MT. GUNN

ANNUAL REPORT

AUGUST 1979 - AUGUST 1980

NORTHERN TERRITORY
GEOLOGICAL SURVEY

G. Hassall

October, 1980

ABSTRACT.

EL 2022, Mt Gunn was granted to Mines Administration Pty. Limited on the 21st August, 1979 for a period of twelve months.

During 1980 the area was geologically mapped at a scale of 1:25,000 using colour aerial photographs. Within the EL the three Lower Proterozoic Formations belonging to the South Alligator Group outcrop: The Koolpin Formation, Gerowie Tuff and Kapalga Formation. Ground radiometric and rock-chip sample surveys were conducted.

An application for a twelve month renewal has been submitted.

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1. INTRODUCTION.

This report describes the results of work carried out on Exploration Licence 2022, Mt. Gunn, during 1979/80.

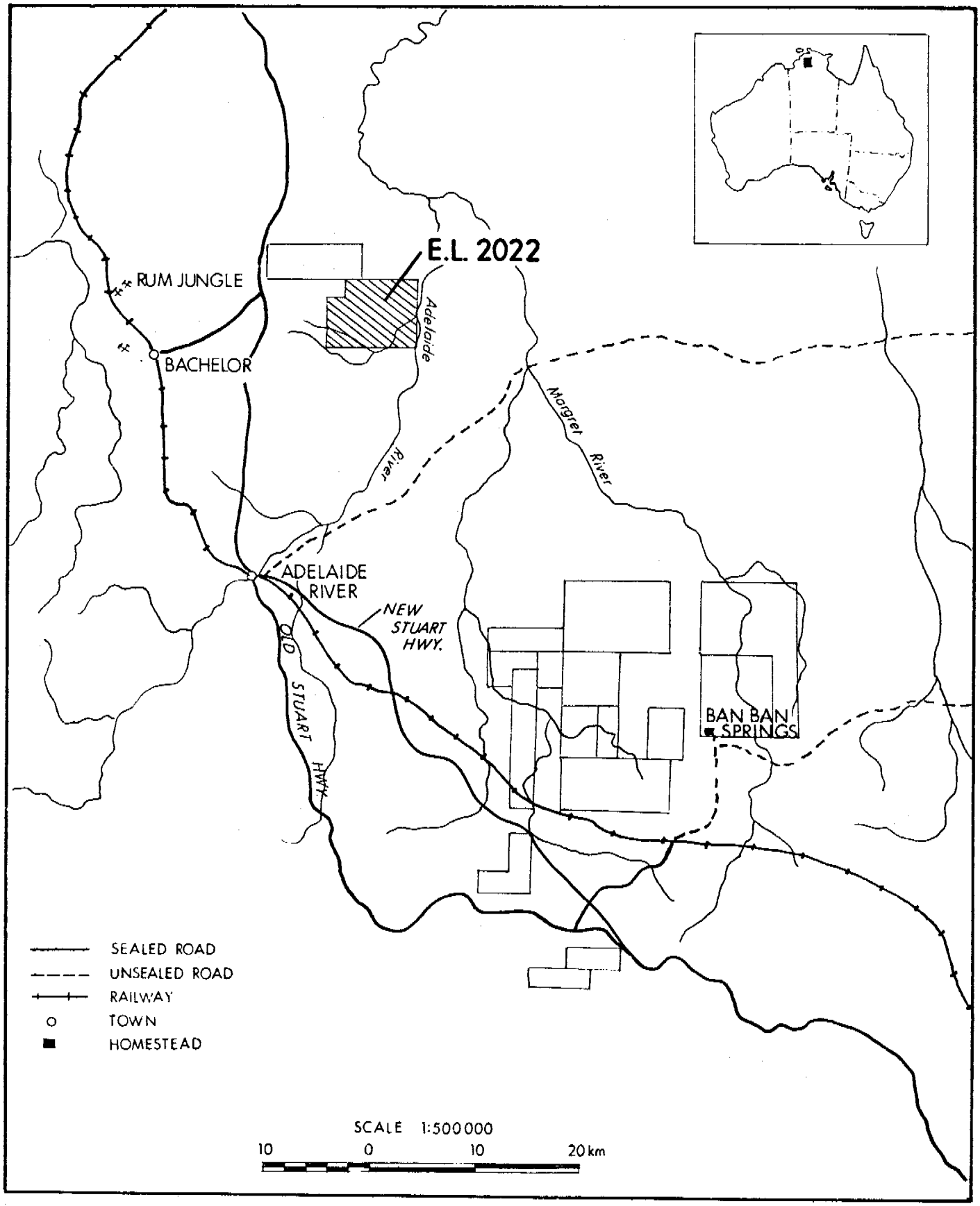
Title was granted for all minerals on the 21st August, 1979.

