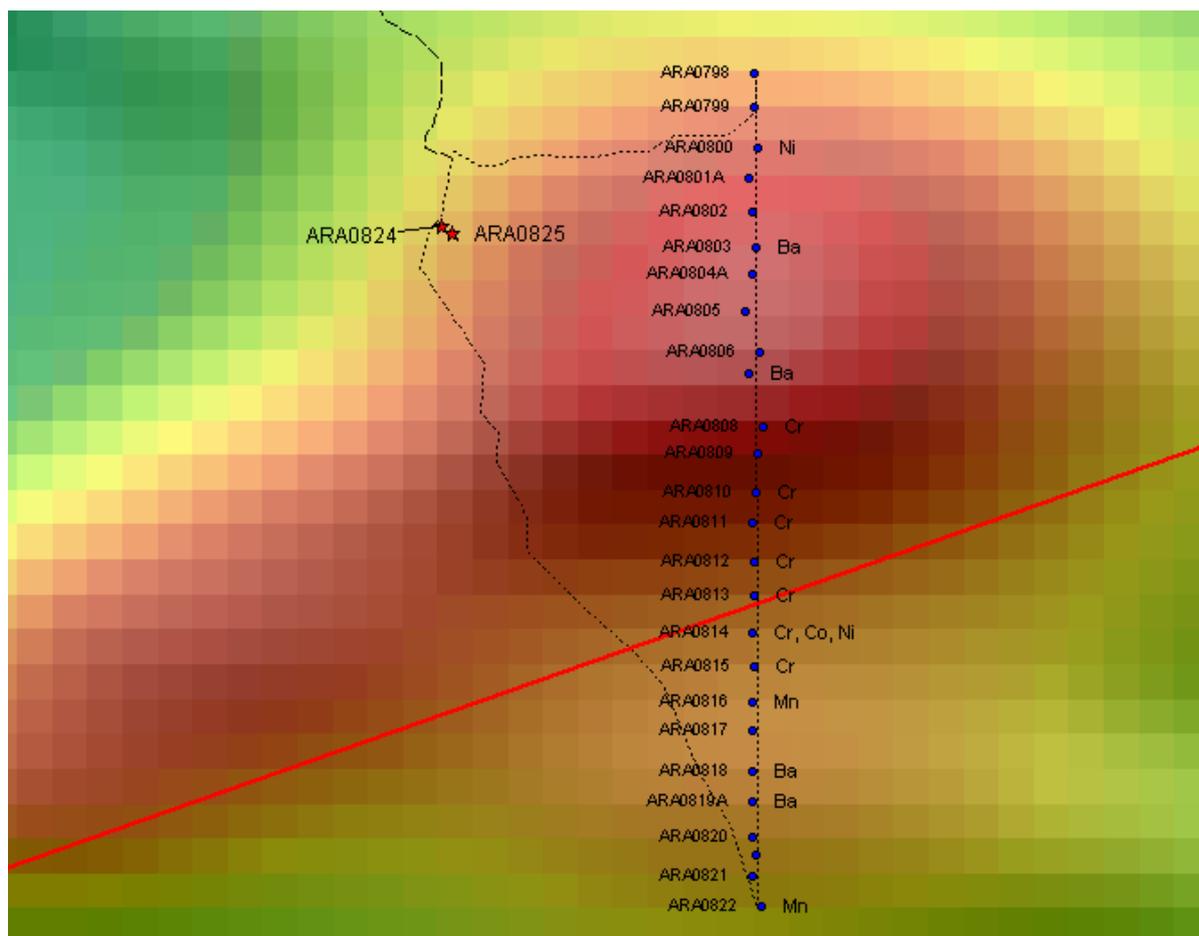


Figure 7. Traverse 4 biochem samples (blue dots) and rock chip samples (red stars), walking tracks (dashed lines) and aeromagnetic image (field of view =2.75km).

