SOUTH AUSTRALIA

DEPARTMENT OF MINES AND ENERGY

OPEN FILE ENVELOPE NO. 8422

EL 1694, VENUS BAY

PROGRESS AND FINAL REPORTS FOR THE PERIOD
9/1/91 TO 15/7/92

Submitted by

Stockdale Prospecting Ltd

1992

ENVELOPE 8422

TENEMENT: EL 1694, Venus Bay

TENEMENT HOLDER: Stockdale Prospecting Ltd

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SEPARATELY HELD DATA

DATA TAPES (held by Information Services Branch):

Survey No.	Details etc
91SA1	(Warrachi Survey) Airborne magnetic - radiometric survey.
91SA2	(Sheoak Survey) Airborne magnetic - radiometric survey.
91SA3	(Venus Bay) Airborne magnetic - radiometric survey.

DRILLHOLE SAMPLES (held by SADME Core Library):

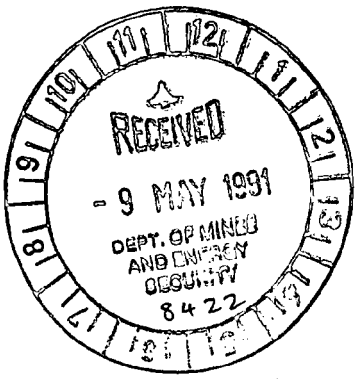
For up to date information on available drillhole samples, contact the Supervisor, SADME Core Library and quote the Exploration Licence and drillhole number/s you wish to query.

STOCKDALE PROSPECTING LIMITED

EXPLORATION LICENCE NO 1694A & B : ELLISTON

FIRST QUARTERLY REPORT FOR THE PERIOD

ENDING 9 APRIL 1991



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Project Name: ELLISTON

Title: EXPLORATION LICENCE NO 1694A & B : ELLISTON
FIRST QUARTERLY REPORT FOR THE
PERIOD ENDING 9 APRIL 1991

Edited: F M GAUNT

Author/s: M S MITCHELL

Approved: H R ROBISON

Date: APRIL 1991

Place: WHYALLA

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Keywords: AIRBORNE MAGNETICS, HEAVY MINERAL SAMPLE, GROUND MAGNETIC SURVEY, KIMBERLITIC INDICATORS

Abstract: Exploration Licence No 1694A covers the Venus Bay - Elliston area on the northwestern Eyre Peninsula and Exploration Licence No 1694B covers an area west of Murdinga - Lock road. This title was granted to Stockdale Prospecting Limited on the 9 January 1991 for the purposes of diamond exploration.

Exploration involved a skeletal loam sampling programme where a total of 34 continuous road loam samples were taken along approximately 160 line kilometres of roads and tracks.

The samples were treated for kimberlitic indicators. All results have been received, 27 samples recovered kimberlitic indicators.

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STOCKDALE PROSPECTING LIMITED

EXPLORATION LICENCE NO 1694A & B : ELLISTON

FIRST QUARTERLY REPORT TO 9 APRIL 1991

1 INTRODUCTION

Exploration Licence No 1694 is located on the north western section of the Eyre Peninsula in South Australia about 200 kilometres north-northwest of Port Lincoln (Map 1). The licence comprises of two separate areas covering 1487 square kilometres on the Kimba and Elliston 1:250,000 mapsheets (SI53-07, 53-06 respectively).

This report covers diamond exploration carried out by Stockdale Prospecting Limited for the quarter ending 9 April 1991. Fieldwork completed during this quarter comprises of skeletal soil sampling for kimberlitic indicators.

2 LEGAL

Exploration Licence No 1694A & B was granted to Stockdale Prospecting Ltd on the 9 January 1991 for a term of one year for diamond exploration.

3 PHYSIOGRAPHY
(from Twidale and Campbell 1985)

3.1 Physiographic Divisions

The major physiographic units identified in the area of EL 1672 are as follows :

i) Tuckey Plain - covers the northern section of the licence area, consisting of northwest-southeast orientated seif dunes that deviate around granite inselbergs.

ii) Granitic Iselbergs and associated Plains - the inselbergs exhibit colluvial fans of flared slopes, A-tents, gnammas and tafoni.

iii) Sheringa Plain - the oldest dune plain and most dominating land surface on the tenement, consists of anastomising, calcreted dunes.

iv) Mt Wedge - isolated topographic high consisting of Precambrian rocks and located next to the swampy lowlands.

v) Inland lakes - consisting of low-lying saline and gypsiferous lakes in the northeast and southwest portions of the tenement.

3.2 Rainfall

Rainfall over the licence area averages 300 to 350 mm per year. About 14% of this total falls in the summer months, while about 50% falls in winter months (Schwerdtfeger, 1985).

3.3 Vegetation

The majority of the native vegetation has been cleared for grazing and cereal crops, but thick mallee broom bush, casaurina and melaleuca woodlands and scrub exists in the Polda area around Kappawanta and Bascombe Well Conservation Park. The small gypsiferous and saline lakes are dominated by samphire shrubland.

3.4 Access

The licence area is serviced by a network of unsealed roads, farm tracks and Engineering & Water Supply borehole access tracks. Apart from the major roads most of the tracks are overgrown and/or in a bad state of disrepair, especially in the southern half of the tenement.

4 GEOLOGY

4.1 General Geology

The Elliston tenement has very little outcrop. The majority of the tenement is covered in Quaternary sands and calcarenites. The area lies within the Gawler Block, a stable craton, with crystalline basement rocks which range in age from 2500 Ma to 900 Ma. Stabilisation of the craton took place after the Kimban Orogeny at about 1450 Ma. The Polda Trough, a major structural and depositional feature passes from west to east through the southern part of the tenement.

