MEEKATHARRA MINERALS LIMITED

EXPLORATION LICENCE 5505
NORTHERN TERRITORY

RELINQUISHMENT REPORT

May, 1992

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SUMMARY

Exploration Licence 5505 was granted by the Northern Territory Government on February 15th, 1988 for a period of six years. The area is located in the Davenport Ranges 300 kilometres north-northeast of Alice Springs. In accordance with section 26 of the Northern Territory of Australia Mining Act, 1986, the licence area was reduced from an original 487 blocks (1568 square kilometres) to 244 blocks (785 square kilometres) on 14th February, 1990 and to 122 blocks (392 square kilometres) on 14th February, 1991.

Three exploration programmes have been carried out to investigate the mineral potential of the area. Two geological field reconnaissance and surface sampling programmes were conducted during 1988 and 1989 to assess the prospectivity of the area for mineral deposits. The exploration programmes included the collection and analysis of rock chip samples and pan concentrate samples from within the exploration licence area. During 1990 and 1991 a detailed air photo study using 1:80,000 scale aerial photographs was undertaken in an attempt to locate structural and lithological zones which may be mineralised.

Fieldwork completed to date has failed to delineate any significant geochemical anomalies and an appraisal of the regional geology of the area and geological field reconnaissance suveys generally assigned a low degree of prospectivity to E.L. 5505. The detailed airphoto study located several possibly favourable structural and stratigraphic targets but failed to delineate any major lineaments worthy of any significant further investigation.

The generally unencouraging exploration results and indicated low prospectivity of the area suggest there is little potential of significant mineralisation occurring within the exploration licence and, consequently, the area is proposed for relinquishment.

I. INTRODUCTION

The Northern Territory Government, by its Principal Registrar, as Delegate of the Minister, granted Exploration Licence No. 5505 to Meekatharra Minerals Limited as to 95%, and Mr P E Cogar as to 5%, on 15th February, 1988 for a period of six years.

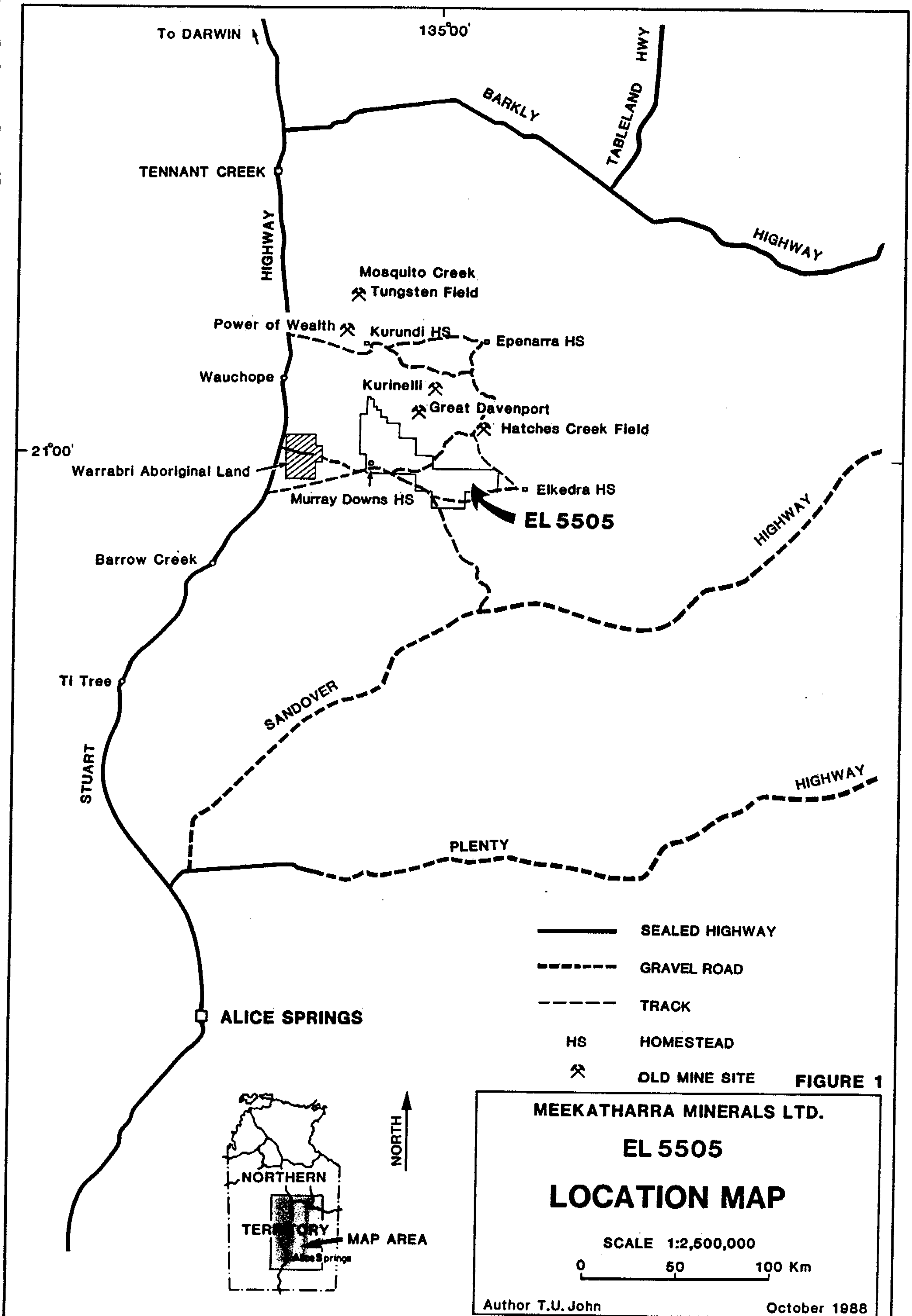
The location of the licence area is depicted in Figure 1. The original licence area covered 487 blocks and consisted of 1568 square kilometres. It was contained within latitudes 20°43'S and 21°15'S, and between longitudes 134°38'E and 135°20'E.

In accordance with section 26 of the Northern Territory of Australia Mining Act, 1986, the licence area was reduced from an original 487 blocks (1568 square kilometres) to 244 blocks (785 square kilometres) on 14th February, 1990 and to 122 blocks (392 square kilometres) on 14th February, 1991 as shown in Figure 2.

II. LOCATION AND ACCESS

The licence area is in the Davenport Province, which forms the southern part of the Tennant Creek Inlier. It is located east of the main Stuart Highway which links Alice Springs and Darwin, and covers parts of Murray Downs, Elkedra and Kurundi station properties. Murray Downs Homestead which is located some 6km west of the E5505 is about 310km north-northeast from Alice Springs and some 60 kilometres by road east of the Stuart Highway. The Elkedra homestead is a further 98 kilometres by road east of Murray Downs.

Access from Alice Springs is by way of the Stuart Highway northwards for 326 kilometres, then eastwards by gravel road for about 60 kilometres to Murray Downs Homestead. Alternative access is by way of the turn-off 355 kilometres


To DARWIN
135°00'
BARKLY
TABLELAND
HWY
TENNANT CREEK
HIGHWAY
Mosquito Creek
Tungsten Field
Power of Wealth
Kurundi HS
Epenarra HS
Wauchope
Kurinelli
Great Davenport
Hatches Creek Field
21°00'
Warrabri Aboriginal Land
Murray Downs HS
Elkedra HS
EL 5505
HIGHWAY
Barrow Creek
Ti Tree
SANDOVER
STUART
PLENTY
HIGHWAY
SEALED HIGHWAY
GRAVEL ROAD
TRACK
HS
HOMESTEAD
OLD MINE SITE
ALICE SPRINGS
NORTH
NORTHERN
TERRITORY
MAP AREA
Alice Springs
FIGURE 1
MEEKATHARRA MINERALS LTD.
EL 5505
LOCATION MAP
SCALE 1:2,500,000
0
50
100 Km
Author T.U. John
October 1988