1.1 Location and Access.

Exploration Licence 2022, Mt. Gunn, is located approximately 80 kilometres south-south-east of Darwin (Fig. 1). The area is contained within the Pine Creek 1:250,000 Geological Sheet area and also the Batchelor 1:100,000 Geological Sheet area. The area is partly covered by the 1:100,000 scale Rum Jungle Special Geological Map. A detailed description of EL 2022 is as follows:-

> All that piece or parcel of land in the Northern Territory of Australia containing an area of 18.02 square miles (46.68 sq. km.) more or less, the boundary of which is described as follows:-
>
> Commencing at the intersection of latitude 13 degrees 00 minutes with longitude 131 degrees 11 minutes thence proceeding to the intersection of latitude 13 degrees 00 minutes with longitude 131 degrees 15 minutes thence proceeding to the intersection of latitude 13 degrees 03 minutes with longitude 131 degrees 15 minutes thence proceeding to the intersection of latitude 13 degrees 03 minutes with longitude 131 degrees 10 minutes thence proceeding to the intersection of latitude 13 degrees 01 minutes with longitude 131 degrees 10 minutes thence proceeding to the intersection of latitude 13 degrees 01 minutes with longitude 131 degrees 11 minutes thence proceeding to the intersection of latitude 13 degrees 00 minutes with longitude 131 degrees 11 minutes.

Access to EL 2022 is gained via the Stuart Highway and side road to the Coomalie Airstrip. From the airstrip a track, heading east, allows reasonable access into the project area during the 'dry' season.



LOCATION MAP.

E.L. 2022 ___ MT. GUNN

Figure 1

1.2 Topography and Climate.

Within the EL two topographical 'zones' exist. In the northern portion of the area relief is moderate consisting of rounded to steep hills with rocky outcrops, attaining a height of up to 60 metres above the surrounding plains. The second zone comprises the southern portion of the EL and consists of flat 'black soil' plains. Numerous seasonal swamps and billabongs occur on these plains.

Climate is sub-tropical. From November to April the monsoonal season occurs, during which most of the annual rain falls in torrential storms. Rainfall averages more than 1 200 mm annually. Humidity is constantly high and temperatures range from 30-40^{o}C. For the rest of the year conditions are less oppressive, humidity is low but fairly extreme daily changes in temperature occur; from 30^{o}C during the day to 10^{o}C or less at night.

1.3 Tenement Situation.

Exploration Licence 2022 was granted to Mines Administration Pty. Limited on the 21st day of August 1979 for a period of twelve months with a minimum expenditure of $5,000. A detailed expenditure statement for 1979/80 is presented as Appendix 1. An application for a twelve month renewal of the area has been submitted.

1.4 Previous Work.

The earliest geological investigations for uranium in the Rum Jungle Area were the result of Government incentives, in the late 1940's, aimed at extending and intensifying the search for the element. This exploration resulted in the discovery of the uranium - copper and lead deposits at Rum Jungle.

The BMR has carried out a number of regional mapping programmes which have included the EL. The Batchelor 1:63,360 scale geological map (1962) and the Pine Creek 1:250,000 scale geological map (Malone, 1962) include the project area.

Walpole et. al., (1968) compiled all the previous literature and

mapping pertaining to the Katherine - Darwin Region. More recently mapping of the entire Pine Creek Geosyncline was completed at 1:500,000 scale (Needham et. al. 1980).

In 1964 the BMR discovered the Woodcutters silver-lead-zinc deposit by a routine systematic geochemical survey designed to explore for uranium and base metals along a favourable stratigraphic contact (Roberts, 1968).

More recently, C.R.A.E. Pty. Ltd explored an area to the west of the EL 2022 for base metals (Ikstrums, 1979). Exploration consisted of 1:25,000 scale geological mapping, ironstone sampling and geochemical soil sampling. No significant base metal values were found.

2. REGIONAL GEOLOGY.

Exploration Licence 2022 is located near the western edge of the Pine Creek Geosyncline. The regional geology of the Pine Creek Geosyncline has been described in detail by Needham et. al. (1980) and will be discussed only briefly in this report.