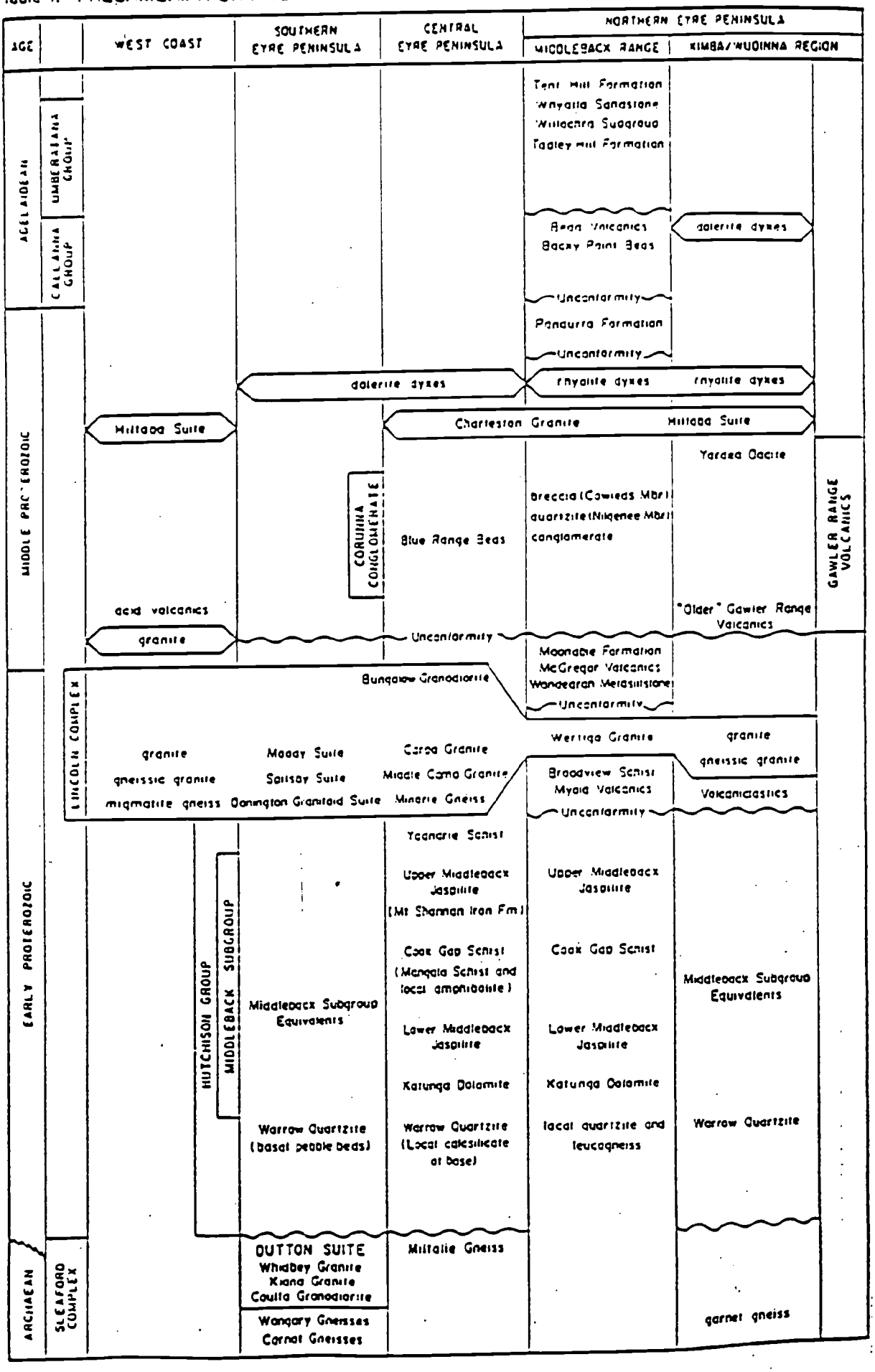
The Precambrian stratigraphy of the Eyre Peninsula is shown in Table 1 (from Parker et al 1985).

4.2 Archaean

The tenement is underlain by the Late Archaean to Early Proterozoic rocks of the Gawler Craton called the Sleaford Complex. The Sleaford Complex is composed of two distinct units : an older supracrustal sequence; the Carnot Gneisses and a slightly younger sequence or higher level Granitoid suite : the Dutton suite.

The Carnot Gneisses are composed of thinly layered garnetiferous quartz feldspathic gneisses often intercalated with thin layers of leucogneiss, biotite gneiss, hypersthene bearing felsic gneiss and basic granulite. Hypersthene gneisses (garnet) are also found as distinct mesolayers. The Gneisses in the Cape Carnot area yield an isochron age of 2412 +/- 72 Ma.

Table 1. PRECAMBRIAN STRATIGRAPHY OF EYRE PENINSULA. (from Parker et.al. 1985



found as distinct mesolayers. The Gneisses in the Cape Carnot area yield an isochron age of 2412 +/- 72 Ma.

The Dutton suite is comprised of the Whidby granite and gneissic Kiana Granite which outcrop on the southwest Eyre Peninsula and on the offshore islands. They are the intrusive equivalents of the Carnot gneisses, outcropping along the western side of the Peninsula and have an ischron age of 2334 +/- 109 Ma.

The Sleaford Complex is unconformably overlain by the lower member of the Hutchison Group, the Warrow Quartzite. The Hutchison Group is a sequence of highly deformed and metamorphosed mixed clastic and sedimentary rocks which range in age from latest Archaean through to Early Proterozoic. This sequence possibly represents a number of cyclic transgressions and regressions either across the shelf or within a major basin deepening towards the eastern side of the peninsula. Deposition was terminated by the Kimban Orogeny which deformed and metamorphosed the sequence to Upper amphibolite facies, the event being the final before cratonisation of the Gawler Block.

The Middle Proterozoic unconformably overlies the Hutchison Group and is represented by the Blue Range Beds. These are unmetamorphosed arenites outcropping in areas on the central Eyre Peninsula and the Mount Wedge and Talia Caves area on the west coast. This chain of outcrops suggests an east-west depositional basin, where deposition occurred about the time of the extrusion of the Gawler Range Volcanics.

