



Legend International Holdings  
ACN 82 120 855 352

**"CALVERT HILLS" PROJECT  
Group Reporting Number: CR-38**

Exploration Licences 22351, 23116, 25617, 26175, 26176, 26177

FINAL REPORT

FOR THE PERIOD

**3 MARCH 2003 TO 1 DECEMBER 2008**

DUE DATE: 27 February 2009

BY

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Legend International Holdings, Melbourne

**TENEMENT REPORT INDEX**

<b>OPERATOR:</b>	Legend International Holdings
<b>PROJECT:</b>	Calvert Hills
<b>TENEMENTS:</b>	EL22351, EL23116, EL25617, EL26175, EL26176, EL26177
<b>REPORT PERIOD:</b>	3 March 2003 to 1 December 2008
<b>DUE DATE:</b>	27 February 2008
<b>AUTHOR:</b>	B. White & A. Raza
<b>STATE:</b>	Northern Territory
<b>LATITUDE:</b>	16°13'27"S to 16°39'17"S
<b>LONGITUDE:</b>	134°44'50"E to 136°19'34"
<b>MGA (easting):</b>	578,100mE to 640,700mE
<b>MGA (northing):</b>	8,157,300mN to 8,206,300mN
<b>1:250,000 SHEET:</b>	SE5303, Bauhinia Downs
<b>1:100,000 SHEET:</b>	6165, Borroloola; 6164, Glyde; 6064, Mallapunyah.
<b>MINERAL FIELD:</b>	
<b>COMMODITY:</b>	Diamonds
<b>KEYWORDS:</b>	Diamonds, data review, target areas

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## 1 SUMMARY OF EXPLORATION ACTIVITIES

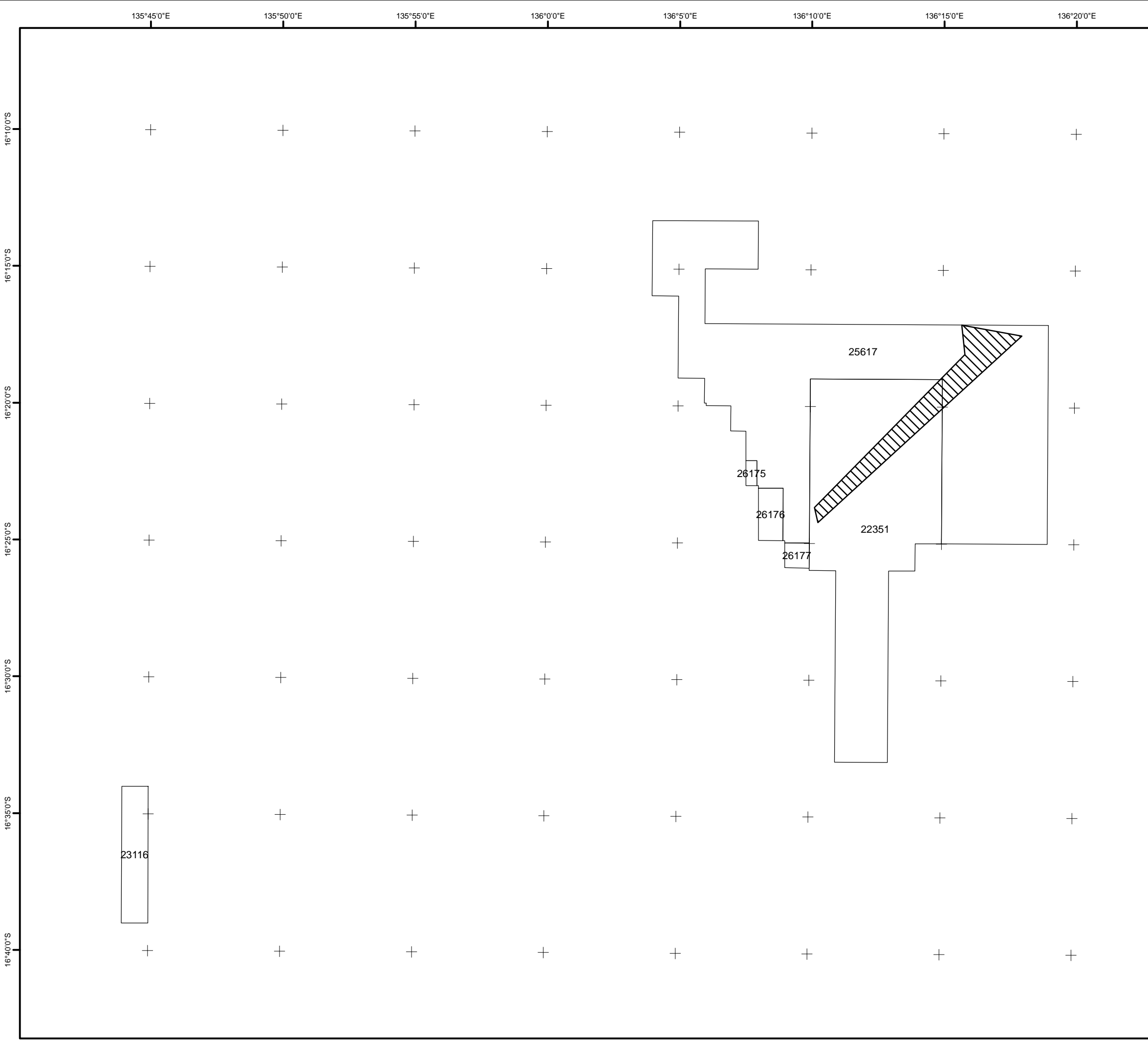
This report describes the exploration activities conducted over tenements that form part of the Calvert Hills Project between the 3rd of March, 2003, and the 1st of December, 2008 (Figure 1). Literature reviews, data compilations and target generation was conducted as part of an exploration programme for the Calvert Hills Project. Stream sampling was conducted with heavy mineral analysis to detect diamonds and diamond indicator minerals.

