ELKEDRA DIAMONDS NL
ABN 42 092 334 220

CLOSED REPORT: CONFIDENTIAL

Altjawarra Craton Diamond Project
Combined Annual Report for period ending April 30, 2005

Tenements:
EL22530 Tobermory, EL22531 Toko Range, EL22532 Umberumbera, EL22534 Lucy Creek East, EL22535 Last Hope East, EL22537, Dulcie, EL22538 Manners Creek, EL22542 Landerandera, EL22544 Wanda, EL22545 Towners, EL22547 Bathurst, EL23202 Marqua, EL23965 Gordon Creek

Elkedra Report No. 0166

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Map Sheets:	
1: 250,000:	Elkedra (SF53-07), Sandover River (SF53-08), Huckitta (SF53-11), Tobermory (SF53-12), Hay River (SF53-16)
1:100,000:	Arapunga (6053), Ooratippra (6154), Algamba (6253), Argadargada (6254), Mount Barrington (6351), Marqua (6352), Alkea (6353), Gordon Creek (6354), Adam (6451), Toko (6452), Tobermory (6453), Barry Plain (6454)
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SUMMARY

This report details diamond exploration work carried out by Elkedra Diamonds NL within it's Altjawarra Project Area in the Northern Territory.

Extensive tenement rationalisation saw 11 exploration licenses relinquished during the reporting year, with 13 granted licences and 2 applications currently 100% held by Elkedra.

Exploration work comprised 35.8km of ground magnetic surveying to test the response of interpreted palaeodrainage channels and one circular anomaly. The technique was not successful in defining the palaeodrainage channels, probably due to a combination of surface noise from modern transported surface material and lack of background data from either side of the palaeochannels.

An extensive RAB and auger drilling programme comprising 230 RAB holes and 1 auger hole for a total of 2505 metres of drilling was completed. This programme again targeted the palaeodrainage channels and was designed to better define the geology and provide sample material for heavy mineral analysis. Two other anomalies were also drilled. Selected intervals were analysed and results were generally disappointing, with only 2 chromites recovered from the macro fraction. Microdiamond analysis results are still outstanding.

1 TENEMENT STATUS

Eleven exploration licences were relinquished during the reporting period. The tenure details of the remaining 13 exploration licences within the Altjawarra Project area are listed in Table 1.

Table 1: Tenement Summary

Tenement No	Tenement Name	Date Granted	No of Blocks	Total Area (km^2)
EL22530	Tobermory	09/08/2002	96	1550
EL22531	Toko Range	16/07/2001	500	1572
EL22532	Umberumbera	09/08/2002	456	1445
EL22534	Lucy Creek East	16/07/2001	500	1589
EL22535	Last Hope East	09/08/2001	500	1583
EL22537	Dulcie	17/07/2001	68	1527
EL22538	Manners Creek	09/08/2001	277	1579
EL22542	Landerandera	16/07/2001	391	1235
EL22544	Wanda	09/08/2001	395	1551
EL22545	Towners	09/08/2001	345	1100
EL22547	Bathurst	17/10/2002	275	880
EL23202	Marqua	29/11/2002	186	1590
EL23965	Gordon Creek	24/05/2004	140	446

2 LOCATION AND ACCESS

The Altjawarra Project Area is located approximately 400km east-northeast of Alice Springs in the Northern Territory. The project area falls within five 1:250,000 sheets: Elkedra (SF53-07), Sandover River (SF53-08), Huckitta (SF53-11), Tobermory (SF53-12), Hay River (SF53-16).

