

EXPLORATION LICENCE 4447 BUTCHERS HILL

NORTHERN TERRITORY

ANNUAL REPORT JANUARY 1984 - JANUARY 1985

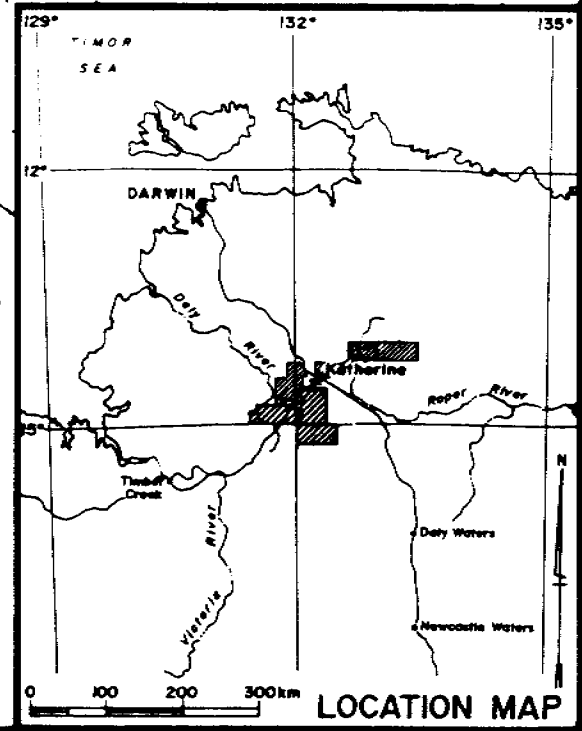
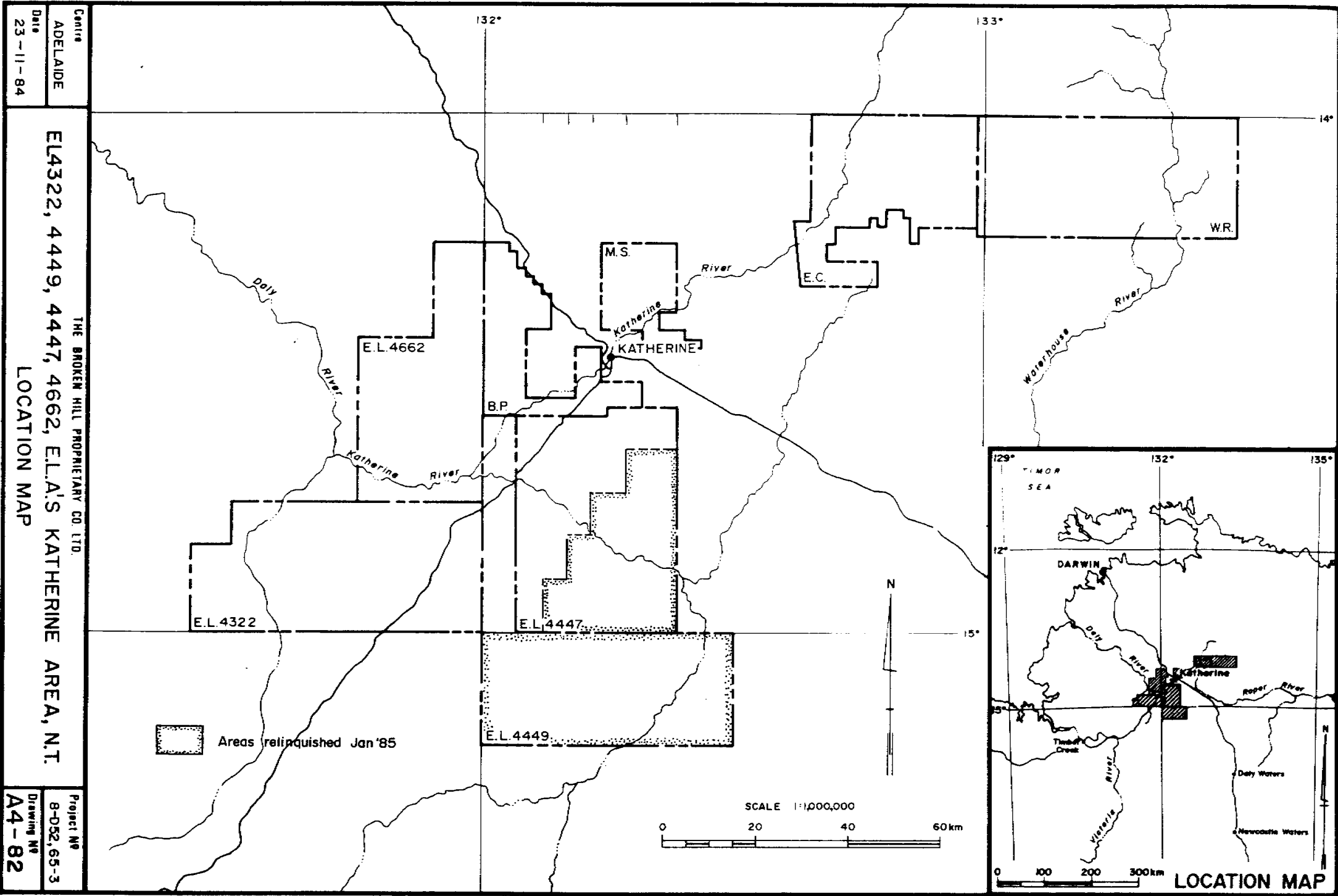
NORTHERN TERRITORY
GEOLOGICAL SURVEY