## 2 TENEMENT STATUS

The Calvert Hills Project comprises, in part, Exploration Licences 22351, 23116, 25617, 26175, 26176 and 26177. These tenements were granted in two distinct phases, with the first three (3) tenements granted in 2003, followed by the remaining four (4) which were granted in late 2007 and early 2008. EL23116 was granted to Astro Diamond Mines ("Astro") on the 3rd of March, 2003, and tenements 22351 were both granted on the 5th of August, 2003. A compulsory 50% reduction was completed for Exploration Licence 22351 on the 5th of August, 2006. Under Dealing D92370, control of tenements EL22351 and EL23116 was transferred from Astro Mining N.L. to Legend International Holdings Inc ("Legend") on the 30th of July, 2007. Exploration Licence 25617 was granted to Legend on the 23rd of August, 2007, followed by Exploration Licences 26175, 26176 and 26177 which were granted on the 22nd of February, 2008. Legend International Holdings Inc. surrendered its interest in the seven (7) tenements on the 1st of December, 2008.

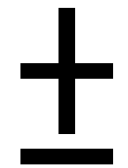
Tenement(s)	Status	Date
23116	Granted	03/03/2003
22351	Granted	05/08/2003
22351	Reduced	05/08/2006
22351, 23116	Transfer of Control	30/07/2007
25617	Granted	23/08/2007
26175, 26176, 26177	Granted	22/02/2008
22351, 23116, 25617, 26175, 26176, 26177	Surrendered	01/12/2008

Table 1: Tenement Status

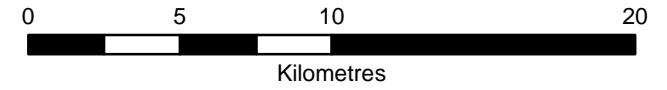


**Legend**

-  Stream sampling area
-  Calvert Hills tenements



GDA94/MGA53



**Calvert Hills  
Exploration Index**

Comp. : Legend International Holdings, Inc.	Date : 05/02/09
File : CalvertHills_EI_050209	Loc. : Melbourne
Plot : Exploration Index	Figure : 1

