

CR 91 / 413

**EL6942 "FOUNTAIN CROSS"**  
**PINE CREEK DISTRICT**  
**NORTHERN TERRITORY**  
**ANNUAL REPORT FOR YEAR 1 OF TENURE**  
**ENDING 20 JULY, 1991**

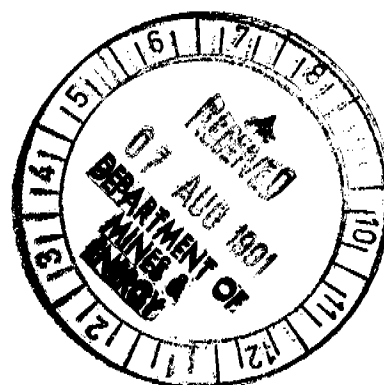
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F. FUCCENECCO  
JULY 1991

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FF-EL6942



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1. **INTRODUCTION**

This report documents previous exploration activities conducted by Dominion Mining within EL6942 "Fountain Cross".

The licence comprises one block (3km<sup>2</sup>) and was granted to Dominion Mining on 21.6.90 for a period of 2 years. A first year covenant of \$5,000 applied to the licence.

Work conducted by Dominion comprised air photo and aeromagnetic interpretation, geological mapping at 1:10,000 scale and regional rock chip traverses. Results were disappointing with no anomalous results detected.

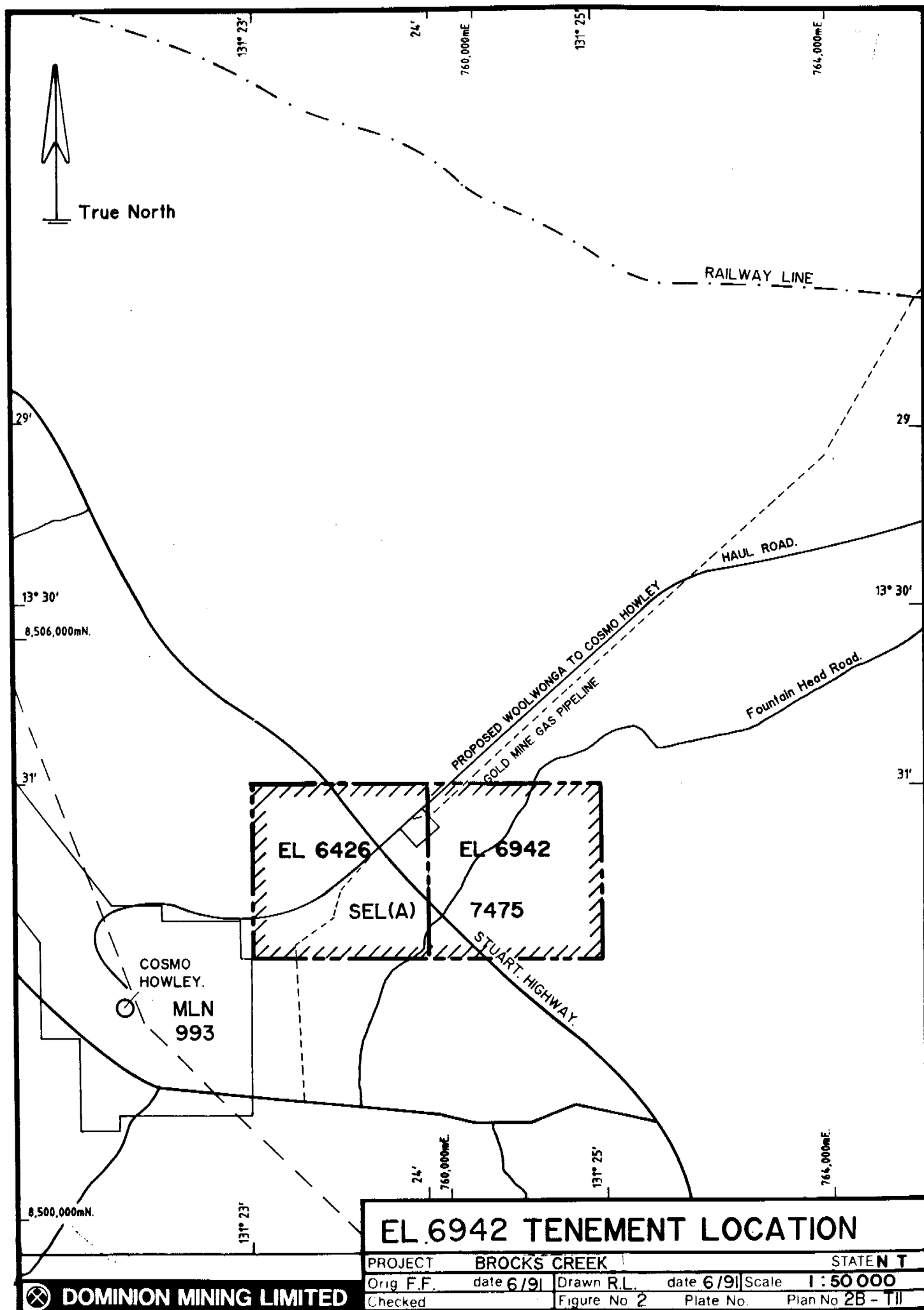
The EL occurs within 3 kms of Cosmo Howley Gold Mine and contains portions of that operation's gas and water pipelines and associated access routes. The area is consequently the subject of application SEL7475 which is an amalgamation of EL6426 and EL6942 (granted 21.6.90 for 2 years).