CR 85 / 083

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	<u>Drawing No.</u>
FIGURE 1: EL 4322, 4449, 4447, 4662 ELA's Katherine Area, N.T. Location Map. Scale 1:1,000,000	A4-82
FIGURE 2: Location of Stream Sample Sites Overlay for Manbulloo 1:100,000	A1-252
TABLE 1: EL 4447 Geochemical Analyses	



Centre ADELAIDE	THE BROKEN HILL PROPRIETARY CO. LTD. EL4322, 4449, 4447, 4662, E.L.A.'S KATHERINE AREA, N.T. LOCATION MAP	Project No 8-D52, 65-3
Date 23-11-84		Drawing No A4-82

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1. GENERAL STATEMENT

Exploration Licence 4447 was taken up primarily to test the diamond potential of the area. It forms part of a block of tenements including EL's 4322, 4449 and 4662.

During the first year of tenure the exploration programme consisted of stream sediment sampling to test for kimberlitic indicator minerals and diamonds. The results of reconnaissance sampling have so far been negative. The results of four samples are not yet available (CA 1551-1554).

2. TITLE

Exploration Licence 4447 of 483 blocks was granted to BHP Minerals Limited on the 20th January, 1984 for a period of six years. In December 1984 the area was reduced to 242 blocks. These areas are shown in Figure 1.

3. FIELD INVESTIGATIONS

3.1 Aboriginal Sacred Sites

The Aboriginal Sacred Sites Authority advised BHP Minerals Limited that a number of registered sacred sites were recorded in the Katherine area, however, none were registered within this exploration licence.

3.2 Reconnaissance Stream Sampling

A total of 38 samples have been taken from EL 4447, using a helicopter. At each site a 20 kilogram stream sediment sample of minus 4mm was collected, together with a geochemical sample. The sampling was supervised by an experienced geologist, and the most favourable trap site was selected, where the heavy mineral content of the stream was at a maximum for that drainage channel. The sampling density for this licence area is 40.6 sq. km. The locations of the samples are shown

on Figure 2.

3.3 Results of Stream Sampling

The 38 stream samples were despatched to BHP's Mineralogical Laboratory in Belmont where the samples were processed and the minus 0.8 mm plus 0.4mm fraction observed for kimberlitic indicator minerals.

The results for all samples have been negative except for four which have not yet been observed. These are CA 1551-CA 1554.

3.4 Geochemical Sampling

Geochemical silt samples were taken at each stream sediment site. These were sent to Comlabs Pty. Ltd. in Adelaide where they were analysed for -

Cu, Pb, Zn, Co, Ni	by AAS1
Cr	by AAS2
Nb, Zr, As, Ce, La, Ba	by XRF1

The results for all 38 samples are shown on Table 1.