By correlating a Tuffaceous sequence Needham et. al., (op cit) have now defined the Pine Creek Geosyncline as a single intracratonic basin containing a thick sequence of mainly pelitic and psammitic Lower Proterozoic sedimentary rocks with interlayered tuff units resting on an Archean granitic basement. Cover rocks, of Carpentarian and younger age, unconformably overlie all of these rocks and conceal the basin margins (Table 1).

2.1 Archean Basement.

The Archean Basement is represented by the Rum Jungle/Waterhouse and Nanambu Complexes. Possible Archean rocks outcrop in the Woolner area. All three complexes consist mainly of gneisses, migmatites and leucocratic granites with minor schists, metasediments and banded iron formations. All of the Archean basement rocks have anomalous uranium concentrations and are possible source rocks for the deposits in the Pine Creek Geosyncline.

TABLE 1 - STRATIGRAPHIC UNITS (AFTER NEEDHAM ET. AL. 1980)

AGE	GROUP	FORMATION	LITHOLOGY
Cretaceous		Bathurst Island F.	Fine to medium grained marine sandstones.
Cambrian	Daly River Gp.	Jinduckin F. Tindall Limestone. Antrim Plateau Volc.	Ferruginous sandstone, siltstone, minor dolomite. Crystalline limestone. Massive vesicular basalt, minor agglomerate.
Lower Proterozoic (Carpentarian)	Tolmer Gp.	Depot Creek Sandstone.	Massive cross-bedded quartz sandstone, pebble bands.
	Katherine River Gp.	Kombolgie Form.	Medium to coarse quartz sandstone, minor andesite basalt and rhyolite.
Lower Proterozoic	Finniss River Gp.	Burrell Creek Form.	Siltstone, shale and greywacke.
	South Alligator Gp.	Kapalga Form.	Ferruginous siltstone, chert bands.
		Gerowie Tuff.	Black-green cherty tuff, green argillite, green tuffaceous greywacke.
		Koolpin Form.	Ferruginous siltstone with chert bands, pyritic carbonaceous shale, silicified dolomite minor jasper.
	Mount Partridge Gp.	Nourlangie Schist	Quartz mica schist,mica quartz schist,minor quartzite.
		Wildman Siltstone.	Siltstone, in places carbonaceous at depth, red and cream laminated siltstone, minor quartzite and quartz greywacke.

Table 1 (Contd)

AGE	GROUP	FORMATION	LITHOLOGY
	Mount Partridge Gp. (Contd)	Acacia Gap Sandstone Member.	Quartz sandstone and feldspathic sandstone with pyritic carbonaceous siltstone and quartz siltstone interbeds.
		Mount Hooper Sandstone.	Medium quartz sandstone and quartzite with some chert fragments, siltstone, phyllite, feldspathic quartzite, pebbly in places, chert pebble conglomerate cross-bedded.
		Mundogie Sandstone	Coarse medium quartz sandstone and orthoquartzite, commonly pebbly, quartz pebble conglomerate, siltstone cross-bedded scoured and graded beds. Minor schist amphibolitic in places.
	Namoona Group	Stage Creek Volcanics	Mafic volcanic breccia hawaiite, tuff, tuffaceous shale, tuffaceous greywacke.
		Cahill Formation	Mica feldspar quartz schist, quartz mica schist, with garnet, amphibole and kyanite in places, carbonaceous schist, crystalline dolomite-magnesite, and calc-silicate gneiss near base.
		Masson Formation	Ferruginous shale (mostly pyritic and carbonaceous at depth) fine-coarse calcareous and volcanic greywacke, calcarenite, sandstone, limestone.
	Batchelor Gp.	Coomalie Dolomite.	Dolomite, magnesite, dolomite breccia tremolite schist, calcilutite, algal structures and evaporite pseudomorphs in places.
		Crater Formation.	Feldspathic sandstone, pebble conglomerate, siltstone, pyritic in part, basal ferruginous conglomerate in places.
		Celia Dolomite	Dolomite, magnesite, silicified or with algal structures in places, tremolite schist, minor sandstone, arkose, carbonaceous sediments.