## 2. LOCATION AND TENURE

EL6942 is located about 55km south east of Adelaide River within the Cullen Mineral Field. Access is provided via the Stuart Highway, the Fountainhead Road along with gas and power line tracks which pass through the licence. EL6942 is within the Douglas Pastoral lease No. 903 and corresponds to the following sheet indices: 1:250,000 Pine Creek, 1:100,000 Tipperary and 1:50,000 Fenton. See Figure 1 for regional tenement setting.

EL6942 covering one block (3.3km<sup>2</sup>) was granted on 21.6.90 for a period of two years, with a covenant of \$5,000 applying to the first year of tenure. The licence has recently been amalgamated with EL6426 and now comprises SEL7475 application. See Figure 2 for current tenement status.





### 3.0 GEOLOGY

EL6942 is situated within the Pine Creek Geosyncline, a tightly to isoclinally folded sequence of mainly pelitic and psammitic Lower Proterozoic sediments deposited within alternating shallow marine and continental environments in an intercratonic basin setting. All the lithologies in the area have been metamorphosed to low and medium grade regional metamorphic assemblages, with further overprinting by contact metamorphism. The sequence has been intruded by pre-orogenic dolerite sills and a number of late syn to post orogenic polyphase Proterozoic granitoids. Largely undeformed Middle and Late Proterozoic, Paleozoic and Mesozoic strata as well as Cainozoic sediments overlie the Pine Creek Geosyncline lithologies. (See Figure 3 for Cullen Mineral Field Stratigraphic Relations and Figure 4 for Regional Geological Setting).



# STRATIGRAPHIC COLUMN

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**UNDIFFERENTIATED LATERITISED  
SEDIMENTS**

CRETACEOUS

**DALY RIVER GROUP**

- Ooloo Dolostone
- Jinduckin Formation
- Tindal Limestone
- Jindare Formation

CAMBRIAN-ORDOVICIAN

**TOLMER GROUP**

- Hinde Dolomite
- Stray Creek Sandstone
- Depot Creek Sandstone

MIDDLE PROTEROZOIC

**CULLEN GRANITOIDS**

Composite I-type Batholith (1840-1780 Ma)

- Mc Minns Bluff Granite
- Fenton Granite
- Shoobridge Granite

**ZAMU DOLERITE (±? Maude)**

**FINNISS RIVER GROUP**

- Burrell Creek Formation

- Mt. Bonnie Formation

- Gerowie Tuff

- Koolpin Formation

SOUTH ALLIGATOR  
GROUP

EARLY PROTEROZOIC

- Wildman Siltstone

- Mundogie Sandstone

MT. PARTRIDGE  
GROUP

**NAMOONA GROUP**

- Masson Formation

## CULLEN MINERAL FIELD STRATIGRAPHIC RELATIONS

PROJECT

STATE N.T.