### **3 LOCATION AND ACCESS**

The Calvert Hills Project covers a large expanse of ground in the north east of the Northern Territory, with individual tenements separated by large distances (Figure 2). Access routes can vary due to the large separation between the tenements. The tenements that form the subject of this report are nominally accessed from Borroloola along the Carpentaria Highway. The majority of the tenements in this report are situated approximately forty (40) kilometres south of Borroloola. Tenement EL23116 is situated approximately 100kms from Borroloola along the Carpentaria Highway, and ten (10) kilometres north of Balbirini. Unsealed roads and station tracks provide access to sample sites across each of the tenements.

### **4 GEOLOGY**

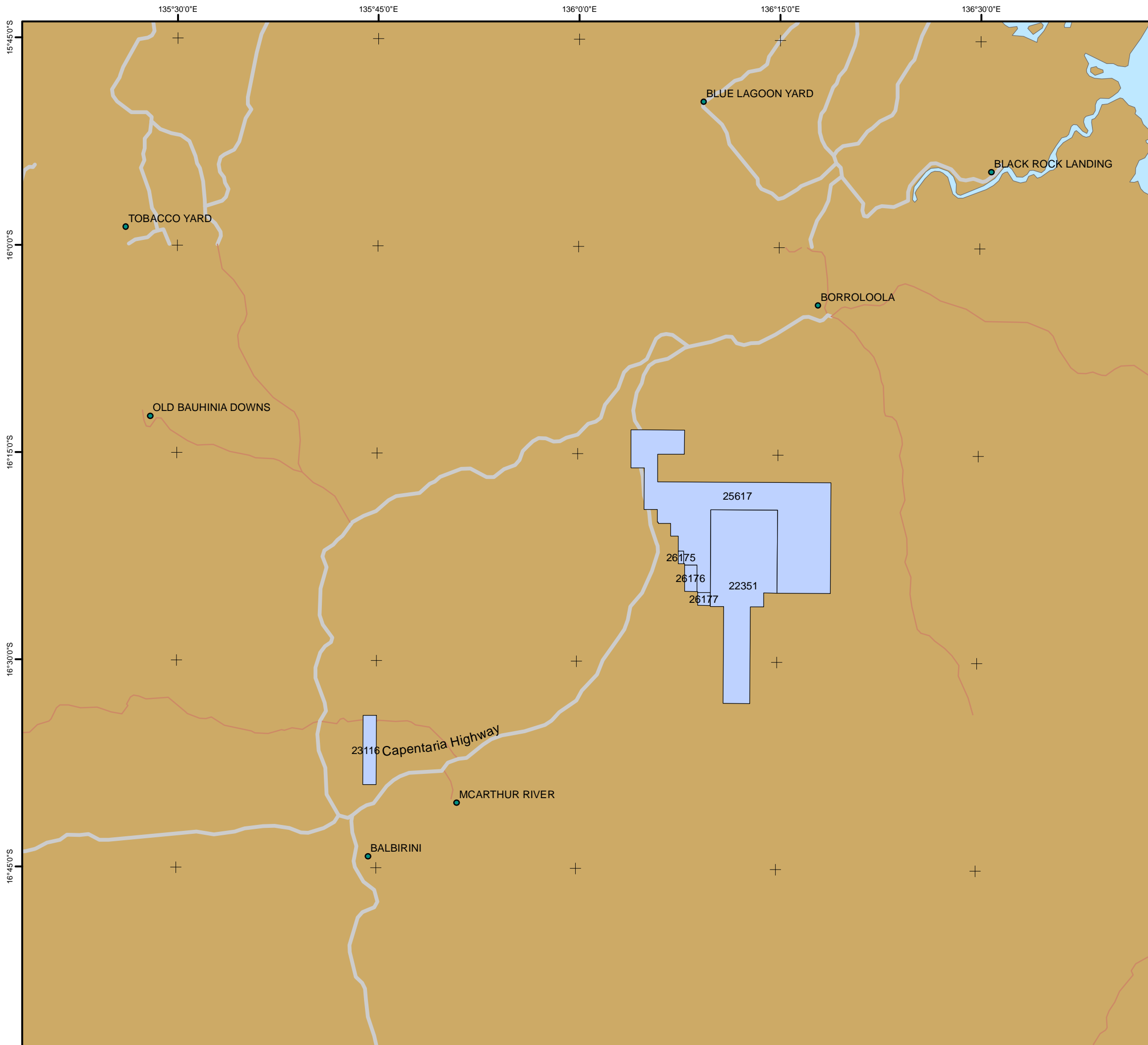
All of the economic diamond deposits and other significantly diamondiferous occurrences in Australia occur on the North Australian Craton (“NAC”). The NAC underlies the Kimberley region of northern WA, the northern two thirds of the NT and the north western part of Queensland. It is also host to many significant base metal, gold and uranium deposits. The NAC was formed at about 1850Ma during the Barramundi Orogeny by the amalgamation of Archaean and early Proterozoic rocks which now form the basement rocks to the younger sequence. Proterozoic (1820-1600Ma) platform cover sediments, Palaeozoic volcanics and sediments, and Mesozoic sediments cover these basement rocks.