Table 1 (Contd)

AGE	GROUP	FORMATION	LITHOLOGY
	Batchelor Group. (Contd)	Beestons Formation.	Arkose, feldspathic sandstone, conglomerate, siltstone.
	Kakadu Group.	Munmarlary Quartzite.	Gneissic massive to friable orthoquartzite, minor schist.
		Mount Howship Gneiss	Very coarse white feldspathic leucogneiss, minor schist, rare garnet and amphibole.
		Kudjumarndi Quartzite.	Orthoquartzite, quartz gneiss, minor schist, rare cross-bedding, rare amphibole.
		Mount Basedow Gneiss	White-grey-pink coarse muscovite biotite gneiss, granitoid gneiss, minor schist.
Archaean		Rum Jungle Complex Waterhouse Complex Nanambu Complex.	Gneiss, migmatite, leucocratic granite, biotite - chlorite schist, amphibolite and quartzite.
Upper Proterozoic (Carpentarian)	Granite.	Margret Granite. Cullen Granite Fenton Granite. Burnside Granite Mt. Bundy Granite Jim Jim Granite Mt. Shoobridge Granite.	Porphyritic adamellite, fine grained granite, hornblende - biotite granite and aplite dykes.
Lower Proterozoic		Zamu Dolerite.	Differentiated continental tholeiitic basalt sills, olivine dolerite, metamorphosed to amphibolite in places.

2.2 Lower Proterozoic Sedimentary Rocks.

The oldest known Lower Proterozoic rocks are those of the Batchelor and Kakadu Groups which rest unconformably on Archean basement. The Batchelor Group, which surrounds the Rum Jungle/Waterhouse complex contains arkosic rudites, psammites, conglomerates, and minor shales of the Beetsons and Crater Formations interbedded with massive crystalline carbonates of the Celia and Coomalie Dolomites. The Kakadu Group is best developed adjacent to the Nanambu Complex and is comprised mainly of meta-arkose and paragneiss.

These two basal groups are overlain by the pelites and psammites of the Namoona Group. The dominant unit in this group is the Masson Formation which extends from west of the Rum Jungle/ Waterhouse Complex almost to the South Alligator River. Further east it is thought to be equivalent to the lower member of the Cahill Formation, a partly calcareous and carbonaceous sequence of micaceous quartz-feldspathic schist, with lenses of massive carbonate. These two units are the hosts to the major uranium deposits in the Rum Jungle and Alligator Rivers areas. In the centre of the geosyncline the Masson Formation is unconformably overlain by the Stag Creek Volcanics. Elsewhere the Masson Formation is overlain by the sandstone-siltstone assemblage of the Mount Partridge Group which contains the Mundogie Sandstone, Mount Hooper Sandstone and Wildman Siltstone and correlates with the Acacia Gap Sandstone in the Rum Jungle Area. East of the South Alligator River the Mundogie Sandstone correlates with feldspathic quartz schist of the upper Cahill Formation and the overlying Wildman Siltstone correlates with the Nourlangie Schist.

Overlying the older rocks is the South Alligator Group which comprises the Koolpin Formation, Gerowie Tuff and Kapalga Formation. Together with the Koolpin Formation, the overlying Gerowie Tuff provides the main evidence for correlating the strata of the western and central parts of the geosyncline. The Kapalga Formation is the youngest unit in the South Alligator Group and represents a transitional sequence between the South Alligator Group and the overlying Finniss River Group.

The Finniss River Group is the youngest Lower Proterozoic Group and consists of a monotonous sequence of siltstone, slate, shale and greywacke. The Finniss River Group is made up of the Burrell Creek Formation, the Fisher Creek Siltstone and the Chilling Sandstone. The Burrell Creek Formation grades laterally and upwards into the Chilling Sandstone. The Fisher Creek Siltstone is present in the South Alligator Valley area and is a correlative of the Burrell Creek Formation.

At or near the end of sedimentation in the Lower Proterozoic the rocks were intruded by a suite of dolerites, mainly sills, known as the Zamu Dolerities. At approximately 1 800 m.y. the sills and sedimentary rocks were deformed and regionally metamorphosed. Both the grade of metamorphism and degree of deformation increases towards the north east of the geosyncline. The metamorphics were then intruded and in places domed by early Carpentarian granite plutons. This was followed by the intrusion of a series of tholeitic lopoliths known as the Oenpelli Dolerites.

2.3 Cover Rocks.

The Lower Proterozoic rocks of the Pine Creek Geosyncline are unconformably overlain by the sandstone and minor volcanics of the Tolmer and Katherine River Groups. The northern and southern margins of the geosyncline are concealed by Palaeozoic rocks of the Daly River Group and Mesozoic strata of the Bathurst Island and Petrell Formations.

