Compass Resources NL
Incorporated in Queensland

July 1990

CR90/611

EL 4775, ELLA CREEK
ANNUAL REPORT TO THE NORTHERN TERRITORY DEPARTMENT OF MINES & ENERGY FOR THE FOURTH YEAR OF TENURE ENDING 27 JULY, 1990

OPEN FILE

DISTRIBUTION:

Copy No.	Recipient	Date sent
1.	N.T. Department of Mines & Energy	23.8.1990
2.	Power Resources (Australia) Pty. Limited (formerly CEGBEA), Cairns	23.8.1990
3.	Compass Resources N.L. Sydney	23.8.1990

Suite 1 • 12 Malvern Avenue Chatswood NSW 2067 • Telephone (02) 415 1799 • Facsimile (02) 415 2219

TABLE OF CONTENTS

Abstract

Location and Access

Tenement Details

Geology

Structure

Previous Exploration

Exploration Undertaken in the Fourth Year

Summary and Plans

Expenditure Statement

Appendix 1 — Drill Results, BMR DDH 67/14

Appendix 2 — Soil Geochemical Results and Descriptions GRX Prospect

List of Plans

Figure 1 — Location Map — Scale 1:100,000

Figure 2 — Geology Map, GRX Section, Scale 1:25,000

Figure 3 — GRX Prospect Map — Scale 1:1,000

Figure 4 — Geology Map, Manton Dam Section Scale 1:25,000

ABSTRACT

During the fourth year of tenure, Compass Resources N.L. became operator of exploration over this licence. The priority changed from uranium exploration to base metal exploration. Following the compilation of available data over the Exploration Licence and immediate environs, geochemical surveying was undertaken and one diamond drill hole was completed.

LOCATION AND ACCESS

Exploration Licence 4775 occurs in the south western portion of the Noonamah 1:100,000 sheet, and is centred approximately 18 kilometres NNE from the town of Batchelor.

Access to the general area is provided by the sealed Sturt Highway, with local access to the northern portion of the area by local public roads. The southern portion of the Licence is accessed by tracks within the Manton Dam and Woolnough Reserves.

TENEMENT DETAILS

Exploration Licence 4775, known as Ella Creek, was originally granted to Central Electricity Generating Board Exploration (Australia) Pty. Ltd on 28 July, 1986 for a six year period. At the end of the second year of tenure the statutory reduction in area resulted in the licence being retained in two sections. Following a six month deferral in reduction a second relinquishment was made in January 1990 reducing the Exploration Licence to 14 blocks totalling approximately 40 square kilometres (figure 1).

GEOLOGY

Basement in the tenement area is the Archaean Rum Jungle Complex, which crops out occasionally in the Manton Dam Reserve as metasediment, migmatite, coarse to medium grained granite and leucocratic granite.

Overlying this basement, although rarely cropping out in the EL is an Early Proterozoic clastic unit known as the Crater Formation. This is in turn conformably overlain by the Coomalie Dolomite which consists of dolomite, dololutite and occasionally magnesite. Overlying the Coomalie Dolomite is the Whites Formation; a grey-black calcareous carbonaceous shaley sequence which hosts most of the base metal mineralisation in the Rum Jungle/Woodcutters area.

Above the Whites Formation is the Acacia Gap Quartzite Member of the Wildman Siltstone which forms prominent ridges in the area. It consists almost entirely of slightly pyritic orthoquartzite with minor interbedded shale. The Koolpin Formation overlies the Acacia Gap facies in the north eastern portion of the original EL.

STRUCTURE

In the northern (Manton Dam) sector of the EL, the entire sequence from basement to the Koolpin formation is present, facing and dipping to the north and having a general east-west strike.

In the southern (GRX) sector of the EL, the sequence present to the south of the Giants Reef Fault commences with the Crater Formation and ends with the Acacia Gap Quartzite member. The strike is mostly north-south, with a major north plunging anticlinal structure controlling the dips within the area.

To the north of the SW-NE trending Giants Reef Fault, the Rum Jungle Complex is present.

In both sectors of the EL, soil, laterite and other surficial deposits frequently obscure the bedrock.

PREVIOUS EXPLORATION

Uranium

Much of the licence area was examined by BMR geologists during the 1950's and 1960's. Airborne scintillometry in 1952 identified a number of radiometric anomalies between the Sturt Highway and the North Australian Railway, which were subsequently investigated on the ground. At two of these anomalies, Brodribb and Ella Creek, strong, patchy, radioactivity was found to be associated with a quartz-haematite rock. Numerous surveys were carried out, including SP, magnetometry, radiometrics, fluorimetry, mapping, soil and rock geochemistry. Subsequent costeaning and diamond drilling (1953 & 1954) failed to locate primary uranium mineralisation and it was concluded that radioactivity was largely derived from thorium.

Two minor thorium occurrences, Manton No. 1 and Manton No. 2 were reported by the BMR about 4 and 5 kilometres respectively up stream on the Manton River from the Sturt Highway crossing.

Uranerz Australia Limited (UAL) re-examined the Brodribb Prospect (originally in EL 4775) in 1980 as a part of its regional Rum Jungle survey. Detailed mapping and scintillometry culminated in a 6 hole RAB drilling programme. Assays from drill cuttings and from existing BMR trenches confirmed that the radioactivity was due to thorium with minor uranium and yttrium.

Base Metals

Within the northern portion of the EL (Manton Dam section) the BMR undertook base metal geochemical and geophysical surveying as part of the general uranium exploration programme. The following summaries of the three most helpful reports are included for reference.

A. Annamalai BMR Record 1969/18: Geochemical study of part of the Manton Grid, Rum Jungle Area, Northern Territory

This report contains soil geochemistry results for Cu, Pb, Zn, Co and Ni on four north-south lines which are 1200 feet apart. Sample intervals are 200 feet. No significant anomalies were located.

J.L. Willis BMR Record 1969/35: Geochemical and radiometric investigation Manton Area, Northern Territory 1968

This report contains a good geological map of the area, geochemical results are overall low. Auger sampling was on a 1200 x 200' spacing on north-south lines.

J.E.F. Gardner BMR Record 1971/23: Manton Area Reconnaissance Geophysical Survey, Northern Territory 1968

On 1200 x 100' spacing, Slingram, magnetic and surface radiometric surveys undertaken on north-south lines. An amphibolite unit within the Whites Formation was found to be traceable using Slingram. No other significant results obtained.

Within the GRX portion of the EL, three BMR records cover the relevant work completed in this area. These records are summarised below.

R.G. Dodson & D.O. Shatwell

BMR Record 1965/254:Geochemical and radiometric survey Rum Jungle, Northern Territory 1964

Covered a large area on 2400 x 200' spacings, lines east-west, includes Woodcutters area. Within the GRX block, lines include 72S (34-60W), 96S (38 to 60W), 120S (35 to 60W), 144S (36 to 64W) and 168S (42 to 70W). No significant anomalies on 72S, 96S, 120S, 144S, 168S. On 192S just south of the EL anomalies of 700 ppm Pb at 54W and 500 ppm Pb at 52W were defined. This is the northern end of an anomaly at area 44.

J.E.F. Gardner BMR Record 1968/104:Rum Jungle East (Area 44 Extended, Coomalie Gap West, and Woodcutters Areas) Geophysical Surveys, Northern Territory 1967

Mostly to the south and east of GRX, included Slingram, SP, IP surface radiometrics. Helpful in regional compilation.

D.G. Semple BMR Record 1968/7: Geochemical and radiometric investigations, Rum Jungle East, Northern Territory 1967 (Area 44 extended and Coomalie Gap West - northern section)

Mostly to the south of GRX, however lines 168S, 172S, 176S, 180S, 184S, 188S occur within the EL and define the northern limits of a major lead geochemical anomaly known as Pb1, Area 44.

Previous Drilling for Base Metals

Approximately 250 metres south of the southern boundary of the GRX section of EL 4775, the BMR completed drill hole DDH 67/14 at the Pb1 anomaly. Appendix 1 includes a summary lithological log of this hole, together with BMR assays of scaped core. Re-assaying by Geopeko of 1 metre sections of that core was undertaken; these results are also in Appendix 1.

Overall these results are interpreted as being very encouraging, with base metal sulphides being present in the carbonaceous/calcareous shales of the Whites Formation.