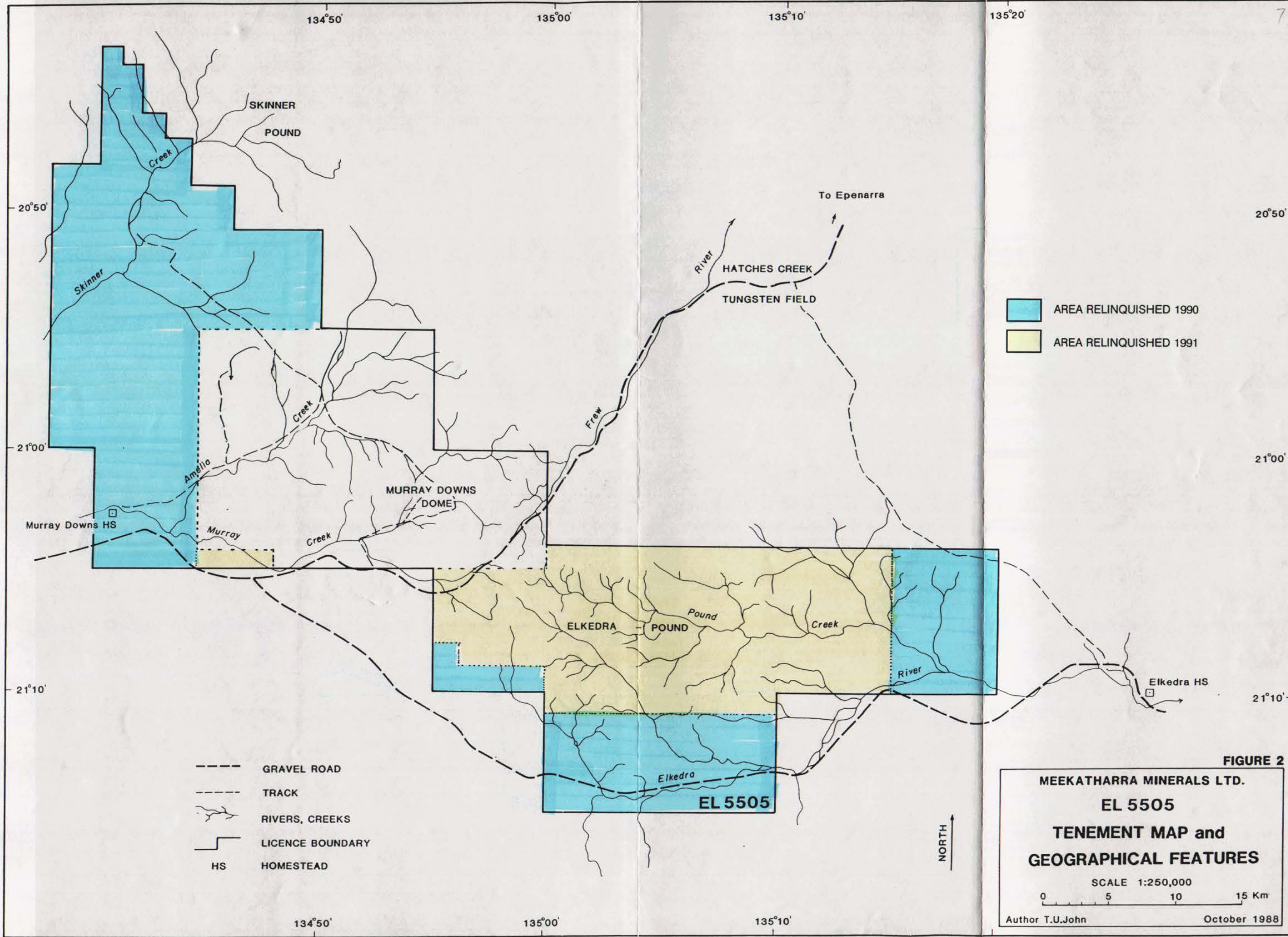


FIGURE 2

MEEKATHARRA MINERALS LTD.

EL 5505

TENEMENT MAP and GEOGRAPHICAL FEATURES

north of Alice Springs through the Warrabri Aboriginal Land on a sealed road for 21 kilometres, then a further 28 kilometres to Murray Downs Homestead.

Access within the Exploration Licence includes the road to Hatches Creek and station tracks. Travelling away from the tracks is generally difficult due to the vegetation and rugged terrain.

III. TOPOGRAPHY, CLIMATE AND VEGETATION

The Davenport Province comprises a northwesterly trending belt of predominantly Pre-Cambrian rocks which have been complexly folded into a series of northwesterly trending ranges. Resistant quartzite forms a rugged terrain of steep, strike oriented ridges which have been eroded to form a highly dissected land surface. The area is drained by a number major creeks and their tributaries many of which form epithermal streams which follow the valleys between the ridges.

The topographic elevation in the Exploration Licence ranges from about 400m in the southeast and 600m along the northern edge of Elkedra Pound.

Local elevation differences up to 100m are greatest around the scarp slopes of resistant quartzite.

The main drainage in Exploration Licence No. 5505 is the Elkedra River which flows eastwards in the southern part of the Licence. A large tributary is Pound Creek, which drains Elkedra Pound, and meets Elkedra River near the eastern boundary of the Licence. Amelia Creek and Murray Creek drain the Murray Downs Dome, and meet near Murray Downs Homestead before flowing into Skinner Creek, which drains Skinner Pound, in the northern part of E5505. Skinner Creek drains westwards into the surrounding plains.

The upper reaches of Frew River are in the central part of the Exploration Licence. The river flows northeastwards towards Hatches Creek, and the Hatches Creek road follows the Frew River in this area.

Climate

The climate is semi-arid tropical. Average annual rainfall is about 300mm, with most rain falling between November and March during the hot, summer season. Maximum temperatures of over 40°C are common in summer. The winter months are cool, and minimum temperatures below 10°C area common. In winter cold southeasterly winds prevail.

Vegetation

Low trees and shrubs are the typical vegetation types. These include mulga stands which are dominant in some areas. Spinifex grasses are very common. The larger watercourses are lined with good stands of eucalpytus trees.

IV. PREVIOUS EXPLORATION AND MINING

The earliest exploration of the Davenport Province was carried out by Brown between 1895-1903. Between 1898-1900 Davidson explored the area as part of the Central Australian Exploring Syndicate.

Davidson prospected the country east of the Frew River and southeast to the Elkedra River and the Elkedra Pound which is in the southeast part of E5505. He reported finding numerous quartz reefs some of which were auriferous. Giles (1989) reports that these quartz reefs are mostly 'white barren quartz'.

Near the source of Murray Creek, also in E5505, Davidson recorded finding quartz veins which dollied "fair" gold and copper carbonates. The most promising of these veins was 30cm (12in) wide, over 15m (50ft) long and grading 23g/t Au (15dwt per ton).

In the area of the Exploration Licence there are a number of precious and base metal mining centres. The most important is the Hatches Creek Tungsten Field where mining was carried out between 1913-1957. Ryan (1961) records a total production of 300t of tungsten concentrate, 70t of copper concentrate and 5.7t of bismuth concentrate. Mineralisation is contained in steeply dipping quartz veins up to 0.5m in width. The veins are hosted by the Kurinelli and Taragan Sandstone units, the Treasure Volcanics and associated dolerite and gabbro intrusives. Mineralisation is believed to postdate the Hatches Creek Group period of folding. Hatches Creek is located some 25km northeast of E5505. To the west and north of E5505 are the Wauchope and Mosquito Creek Tungsten Fields. Some 1430t of tungsten concentrates were produced from the Wauchope Field from veins hosted by the Taragan Sandstone.

Silver-lead mineralisation occurs at Silver Valley in the Murray Downs Dome, which is within E5505 (Thomas 1955) and there are also reports of uranium (Cambrell 1973).

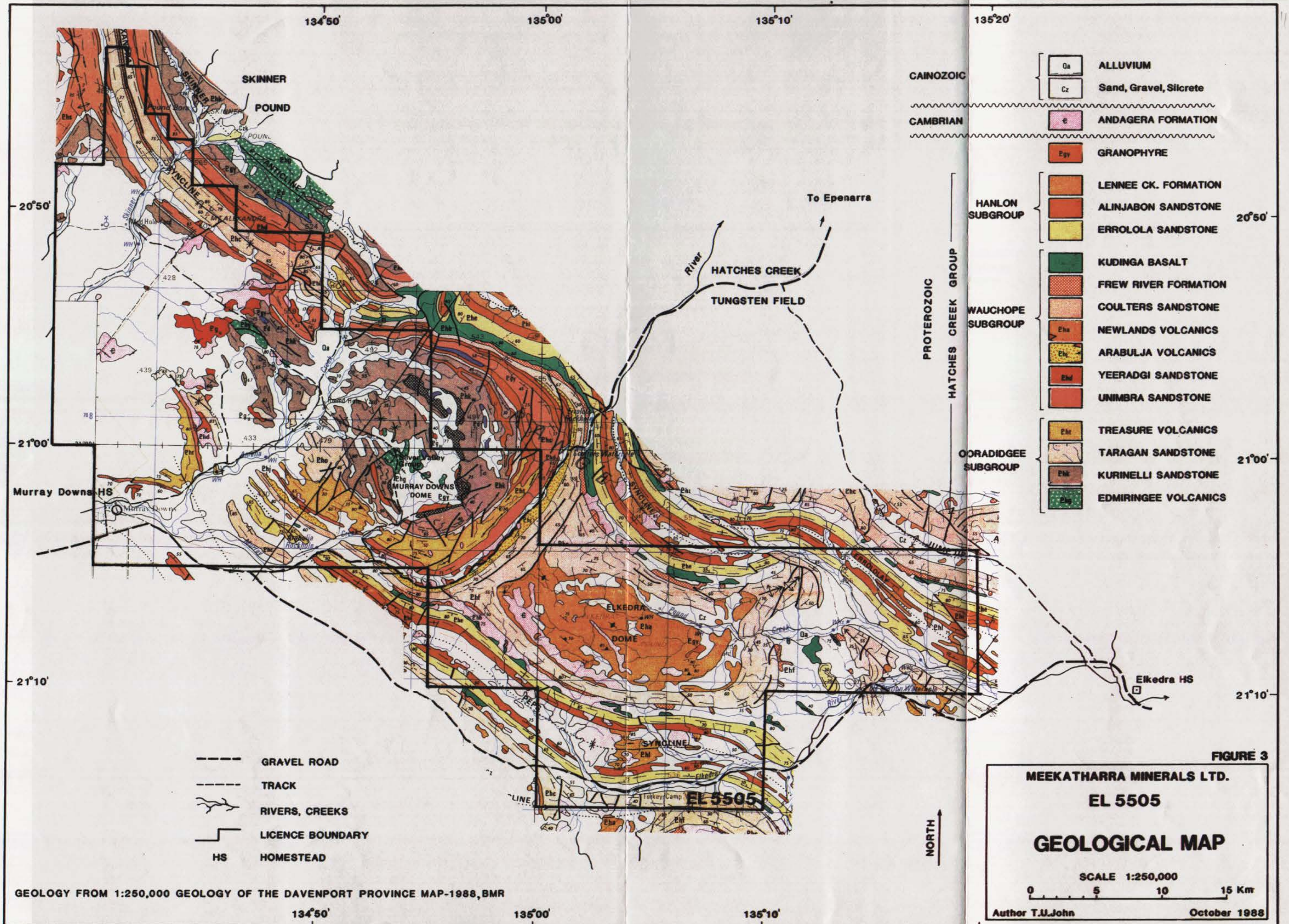
Gold occurs in the Kurundi and Hatches Creek Field with the Great Davenport, Kurundi, Power of Wealth and Kurinelli gold mines being amongst the more important. The mineralisation is contained in quartz veins in the Kurinelli Sandstone at Great Davenport and Power of Wealth, with a hornblende porphyry of the Edmirringee Volcanics hosting the veins at Kurundi. All these mines are located to the north of E5505.

