

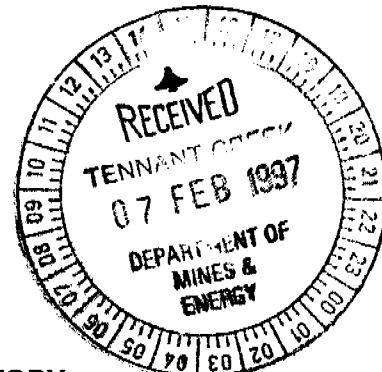


**NORMANDY**  
GOLD LIMITED

TENNANT CREEK OPERATIONS  
PO Box 294, Tennant Creek, Northern Territory 0861

ACN 007 511 006

Phone (08) 8962 0399  
Fax (08) 8962 0377



**SECOND ANNUAL REPORT**  
**FOR EXPLORATION LICENCE 8933**  
**FOR THE PERIOD 8/1/96 TO 7/1/97**

**TENNANT CREEK DISTRICT, NORTHERN TERRITORY**

**765 EAST PROSPECT**  
**TENNANT CREEK 1:250,000 SHEET SE 53-14**

**VOLUME 1 OF 1**

**AUTHOR:** CRAIG BOSEL  
SENIOR GEOLOGIST

**DATE:** FEBRUARY 1997

**AUTHORISED BY:**

<b>DISTRIBUTION:</b>	<input checked="" type="checkbox"/> NT DEPARTMENT OF MINES & ENERGY - TENNANT CREEK/DARWIN OFFICE	1
	<input type="checkbox"/> NORMANDY GOLD LIMITED - TENNANT CREEK OFFICE	1
	<input type="checkbox"/> NORMANDY EXPLORATION LIMITED - KENT TOWN LIBRARY	1

The contents of this report remain the property of Normandy Gold Limited and may not be published in whole or in part nor used in a company prospectus without the written consent of the Company.

Tennant Creek Library No: 97012      Kent Town Library No: 21105

EXP:CB:NGW:97038.SAM  
D:\AMIPRO\DMER

OPEN FILE

## CONTENTS

	Page
LIST OF FIGURES	
LIST OF APPENDICES	
1. SUMMARY	1
2. INTRODUCTION	2
2.1 Location and Access	2
2.2 Climate and Physiography	2
2.3 Tenure	2
3. LOCAL GEOLOGY	2
4. REVIEW OF PREVIOUS EXPLORATION	2
5. EXPLORATION ACTIVITIES UNDERTAKEN IN EL 8933 DURING THE PERIOD 8/1/96 TO 7/1/97	3
5.1 Gridding	3
5.2 Vacuum Drilling	3
5.3 Drilling Results	4
5.4 Ground Magnetics	4
6. EXPENDITURE INCURRED FOR THE PERIOD 8/1/96 to 7/1/97 IN EL 8933	4
7. PROPOSED EXPLORATION ACTIVITIES AND EXPENDITURE IN EL 8933 FOR THE PERIOD 8/1/97 TO 7/1/98	5
8. REFERENCES	5

COMMODITIES:                   Gold

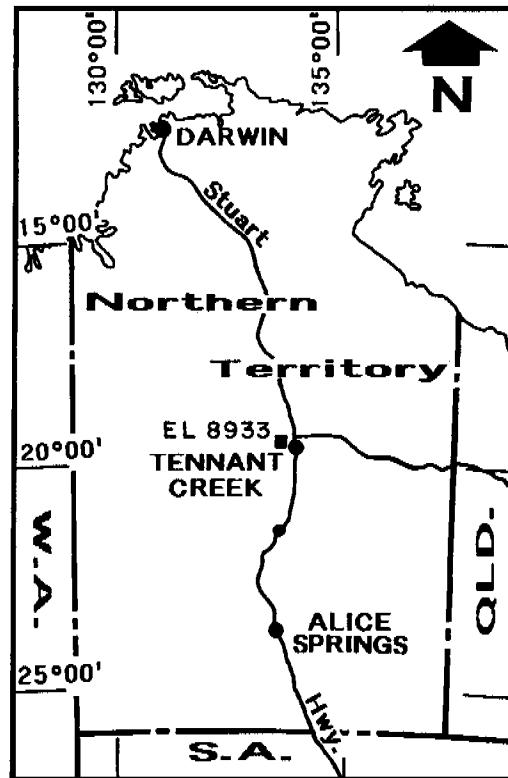
### LIST OF FIGURES

<u>Figure No.</u>	<u>Title</u>	<u>Scale</u>
1	EL 8933 - Location Map	1:250,000
2	Grid Relationships - Black Angel / AMG Grids	1:10,000
3	Vacuum Drill Hole Locations and established grid	1:10,000
4	Vacuum Hole Lithologies	1:10,000
5	Vacuum Bedrock Geochemistry Au (ppb)	1:10,000
6	Vacuum Bedrock Geochemistry Cu (ppm)	1:10,000
7	Vacuum Bedrock Geochemistry Bi (ppm)	1:10,000
8	Ground Magnetics	1:10,000

### LIST OF APPENDICES

<u>Appendix No.</u>	<u>Title</u>
1	Lithological Legend
2	AMG Grid, Vacuum drill hole collar coordinates and logs
3	Black Angel Grid, Vacuum drill hole coordinates and logs
4	Vacuum bedrock assays
5	Bibliographic Data Sheet

REPORT NO: 97012  
TITLE: ANNUAL REPORT FOR EXPLORATION LICENCE 8933 FOR THE  
PERIOD 8/1/96 TO 7/1/97, TENNANT CREEK DISTRICT, NORTHERN  
TERRITORY, 765 EAST PROSPECT  
AUTHOR: CRAIG BOSEL  
DATE: FEBRUARY 1997



## 1 SUMMARY

EL 8933 was granted to Normandy Gold Ltd (formerly PosGold) in January 1995 after being held for 4 years by a joint venture that consisted of North Flinders Mines Ltd and Roebuck Resources NL Ltd. Normandy Gold Ltd is exploring the licence for Tennant Creek style gold/copper/bismuth mineralisation. The licence is located 3km east of the currently operating White Devil Mine, which is owned by Normandy Gold Ltd. Work completed in this period includes:

- 10.6km of gridding;
- vacuum drilling comprising of 134 holes for 511m;
- 1.2km<sup>2</sup> of ground magnetics

Total expenditure by Normandy Gold Ltd on EL 8933 from 7/1/96 to 8/1/97 was \$24,510.

## **2 INTRODUCTION**

### **2.1 Location and Access**

EL 8933 is located 3km east of the currently operating White Devil Mine which is situated approximately 45km west of Tennant Creek. Access to the lease is via minor tracks extending east from the White Devil mine site.

### **2.2 Climate and Physiography**

The climate of the Tennant Creek district is warm to hot and dry throughout autumn, winter and spring. High temperatures (in excess of 35°C) predominate in summer, with seasonal rainfall generally in late summer.

The physiography of EL 8933 consists of hills with thin skeletal soils in the north west of the lease and flat plains with aeolian sands and sheet wash cover extending to the south. The vegetation in the area consists of mulga and snappy gum in the low lying areas and spinifex on the higher ground.

### **2.3 Tenure**

EL 8933 formed the bottom half of what was formerly known as EL 7431. EL 7431 was granted to a Joint Venture consisting of North Flinders Mines Ltd and Roebuck Resources NL Ltd on 9/8/91 for four years. The bottom half of EL 7431 was relinquished on 8/8/94. It was then granted to Normandy Gold Ltd as EL 8933 (765 East) on 9/1/95 for a period of two years. The lease was renewed on 3/12/96, with a new expiry date of 8/1/99.

## **3 LOCAL GEOLOGY**

Geology on EL 8933 consists of minor outcrops of silicified and weathered siltstones and greywackes of the Warramunga Formation. The bedding in the outcrops generally strikes WNW - ESE as does the cleavage. A large quartz vein outcrop occurs in the centre of the licence. The Red Bluff Granite intrudes the south-eastern half of EL 8933.

## **4 REVIEW OF PREVIOUS EXPLORATION**

There is no evidence of any exploration programs carried out before 9/8/91 on EL 8933. During the period of tenure for EL 7431 from 9/8/91 to 8/8/94, exploration was managed by North Flinders Mines Ltd and Roebuck Resources NL Ltd. Their work is detailed by D Archibald (1994 and M Hatcher (1993)). The exploration carried out comprised of;

- Basic field mapping that found minor outcropping areas of indurated and silicified sediments (siltstone and greywackes) and granite.
- Surface soil sampling using Roebuck Resources NL Ltd's 'M' technique over a 200 x 200m grid. There were some anomalous results but they were mostly discounted. This technique is not thought to be of any use in the Tennant Creek area due to the contamination found in alluvial cover.

