

FINAL REPORT
EXPLORATION LICENCE 8322

"Kilgour North"

6th May, 1996 to 8th April, 1999

Licensee: BHP Minerals Pty Ltd

Operator: BHP Minerals Pty Ltd
Ashton Mining Limited

Sheet Reference: 1:250,000 Bauhinia Downs (SE53-03)

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Ashton Mining Limited – Perth Office
Ashton Mining Library

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June, 1999
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SUMMARY

Ashton Mining Limited conducted a programme of diamond exploration in Exploration Licence 8322 between the 6th May, 1996 and the 8th April, 1999. Ashton gained access to the title, which is held by BHP Minerals Pty Ltd, through the 1995 McArthur River (Non-Metals) Joint Venture. This report provides details of all work undertaken within the licence from the date of the Ashton nomination through to relinquishment of the title in June, 1999.

Work undertaken by Ashton Mining in EL 8322 involved the collection of one reconnaissance drainage sample and two bulk gravel samples. The drainage sample was processed in Ashton's Perth laboratory and was reported as negative. No follow-up drainage sampling was undertaken.

The two bulk gravel samples collected in EL 8322 were taken as part of Ashton Mining's regional programme to test for the presence of macro-diamonds in various drainages in the Batten region. These samples were processed in Ashton's on-site dense media separation (DMS) plant and the concentrate fraction was observed at the Perth laboratory. One of the samples returned a positive result, reporting five macro-diamonds, whilst the other sample was negative.

Interpretation of the sample data from EL 8322 suggests that the source of the recovered macro-diamonds is likely to occur outside of the tenement boundary. Further exploration within the licence is considered to be unwarranted and, hence, the ground is recommended for surrender.

Exploration expenditure for the term of the licence amounted to \$ 84,915.

1.0 INTRODUCTION

On the 1st July, 1995, Ashton Mining Limited entered into an agreement with BHP Minerals Pty Ltd known as the McArthur River (Non-Metals) Joint Venture. This joint venture enabled Ashton Mining to undertake its search for diamond-bearing kimberlite intrusives within designated BHP exploration licences. EL 8322 was nominated as part of this agreement on the 6th May, 1996, and this report provides details of all diamond exploration activities conducted by Ashton Mining.

Exploration Licence 8322 was granted to BHP Minerals on the 8th June, 1994 for a period of six years. The licence area originally covered 31 blocks however this was partially reduced to 16 blocks in 1996. Statutory relinquishment was also undertaken in 1997 reducing the tenement area to 8 blocks and again in 1998 with 4 blocks retained. EL 8322 is situated on the Bauhinia Downs (SE53-03) 1:250,000 mapsheet and the Mallapunyah 1:100,000 mapsheet. A tenement location plan is illustrated as Figure 1.