Attempts were made to compare Burt Plain biochem data to regional background levels and mineralized Nolan's Bore samples to assess the significance of identified anomalies. Data comparison was completed using wet period samples and was species specific (i.e. Mulga versus Mulga). Preliminary evidence indicates that Traverse 2, Mulga REE numbers are elevated relative to background levels and some samples fall within the weakly mineralized signature from Nolan's Bore (Figure 8). However, limited background samples have been collected (<1%) from around the Nolan's site so more sampling must be completed to produce statistically reliable background levels.

Base metal anomalies on Traverse 3 show a mixed result relative to background and mineralized Nolan's samples. Base metal anomalies were identified in both Eromophila (Cd, U \pm Zn, Cu) and Mulga (Mo, S). Background levels for Eromophila are not available so three mineralized Nolan's samples were used for comparative analysis (Figure 9). Cadmium is extremely enriched relative to mineralized Nolan's samples whereas Zn \pm Cu are only slightly elevated. One Eromophila sample is comparative to Nolan's U levels whereas the other two samples were significantly lower. A visual comparison indicates that Traverse 3 Mulga Mo and S levels are elevated relative to background.

Traverse 4 has elevated chromium relative to Nolan's samples, Ni falls within mid-range Nolan's and Co is significantly lower than most Nolan's samples but above background.

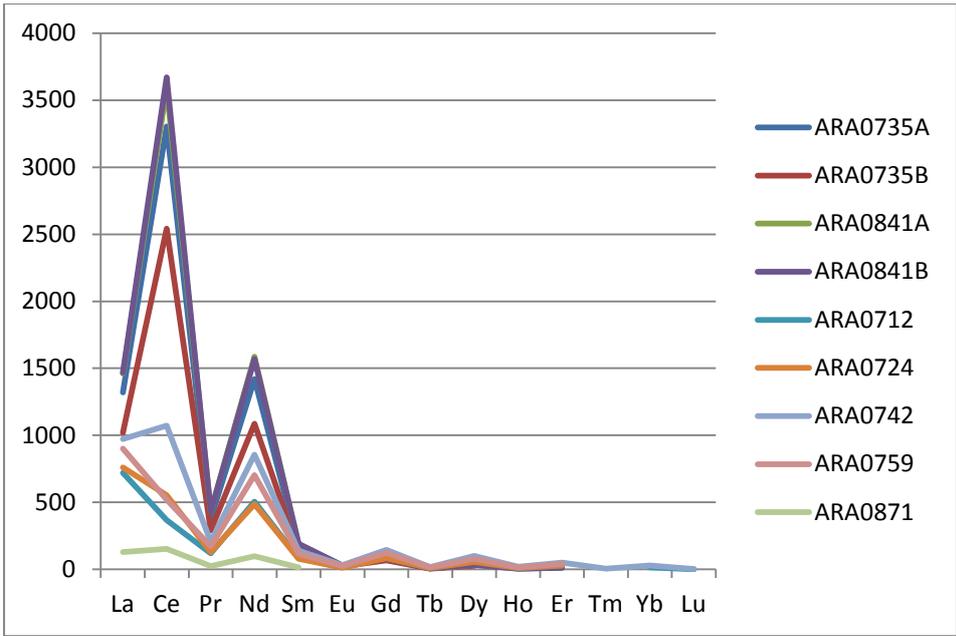


Figure 8. Background Mulga (ARA0871), mineralized Nolan's mulga biochem samples (ARA0735A, ARA0735B, ARA0841A, ARA0841B) and elevated Burt Plain samples (ARA0712, ARA0724, ARA0742, ARA0759). More background sampling is required to produce a statistically meaningful background level but this chart does shows that the best Burt Plain REE data is probably in line with low-grade Nolan's mineralization.

