

# **EL 7995 - THE RIVER PEAK PROJECT.**

## **PRELIMINARY REPORT FIELD PROGRAM 97 -98**

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**CR 98 / 273**

## **INTRODUCTION**

EL 7995 comprises 20 blocks over folded arenaceous sediments of the Legune Formation abutting the Indian Hill fault near the mouth of the Victoria River in the Northern Territory. Following a review of information available in the EL area in 1996-97 it was decided to undertake a program of work early in 1997-98 to attempt a quantitative analysis of the EL's prospectivity, the assessment of which had been hampered by the remoteness of the area.

## **WORK PROGRAM**

Due to substantial logistical difficulties the scope of the program undertaken had to be considerably reduced from the initial proposal, and consisted of geological reconnaissance of the area which itself had to be curtailed due to damage to the support vessel on the second day. Thus only two traverses within the area were possible, one investigating the Lovell's Lode area, the other examining the "Iron Creek" outcrops. Samples from these areas were collected and assayed.

## **RESULTS - GEOLOGY**

The sediments of the Legune Formation observed on the traverses consisted of generally thickly bedded sandstones and grits with a few thin shaley bands interspersed. Though well jointed the sediments are in the main only moderately - gently folded and exhibit little silicification or quartz veining. Near the Indian Hill Fault the folding steepens and some veining can be observed. Other faults within the area appear to be fairly passive with little if any expression in the sediments around their interpolated or observed position. No sulphides were seen within the sediments or in veining / faulting observed.

The ferruginisation located on the traverses can be categorised into three types based on their setting. However most of the ferruginous material seems to be a cement within recent sediments.

The first category is within scree deposits on slopes. Whilst some minor brecciation occurs at the margins of the quartz vein, the bulk of the breccia textures reported at Lovell's Lode appear to be fragments of poorly sorted detrital material, including fragments of the adjacent quartz vein, cemented by limonitic material. Though not observed on this visit, the source of the iron is said to be via springs presumably fault or shear controlled. The so-called Pilots Lode is another example of this setting for ferruginisation but no quartz veining was seen at this site.

Cementing of recent sands and silts, or coarser scree rubble was commonly observed where outcrop met the tidal flats, again the control appearing to be thin layers, though for the most part exact relationships are obscured by the cemented sediments.

The most impressive ferruginisation seen was in the Ironstone Creek area. Here the thick river sediments are extensively cemented with iron oxides. This iron is sourced from the extensive spring system that produces acidic waters along one kilometre of the creek bed. The acidic waters appear to re-dissolve the cement producing an exfoliated appearance to the cemented river sediments. It also produces localized encrustations of a pale greenish sulphate salt. The limonitic deposits can be followed down to the tidal sections of the creek but are at their most intense within the first gorge. The waters rise through the river sediments presumably from some structural feature on the river bed though there is little sign of significant faulting in the outcrop of the gorge. Beyond the limited zones of ferruginisation, the sediments of the area show no alteration.

### RESULTS - GEOCHEMICAL

Assay results from the samples collected on the two traverses are in Appendix 1. The results basically confirm previous testing within the EL area. The ferruginous cements contain only low level base metal levels. The salt encrustations within Ironstone Creek are devoid of base metals and sediments below the immediate ferruginisation (FECK6) are also unexciting.

### DISCUSSION

The origin of the iron within the ferruginous zones remains unexplained. As noted by Netherby, all ferruginisation observed is between 0 - 30m ASL and, as observed at Iron Creek is derived from ground water which rises as springs probably through structural features which are for the most part obscured by the cemented sediments. It was reported by a helicopter pilot that similar ferruginisation could be seen to the north of the EL area. Thus this feature is widespread on a local scale and of varying intensity. The acidic nature of the spring water and the presence of sulphate salts in Iron Creek would suggest the iron is sourced from oxidising pyrite presumably at the water table that rises through suitable lineaments. The iron is re-deposited at the surface as a cement to recent sediments. There is nothing in the samples taken on this trip, or in the observations of the ferruginous areas or the creeks, that suggest any associated base metal with the pyrite. The reported siliceous brecciation is in my opinion unrelated to the ferruginisation in a direct sense.