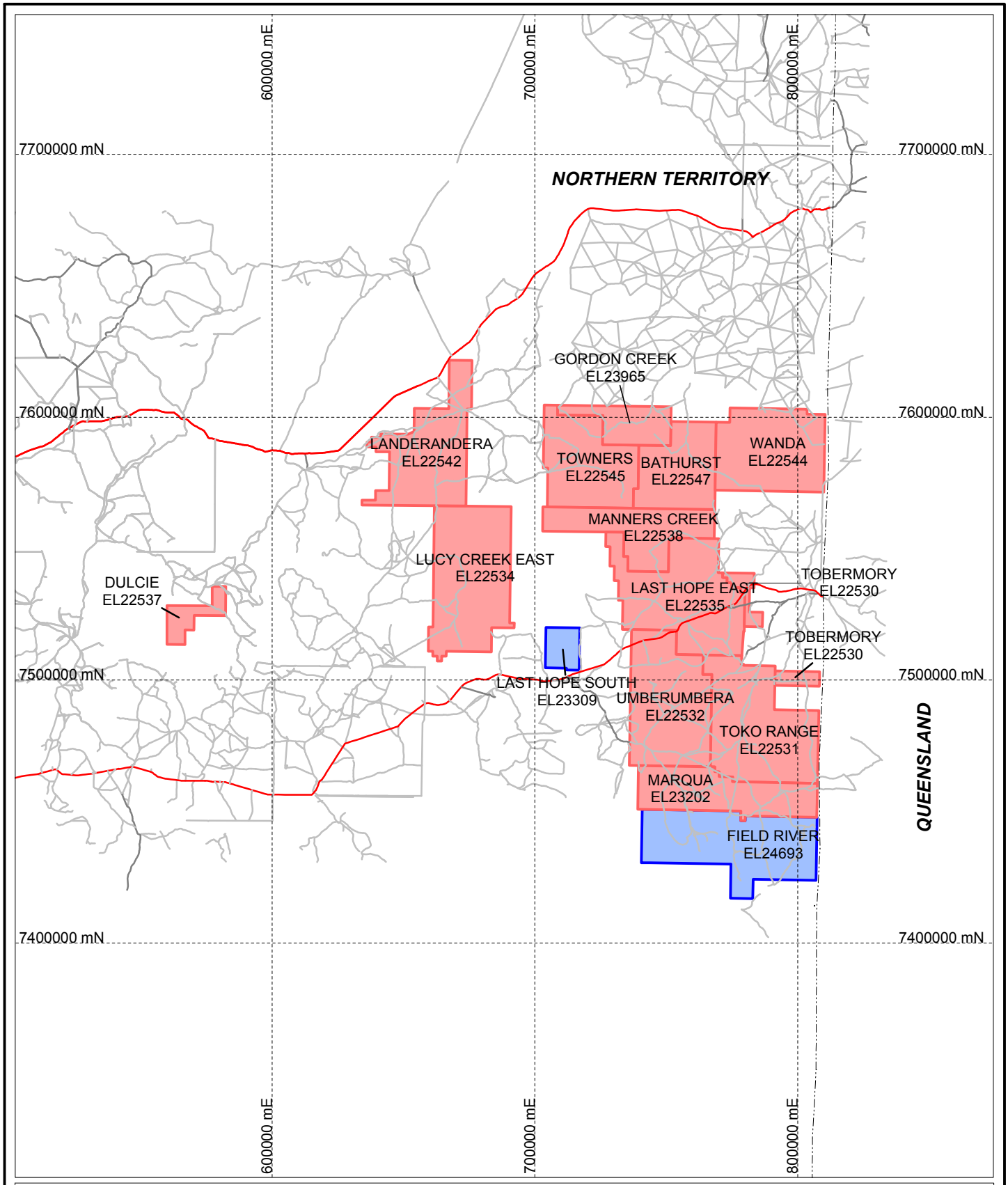
Physiography ranges from an elevated, dissected, plateau along the southern portion of the project area, giving way to relatively flat and expansive sand plains to the north and northeast. The vegetation ranges from sparse savanna woodland and annual grasslands to perennial spinifex dominated grassland. The vegetation is consistent with a continental desert regime.

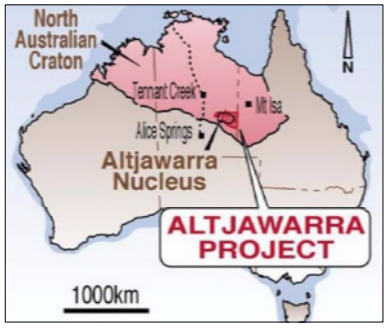
Access to the northern tenement areas is via the Sandover Highway, and to the southern area via the Plenty Highway. The tenements are crossed by a number of station tracks.

3 GEOLOGICAL SETTING

3.1 Regional Geology

The Altjawarra diamond project is located on the North Australian Craton, which represents an amalgamated terrain that was consolidated around 1,800 Ma. From a diamond exploration perspective, the significance of the North Australian Craton is that it hosts all of Australia's diamond mines to date including the recently discovered diamondiferous Merlin kimberlites located on the eastern portion of the North Australian Craton. Of particular importance is the age of the Merlin pipes, which have been dated as Devonian (~380 Ma). Elkedra Diamonds are targeting this same kimberlite event, or a possible younger event or events, in the southern Georgina Basin.