The Precambrian Stratigraphy of the Eyre Peninsula is summarized in Table 1.

4.3 The Carboniferous to Permian

The Polda Trough which passes through the central portion of the Eyre Peninsula is a narrow east-west intracratonic graben flanked by Archaean to Early Proterozoic rocks and totally veneered by Tertiary and Quaternary sediments. Carboniferous-Permian sediments, called the Coolgardie Formation are preserved in the trough. These consist of glacially derived sediments, Diamictite, mudstones, siltstones and conglomerates towards the top of the sequence. The thickest sequence recorded to date (181 metres) lies west of the tenement near the township of Lock.

4.4 Jurassic

The Jurassic Polda Formation unconformably overlies the Coolgardie Formation of clayey sandstones, claystone and lignites. A maximum thickness of 170 m was recorded near Lock. The Formation was deposited in fluvial - swampy conditions and the lignite reaches a maximum cumulative thickness of 17 metres near Win Gully.

4.5 Tertiary

During the Middle - Late Eocene, renewed subsidence in the Polda Trough caused the deposition of the Poelpena Formation under Fluvial/paludal conditions. The Formation consists of poorly sorted fine to very coarse grained sands with interbedded grey clays, carbonaceous clays and lignites. The total thickness of the unit, also recorded in the Lock area varies from 15 to 30 metres.

4.6 Quaternary

Thin veneers of Quaternary sediments mask the underlying Archaean, Proterozoic and Tertiary rocks over the majority of the Eyre Peninsula.

The Pleistocene Bridgewater Formation is the predominant unit consisting of calcarenites, calcretes and carbonate-cements aeolinite. The aeolinite forms the coastal cliffs on the western side of the Eyre Peninsula, consisting of large dune-size cross-beds containing comminuted shell fragments in a micrite cement.

The calcretes vary in form from intraclast breccia to nodular, massive and laminated calcrete.

Overlying the Bridgewater Formation in the northwest to the southeast of the Eyre Peninsula are Pleistocene - Holocene longitudinal dunes and sand spreads of the Wiabuna Formation and Moornaba Sand.

4.7 The Polda Trough

The Polda Trough is an east-west trending sedimentary basin passing through the tenement extending east almost to Rudall. It contains Jurassic and Tertiary sedimentary rocks, including lignites, with a total thickness of over 200 metres. The Polda Trough is thought to have resulted from the rejuvenation of tectonism along pre-existing faults at the time of initial rifting between Australia and Antarctica in the late Jurassic. Aeromagnetics have defined the boundaries of the trough which are marked by graben-like faulted margins which converge in the west of the peninsula, coinciding with the intrabasin Lock coalfield. Localized subsidence along and adjacent to the margin of the Polda Trough have markedly less vertical displacement in relation to the main trough and have been interpreted as the remains of the original wider Proterozoic Itiledoo Basin which Flint and Rankin (1989), identify as the tectonic setting for the Blue Range Conglomerates.

5 FIELD WORK

5.1 Skeletal Loam Sampling

A reconnaissance road loam sampling exercise was employed over the tenement to detect if any kimberlitic indicators were present on the current land surface and if any dispersion halos existed. Sampling was conducted on a semi continuous basis whereby one bag of screened (-1.0 + 0.3 mm) deflation material was collected at one kilometre intervals and one sample constituted 4 to 7 line kilometres of sample.

A total of 44 samples were taken prior to the end of this reporting period, representing approximately 160 line kilometres of samples at one kilometre intervals. Sample locations can be found on Map 2.

6 RESULTS

Sample results from all the loam samples have been received. A total of 27 (61%) of the 44 samples taken recovered kimberlitic indicators. The spread of indicators appears to have resolved into two areas, the Venus Bay and Sheoak Hill areas.

A complete list of positive loam results are located in Table 2.

7 FORWARD WORK PROGRAMME

The results of the skeletal loam sampling programme were encouraging, however no further sampling or work is planned until the results of an airborne magnetic survey become available. The survey is to be conducted, starting mid March and will cover the southern and northern portions of the tenement, Map 3.

The airborne data will be processed early April and should be available for interpretation late April. Ground follow-up of the generated anomalies is expected to take place late May - early June. The survey will be flown north-south at 200m line intervals.

8 STAFF

Staff employed in the field were :

Geologists	2
Field Assistants	5

The project has been supported by the facilities of the Regional Office in Whyalla and the Head Office in Melbourne.

TABLE 2 : POSITIVE LOAM SAMPLES

SAMPLE	KIMBERLITIC GARNETS	KIMBERLITIC ILMENITE	KIMBERLITIC CHROMITE	KIMBERLITIC CHROME DIOPSIDE
X5424	1	50+		
X5425	1			
X5426	1	15		
X5443	1			
X5445	3	1		
X5447	1			
X5448	7	25		1
X5449		3		1
X5450	6	28		
X5456		1		
X5457	2	2		
X5458	6	6		
X5459	1	21		
X5460	3	30		1
X5461	10	24		1
X5462	33	38		
X5472	50+	50+		2
X5473	2	4		
X5475		2		
X5477	2			
X5491	10	20	1	
X5495	1			
X5891	1			
X5897	1			
X5898	1			
X5899		8		
X5900		50		

9 EXPENDITURE

Expenditure for the quarter of $74,478 has been allocated as shown in Table 3.