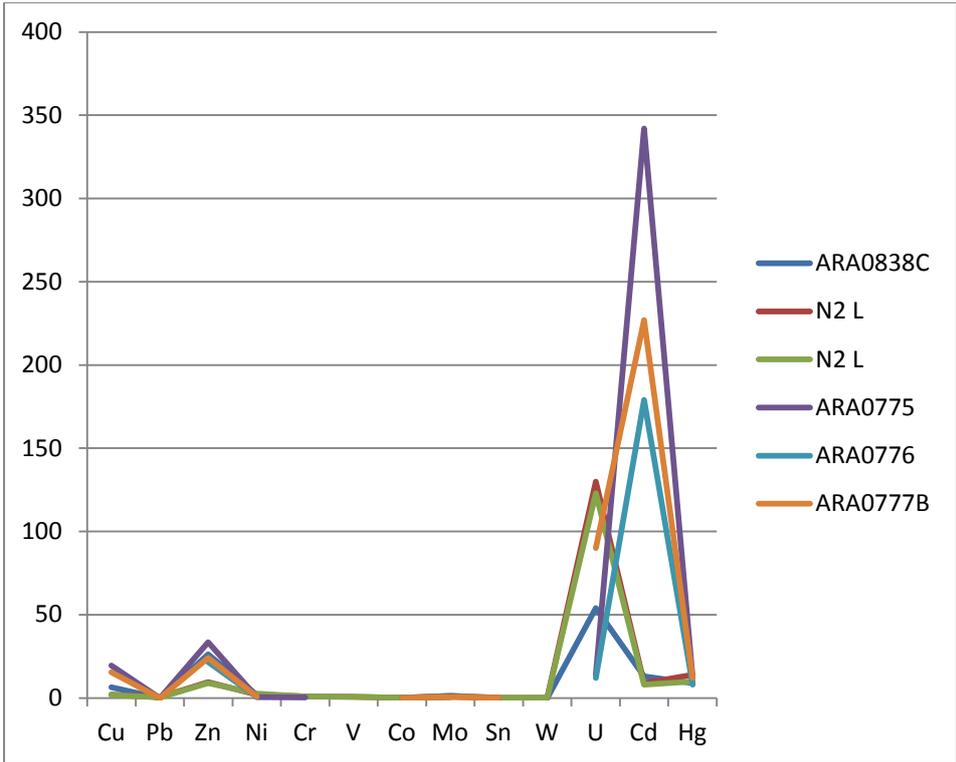


Figure 9. Chart comparing mineralized Nolan's Eromophila samples (ARA838C, N2L, N2L) to Eromophila samples collected from the central part of Traverse 3. The chart shows significantly elevated Cd and weakly elevated Zn and Cu relative to mineralized samples. One of the Traverse 3 samples has U levels comparable to mineralized Nolan's samples.

Rock Chip results

Rock chip assays produced almost no anomalous samples (data saved at S:\Geology\Aileron - Reynolds Range\Geochemistry\Rock Chip\ Burt Plain Rock Chips June 2010). Sulphide-bearing, silicified rocks from extensively-developed quartz \pm hematite crackle breccias systems (A, B, C, Figure 1) are devoid of any mineralization as was the magnetite-bearing pegmatite discovered along Traverse 1 (D, Figure 1). The two laterite samples, collected near the northwestern end of Traverse 4 (E, Figure 1), have elevated Cr \pm Ni values.

Data Interpretation

Traverse 1

Rare Earth anomalism on Traverse 1 is broadly spatially associated with an elongated, northeast-trending magnetic anomaly. Discovery of float and possible subcrop of feldspar-magnetite-mica-tourmaline pegmatite and quartz-magnetite material within the central and southern parts of the magnetic anomaly indicate that the magnetic anomaly is probably related to a magnetite-bearing pegmatite. Interestingly, magnetite-bearing pegmatites are also observed within the mineralized parts of the Nolan's Bore system. The northern edge of the magnetic anomaly is bound by a large-scale, northeast-trending structure (interpreted from aeromagnetic data) that hosts the quartz \pm hematite crackle breccia ridge northeast of Traverse 1 (C, Figure 1) and links the southern edge of the magnetic anomaly below Traverse 2. Traverse 2 lies adjacent to the intersection of this structure and a significant northwest-trending structure (black circle, Figure 1). This northwest-trending structure is thought to control the emplacement of an intrusion with a pronounced reversely-magnetized anomaly (RM, Figure 1), indicating a possible deep-crustal penetration for the structure and the ability to "tap" upper mantle magmatic fluids.