There is no evidence of mining on 1:100,000 geological maps of the Eastern, Elkedra Dome area of the Exploration Licence and in their explanatory notes covering this sheet the BMR report that the mineral potential of the Elkedra region appears to be low.

V. GEOLOGY

Regionally Exploration Licence 5505 is located in the Davenport Province of the Proterozoic Tennant Creek Inlier. The Davenport Province is the southernmost of three provinces which make up the Inlier, the Tomkinson Creek Province being to the north and the Tennant Creek Province in the middle.

There are two major stratigraphic units recognised in the Davenport Province, the older Warramunga Group and the Hatches Creek group. The Warramunga group is composed mainly of greywacke and siltstone with minor chert and felsic volcanics. It is folded and overlain unconformably by the Hatches Creek Group. Only rocks of the Hatches Creek Group crop out in E5505 (Figure 3).



134°50'
135°00'
135°10'
135°20'
20°50'
21°00'
21°10'
SKINNER
POUND
To Epenarra
HATCHES CREEK
TUNGSTEN FIELD
River
Murray Downs HS
MURRAY DOWNS DOME
ELKEDRA DOME
SYNCLINE
Elkedra HS
EL 5505
CAINOZOIC
ALLUVIUM
Sand, Gravel, Silcrete
CAMBRIAN
ANDAGERA FORMATION
GRANOPHYRE
PROTEROZOIC
HATCHES CREEK GROUP
HANLON SUBGROUP
LENNEE CK. FORMATION
ALINJABON SANDSTONE
ERROLOLA SANDSTONE
WAUCHOPE SUBGROUP
KUDINGA BASALT
FREW RIVER FORMATION
COULTERS SANDSTONE
NEWLANDS VOLCANICS
ARABULJA VOLCANICS
YEERADGI SANDSTONE
UNIMBRA SANDSTONE
OORADIDGEE SUBGROUP
TREASURE VOLCANICS
TARAGAN SANDSTONE
KURINELLI SANDSTONE
EDMIRINGEE VOLCANICS
GRAVEL ROAD
TRACK
RIVERS, CREEKS
LICENCE BOUNDARY
HS HOMESTEAD
NORTH
FIGURE 3
MEEKATHARRA MINERALS LTD.
EL 5505
GEOLOGICAL MAP
SCALE 1:250,000
0 5 10 15 Km
Author T.U.John
October 1988
GEOLOGY FROM 1:250,000 GEOLOGY OF THE DAVENPORT PROVINCE MAP-1988, BMR

Hatches Creek Group

The Hatches Creek Group is a sequence of sedimentary and volcanic rocks at least 10 kilometres thick (Blake and others, 1987). It is divided into three subgroups:

1. Ooradidgee Subgroup
2. Wauchope Subgroup
3. Hanlon Subgroup

1. Ooradidgee Subgroup

This is the oldest subgroup and is represented by seven formations of sediments and volcanics, four of which are present in E5505.

- The **Edmirringee Volcanics** is the oldest unit exposed in the licence area. They are basic volcanics and are prominent in the Murray Downs Dome. In the field they are weathered basalts generally amygdaloidal, metamorphosed, with chlorite being common. Epidote is also seen. To the west of Murray Downs Dome a porphyritic basalt occurs, with feldspar phenocrysts, and a groundmass which is now chloritic.

- **Kurinelli Sandstone.** This is an important formation as it is widespread in the region. It contains quartzites and also lithic and feldspathic arenites, which form prominent ridges. Also present are some more friable siltstones. A conglomerate overlies the Edmirringee basalts west of Murray Downs Dome. It is associated with resistant quartzite. Small outcrops of the Warnes Sandstone Member of the Kurinelli Sandstone occur in the Murray Downs Dome. This weathers into rough surfaces and has a massive aspect.

  Ripple marks are well preserved on slabs of Kurinelli Sandstone in the Murray Downs Dome.

- **Taragan Sandstone.** Outcrops of feldspathic and lithic arenite occur in the Murray Downs Dome area and to the west.

- **Treasure Volcanics.** This unit is prominent on the southern flanks of the Murray Downs Dome. It is marked by the presence of a number of sedimentary beds within the unit. The volcanics are rhyolitic to dacitic lava, with phenocrysts of plagioclase and some of quartz. They are generally highly weathered. There is a zone of sericitisation plus kaolin on the southwestern flank of the Murray Downs Dome.

  The Treasure Volcanics interfinger with the Taragan Sandstone formation and with the Kurinelli Sandstone.

  Quartz veins and shattered zones with quartz veinlets have been observed in the Treasure Volcanics.

2. **Wauchope Subgroup**

There are seven formations in the Wauchope Subgroup, all of which occur in the Exploration Licence area. Sedimentary rocks and significant volcanic beds are represented.

- **Unimbra Sandstone.** This formation commonly forms ridges which crop out prominently above the surroundings. It is composed of resistant quartz arenite and feldspathic/lithic arenite. Ripple marks and cross-bedding are common. (The terms quartzite and quartz arenite are both used in this report to describe the same rock type. The former term is better known and is appropriate for this area as the rocks have suffered metamorphism).

- **Yeeradji Sandstone.** This is a less resistant formation comprising feldspathic and micaceous arenite, siltstone and greywacke. It is found on the outer flanks of the Murray Downs Dome.

- **Arabulja Volcanics.** These volcanics are mainly felsic lavas containing feldspar phenocrysts, which are usually pale grey or light greenish grey with a very fine grained ground mass. They are well exposed on the road from Murray Downs to Hatches Creek. Flow bands occur near the top of these beds and some cherty patches also occur here. Incorporated at the bottom of the lava flows there are well rounded boulders of arenite.

- **Newlands Volcanics.** These are widespread, especially in the eastern end of E5505 where they cover most of Elkedra Pound. Lava flows and ignimbrites are represented, and they are commonly highly weathered. The volcanics are generally dacitic and contain tabular feldspar phenocrysts and knots of biotite. Flow banding can be seen in places.

  In the south of Elkedra Pound there are some small easterly striking exposures of mica-feldspar schist and quartz schist, probably representing shear zones in the volcanics.

- **Coulters Sandstone.** This is mainly a very resistant quartzite (quartz arenite of the BMR). It is prominent as continuous ridges and forms the walls of the Elkedra Pound.

- **Frew River Formation.** This formation is very poorly exposed. It is made up of fine-grained sediments, including siltstone, mudstone and clays which are generally very weathered and are micaceous in places. East of Elkedra Pound there are some small exposures which appear to be bleached by sericitisation and kaolinisation. Traces of ripple marks occur in the weathered sediments near the bleached outcrops.

- **The Kudinga Basalt** follows conformably on the Frew River Formation. It is a highly weathered basalt and in many places has been metamorphosed to a green chloritic rock.

3. Hanlon Subgroup

The Hanlon Subgroup has been divided into six formations, three of which occur in E5505.

- **Errolola Sandstone.** This is a resistant mainly quartz arenite and feldspathic/lithic arenite which shows frequent cross bedding. It forms a continuous ridge across the southern part of the Exploration Licence area.

- **Alinjabon Sandstone.** This formation is composed of two bands of arenite south of Elkedra Pound, with a recessive band between them.