M S Mitchell
Geologist
Whyalla

H R Robison
Chief Geologist-South

Table 3 : Expenditure Summary EL 1694A & B : Elliston
Period Ending 28 February 1991

	$
OPERATIONAL STAFF COSTS	25 443
GENERAL OPERATING EXPENSES	1 290
TRANSPORT AND TRAVEL	4 003
CENTRAL TREATMENT PLANT	15 676
LABORATORY : TREATMENT	1 390
: EXAMINATION	5 264
CONTRACTORS : SAMPLE ANALYSIS	59
SPECIALIST SERVICES : DRAFTING	817
: MINERALOGY	158
ADMINISTRATION : REGIONAL	10 822
: HEAD OFFICE	6 285
CAPITAL UTILISATION	3 271
TOTAL EXPENDITURE TO DATE	$ 74 478

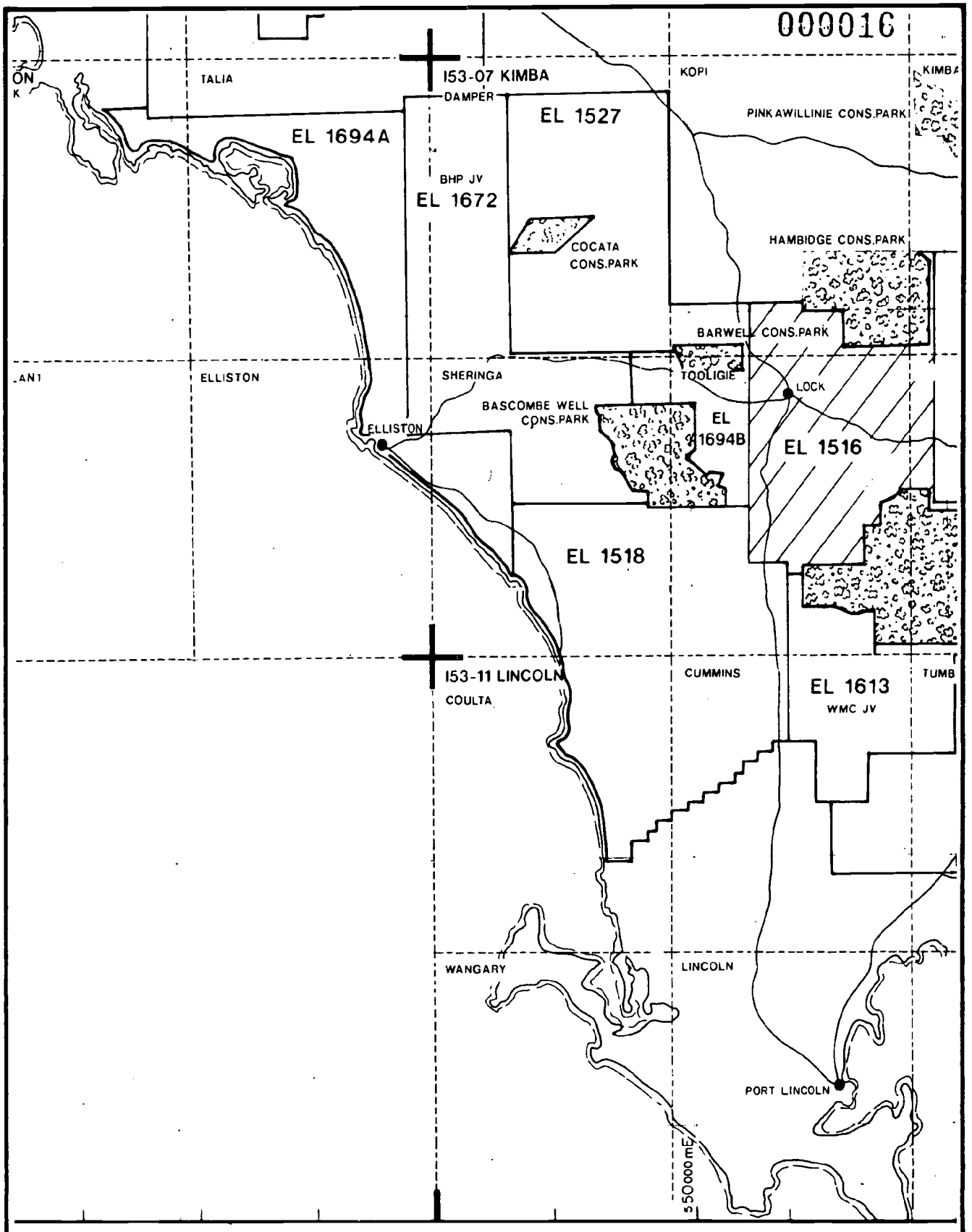
REFERENCES

Flint, R.B., & Rankin, L.R., (1989) : Explanatory Notes for the Kimba 1:250,000 Geological Map, SADME Report Book Number 90/1.

Parker, A.J., et al (1985) : Geology - in "Natural History of Eyre Peninsula" edited by C.R. Twidale et al, Royal Society of South Australia.

Schwerdtfeger, P., (1985) : Climate - in "Natural History of Eyre Peninsula" edited by C.R. Twidale et al, Royal Society of South Australia.

Twidale, C.R., & Campbell, E.M., (1985) : The Form of the Land Surface - in "Natural History of Eyre Peninsula" edited by C.R. Twidale et al Royal Society of South Australia.



MAP 1

10 0 10 50 KM

STOCKDALE PROSPECTING LIMITED

PART ELLISTON 153-6, KIMBA 153- 7, & LINCOLN 153-11

LOCATION MAP

EL 1694 A & B

Compiled	Drawn	Date	Scale	
DO	BAN	4/91	1:1,000000	SEL 4080


E.L. 1694A
VENUS BAY
Port Kenny
Venus Bay
GREAT AUSTRALIAN BIGHT
LAKE NEWLAND
FLINDERS HWY
Elliston
SOUTHERN
134° 40'
134° 50'
135° 00'
33° 30
SAMPLE LOCATION
LOCATION MAP
STOCKDALE PROSPECTING LIMITED
153-06 ELLISTON
PART TALIA, ELLISTON & SHERINGA
1:100000 MAPSHEETS
EL 1694A LOAM SAMPLING
Compiled D.O.
Drawn MAK
Date April 91
Scale 1:100 000
Revised
SEL.
MAP 2A
8422-1