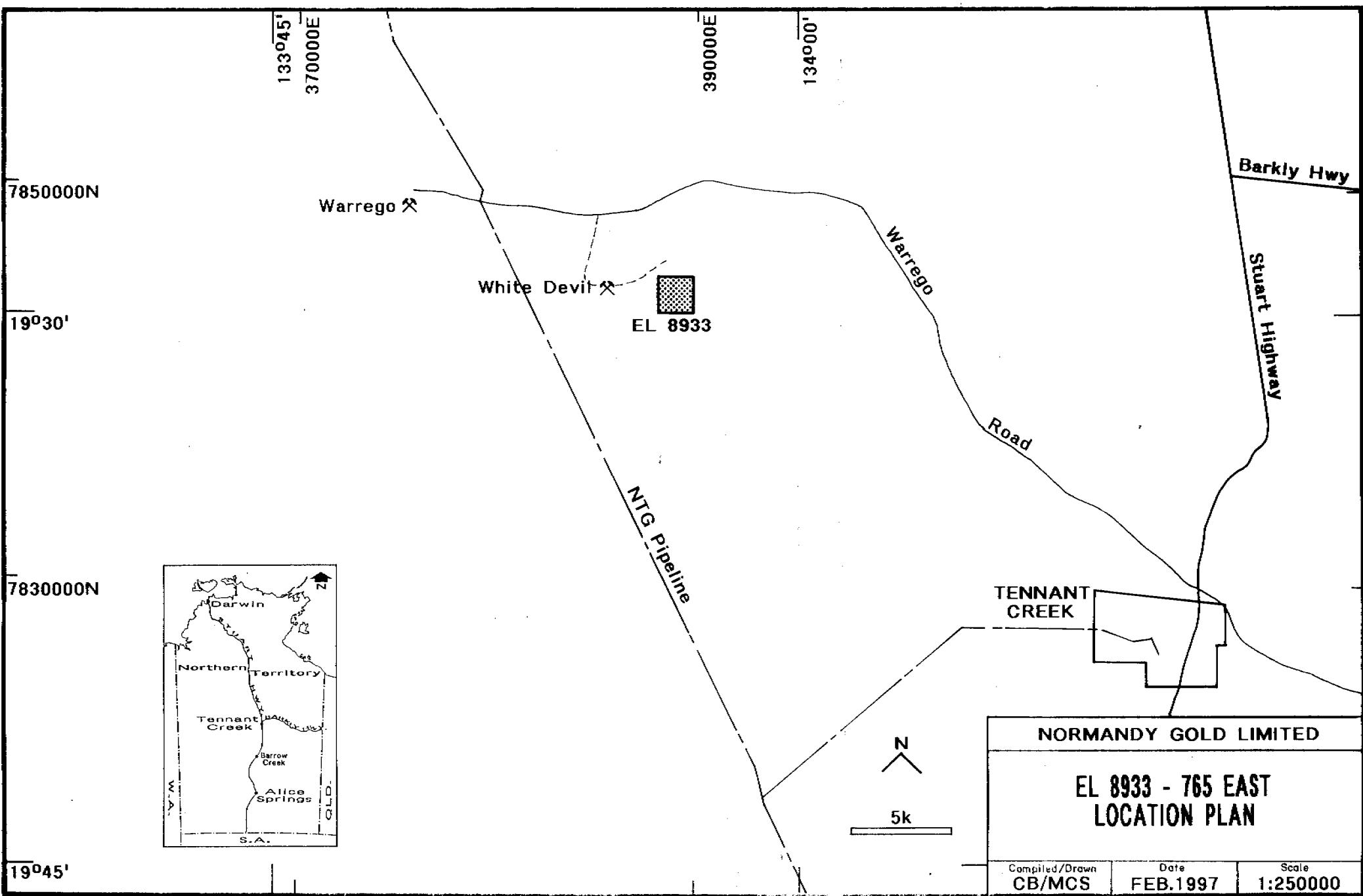


Figure No. 1

- North Flinders Mines Ltd acquired aeromagnetic and radiometric data from Aerodata which was then interpreted by Geophysical Exploration Consultants Pty Ltd. A magnetic anomaly defined by the aeromagnetics, which also correlated with a "M" surface geochemical anomaly, was vacuum drilled. 48 holes were drilled to the weathered bedrock across the anomaly at the northern centre of what is now known as EL 8933. The holes intersected weathered siltstone and greywacke with some weak alteration (haematite after chlorite). Gold, copper and bismuth assays received were uniformly low.
- During 1995, Normandy Gold Ltd completed 2.5km of gridding and drilled 74 vacuum holes for 425m along the western side of the lease. No anomalous values were returned.

## 5 EXPLORATION ACTIVITIES UNDERTAKEN DURING THE PERIOD 8/1/96 TO 7/1/97

### 5.1 Gridding

The local Black Angel Grid was further extended eastwards, with baselines at 800, 1200 and 1800N being pegged at 100m intervals. Pin markers were placed every 25m between the baseline pegs to aid the ground mag and vacuum drilling program, for a total of 10.6km gridding. Only minor track clearing or improvement was required.

The conversion between AMG and Black Angel grids is as follows (1 common point plus bearing). Refer to Figure No. 2 for a plan showing the relationship between the two grids.

	Easting	Northing
AMG	383850.1	7844989.27
Black Angel	492.3	1160.69
Bearing difference + 3.73°		

### 5.2 Vacuum Drilling (Figures 3 to 7)

134 vertical vacuum holes (EA 075-208, 511m) were drilled to weathered bedrock by Tracey Drilling with a tractor mounted Edson rig. Of this number, 18 samples were rock chips of outcrop, where steep topography prevented vacuum drill access. The program was designed to completely cover the weak aeromagnetic anomaly in the area, and build on last years vacuum drilling efforts. Holes were drilled to weathered bedrock or refusal, averaging 3.8m depth. Drill spacing was every 25m along local Black Angel Grid N-S lines spaced 200m E-W. Holes were logged for bedrock lithology and alteration, and a 2kg sample was taken from bottom-of-hole for analysis.

Samples were submitted to ALS Laboratories, Alice Springs for low level detection of Au (PM205 method), Cu, Bi, Fe and Mn (G001 method).

The PM205 method (for Au) for gold involves the assaying of a 50gm crushed and pulverised sample that is digested using Aqua Regia with a pre-concentration by solvent extraction. A graphite furnace finish is used to obtain results with a detection limit of 1ppb. The G001 method (used for Mn,

Fe, Cu and Bi) involves a Perchloric acid digestion using a flame Air Acetylene flame finish to obtain results with a detection limit of 1ppm.

Refer to Appendices 2 and 3 for all the vacuum drill hole collars (given in AMG and the local Black Angel grid coordinates) and geological logs. The bedrock assay results are located in Appendix 4. The vacuum hole locations are plotted in Figure 3, bedrock lithologies in Figure 4 and bedrock geochemistry plots for Au, Cu and Bi in Figures 5 to 7.

### 5.3 Drilling Results

Disappointingly, no anomalous geochemistry results were returned from the vacuum drilling program. Siltstones and occasional greywackes of the Warramunga Group were confirmed as the bedrock of the area. Numerous holes encountered haematite staining, suggesting either Fe-chlorite alteration or an original disseminated fine-grained magnetite fraction in the underlying Warramunga sediment.

In two holes (EA-092 and EA-121) haematite stringers were logged, confirming the results from Roebuck Resources nearby vacuum traverse lines (Archibald, 1994). This position also corresponds to the strongest magnetic high feature in the ground mag, and warrants a RAB traverse follow-up.

Vacuum holes drilled to the south encountered bleaching and silicification of the Warramunga sediment, corresponding to the contact aureole of the nearby Red Bluff Granite.

### 5.4 Ground Magnetics Program

The north-western quarter of the lease was covered by an in-house ground mag program aimed at pinpointing the weak anomalies shown in previous aeromagnetic surveys. Readings were taken every meter along N-S lines 50m apart, covering around 1.2km<sup>2</sup> (Figure 8). A weak NE-trending magnetic low trough in the south corresponds to the bleached/silicified sediment, while the magnetic high ridge around 1400N corresponds to minor haematite-chlorite alteration seen in vac drilling chips.

## 6 EXPLORATION UNDERTAKEN DURING THE PERIOD 8/1/96 TO 7/1/97 IN EL 8933

For the second year of tenure of EL 8933, a total of \$24,510 was spent as follows:

EXPENSE	COST
Employee Costs	\$ 12,369
Overheads	\$ 2,215
Drilling	\$ 2,887
Assays	\$ 1,818
Operating Costs	\$ 3,534
Specialist Services	\$ 485
Tenement Costs	\$ 1,202
Research	\$ -
 TOTAL	 \$ 24,510
 Covenant	 \$ 10,000

## **7 PROPOSED EXPLORATION AND EXPENDITURE ON EL 8933 FOR THE PERIOD 8/1/97 TO 7/1/98**

RAB traversing across the magnetic anomaly is planned in 1997. Should that yield positive results, a possible electromagnetic line traverse will be done and modelled up in conjunction with the ground magnetics to produce a possible RC drill target.

<b>EXPENSE</b>	<b>COST</b>
Employee Costs	\$ 1,500
Overheads	\$ 500
Drilling	\$ 2,500
Assays	\$ 1,000
Operating Costs	\$ 500
Specialist Services	\$ 500
Tenement Costs	\$ 300
Research	\$ -
<b>TOTAL</b>	<b>\$ 6,800</b>
Covenant	\$ 6,000

## **8 REFERENCES**

D Archibald (1994), Final Relinquishment Report (No 94083) for EL 7431 for Period to 8/8/94 (Joint Venture between North Flinders Mine Ltd and Roebuck Resources NL).

M Hatcher & R Halfpenny (1993), Report on Crusader Group Relinquishment (No 93244) for EL 7431 for Period to September 1993 (Joint Venture between North Flinders Mine Ltd and Roebuck Resources NL).

T Morris (1996), Annual Report (No. 96011) for Exploration Licence 8933 for the period 8/1/95 to 7/1/96, Tennant Creek District, Northern Territory.