EXPLORATION UNDERTAKEN IN THE FOURTH YEAR

Manton Dam Section

Following the compilation of previous data, a reconnaissance was made of the area. This supported the previous mapping and indication of poor outcrop. At that time a new power line was being constructed through this area and drill cuttings for the pylon foundations enabled geochemical sampling of weathered bedrock to be undertaken. Samples were taken every 400 metres from a point starting near the north west corner of the EL (722000E 8580800 N AMG) on a line bearing 151°. The following results were obtained.

Sample	Location m SE	Cu	Pb	Zn	Co	Ni
23171	00	100	25	115	10	55
23172	400	50	30	85	10	45
23173	800	15	5	155	30	5
23174	1200	20	25	<5	10	35
23175	1600	20	10	<5	<5	15
23176	2000	40	10	30	20	70
23177	2400	50	10	<5	10	25
23178	2800	20	15	<5	5	30
23179	3200	<5	5	<5	<5	10
23180	3600	30	25	<5	15	50
23181	4000	15	10	<5	5	20
23182	4400	15	15	<5	5	25
23183	4800	<5	15	<5	<5	5
23184	5200	120	5	125	35	85
23185	5600	5	20	20	5	10

This sampling obliquely cut across the entire prospective stratigraphy from the base of the Acacia Gap Quartzite member to the granitic basement.

The absence of any significant anomalies in the Whites Formation (samples 23171-23177) together with previous results obtained by the BMR to the immediate east of the sample line have failed to generate an obvious base metal target.

GRX Section

Gridding: A 50 metre spaced north-south metric baseline on line 726500E was pegged from 8566700N to 8569700N. Cross lines with 25 metre spacings were pegged on lines 8566700N, 8567500N, 8567900N, 8568300N, 8568700N and 8569100N.

Soil Sampling

Soil sampling at 25 metre intervals was undertaken using a hand auger on the cross lines of the grid. Samples were assayed for Cu, Pb, Zn, Co, Ni. Results of this sampling programme are in Appendix 2. No significant base metal anomalies were defined by this work.

Rock Chip Sampling

As the result of reconnaissance mapping in the GRX area, a zone of gossanous Coomalie Dolomite/Whites Formation was located just to the south of the Giants Reef Fault. Systematic rock chip sampling returned the following values.

Sample No	Co-ordinates m N	E	Cu	Pb	Zn	Co	Ni
23057	8570200	727100	40	10	595	55	185
23058	8569550	726850	30	<5	235	60	155
23059	8569540	726875	20	<5	120	35	50
23060	8569560	726900	10	<5	90	115	220
23061	8569565	726925	5	<5	15	5	25
23062	8569570	726920	20	<5	305	130	380
23063	8569555	726860	15	<5	195	65	130
23064	8569580	726875	10	<5	170	35	135
23065	8569595	726885	20	<5	110	30	70
23066	8569615	726885	25	<5	200	65	140
23067	8569620	726900	15	<5	175	135	225
23068	8569590	726930	15	<5	150	190	250
23069	8569630	726950	10	<5	90	140	150
23070	8569200	726760	10	<5	325	205	255
23071	8569250	726780	50	15	100	30	70
23072	8569300	726800	15	<5	105	45	85
23073	8569325	726850	20	<5	590	55	110
23074	8569385	726875	65	<5	365	65	110

Sample	Description
23057	Lateritized siltstone, gossanous in part, north of Giants Reef Fault
23058	Heavy, yellow brown-red haematite & limonitic iron oxides mostly after silicified dolomite, brecciated
23059	Light yellow-white strongly fractured and veined silicified carbonate
23060	As above with more red haematite in fracture veins within silicified dolomite
23061	Fine grained, well sorted sandstone extensive veining, minor iron oxides
23062	Massive red haematitic gossan - very dense, some lighter limonitic rock
23063	Dark red and yellow iron oxide minor fine grained quartz veining
23064	As above - dominantly red haematitic iron oxide, dense
23065	Light yellow-grey-green limonite silicified carbonate
23066	Dark brown goethitic limonite - some boxworks
23067	As above
23068	Light yellow silicified dolomite, strong iron oxide veining
23069	Pink-yellow silica dolomite, minor iron oxide veining
23070	Dark red-brown brecciated, jasperised gossan
23071	Sandy quartz fragments in haematite limonite brecciated gossan
23072	Black-grey iron rich brecciated + veined gossan, possible stromalolitic
23073	As above
23074	Brown-red brecciated haematite lateritized silicified dolomite.

Drilling

Although the assay results from the gossanous zone were not highly anomalous in base metals it was decided to drill a cored hole through the Whites Formation/Coomalie Dolomite contact beneath this gossanous zone. In all previous compilations of this area, none of them even showed Whites Formation existing. In order to obtain water for drilling it was necessary to drill two percussion holes in the general vicinity of the gossan target, as the first hole did not produce sufficient water.

Percussion Hole 1 GRX-1

Collared at 726864 E 8596304 N Vertical

0	-	3	Loam with carbonaceous shale/mudstone fragments
3	-	6	Med/dark grey carbonaceous mudstone, minor haematite staining
6	-	9	Med/dark grey carbonaceous mudstone with shale interbeds, minor haematite staining
9	-	12	Med/dark grey carbonaceous mudstone with shale interbeds, some haematite staining, minor quartz and strong clay development
12	-	15	Medium/dark grey carbonaceous mudstone with shale interbeds, minor quartz, strong clay development
15	-	18	Medium to dark grey carbonaceous mudstone with shale interbeds, minor haematite staining some dololutite interbeds, approximately 10% vein quartz
18	-	21	Medium/dark grey carbonaceous shale & mudstone, some haematite staining, approximately 15% vein quartz
21	-	24	Medium/dark grey mudstone & shale with 5-10% vein quartz
24	-	27	Med/dark grey shale with dololutite interbeds containing some calcite veins and 5-10% vein quartz
27	-	30	Carbonaceous shale, minor vein quartz (<5%(, and thin dololutite interbeds containing quartz/calcite veins
30	-	33	Med/dark grey dololutite with carbonaceous shale interbeds,
33	-	33	Dololutite with carbonaceous shale interbeds, quartz/calcite veins in dololutite
33	-	48	As above with varying dololutite shale dominant some caving causing contamination

E.O.H.

Percussion Hole 2 GRX-2
Collared at 726850E 8569350N
65° declination Azimuth 120° mag.

0	-	3	Silicified dolomite, soft brown powder, some iron staining in vein quartz
3	-	6	Silicified dolomite, and possible Whites Formation; silicified shale with vein quartz
6	-	9	Quartz and gossanous material with yellow brown clay
9	-	12	Silicified dolomite, with some shale & gossanous fragments, quartz and yellow-brown clay
12	-	15	Yellow-brown silicified zone possibly after dolomite, with quartz and gossan fragments common
15	-	18	As above with possible silicified Whites Formation as fragments of carbonaceous shale
18	-	21	Quartz & gossan, some silicified dolomite, Whites Formation as carbonaceous shale
21	-	24	Medium/dark grey Whites Formation shale some silicified; possible dolomite fragments and quartz. Strong Water Flow
24	-	27	Medium grey Whites Formation silicified shale with some silicified dolomite fragments with quartz & gossan
27	-	42	Grey and green shale, possibly dolomitic, with quartz and gossan fragments.

E.O.H.

Diamond Drill Hole 1 GRX 3

AMG Co-ordinates: 726928 E 8569272 N
Declination 60° Azimuth 305° Total Depth 82.7m
Started 25.6.90 Finished 10.7.90

Following difficult precollaring to 79.3 metres, this hole was eventually abandoned at 82.7 metres in grey-black shales of the Whites Formation. The reason for abandonment was that an excessive amount of deviation had occurred in the precollar, making it impossible to set and retrieve the inner tube from the core barrel.