- **Lennee Creek Formation.** This follows the Alinjabon Sandstone in the area and comprises siltstone, arenite and some shale,

Metamorphism

The rocks of the Hatches Creek Group have been regionally metamorphosed generally to greenschist facies, which can be observed best in the basaltic flows in E5505. The original constituents of the basalts are mainly altered with the formation of chlorite and also epidote, which give the rocks a distinct greenish colour in the field.

The quartz-rich sedimentary rocks are extremely resistant due to the quartz cement, probably with some recrystallisation (although primary features such as cross-bedding and ripple marks are preserved). The feldspathic arenites now contain sericite and biotite in place of the original feldspars.

Cambrian

There are two Cambrian formations distinguished by the BMR in the Davenport province (Stewart & Blake, 1986). One of these the Andagera Formation occurs in the Exploration Licence area west of Murray Downs Dome, and particularly in, and south of, the Elkedra Pound. The Andagera Formation is composed mainly of conglomerates which form small hills, generally as flat-topped mesas. The conglomerates comprise mainly well-rounded pebbles to cobbles of quartzites of the Hatches Creek Group in a friable sand matrix.

The Cambrian mesas are found in the valleys between the resistant ridges and along the bottom slops of the ridges. The surfaces of these mesas are in some places now lateritised and silcrete is also seen on the mesas.

Cainozoic

Tertiary units in E5505 are of various types. Lateritic gravel and ferricrete are found on the surfaces of small mesas which occur in the depressions between the higher quartzite ridges. The laterite in some localities occurs as pisolitic pebbles. This is well seen in a mesa east of Elkedra Pound.

Silcrete forms on small mesas similar to those on which laterite occurs, and also in isolated patches on nearby hills. It is usually formed of silica matrix around angular fragments of Hatches Creek Group quartzites.

Conglomerate fans are found in places in the eastern section of the Exploration Licence area. These are assigned a Tertiary age by the BMR.

Calcrete is found in scattered localities in many depressions.

The BMR officers have divided the Quaternary sediments into five units (Blake and Horsall, 1986).

- aeolian sand and silt,
- 'red earth' is distinguished in the west of the area,
- clayplan deposits,
- fluvial sediments on active flood plains,
- mixed colluvial, alluvial, and aeolian sediments covering most plains valley floors and alluvial fans.

Intrusive Rocks

Intrusive rocks of various ages are found in the Davenport Province. Two in the north of the province in the Mosquito creek Tungsten Field, outside E5505 intrude the Warramunga Group rocks, but do not cut the Hatches Creek Group.

Intrusives in the Hatches Creek Group are described below:

- **Dolerite.** This form sills in the northeast of Murray Downs Dome; and west of Amelia Creek, which it intrudes Kurinelli Sandstone. The dolerite has been metamorphosed with the formation of chlorite, epidote and some quartz.

- **Felsic Sills.** Granophyre and some microgranite form sills in the Hatches Creek Group. One occurrence in the Murray Downs Dome abuts against the Warnes Sandstone member of the Kurinelli Sandstone. Its outcrop is very subdued, and it is reddish in colour, with small phenocrysts of feldspar, possibly albite.

In Elkedra Pound, the granophyre is darker, with phenocrysts of feldspar and more abundant mafic minerals. This is referred to a dacitic granophyre.

Granite. An unnamed granite occurs in the northwest of E5505 between the Amelia Creek and Skinner Creek. It forms low hills, and a good exposure is seen in a tributary of Skinner Creek (Figures 3 and 5). From the configuration of small, scattered outcrops it is presumed that the granite covers a big area under, and west of the Murray Downs Dome. This is borne out by aeromagnetic data which indicates that granite occupies an extensive area to the west of the granite outcrops, but is concealed by recent cover.

The granite contains muscovite and biotite, and phenocrysts of feldspar. It is medium to coarse grained in texture. Emplacement occurred after the folding of the Hatches Creek Group.

VI. STRUCTURE

The Davenport Province is divided into six structural domains which are based on differences in structural trends, age of folding, and lithological make-up (Blake and others, 1987) (Figure 4).

Exploration Licence E5505 is located in the Wauchope Fold Belt, which covers all the southern and eastern portions of the Province. The first phase of folding resulted in the formation of a remarkably uniform, concentrically folded sequence of anticlines and synclines generally along northwesterly trending axes, but veering westerly in places. The axes are mainly steep to vertical. These folds are generally long and uniform, and the resistant units of quartzite form conspicuous ridges and alternate valleys in the less resistant beds.

The Murray Downs and Elkedra Pound Domes are, doubly plunging anticlines. They have cores of volcanic rocks which are probably eruptive centres, which would have been thicker and have acted as more rigid units during folding. Thus these areas domed instead of buckling during the folding.

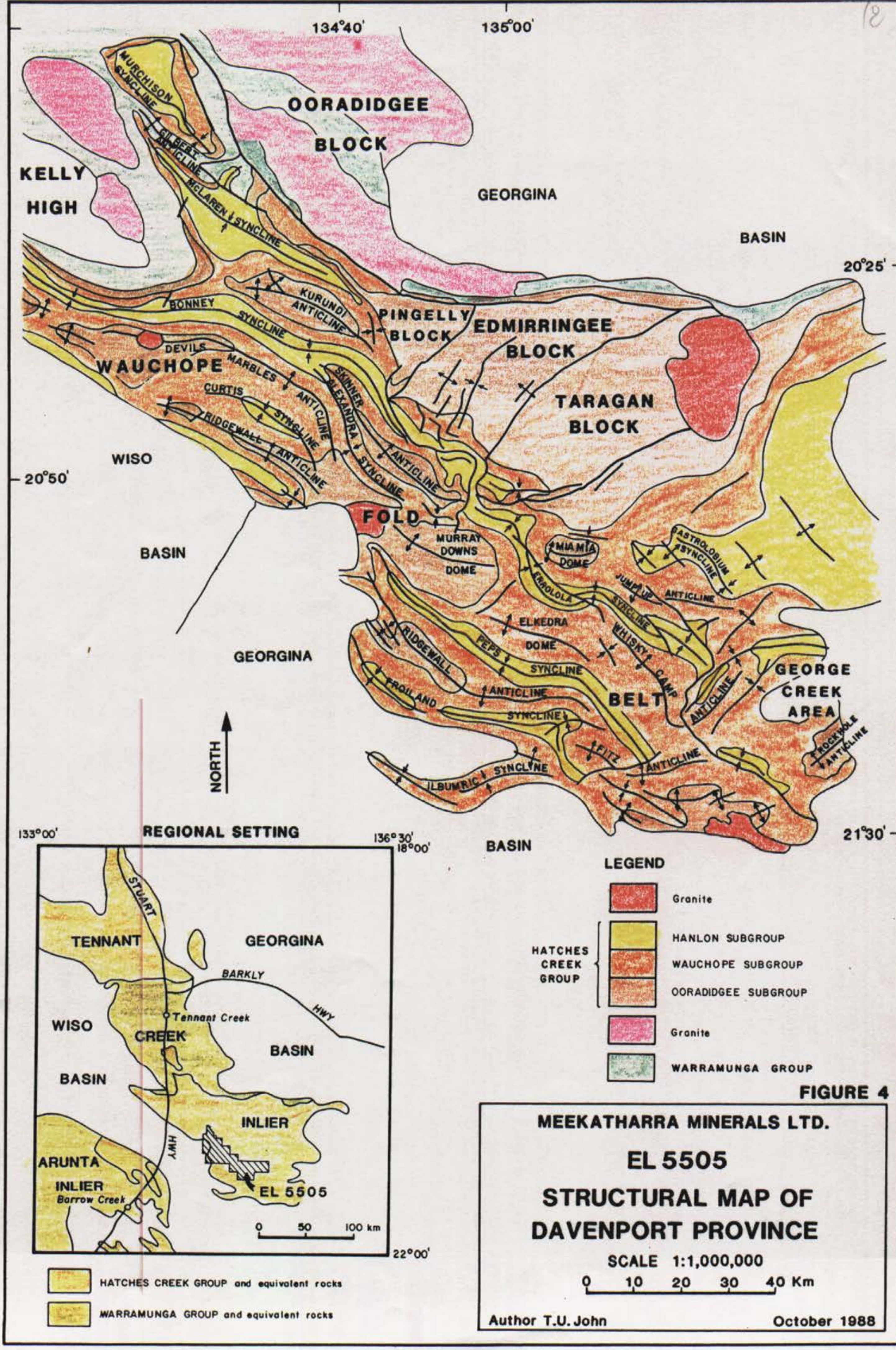


FIGURE 4

MEEKATHARRA MINERALS LTD.

EL 5505

STRUCTURAL MAP OF DAVENPORT PROVINCE

SCALE 1:1,000,000

0 10 20 30 40 Km

Author T.U. John

October 1988

A second phase of folding occurred after the main northwest-trending set. This formed northeast or north trending folds and warped the earlier set. This can be seen in the eastern part of the Exploration Licence area, around Elkedra Dome and also on the flanks of the Murray Downs Dome.