Tenements

Granted Exploration License

Exploration License Application

Roads

Highway

Minor roads and tracks

N

ELKEDRA DIAMONDS NL

Figure 1
ALTJAWARRA PROJECT
Tenement Location

Date:26/5/2005	
Author: JL	
Office: Bullsbrook	
Drawing: 200/E-00/ET-002	
Scale: 1:2000000	Projection: MGA Zone 53 (GDA 94)

0 20 40 80
kilometres

The project area incorporates several kilometers of Cambro-Ordovician platform sediments of the southern Georgina Basin, which wholly veneer a basement continental block referred to as the Altjawarra Block. The southern Georgina basin and the underlying Altjawarra Block in particular, are associated with a zone of anomalously thick lithosphere extending to at least 200km depth as recognized from seismic tomography studies (Kennett, 1997; Van der Hilst *et al.*, 1998; Debayle and Kennett, 2000). The geophysical data highlight the area as highly prospective for the emplacement of diamond-bearing kimberlites.

3.2 Tenement Geology

The northern portions of the tenements comprise bedrock of the predominantly Cambro-Ordovician Arrinthrunga, Tomahawk and Ninmaroo Formations, which are composed of intercalated sandstone, limestone, dolostone and seams of glaucontic siltstone. The Tomahawk beds are overlain by younger Tertiary to Quaternary lateritic sands.

To the south, younger sedimentary rocks define the northwest-southeast trending Dulcie and Toko Synclines, which marks one of the main depocentres of the Georgina Basin. The synclines comprise a succession of largely Ordovician to Devonian age carbonate and clastic sedimentary rocks.

4 EXPLORATION COMPLETED DURING REPORTING PERIOD

Exploration activities undertaken during the reporting year includes:

1) Ground Magnetic Surveying
2) RAB and Auger Drilling
3) Rock Chip Sampling

4.1 Ground Magnetics Surveys

In May 2004, a total of 35.8 line km of ground magnetic surveying was completed at 10 prospect areas. Nine of the prospects are associated with palaeochannels interpreted from regional airborne magnetics data. The tenth prospect, Silcrete Mound, is a discrete, 140m diameter circular geomorphic/geological feature.

The aim of the ground magnetic surveying was to determine whether; i) the technique was effective at discerning older palaeochannel alluvial deposits beneath younger transported regolith; and ii) identify whether the circular geomorphic/geological feature at Silcrete Mound prospect has a discrete magnetic expression.

A total of 27.8 line km of ground magnetic surveying were completed along 17 traverses to test the interpreted palaeochannels. At Silcrete Mound prospect a detailed ground magnetic survey, totalling 7.95 line km, was completed over a 600m by 600m area.

The ground magnetic survey sites were located in the field using a hand held Garmin GPS containing pre-defined waypoints. A GEM GSM-19 magnetometer with a built in GPS receiver was used for the surveying. The magnetometer sensor height was 3m above ground level. Two Elkedra geologists carried out the surveys. Base station readings were collected at the same base station site immediately before and after each individual line or grid survey. The digital data was linearly corrected to the base station readings. The data was then imported into the Chris DBF programme for data presentation and interpretation either as profiles or contoured images for interpretation.

Geophysical consultant, Duncan Cowan, carried out additional, more sophisticated processing, presentation and interpretation of the ground magnetics data (Appendix ##).

A summary of the surveys is given in Table 2 and their location shown in Figure #