0	-	15	Light brown loamy soil with weathered shale fragments
15	-	21	Medium brown loamy soil with weathered shale fragments some manganese staining
21	-	27	Red to dark brown deeply weathered shale with manganese staining
27	-	33	Dark brown deeply weathered shale with manganese staining
33	-	39	Dark brown deeply weathered shale
39	-	45	Dark brown deeply weathered shales, manganese stained
45	-	48	Brown deeply weathered shale, large fragments present in cuttings
48	-	54	Red brown to dark brown well bedded shale, partly weathered
54	-	60	As above
60	-	66	Partly weathered shale, well banded
66	-	79.3	Relatively fresh dark grey shale
79.3	-	82.7	70% core, calcareous graphitic mudstone, silicified from 80.7 to 82.7m, quartz dominant and carbonate veining with tension gash appearance from 79.3 to 80.3m. Minor haematite and red limonite associated with strong graphitic development from 80.3 to 82.3m. θ = 55° to 65°

Hole abandoned due to deviation

Diamond Drill Hole GRX 3A
AMG Co-ordinates 726932 E 8569268 N
Declination 60° Azimuth 302° Total Depth: 278m

0	-	51.0	As for drill hole GRX 3
51.0	-	52.4	Dololutite, partly weathered to 51.3m θ = 20°
52.4	-	57.5	Medium grey shales, minor bedded and disseminated pyrite θ = 20°
57.5	-	64.7	Light grey dololutite, minor pyrite (2%) θ = 20°
64.7	-	71.4	Well bedded medium grey shales, with minor bedded and disseminated pyrite. Some quartz/carbonate veining. Red Haematite and graphite on joints θ = 25°
71.4	-	75.0	Medium grey carbonaceous shale, brecciated with quartz/carbonate veining. Red haematite on fractures.
75.0	-	84.0	Medium grey graphitic shales, contorted, veined with carbonate. Graphite and haematite on joints θ = 15°
84.0	-	84.5	Light grey dololutite θ = 10°
84.5	-	87.4	Dark grey graphitic shale with haematite on joints θ = 15°
87.4	-	92.9	Massive dololutite, medium to light grey with darker shaley bands between 89.6-90.6m. Red haematite on joints θ = 17°
92.9	-	93.2	Dark grey graphitic shale
93.2	-	94.8	Light grey calcidololutite, folded, θ varies from 20° to 45°
94.8	-	97.0	Medium grey well bedded dololutite with pyritic shaley interbeds, some fine carbonate veining, graphite on fracture planes and bedding planes θ = 35° to 50°
97.0	-	104.4	Well bedded calcareous shale, medium grey, pyritic between 97 and 99 me. θ = 15°
104.4	-	112.0	Light grey dololutite, contorted at 108m θ = 18°
112.0	-	122.0	Medium grey calcareous shale with minor pyrite θ = 20°
122.0	-	152.0	Medium grey well bedded shale with minor pyrite, gradually becoming more dolomitic with depth, folding strong at 137m. At 124.5m θ = 20°, 133m θ = 37°, 141m θ = 15°
152.0	-	152.9	Highly contorted and brecciated dololutite bed
152.9	-	158.4	Medium grey pyritic shales θ = 35°
158.4	-	162.6	Light grey dololutite with minor pyrite θ = 30°
162.6	-	170.6	Medium grey shales with some dololutite bands θ = 20°
170.6	-	181.5	Light grey well bedded dololutite with some styolites, more shaley from 179-181.5m θ = 25°
181.5	-	194.5	Light grey banded calcareous shales, slumped and/or highly contorted, some quartz/carbonate veining. θ = 17° to 22°
194.5	-	205.6	Massive light grey dololutite, becoming more bedded with depth, minor veining θ = 17° to 20°
205.6	-	206.0	Brecciated zone with quartz/carbonate
206.0	-	217.6	Medium grey well bedded pyritic shale, brecciated between 207.8 and 208.2m θ = 12°
217.6	-	218.5	Light grey massive dololutite θ = 30°
218.5	-	251.0	Dark grey to black graphitic pyritic shale with an average of 10% bedded pyrite. Graphite increases below 245m. Red haematite common on joints. θ varies from 15° to 30°
251.0	-	253.0	As above, gradually increasing in dolomite content θ = 15°
253.0	-	258.5	Light grey relatively massive dololutite, some pyrite between 257 and 258.5m θ = 15°
258.5	-	258.8	Brecciated zone, graphitic shale and quartz/carbonate
258.8	-	278.0	Massive dolomite, pyrite on fractures.

E.O.H.

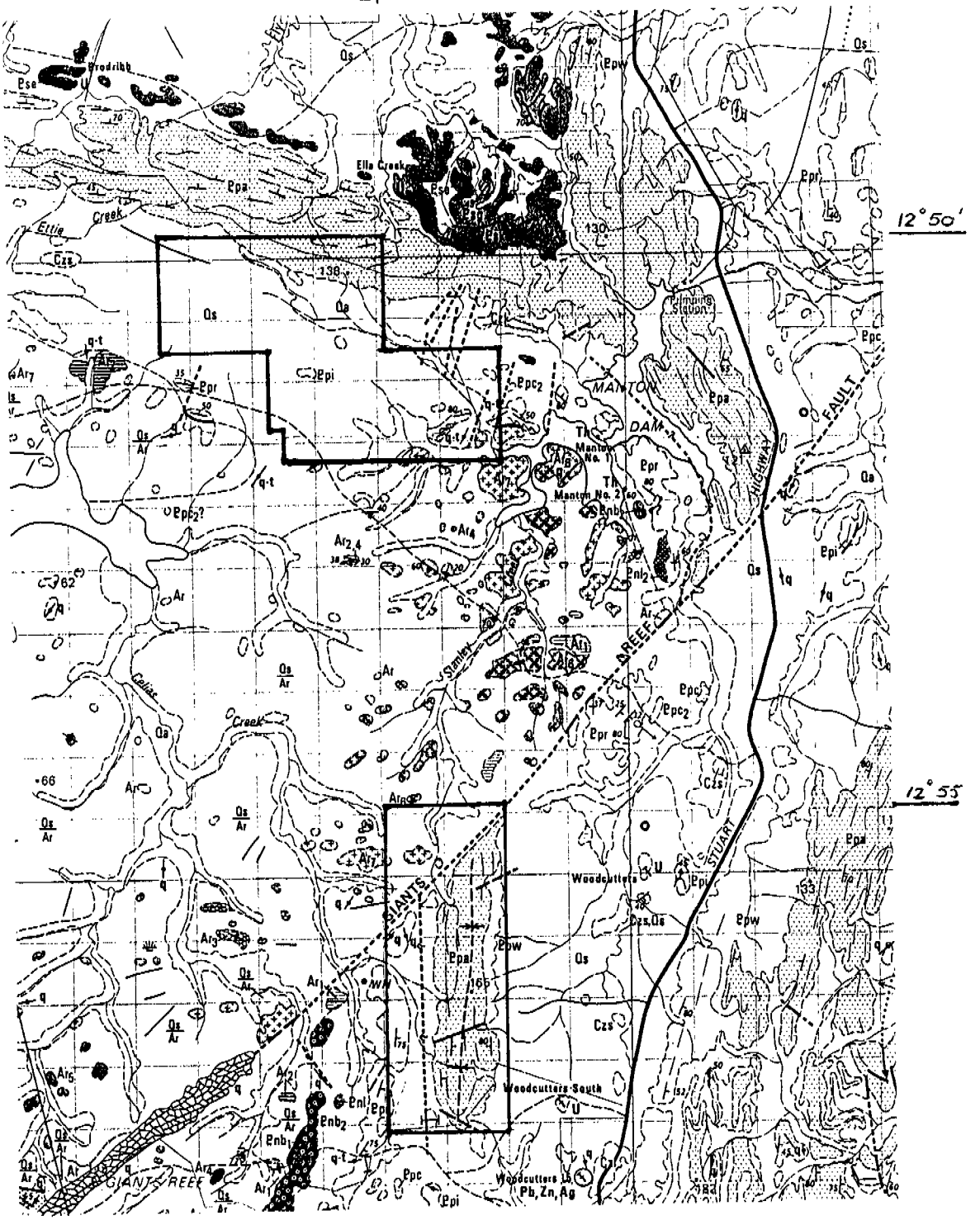
GRX - 3A ASSAYS

			Cu	Pb	An	Ag	Co	Ni	Mn	As
23430	221.6 -	222.6	45	25	95	<0.5	25	55	9950	<100
23431	230.0 -	231.0	65	65	140	<0.5	40	50	6200	<100

SUMMARY AND PLANS

Base metal exploration during the fourth year of tenure established that the prospective dolomitic/graphitic section of the Whites Formation occurs on the western side of the synclinal structure in the southern (GRX) portion of EL 4775. It has also indicated that this same stratigraphic level contains anomalous lead and zinc mineralisation immediately south of the Exploration Licence.