3. RESULTS OF FIELD INVESTIGATIONS DURING 1980.

Geological mapping of EL 2022 at a scale of 1:25,000 using colour aerial photographs commenced in May, 1980 (Map 1). Base maps and an airphoto interpretation had been completed in January, 1980 by Hunting Geology and Geophysics (Australia) Pty. Ltd.

12.5 km of grid lines with 250 x 250 metre centres were completed. In conjunction with the mapping a foot-borne radiometric survey was carried out along the east west lines. A rock chip sampling programme was also completed. (Map 2).

3.1 Geology.

The oldest rocks cropping out in EL 2022 are fine grained, well sorted, very haematitic siltstones of the Koolpin Formation. Some minor massive haematite and chert nodules and layers occur. The unit outcrops in the extreme northern central section of the project area. Conformably overlying the Koolpin Formation are rocks of the Gerowie Tuff. Lithologically this unit contains interbedded cherts, silicified siltstones, siltstones and sandstones. The Gerowie Tuff outcrops as a whitish coloured unit and is easily distinguished on aerial photographs from the reddish coloured Koolpin and Kapalga Formations. Prominent joint directions within the Gerowie Tuff give most outcrops a 'blocky' appearance.

The cherts occur as whitish 'blocky' outcrops. The rock is commonly massive but may be thinly bedded. On fresh surfaces the chert is blue black in colour, extremely fine grained and very indurat Pyrite casts are common on weathered surfaces and haematite and/or limonite after pyrite occurs within the rock itself.

The siliceous siltstones are blue-black in colour and are a coarser - grained equivalent of the cherts. In some places the siltstone is quite fissile but generally it occurs as a massive outcrop.

Purple to tan siltstones also occur within the Gerowie Tuff. These rocks are fine grained well sorted, and moderately haematitic. The rocks are generally thinly to thickly bedded and may contain chert layers and nodules. Pyrite casts on weathered surfaces are common.

The medium to coarse grained green-grey lithic feldspathic sandstones outcrop as massive well jointed rocks. Quartz veins ranging in thickness from 0.5m to 4 metres cross-cut the rock. Mineralogically the rock consists of sub-rounded to sub-angular quartz and sericitized feldspar grains with fragments of schists, felsite and other volcanic grains set in a clay matrix. Petrological descriptions of six (6) rock-chip samples are presented as Appendix 2.

Overlying the Gerowie Tuff is the Kapalga Formation. Within the

project area this unit is comprised of interbedded red-brown and purple to tan siltstones, chert bands and nodules. The rock is commonly thinly to thickly bedded although it may be massive in places. The siltstones are moderately to heavily haematized and quartz veins up to 3 metres wide occur. The chert bands may be up to 0.5 metre thick and are commonly contorted.

3.2 Structure.

Within the EL the Lower Proterozoic sedimentary rocks have been tightly folded along north-south axes. Closure of the anticlines is toward the south with the synclines closing to the north.

Small scale folding has occurred within individual formations and even within individual beds. The best examples occur within the Kapalga Formation where contorted siltstone and chert beds are common.

As a result of the quite intense folding some major faults have been delineated. The faults tend to truncate the fold noses and have lateral displacements of up to 250 metres.

3.3 Geochemistry.

A total of fourteen rock-chip samples were collected and assayed for Cu, Pb, Zn and U. Results are listed as Appendix 3. Presented below are some relevant statistical facts:-

Element	Cu.	Pb	Zn	U
Range	2-140	15-50	15-110	4-32
Mean	39	23	39	7

* All values in ppm.

3.4 Geophysics.

In conjunction with geological mapping a ground radiometric survey was conducted using hand-held Scintrex GIS-3 Spectrometers. 12.5 kilometres of gridding was completed on 250 x 250 metre centres.

Readings were taken every 20 metres along the east-west lines. Appendix 4 contains a grid plan and the results.

4. CONCLUSIONS.

EL 2022, Mt. Gunn contains units from the South Alligator Group; the Koolpin Formation, Gerowie Tuff and the Kapalga Formation. The rocks have been tightly folded about north south axes. Fourteen rock-chip samples were collected and assayed for Cu, Pb, Zn and U. 12.5 kilometres of gridding were completed and a ground radiometric survey was carried out using Scintrex GIS-3 Spectrometers.

5. REFERENCES.

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APPENDIX I.