Table 2: Summary of Ground Magnetic Survey Results

Tenement	Survey Name	Line km	Survey Type	Summary of Results
EL22547	Imboridju Line 1	3.2	Single line	No palaeochannel response identified. Minor anomalies of uncertain source. Traverse parallel and proximal to fence line.
EL22547	Imboridju Confluence Line A	3.1	Single line	No palaeochannel response identified.
EL22547	Powder Flat Line 1	1.7	Single line	No palaeochannel response identified.
EL22535	Coles Bore Line A	2.2	Single line	No palaeochannel response identified.
EL22535	Coles Bore Line B	2.5	Single line	No palaeochannel response identified.
EL22535	Coles Bore Line C	4.8	Single line	No palaeochannel response identified.
EL22535	Coles Bore Line D	0.3	Single line	No palaeochannel response identified.
EL22535	No 5 Bore Line A	0.5	Single line	No palaeochannel response identified.
EL22535	No 5 Bore Line B	0.9	Single line	No palaeochannel response identified.
EL22535	No 5 Bore Line C	1.3	Single line	No palaeochannel response identified. Survey crossed fence line.
EL22535	No 5 Bore Line D	0.3	Single line	No palaeochannel response identified.
EL22535	Ali Line 1	0.5	Single line	No palaeochannel response identified.
EL22535	Ali Line 2	0.6	Single line	No palaeochannel response identified.
EL22531	Bloodwood Line 1	2.2	Single line	No palaeochannel response identified.
EL22531	Silcrete Mound	8.0	Grid (0.6km x 0.6km)	No discrete magnetic signature associated with silcrete mound.
EL23202	Gravehole Line 1	1.3	Single line	No palaeochannel response identified. Sporadic low amplitude anomalies associated with modern drainage alluvium.
EL23202	Chain of Claypans Line 1	2.4	Single line	No palaeochannel response identified.
Total Line km		**35.8**		

Conclusions resulting from the interpretation of the ground magnetic data are discussed below.

The palaeochannels, defined by subtle positive magnetic zones in the regional airborne magnetics data, cannot be confidently identified in the ground magnetics data because of: i) the effects of background magnetic noise, mostly attributed to surficial transported sediments, that overprints any subtle response attributable to the palaeochannels, and ii) insufficient background ground magnetics data either side of the interpreted palaeochannels.

The test ground magnetic surveys, as carried out and described in this report, have no real value with respect to drill hole targeting of the palaeochannels as interpreted from the regional airborne magnetics data.

At some prospects, modern drainage alluvium and associated terraced alluvial deposits were defined by scattered, low amplitude positive and negative anomalies.

A detailed grid magnetic survey of the Silcrete Mound prospect failed to produce a discrete magnetic anomaly associated with the circular geomorphic/geological anomaly. The subtle residual magnetic pattern correlates with observed variations in the surficial regolith.

More sophisticated processing and interpretation of the ground magnetics data, by geophysical consultant Duncan Cowan, was not able to enhance the magnetic signature of the palaeochannel deposits or produce a discrete anomaly associated with the Silcrete Mound.

The results indicate that the magnetometer's sensor height of 3m, resulting in excessive background noise, was too close to earth's surface. Raising the height of the sensor to about 6-7m above the ground surface would eliminate much of the spiky background noise that obscures the subtle positive magnetic responses of the palaeochannels evident in the airborne magnetics data.

Low level, detailed airborne magnetic surveys would be much less susceptible to the effects of surficial background noise and would probably be more effective at mapping the palaeochannels than ground magnetic surveys.

4.2 Drilling

4.2.1 RAB and Auger Drilling

During July-August 2004, a RAB and Auger drilling programme totaling 231 drillholes for 2505 metres of drilling was completed. This drilling was designed to test a number of diamond exploration targets, predominantly palaeochannels identified by airborne magnetics and Landsat TM survey interpretation.

Drilling was conducted by Orbit Drilling using a truck-mounted RAB/aircore drilling rig. Of the 230 drillholes, 224 were drilled with 4 inch blade bits and 6 were drilled using 4 inch hammer bits. The 6 hammer bit drillholes were drilled at CWN-116 (3 drillholes) and Silcrete Mound (3 drillholes) prospects. Penetration rates for the blade bit drilling was as expected while the sample returns were generally very good. This drilling technique was generally not pushed to its capacity because the time it took to log, sample and survey the magnetic susceptibility of the holes was commonly slower than the time it took to drill the hole. Hammer bit penetration rates were slower than expected mainly because of the ground conditions. Sample returns were generally poor for the hammer bit technique.

Drilling statistics are summarised in Table 3 and collar locations are shown in Plan ##.

Table 3: RAB and Auger Drilling Summary

Tenement No	Tenement Name	Auger		RAB Blade		RAB Hammer	
		Holes	Metres	Holes	Metres	Holes	Metres
EL22547	Bathurst	1	6	135	1451	3	105
EL22535	Last Hope East			42	300		
EL22538	Manners Creek			6	78		
EL23202	Marqua			14	121		
EL22531	Toko Range			27	324	3	120
Total		**1**	**6**	**224**	**2274**	**6**	**225**

Throughout 2004, Elkedra Diamonds investigated a variety of methods for bulk sampling the palaeo-channels, eg, pitting, trenching, wide-diameter diameter drilling. Orbit Drilling provided Elkedra with the option of testing 12 inch auger drilling using its RAB/aircore drilling rig.