During the next year it is proposed to undertake additional geochemical surveying within the GRX block and complete additional diamond drill holes.



COMPASS RESOURCES N L

SCALE 1:100000

E L 4775 ELLA CREEK

LOCATION PLAN

Fig 1.

EXPENDITURE STATEMENT

EXPLORATION LICENCE 4775

EXPENDITURE FOR THE 12 MONTH PERIOD

TO 27 JULY, 1990

	$
Salaries, wages, on costs	27,663.29
Travel & Accommodation	10,327.28
Geological Services	7,941.39
Land & Field Costs	2,090.64
Geochemical Costs	2,001.80
Drilling/Site Preparation	12,576.00
Photos/Maps/Other	672.82
Motor Vehicle	4,386.00
Overheads	10,148.43
	$77,807.65
CEGBEA Expenditure	5,788.14
	$83,595.79

APPENDIX 1

BMR DIAMOND DRILL HOLE, GRX AREA
DDH 67/14 Co-ordinates 196 S 50W BMR grid (726500 E, 8565700 N AMG)
Declination 60° Azimuth 270° Total depth 799'

0'	- 150'	Completely weathered rock with fragments of ferruginised banded shale
150'	- 163'	Weathered dark grey carbonaceous slate
163'	- 170'	Partly weathered dark grey carbonaceous slate
170'	- 279'6"	Dark grey carbonaceous slate, becoming calcareous quartz/calcite/pyrite veins at 233'
179'6"	- 325'	Dark grey carbonaceous calcareous slate with minor light grey dololutite beds
325'	- 351'	Grey calcareous graphitic slate
351'	- 376'	Grey-green chloritic schists, minor graphite and galena
376'	- 467'	Dark grey slate, calcareous, carbonaceous/graphitic, pyritic, minor bands of calcidololutite, trace galena and sphalerite
467'	- 548'	Light grey massive argillaceous calci-dololutite, minor interbeds of pyritic block slate. Traces of galena along cleavage
548'	- 635'	Thinly bedded grey-black slate, calcareous, carbonaceous, pyritic, minor calci-dololutite bands. Traces galena and chalcopyrite.
635'	- 657'	Medium grey thinly bedded calci-dololutite, traces galena and chalcopyrite
657'	- 678'	Slate, calcareous, pyritic, carbonaceous, some chalcopyrite and galena
678'	- 716'	Slate, calcareous, pyritic, carbonaceous with minor interbeds of calci-dololutite
716'	- 755'	Light green-grey argillaceous calci-dololutite
755'	- 777'	Interbedded slate and calci-dololutite, trace chalcopyrite
779'	- 799'	Light grey massive siliceous calci-dololutite

BMR Assay results, DDH 67/14
These results are spectroscans of scraped core.

Sample No	Depth Ft	Cu	Pb	Zn	Co	Ni	Ag (ppm)
	343 - 373	250	3000	3000	1000	1000	6
68120054	373 - 405	300	3000	500	150	150	5
68120055	405 - 438	300	3000	300	150	150	3
68120056	438 - 478	150	3000	500	50	120	6
68120057	478 - 500	150	3000	1000	150	150	6
68120117	500 - 514	200	5000	1200	150	120	1
68120118	514 - 548	100	3000	1200	255	30	3
68120126	548 - 586	400	5000	2000	150	120	3
68120133	586 - 622	300	3000	400	100	120	4
68120138	622 - 659	300	3000	400	120	120	1.5
68120139	622 - 716	3000	3000	200	300	400	2
68120140	622 - 772	1000	100	300	120	150	30
68120141	622 - 799	400	100	100	80	60	0.8

GEOPEKO - DARWIN ASSAY RECORD SHEET

AREA/PROSPECT ...WOODCUTTERS. DRILL HOLE NO: ...WC - S/201..... (BMR 67-14)

AREA 44 - Pb1 ANOMALY

SAMPLE NO	DEPTH (m) FROM	DEPTH (m) TO	INTERVAL (m)	S.G.	Pb	Zn	Cu	Ni	Co	Mn	Ag		
6336	45	46	1.0		300	180	50	87	30	200	B.L.D.		
37	50	51	1.0		65	50	25	65	17	595	B.L.D.		
38	55	56	1.0		70	50	35	60	18	655	B.L.D.		
39	60	61	1.0		65	40	25	60	19	790	B.L.D.		
6340	65	66	1.0		40	25	15	50	19	1060	B.L.D.		
41	70	71	1.0		50	20	20	60	20	670	B.L.D.		
42	75	76	1.0		30	30	20	55	22	1070	B.L.D.		
43	80	81	1.0		30	35	15	60	21	1530	B.L.D.		
44	85	86	1.0		75	55	50	85	28	1780	B.L.D.		
45	90	91	1.0		65	55	180	85	27	2260	B.L.D.		
46	95	96	1.0		330	75	40	85	43	2200	B.L.D.		
47	100	101	1.0		225	160	35	65	30	2780	B.L.D.		
48	105	106	1.0		1590	670	115	100	70	2660	B.L.D.		
6349	110	111	1.0		4490	5780	170	255	110	3090	1.5		

GEOPEKO - DARWIN ASSAY RECORD SHEET

AREA/PROSPECT ...WOODCUTTERS DRILL HOLE NO: ...WC-S/201.... (BMR 67-14)

AREA 44 - Pb1 ANOMALY

SAMPLE NO	DEPTH (m) FROM	DEPTH (m) TO	INTERVAL (m)	S.G.	Pb	Zn	Cu	Ni	Co	Mn	Ag
6350	115	116	1.0		2130	650	180	150	90	2750	B.L.D.
7544	120	121	1.0		2390	765	100	105	85	2290	B.L.D.
45	125	126	1.0		1990	540	115	85	60	2360	B.L.D.
46	130	131	1.0		1240	435	120	155	135	2000	B.L.D.
47	135	136	1.0		1310	1950	55	95	55	2090	B.L.D.
48	140	141	1.0		1310	1270	65	80	45	4930	B.L.D.
49	145	146	1.0		275	820	20	60	24	2550	B.L.D.
7550	150	151	1.0		1010	1250	35	75	60	6970	B.L.D.
13387	155	156	1.0		1150	800	125	135	98	3220	1.0
88	160	161	1.0		2930	2860	65	135	105	4110	2.0
89	165	166	1.0		1700	2690	37	70	40	6610	0.5
13390	170	171	1.0		5750	4965	755	225	170	1940	2.0
91	175	176	1.0		135	90	65	140	60	3020	B.L.D.
13392	180	181	1.0		980	370	305	170	120	2840	B.L.D.

GEOPEKO - DARWIN ASSAY RECORD SHEET

AREA/PROSPECT ...WOODCUTTERS DRILL HOLE NO: ...WC-S/201.... (BMR 67-14)

AREA 44 – Pb1 ANOMALY

SAMPLE NO	DEPTH (m) FROM	DEPTH (m) TO	INTERVAL (m)	S.G.	Pb	Zn	Cu	Ni	Co	Mn	Ag		
13393	185	186	1.0		240	335	35	75	35	2930	B.L.D.		
13394	190	191	1.0		1050	690	70	115	60	3280	B.L.D.		
13395	195	196	1.0		1550	130	185	115	85	4700	B.L.D.		
13396	200	201	1.0		4550	565	1820	490	555	4640	3.5		
13397	205	206	1.0		550	450	5200	1010	945	4330	4.0		
13398	210	211	1.0		70	135	1360	290	225	3850	0.5		
13399	215	216	1.0		B.L.D.	20	25	45	25	7340	B.L.D.		
13400	220	221	1.0		B.L.D.	105	220	95	85	9090	B.L.D.		
15351	225	226	1.0		25	525	90	310	230	7470	B.L.D.		
15352	230	231	1.0		305	2420	2170	670	735	1.09%	B.L.D.		
15353	235	236	1.0		190	780	3200	520	540	8780	0.5		
15354	240	241	1.0		B.L.D.	40	20	46	30	9800	B.L.D.		