## **APPENDIX ONE**

### **LITHOLOGICAL LEGEND**

## LITHOLOGICAL LEGEND FOR TENNANT CREEK

### ROCK TYPE / MINERALOGY / STRUCTURE , ALTERATION AND TEXTURE

#### ROCK TYPE

AGL	- ARGILLITE	HSH	- HAEMATITE SHALE
AMP	- AMPHIBOLITE	HSL	- HAEMATITE SILTSTONE
AS	- ALTERED SEDIMENTS	LAMP	- LAMPROPHYRE
BIF	- BANDED IRON FORMATION	M	- MAGNETITE ROCK
CA	- CALCRETE	PEG	- PEGMATITE
CG	- CONGLOMERATE	QFP	- QUARTZ-FELDSPAR PORPHYRY
CHT	- CHERT	QP	- QUARTZ PORPHYRY
CL	- CLAY	QZT	- QUARTZITE
CO	- COLLUVIUM	SBX	- SEDIMENTARY BRECCIA
CRB	- CARBONATES	SC	- SILICIC CAPROCK
D	- DOLOMITE ROCK	SERP	- SERPENTINITE
DOL	- DOLERITE	SH	- SHALE
DR	- DIORITE	SIL	- SILCRETE
EX	- EXCARBONATE	SL	- SILTSTONE
FER	- FERRICRETE	SS	- SANDSTONE
GR	- GRANITE	ST	- SCHIST
GRD	- GRANODIORITE	TF	- TUFF
GW	- GREYWACKE	NOCORE	- NO CORE
H	- HAEMATITE ROCK		

#### MINERALOGY

a	- amphibole	h	- haematite
act	- actinolite	j	- jasper
Au	- gold	k	- kaolin
bi	- bismuthinite	li	- limonite
bn	- bornite	m	- magnetite
bt	- biotite	ml	- malachite
c	- chlorite	mv	- muscovite
Carb	- carbonate (undifferentiated)	po	- pyrrhotite
cc,ct	- chalcocite	py	- pyrite
cp	- chalcopyrite	Q,q	- quartz
Ct	- cuprite	s	- sericite
Cu	- native copper	sl	- sphalerite
cv	- covellite	sp	- specularite
d,dl	- dolomite	T,t	- talc
ep	- epidote	tm	- tourmaline
gn,gl	- galena	tr	- tremolite

#### STRUCTURE , ALTERATION AND TEXTURE

B,bl	- bleaching	Fz	- fracture zone
b	- blebs	Lm	- laminated
Bd	- bedding	Si	- silicification
BOCO	- base of complete oxidation	Sz	- shear zone
Bx	- breccia	V	- vein (prefix mineral eg qV)
cl	- clay	\	- interbedded
Ds,ds	- disseminated	*, )	- stringer mineral
F	- fault	>	- denotes dominant lithology
Fol	- foliated	-	- grading (eg GW-SL)

## **APPENDIX TWO**

**AMG GRID, VACUUM DRILL HOLE COLLAR COORDINATES AND LOGS**

EL 8933

AMG Grid

## Vacuum Downhole Lithology

BHID	Easting (m)	Northing (m)	Sample Number	From (m)	To (m)	Lithology Code
EA-075	389257.	7845181.	496201.	1.20	5.00	SL/Sibl
EA-076	389255.	7845206.	496202.	0.70	1.50	GR
EA-077	389254.	7845231.	496203.	0.80	5.00	SLSi
EA-078	389252.	7845256.	496204.	1.20	5.00	SL/Si
EA-079	389250.	7845281.	496205.	0.80	5.00	SL
EA-080	389249.	7845306.	496206.	1.00	5.00	SL
EA-081	389247.	7845331.	496207.	1.00	5.00	SL/Si
EA-082	389245.	7845356.	496208.	1.10	5.00	SL
EA-083	389244.	7845381.	496209.	1.10	5.00	SLtrs1
EA-084	389242.	7845406.	496210.	1.50	5.00	SL
EA-085	389241.	7845431.	496211.	1.20	5.00	SL/htrqv
EA-086	389239.	7845456.	496212.	1.10	5.00	SL
EA-087	389237.	7845481.	496213.	1.00	5.00	SL
EA-088	389236.	7845506.	496214.	1.20	5.00	SL
EA-089	389234.	7845531.	496215.	0.70	5.00	SL/h
EA-090	389232.	7845556.	496216.	1.20	5.00	SL
EA-091	389231.	7845581.	496217.	1.20	5.00	SL/h
EA-092	389031.	7845568.	496218.	0.00	0.10	S/h*
EA-093	389033.	7845543.	496219.	0.80	2.50	SL
EA-094	389034.	7845518.	496220.	0.80	5.00	SL
EA-095	389036.	7845493.	496221.	0.80	5.00	SL
EA-096	389038.	7845468.	496222.	0.80	5.00	SL
EA-097	389039.	7845443.	496223.	1.00	6.00	SL/CLY
EA-098	389041.	7845418.	496224.	1.40	5.00	SL/hCLYt
EA-099	389043.	7845393.	496225.	0.80	5.00	SLtrqv
EA-100	389044.	7845368.	496226.	0.80	5.00	SLtrSi
EA-101	389046.	7845343.	496227.	0.80	5.00	SL
EA-102	389047.	7845318.	496228.	0.60	5.00	SL
EA-103	389049.	7845293.	496229.	1.10	5.00	SLtrSi
EA-104	389051.	7845268.	496230.	0.80	5.00	SL
EA-105	389052.	7845243.	496231.	0.60	4.00	SL/Si
EA-106	389054.	7845218.	496232.	1.10	3.00	SLSi
EA-107	389057.	7845168.	496233.	0.80	3.00	SLSi
EA-108	388858.	7845155.	496234.	0.80	3.00	SLSi
EA-109	388854.	7845205.	496235.	0.70	5.00	SLSi
EA-110	388851.	7845255.	496236.	0.90	5.00	SL/h
EA-111	388850.	7845280.	496237.	1.20	5.00	SL
EA-112	388848.	7845305.	496238.	0.70	5.00	SL
EA-113	388846.	7845330.	496239.	0.70	5.00	SLtrqv
EA-114	388845.	7845355.	496240.	0.70	5.00	SL
EA-115	388843.	7845380.	496241.	0.70	5.00	SL
EA-116	388841.	7845405.	496242.	0.80	5.00	SL
EA-117	388840.	7845430.	496243.	0.50	5.00	SLtrSi
EA-118	388838.	7845455.	496244.	0.50	5.00	SL
EA-119	388836.	7845480.	496245.	0.30	2.00	SL
EA-120	388835.	7845505.	496246.	0.50	5.00	SL
EA-121	388833.	7845530.	496247.	0.40	5.00	SLtrmqh*
EA-122	388832.	7845555.	496249.	0.30	5.00	SL
EA-123	388632.	7845542.	496250.	0.40	4.00	SL/h
EA-124	388634.	7845517.	496251.	0.60	5.00	SL

EL 8933

AMG Grid

## Vacuum Downhole Lithology

BHID	Easting (m)	Northing (m)	Sample Number	From (m)	To (m)	Lithology Code
EA-127	388416.	7845778.	496254.	0.20	5.00	SLtrh
EA-128	388418.	7845753.	496255.	0.20	2.00	SL/h
EA-129	388419.	7845728.	496256.	0.20	5.00	SL
EA-130	388421.	7845703.	496257.	0.40	5.00	SLtrh
EA-131	388423.	7845678.	496258.	0.60	5.00	SL/h
EA-132	388424.	7845653.	496259.	1.20	5.00	SL/h
EA-133	388426.	7845628.	496260.	3.20	6.00	SL/h
EA-134	388428.	7845603.	496261.	2.20	5.00	SL/h
EA-135	388429.	7845578.	496262.	1.30	6.00	SL
EA-136	388431.	7845554.	496263.	1.20	3.00	SL/h
EA-137	388432.	7845529.	496264.	1.20	5.00	SL/h
EA-138	388434.	7845504.	496265.	1.20	5.00	SL/h
EA-139	388442.	7845379.	496266.	0.10	4.00	SL
EA-140	388444.	7845354.	496267.	0.40	5.00	SL
EA-141	388445.	7845329.	496268.	0.40	5.00	SL
EA-142	388447.	7845304.	496269.	1.40	5.00	SL/h
EA-143	388449.	7845279.	496270.	1.40	5.00	SL
EA-144	388450.	7845254.	496271.	1.90	5.00	SLtrh
EA-145	388452.	7845229.	496272.	2.10	5.00	SL
EA-146	388454.	7845204.	496273.	1.90	5.00	SL
EA-147	388455.	7845179.	496274.	1.90	5.00	SL
EA-148	388457.	7845154.	496275.	1.80	7.00	SLH/Si
EA-149	388458.	7845129.	496276.	1.70	6.00	SL/hsilC
EA-150	388460.	7845104.	496277.	1.40	5.00	SL/htrqv
EA-151	388462.	7845080.	496278.	1.20	5.00	SL/hsi
EA-152	388463.	7845055.	496279.	1.20	5.00	SST
EA-153	388465.	7845030.	496280.	0.90	5.00	SLtrSi
EA-154	388658.	7845142.	496281.	0.50	5.00	SL
EA-155	388656.	7845167.	496282.	0.40	9.00	QVSL/bl
EA-156	388655.	7845192.	496283.	0.40	16.00	CLY/bl
EA-157	388653.	7845217.	496284.	0.30	5.00	SL/CLY
EA-158	388652.	7845242.	496285.	0.40	5.00	SL
EA-159	388650.	7845267.	496286.	0.60	5.00	SL/h
EA-160	388648.	7845292.	496287.	0.80	5.00	SL
EA-161	388647.	7845317.	496288.	1.10	5.00	SL
EA-162	388645.	7845342.	496289.	1.20	5.00	SLtrh
EA-163	388643.	7845367.	496290.	1.00	5.00	SL
EA-164	388642.	7845392.	496291.	0.40	5.00	SL
EA-165	388014.	7845802.	496292.	2.70	6.00	SLtrSi
EA-166	388015.	7845777.	496293.	2.20	5.00	SL
EA-167	388017.	7845752.	496294.	1.00	5.00	SL
EA-168	388019.	7845727.	496295.	0.50	3.00	SL
EA-169	388020.	7845702.	496296.	0.30	3.00	SL
EA-170	388022.	7845677.	496297.	0.30	3.00	SL
EA-171	388024.	7845652.	496298.	0.50	3.00	SL/h
EA-172	388025.	7845627.	496299.	0.50	4.00	SL
EA-173	388241.	7845391.	496945.	0.40	2.00	SL
EA-174	388239.	7845416.	496946.	0.60	2.00	SL/h
EA-175	388238.	7845441.	496947.	2.10	4.00	SL
EA-176	388236.	7845466.	496948.	2.00	4.00	SL/h