Only one 12 inch auger hole (EAU0001) was drilled at Imboridju Prospect. This hole was abandoned at 6m depth because of the extremely slow penetration rate and increasing technical

difficulties with drilling at greater depths. It took six hours to drill the hole to 6m depth. The technique required water to be added to the hole to lift the sample to surface as a hot muddy sludge that was unfavourable to handling, sieving and sampling. As was expected, sample contamination was also a significant issue. The auger hole did, however, provide sample returns that exceeded expectations, that is, between 70kg to 150kg per metre drilled with the sample size increasing with depth. No samples were taken from the auger hole as the drill spoil at 5-6m was wet, contaminated and contained very little gravel material. The auger drilling technique using the RAB/aircore rig proved demonstrably unfavourable to be pursued any further.

Only the RAB drill holes that intersected palaeochannel gravels were sampled. Gravel-rich intervals from a total of 147 of the RAB holes drilled were sampled.

The palaeochannel gravel units intersected by the RAB drill holes varied in width from less than 1m to 8m wide. Every 1m interval containing the gravel units were sieved to -5mm. Individual 1m sieved samples varied in size from 4kg to 20kg and generally averaged around 12kg in typical gravel material. The oversize +5mm fraction was discarded back onto the source RAB sample pile. If the palaeochannel gravel unit exceeded 1m in thickness within a drillhole, all of the sieved 1m samples were composited together into the same sample. Composite -5mm gravel samples for each hole could vary from 3.5kg to around 80kg and could be made up of one to three sample bags of -5mm material. Every green bag was labelled with the drillhole name that serves as the defacto sample number. The labelling included a metal tag with the drillhole number on it placed inside the bag. All of the -5mm gravel sample bags were placed inside 44 gallon drums that were sealed, numbered, labelled, transported to, and stored in, the Elkedra shed in Alice Springs.

A total of 48 composite geochemical samples were collected from the seven drill holes that tested the CWN-116 and Silcrete Mound prospects and submitted to Genalysis for analysis. This work is discussed below.