Traverse 2

REE \pm P anomalies are spatially related to a discrete, circular magnetic high. The absence of base metal anomalism here possibly indicates that this magnetic feature is related to a magnetic carbonatite pipe rather than a mafic intrusion. There is a chance that the low magnetic signature surrounding the magnetic high has been affected by hydrothermal alteration. Sampling to date is restricted to the magnetic high.

Traverse 3

Base metal anomalies are spatially related with a discrete circular magnetic high with peak anomalies coincident with the peak magnetic high. The magnetic signature is similar to the nearby Native Gap Ni-Cr mafic intrusive system (11km east-northeast). Traverse 3 biochem anomalism indicates a distinct magmatic signature and it is presumed that the traverse is underlain by a mafic intrusion. The area is dominated by a broad, flat, shallow sheet-washed plain that is virtually devoid of dense mulga tress unlike the rest of EL27337 (Figure 10). This was the only place on the tenement that *Eromophila* was observed and these healthy plants were flush with vibrant foliage and covered in red flowers. Mulga typically has low base metal uptake and the absence of Mulga at this location potentially reflects elevated base metal concentration in soils sourced from a subsurface mafic intrusion. No outcrop was identified along the traverse.

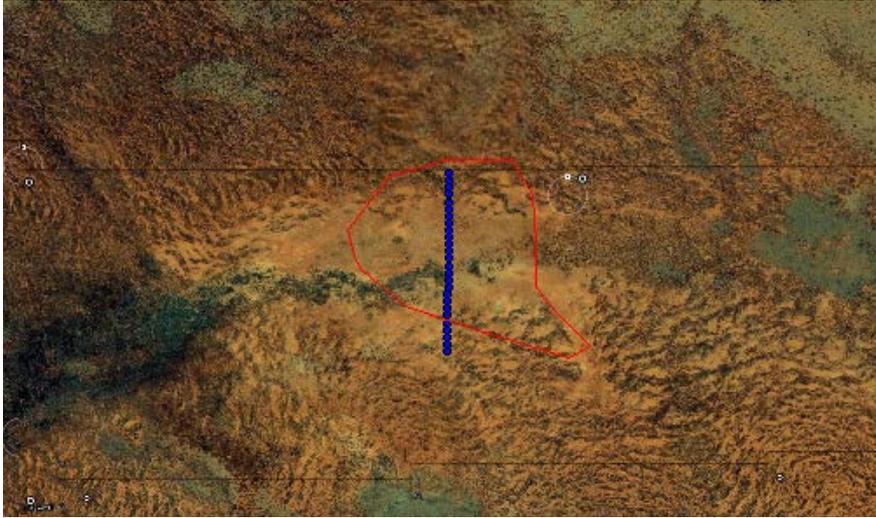


Figure 10. Google satellite image showing the Traverse 3 (blue dots) vegetation anomaly (treeless plain with *Eromophila*) and the coincident, discrete magnetic anomaly (red polygon, approximately 1 x 1km in dimensions). Image is approximately 5km wide.

Traverse 4

Base metal anomalism is centered over a discrete, circular magnetic high that has a lower intensity tail that extends towards the southwest. Poorly-developed pisolitic lateritic material is observed towards the northwestern end of the traverse and two rock chip samples collected show elevated Cr \pm Ni anomalism. Base metal anomalism in laterite and biochem samples indicate a common link, possibly to a subsurface mafic intrusion.

Recommendations

Traverse 1

Rock chip results and biochem sampling strongly suggest that the magnetic anomaly is related to an unmineralized, magnetite-bearing pegmatite. The low magnetic signal structural zone to the north of the magnetic high shows low-level REE anomalism but not enough to warrant further work. Although magnetite-bearing pegmatite is observed at Nolan's, it makes more sense to test the broad structural zone further to the southwest. No further work is recommended at this anomaly.