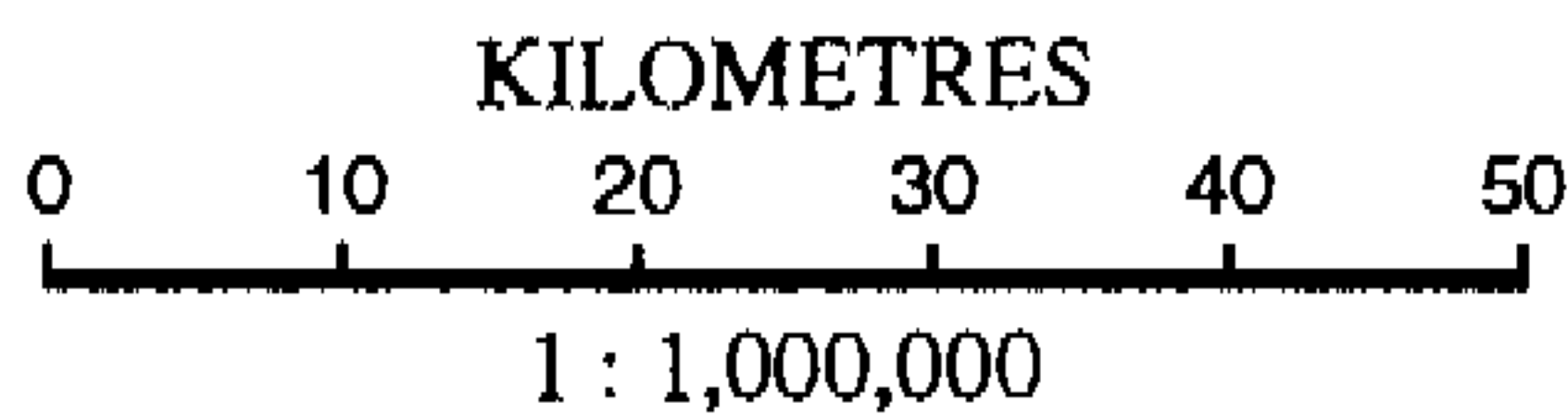
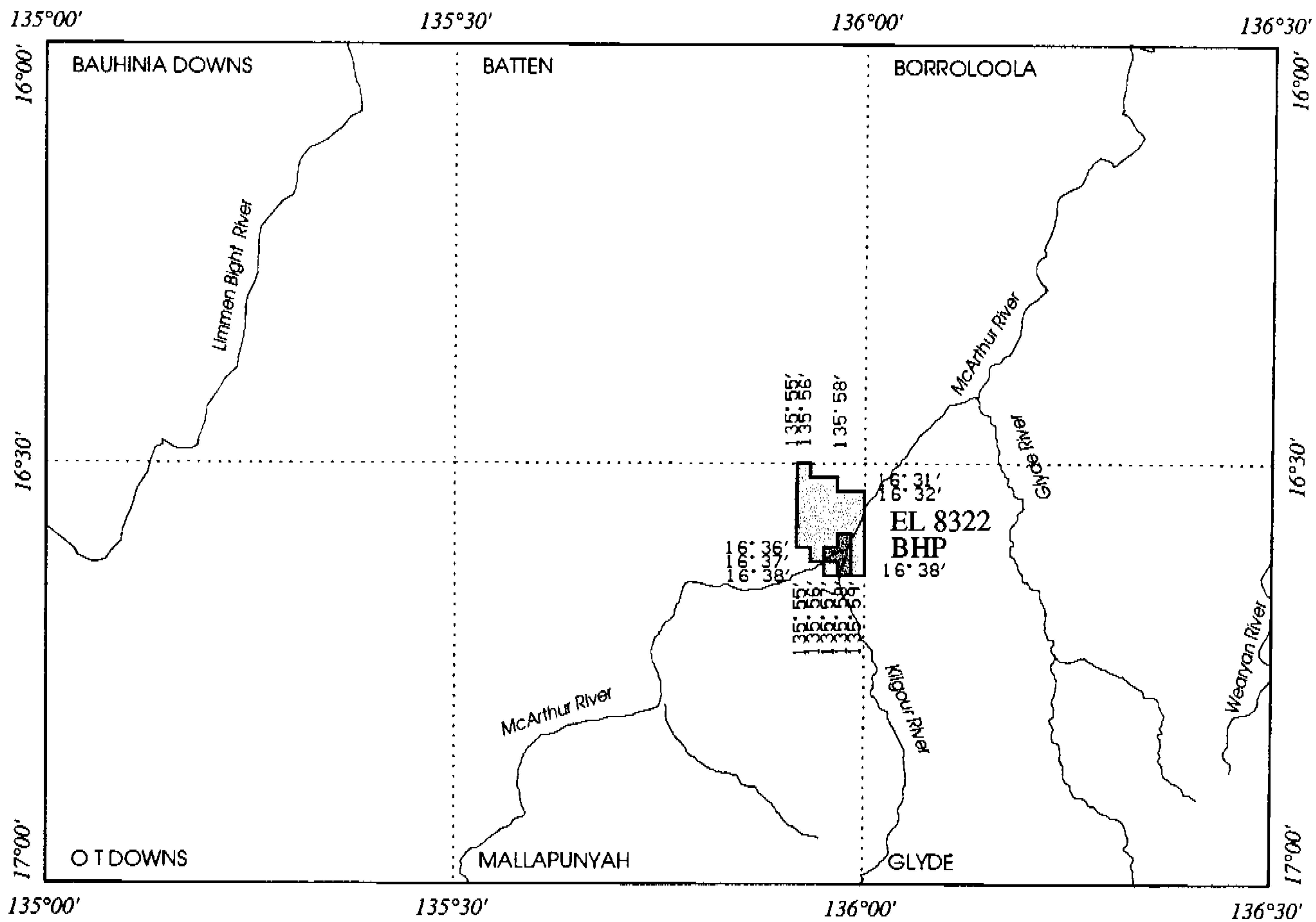
A statement of expenditure is also included in this report.