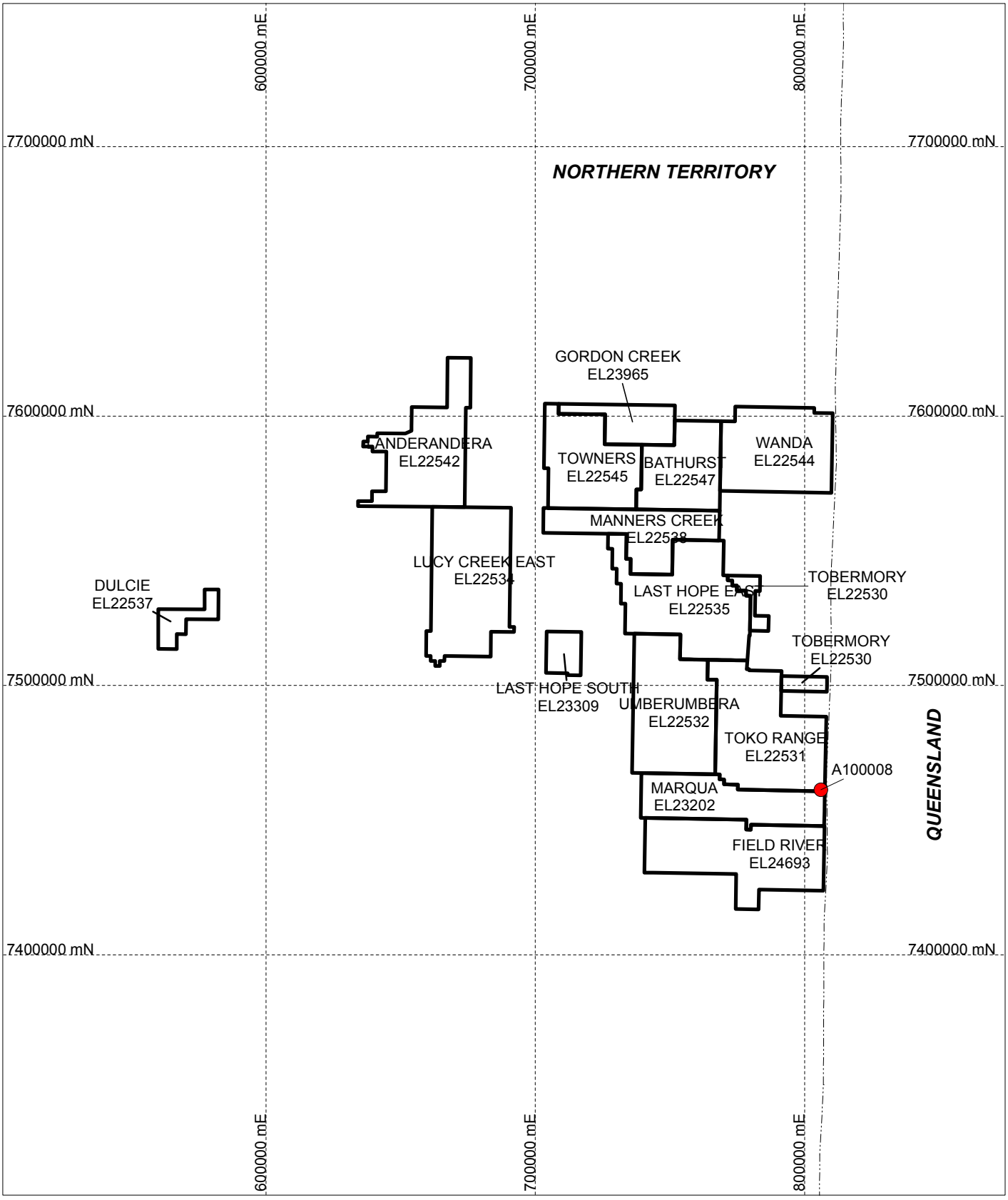
4.3 Surface Sampling

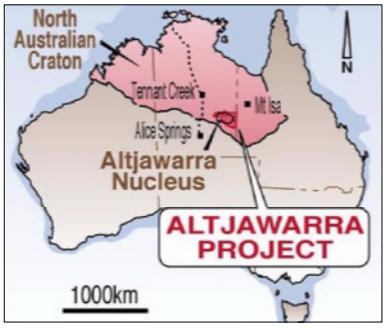
One rock chip sample, A100008 was collected during the reporting period. This sample has not yet been submitted for any type of analysis.

5 HEAVY MINERAL ANALYSIS

Drillhole samples for heavy mineral analysis were prioritised and six high priority drillhole samples were submitted to Diatech Heavy Mineral Services for processing for heavy minerals. During the reporting period only two larger samples (A102195 – Area G Imboridju Pothole and A102199 Area V Bloodwood North, roughly 530kg each) were processed, with each sample split in two and each split processed as a separate sample. One sample split was attrition milled and one not, both splits were processed and the +0.3mm fractions observed for diamonds and indicator minerals. The objective was to test the gravels for any potential metallurgical problems that could arise during routine bulk sampling such as lock-up of minerals/diamonds in calcrete/laterite particles.

One chromite each was recovered from gravel samples A102195 (Imboridju Pothole) and A102199 (Bloodwood) processed for heavy minerals at Diatech Laboratories. This result is not considered particularly encouraging in view of the large ~500 kg sample sizes and inferred quality of the trap sites. The fine fraction (-0.3mm) from these samples has been submitted to Striker laboratory for microdiamond fusion, with results in the next reporting period.





Surface Sample Locations

- Rockchip Samples (1)

N

ELKEDRA DIAMONDS NL

Date:26/5/2005	Figure 2 ALTJAWARRA PROJECT Surface Sample Locations
Author: JL	
Office: Bullsbrook	
Drawing: 200/E-00/ES-001	
Scale: 1:2000000	Projection: MGA Zone 53 (GDA 94)

0 20 40 80
kilometres

6 MINERAL CHEMISTRY

Mineral chemistry analytical work and grain identification on grains recovered from the drillhole sampling was carried out by Dr. Wayne Taylor using a JEOL 6400 analytical SEM at the Centre for Microscopy and Microanalysis, University of Western Australia. Analytical work at UWA was completed on 1 x chromite and 1 x black rutile recovered from Bloodwood and 1 x chromite recovered from Imboridju.