BRISBANE

5.9.80

MINES ADMINISTRATION PTY. LIMITED

STATEMENT OF EXPENDITURE

EL 2022 MT GUNN

YEAR ENDED 20.8.80

REF: AC/MDE

Salaries and Wages	5,345
Consultants Fees	1,180
Travel & Accommodation	2,487
Vehicle Hire	1,860
Communications	42
Freight	3
Equipment Hire	40
Drafting, Air Photography, Printing, etc	405
Laboratory	276
Geophysics Contractor - Other	903
Surveying Contractor	993
Surveying Consumables	7
Other Technical Services	314
General Expenses	251
	14,106

G. B. Monk,

ACCOUNTANT.

APPENDIX 2.

THIN SECTION DESCRIPTIONS

SAMPLE NO.	ROCK TYPE - COMPOSITION	FABRIC	MINOR MINERALS	COMMENTS
MG 4	Altered ? Tuff. Fine quartz pseudomorphs after ? shards, small grains or pseudomorphs of earthy goethite (after ? feldspar fragments), all Fe-stained.	Fine-grained, with faint, but distinct, bedding.	Quartz veinlets, with adjacent MnO_2 impregnations.	As above; interpretation based partly on negative evidence (absence of clastic textures).
MG 9	Ferruginised Shale. Mostly fine clay (illitesericite) flakes, silt-size quartz grains, abundant earthy hematite and goethite.	Well-bedded, fine-grained, typical shale fabric. Iron oxide banding.	Authigenic tourmaline; small leucoxene clusters throughout. Quartz veinlets.	Iron oxides-hydroxides appear to be epigenetic, post-lithification. Featureless, fine-grained sediment, not significantly metamorphosed.
MG 10	Ferruginised Shale. Pale portions are dominantly fine clay (illite) flakes, very minor silt-size quartz; heavy ferruginisation in bands (hematite, limonite).	Faintly, but distinctly bedded; banding is discordant.	Leucoxene clusters. Quartz veinlets and bodies.	Banding is a Liesegang-ring formation. Featureless, virtually unmetamorphosed rock.
MG 11	Lithic, Feldspathic Sandstone. Framework of subangular quartz grains, sericitised feldspar, mica schist, felsite and other volcanics, fine quartz-sericite matrix.	Moderately sorted; grainsize range 0.15 to 0.6 mm. Bedded.	Clastic tourmaline, zircon, leucoxene. Fine quartz veinlets.	Lithology closely resembles that of K4, K 21 and K 36. Unmetamorphosed, but thoroughly argillised.
MG 12	Ferruginised Shale. Weakly, but definitely banded, with silty, more quartzose bands alternating with clay bands; ferruginisation along bands and at 45^{o}.	Distinct slaty cleavage developed at 45^{o} to banding/bedding Finely crenulated.	Disrupted thin leucoxenic parting-planes.	Ferruginous banding seen in hand specimen is the bedding direction. Indurated, incipiently metamorphosed.

THIN SECTION DESCRIPTIONS. (Contd)

