

TITLE FIRST AND FINAL REPORT  
EXPLORATION LICENCE 6041  
LONG POUND AREA  
NORTHERN TERRITORY

PERIOD 5 JULY 1988 TO 26 JULY 1989

TENEMENT AUSTRALIAN ENERGY & GOLD NL  
HOLDERS 11TH FLOOR  
& OPERATORS 28 THE ESPLANADE  
PERTH

DATE OCTOBER 1989

1:250,000 Frew River SF53-3  
1:100,000 Hatches Creek Special

COPY NO: /  
REP.043

DISTRIBUTION:

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LIST OF DRAWINGS

DRAWING  
NUMBER

TITLE

SCALE

AEG 031-1

Location Map

as shown

AEG 031-2

Regional Geology

as shown

## SUMMARY

Exploration Licence 6041 was granted on 5 July 1988. Work completed during the first year of tenure involved a review of the previous production, exploration and investigations undertaken within the area. The results indicated that the area has a low prospectivity for significant gold mineralisation.

The desire of the Company to rationalise its exploration effort in the Northern Territory resulted in the Exploration Licence being recommended for surrender. Exploration Licence 6041 was surrendered on 26 July 1989.

## 1. INTRODUCTION

Exploration Licence 6041 was granted to Tanas Pty Ltd on 5 July 1988 and transferred to Australian Energy and Gold NL on 3 August 1988. The tenement was acquired on the basis that the Treasure Volcanics extend into the licence area suggesting a correlation with the Hatches Creek and Crystal Mine areas (MacLeod 1988). Work during the first year of tenure involved a review of all previous exploration and production.

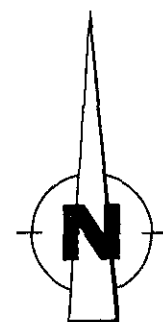
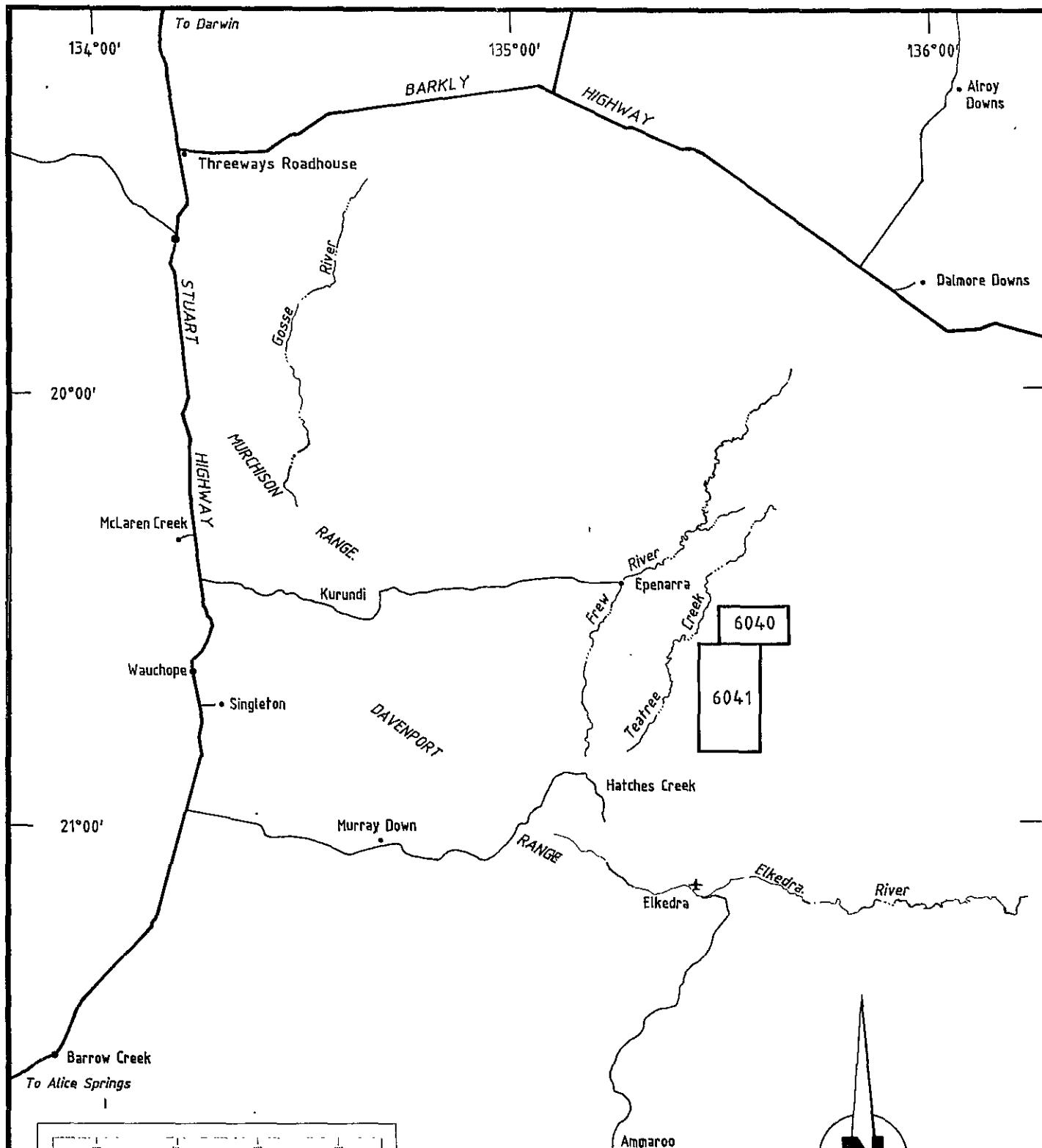
## 2. LOCATION AND ACCESS