8422-2

135°30'

33° 30'

90

80

70

BASCOMBE WELL

CONSERVATION PARK

E.L. 1694B

BASIN

X5443

X5444

X5444

X5445

X5446

X5447

X5490

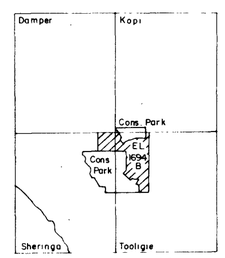
X5491

X5492

X5493

X5495

SAMPLE LOCATION X5446



LOCATION MAP

1 0 1 2 3 4 5 KM

62 60 000 m N

530 000m N

50

60

70

8422-2

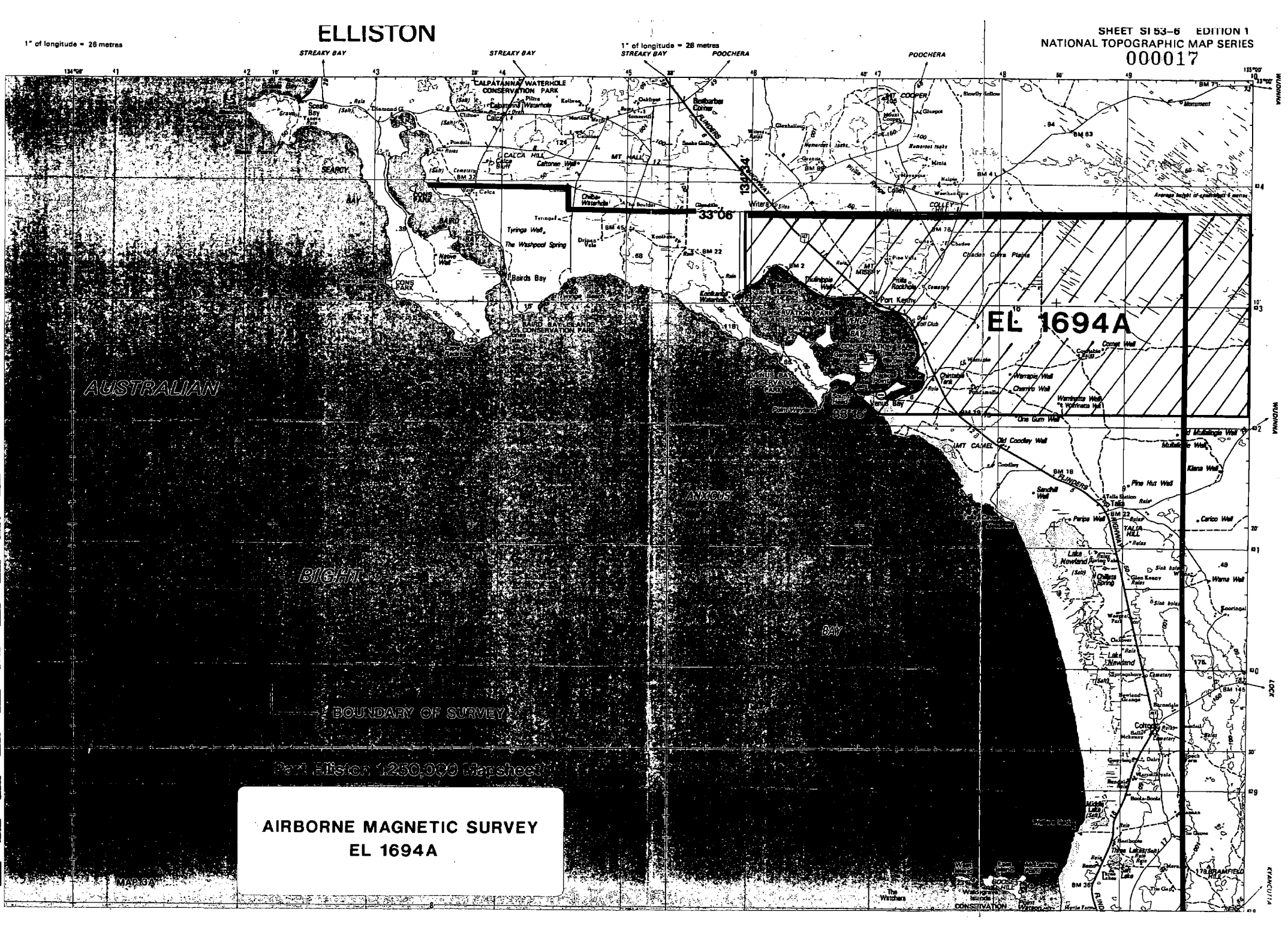
MAP 2B

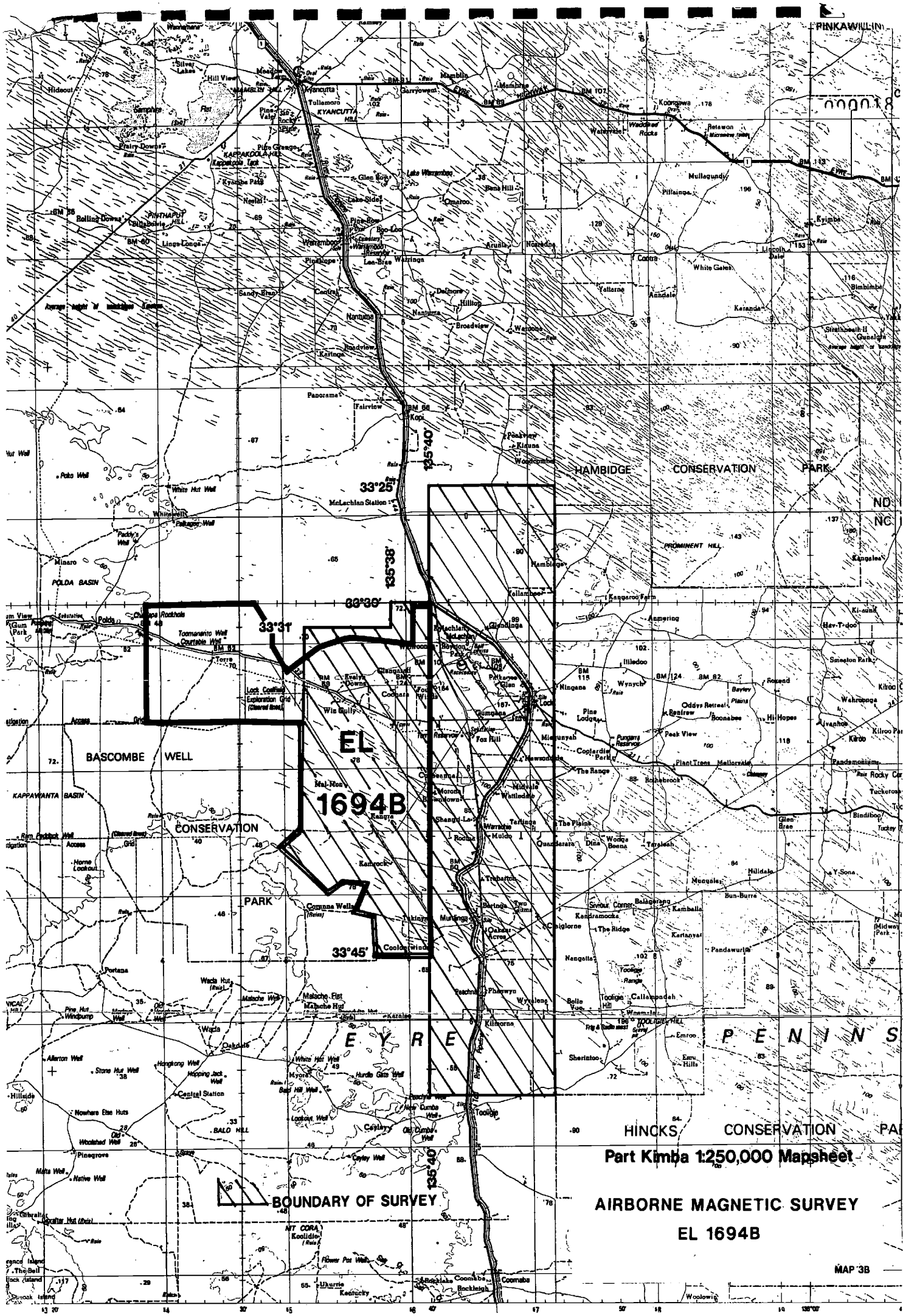
STOCKDALE PROSPECTING LIMITED

153-07 KIMBA
PART SHERINGA & TOOLIGIE
1:100000 MAPSHEETS

EL 1694B LOAM SAMPLING

Compiled	DO
Drawn	MAK
Date	APRIL '91
Scale	1 100 000
Revised	
	SEL


ELLISTON
1° of longitude = 26 metres
SHEET SI 53-6 EDITION 1
NATIONAL TOPOGRAPHIC MAP SERIES
000017
STREAKY BAY
POOCHERA
CALPATANNA WATERHOLE CONSERVATION PARK
EL 1694A
AUSTRALIAN
BIGHT
ANXIOUS
BAY
BOUNDARY OF SURVEY
Part Elliston 1:250,000 Mapsheet
AIRBORNE MAGNETIC SURVEY
EL 1694A
MAP 3A
WUDINNA
LOCK
KYANCUTTA



Part Kimba 1:250,000 Mapsheet

AIRBORNE MAGNETIC SURVEY

EL 1694B

MAP 3B

STOCKDALE PROSPECTING LIMITED

EXPLORATION LICENCE NO 1694A & B : ELLISTON

SECOND QUARTERLY REPORT FOR THE PERIOD

ENDING 9 JULY 1991

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Title: EXPLORATION LICENCE NO 1694A & B : ELLISTON SECOND QUARTERLY REPORT FOR THE PERIOD ENDING 9 JULY 1991

Edited: F M GAUNT

Author/s: M S MITCHELL

Approved: H R ROBISON

Date: JULY 1991

Place: WHYALLA

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ELLISTON SI53-5

Text Pages No.: 3 Plan Nos.: 3 Table Nos.: 3 Appendices: 2 Plates: -

Keywords: AIRBORNE MAGNETICS, HEAVY MINERAL SAMPLE, GROUND MAGNETIC SURVEY