Steep or vertical faults are common throughout the area. They are frequently cross-cutting, and observed displacements are generally small. One conspicuous fault northeast of Elkedra Pound is a wide brecciated zone which brings Coulter Sandstone against Errolola Sandstone.

Blake and Horsfall (1986) suggest that some steep faults, especially strike faults, may change to shallow-dipping trusts at depth. The faults do not displace Cambrian units, and are presumed to be of Proterozoic of Hatches Creek Group time.

V11. EXPLORATION CARRIED OUT UNDER E.L.5505

Two geological reconnaissance and surface sampling programmes were conducted during 1988 and 1989 and one detailed airphoto study at the end of 1990 and commencement of 1991.

PROGRAMME 1

The preliminary 1988 programme consisting of a reconnaissance geological study of the rock units present in the area with rock chip sampling of prospective lithologies and a pan concentrate survey of stream sediments was carried out by Mr T. U. John.

Twenty eight rock chip samples designated DR - 001 to DR - 028 were collected from within the exploration licence area. The locations from which the samples were collected are depicted in Figure 5. All samples were analysed at the Fox-Anamet laboratory in Sydney. Assay results are presented in Table 1 and a description of each rock chip sample is contained in Table 3.

Locations in active stream channels where heavy minerals were likely to concentrate were chosen as sampling sites for the pan concentrate survey. The 38 sites from which pan concentrate samples were collected are depicted in Figure 6. The stream sediment was dry screened to minus three eights of an inch in the field and taken to the field camp to be treated as there was no water flowing in the stream channels. The sample was deslimed, screened and panned by hand in two 4,600 cubic centimetres pans to obtain the concentrate which was then sun-dried and packed ready for shipment to the laboratory. Fox-Anamet of Sydney undertook the analyses. Concentrates were ground to -200 mesh. Gold content was determined by fire assay, all other elements by direct coupled plasma emission spectroscopy. Results are presented in Table 2.

PROGRAMME 2

Another geological reconnaissance programme was conducted by Dr C. Giles of M. Rogers & Associates Pty., Limited during August/September, 1989. Twenty rock chip samples designated E1 to E20 were collected at the locations depicted in Figure 7. The laboratory report on all samples is presented as Table 4 and descriptions of each sample are presented in Table 5.

PROGRAMME 3

A detailed study using 1:80,000 aerial photographs was carried out by Wyatt & Clarke Consulting Geologists during the period December 1990 to February 1991.

The work included research of all previous exploration work, a study of 1:100,000 geological maps together with stereoscopic examination of 1:80,000 black and white aerial photographs. A number of geological lineaments, some showing horizontal displacement, were delineated as well as two circular features possibly representing concealed intrusive bodies (Figure 8).

TABLE 1. ROCK SAMPLES - RESULTS

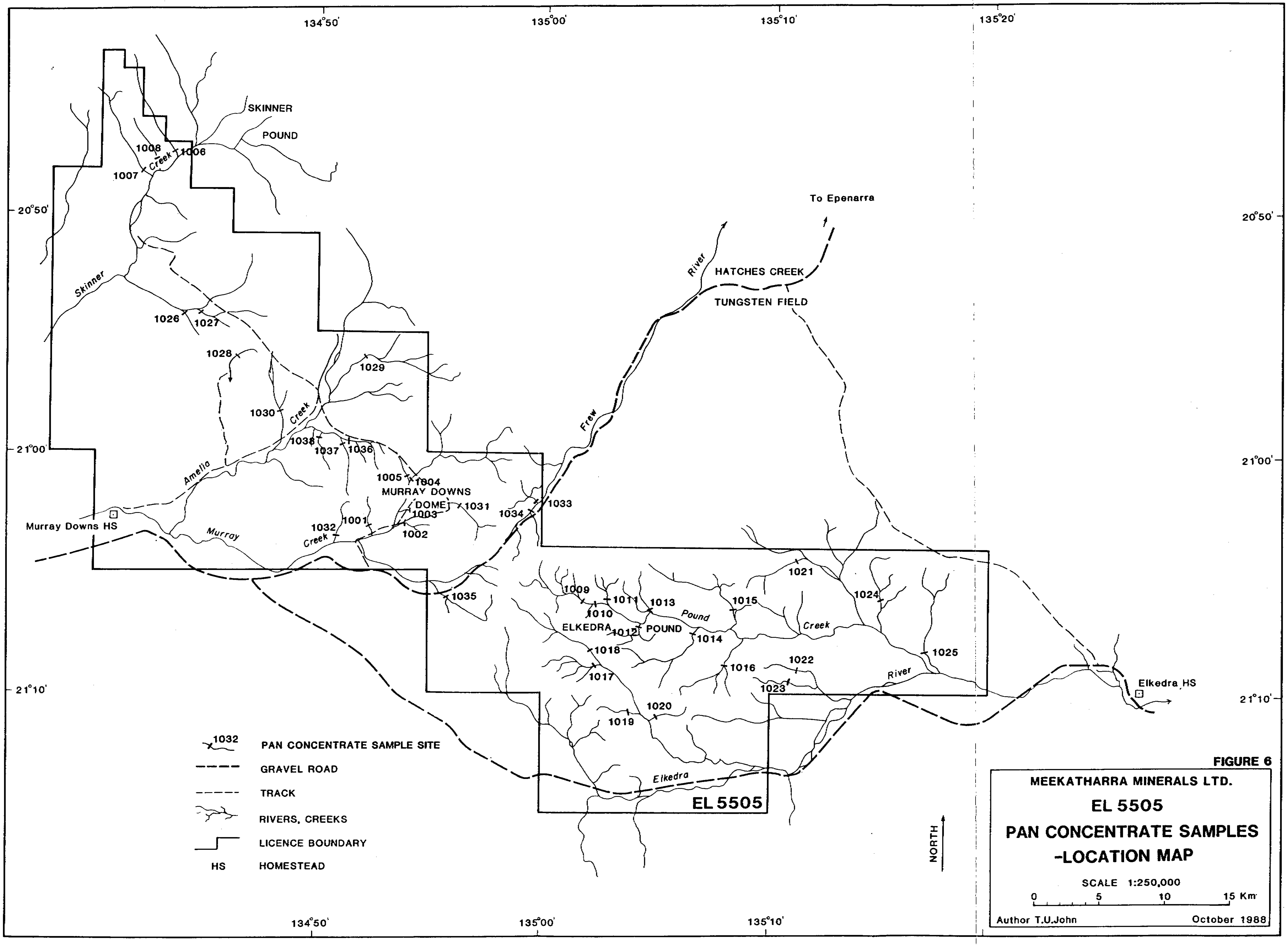
A GOLD & SILVER

Sample No.	Au (g/t)	Ag (g/t)
DR-001	0.10	61.7
002	0.01	1.05
003	0.02	0.28
004	0.01	0.33
005	0.02	0.11
006	0.05	0.34
007	0.02	0.55
008	0.01	BLD
009	-	-
DR-010	0.01	BLD
011	0.04	0.10
012	0.05	BLD
013	0.01	0.06
014	0.02	0.06
015	0.01	0.07
016	0.01	0.11
017	< 0.01	0.09
018	0.02	0.08
019	0.02	0.37
DR-020	0.02	0.60
022	0.02	0.21
023	0.01	0.22
024	0.01	0.07
025	0.02	0.06
026	0.02	0.07
027	0.01	0.09
DR-028	0.02	0.84

Analytical Method: Au determinations by fire assay
Ag determinations by atomic absorption spectroscopy

Detection Limit: Au 0.01
Ag 0.05

Method AGA-5 (Ag)



134°50'
135°00'
135°10'
135°20'
20°50'
21°00'
21°10'
SKINNER
POUND
Skinner
Creek
Amelia
Creek
Murray
Creek
Murray Downs HS
MURRAY DOWNS
DOME
To Epenarra
HATCHES CREEK
TUNGSTEN FIELD
Frew
River
ELKEDRA
POUND
Pound
Creek
River
Elkedra
Elkedra HS
EL 5505
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1038
1032 PAN CONCENTRATE SAMPLE SITE
GRAVEL ROAD
TRACK
RIVERS, CREEKS
LICENCE BOUNDARY
HS HOMESTEAD
NORTH
FIGURE 6
MEEKATHARRA MINERALS LTD.
EL 5505
PAN CONCENTRATE SAMPLES
-LOCATION MAP
SCALE 1:250,000
0 5 10 15 Km
Author T.U.John
October 1988

TABLE 1. ROCK SAMPLES - RESULTS continued

SAMPLE No.	Cu ppm	Pb ppm	Zn ppm	Bi ppm	As ppm	Sb ppm	% Fe	Te ppm	W ppm
DR-007	1490	45	30	15	BLD	BLD	2.57	BLD	740
DR-020	5	355	190	BLD	BLD	BLD	26.8	BLD	_
DETECTION LIMIT	5	5	5	5	10	5	0.01%	20	20
METHOD	AGP-1	. . . .							AGP-3/2