2.0 DIAMOND EXPLORATION

2.1 Drainage Sampling

A single 40kg gravel sample (96024-014) was collected in EL 8322 during one of Ashton Mining's regional drainage sampling programmes. This sample was despatched to the Ashton laboratory in Perth for processing and observing of kimberlitic indicator minerals (see section 2.3). The sample was reported as negative and no further gravel sampling was undertaken within the tenement.

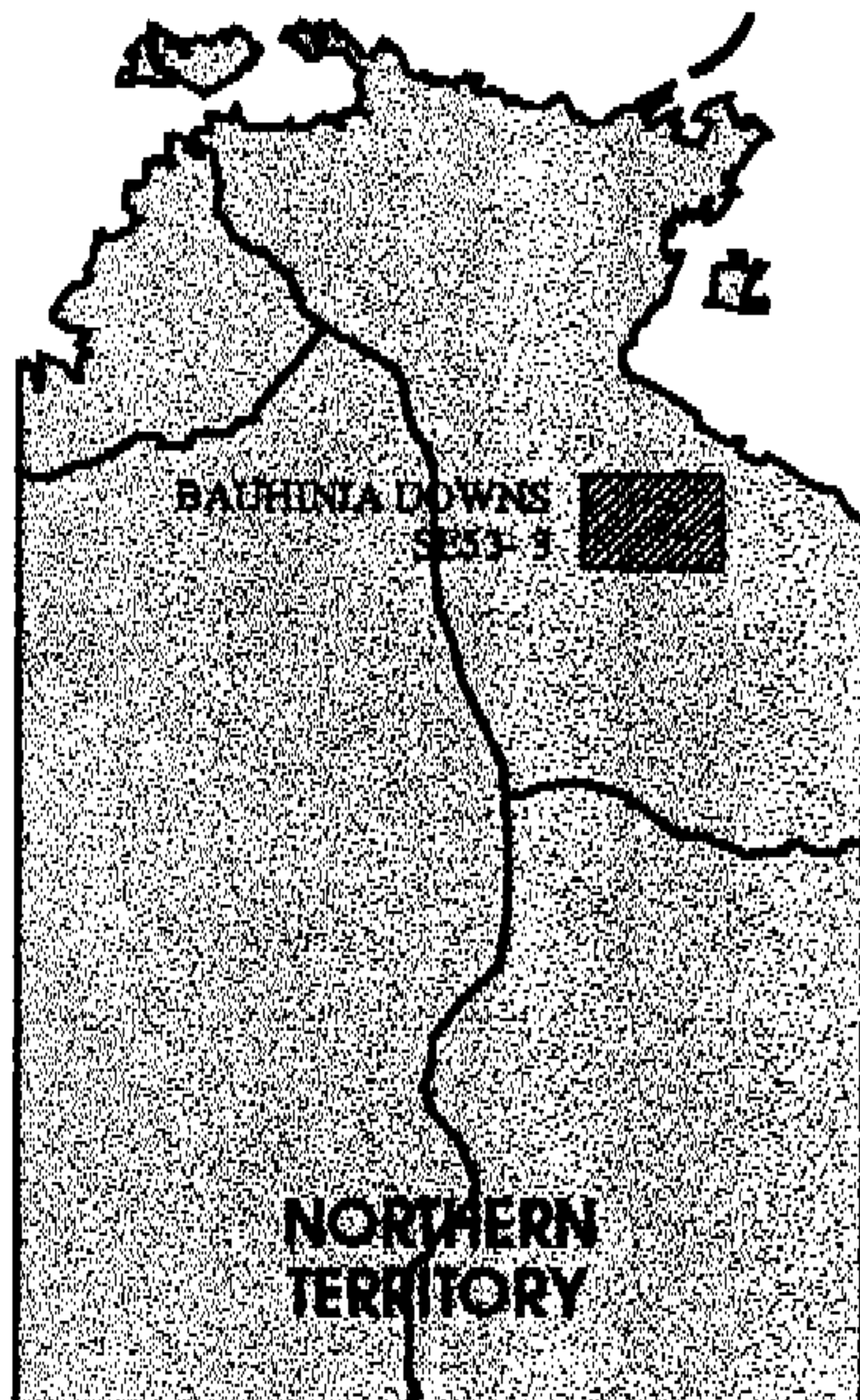
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FINAL EXTENT OF LICENCE