Abstract: Exploration Licence No 1694A covers the Venus Bay - Elliston area on the northwestern Eyre Peninsula and Exploration Licence No 1694B covers an area west of Murdinga - Lock road. This title was granted to Stockdale Prospecting Limited on the 9 January 1991 for the purposes of diamond exploration.

An airborne geophysical survey was flown around the Venus Bay, Sheoak and Warrachie areas. Interpretation was completed on the Venus Bay and Sheoak areas, 17 anomalies were selected for ground follow up. Seven anomalies were ground surveyed during this quarter. Detailed skeletal loam sampling on the Sheoak Hill area was also conducted in order to delineate a more local source(s) for the surficial spread of kimberlitic indicators.

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APPENDICES

STOCKDALE PROSPECTING LIMITED

EXPLORATION LICENCE NO 1694A & B : ELLISTON

SECOND QUARTERLY REPORT TO 9 JULY 1991

1 INTRODUCTION

Exploration Licence No 1694 is located on the north western section of the Eyre Peninsula in South Australia about 200 kilometres north-northwest of Port Lincoln (Map 1). The licence comprises of two separate areas covering 1487 square kilometres on the Kimba and Elliston 1:250,000 mapsheets (SI53-07, 53-06 respectively).

This report covers diamond exploration carried out by Stockdale Prospecting Limited for the quarter ending 9 July 1991. Fieldwork completed during this quarter comprises the ground magnetic follow-up of airborne geophysical generated anomalies from the March 1991 airborne survey. A detailed skeletal loam sampling programme was also conducted around the Sheoak Hill area.