TABLE 2. PAN CONCENTRATE SAMPLES - RESULTS

Sample No.	Wt. of conc/gms.	Au ppm	Au ppm Adjusted	As ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Cr ppm	Ni ppm	Bi ppm	Sb ppm	%Fe	W ppm	Nb ppm	Sn ppm
DS-1001	28.6	0.16	0.046	BLD	BLD	BLD	80	35	342	12	10	15	20.5	9	8	BLD
1002	59.2	0.12	0.071	BLD	BLD	BLD	45	55	146	8	BLD	5	12.3	BLD	BLD	BLD
1003	34.0	0.11	0.037	BLD	BLD	BLD	5	20	182	8	BLD	BLD	2.86	BLD	6	BLD
1004	30.4	0.14	0.043	BLD	BLD	BLD	65	95	160	16	BLD	5	16.8	53	13	BLD
1005	50.0	0.10	0.05	BLD	BLD	BLD	80	55	392	12	BLD	10	42.7	6	12	10
1006	60.0	0.14	0.08	BLD	BLD	BLD	45	55	132	6	BLD	BLD	1.78	BLD	6	16
1007	18.0	0.31	0.056	BLD	BLD	BLD	35	35	232	10	BLD	BLD	8.65	7	18	BLD
1008	40.0	0.14	0.056	BLD	BLD	BLD	5	5	180	6	BLD	10	1.33	BLD	BLD	BLD
1009	31.5	0.17	0.054	BLD	BLD	BLD	40	35	166	10	BLD	BLD	11.9	BLD	19	BLD
DS-1010	40.6	0.11	0.044	BLD	BLD	BLD	25	20	136	6	BLD	BLD	2.01	BLD	14	BLD
1011	04.7	0.70	0.033	BLD	BLD	BLD	70	190	376	20	BLD	15	43.3	34	56	BLD
1012	34.4	0.17	0.058	BLD	BLD	BLD	50	20	136	10	BLD	10	16.4	20	27	BLD
1013	15.3	0.35	0.054	BLD	BLD	BLD	BLD	15	376	16	BLD	BLD	1.48	BLD	16	BLD
1014	19.7	0.27	0.053	BLD	BLD	BLD	45	195	184	14	BLD	BLD	9.47	5	18	BLD
1015	65.6	0.10	0.066	BLD	BLD	15	25	15	144	18	BLD	5	8.67	BLD	BLD	BLD
1016	34.4	0.12	0.041	BLD	BLD	BLD	55	10	180	10	BLD	10	18.3	8	20	19
1017	62.0	0.10	0.062	BLD	BLD	BLD	BLD	BLD	150	6	5	BLD	2.14	BLD	BLD	BLD
1018	53.3	0.08	0.043	BLD	BLD	BLD	BLD	BLD	158	4	BLD	5	1.90	BLD	9	BLD
1019	30.6	0.14	0.043	BLD	BLD	135	40	40	172	38	BLD	10	12.1	BLD	BLD	BLD
DS-1020	38.4	0.14	0.054	BLD	BLD	BLD	25	110	254	12	BLD	5	6.76	BLD	BLD	BLD
1021	40.7	0.10	0.041	BLD	BLD	BLD	15	15	228	10	BLD	BLD	2.21	7	13	BLD
DETECTION LIMIT	0.01			10	0.5	5	5	5	2	2	5	5	0.01%	4	2	10

TABLE 2. PAN CONCENTRATE SAMPLES - RESULTS

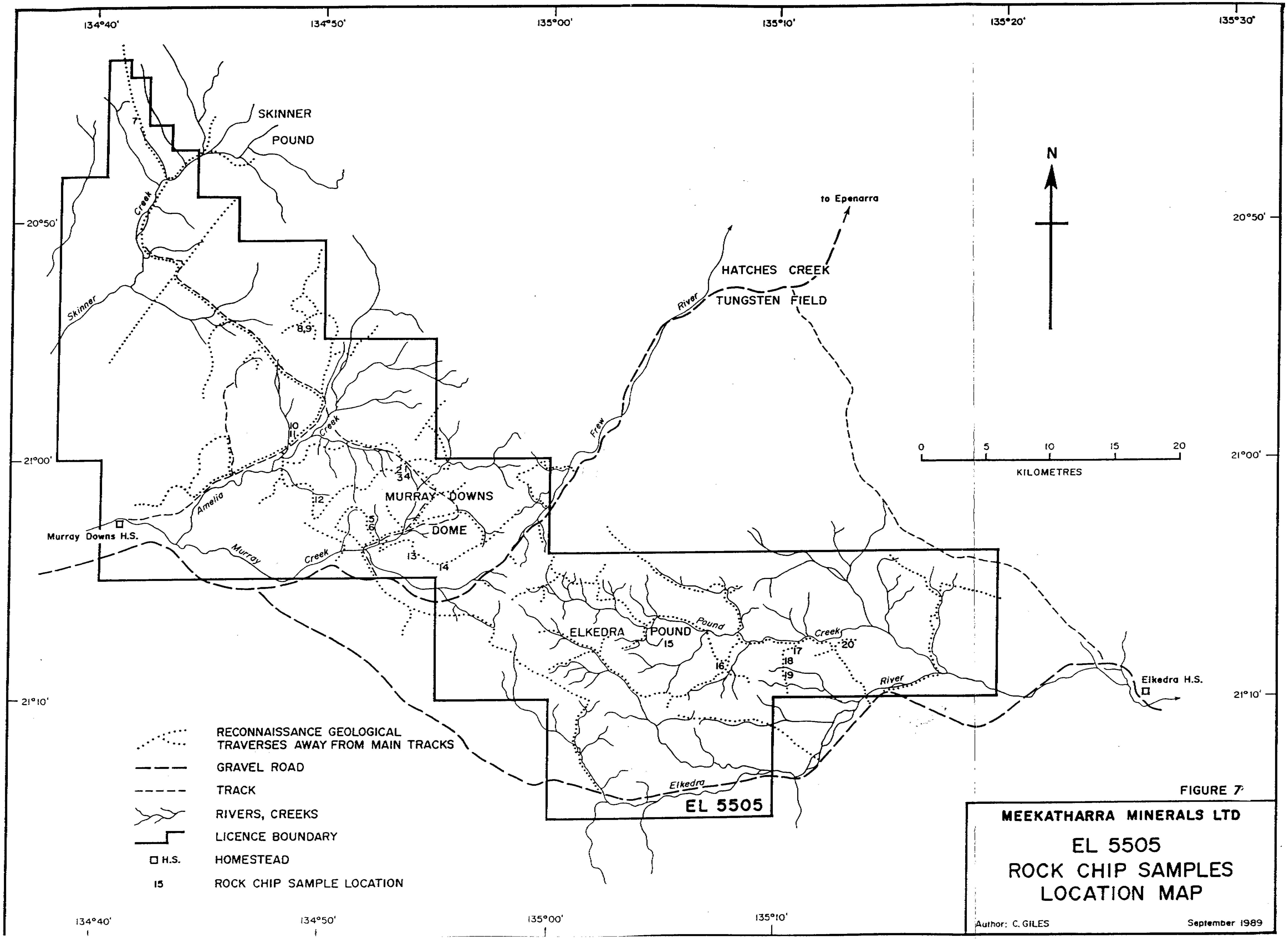
Sample NO.	Wt. of conc.gms	Au ppm	Au ppm Adjusted	As ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Cr ppm	Ni ppm	Bi ppm	Sb ppm	%Fe	W ppm	Nb ppm	Sn ppm
DS-1022	29.2	0.16	0.047	BLD	BLD	BLD	15	BLD	248	10	10	10	5.21	9	17	BLD
1023	32.4	0.15	0.048	BLD	BLD	BLD	10	5	238	10	BLD	5	3.04	8	14	BLD
1024	31.6	0.12	0.038	BLD	BLD	10	30	35	244	20	BLD	5	8.33	14	20	BLD
1025	10.5	0.31	0.033	BLD	BLD	BLD	85	25	496	28	BLD	BLD	25.2	12	16	BLD
1026	9.3	0.38	0.035	BLD	BLD	15	285	80	422	36	BLD	10	29.6	92	18	BLD
1027	7.5	0.47	0.035	BLD	BLD	25	80	55	292	28	BLD	5	17.2	19	18	BLD
1028	51.7	0.06	0.031	BLD	BLD	BLD	70	25	148	18	BLD	10	11.1	BLD	BLD	BLD
1029	37.7	0.08	0.030	BLD	BLD	BLD	65	60	166	20	5	5	14.2	BLD	BLD	BLD
DS-1030	21.6	0.13	0.028	10	BLD	BLD	65	25	312	16	BLD	10	19.1	24	18	BLD
1031	15.2	0.26	0.039	BLD	BLD	BLD	120	95	388	26	20	15	49.1	5	28	BLD
1032	48.5	0.05	0.024	BLD	1.00	BLD	80	30	512	12	5	10	38.5	19	36	BLD
1033	13.7	0.26	0.034	BLD	BLD	BLD	25	20	292	14	BLD	BLD	5.09	6	21	BLD
1034	10.6	0.32	0.034	BLD	BLD	BLD	45	50	246	14	BLD	BLD	13.1	6	50	BLD
1035	7.7	0.34	0.026	BLD	BLD	25	40	35	374	26	5	5	8.90	9	17	BLD
1036	28.7	0.11	0.032	10	1.00	BLD	180	65	256	18	5	10	47.3	BLD	12	BLD
1037	19.8	0.43	0.085	BLD	1.00	BLD	90	40	328	20	10	15	46.8	16	36	BLD
DS-1038	67.3	0.07	0.047	10	1.00	BLD	90	15	390	14	BLD	20	45.3	15	33	BLD
DETECTION LIMIT	0.01			10	0.5	5	5	5	2	2	5	5	0.01%	4	2	10