4. FUTURE PROGRAMME

Stage 1

The results of CA 1551-CA 1554 will be assessed when the results become available.

Stage 2

New information, including aeromagnetic data, has recently become available. This is being processed and will be studied closely.

Stage 3

A follow-up programme of further exploration will be undertaken, if warranted by Stages 1 and 2.

Proposed Expenditure for the next year will be approximately \$10,000.

5. EXPENDITURE

Wages and Salaries	\$ 5,239
Field Support	2,725
Vehicles	1,330
Equipment	289
Air Charter	5,128
Geochemistry	142
Geophysics	57
Surveys	51
Tenement Fees	1,310
Sundries	40
Administration and Inhouse Services	<u>9,705</u>
	<u>\$26,016</u>

EL 4447 GEOCHEMICAL ANALYSES

SAMPLE	Cu	Pb	Zn	Ni	Co	Cr	As	Nb	Zr	Ce	La	Ba
RT 1512	14	8	20	22	6	12	5	8	150	30	< 20	230
RT 1513	10	6	20	18	6	12	4	12	1350	80	20	155
RT 1514	8	8	16	16	4	14	< 2	8	430	50	20	120
RT 1520	10	14	20	22	10	8	3	12	390	50	20	125
RT 1521	8	8	10	14	< 4	8	< 2	12	840	40	< 20	90
RT 1522	18	12	20	20	6	12	5	14	690	60	30	130
RT 1523	14	8	24	28	12	14	6	16	470	60	30	200
RT 1524	8	6	6	14	4	6	5	7	470	30	< 20	95
RT 1525	12	8	14	6	4	6	5	10	380	50	20	135
RT 1526	14	8	18	10	6	8	5	9	470	40	< 20	140
RT 1527	12	6	18	8	6	6	4	10	510	40	< 20	130
RT 1528	12	6	18	8	4	8	3	10	490	30	20	135
RT 1529	10	6	22	10	6	6	3	14	480	40	20	155
RT 1530	14	8	24	12	8	6	8	12	390	40	20	175
RT 1531	8	6	14	6	< 4	8	< 2	9	330	30	< 20	95
RT 1532	10	8	16	8	< 4	8	8	12	910	40	< 20	125
RT 1533	20	10	26	20	10	10	4	14	320	40	< 20	170
RT 1534	10	10	20	10	< 4	10	5	14	1250	80	30	150
RT 1535	16	10	20	10	6	10	6	14	580	50	20	140
RT 1536	16	14	16	12	6	8	3	10	640	50	< 20	95
RT 1537	4	12	26	8	6	10	3	12	950	70	30	195
RT 1538	6	6	16	6	< 4	8	4	7	460	40	< 20	115
RT 1539	12	8	20	6	< 4	8	4	9	300	30	< 20	100
RT 1540	20	10	22	10	8	8	3	14	400	50	20	170
RT 1541	14	10	20	10	< 4	10	4	14	890	50	< 20	130
RT 1542	8	12	16	6	< 4	8	< 2	9	390	40	20	80
RT 1543	20	12	28	20	12	10	5	14	470	60	30	155
RT 1544	16	10	14	10	6	8	5	12	550	50	< 20	140
RT 1545	12	8	12	10	8	10	3	12	510	40	< 20	120
RT 1546	14	8	16	10	8	8	< 2	9	380	20	< 20	115
RT 1547	16	8	28	10	6	6	< 2	10	250	30	20	175
RT 1551	18	8	34	20	14	16	4	14	330	40	30	195
RT 1578	36	14	60	28	20	18	5	20	320	80	50	240
RT 1583	8	< 2	6	12	6	10	3	8	460	20	< 20	80
CA 1551	14	28	42	6	10	190	38	9	175	40	< 20	50
CA 1552	8	18	18	4	6	75	22	7	280	50	30	90
CA 1553	6	8	8	< 4	< 4	30	10	7	370	40	20	60
CA 1554	6	10	8	< 4	< 4	18	7	8	370	30	30	60

All results in ppm

Method of Analysis:

Cu, Pb, Zn, Ni, Co

Cr

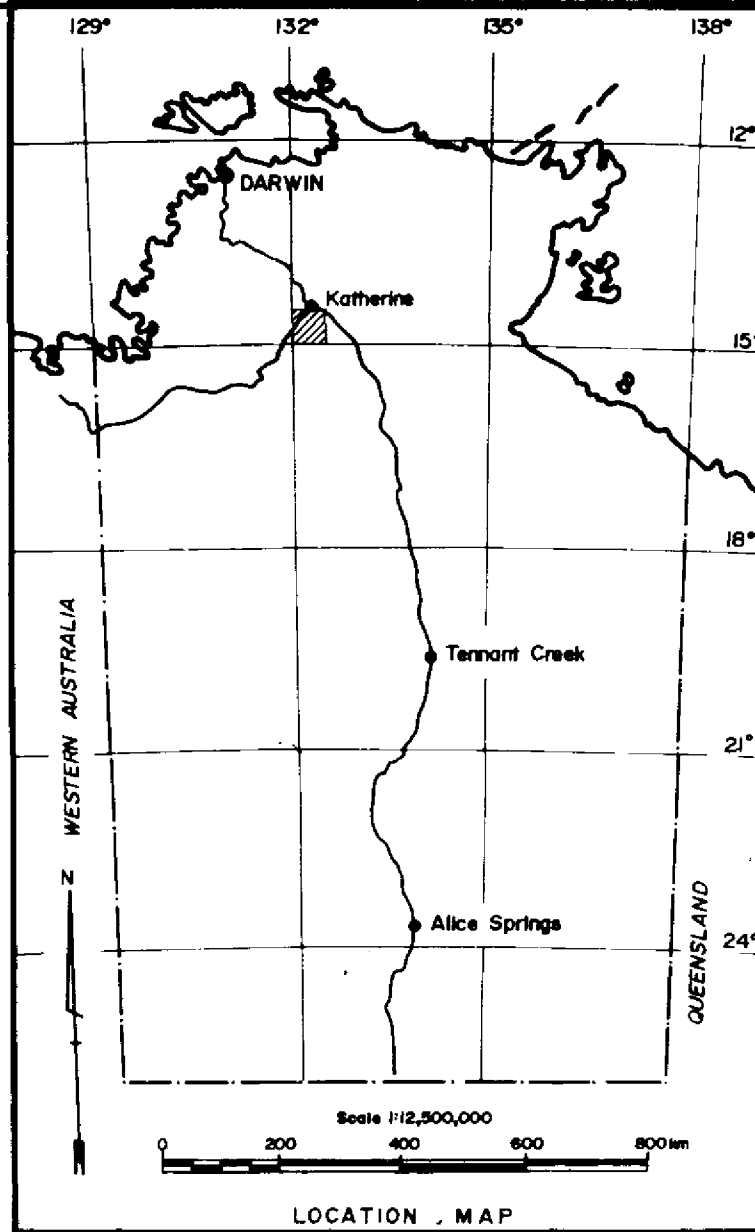
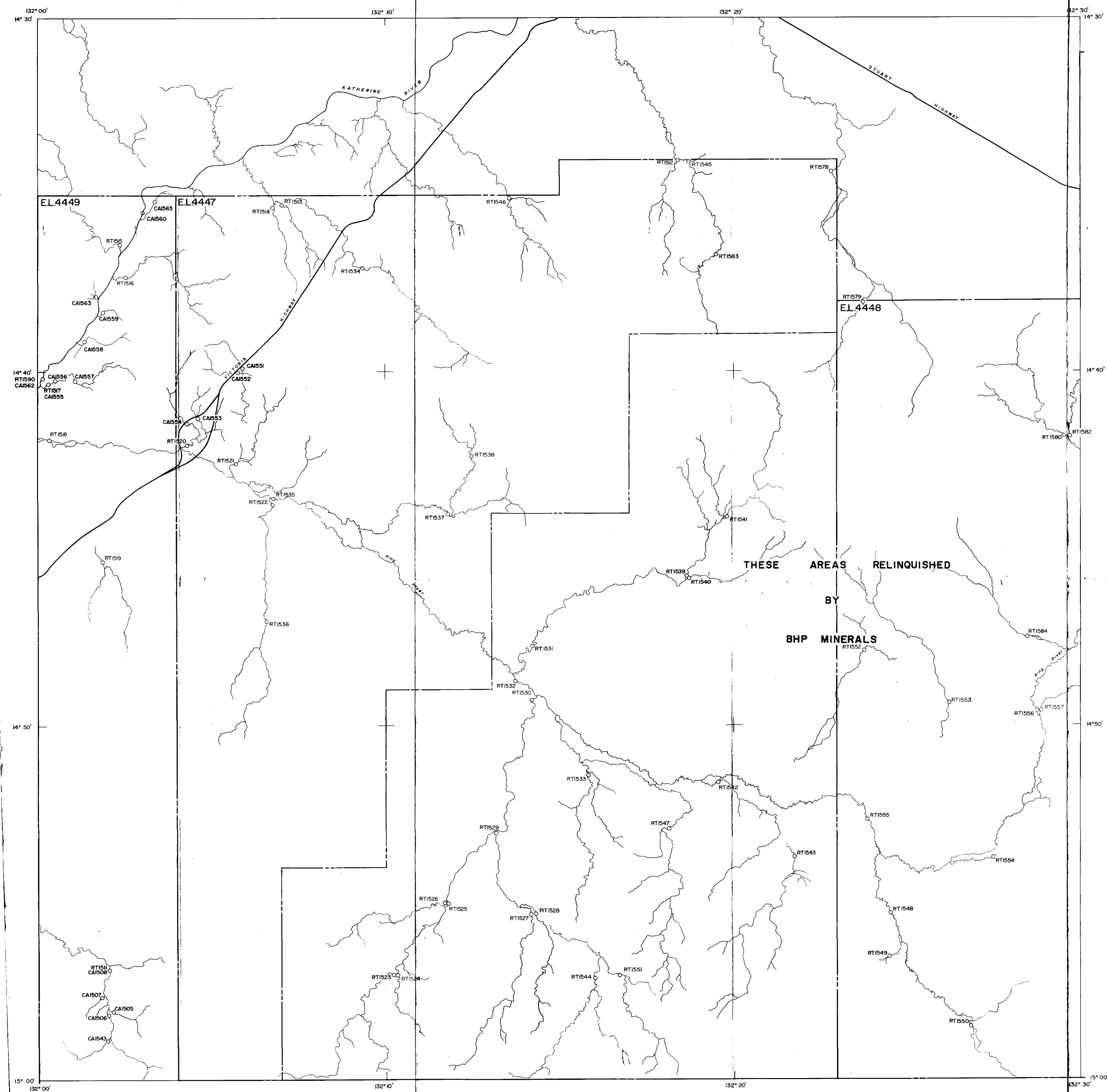
As, Nb, Zr, Ce, La, Ba