The Exploration Licence is situated in the Long Pound area, approximately 105 kilometres east of the Kurundi Homestead and 185 kilometres southeast of Tennant Creek. Access is via the sealed Stuart Highway south from Tennant Creek to the Epenara turnoff, then by graded road to the Epenara homestead. From there a graded road leads southwards to the Frew River crossing, thence eastward by station track to the northern portion of the area. Vehicular access through the area is confined to station tracks and the flat soil covered areas with a large portion of the area only accessible by foot.

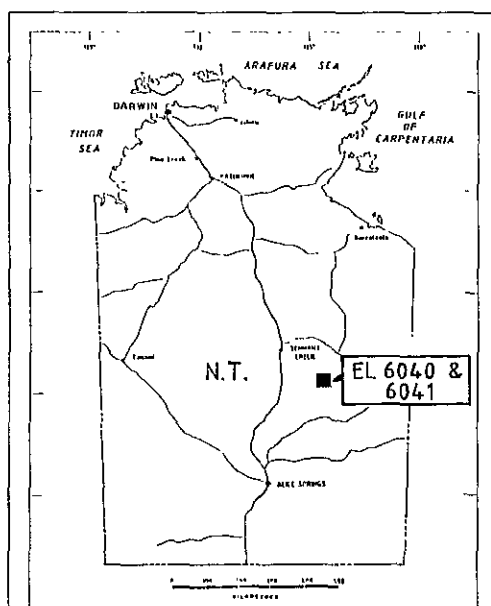
## 3. TENURE

<u>Tenement Number</u>	<u>Date Granted</u>	<u>Area</u>	<u>Period</u>
EL6041	5-7-88	435km <sup>2</sup> (135 blocks)	6 years

Exploration Licence 6041 was surrendered on 26 July 1989.



0 50  
KMS



REVISIONS		AUSTRALIAN ENERGY & GOLD N.L.		
DATE	BY	ORIGINATOR	EL'S 6040 & 6041 LONGPOND NORTHERN TERRITORY LOCATION MAP	
		M.G.M.		
		DRAWN		
		V.J.W.		
		DATE	SCALE	
		October, '89		
			As Shown	DWG. No. AEG 031-1. REV.