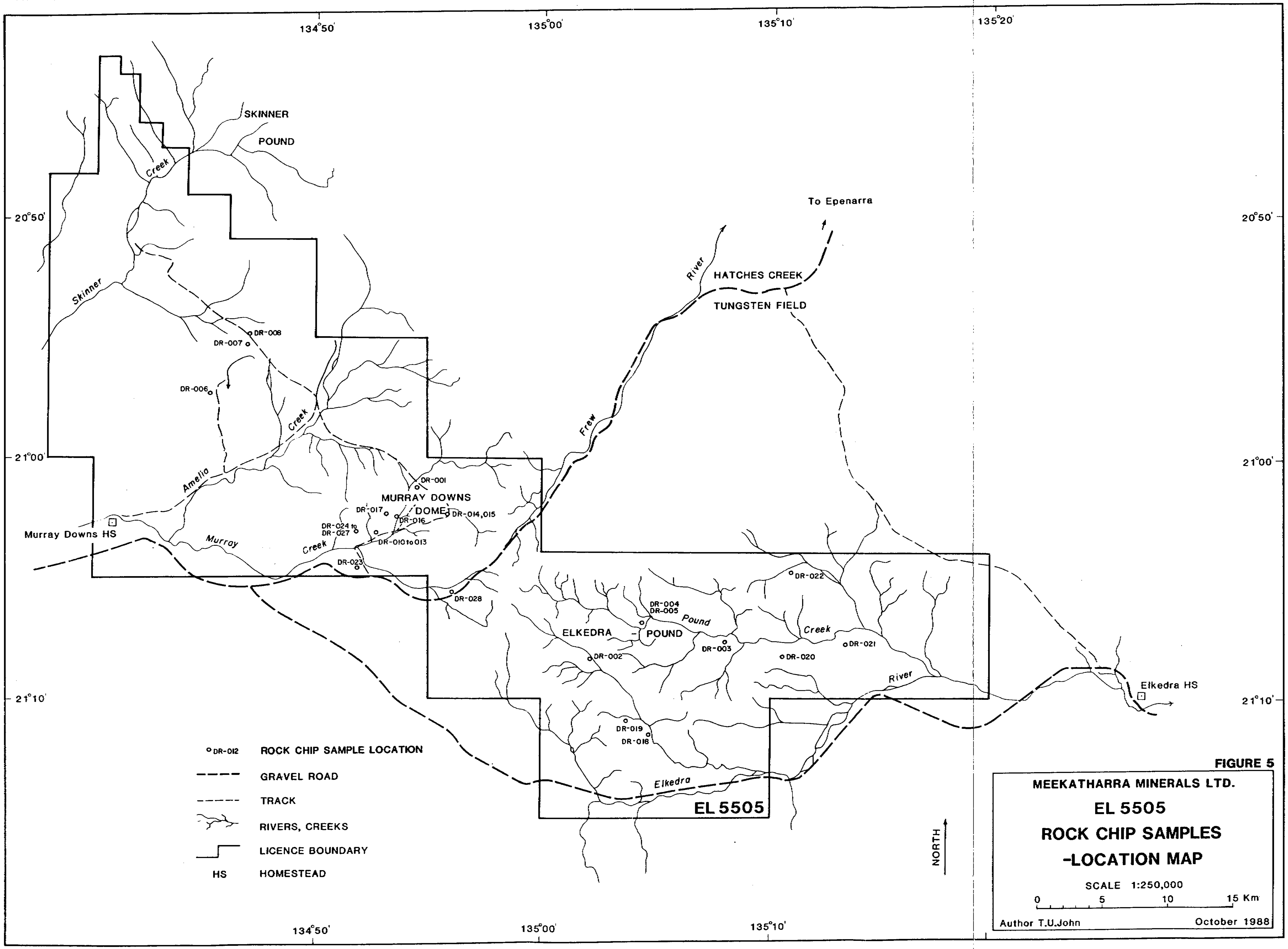
TABLE 3. DESCRIPTION OF ROCK SAMPLES

SAMPLE No.	TYPE	LOCATION	DESCRIPTION
DR-001	Rock Chip	Silver Valley Mines	Quartz vein w/galena and Cu staining
002	Rock Chip	Elkedra Dome	Qz vein
003	Rock Chip	Elkedra Dome	Qz vein
004	Rock Chip	Elkedra Dome	Shear zone in volcanics
005	Rock Chip	Elkedra Dome	Quartz vein
006	Rock Chip	W. of Amelia Creek	Quartz vein, near granite
007	Grab	W. of Amelia Creek, near fence line	Qz-epidote rock, w/qz veinlets, Cu staining
008	Rock Chip	Near DR-007	Quartz vein material
009		Not Analysed	
RD-010	Rock Chip	Murray Downs Dome	Qz vein material
011	Rock Chip	Murray Downs Dome	Qz vein material
012	Grab	Murray Downs Dome	Very dark silicified rock w/ numerous veinlets
013	Rock Chip	Murray Downs Dome	Quartz vein material
014	Rock Chip	Murray Downs Dome	Quartz veinlets in volcanic fault breccia
015	Rock Chip	Murray Downs Dome	Quartz veinlets in volcanic fault breccia
016	Rock Chip	Murray Downs Dome	Quartz vein in Kurinelli Sandstone
017	Rock Chip	Murray Downs Dome	Quartz veinlets in felsic rock
018	Rock Chip	Southern entrance to Elkedra Pound	Zone of fracturing in quartzite, w/qz veinlets.
019	Rock Chip	Southern wall of Elkedra Pound	Quartz vein
DR-020	Rock Chip	E. of Elkedra Pound	Laminated Frew River Formation

TABLE 3. DESCRIPTION OF ROCK SAMPLES

SAMPLE No.	TYPE	LOCATION	DESCRIPTION
DR-021		Not Analysed	
022	Rock Chip	NE Elkedra Dome	Fault breccia in Coulters Sandstone
023	Rock Chip	Turn-off to Murray Downs Dome	Quartz veins in Coulters Sandstone
024	RockChip	Murray Downs Dome	Quartz vein in Treasure Volcanics
025	Rock Chip	Murray Downs Dome	Quartz vein in Treasure Volcanics
026	Rock Chip	Murray Downs Dome	Quartz vein in Treasure Volcanics
027	Rock Chip	Murray Downs Dome	Shatter zone w/ quartz veinlets
DR-028	Rock Chip	Hatches Creek Road	Quartz vein near Kaolinization


134°40'
134°50'
135°00'
135°10'
135°20'
135°30'
20°50'
21°00'
21°10'
SKINNER
POUND
Skinner
Creek
to Epenarra
HATCHES CREEK
TUNGSTEN FIELD
Frew
River
N
0
5
10
15
20
KILOMETRES
Amelia
Creek
MURRAY DOWNS
DOME
Murray Downs H.S.
Murray
Creek
ELKEDRA
POUND
Pound
Creek
River
Elkedra
Elkedra H.S.
EL 5505
7
8,9
10
11
1
2
3
4
5
6
12
13
14
15
16
17
18
19
20
RECONNAISSANCE GEOLOGICAL TRAVERSES AWAY FROM MAIN TRACKS
GRAVEL ROAD
TRACK
RIVERS, CREEKS
LICENCE BOUNDARY
H.S. HOMESTEAD
15 ROCK CHIP SAMPLE LOCATION
FIGURE 7
MEEKATHARRA MINERALS LTD
EL 5505
ROCK CHIP SAMPLES
LOCATION MAP
Author: C. GILES
September 1989



134°50'
135°00'
135°10'
135°20'
20°50'
21°00'
21°10'
SKINNER
POUND
Skinner
Creek
To Epenarra
HATCHES CREEK
TUNGSTEN FIELD
River
Frew
Amelia
Creek
Murray
Creek
MURRAY DOWNS
DOME
Murray Downs HS
DR-001
DR-002
DR-003
DR-004
DR-005
DR-006
DR-007
DR-008
DR-010 to 013
DR-014,015
DR-016
DR-017
DR-018
DR-019
DR-020
DR-021
DR-022
DR-023
DR-024 to
DR-027
DR-028
ELKEDRA
POUND
Pound
Creek
River
Elkedra
Elkedra HS
EL 5505
DR-012 ROCK CHIP SAMPLE LOCATION
GRAVEL ROAD
TRACK
RIVERS, CREEKS
LICENCE BOUNDARY
HS HOMESTEAD
NORTH
FIGURE 5
MEEKATHARRA MINERALS LTD.
EL 5505
ROCK CHIP SAMPLES
-LOCATION MAP
SCALE 1:250,000
0 5 10 15 Km
Author T.U.John
October 1988

ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty Ltd.