The McArthur Basin is one such platform cover which developed above the NAC between 1800-1500Ma. Its sedimentary package consists of unmetamorphosed and less intensely deformed rocks of carbonate, siliciclastic and interbedded volcanics deposited in a shallow intracratonic basin. This sedimentary sequence has been divided into four groups, the Tawallah, McArthur, Nathan and Roper Groups that are separated by regional unconformities (Figure 3).

The McArthur Basin is overlain by the remnants of the Cambrian Bukalara Sandstone and the Cretaceous sediments of the Dunmarra Basin. There is a widespread distribution of Cainozoic sandy soil, laterite and alluvium cover.

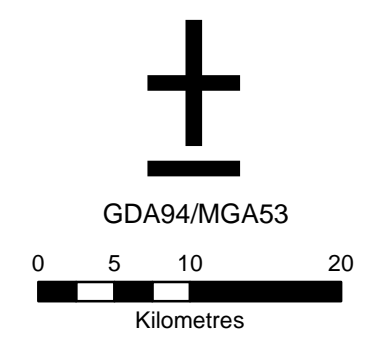
The major tectonic elements of the basin include the north-trending Batten Fault Zone and its northern equivalent the Walker Fault Zone separated by the east-trending Urapunga Fault Zone. The close association of base metal deposits and major structures in the McArthur Basin suggests that these fault zones provided an important control on mineralization.

The McArthur Basin hosts world class lead-zinc-silver and copper deposits and several occurrences of smaller uranium and base metal deposits. A number of varying economic and sub-economic diamond-bearing kimberlite pipes of varying size have been discovered in the basin. They are part of sporadically occurring post-Cambrian volcanic activity on the NAC.