EL 8933

AMG Grid

## Vacuum Downhole Lithology

BHID	Easting (m)	Northing (m)	Sample Number	From (m)	To (m)	Lithology Code
EA-177	388235.	7845491.	496950.	2.10	4.00	SL
EA-178	388233.	7845516.	496951.	1.20	3.00	SL
EA-179	388231.	7845541.	496952.	1.90	4.00	GW
EA-180	388230.	7845565.	496953.	2.00	4.00	SL/htrqv
EA-181	388228.	7845590.	496954.	1.20	4.00	SL
EA-182	388226.	7845615.	496955.	0.80	3.00	SL
EA-183	388225.	7845640.	496956.	1.10	3.00	SL/h
EA-184	388223.	7845665.	496957.	0.40	2.00	SL/Si
EA-185	388222.	7845690.	496958.	1.50	4.00	SL
EA-186	388220.	7845715.	496959.	2.10	4.00	SL/h
EA-187	388218.	7845740.	496960.	0.40	1.50	SL/Si
EA-188	388217.	7845765.	496961.	0.40	1.00	SL/Si
EA-190	388213.	7845815.	496963.	0.50	1.50	COV
EA-192	388639.	7845442.	496964.	0.00	0.10	SL
EA-193	388637.	7845467.	496965.	0.00	0.10	GW
EA-194	388635.	7845492.	496966.	0.00	0.10	GW
EA-195	388441.	7845404.	496967.	0.00	0.10	GW
EA-196	388439.	7845429.	496968.	0.00	0.10	GW
EA-197	388437.	7845454.	496969.	0.00	1.00	SL
EA-198	388436.	7845479.	496970.	0.00	0.10	GW
EA-199	388246.	7845316.	496971.	0.00	0.10	GW
EA-200	388244.	7845341.	496972.	0.00	0.10	SL
EA-201	388243.	7845366.	496973.	0.00	0.10	SL
EA-202	388037.	7845453.	496974.	0.00	0.10	GW
EA-203	388035.	7845478.	496975.	0.00	0.10	SL/QV
EA-204	388033.	7845503.	496976.	0.00	0.10	SL/h
EA-205	388032.	7845528.	496977.	0.00	0.10	SLSi/h
EA-206	388030.	7845552.	496978.	0.00	0.10	SL/Sih
EA-207	388028.	7845577.	496979.	0.00	0.10	SL/h
EA-208	388027.	7845602.	496980.	0.00	0.10	SL

### **APPENDIX THREE**

**BLACK ANGEL GRID, VACUUM DRILL HOLE COORDINATES AND LOGS**

EL 8933

Black Angel Grid

Vacuum Downhole Lithology

BHID	Easting (m)	Northing (m)	Sample Number	From (m)	To (m)	Lithology Code
EA-075	5900.	1000.	496201.	1.20	5.00	SL/Sibl
EA-076	5900.	1025.	496202.	0.70	1.50	GR
EA-077	5900.	1050.	496203.	0.80	5.00	SLSi
EA-078	5900.	1075.	496204.	1.20	5.00	SL/Si
EA-079	5900.	1100.	496205.	0.80	5.00	SL
EA-080	5900.	1125.	496206.	1.00	5.00	SL
EA-081	5900.	1150.	496207.	1.00	5.00	SL/Si
EA-082	5900.	1175.	496208.	1.10	5.00	SL
EA-083	5900.	1200.	496209.	1.10	5.00	SLtrsI
EA-084	5900.	1225.	496210.	1.50	5.00	SL
EA-085	5900.	1250.	496211.	1.20	5.00	SL/htrqv
EA-086	5900.	1275.	496212.	1.10	5.00	SL
EA-087	5900.	1300.	496213.	1.00	5.00	SL
EA-088	5900.	1325.	496214.	1.20	5.00	SL
EA-089	5900.	1350.	496215.	0.70	5.00	SL/h
EA-090	5900.	1375.	496216.	1.20	5.00	SL
EA-091	5900.	1400.	496217.	1.20	5.00	SL/h
EA-092	5700.	1400.	496218.	0.00	0.10	S/h*
EA-093	5700.	1375.	496219.	0.80	2.50	SL
EA-094	5700.	1350.	496220.	0.80	5.00	SL
EA-095	5700.	1325.	496221.	0.80	5.00	SL
EA-096	5700.	1300.	496222.	0.80	5.00	SL
EA-097	5700.	1275.	496223.	1.00	6.00	SL/CLY
EA-098	5700.	1250.	496224.	1.40	5.00	SL/hCLYT
EA-099	5700.	1225.	496225.	0.80	5.00	SLtrqv
EA-100	5700.	1200.	496226.	0.80	5.00	SLtrSi
EA-101	5700.	1175.	496227.	0.80	5.00	SL
EA-102	5700.	1150.	496228.	0.60	5.00	SL
EA-103	5700.	1125.	496229.	1.10	5.00	SLtrSi
EA-104	5700.	1100.	496230.	0.80	5.00	SL
EA-105	5700.	1075.	496231.	0.60	4.00	SL/Si
EA-106	5700.	1050.	496232.	1.10	3.00	SLSi
EA-107	5700.	1000.	496233.	0.80	3.00	SLSi
EA-108	5500.	1000.	496234.	0.80	3.00	SLSi
EA-109	5500.	1050.	496235.	0.70	5.00	SLSi
EA-110	5500.	1100.	496236.	0.90	5.00	SL/h
EA-111	5500.	1125.	496237.	1.20	5.00	SL
EA-112	5500.	1150.	496238.	0.70	5.00	SL
EA-113	5500.	1175.	496239.	0.70	5.00	SLtrqv
EA-114	5500.	1200.	496240.	0.70	5.00	SL
EA-115	5500.	1225.	496241.	0.70	5.00	SL
EA-116	5500.	1250.	496242.	0.80	5.00	SL
EA-117	5500.	1275.	496243.	0.50	5.00	SLtrSi
EA-118	5500.	1300.	496244.	0.50	5.00	SL
EA-119	5500.	1325.	496245.	0.30	2.00	SL
EA-120	5500.	1350.	496246.	0.50	5.00	SL
EA-121	5500.	1375.	496247.	0.40	5.00	SLtrmqh*
EA-122	5500.	1400.	496249.	0.30	5.00	SL
EA-123	5300.	1400.	496250.	0.40	4.00	SL/h
EA-124	5300.	1375.	496251.	0.60	5.00	SL

