[CR 4309]

EXPLORATION LICENCE 4322

SCOTT CREEK, N.T.

ANNUAL REPORT - 24TH AUGUST, 1984

SD 52-12

OPEN FILE

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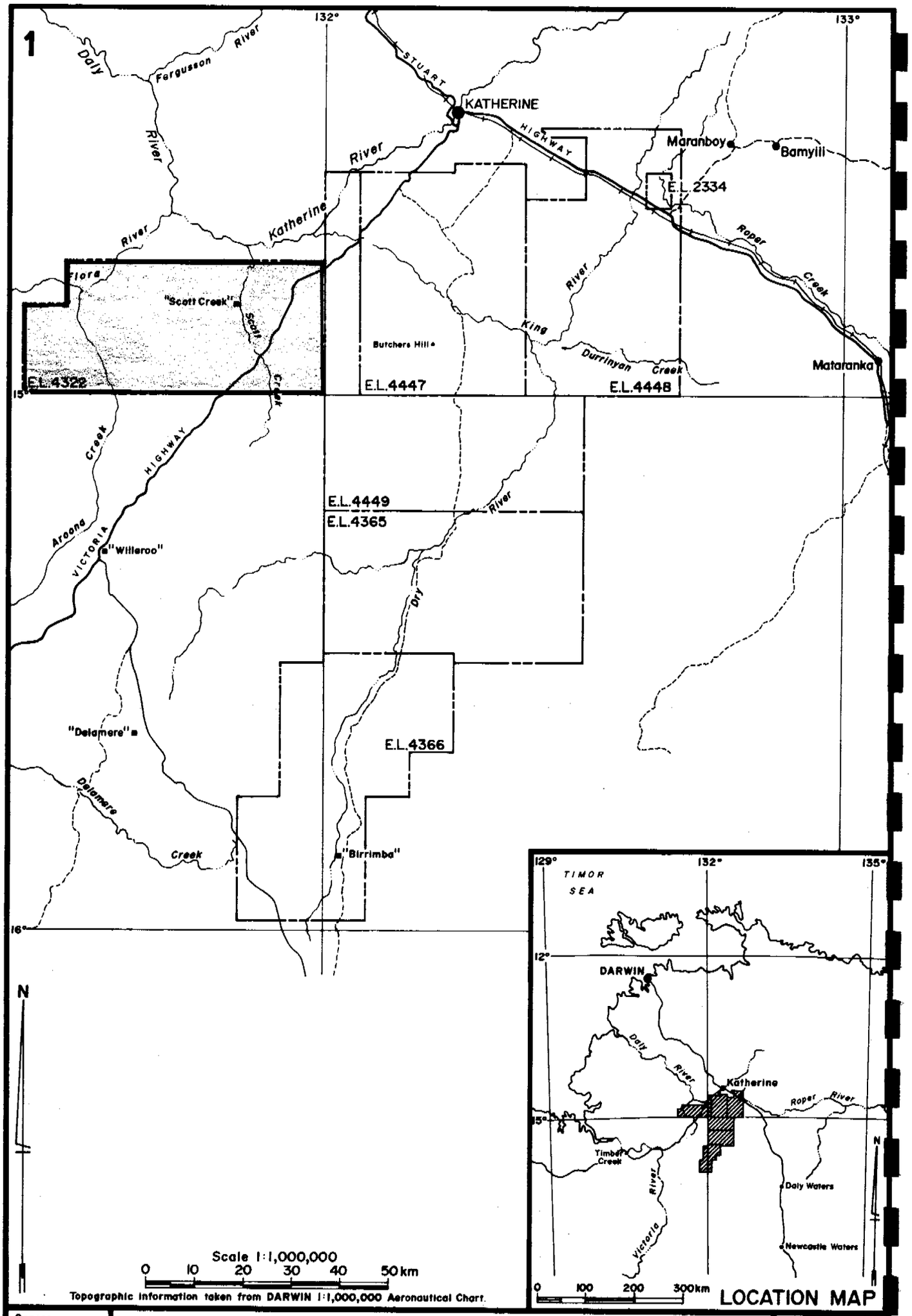
FIGURES

TABLES

FIG. 1



Centre Adelaide	THE BROKEN HILL PROPRIETARY CO. LTD.	Project No. 8-D52-57-1
Date 21-6-83	E.L.4322, 4365, 4366, 4447, 4448, 4449 KATHERINE, N.T. LOCATION MAP	Drawing No. A4-277

EXPLORATION LICENCE 4322

SCOTT CREEK, N.T.

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1. GENERAL STATEMENT

Exploration Licence 4322 was taken up primarily to test the diamond potential of the area. It forms part of a block of tenements including E.L.s 4447, 4448, 4449, 4365 and 4366.

During the first year of tenure the exploration programme consisted of stream sediment sampling to test for kimberlitic indicator minerals and diamonds. One micro diamond was found (RT 1489) during the reconnaissance sampling, however, this has not been repeated during follow-up sampling.

2. TITLE

Exploration Licence 4322 of 500 blocks was granted to BHP Minerals Limited on 25th August, 1983 for a period of six years. It was renewed for a second year on 25th August, 1984. The licence area is 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 within our Katherine tenements. However, none were registered within this exploration licence.