Traverse 2

A distinct, regional low-level REE \pm P anomaly has been detected. This anomaly falls within a broader zone of structural intersection between northeast- and northwest-trending structures (black circle, Figure 1, 11). The size of the structural intersection zone (50km²) and resolution of magnetic data make specific targeting problematic. Eight wide-spaced, 100m sample spacing biochem traverses are proposed to assess a range of different magnetic subtleties, to cover the key interpreted structural zones and to close-off identified anomalous zones, albeit at wide-spacing (238 samples, Figure 11). Infill biochem samples can be completed once the size of the anomaly is determined.

Traverse 3.

Soil sampling is required to acquire hard assay data to confirm biochem anomalism and to delineate potential drill targets. A 100 x 50m soil survey is proposed over the peak part of the magnetic anomaly (131 samples, 700 x 600m area, Figure 12). The spacing could be enlarged to 100 x 100 to further reduce costs, however, this will compromise data interpretation and selection of drillhole targets. Access to this area is reasonable, however, a 1km track may need to be forged with a loader to get through the dense Mulga that surrounds the open plain at the target area. I recommend completing the program in two parts, firstly sampling the original biochem sample sites to assess if soils are capable of duplicating the biochem results. If successful then the remainder of the soil grid can be completed.

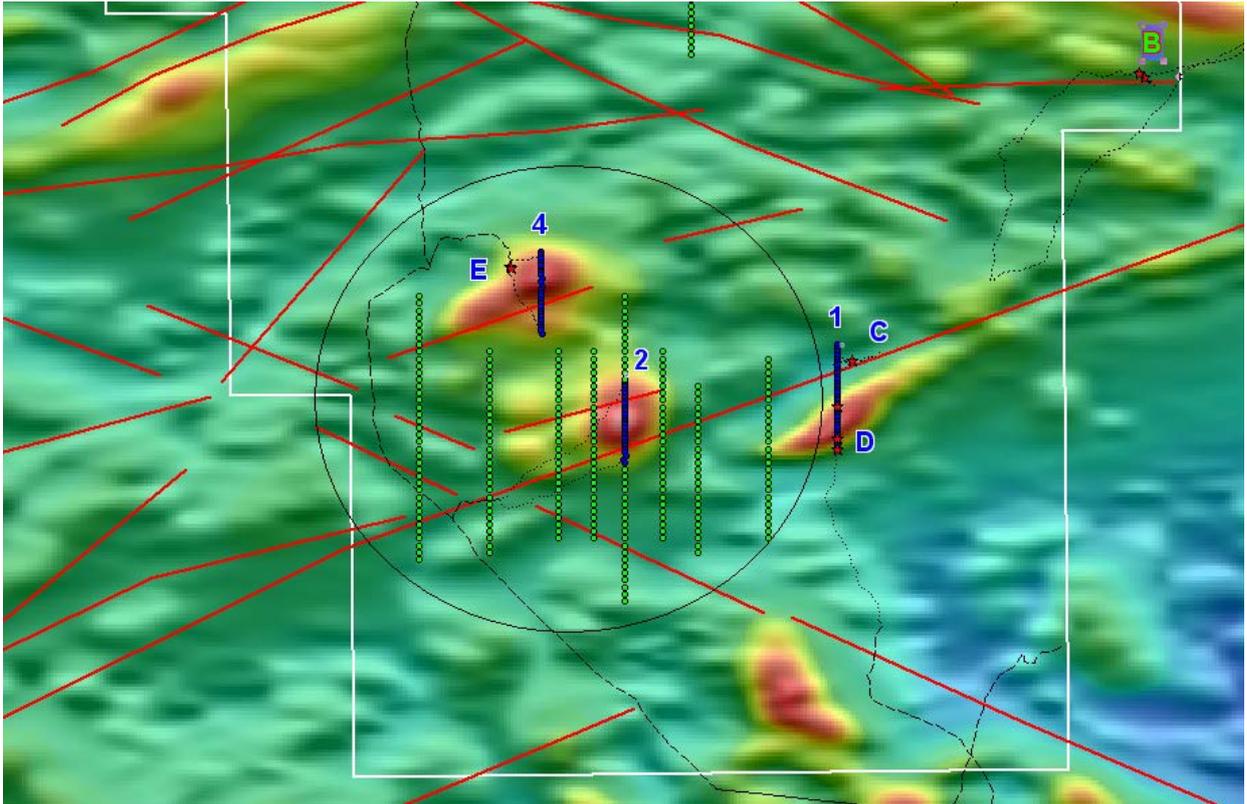