The Bloodwood chromite is a lattice-textured (unmixed) grain similar to those recovered in the Poodyea area to the south-east. An SEM area scan gave 54 wt% Cr_2O_3 and 0.25 wt% TiO_2. The black rutile is an Fe-Cr-Nb bearing variety containing ~2 wt% FeO, ~0.7 wt% Cr_2O_3 and ~0.3 wt% Nb_2O_5 similar to a grain recovered in the 2003 program. Such grains are likely to be of primitive alkaline rock origin and are of interest as diamond indicators. A range of interesting indicators (2 x chromite, 1 x picroilmenite, 2 x Cr-Nb-rutile, 1 x ilmenorutile, 1 x Cr-pseudobrookite 1 x Nb-rutile) have been recovered from the Bloodwood palaeochannel site in the 2003 and 2004 programs, however, the catchment of this creek is large (~300 sq. km) and further sampling upstream would be required to isolate sources. Some thought should be given to targeting the Bloodwood catchment for mini-bulk sampling.

The Imboridju chromite is a friable, crack-mosaic textured grain with ~40wt% Cr_2O_3 and 0.2 wt% TiO_2. It is probably a shallow mantle-derived grain (lower quality indicator). Similar grains have been recovered from much smaller surface samples in the Bathurst-Wanda area.

7 GEOCHEMISTRY

A total of 48 composite geochemical samples (A100201-A100218, A100220-A100229, and A100231-A100250) were collected from the seven drill holes that tested the CWN-116 and Silcrete Mound prospects. Representative grab samples of around 0.25-2.0kg (depending on sample return) from individual 1m RAB sample intervals were composited into single 1-4kg samples. In general, the composite sample intervals were 4m but the intervals varied from 1m to 5m depending on requirements. A base metal standard sample (Sample A100219 - Standard BM257) and a gold standard sample (Sample A100230 - Standard ST252) were included amongst the sample suite bringing the total number of sample to assay to 50. The “standard” samples were supplied by Gannet Holdings Pty Ltd.

All samples were forwarded to Genalysis, South Australia for pulverisation and then onto Genalysis, Western Australia for analysis. The geochemical samples were low chrome bowl pulverised, homogenised, split and analysed for a comprehensive multielement suite: Al, As, Ba, Ca, Co, Cr, Cu, Fe, K, Mg, Mn, Na, Ni, P, Pb, S, Sr, Ti, V, Y and Zn by four acid (HNO3-HClO4-HF-HCl) digest with ICP-OES finish, Ce, La, Nb, Nd, Sb, Th and U by four acid (HNO3-HClO4-HF-HCl) digest with ICP-MS finish and Au, Ag, Pd by aqua regia digest with ICP-MS finish.

8 CONCLUSIONS AND RECOMMENDATIONS

- At Imboridju-Powderflat and Bloodwood palaeogravels deposited along the base of broad palaeovalley depressions are of alluvial and colluvial origin. Most of the gravel here has been derived from stripping of the laterite surface developed on Tomahawk Sandstone.

- In general, airborne magnetic data very effectively maps the broad distribution of the Imboridju-Powderflat and Bloodwood palaeochannel depressions and their associated basal, coarse-grained alluvial deposits.

- A 150m by 80m gravel-filled pothole identified at Imboridju, has a spatial association with the 2003 gravel sample that returned diamond fragments. However the disappointing heavy mineral results to date have not confirmed the potential of this trap site, and the area remains problematical.

- Broad-spaced reconnaissance drilling of the Imboridju-Powderflat palaeo-channel identified a number of deeper and thicker gravel zones in addition to the one described above. There is potential for numerous gravel-filled holes along the length of the Imboridju-Powderflat palaeochannel.

- The Bloodwood palaeochannel gravels, which are very similar to those identified at Imboridju-Powderflat, are thickest in the north, ie, downstream.

- The non-magnetic, silcrete nodule bearing calcrete unit at Gravehole is different to the magnetic gravel units identified at Imboridju-Powderflat and Bloodwood. Consequently, there is uncertainty regarding the alluvial status of the Gravehole silcrete nodule-bearing calcrete.

- The subtle, narrow, linear magnetic anomalies tested at No 5 Bore, Ali and Coles Bore prospects were not explained by the drilling. The magnetic features, now interpreted to be very narrow and very shallow palaeo-channel alluvium, are elusive and difficult to detect with RAB drilling. Alternative methods are required to explore these channels.

- Drill testing of the CWN-116 and Silcrete Mound targets failed to intersect kimberlite or related rock types.

- The palaeochannels have been downgraded in priority as a diamond exploration tool and recommendations for exploration work in the near future centre on bulk sampling of modern trap sites, predominantly within the south of the project area where there is an abundance of indicator minerals.

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