ORIGINAL EXTENT OF LICENCE



ASHTON MINING LIMITED

**BHP MINERALS LTD
MCARTHUR RIVER JOINT VENTURE
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FIGURE 1
LOCATION MAP**

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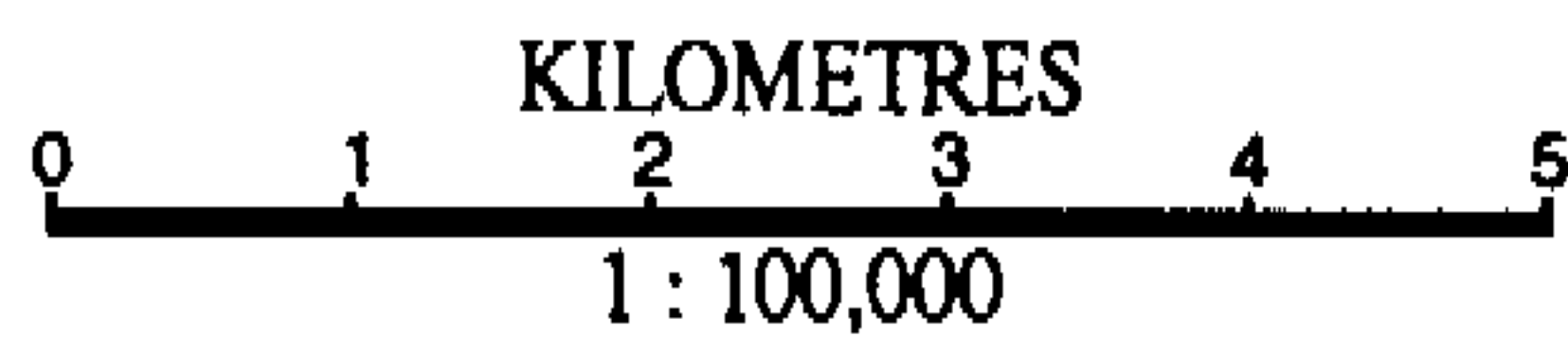
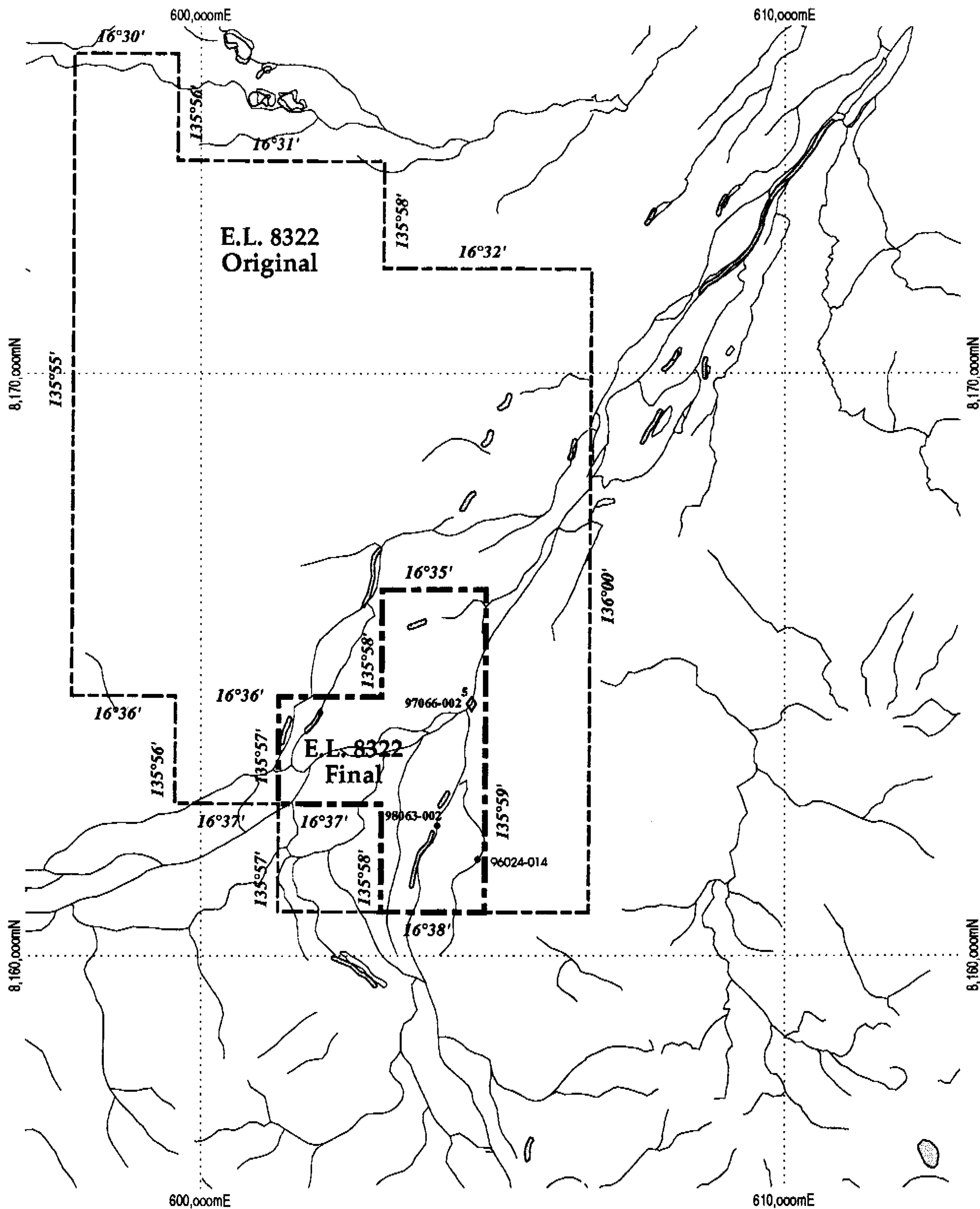
The gravel sampling work undertaken in EL 8322 involved full helicopter support due to their practical advantages in terms of site access and selection. During sampling operations the best quality, heavy mineral trap-site from a pre-selected drainage is chosen by aerial reconnaissance. Gravel is excavated from each site and screened in the field until approximately 40 kg of material has been collected. The sample material is transported in calico bags and, following daily operations, is then readied for despatch to the laboratory.