Figure 11. Proposed biochem traverses surrounding the original Traverse 2 REE anomaly and covering a region of interpreted structural intersection (black circle). Width is approximately 19km and the black circle has an area of 50km².

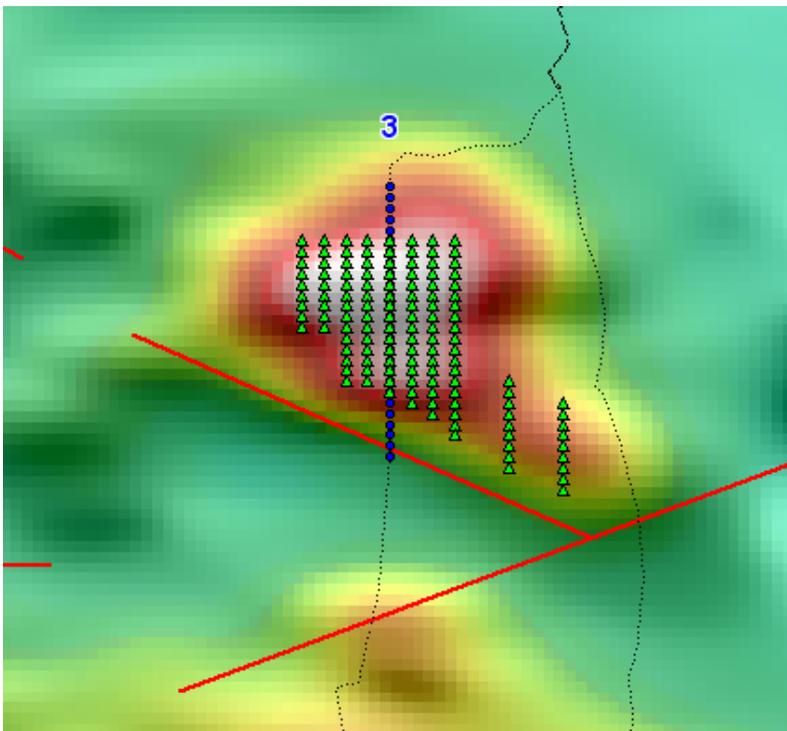


Figure 12. Traverse 3 (blue dots) with the proposed soil survey (green triangles, 131 samples) and interpreted magnetic structures (red lines). The solid dashed line is our original Landcruiser track and the dotted line is where we had to walk through dense Mulga scrub.

Traverse 4

This anomalous system is similar to, but less well-developed, than the Traverse 3 anomaly. This target should only be sampled with proven success from Traverse 3 (see below).

New Targets 5 and 6

The central northern part of EL27337 lies along the northern edge of a large, east-west-trending regional-scale gravity high. The location of a reversely magnetized magnetic low to the west and Native Gap to the east of the Traverse 3, all interpreted to be mafic intrusions, indicate that this zone is potentially cut by a deep-seated, east-west-trending structure. Targets 5 and 6 have been selected because they lie within zones of intersection of several orientations of second-order structures (Figure 13). These two areas have a similar structural setting to Nolan's bore with a dominant northwest-trending structure cut by east-northeast and west-northwest-trending second-order structures. Traverses 5 and 6 are biochem reconnaissance lines to test the REE anomalism of these structural zones (76 samples).