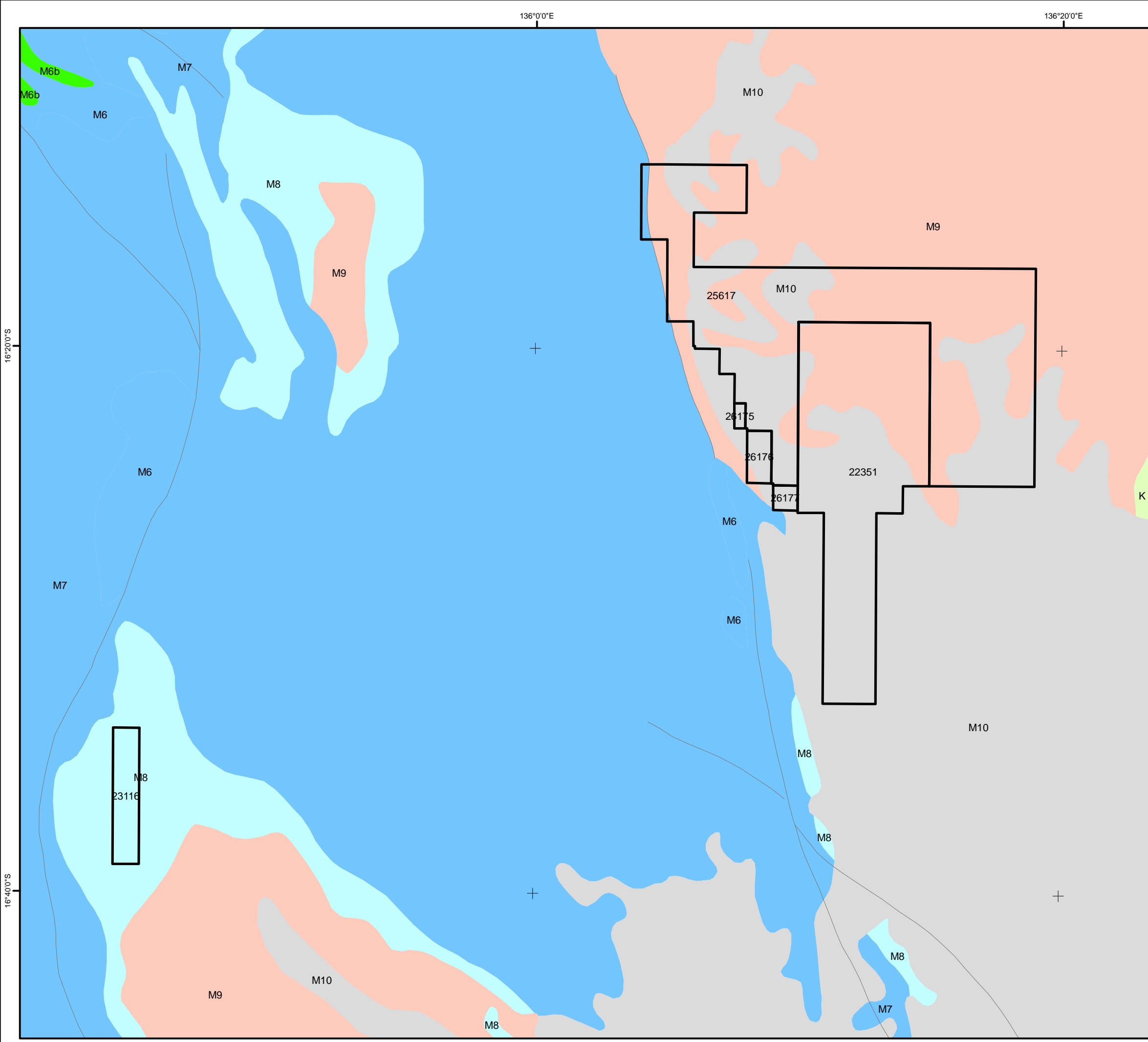
# Legend

- Calvert Hills tenements
- population centres
- Highway
- Railway
- Secondary road
- Vehicle track



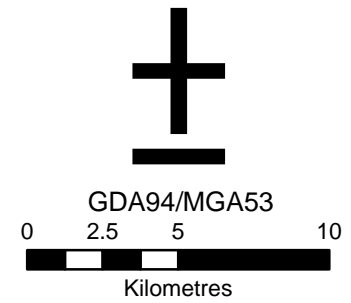
## Calvert Hills Locality Plan

Comp. : Legend International Holdings, Inc.	Date : 05/02/09
File : CalvertHills_Loc_050209	Loc. : Melbourne
Plot : Locality Plan	Figure : 2



### Legend

- Calvert Hills tenements
- K *Mudstone, shale*
- M10 *Sandstone, conglomerate, mudstone*
- M6 *Sandstone, conglomerate*
- M6b *Mafic volcanics*
- M7 *Dolostone, shale, sandstone*
- M8 *Dolostone, sandstone*
- M9 *Sandstone, shale*
- Qa *Alluvium*
- major structures