#### 4. REGIONAL GEOLOGY

The Davenport Ranges are formed from a folded belt of middle Proterozoic rocks which extend from Tennant Creek for more than 200 kilometres to the southeast. The belt consists of a younger group of moderately folded volcanic rocks, the Hatches Creek Group, which rest unconformably on a more highly deformed volcanic-sedimentary sequence known as the Warramunga Group.

The Hatches Creek Group has a thickness of at least 10,000 metres and is divided in three subgroups. The lowermost of these, the Ooradidgee Subgroup is dominantly volcanic in character and composed of felsic and fragmental lavas, mafic sandstones, siltstones and minor limestones with extensive mafic lavas in the lower parts of the section. These strata are folded into major southeast trending anticlines and synclines which are overprinted by smaller north-northeast trending folds to produce a complex of domal and basinal structures containing zones of intense fracturing and overthrusting. This folded sequence is intruded by large bodies of granite and associated porphyries and granophyres with lesser dolerite and gabbro. Metamorphic grades are lower greenschist with local thermal effects in the aureoles of the granite intrusives.

Known mineralisation in the general region consists of gold and tungsten with minor copper, lead and uranium. Gold mineralisation occurs in quartz veins within volcanics and sediments of the Ooradidgee Subgroup, and within granitic and mafic intrusives.

#### 5. WORK COMPLETED

A review of all previous investigations, exploration and production was undertaken to assess the potential of the area to host significant gold mineralisation.



## 5.1 Tenement Geology

Exploration Licence 6041 consists largely of moderately elevated strike ridges that trend north-northwest through the tenement. The northwestern corner of the tenement block is largely soil covered with occasional remnants of an extensive laterite profile.