A sample listing is provided as Appendix 1 and the sample location is illustrated in Figure 2.

2.2 Bulk Sampling

Two bulk gravel samples, each weighing approximately 50 tonnes, were collected from EL 8322 during the life of the tenement. Sample 97066-002 was collected from a high quality rock bar situated within the McArthur River, on the downstream side of the Kilgour River junction. This sample was taken as part of Ashton Mining's regional programme to test for the presence of macro-diamonds in the major drainage systems of the Batten Trough. A front-end loader was used to excavate the site and screen the gravel of the oversize material. The sample was then transported to Ashton's mobile Mark III Dense Media Separation (DMS) plant which, at the time, was situated at the Merlin prospect. After processing, the concentrate fraction was despatched to the Perth laboratory for observation. A total of five macro-diamonds were reported.

To follow-up on the macro-diamond positive sample a second bulk sample was collected from EL 8322. This sample was taken upstream of 97066-002, within the



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MCARTHUR RIVER JOINT VENTURE**

**EXPLORATION LICENCE 8322
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FIGURE 2
SAMPLE LOCATIONS**

- Sample - not yet processed
- Sample - negative
- ◆ Sample - chromite positive
- ◇ Sample - diamond positive
- ⊕ Sample - other indicators
- x Geochemical sample location
- ⊗ Drill hole location - percussion

JULY, 1999

Kilgour River, in order to evaluate the Kilgour catchment as the potential diamond source. The screened gravel was processed in the Ashton Mark III DMS plant and the concentrate fraction was observed in the Perth laboratory. Sample 98063-002 was reported as negative, indicating that the macro-diamonds recovered from the McArthur river sample are not sourced from the Kilgour drainage.