by AAS1

by AAS2

by XRF1

Comlabs Report No. COM 832305

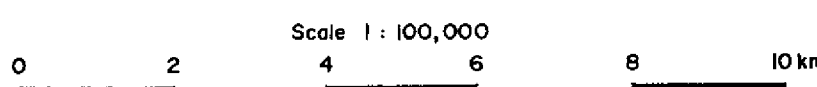


FERGUSSON RIVER 5269	KATHERINE 5369	EVA VALLEY 5469
BOWMAN 5268	MANBULLOO 5368	MARANBOY 5468
WILLEROO 5267	DRY RIVER 5367	ELSEY 5467

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LEGEND

- possible pyrope
- possible garnet
- Possible picrochromite
- Picrochromite
- possible diopside
- chromite
- Kimberlitic chromite
- Diamond
- Loom sample
- Rail sample site
- Kimberlite
- Kimberlite dyke
- Carbonatite
- boundary
- river or creek



NORTHERN TERRITORY
GEOLOGICAL SURVEY

CR85/083

THE BROKEN HILL PROPRIETARY CO LTD
EXPLORATION DEPARTMENT

OVERLAY FOR MANBULLOO
LOCATION OF STREAM SAMPLE SITES

Drawn: R. J. Taylor	Date: 13-6-84	Centre: Adelaide
Traced: A. R. Veale	Project: N	Drawn: N
Checked:	8-E20-307	A1-252