TABLE 4

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	727.0.25.04039	08/10/89	19.9.89	1 OF 1

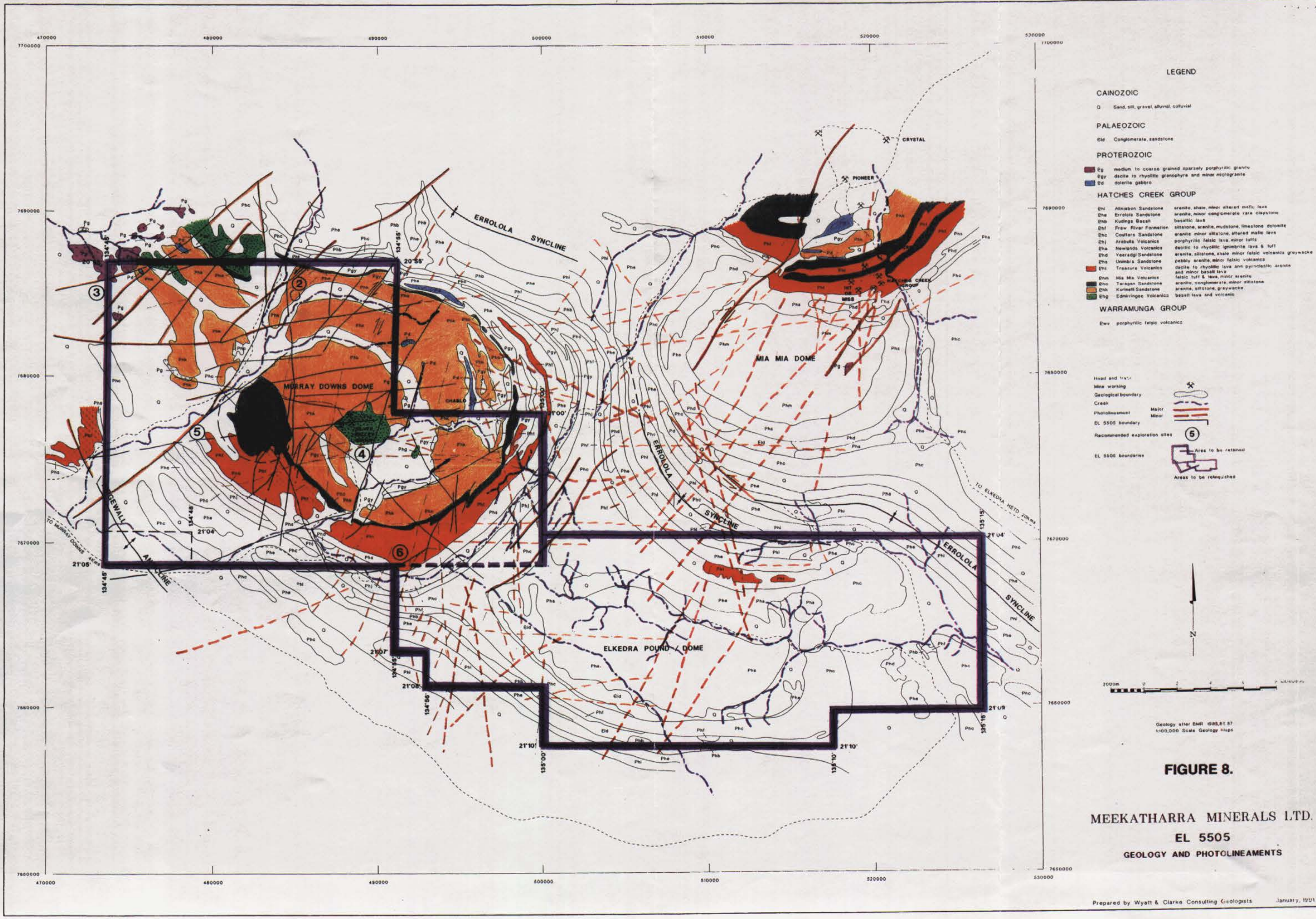
TUBE No.	SAMPLE No.	Cu	Zn	Ag	Au	Pb	Pb:1			
1	E01	1850	770	55.0	0.05	>10000	6.96			
2	E02	235	490	2.0	<0.02	1305	-			
3	E03	1075	290	135.5	0.15	>10000	11.90			
4	E04	70	35	35.0	0.24	615	-			
5	E05	15	25	1.0	<0.02	310	-			
6	E06	15	30	1.0	<0.02	25	-			
7	E07	10	5	<0.5	<0.02	70	-			
8	E08	5	<5	0.5	<0.02	75	-			
9	E09	10	10	0.5	<0.02	15	-			
10	E10	70	180	<0.5	<0.02	10	-			
11	E11	65	95	<0.5	<0.02	20	-			
12	E12	15	145	<0.5	<0.02	5	-			
13	E14	160	70	<0.5	<0.02	10	-			
14	E15	20	5	<0.5	<0.02	5	-			
15	E17	30	50	0.5	<0.02	45	-			
16	E18	20	60	<0.5	<0.02	10	-			
17	E19	20	25	<0.5	<0.02	190	-			
18	E20	35	45	<0.5	<0.02	5	-			
19										
20										
21										
22										
23	DETECTION	5	5	0.5	0.02	5	0.01			
24	UNITS	ppm	ppm	ppm	ppm	ppm	%			
25	METHOD	101	101	101	329	101	101			

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER J.M.Crowe

TABLE 5 DESCRIPTION ON ROCK CHIP SAMPLES

Sample No.	Description
E1	Galena - bearing quartz vein
E2	Thin quartz veinlets in fractured basalt (above tunnel)
E3	Galena - bearing quartz
E4	Sulphidic quartz vein
E5	Limonitic vein quartz in sheared dolerite
E6	Limonitic vein quartz in fractured quartzite
E7	Limonitic vein quartz in Frew River Fm.
E8	Brecciated and veined quartzite
E9	Limonite-stained, clay-altered rhyodacite
E10	Limonitic vein quartz in quartzite
E11	Limonitic vein quartz in sheared dolerite
E12	Limonitic vein quartz stockwork in quartzite
E14	Sheared quartz-veined ? sediment
E15	Vein quartz breccia
E17	Ferruginous thinly quartz veined quartzite
E18	Lateritised siltstone, thinly quartz veined
E19	Lateritised siltstone, thinly quartz veined
E20	Quartz-limonite veined brown quartzite


LEGEND
CAINOZOIC
Q Sand, silt, gravel, alluvial, colluvial
PALAEOZOIC
Eld Conglomerate, sandstone
PROTEROZOIC
Pg medium to coarse grained sparsely porphyritic granite
Pgy dacite to rhyolitic granophyre and minor microgranite
Pd dolerite gabbro
HATCHES CREEK GROUP
Phi Alinjabon Sandstone arenite, shale, minor altered mafic lava
Phe Errolola Sandstone arenite, minor conglomerate rare claystone
Phb Kudinga Basalt basaltic lava
Phf Frew River Formation siltstone, arenite, mudstone, limestone dolomite
Phc Coulters Sandstone arenite minor siltstone, altered mafic lava
Phj Arabulla Volcanics porphyritic felsic lava, minor tuffs
Pha Newlands Volcanics dacitic to rhyolitic ignimbrite lava & tuff
Phd Yeeradgi Sandstone arenite, siltstone, shale minor felsic volcanics greywacke
Phs Unimbra Sandstone pebbly arenite, minor felsic volcanics
Pht Treasure Volcanics dacite to rhyolitic lava and pyroclastic arenite and minor basalt lava
Phm Mia Mia Volcanics felsic tuff & lava, minor arenite
Pho Taragan Sandstone arenite, conglomerate, minor siltstone
Phk Kurinelli Sandstone arenite, siltstone, greywacke
Phg Edmirringee Volcanics basalt lava and volcanic
WARRAMUNGA GROUP
Pwv porphyritic felsic volcanics
Mine working
Geological boundary
Creek
Photolineament Major Minor
EL 5505 boundary
Recommended exploration sites 5
EL 5505 boundaries
Area to be retained
Areas to be relinquished
ERROLOLA SYNCLINE
MURRAY DOWNS DOME
MIA MIA DOME
ELKEDRA POUND / DOME
CRYSTAL
PIONEER
HATCHES CREEK GROUP
TO ELKEDRA HSTD 20kms
TO MURRAY DOWNS 4kms
Geology after BMR 1985,81,57 1:100,000 Scale Geology Maps
FIGURE 8.
MEEKATHARRA MINERALS LTD.
EL 5505
GEOLOGY AND PHOTOLINEAMENTS
Prepared by Wyatt & Clarke Consulting Geologists January, 1991

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