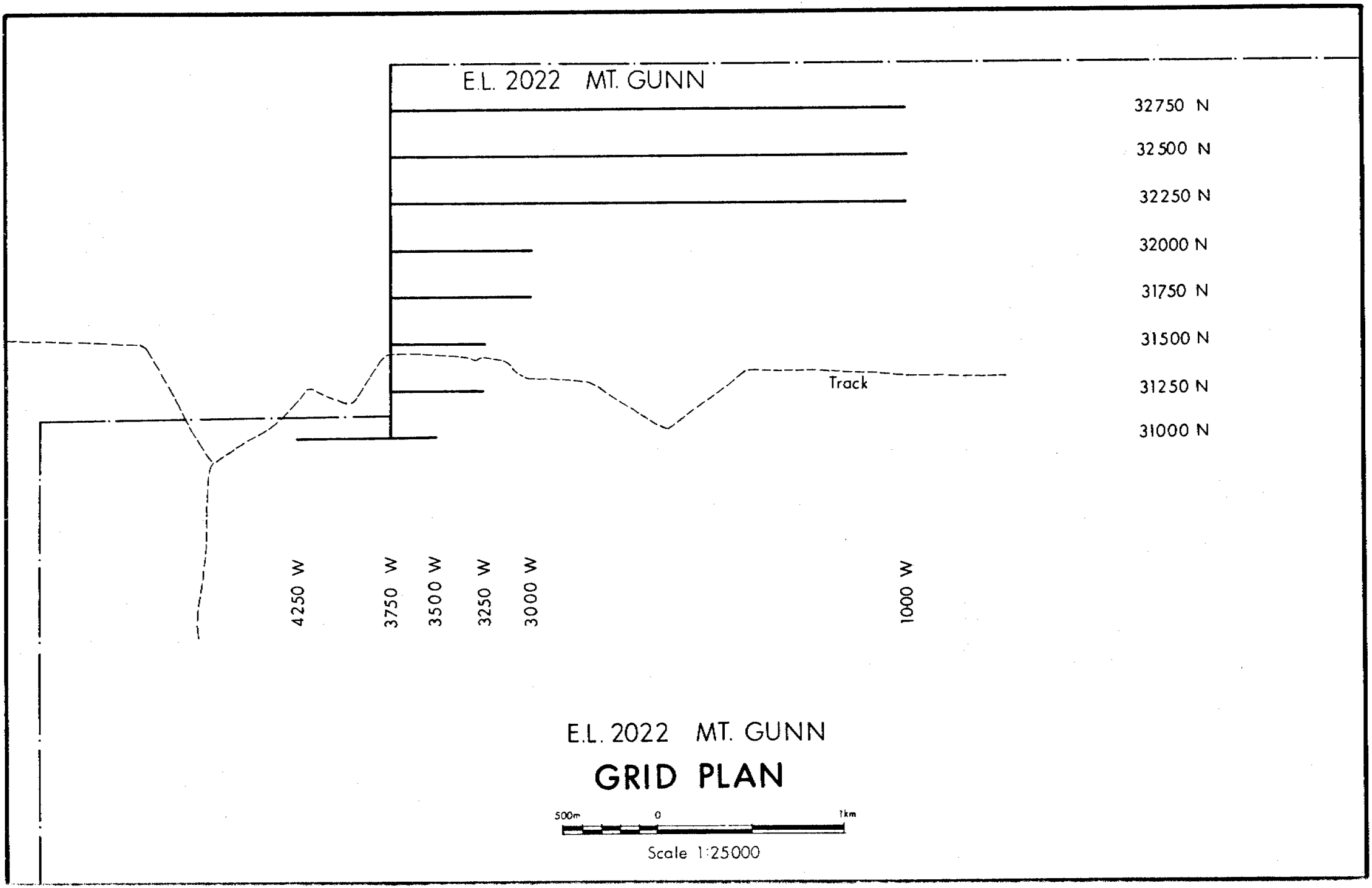
SAMPLE NO.	ROCK TYPE - COMPOSITION.	FABRIC	MINOR MINERALS	COMMENTS.
MG 13	Ferruginised Siltstone. Alternating thin laminations of quartzose and argillaceous material, all heavily ferruginised and obscured.	Slightly coarser than shale, but little real distinction. Incipient slaty cleavage.	None detected.	MG 9, 10, 12, 13 all too heavily ferruginised for detailed identification and comparison, but all seem similar, may be correlatable.

APPENDIX 3.

ROCK-CHIP SAMPLE ASSAYS.

SAMPLE NO.	Cu.	Pb	Zn	U
MG 1	20	15	20	8
MG 2	10	15	110	< 4
MG 3	140	25	40	8
MG 4	105	25	30	< 4
MG 5	15	30	15	4
MG 6	2	25	15	32
MG 7	10	15	20	4
MG 8	10	15	15	4
MG 9	15	20	55	4
MG 10	20	15	45	4
MG 11	10	20	15	4
MG 12	10	15	35	4
MG 13	120	50	110	< 4
MG 14	55	30	25	8

APPENDIX 4.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32500 N
32250 N
32000 N
31750 N
31500 N
31250 N
31000 N
Track
4250 W
3750 W
3500 W
3250 W
3000 W
1000 W
E.L. 2022 MT. GUNN
GRID PLAN
500m
0
1km
Scale 1:25000

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32500	26	26	30	28	28	30	28	30	29	26	29	35	26
32250	35	38	30	28	26	25	26	27	27	30	31	33	34
32000	34	32	34	34	33	30	30	30	31	31	39	40	39
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31500	33	33	25	20	21	25	24	26	28	24	26	26	29
31250	43	40	38	38	37	38	37	38	40	41	41	39	41
31000	33	34	36	38	38	36	32	37	43	44	42	40	41
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32750	35	37	28	26	30	26	20	23	20	20	24	23	25