## Calvert Hills Geology

Comp. : Legend International Holdings, Inc.	Date : 05/02/09
File : CalvertHills_Geo_050209	Loc. : Melbourne
Plot : Geology	Figure : 3



The large time span for the intrusion of diamondiferous rocks, 367Ma (Devonian age) for Merlin kimberlite field, 179Ma (Jurassic age) for Timber Creek kimberlite field, and 25Ma (Tertiary age) lamproite field in the Ellendale (West Kimberley) area, makes the NAC very prospective for diamond exploration. It is expected that kimberlites would occur in the central parts of the NAC and lamproites would be favored in the marginal areas and in cross cutting Proterozoic mobile zones.

The kimberlites and lamproites of the NAC tend to occur along major northwest and northeast trending structures. These structures can be seen in the gravity data crossing the NAC and have a strike length of many hundreds of kilometres. These structures are interpreted to be fundamental fractures in the NAC and are potential channel ways for diamondiferous intrusives.

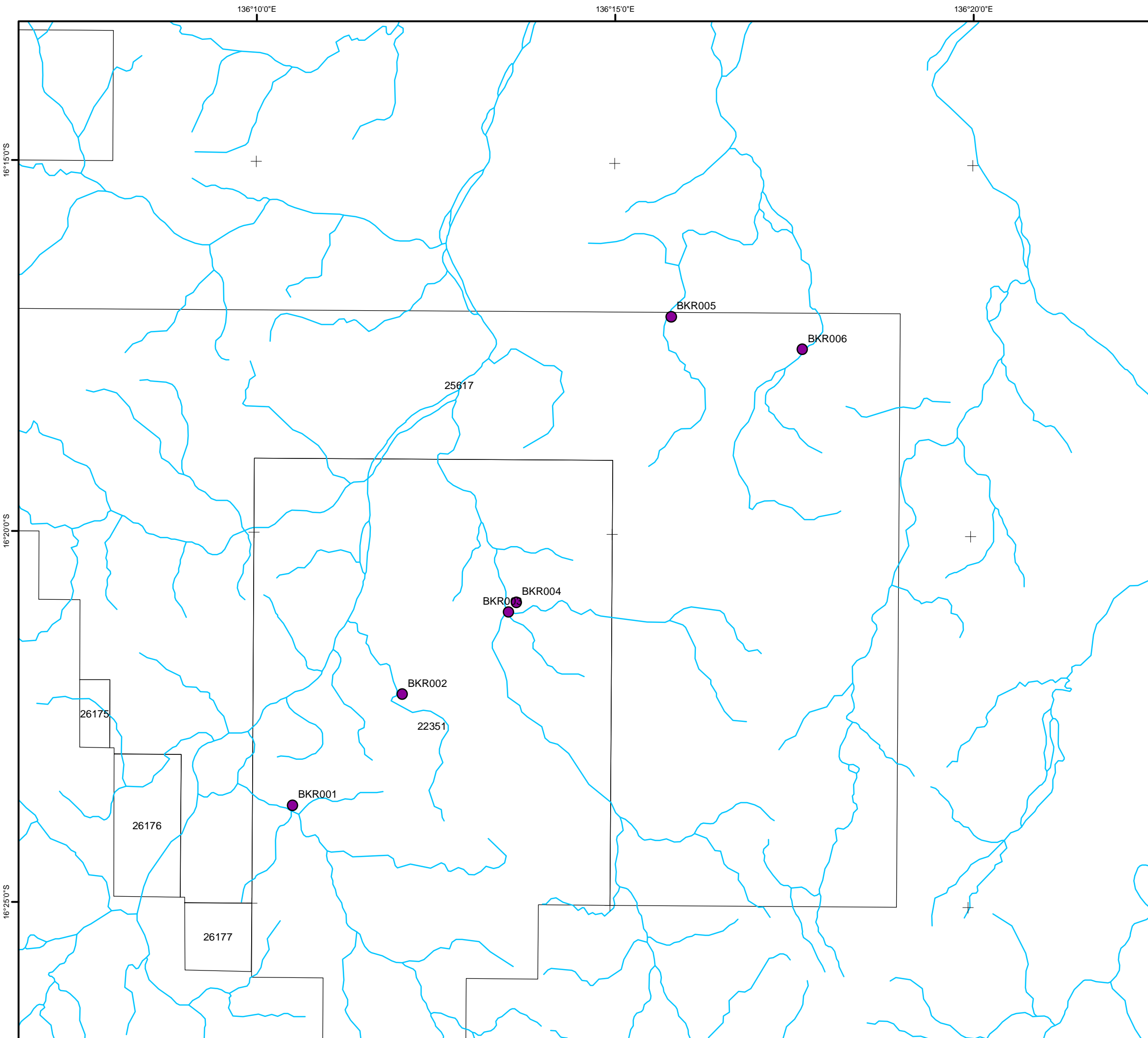
## **5 EXPLORATION**

The tenements described in this report are part of the Calvert Hills Project, and any exploration programmes were designed along a project, rather than tenement basis. Exploration was focused on tenements proximal to the Emu Fault, a structure with potential to host economic mineralisation. Tenements situated at increasing distance from the Emu Fault were given a correspondingly lower exploration priority. Consequently, the exploration programmes across the lower priority tenements are not as advanced as those over the other tenements in the Calvert Hills Project.

A thorough review of published literature and open file company reports was completed following the acquisition of the Calvert Hills Project in an effort to identify likely exploration targets. While the area covered by the Calvert Hills Project has been identified as prospective for diamonds and base metal mineralisation, the historical reports did not indicate any potential for mineralisation over the tenements described in this report.

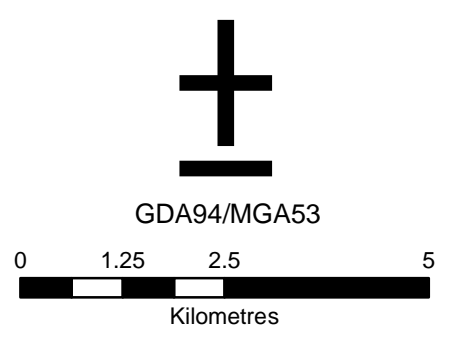