EL 8933

Black Angel Grid

Vacuum Downhole Lithology

BHID	Easting (m)	Northing (m)	Sample Number	From (m)	To (m)	Lithology Code
EA-127	5100.	1650.	496254.	0.20	5.00	SLtrh
EA-128	5100.	1625.	496255.	0.20	2.00	SL/h
EA-129	5100.	1600.	496256.	0.20	5.00	SL
EA-130	5100.	1575.	496257.	0.40	5.00	SLtrh
EA-131	5100.	1550.	496258.	0.60	5.00	SL/h
EA-132	5100.	1525.	496259.	1.20	5.00	SL/h
EA-133	5100.	1500.	496260.	3.20	6.00	SL/h
EA-134	5100.	1475.	496261.	2.20	5.00	SL/h
EA-135	5100.	1450.	496262.	1.30	6.00	SL
EA-136	5100.	1425.	496263.	1.20	3.00	SL/h
EA-137	5100.	1400.	496264.	1.20	5.00	SL/h
EA-138	5100.	1375.	496265.	1.20	5.00	SL/h
EA-139	5100.	1250.	496266.	0.10	4.00	SL
EA-140	5100.	1225.	496267.	0.40	5.00	SL
EA-141	5100.	1200.	496268.	0.40	5.00	SL
EA-142	5100.	1175.	496269.	1.40	5.00	SL/h
EA-143	5100.	1150.	496270.	1.40	5.00	SL
EA-144	5100.	1125.	496271.	1.90	5.00	SLtrh
EA-145	5100.	1100.	496272.	2.10	5.00	SL
EA-146	5100.	1075.	496273.	1.90	5.00	SL
EA-147	5100.	1050.	496274.	1.90	5.00	SL
EA-148	5100.	1025.	496275.	1.80	7.00	SLH/Si
EA-149	5100.	1000.	496276.	1.70	6.00	SL/hsilC
EA-150	5100.	975.	496277.	1.40	5.00	SL/htrqv
EA-151	5100.	950.	496278.	1.20	5.00	SL/hsi
EA-152	5100.	925.	496279.	1.20	5.00	SST
EA-153	5100.	900.	496280.	0.90	5.00	SLtrSi
EA-154	5300.	1000.	496281.	0.50	5.00	SL
EA-155	5300.	1025.	496282.	0.40	9.00	QVSL/bl
EA-156	5300.	1050.	496283.	0.40	16.00	CLY/bl
EA-157	5300.	1075.	496284.	0.30	5.00	SL/CLY
EA-158	5300.	1100.	496285.	0.40	5.00	SL
EA-159	5300.	1125.	496286.	0.60	5.00	SL/h
EA-160	5300.	1150.	496287.	0.80	5.00	SL
EA-161	5300.	1175.	496288.	1.10	5.00	SL
EA-162	5300.	1200.	496289.	1.20	5.00	SLtrh
EA-163	5300.	1225.	496290.	1.00	5.00	SL
EA-164	5300.	1250.	496291.	0.40	5.00	SL
EA-165	4700.	1700.	496292.	2.70	6.00	SLtrSi
EA-166	4700.	1675.	496293.	2.20	5.00	SL
EA-167	4700.	1650.	496294.	1.00	5.00	SL
EA-168	4700.	1625.	496295.	0.50	3.00	SL
EA-169	4700.	1600.	496296.	0.30	3.00	SL
EA-170	4700.	1575.	496297.	0.30	3.00	SL
EA-171	4700.	1550.	496298.	0.50	3.00	SL/h
EA-172	4700.	1525.	496299.	0.50	4.00	SL
EA-173	4900.	1275.	496945.	0.40	2.00	SL
EA-174	4900.	1300.	496946.	0.60	2.00	SL/h
EA-175	4900.	1325.	496947.	2.10	4.00	SL
EA-176	4900.	1350.	496948.	2.00	4.00	SL/h

EL 8933

Black Angel Grid

Vacuum Downhole Lithology

BHID	Easting (m)	Northing (m)	Sample Number	From (m)	To (m)	Lithology Code
EA-177	4900.	1375.	496950.	2.10	4.00	SL
EA-178	4900.	1400.	496951.	1.20	3.00	SL
EA-179	4900.	1425.	496952.	1.90	4.00	GW
EA-180	4900.	1450.	496953.	2.00	4.00	SL/htrqv
EA-181	4900.	1475.	496954.	1.20	4.00	SL
EA-182	4900.	1500.	496955.	0.80	3.00	SL
EA-183	4900.	1525.	496956.	1.10	3.00	SL/h
EA-184	4900.	1550.	496957.	0.40	2.00	SL/Si
EA-185	4900.	1575.	496958.	1.50	4.00	SL
EA-186	4900.	1600.	496959.	2.10	4.00	SL/h
EA-187	4900.	1625.	496960.	0.40	1.50	SL/Si
EA-188	4900.	1650.	496961.	0.40	1.00	SL/Si
EA-190	4900.	1700.	496963.	0.50	1.50	COV
EA-192	5300.	1300.	496964.	0.00	0.10	SL
EA-193	5300.	1325.	496965.	0.00	0.10	GW
EA-194	5300.	1350.	496966.	0.00	0.10	GW
EA-195	5100.	1275.	496967.	0.00	0.10	GW
EA-196	5100.	1300.	496968.	0.00	0.10	GW
EA-197	5100.	1325.	496969.	0.00	1.00	SL
EA-198	5100.	1350.	496970.	0.00	0.10	GW
EA-199	4900.	1200.	496971.	0.00	0.10	GW
EA-200	4900.	1225.	496972.	0.00	0.10	SL
EA-201	4900.	1250.	496973.	0.00	0.10	SL
EA-202	4700.	1350.	496974.	0.00	0.10	GW
EA-203	4700.	1375.	496975.	0.00	0.10	SL/QV
EA-204	4700.	1400.	496976.	0.00	0.10	SL/h
EA-205	4700.	1425.	496977.	0.00	0.10	SLSi/h
EA-206	4700.	1450.	496978.	0.00	0.10	SL/Sih
EA-207	4700.	1475.	496979.	0.00	0.10	SL/h
EA-208	4700.	1500.	496980.	0.00	0.10	SL

## **APPENDIX FOUR**

VACUUM BEDROCK ASSAYS

EL 8933

Black Angel Grid

Vacuum Assay Bedrock Data

BHID	Sample Number	From (m)	To (m)	AU ppb	CU ppm 1	BI ppm 1	FE % 0.01	MN ppm 5
Detection Limit :								
EA-075	496201.	1.20	5.00	TR	4.00	TR	1.31	49.00
EA-076	496202.	0.70	1.50	TR	5.00	TR	2.17	70.00
EA-077	496203.	0.80	5.00	TR	3.00	TR	2.11	64.00
EA-078	496204.	1.20	5.00	TR	9.00	TR	1.76	46.00
EA-079	496205.	0.80	5.00	TR	4.00	TR	2.27	30.00
EA-080	496206.	1.00	5.00	TR	4.00	TR	1.57	50.00
EA-081	496207.	1.00	5.00	TR	2.00	TR	1.69	44.00
EA-082	496208.	1.10	5.00	TR	3.00	TR	2.26	19.00
EA-083	496209.	1.10	5.00	TR	3.00	TR	2.69	26.00
EA-084	496210.	1.50	5.00	TR	6.00	TR	3.05	32.00
EA-085	496211.	1.20	5.00	TR	TR	TR	3.14	33.00
EA-086	496212.	1.10	5.00	TR	2.00	TR	2.26	21.00
EA-087	496213.	1.00	5.00	TR	3.00	TR	2.97	49.00
EA-088	496214.	1.20	5.00	TR	2.00	TR	2.81	10.00
EA-089	496215.	0.70	5.00	TR	2.00	TR	2.73	35.00
EA-090	496216.	1.20	5.00	TR	3.00	TR	2.52	23.00
EA-091	496217.	1.20	5.00	TR	3.00	TR	4.31	32.00
EA-093	496219.	0.80	2.50	TR	TR	TR	2.87	27.00
EA-094	496220.	0.80	5.00	TR	4.00	TR	2.90	15.00
EA-095	496221.	0.80	5.00	TR	TR	TR	2.04	24.00
EA-096	496222.	0.80	5.00	TR	TR	TR	2.34	25.00
EA-097	496223.	1.00	6.00	TR	TR	TR	1.67	19.00
EA-098	496224.	1.40	5.00	TR	3.00	TR	2.72	31.00
EA-099	496225.	0.80	5.00	TR	2.00	TR	2.21	75.00
EA-100	496226.	0.80	5.00	TR	TR	TR	2.09	19.00
EA-101	496227.	0.80	5.00	TR	2.00	TR	2.07	23.00
EA-102	496228.	0.60	5.00	TR	2.00	TR	2.09	11.00
EA-103	496229.	1.10	5.00	TR	TR	TR	2.89	10.00
EA-104	496230.	0.80	5.00	TR	12.00	TR	2.61	62.00
EA-105	496231.	0.60	4.00	TR	5.00	TR	2.11	24.00
EA-106	496232.	1.10	3.00	TR	4.00	TR	2.20	36.00
EA-107	496233.	0.80	3.00	TR	2.00	TR	1.70	13.00
EA-108	496234.	0.80	3.00	TR	3.00	TR	1.64	14.00
EA-109	496235.	0.70	5.00	TR	3.00	TR	1.60	32.00
EA-110	496236.	0.90	5.00	TR	TR	TR	2.11	21.00
EA-111	496237.	1.20	5.00	TR	5.00	TR	3.17	18.00
EA-112	496238.	0.70	5.00	TR	2.00	TR	2.15	9.00
EA-113	496239.	0.70	5.00	TR	6.00	TR	2.66	34.00
EA-114	496240.	0.70	5.00	TR	3.00	TR	2.61	10.00
EA-115	496241.	0.70	5.00	TR	2.00	TR	2.43	9.00
EA-116	496242.	0.80	5.00	TR	2.00	TR	2.34	15.00
EA-117	496243.	0.50	5.00	TR	TR	TR	3.50	13.00
EA-118	496244.	0.50	5.00	TR	3.00	TR	2.08	30.00
EA-119	496245.	0.30	2.00	TR	5.00	TR	3.55	53.00
EA-120	496246.	0.50	5.00	TR	5.00	TR	3.50	13.00
EA-121	496247.	0.40	5.00	TR	2.00	TR	3.68	38.00
EA-122	496249.	0.30	5.00	TR	TR	TR	2.75	27.00
EA-123	496250.	0.40	4.00	TR	4.00	TR	3.04	25.00
EA-124	496251.	0.60	5.00	TR	2.00	TR	3.20	24.00