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32000   42   42   42   40   37   38   39   38   36   36   36   35   35
31750   25   24   31   33   31   30   32   30   27   34   30   22   24
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32000   37   35   34   32   30   29   26   27   28   31   32   30   30
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32500   24   25   22   23   22   25   24   32   32   31   40   34   38
32250   34   36   38   32   30   32   36   38   39   36   34   32   32
   44 -1750 -1730 -1710 -1690 -1670 -1650 -1630 -1610 -1590 -1570 -1550 -1530 -1510
32750   29   28   30   25   30   32   32   30   33   26   30   30   31
32500   34   33   24   27   25   29   28   32   36   38   34   40   40
32250   31   36   38   42   44   42   43   42   42   41   42   41   42
   45 -1500 -1490 -1470 -1450 -1430 -1410 -1390 -1370 -1350 -1330 -1310 -1290 -1270
32750   34   30   30   33   29   30   30   37   30   30   26   28   27
32500   30   30   37   32   30   30   26   24   28   32   30   29   29
32250   42   39   37   38   36   37   35   37   36   36   35   34   32
   46 -1250 -1230 -1210 -1190 -1170 -1150 -1130 -1110 -1090 -1070 -1050 -1030 -1010
32750   27   27   23   24   30   30   35   30   30   28   30   28   32
32500   27   23   24   25   27   22   26   29   30   34   39   28   26
32250   32   36   40   39   38   40   43   44   40   36   35   32   32
   47 -1000
32750   31
32500   26
32250   32
```

131°10'

131°15'

13°00'

13°00'

COOMALIE CREEK

M^T GUNN 75

EL2022

LEGEND

CAINOZOIC	QUATERNARY	Qa	Silt, clay, sand, black soil, alluvium
	TERTIARY	Czs	Undivided, unconsolidated soil, sand & scree deposits.
LOWER PROTEROZOIC	FINNISS RIVER GROUP — BURRELL CREEK FORMATION	Plb	Red, grey & green sandy siltstone interbedded coarse grained sst., calc & silicified f. gr. tombstone greywacke
	SOUTH ALLIGATOR GROUP — KAPALGA FORMATION	Pld8	Red siltstone contorted quartz haematite beds
	SOUTH ALLIGATOR GROUP — GEROWIE TUFF	Pld7 (+ ff)	Red, grey & purple green siltstone, chert & tuff
	SOUTH ALLIGATOR GROUP — KOOLPIN FORMATION	Pld6	Massive haematite ironstone, thin bedded carb shale stromatolitic chert

- GEOLOGICAL BOUNDARY
- TREND LINES
- FAULT
- INFERRED FAULT
- SYNCLINE
- ANTICLINE
- VERTICAL DIP — SV SUB VERTICAL
- 50 STRIKE AND DIP
- QUARTZ VEIN
- DRAINAGE
- ROAD, TRACK
- EXPLORATION LICENCE

PINE CREEK 1:250,000 sheet

130° 30' | 131° 15' | 132°00'

AREA MAPPED

REYNOLDS RIVER 5071	BATCHELOR 5171	Mc KINLAY RIVER 5271	13°15'
DALY RIVER 5070	TIPPERARY 5170	PINE CREEK 5270	13° 30'

NORTHERN TERRITORY

MINES ADMINISTRATION PTY. LIMITED

E.L.2022 - MT GUNN
NORTHERN TERRITORY

GEOLOGICAL MAP

500 0 500 1000 1500km
1: 25,000

AUTHOR: G. HASSALL

DWG. No: FILE No: DATE: SEPT 1980

F.2

131°10'

131°15'

13°00'

13°00'

MG2

MG3

MG13

MG11

MG12

MG4

MG1

MG5

MG6

MG14

Mt GUNN

MG7

MG8

MG9

MG10

COOMALIE

CREEK

EL2022

LEGEND

- GEOLOGICAL BOUNDARY
- TREND LINES
- FAULT
- INFERRED FAULT
- DRAINAGE
- ROAD, TRACK
- EXPLORATION LICENCE
- •MG1 SAMPLE LOCATION

PINE CREEK 1:250,000 sheet

130° 30' 131° 15' 132°00'

AREA MAPPED

REYNOLDS RIVER 5071	BATCHELOR 5171	McKINLAY RIVER 5271	13°15'
DALY RIVER 5070	TIPPERARY 5170	PINE CREEK 5270	13°30'

NORTHERN TERRITORY

MINES ADMINISTRATION PTY. LIMITED

E.L.2022 - Mt GUNN
NORTHERN TERRITORY

SAMPLE LOCATIONS

500 0 500 1000 1500km

1:25,000

AUTHOR: G.HASSALL

DWG. No.: FILE No DATE: SEPT. 1980

F.3