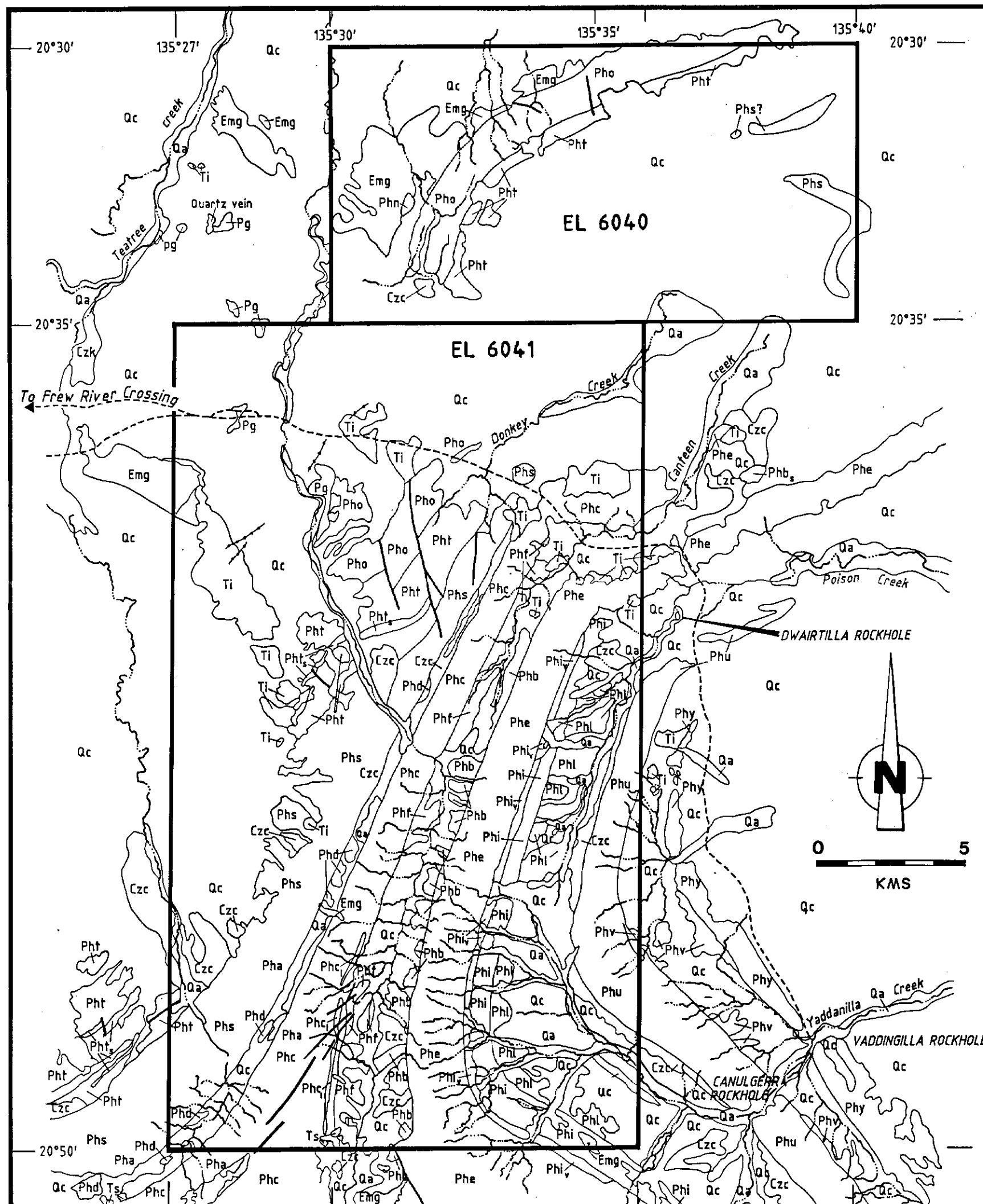
The outcropping sequence within the tenement comprises of poorly exposed areas of sandstone, siltstone and felsic volcanics which have been assigned to the Taragean Sandstone and Treasure Volcanics. The central portion of the main ridge consists of sandstone, tuffaceous siltstones, dolomitic siltstones and shales and rare felsic volcanics of the Wauchope Subgroups. This sequence is in turn overlain by the poorly exposed basic volcanic flows of the Kudinga Basalt.

The eastern portion of the outcropping ridge consists of the conformably overlying sandstones, feldspathic sediments and minor basic volcanics of the Hanlon Subgroup. This area has scattered areas of deep alluvium along the drainage channels and occasional lateritic remnants.

The entire sequence dips variably to the east with steep dips (75°) common in the west gradually decreasing to flat dips (25°) to the east.

The Proterozoic sediments have been intruded by a small granite body in the northwest corner of the Exploration Licence. The granite is in turn unconformably overlain by low ridges of Cambrian sandstone and conglomerate of the Gum Ridge Formation.

The regional structure is fairly simple with only occasional north-northwest faults being present primarily in the Taragean Sandstone and Treasure Volcanics associated with the granite intrusion.



## LEGEND

Qa	Sand, silt, clay, gravel, fluvial
Qc	Sand, gravel, silt, clay; colluvial & fluvial
Czc	Gravel, sand, alluvial & colluvial.
Ts	Silcrete
Ti	Ferricrete, lateritic gravel

Emg	GUM RIDGE FORMATION: Conglomerate, sandstone, siltstone, chert.
Pg	Porphyritic granite, containing muscovite and/or Biotite.

Phy	YADDANILLA SANDSTONE: Quartz arenite & feldspathic arenite
Phv	VADDINGILLA FORMATION: Siltstone, shale, & feldspathic micaceous arenite.
Phu	CANULGERRA FORMATION: Feldspathic arenite; friable arenite & micaceous siltstone.
Phl	LENNEE CREEK FORMATION: Arenite, siltstone, shale & minor quartz arenite & calcareous beds.
Phi	ALINJABON SANDSTONE: Quartz arenite, feldspathic arenite, friable arenite, siltstone, shale, lava
Phi <sub>v</sub>	ALINJABON SANDSTONE: Mafic lava, micaceous siltstone & shale.
Phe	ERROLOLA SANDSTONE: Quartz arenite & subordinate feldspathic arenite; rare pebbly arenite.