APPENDIX 2

LOCATION: WOODCUTTERS NT Project EL 4775 PROSPECT: GRX
DATE: September 1989 SAMPLE TYPE Soil

Sample	Co-ordinates m N	E	Depth cm			Description
31001	8568700	726400	10	-	20	Brown soil, hit lateritic surface at 20cm
31002		726425	10	-	20	As above very hard
31003		726450	80	-	100	Black-brown gossanous laterite
31004		726475	50	-	60	As above with black soil
31005		726500	60	-	70	Red-brown, ferruginous clay
31006		726525	60	-	70	Red ferruginous clay and soil
31007		726550	70	-	80	Brown soil with black lateritic chips
31008		726575	30	-	40	Orange-brown soil with dark red chips
31009		726600	40	-	50	Brown-black ferruginous lateritic soil & clay
31010		726625	50	-	60	Red-brown clay & soil
31011		726650	50	-	60	Chocolate to red-brown clay with black ferruginous chips
31012		726675	40	-	50	As above
31013		726700	40	-	50	Red-brown soft clay with many quartz chips
31014		726725	60	-	70	Dark red-brown soil & ferruginous chips
31015		726750	50	-	60	As above, gets lighter in colour
31016		726775	50	-	60	Becoming quartzitic from overlying sandstone
31017		726800	0	-	10	Mostly derived from sandstone up slope
31018		726825	0	-	10	As above
31019		726850	0	-	10	As above
31020	8568300	726500	50	-	60	Orange-white soil & sandstone chips
31021		726525	40	-	50	Dark red-brown schist & grey soil
31022		726550	20	-	30	Pebble band with sandy white clay
31023		726575	50	-	60	Bright orange-red sandy soil & clay
31024		726600	40	-	50	As above
31025		726625	40	-	50	Red-white clay & soil, dolomitic
31026		726650	30	-	40	Red-brown clay with silica replacing dolomite
31027		726675	40	-	50	Dark red clay on silicified dolomitic horizon
31028		726700	30	-	40	As above
31029		726725	20	-	30	Dark red clay on silica replaced dolomite.
31030		726750	50	-	60	As above with dark red ferruginous chips
31031		726775	40	-	50	As above with red chips
31032		726800	0	-	10	Numerous chips of silica replaced dolomite in red soil
31033		726825	0	-	10	Red ferruginous sandstone minor soil
31034		726850	0	-	10	Grey soil with more sandstone float
31035		726875	0	-	10	As above, sandstone & quartzite float

LOCATION: WOODCUTTERS NT PROJECT EL 4775 PROSPECT: GRX
DATE: SAMPLE TYPE Soil

Sample	Co-ordinates m N	E	Depth cm			Description
31036	8567500	726400	0	-	10	White soil; Crater Formation
31037		726425	0	-	10	As above
31038		726450	130	-	140	Light orange-white sandy soil
31039		726475	130	-	140	As above
31040		726500	90	-	100	Dark orange-white clay & soil
31041		726525	80	-	90	As above
31042		726550	90	-	100	Dark orange-red clay and soil
31043		726575	90	-	100	As above, getting darker
31044		726600	70	-	80	Red-orange to red clay
31045		726625	100	-	110	As above
31046		726650	40	-	80	As above
31047		726675	50	-	60	Much darker chocolate red soil & clay
31048		726700	90	-	100	As above, darker red clay
31049		726725	50	-	60	Red-orange clay with ferruginous chips
31050		726750	0	-	10	Sandstone/quartzite float - grey soil
31051		726775	0	-	10	As above
31052		726800	0	-	10	As above

LOCATION: WOODCUTTERS NT PROJECT EL 4775 PROSPECT: GRX
DATE: SAMPLE TYPE Soil

Sample No	Co-ordinates m N	E	Depth cm			Cu	Pb	Zn	Co	Ni
31001	8568700	726400	10	-	20	10	5	10	5	15
31002		726425	10	-	20	25	10	10	35	35
31003		726450	80	-	100	40	40	10	70	60
31004		726475	50	-	60	50	40	15	75	95
31005		726500	60	-	70	60	35	15	55	70
31006		726525	60	-	70	50	50	20	80	70
31007		726550	70	-	80	50	35	15	65	50
31008		726575	30	-	40	50	45	15	75	65
31009		726600	40	-	50	70	20	15	45	60
31010		726625	50	-	60	80	35	20	45	65
31011		726650	50	-	60	65	25	20	35	65
31012		726675	40	-	50	65	25	25	35	65
31013		726700	40	-	50	65	20	20	30	65
31014		726725	60	-	70	65	25	25	30	70
31015		726750	50	-	60	65	20	30	30	80
31016		726775	50	-	60	60	25	40	30	75
31017		726800	0	-	10	30	10	30	20	55
31018		726825	0	-	10	20	10	30	10	50
31019		726850	0	-	10	20	10	15	10	30
31020	8568300	726500	50	-	60	35	20	15	10	35
31021		726525	40	-	50	30	20	15	5	25
31022		726550	20	-	30	25	10	20	5	20
31023		726575	50	-	60	35	25	30	10	30
31024		726600	40	-	50	35	15	15	10	35
31025		726625	40	-	50	40	20	20	10	40
31026		726650	30	-	40	30	15	15	10	30
31027		726675	40	-	50	40	20	20	10	35
31028		726700	30	-	40	35	20	30	15	35
31029		726725	20	-	30	30	20	15	10	30
31030		726750	50	-	60	45	30	30	15	40
31031		726775	40	-	50	45	20	25	20	45
31032		726800	0	-	10	35	15	65	20	55
31033		726825	0	-	10	45	25	65	30	70
31034		726850	0	-	10	60	25	150	35	95
31035		726875	0	-	10	70	30	190	45	115

LOCATION: WOODCUTTERS NT PROJECT EL 4775 PROSPECT: GRX
DATE: SAMPLE TYPE Soil

Sample No	Co-ordinates m N	E	Depth cm			Cu	Pb	Zn	Co	Ni
31036	8567500	726400	0	-	10	20	5	5	5	10
31037		726425	0	-	10	15	5	<5	<5	5
31038		726450	130	-	140	15	5	<5	<5	5
31039		726475	130	-	140	20	5	5	5	15
31040		726500	90	-	100	35	15	10	15	30
31041		726525	80	-	90	35	20	10	10	30
31042		726550	90	-	100	50	15	10	10	30
31043		726575	90	-	100	25	20	15	10	30
31044		726600	70	-	80	25	15	15	10	25
31045		726625	100	-	110	25	20	20	10	30
31046		726650	40	-	80	25	15	15	10	25
31047		726675	50	-	60	30	15	20	10	20
31048		726700	90	-	100	40	20	30	15	30
31049		726725	50	-	60	30	15	15	10	25
31050		726750	0	-	10	10	10	10	5	10
31051		726775	0	-	10	25	10	25	5	20
31052		726800	0	-	10	40	20	40	10	30