## **CONCLUSIONS**

Due to considerable logistical problems the program did not accomplish the targets it was designed to achieve. It did however confirm the observations of geologists from MIM and Savage Resources who visited the site previously.

Whilst there is anomalous ferruginisation within the EL area it is generally of low intensity. It is at its most intense at Iron Creek where iron - rich water rises through the river bed sediments over approximately 1 km. But, as at other sites, there is no evidence of significant base or precious metal associations with the iron and as such it offers little encouragement to invest the substantial sums required to investigate the anomalies further.

The source of the iron in the spring waters that create the ferruginisation is presumed to be oxidising pyrite. The acidity of the water in Iron Creek and the intensity of the ferruginisation suggest that the concentration of pyrite from which the iron is derived would be moderate, certainly greater than 'background', but not necessarily 'massive' in nature. The area over which small ferruginous patches can be found suggest that the source feature is itself relatively widespread and, given the generally low intensity of the ferruginisation, of "low grade".

The remoteness of the area and the subsequent high cost of exploration, combined with the low levels of base and precious metal results to date do not make, in my view, further investment in the area an attractive proposition.

0754470370



# ASSAYCORP

Report Code: ..... AD 38811  
 Samples Received: ..... 01/10/97  
 Number of Samples: ..... 8

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Report Distribution  
 Tom Heston

Reference: ..... 18801  
 Project: .....  
 Cost Code: .....

### Sample Preparation:

### Assay Data:

Analysis	Analysis Method	Digest	Technique	Precision & Accuracy	Detection Limit	Data Units
Ag	88001	MAS	ICP-OES	Pres. ± 10 %	1	ppm
As	88001	MAS	ICP-OES	Pres. ± 10 %	10	ppm
Cd	88001	MAS	ICP-OES	Pres. ± 10 %	0.5	ppm
Cu	88001	MAS	ICP-OES	Pres. ± 10 %	1	ppm
Pb	88001	MAS	ICP-OES	Pres. ± 10 %	10	ppm
Mn	88001	MAS	ICP-OES	Pres. ± 10 %	1	ppm
Ni	88001	MAS	ICP-OES	Pres. ± 10 %	2	ppm
Pb	88001	MAS	ICP-OES	Pres. ± 10 %	2	ppm
S	88101	MASO	ICP-OES	Pres. ± 5 %	0.01	percent
Zn	88001	MAS	ICP-OES	Pres. ± 10 %	1	ppm

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MAS is a mechanical digest with low dissolution rates for elemental concentrations >1% these should be done as a 88001 digest.

Authorisation: Ray Wooldridge  
 Report Date: 11/10/97



ASSAYCORP

ASSAY CODE: AC 38811

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Sample	Ag (ppm)	As (ppm)	Co (ppm)	Cu (ppm)	Fe (ppm)	Mn (ppm)	Ni (ppm)	Pb (ppm)
Fe Ck 1	<1	<10	<2	5	1.50%	125	<2	<5
Fe Ck 2	<1	<10	<2	4	44.50%	440	<2	<5
Fe Ck 3	<1	<10	<2	7	48.80%	640	<2	5
Fe Ck 4	<1	<10	<2	3	24.70%	63	<2	<5
Fe Ck 5	<1	<10	3	8	15.30%	88	4	6
Fe Ck 6	<1	<10	13	11	6.34%	1720	15	13
G 2	<1	35	<2	69	38.60%	57	<2	139
G 3A	<1	15	<2	11	30.90%	117	<2	18
G 3B	<1	<10	<2	34	28.20%	88	5	23
Method	G3001	G3001	G3001	G3001	G3001	G3001	G3001	G3001





# ASSAYCORP

ASSAY CODE: AC 98811

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Sample	S (ppm)	S (%)	Zn (ppm)
Fe Ck 1	>4.00%	17.0	42
Fe Ck 2	2610	—	79
Fe Ck 3	2600	—	71
Fe Ck 4	1000	—	18
Fe Ck 5	1480	—	28
Fe Ck 6	1.17%	—	60
G 2	1480	—	82
G 3A	8870	—	20
G 3B	1280	—	37
Method	G3001	G3201	G3001