Phb	KUDINGA BASALT: Amygdaloidal to massive basalt lava, epidotic & chloritic.
Phb <sub>s</sub>	KUDINGA BASALT: Feldspathic arenite, minor basalt lava.
Phf	FREW RIVER FORMATION: Friable arenite & siltstone, commonly calcareous & dolomitic.
Phc	COULTERS SANDSTONE: Quartz arenite & subordinate feldspathic arenite, minor pebbly arenite.
Phc <sub>i</sub>	COULTERS SANDSTONE: Friable arenite.
Pha	NEWLANDS VOLCANICS: Porphyritic, dacitic ignimbrite.
Phd	YEERADGI SANDSTONE: Feldspathic arenite; friable arenite, siltstone, mudstone, ashstone, shale.
Phs	UNIMBRA SANDSTONE: Feldspathic arenite & subordinate quartz arenite, minor pebbly arenite.

Ph <sub>t</sub>	TREASURE VOLCANICS: Dacitic to rhyolitic lava, commonly porphyritic; minor arenite & bedded tuff.
Ph <sub>t<sub>s</sub></sub>	TREASURE VOLCANICS: Quartz arenite, feldspathic arenite; minor pebbly arenite
Pho	TARAGAN SANDSTONE: Quartz arenite & feldspathic arenite, commonly pebbly, minor conglomerate

	Geological boundary
	Fault
	Quartz dyke
	Tenement boundary
	Track
	Creeks

GEOLOGY AFTER BMR 1985.

REVISIONS		AUSTRALIAN ENERGY & GOLD N.L.			
DATE	BY	ORIGINATOR	EL'S 6040 & 6041 LONGPOND NORTHERN TERRITORY REGIONAL GEOLOGY		
		M.G.M -			
		DRAWN V.J.W.			
		DATE October '89	SCALE As shown	DWG. No. AEG 031-2	REV.

## 5.2 Previous Production

No record of any mining activity from within the tenement has been located.

## 5.3 Past Exploration

The majority of the previous exploration activity has focussed on the tin-tungsten mineralisation at Hatches Creek and the minor gold mineralisation in the Kurundi area. No records relating to the area covered by Exploration Licence 6041 were located. The area has been covered briefly by the broad regional geophysical programmes carried out by CRA Exploration and others in the late 1970s as part of their uranium exploration effort.

The only systematic geological surveys of the area have been carried out by the Bureau of Mineral Resources in 1956 (South et al, 1961) and again in 1981-82 (Blake et al, 1986) which formed the basis of the current published 1:100,000 geology map. The Bureau of Mineral Resources has also carried out several regional geophysical surveys, however none covered the area of Exploration Licence 6041.

## 6. DISCUSSION

The review of the area's potential was undertaken as part of a rationalisation of the Company's tenements in the Davenport Range area.

The review of the previous work indicates that similar lithologies to those that host the mineralisation at Hatches Creek and Kurundi probably occur within the tenement. The distribution of the mineralisation in these areas is controlled by and emplaced along areas of major structural dislocation which do not appear to be present within Exploration Licence 6041. Previous evaluations of the mineralisation at the Hatches Creek and Kurundi areas suggest that they are unlikely to represent areas of significant gold and/or tin-tungsten mineralisation which indicates that the potential of Exploration Licence 6041 is minimal.

## 7. CONCLUSIONS

Given the 'grass roots' nature of the area and the desire of the Company to focus its efforts onto more productive exploration areas, the Exploration Licence was recommended for surrender.