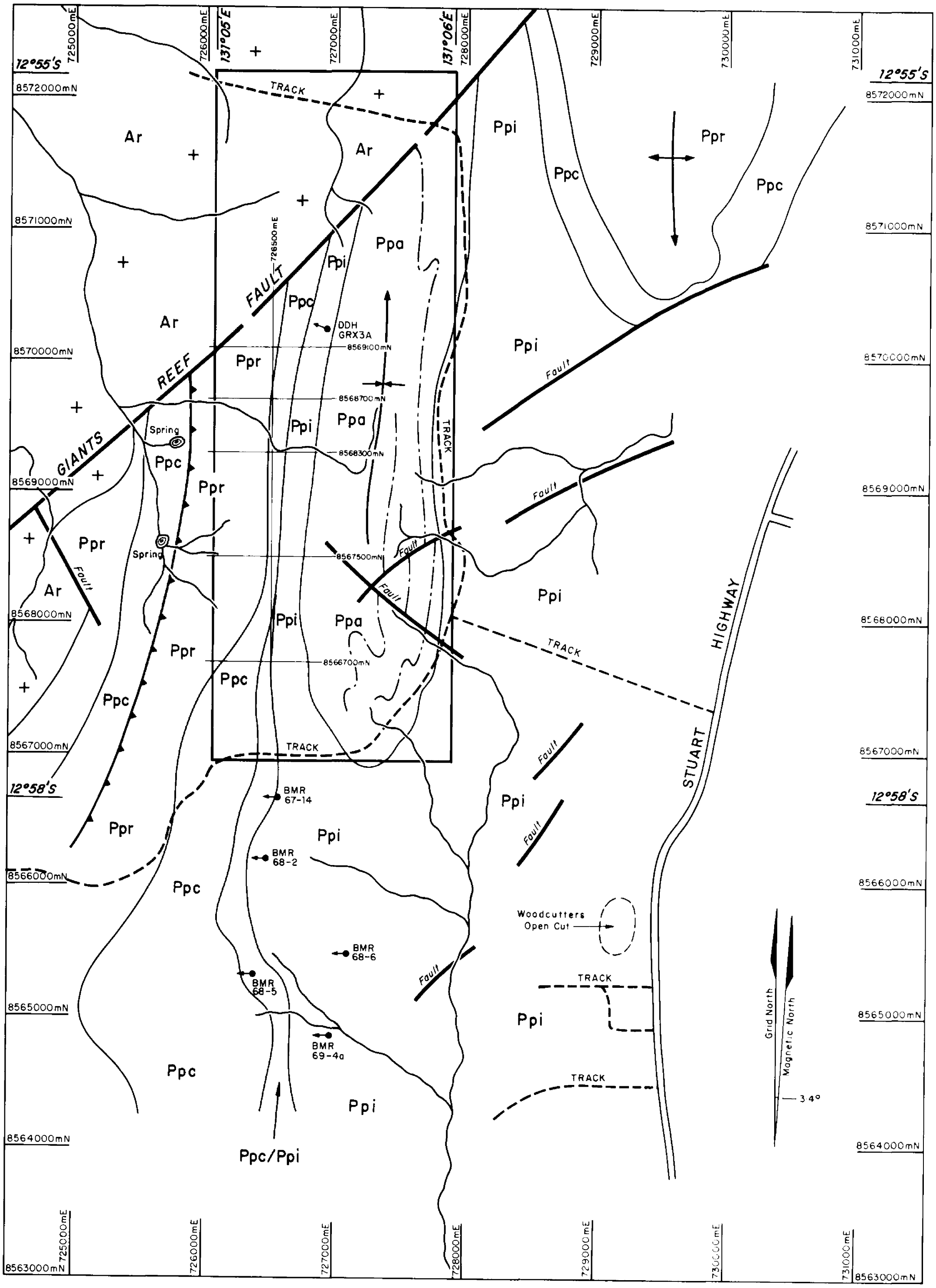
Project: EL 4775 Prospect GRX Date: May 1990
Sample Type: Soil

Sample	Line N	Station E	Depth cm	Description
23101	8569100	726500	10	Yellow-white soil, Crater Formation
23102		726525	10	As above
23103		726550	30 - 40	Yellow carbonaceous, Coomalie Dolomite
23104		726575	60 - 70	Yellow-orange, Coomalie Dolomite
23105		726600	120 - 130	Red-orange Coomalie Dolomite
23106		726625	140 - 150	Chocolate-red clay, Coomalie Dolomite
23107		726650	150 - 160	Chocolate-brown and dark grey chips, Coomalie Dolomite
23108		726675	100 - 110	Brown soil, dark grey chips, Whites Formation
23109		726700	50 - 60	As above
23110		726725	15 - 25	Laterite, iron oxide, Coomalie Dolomite/Whites Formation
23111		726750	20 - 30	Chocolate soil, Coomalie Dolomite/Whites Formation
23112		726775	35 - 45	Chocolate soil and quartz sand, Whites Formation
23113		726800	45 - 55	Brown-red soil & yellow clay, Whites Formation
23114		726825	5 - 15	Light grey soil, Whites Formation
23115		726850	0 - 5	Grey soil, Acacia Gap Quartzite
23116	8567900	726500	80 - 90	Orange-white clay/sand, Crater Formation
23117		726525	90 - 100	As above
23118		726550	30 - 40	As above
23119		726575	90 - 100	Red clay, Coomalie Dolomite
23120		726600	50 - 60	yellow-orange dolomitic clay, Coomalie Dolomite
23121		726625	50 - 60	As above
23122		726650	55 - 65	Red soil, thin red siltstone, Coomalie Dolomite/Whites Formation
23123		726675	30 - 40	As above
23124		726700	40 - 50	Thin laminated siltstone, Whites Formation
23125		726725	25 - 35	As above
23126		726750	30 - 40	As above
23127		726775	0 - 10	Grey soil, minor yellow, Acacia Gap Quartzite
23128		726800	0 - 10	Grey soil, Acacia Gap Quartzite
23129		726825	0 - 10	As above

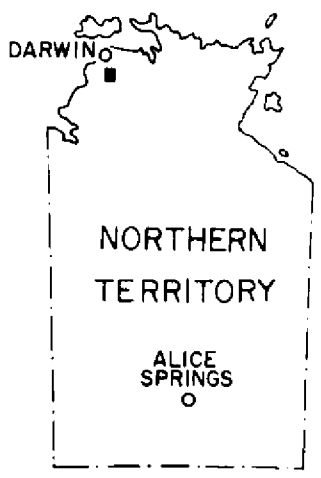
Project: EL 4775 Prospect GRX Date: May 1990
Sample Type: Soil (continued)

Sample	Line N	Station E	Depth cm	Description
23131	8566700	726050	20 - 30	Yellow-white, Crater Formation
23132		726075	45 - 55	Yellow-white clay, Crater Formation
23133		726100	55 - 65	Orange-white, Crater Formation, Coomalie Dolomite
23134		726125	120 - 130	Orange-white, Crater Formation, Coomalie Dolomite
23135		726150	130 - 140	Orange, Coomalie Dolomite
23136		726175	130 - 140	Red-orange Coomalie Dolomite
23137		726200	140 - 150	Dark Red, Coomalie Dolomite
23138		726225	130 - 140	As above
23139		726250	130 - 140	Red-orange, Coomalie Dolomite
23140		726275	130 - 140	As above
23141		726300	140 - 150	As above
23142		726325	140 - 150	As above
23143		726350	130 - 140	As above
23144		726375	120 - 130	As above
23145		726400	105 - 115	Red, iron oxide laterite, Coomalie Dolomite
23146		726425	100 - 110	As above
23147		726450	90 - 100	Dark orange-red clay, Coomalie Dolomite
23148		726475	60 - 70	Orange red, Coomalie Dolomite
23149		726500	0 - 10	Yellow sandy soil, Whites Formation
23150		726525	0 - 10	Yellow sandy soil, Whites Formation/Acacia Gap Quartzite
23151		726550	0 - 10	As above
23152		726575	0 - 10	As above
23153		726600	0 - 10	Yellow-grey sandy soil, Acacia Gap Quartzite
23154		726625	0 - 10	As above
23155		726650	0 - 10	Yellow/grey sandy soil with ferruginous siltstone, Acacia Gap Quartzite
23156		726675	0 - 10	Grey sandy silt & sandstone Acacia Gap Quartzite
23157		726700	0 - 10	As above

Sample No	Co-ordinates m N	E	Depth cm			Cu	Pb	Zn	Co	Ni
23101	8569100	726500			10	10	5	15	<5	25
23102		726525			10	5	<5	5	<5	20
23103		726550	30	-	40	5	<5	10	5	30
23104		726575	60	-	70	5	<5	10	5	25
23105		726600	120	-	130	15	5	30	5	45
23106		726625	140	-	150	35	25	35	30	115
23107		726650	150	-	160	40	40	55	25	115
23108		726675	100	-	110	35	35	55	25	95
23109		726700	50	-	60	35	30	55	30	80
23110		726725	15	-	25	45	30	70	30	95
23111		726750	20	-	30	40	30	65	20	60
23112		726775	35	-	45	45	30	65	20	60
23113		726800	45	-	55	50	55	75	25	70
23114		726825	5	-	15	25	20	55	10	45
23115		726850	0	-	5	35	20	60	10	50
23116	8567900	726500	80	-	90	20	5	20	5	25
23117		726525	90	-	100	40	15	35	10	55
23118		726550	30	-	40	25	15	10	5	40
23119		726575	90	-	100	45	15	20	10	45
23120		726600	50	-	60	45	15	20	10	50
23121		726625	50	-	60	35	10	15	5	45
23122		726650	55	-	65	45	10	15	5	45
23123		726675	30	-	40	40	15	15	5	25
23124		726700	40	-	50	40	15	25	5	45
23125		726725	25	-	35	35	15	15	5	35
23126		726750	30	-	40	30	15	20	10	55
23127		726775	0	-	10	30	20	20	15	40
23128		726800	0	-	10	40	25	20	15	40
23129		726825	0	-	10	20	20	15	5	40
23130		726850				40	25	10	10	30
23131	8566700	726050	20	-	30	20	10	10	<5	25
23132		726075	45	-	55	20	5	10	<5	25
23133		726100	55	-	65	25	10	10	<5	35
23134		726125	120	-	130	30	10	10	5	40
23135		726150	130	-	140	45	15	10	10	50
23136		726175	130	-	140	55	20	10	20	75
23137		726200	140	-	150	90	30	20	35	95
23138		726225	130	-	140	70	40	20	25	70
23139		726250	130	-	140	55	40	20	15	50
23140		726275	130	-	140	45	30	15	15	50
23141		726300	140	-	150	50	30	15	15	60
23142		726325	140	-	150	50	35	15	15	50
23143		726350	130	-	140	50	30	15	15	50
23144		726375	120	-	130	50	35	20	15	45
23145		726400	105	-	115	50	30	20	15	50
23146		726425	100	-	110	50	35	15	15	45
23147		726450	90	-	100	55	35	15	15	50
23148		726475	60	-	70	50	25	20	10	55
23149		726500	0	-	10	35	20	10	15	40
23150		726525	0	-	10	25	15	10	10	30
23151						30	15	20	10	35
23152						20	20	20	10	30
23153						35	25	15	10	35
23154						35	35	10	10	30
23155						40	50	15	10	45
23156						30	45	10	5	30
23157						30	<5	20	5	35