Multi client airborne geophysical data and Landsat imagery was purchased as an aid to identifying pipe like anomalies across the project area. Targets were identified and although proposals were submitted to test these targets with surface loam sampling, the work was given a low priority and was not conducted in favour of targets with higher prospectivity.

Reflecting the low priority of these tenements with respect to other tenements of the Calvert Hills Project, a total of six (6) stream samples were taken within tenements EL22351 and EL25617 and analysed for heavy minerals (Figure 4). Results were disappointing as no diamonds or indicator minerals were found.



**Legend**

- Sample locations
- Calvert Hills tenements



**Calvert Hills  
Sample locations**

Comp. : Legend International Holdings, Inc. Date : 05/02/09

File : CalvertHills\_samples\_050209 Loc. : Melbourne

Plot : Sample locations Figure : 4

## **6 CONCLUSIONS**

The Calvert Hills Project remains a major focus of exploration for Legend International Holdings to locate and develop diamond resources in the Northern Territory. Detailed literature reviews and stream sampling indicated that tenements listed in this report display little potential to host diamond bearing rocks. The region remains prospective and exploration in the Calvert Hills Project is now focused on those tenements with a higher potential to host diamonds.

The tenements listed in this report remain a low priority for exploration across the Calvert Hills Project due to the lack of indicator minerals recovered and the interpretation of the geological setting that suggests little potential for this area to host diamond bearing rocks.

The tenements were therefore recommended for surrender, and relinquished on the 1st of December, 2008.

## **7 BIBLIOGRAPHY**

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**Pietsch, B.A., Rawlings D.J., Creaser P.M., Kruse P.D., Ahmad M., Ferenzi P.A., and Findhammer T.L.R.**, 1991: *Bauhinia Downs SE5303*, 1:250,000 Geological Map Series, Explanatory Notes, Northern Territory Geological Survey, Darwin.