2 LEGAL

Exploration Licence No 1694A & B was granted to Stockdale Prospecting Ltd on the 9 January 1991 for a term of one year for diamond exploration.

3 GEOPHYSICAL SURVEYS

In March 1991 Aerodata undertook a magnetometer/spectrometer survey within the Elliston project area on the Eyre Peninsula, South Australia. Three surveys were flown by Aerodata for Stockdale. These were the Venus Bay, Sheoak and Warrachie surveys. (Map 1).

The primary objectives of the surveys were to identify individual magnetic anomalies which could be attributable to kimberlitic intrusives.

The airborne survey specifications for the Venus Bay and Sheoak Hill areas are listed in Appendix 1.

The 200m flight line spacings and north-south orientation, are common to all three surveys. The mean terrain clearance was set at 70m. Magnetic and four channel radiometric data were acquired.

Seven anomalies were selected from the Venus Bay Survey, four of these are considered to be worthy of follow-up (Table 1 & Map 2).

Ten anomalies within EL1694A were selected for follow up from the Sheoak survey data (Table 2 & Map 2).

4 FIELD WORK

4.1 Ground Magnetic Follow-up

A total of seven airborne magnetic anomalies (SH03, 04, 05, 07, 09, 10, & 11) were ground magnetically surveyed in the Sheoak Hill survey area.

Grids were surveyed by tape and compass over each anomaly, and magnetic readings were taken at 25m intervals from north-south lines spaced 50m apart using Geometrics G856 memory magnetometers. An additional G856 magnetometer was used as a base station to record diurnal drift. The field and base station records were downloaded onto a Zennith lap-top computer, drift corrected and processed to produce magnetic contour plots as presented in Appendix 2. The ground magnetic survey data has been forwarded to our Melbourne office for interpretation and drilling recommendations.

4.2 Skeletal Loam Sampling

A detailed loam sampling programme was initiated in the Sheoak Hill area across Exploration Licences 1694A and 1672. The purpose of the programme was to delineate a local source for the kimberlitic indicator mineral spread previously detected by increasing the sample density using the existing network of tracks.

A total of 137 samples were taken in EL1694A during this quarter, along tracks at half kilometre intervals (Map 3). At each sample site 10 litres of -1.0 + 0.3mm deflation sediment was collected along with a grab sample of fines. These samples are currently being treated and no results are available to date.

A spot loam sample was taken (X6401) at the third site of the continuous road loam sample X5472 which recovered abundant (50+) kimberlitic garnet and ilmenites and two kimberlitic pyroxenes from a 5 kilometre (5 site) stretch of track. Sample X6401 (1 bag of -1.0 + 0.3 deflation sediment) returned 34 kimberlitic ilmenites. A ground magnetic grid 1km x 1km was located over the anomalous area resulting in a discrete weakly magnetic anomaly MH201 (see Appendix 2).

5 FORWARD WORK PROGRAMME

The forward work programme involves the ground magnetic follow-up of the outstanding seven magnetic anomalies from the Sheoak Hill and Venus Bay magnetic surveys and any anomalies interpreted from the Warrachie magnetic survey. Also MH117 is an outstanding anomaly which needs ground magnetic follow up. Those ground magnetic anomalies deemed to be worthy of drilling will be incorporated in a future drilling programme, possibly in mid October.

The detailed loaming programme at Sheoak Hill will be completed, the results interpreted and more detailed grids set up for further sampling should this be necessary.

6 STAFF

Staff employed in the field were :

Geologists	4
Field Assistants	7

The project has been supported by the facilities of the Regional Office in Whyalla and the Head Office in Melbourne.

7 EXPENDITURE

Expenditure for the quarter of $125,331 has been allocated as shown in Table 3.

M S Mitchell
Geologist
Whyalla

H R Robison
Chief Geologist-South

TABLE 1

Venus Bay Airborne Survey, Elliston Project Area

Magnetic Anomalies 26-06-1991

Anom.	East	North	Pri.	Ampl.	Comments
VB01	466310	6336830	3	40	Elongate dipolar anomaly
VB02	469030	6334240	-	60	Diffuse,elongate,dipolar anomaly
VB04	473020	6329630	3	85	isolated small high
VB05	480940	6323970	2	400	intense low
VB06	489090	6331580	2	70	isolated dipolar anomaly
VB07	490850	6327800	-	80	diffuse high/low
VB08	492290	6323680	-	130	discrete high

TABLE 2

Sheoak Airborne Survey, Elliston Project

Magnetic Anomalies 05-06-1991

Anomaly	East	North	Priority	Amp.	Comments
SH03	514270	6264530	1	200nT	Discrete anomaly with associated low.
SH04	512230	6267410	3	70nT	Discrete anomaly with small associated low.
SH05	506700	6268190	2	80nT	Associated with extensive nw-se dyke-like feature. Possible blow.
SH06	509320	6263390	3	60nT	Associated with dyke, possible blow.
SH07	506410	6270820	3	15nT	Close to positve samples. Prominant on upward continuation.
SH08	509030	6273550	3	20nT	Weak negative.
SH09	508600	6274850	3	30nT	Discrete high.
SH10	513730	6257660	3	20nT	Associated with dyke-like feature, offset to the east.
SH11	513870	6260310	1	120nT	Close to MH01, discrete anomaly.
SH13	509990	6274970	3	25nT	Associated with a deeper dyke, but offset.