Locality Map



CR90/611

LEGEND

Mount Partridge Gp.

- Ppa — Acacia Gap Quartzite Member
- Ppi — Whites Formation
- Ppc — Coomalie Dolomite
- Ppr — Crater Formation
- Ar + — Rum Jungle Complex

Metric Grid

Diamond Drill Hole

Fold Axis

COMPASS RESOURCES N.L.

EL 4775 – Ella Creek
GRX Section

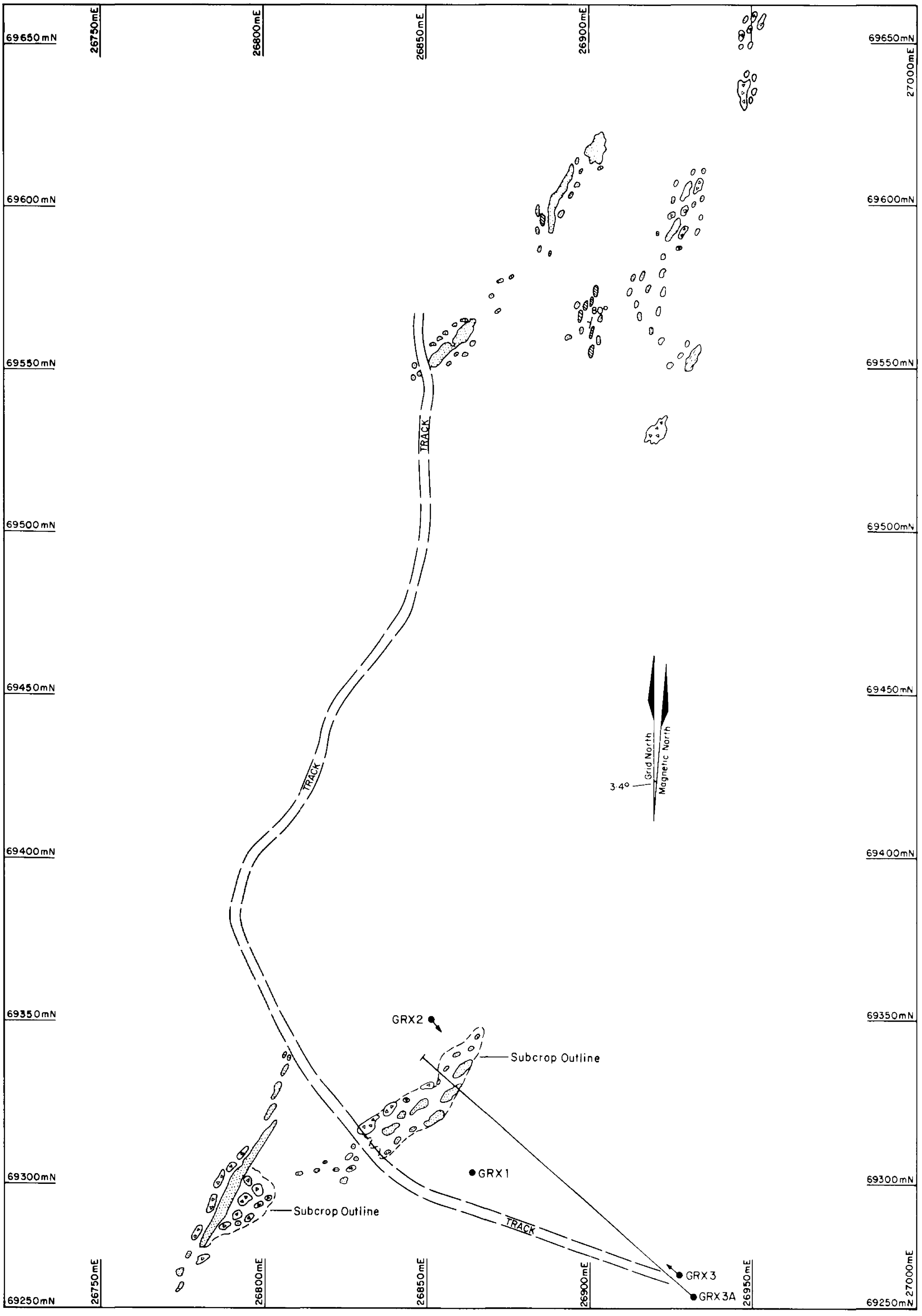
Interpreted Geology & Geochemical Survey

Scale 1: 25,000

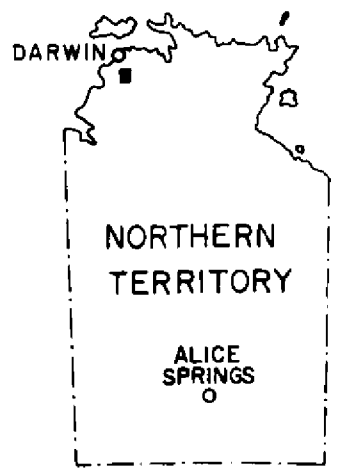
0 250 500 750 1000
Metres

Figure 2

Author : M.K. Boots	Date : August 1990	Drawn by : R.R.



Locality Map



CR90/611

LEGEND

- Quartzite: Silicified Dololutite
- Mineralised Whites Formation
- Lateritized Gossan
- Silicified Brecciated Ferruginous Coomalie Dolomite

COMPASS RESOURCES N.L.