ORIGINATOR F.F.

Date 5/91

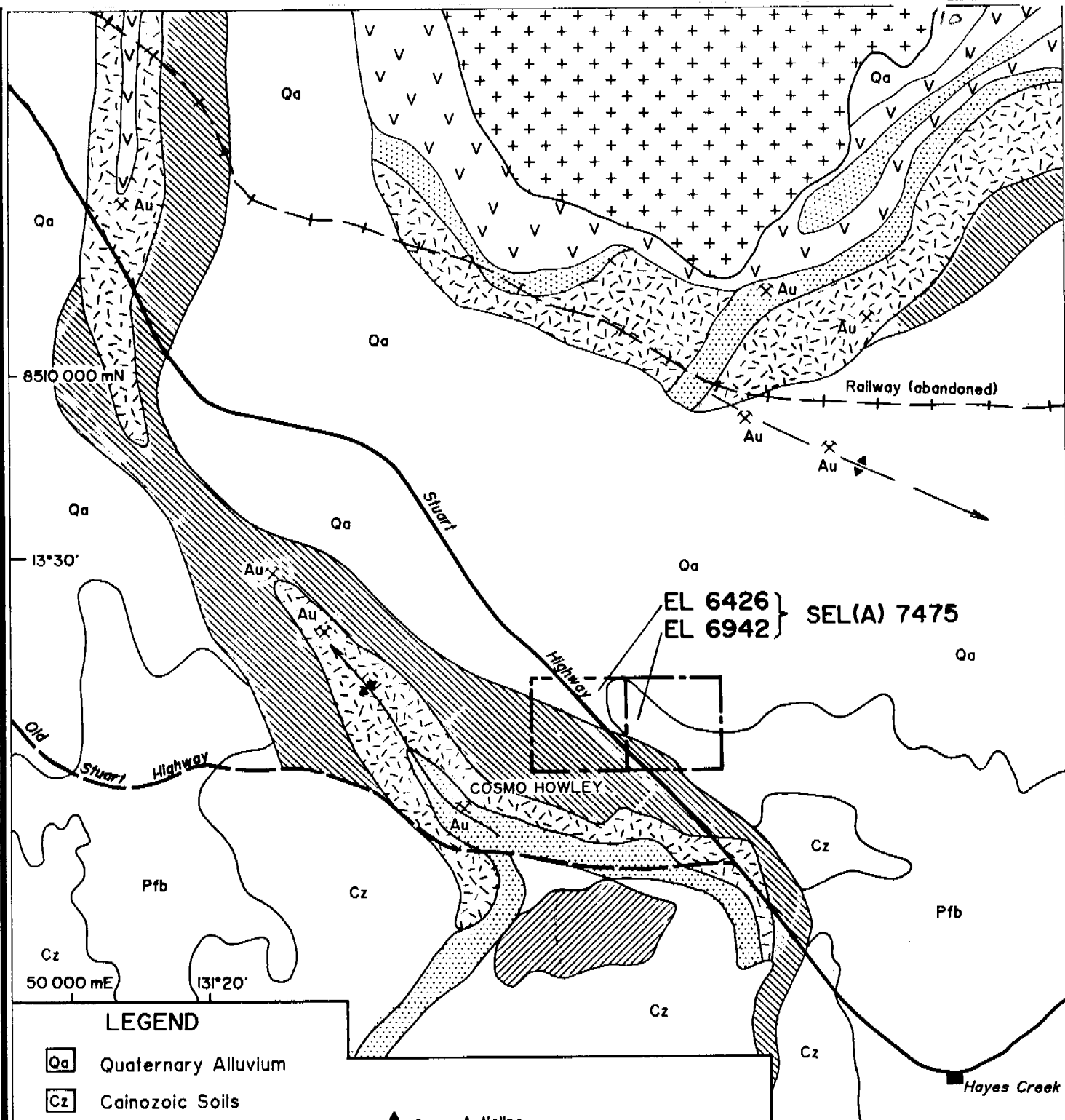
DRAWN R.L.