3.2 Reconnaissance Stream Sampling

This exploration licence was sampled in September, 1983, in conjunction with E.L. 4447, E.L. 4448 and E.L. 4449, using a helicopter. At each site a 20 kilogram sample of minus 4mm stream sediment was collected, together with a geochemical sample. This sampling was supervised by an experienced geologist and the most favourable trap site was selected where the heavy mineral content of the stream

contd./..

sediment was at a maximum for that drainage channel. A total of 47 samples (prefixed RT) were collected from the licence area giving a sample density of 34.25 sq.km. per sample. The locations of these samples are shown on Figure 2.

3.3 Results of Reconnaissance Sampling

The 47 stream sediment samples were despatched to our laboratory in Perth where they were processed to produce a heavy mineral concentrate. This concentrate was then observed for kimberlitic indicator minerals and diamonds.

One sample (RT 1489) was found to contain a micro diamond in the minus .4mm plus .25mm size fraction. No other kimberlitic indicator minerals were found in the samples.

3.4 Follow-up Stream Sampling

A programme of seven check and follow-up stream samples were collected in May, 1984 (prefix CA). An 80kg check sample, CA1515 was collected at the original site of the micro diamond sample RT 1489. Six follow-up samples CA 1509 - CA 1514 were collected in nearby tributaries.

3.5 Results of Follow-up Stream Sampling

The seven follow-up samples were despatched to our laboratory in Perth and processed in the usual manner. The heavy mineral concentrate is being observed for kimberlitic indicators and diamonds. To date no indicators, minerals or diamonds have been found, but the assessment is not yet complete.

3.6 Geochemical Sampling

The geochemical stream silt samples collected were analysed for 12 elements by Comlabs Pty. Ltd., 305 South Road, Mile End South, S.A. The twelve elements were arsenic, cerium, lanthanum, barium, niobium, zirconium, copper, lead, zinc, cobalt, nickel and chromium, and the results are shown below in Table 1.

contd./..

4. FUTURE PROGRAMME

Stage 1. The outstanding sample results are being assessed.

Stage 2. New information, including aeromagnetic data has recently become available covering adjacent areas and is now being studied.

Stage 3. A follow-up programme of further exploration will be undertaken if it is warranted by Stages 1 and 2. Once any positive indicator mineral samples have been confirmed, a detailed programme of sampling will be carried out to locate the kimberlitic source rock. This will then be bulk tested to ascertain its diamond content. In the event of Stages 1 and 2 being negative, the diamond exploration programme will be terminated.

5. EXPENDITURE

Expenditure debited to Exploration Licence 4322 to 31st August, 1984, was:

Wages and Salaries	3,251
Field Support	2,461
Vehicles	610
Equipment	275
Air Charter	7,995
Geochemistry	187
Surveys	66
Tenement fees	4,971
Services	24,846
Sundries	78
Administration and Overheads	4,474
	$49,214

This report is submitted to the Department of Mines and Energy as required by Condition 7 of E.L. 4322.

TABLE 1. GEOCHEMICAL ANALYSES

Sample	Nb	Zr	Ce	La	Ba	As	Cu	Pb	Zn	Ni	Co	Cr
RT 1465	10	560	30	<20	150	2	10	10	12	12	6	22
RT 1466	12	310	40	20	230	<2	20	26	42	24	26	10
RT 1467	12	440	40	<20	195	3	16	16	20	18	10	14
RT 1468	7	125	30	20	120	2	18	12	22	14	6	135
RT 1469	10	160	40	<20	210	9	22	300	170	18	12	12
RT 1470	10	330	40	20	220	2	24	20	42	24	26	14
RT 1471	10	330	30	<20	370	4	18	16	32	24	20	26
RT 1472	8	380	40	<20	155	5	14	55	14	10	8	16
RT 1473	8	320	30	<20	80	4	8	26	4	4	<4	26
RT 1474	6	150	20	<20	120	4	8	8	4	8	<4	26
RT 1475	9	520	20	<20	120	<2	10	6	4	10	<4	28
RT 1576	12	350	50	20	200	4	26	12	10	32	10	22
RT 1477	12	320	40	<20	430	4	22	20	42	32	28	12
RT 1478	12	440	50	20	390	4	26	20	48	32	24	24
RT 1479	12	400	40	<20	270	<2	18	18	55	26	20	18
RT 1480	10	195	30	<20	270	2	20	18	55	20	20	16
RT 1481	9	280	30	<20	250	12	16	18	48	28	22	6
RT 1482	12	290	50	20	250	3	24	24	46	34	32	6
RT 1483	10	300	20	<20	250	3	18	55	32	18	18	6
RT 1484	12	410	30	<20	320	<2	18	10	24	20	20	4
RT 1485	12	200	40	<20	310	5	38	20	80	50	36	12
RT 1486	10	350	50	<20	220	2	26	22	42	24	28	6
RT 1487	6	140	30	<20	180	4	18	32	20	12	8	<4
RT 1488	14	320	60	20	220	6	26	14	12	24	12	6
RT 1499	12	270	50	<20	230	4	16	6	10	18	6	8
RT 1500	10	320	50	30	200	2	20	10	16	24	6	8
RT 1501	12	380	40	20	180	<2	22	24	18	24	8	8
RT 1502	12	400	40	20	165	4	16	10	18	20	8	8
RT 1503	20	1150	60	20	195	5	14	8	20	20	8	8
RT 1504	14	310	50	20	210	4	18	8	18	24	8	8
RT 1505	9	700	40	<20	115	6	12	10	16	18	10	8
RT 1506	10	560	50	20	115	7	22	18	16	24	12	12
RT 1507	12	640	40	<20	115	4	12	12	16	22	6	10

contd./..