The sample results are listed in Appendix 1 and the sample locations are illustrated in Figure 2.

2.3 Laboratory Procedure

The gravel sample collected in EL 8322 was transported to the Ashton Mining laboratory in Perth for processing and observing. The initial stage of sample processing involves the concentration of the heavy mineral fraction by Wilfley Table and heavy liquid separation techniques. The heavy liquid used is tetrabromoethane with a specific gravity of 2.96. The concentrate fraction is then screened into various size fractions and further concentrated by magnetic and electrostatic separation methods. A comprehensive grain by grain examination is then carried out on the $-1.0\text{mm}+0.425\text{mm}$ fraction, resulting in the recovery of any kimberlitic indicator minerals or micro-diamonds that may exist.

3.0 REHABILITATION

Access to the bulk sample sites utilised pre-existing pastoral tracks and required no further clearing. At each site a cut was made into the bank to allow the front-end loader to access the river-bed. Gravel was removed from each rock bar trap-site and screened on-site to remove all of the large boulders and bedrock fragments. After the fine

material was trucked away for processing the oversized screenings were pushed back into the excavated river-bed. The oversize fraction was also used to rehabilitate the river bank cutting. Several on-site checks were made following the initial wet season in order to ensure a thorough redistribution of gravel and to check the progress of natural revegetation. These inspections indicated that the rehabilitation efforts were largely successful.

4.0 EXPLORATION EXPENDITURE

Exploration expenditure for EL 8322 during the period 6th May, 1996 to the 8th June, 1999 amounted to \$ 84,915. A detailed breakdown of expenditure is presented in Appendix 2.

5.0 CONCLUSIONS & RECOMMENDATIONS

The results of analyses on the two bulk gravel samples collected from EL 8322 confirm that a diamondiferous source is drained by the McArthur River catchment, upstream of the Kilgour River junction. The distance to this source area is unknown, although it is unlikely to occur within the tenement boundary. Further follow-up of the macrodiamond-bearing sample is warranted, however it is anticipated that this work will be focussed further upstream and away from the current licence area. Based upon this assessment and the absence of any positive sampling data there is no further work planned for EL 8322 and the tenement is subsequently recommended for surrender.

6.0 REFERENCES

Rogers, T.C. (December 1996) Annual report, Exploration Licences 7577 "Shady Camp", 7944 "Tawallah Creek" and 8322 "Kilgour North", 2nd February, 1996 to 1st February, 1997. Ashton Mining Limited. Report No. 52045.

Lewis, S. (August 1997) Partial Relinquishment report, Exploration Licences 8322 "Kilgour North", 6th May, 1996 to 8th June, 1997. Ashton Mining Limited. Report No. 52128.

Lewis, S. (January 1998) Annual report, Exploration Licences 7944 "Tawallah Creek", and 8322 "Kilgour North", 2nd January, 1997 to 1st January, 1998. Ashton Mining Limited. Report No. 52172.

Lewis, S. (August 1998) Partial Relinquishment report, Exploration Licences 8322 "Kilgour North", 6th May, 1996 to 8th June, 1998. Ashton Mining Limited. Report No. 52274.

APPENDIX 1

Sample Results

Sample Results for EL 8322

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Sample	SampleType	Result	Diamond			
			Micro	Macro	Chromite	Other
96024-014	G	NEG	-	-	-	-
97066-002	BG	POS	-	5	-	-
98063-002	BG	NEG	-	-	-	-

G = Gravel

BG = Bulk Gravel

APPENDIX 2

Statement of Expenditure

STATEMENT OF EXPENDITURE

EXPLORATION LICENCE 8322

Final Report

For the period
6th May, 1996 to 8th April, 1999

Geoscientist/Professional Staff	5,149
Field Support/Office Staff	10,105
Other Contractors	6,277
Travel/Accommodation/Meals	5,519
Field Supplies	1,790
Operating Costs	354
Equipment/Earthmoving Hire	20,417
HMS Plant	4,630
Vehicles	6,001
Freight/Storage	3,045
Helicopter Charter	3,857
Fixed Wing	370
Laboratory	8,901
Drafting/Computing	548
Other	233
Sub-Total	<hr/> 77,196
Overheads	7,719
Total:	<hr/> <hr/> \$84,915