Date 5/91

SCALE

FIGURE NO: 3

PLAN NO: 2A - GIOO



### LEGEND

- Qa Quaternary Alluvium
- Cz Cainozoic Soils
- + Burnside Granite
- Vv Zamu Dolerite
- Pfb Burrell Creek Formation
- ▨ Mt. Bonnie Formation
- ▩ Gerowie Tuff
- ▤ Koolpin Formation
- ▦ Wildman Siltstone



Anticline



Syncline



Known gold mineralisation



0 1 2 3 6 km

## REGIONAL GEOLOGICAL SETTING

PROJECT BROCKS CREEK

STATE N.T.

ORIGINATOR F.F.

Date 5/91

DRAWN R.L.

Date 5/91

**Dominion Mining Limited**

SCALE 1:100 000

FIGURE NO: 4

PLAN NO: 2B-G232

4. **WORK CONDUCTED**

Exploration activity within EL6942 initially comprised airphoto and geophysical interpretation.

Aerial photography at 1:25,000 scale was purchased from Air Photographs Pty Ltd which covered this area. Aeromagnetics flown by Aerodata and processed at 1:25,000 scale, was also purchased and interpreted by a consultant on behalf of Dominion.

Ground follow up consisted of stream sediment sampling, geological mapping at 1:10,000 scale, and regional rock chip/scree sampling.

Three stream sediment samples were collected from well defined drainages in the area. Two types of samples were collected, consisting of the fine fraction of the sediment and a pan concentrate.

A total of 17 rock chip samples were collected from ridges throughout the licence.

## **5. RESULTS**

### **5.1 Aerial Photography**

During May 1989, Airesearch Mapping Pty Ltd of Darwin flew the Woolwonga-Cosmo Howley tenements held by Dominion and produced sets of 1:25,000 and 1:10,000 scale air photos.

The relevant air photo run for EL6942 is AM521, Run 6 (Nos. 64-66).

Air photo interpretation highlights a series of strike ridges trending in a SE direction.