Table I. Geochemical Analyses (Contd.)

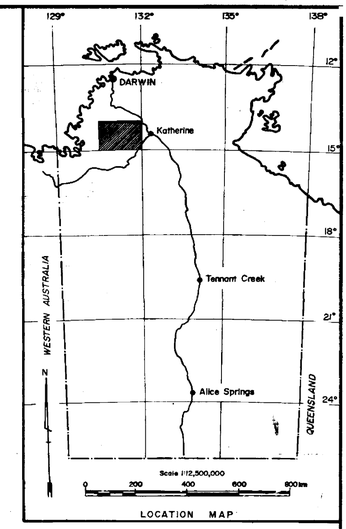
Sample	Nb	Zr	Ce	La	Ba	As	Cu	Pb	Zn	Ni	Co	Cr
RT 1508	8	460	30	<20	115	3	12	10	20	20	8	10
RT 1509	7	320	20	<20	75	<2	4	<4	12	12	<4	8
RT 1510	14	330	50	<20	200	4	30	6	20	44	14	6
RT 1511	9	510	30	<20	80	3	8	8	6	12	6	8
CA 1509	9	150	30	20	135	3	18	8	16	14	8	40
CA 1510	12	240	40	20	250	24	30	20	26	26	16	80
CA 1511	10	250	40	20	180	12	16	14	12	18	10	44
CA 1512	10	210	80	30	770	30	36	26	14	24	44	100
CA 1513	6	100	20	20	80	5	12	10	8	12	8	46
CA 1514	14	250	60	30	220	40	32	32	28	32	14	210
CA 1515	8	190	70	20	240	20	24	22	14	20	20	60

Results in ppm for each element.

Method of Analysis: Nb, Zr, Ce, La, Ba, As — XRF 1
Cu, Pb, Zn, Ni, Co — AAS 1
Cr — AAS 2

Comlabs Reference Report No. COM 832305 (RT 1465-1511)
COM 841016 (CA 1509-1515)

FIG. 2



LOCATION MAP

CAPE SCOTT SD 52 - 7	PINE CREEK SD 52 - 8	MOUNT EVELYN SD53 - 5
PORT KEATS SD52 - 11	FERGUSSON RIVER SD 52 - 12	KATHERINE SD 53 - 9
AUVERGNE SD 52 - 15	DELAMERE SD 52 - 16	LARRIMAH SD 53 - 13

DIAGRAM SHOWING ADJOINING MAPS

130°30' 130°45' 131°00' 131°15' 131°30' 131°45' 132°00'

14°00' 14°15' 14°30' 14°45' 15°00'

Daly River

Katherine River

Flora River

EL4322

RT1467 RT1466 RT1465 RT1476 RT1475 RT1497 RT1496 RT1493 RT1494 RT1498 RT1495 RT1469 RT1468 RT1488 RT1492 RT1490 RT1506 RT1505 RT1581 RT1510 RT1507 RT1471 RT1472 RT1477 RT1470 RT1474 RT1478 RT1484 RT1473 RT1491 CA1509 RT1489 CA1515 CA1512 CA1510 CA1511 CA1513 CA1514 RT1499 RT1500 RT1508 RT1509 RT1483 RT1481 RT1482 RT1487 RT1479 RT1480 RT1501 RT1504 RT1503 RT1502 RT1486 RT1485

LEGEND

- Sample site
- Sample site - poor trap
- Garnet possible pyrope
- Pyrope garnet
- 22 pyrope garnets
- Possible picroilmenite
- Picroilmenite
- Chrome diopside
- Chromite
- Kimberlitic chromite
- Diamond
- Loam Sample
- Bulk sample site
- Kimberlite
- Kimberlite dyke
- Carbonatite
- E.L. Boundary
- 1st. class Road
- 2nd class road
- Track
- River or creek

N

Scale 1:250,000

0 5 10 15 20 25km

NORTHERN TERRITORY GEOLOGICAL SURVEY

CR84/221

THE BROKEN HILL PROPRIETARY CO. LTD.
EXPLORATION DEPARTMENT

OVERLAY FOR FERGUSSON RIVER
1 : 250,000
E.L.4322 LOCATION OF STREAM SAMPLES

Drawn: R.T.	Date: 28-7-81	Centre: ADELAIDE
Traced: I.Lay	Project No: 8-E100-94	Drawing No: A1- 304
Checked:		

Revisions: AUGUST 1984