## REFERENCES

- SMITH K G, STEWART J R & SMITH J W, 1961  
The Regional Geology of the Davenport and Murchison Ranges,  
Northern Territory, BMR Australia, Report 58
- BLAKE D H, WYCHE S, HONE I G, 1986  
Hatches Creek Region, Northern Territory,  
1:100,000 Geological Map Commentary  
BMR and NTGS
- MacLEOD M, 1988  
Memorandum for the Information of Shareholders, Java Black Mining NL  
D D Middleton and Partners 20 June 1988

EL 6041

Major activity	Staff salaries	Staff wages	Consultants/contractors' fees	Vehicles	Travel Other	Accom.	Field Accom.	Field Equip.	Office Equip.	Other	Sub-Totals
Geology	515		1500							25	2040
Geochemistry											
Geophysics											
Access											
Gridding											
Drilling:											
- diamond											
- other											
Drafting	270								3		273
Metallurgy											
Engineering											
Environmental											
Other			20								20
SUBTOTALS	785		1520						3	25	

TOTAL	2333
LOCAL OFFICE OVERHEADS	526
HEAD OFFICE OVERHEADS	714
<u>G R A N D T O T A L</u>	<u>3572</u>

## NORTHERN TERRITORY GEOLOGICAL SURVEY - GEOSYSTEM DATA SHEET

REPORT NO. \_\_\_\_\_ SECURITY \_\_\_\_\_

REPORT TITLE FIRST AND FINAL REPORT  
EL 6041 LONG POUND AREA NT

AUTHOR (S) \_\_\_\_\_

PUBLISHER \_\_\_\_\_

PLACE OF PUB'N \_\_\_\_\_ DATE OF PUB'N \_\_\_\_\_

DATA TYPE \_\_\_\_\_ PAGES OF TEXT \_\_\_\_\_

ACCOMPANIMENTS \_\_\_\_\_

DRILL CORE ? \_\_\_\_\_

LICENCE' NO. EL 6041

PROJECT YEAR (S) 1

LICENSEE (S) AUSTRALIAN ENERGY AND GOLD NL

JOINT VENTURE (S) /

OPERATOR (S) AUSTRALIAN ENERGY AND GOLD NL

1:1 000 000 \_\_\_\_\_

1: 250 000 FREW RIVER SE 53-3

1: 100 000 HATCHES CREEK

1: 50 000 \_\_\_\_\_

PROSPECT NAME LONG POUND

SITE LOCATION LAT: 20°35' LONG: 135°30'  
EAST: \_\_\_\_\_ NORTH: \_\_\_\_\_

TECTONIC UNIT \_\_\_\_\_

MAJOR TERM ☐ PETROLEUM GEOL. ☒ METALLIFEROUS MINERALS  
☐ NONMETALLIFEROUS MINERALS

## MINOR TERMS

## DRILLING

- ☐ DIAMOND  
☐ PERCUSSION  
☐ AUGER  
☐ ROTARY

## GROUND

- ☐ E M SURVEY METHOD  
☐ I P SURVEY METHOD  
☐ SEISMIC SURVEYS  
☐ RESISTIVITY SURVEYS  
☐ GEOPHYSICAL ANON  
☐ GRAVITY

## GEOPHYSICS

## AERIAL SURVEYS

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☐ RADIOACTIVITY  
☐ E.M. SURVEYS

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☐ ASSAYING  
☐ GEOCHEMICAL ANOM

## GEOCHEMISTRY

## SAMPLING

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☐ SOIL  
☐ ROCK CHIP  
☐ WATER

## GENERAL

- ☐ GEOL. MAPPING  
☐ PHOTO GEOLOGY  
☐ GRIDDING  
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☒ REGIONAL GEOLOGY  
☐ LOCAL GEOLOGY  
☐ STRATIGRAPHY  
☐ RECONNAISSANCE  
☐ LOGGING

NOTES \_\_\_\_\_

ABSTRACT ATTACH \_\_\_\_\_

INDEXED BY/DATE \_\_\_\_\_

CHECKED BY/DATE \_\_\_\_\_