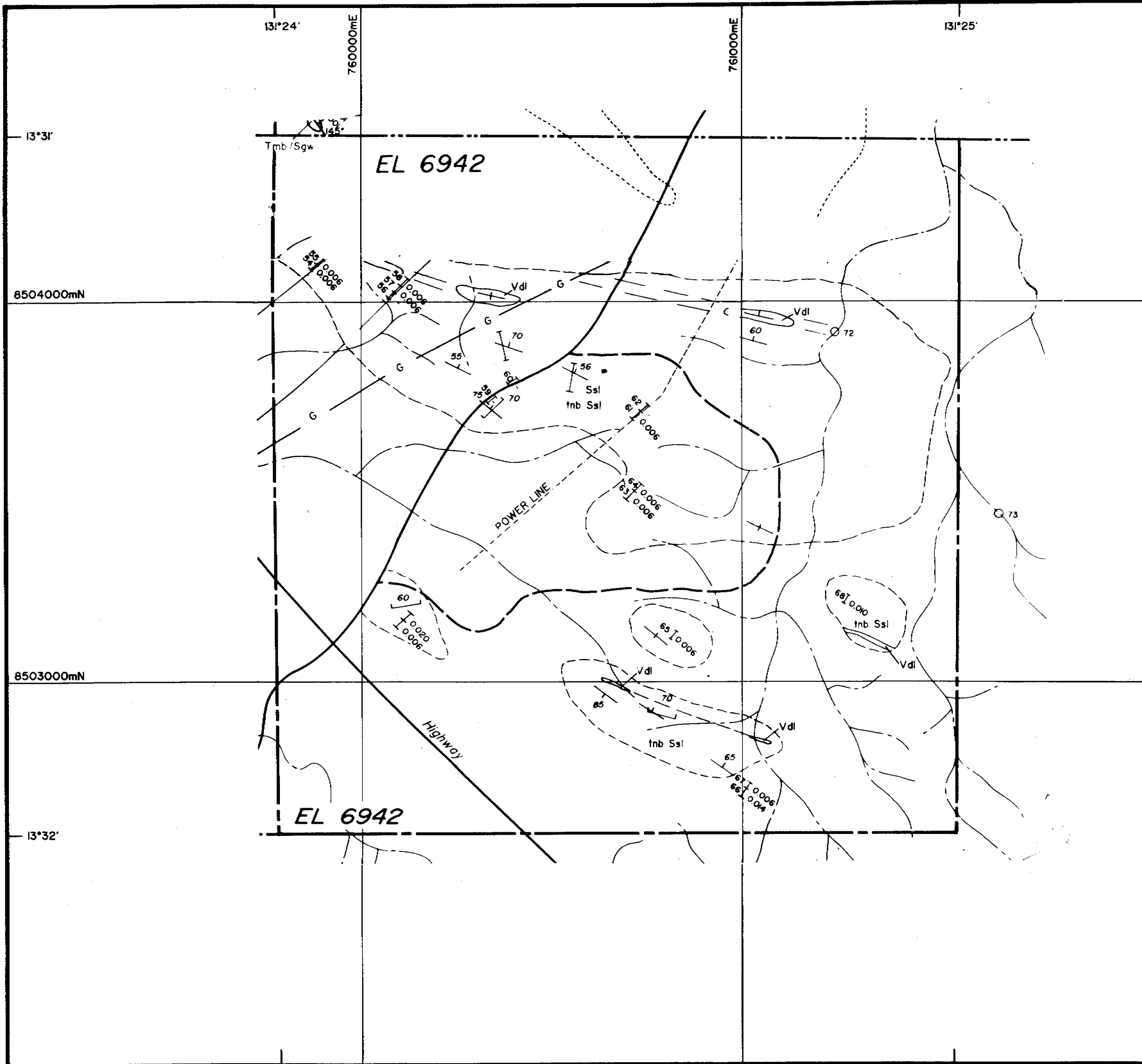
### **5.2 Local Geology**


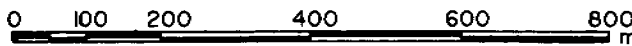
Mapping at 1:10,000 scale confirmed air photo interpretation with a series of ridges comprising an interbedded package of siltstones and greywackes which strike NW-SE and dip 55-70° to the NE. Throughout the sequence are bedding parallel dolerite sills, which form prominent outcrops. This package of sediments is consistent with the Burrell Creek Formation. See Figure 5.

### **5.3 Geochemistry**

Results of the three stream sediment samples failed to return any anomalous results either in pan concentrates or fines. Results were in the range 1-3ppb Au.

A total of 17 rock chip/scree samples were collected from ridges throughout the licence samples were collected over 25m intervals and generally consisted of outcrop and/or scree. Samples comprised siltstones and greywackes. Results were disappointing with no anomalous results received (ranging from BLD - 0.014ppm Au). See Figure 5.



 <b>Dominion Mining Limited</b>	
<b>PROJECT: BROCKS CREEK</b>	
<b>PROSPECT: FOUNTAIN CROSS</b>	<b>N.T.</b>
<b>EL 6942 GEOLOGY AND GEOCHEMISTRY</b>	
	
<b>ORIGINATOR: F.F.</b>	<b>SCALE: 1:10000</b>
<b>Date: 7/91</b>	<b>DRAWN: R.L.</b>
<b>PLATE NO: 5</b>	<b>PLAN NO: 2P-G12</b>

#### 5.4 Geophysics

In 1987 and 1988 Aerodata flew a large portion of the Western Pine Creek Basin.

The survey of 22,663 line kilometres was originally commissioned by Golden Plateau NL and completed in May 1988. It was subsequently made available for general sale and Dominion acquired the data in late 1988.