EL 8933

Black Angel Grid

Vacuum Assay Bedrock Data

BHID	Sample Number	From (m)	To (m)	AU ppb	CU ppm 1	BI ppm 1	FE % 0.01	MN ppm 5
Detection Limit :								
EA-127	496254.	0.20	5.00	TR	3.00	TR	3.19	14.00
EA-128	496255.	0.20	2.00	TR	4.00	TR	3.35	28.00
EA-129	496256.	0.20	5.00	TR	8.00	TR	3.59	10.00
EA-130	496257.	0.40	5.00	TR	TR	TR	2.97	18.00
EA-131	496258.	0.60	5.00	TR	3.00	TR	2.92	26.00
EA-132	496259.	1.20	5.00	TR	3.00	TR	4.07	22.00
EA-133	496260.	3.20	6.00	TR	TR	TR	3.24	10.00
EA-134	496261.	2.20	5.00	TR	2.00	TR	2.96	12.00
EA-135	496262.	1.30	6.00	TR	TR	TR	3.24	14.00
EA-136	496263.	1.20	3.00	TR	2.00	TR	3.48	44.00
EA-137	496264.	1.20	5.00	TR	TR	TR	2.56	10.00
EA-138	496265.	1.20	5.00	TR	TR	TR	2.33	18.00
EA-139	496266.	0.10	4.00	TR	4.00	TR	2.79	45.00
EA-140	496267.	0.40	5.00	TR	16.00	TR	3.89	43.00
EA-141	496268.	0.40	5.00	TR	3.00	TR	3.57	46.00
EA-142	496269.	1.40	5.00	TR	4.00	TR	3.44	49.00
EA-143	496270.	1.40	5.00	TR	3.00	TR	2.24	42.00
EA-144	496271.	1.90	5.00	TR	3.00	TR	2.58	40.00
EA-145	496272.	2.10	5.00	TR	5.00	TR	2.97	36.00
EA-146	496273.	1.90	5.00	TR	8.00	TR	3.23	41.00
EA-147	496274.	1.90	5.00	TR	3.00	TR	2.48	49.00
EA-148	496275.	1.80	7.00	TR	3.00	TR	2.28	44.00
EA-149	496276.	1.70	6.00	TR	3.00	TR	2.32	37.00
EA-150	496277.	1.40	5.00	TR	4.00	TR	2.01	28.00
EA-151	496278.	1.20	5.00	TR	4.00	TR	2.28	28.00
EA-152	496279.	1.20	5.00	TR	5.00	TR	2.70	82.00
EA-153	496280.	0.90	5.00	TR	5.00	TR	2.68	59.00
EA-154	496281.	0.50	5.00	TR	TR	TR	2.15	28.00
EA-155	496282.	0.40	9.00	TR	TR	TR	0.90	74.00
EA-156	496283.	0.40	16.00	TR	TR	TR	1.97	27.00
EA-157	496284.	0.30	5.00	TR	2.00	TR	2.52	22.00
EA-158	496285.	0.40	5.00	TR	2.00	TR	2.22	57.00
EA-159	496286.	0.60	5.00	TR	6.00	TR	2.41	25.00
EA-160	496287.	0.80	5.00	TR	2.00	TR	2.56	18.00
EA-161	496288.	1.10	5.00	TR	2.00	TR	2.40	20.00
EA-162	496289.	1.20	5.00	TR	10.00	TR	2.84	11.00
EA-163	496290.	1.00	5.00	TR	2.00	TR	2.31	19.00
EA-164	496291.	0.40	5.00	TR	TR	TR	2.24	29.00
EA-165	496292.	2.70	6.00	TR	2.00	TR	3.12	17.00
EA-166	496293.	2.20	5.00	TR	2.00	TR	2.49	13.00
EA-167	496294.	1.00	5.00	TR	TR	TR	2.65	15.00
EA-168	496295.	0.50	3.00	TR	3.00	TR	2.69	21.00
EA-169	496296.	0.30	3.00	TR	4.00	TR	2.86	14.00
EA-170	496297.	0.30	3.00	-	-	-	-	-
EA-171	496298.	0.50	3.00	TR	2.00	TR	2.55	25.00
EA-172	496299.	0.50	4.00	TR	2.00	TR	2.85	8.00
EA-173	496945.	0.40	2.00	TR	TR	TR	3.08	13.00
EA-174	496946.	0.60	2.00	TR	TR	TR	2.84	11.00
EA-175	496947.	2.10	4.00	TR	2.00	TR	3.53	8.00

EL 8933

Black Angel Grid

Vacuum Assay Bedrock Data

BHID	Sample Number	From (m)	To (m)	AU ppb	CU ppm 1	BI ppm 1	FE % 0.01	MN ppm 5
Detection Limit :								
EA-176	496948.	2.00	4.00	TR	1.00	TR	3.37	14.00
EA-177	496950.	2.10	4.00	TR	2.00	TR	3.39	16.00
EA-178	496951.	1.20	3.00	TR	1.00	TR	1.85	33.00
EA-179	496952.	1.90	4.00	TR	2.00	TR	6.06	68.00
EA-180	496953.	2.00	4.00	TR	2.00	TR	3.16	24.00
EA-181	496954.	1.20	4.00	TR	2.00	TR	3.18	23.00
EA-182	496955.	0.80	3.00	TR	1.00	TR	2.79	10.00
EA-183	496956.	1.10	3.00	TR	2.00	TR	3.57	36.00
EA-184	496957.	0.40	2.00	TR	2.00	TR	3.59	18.00
EA-185	496958.	1.50	4.00	TR	1.00	TR	3.36	17.00
EA-186	496959.	2.10	4.00	TR	2.00	TR	3.42	24.00
EA-187	496960.	0.40	1.50	TR	2.00	TR	4.55	20.00
EA-188	496961.	0.40	1.00	TR	2.00	TR	4.53	40.00
EA-192	496964.	0.00	0.10	TR	2.00	TR	2.58	11.00
EA-193	496965.	0.00	0.10	TR	2.00	TR	2.62	15.00
EA-194	496966.	0.00	0.10	TR	2.00	TR	2.86	14.00
EA-195	496967.	0.00	0.10	TR	2.00	TR	3.86	28.00
EA-196	496968.	0.00	0.10	TR	1.00	TR	2.25	10.00
EA-197	496969.	0.00	1.00	TR	1.00	TR	3.14	17.00
EA-198	496970.	0.00	0.10	TR	TR	TR	3.06	11.00
EA-199	496971.	0.00	0.10	TR	TR	TR	4.15	9.00
EA-200	496972.	0.00	0.10	TR	2.00	TR	2.45	7.00
EA-201	496973.	0.00	0.10	TR	1.00	TR	3.35	8.00
EA-202	496974.	0.00	0.10	TR	2.00	TR	2.91	20.00
EA-203	496975.	0.00	0.10	TR	2.00	TR	5.87	15.00
EA-204	496976.	0.00	0.10	TR	2.00	TR	11.90	24.00
EA-205	496977.	0.00	0.10	TR	2.00	TR	7.42	25.00
EA-206	496978.	0.00	0.10	TR	2.00	TR	6.31	26.00
EA-207	496979.	0.00	0.10	TR	2.00	TR	8.27	13.00
EA-208	496980.	0.00	0.10	TR	2.00	TR	5.93	16.00

## **APPENDIX FIVE**

### **BIBLIOGRAPHIC DATA SHEET**

**BIBLIOGRAPHIC DATA SHEET**

REPORT NUMBER 97012

REPORT NAME SECOND ANNUAL REPORT FOR EXPLORATION  
LICENCE 8933 FOR THE PERIOD 8/1/96 TO 7/1/97,  
TENNANT CREEK DISTRICT, NORTHERN TERRITORY,  
765 EAST PROSPECT

PROSPECT NAME(S) EL 8933  
765 EAST PROSPECT

OWNER/JV PARTNERS NORMANDY GOLD LIMITED

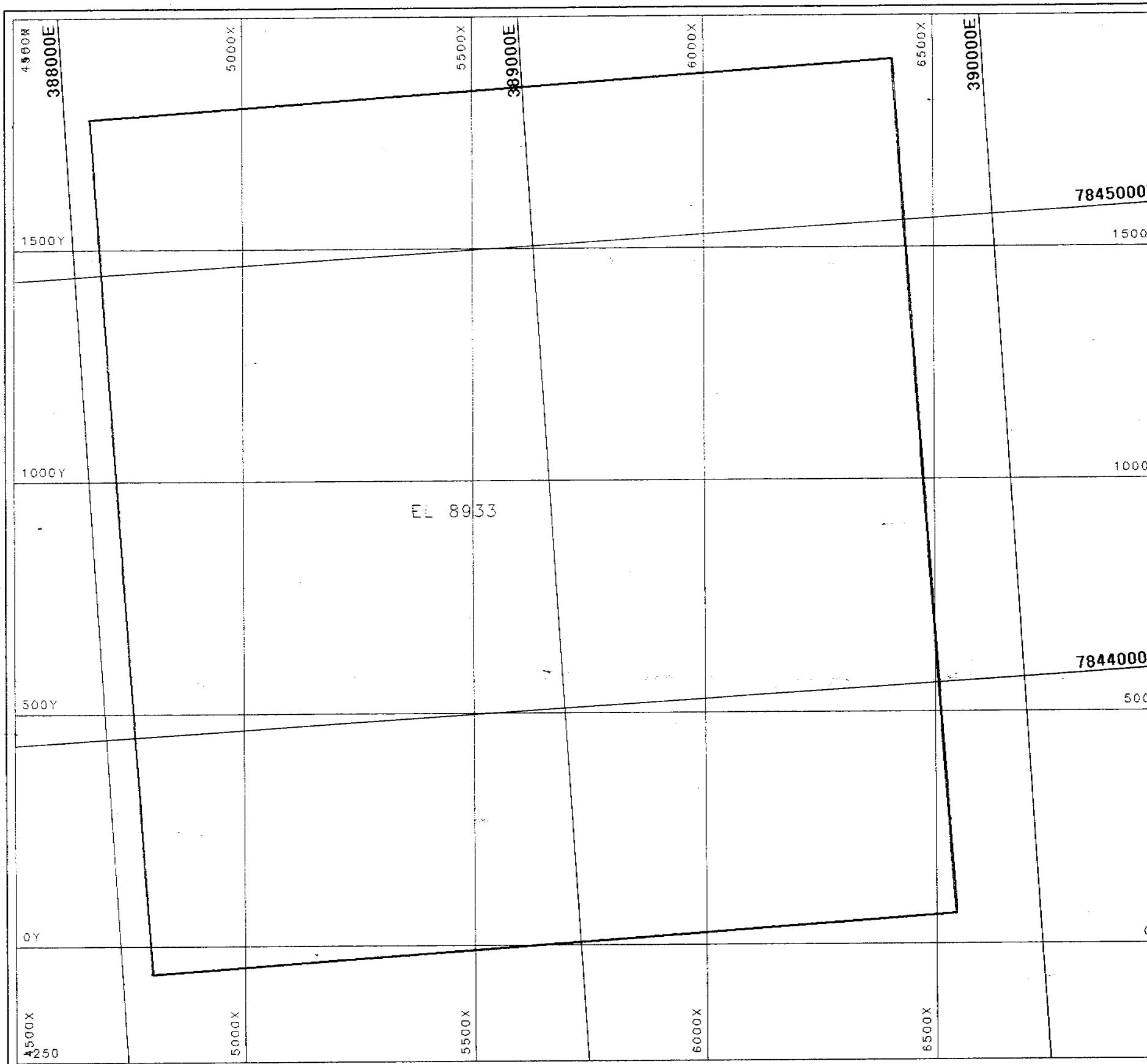
KEYWORDS EL 8933  
WHITE DEVIL  
VACUUM DRILLING  
GROUND MAG