EL 4775 – Ella Creek
GRX Prospect

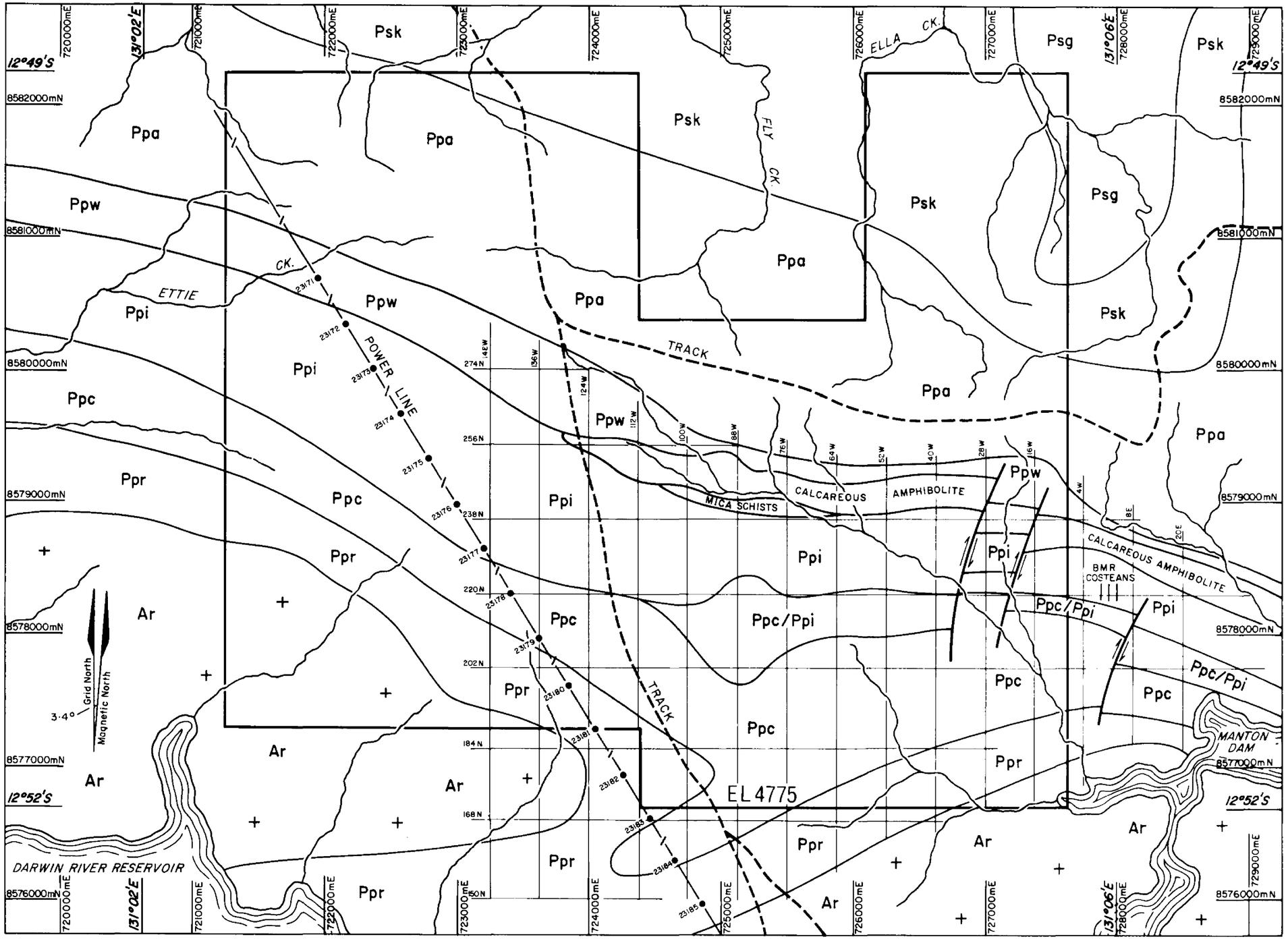
Outcrop Geology

Scale 1:1000

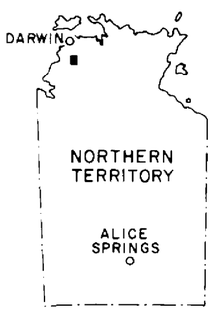
0 10 20 30 40 50
Metres

Figure 8

Author: M. Humphreys | Date: August 1990 | Drawn by: R.R.



Locality Map



LEGEND

South Alligator Group	Psg	Gerowie Tuff
	Psk	Koolpin Formation
Mount Partridge Group	Ppw	Wildman Siltstone
	Ppa	Acacia Gap Quartzite Member
	Ppi	Whites Formation
	Ppc	Coomalie Dolomite
	Ppr	Crater Formation
	Ar +	Rum Jungle Complex

23171 ● Geochemical Sample from pylon foundation

202N 64W BMR Geochemical Grid

COMPASS RESOURCES N.L.

EL4775 – Ella Creek
Manton Dam Section

Interpreted Geology & Geochemical Surveys

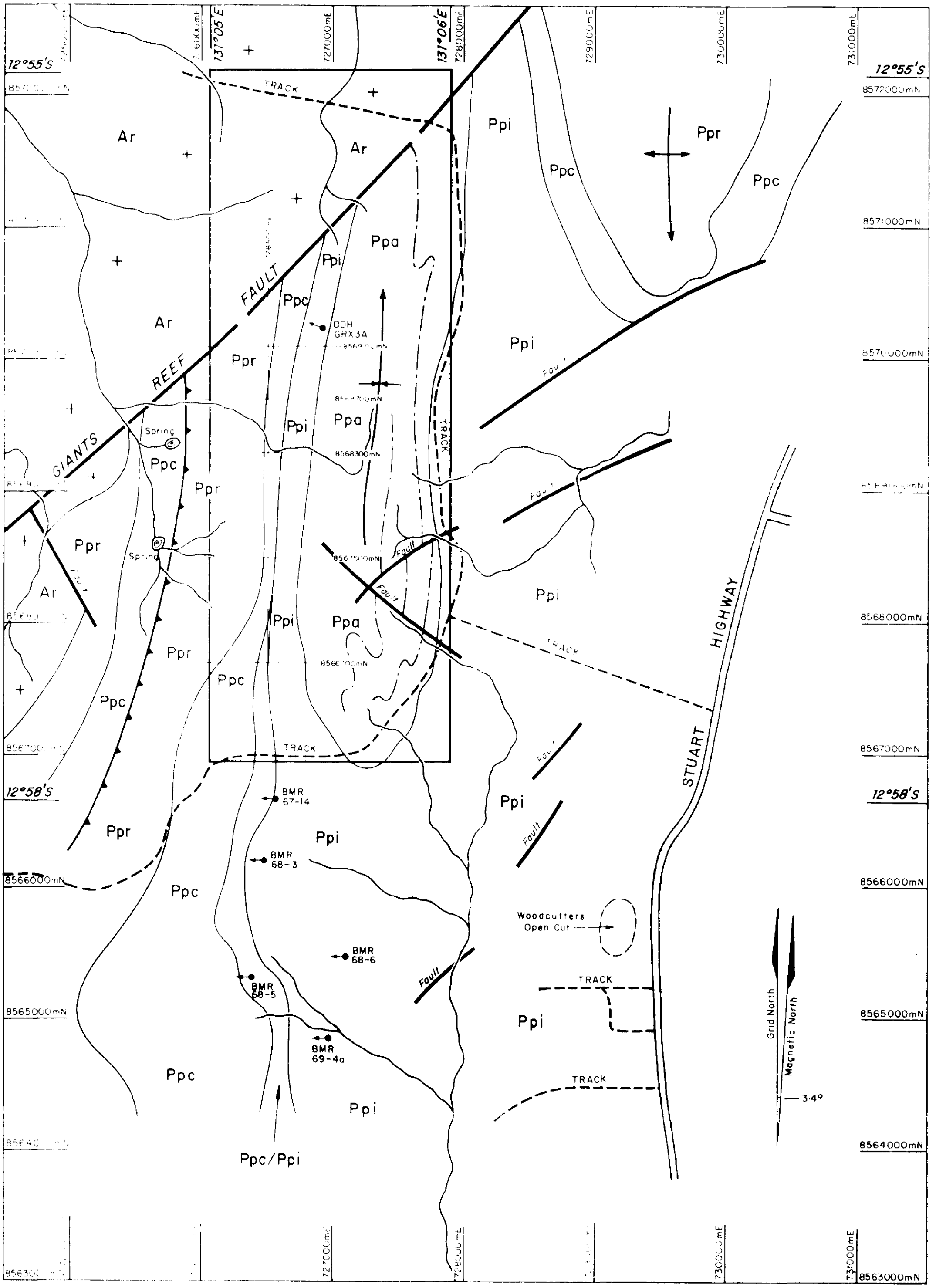
CR90/611

Scale 1:25,000

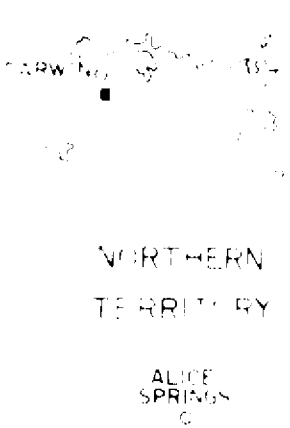
0 250 500 750 1000
Metres

Figure 4

Author: M.K. Boots | August 1990 | Drawn by: R.R.



Locality Map



LEGEND

Mount Partridge Gp.

- Ppa — Acacia Gap Quartzite Member
- Ppi — Whites Formation
- Ppc — Coomalie Dolomite
- Ppr — Crater Formation
- Ar + — Rum Jungle Complex
- Metric Grid
- Diamond Drill Hole
- Fold Axis

COMPASS RESOURCES N.L.

EL 4775 – Ella Creek
GRX Section

Interpreted Geology & Geochemical Survey

Scale 1: 25,000

0 250 500 750 1000
Metres

Amended copy of one of the plans in the Annual report (Geological 1.10.90)

Author M K. Boots	Date: August 1990	Drawn by: R.R.

CR90/611