Specifications for the survey were:-

Aircraft	Rockwell Shrike Commander 500S
Magnetometer	Scintrex V201 split beam cesium vapour Resolution: 0.04 nano Tesla Cycle rate: 0.2 seconds Sample interval: 14 metres
Spectrometer	256 channel geometrics exploranium GR800B Processed channels: Total count 0.40 - 3.01 MeV K <sub>40</sub> 1.37 - 1.56 MeV Bi <sub>214</sub> 1.67 - 1.86 MeV Th <sub>208</sub> 3.02 - 6.00 MeV Volume: 33.56 litres Cycle rate: 1.0 second Sample interval: 70 metres
Data Acquisition	Hewlett Packard 9000 series computer Aerodata digital acquisition system
Flight Line Spacing	Traverse lines; 200 metres Tie lines: 5000 metres
Flight Line Direction	Traverse lines: 090 - 270 degrees Tie lines; 000- 180 degrees
Survey Height	70 metres - mean terrain clearance
Navigation	Syledis UHF positioning system

Aerodata supplied Dominion with three sets of aeromagnetic contour maps at scales of 1:10000, 1:25000 and 1:100000. Magnetic contours over EL 6942 are shown in Fig 6.

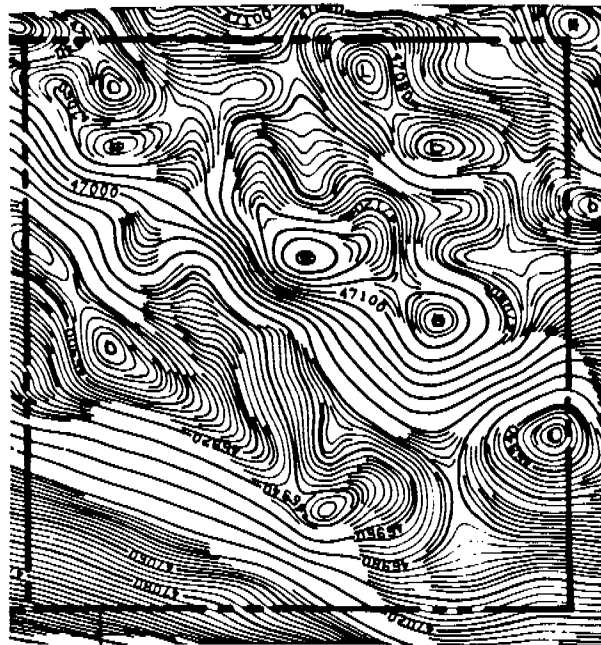
131°23'

131°24' 760000mE

131°25'

15

8505000mN]



13°32'

8502500mN]



0 250 500 750 1500 m

 **Dominion Mining Limited**

**EL 6942**  
**TOTAL FIELD MAGNETIC CONTOUR MAP**

<b>PROJECT</b> BROCKS CREEK		<b>STATE</b> N.T.	
<b>ORIGINATOR</b> F.F.	<b>Date</b> 7/91	<b>DRAWN</b> R.L.	<b>Date</b> 7/91
<b>SCALE</b> 1:25000	<b>FIGURE NO:</b> 6	<b>PLAN NO:</b> 2B-P2	

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6. **CONCLUSION**

Exploration activities conducted within EL6942 included air photo and geophysical interpretation, geological mapping and regional ridge top scree sampling. Results from these activities failed to detect anomalous gold in this licence. The potential for economic mineralization is considered to be low. The licence lies adjacent to Cosmo Howley Gold Mine operation, with assorted infrastructure related to the mine occurring within the tenement. Together with Dominion's adjacent EL6426 (1 block), EL6942 has been conditionally relinquished in favour of SEL7475 application, lodged 29 April 1991.



7. EXPENDITURE

Expenditure covenant for Year 1 was \$5,000.

Expenditure for EL6942, recorded for the 12 months ending 30 June 1991 as given below, is \$5,900.

EL6942 YEAR 1 EXPENDITURE TO 30 JUNE 1991

Assays	283
Aerial Photography	109
Equipment	200
Salaries & Wages	2,210
Travel & Accommodation	308
Vehicles	689
Drafting & Computing	244
Office	870
Camp Rental	80
Field Supplies	220
Administration	687
<b>TOTAL</b>	<b>\$5,900</b>