COMMODITIES GOLD

TECTONIC UNIT TENNANT CREEK INLIER  
WARRAMUNGA GROUP

1:250,000 MAP SHEET TENNANT CREEK SE 53-14  
(52)

1:100,000 MAP SHEET SHORT RANGE 52/1

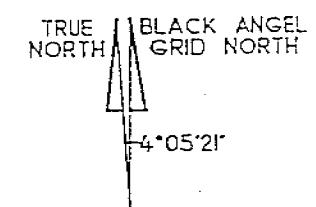


Relationship Between AMG and  
Black Angel Grids  
(1 Common Point plus Bearing)

AMG 385850.1E 7844989.27N

BAG 492.35E 1160.69N

Bearing Difference:  $3.73^\circ$



NORMANDY GOLD LIMITED

EL 8933 (765 EAST)

GRID RELATIONSHIP

BLACK ANGEL GRID/AMG GRID

SCALE	DRAWN	DATE	CHECKED
1:10000	DATAMINE	3 FEB 97	CB

Figure No. 2

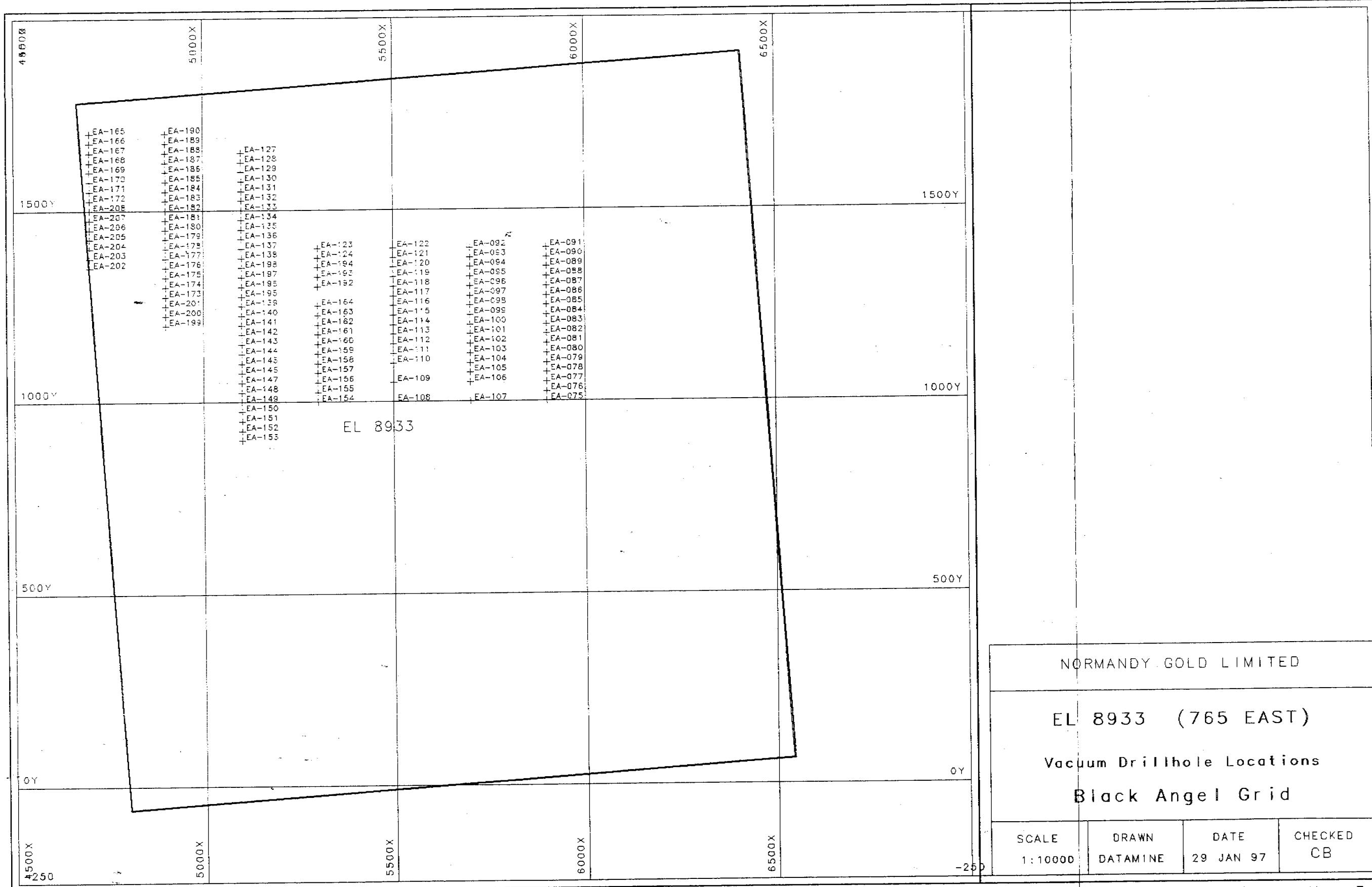


Figure No. 3



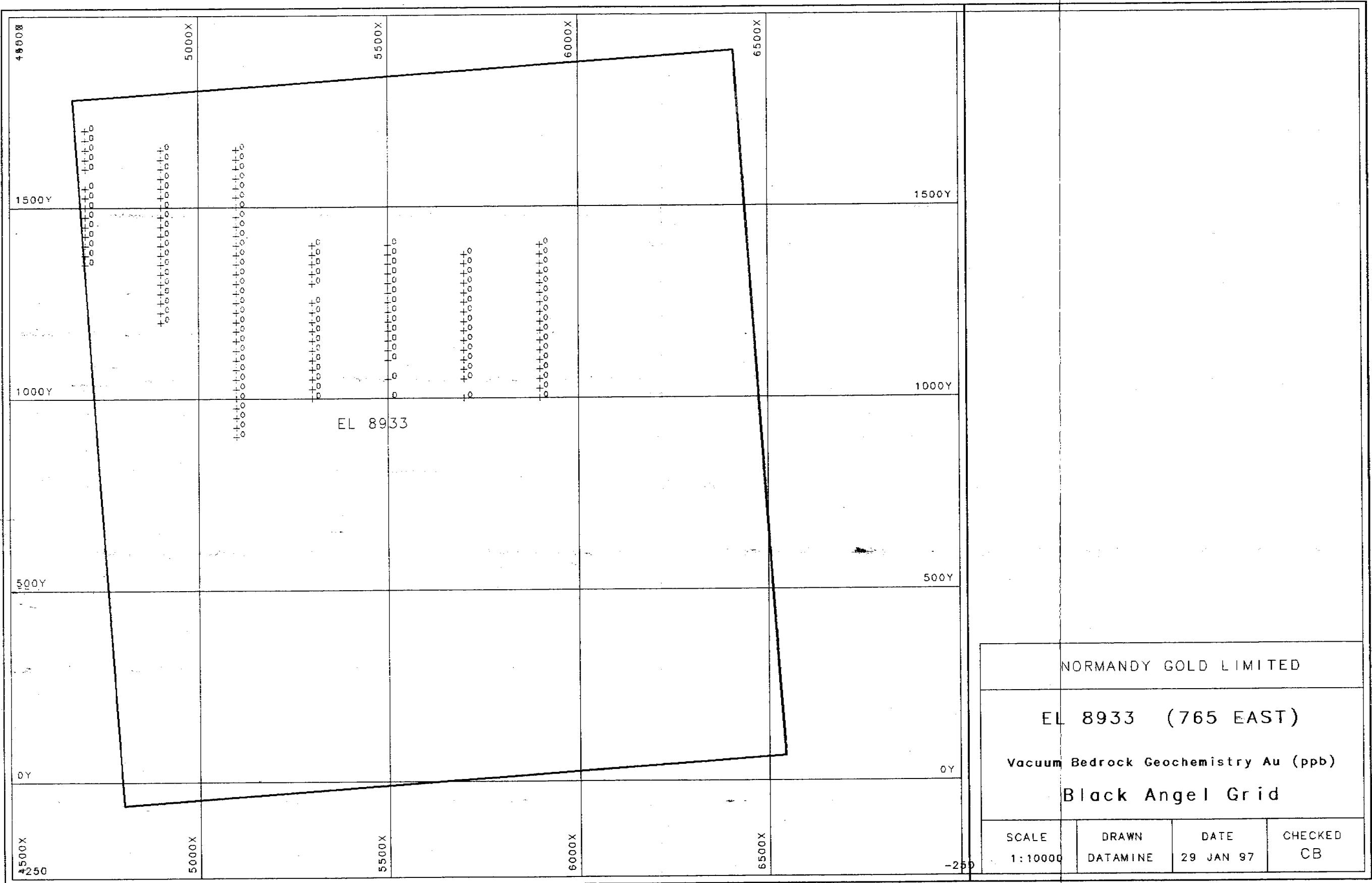
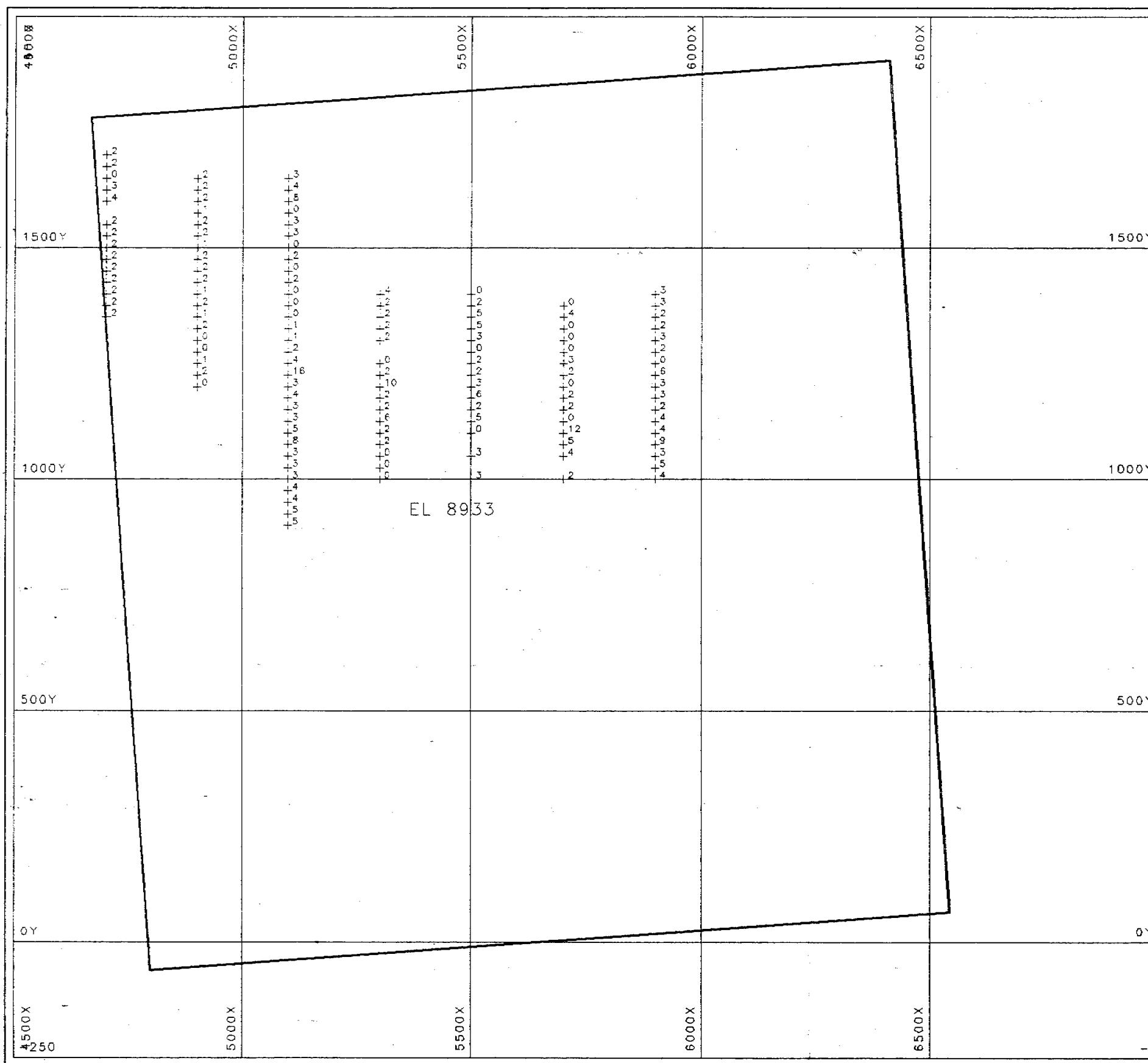


Figure No. 5



NORMANDY GOLD LIMITED			
EL 8933 (765 EAST)			
Vacuum	Bedrock Geochemistry Cu (ppm)		
Black Angel Grid			
SCALE 1:10000	DRAWN DATAMINE	DATE 29 JAN 97	CHECKED CB

Figure No. 6

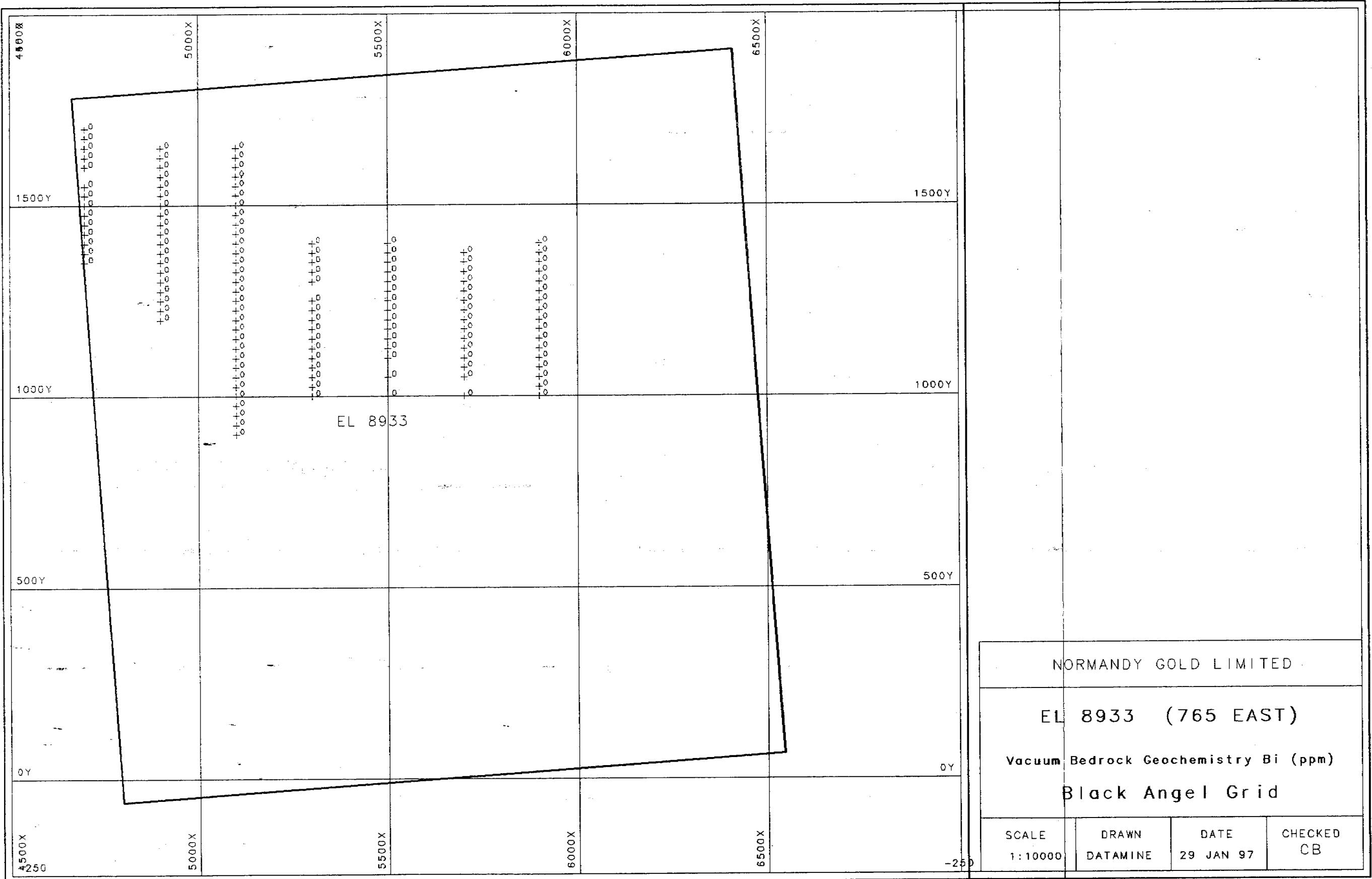


Figure No. 7