Table 3 : Expenditure Summary EL 1694A & B : Elliston
Period Ending 28 May 1991

		$
OPERATIONAL STAFF COSTS		5 712
GENERAL OPERATING EXPENSES		2 864
TRANSPORT AND TRAVEL		1 367
CONTRACTORS	: SAMPLE ANALYSIS	59
	: GEOPHYSICAL	81 178
SPECIALIST SERVICES	: DRAFTING	12
	: MINERALOGY	2 609
	: GEOPHYSICS	5 639
ADMINISTRATION	: REGIONAL	10 986
	: HEAD OFFICE	10 365
CAPITAL UTILISATION		4 540
TOTAL EXPENDITURE FOR THE QUARTER		$125 331
TOTAL PREVIOUSLY REPORTED		$ 74 478
TOTAL EXPENDITURE TO DATE		$199 809

APPENDIX 1

Survey Specifications

S-H E O A K H I L L

APPENDIX 1

Airborne Survey Specification

Flight Line Specification:		180-360 deg AMG
Flight Line Spacing	:	200 metres
Tie Line Direction	:	090-270 deg AMG
Tie Line Spacing	:	2000 metres
Mean terrain clearance	:	70 metres
Survey distance	:	6900 kms (approx)
Survey Area	:	1200 sq km (approx)
Time Base		
Magnetics	:	0.1 seconds
Radiometrics	:	1.0 seconds
Sample Interval		
Magnetics	:	7 metres
Radiometrics	:	65 metres
Navigation	:	Radio Positioning
Survey Aircraft	:	Rockwell Commander
Magnetometer	:	Scintrex Csvapour V201
Spectrometer	:	Geometrics GR800B

V E N U S B A Y

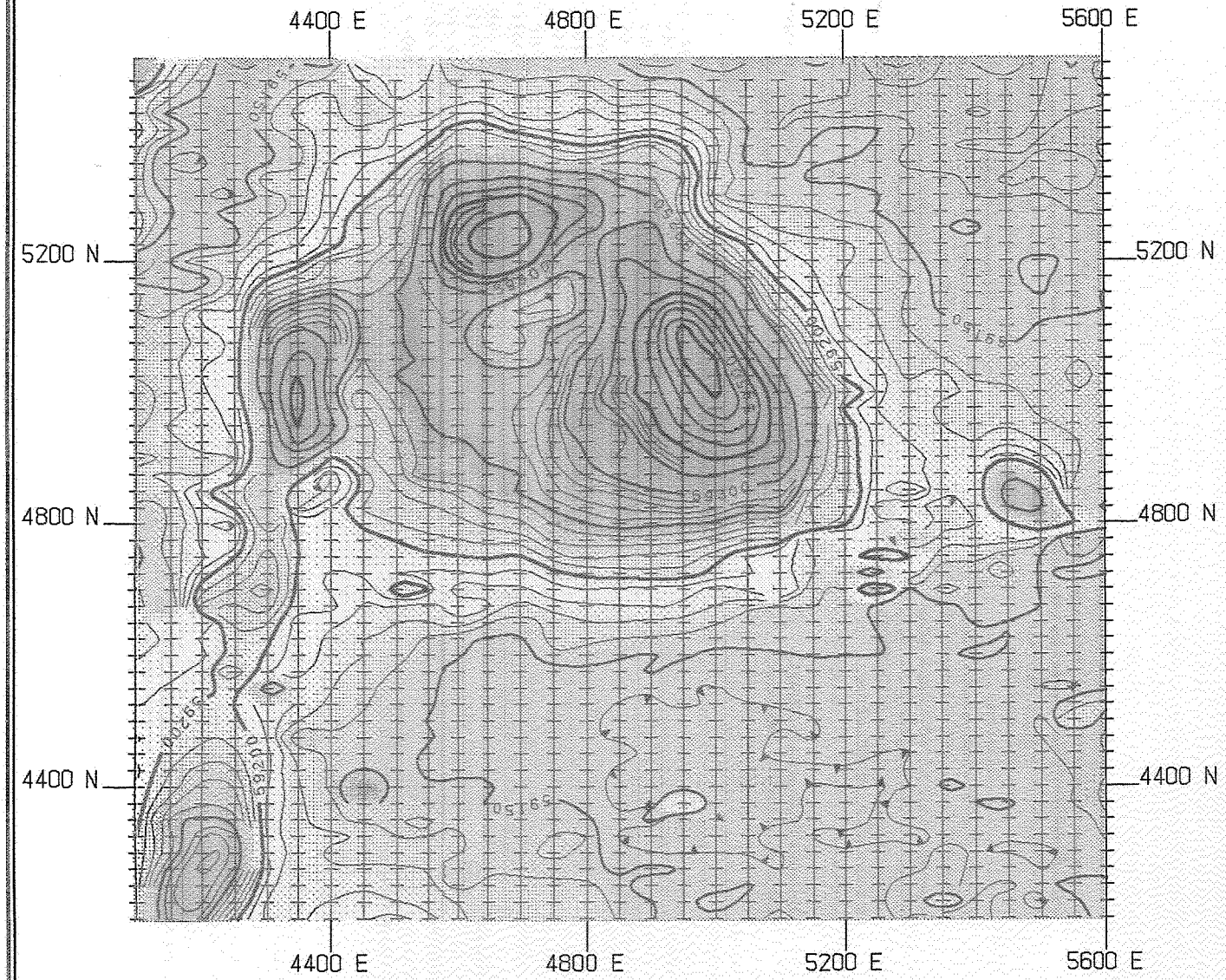
APPENDIX 1

Airborne Survey Specification

Flight Line Specification:		180-360 deg AMG
Flight Line Spacing	:	200 metres
Tie Line Direction	:	090-270 deg AMG
Tie Line Spacing	:	2000 metres
Mean terrain clearance	:	70 metres
Survey distance	:	4100 kms (approx)
Survey Area	:	800 sq km (approx)
Time Base		
Magnetics	:	0.1 seconds
Radiometrics	:	1.0 seconds
Sample Interval		
Magnetics	:	7 metres
Radiometrics	:	65 metres
Navigation	:	Radio Positioning
Survey Aircraft	:	Rockwell Commander
Magnetometer	:	Scintrex Csvapour V201
Spectrometer	:	Geometrics GR800B

APPENDIX 2

Ground Magnetic Contours



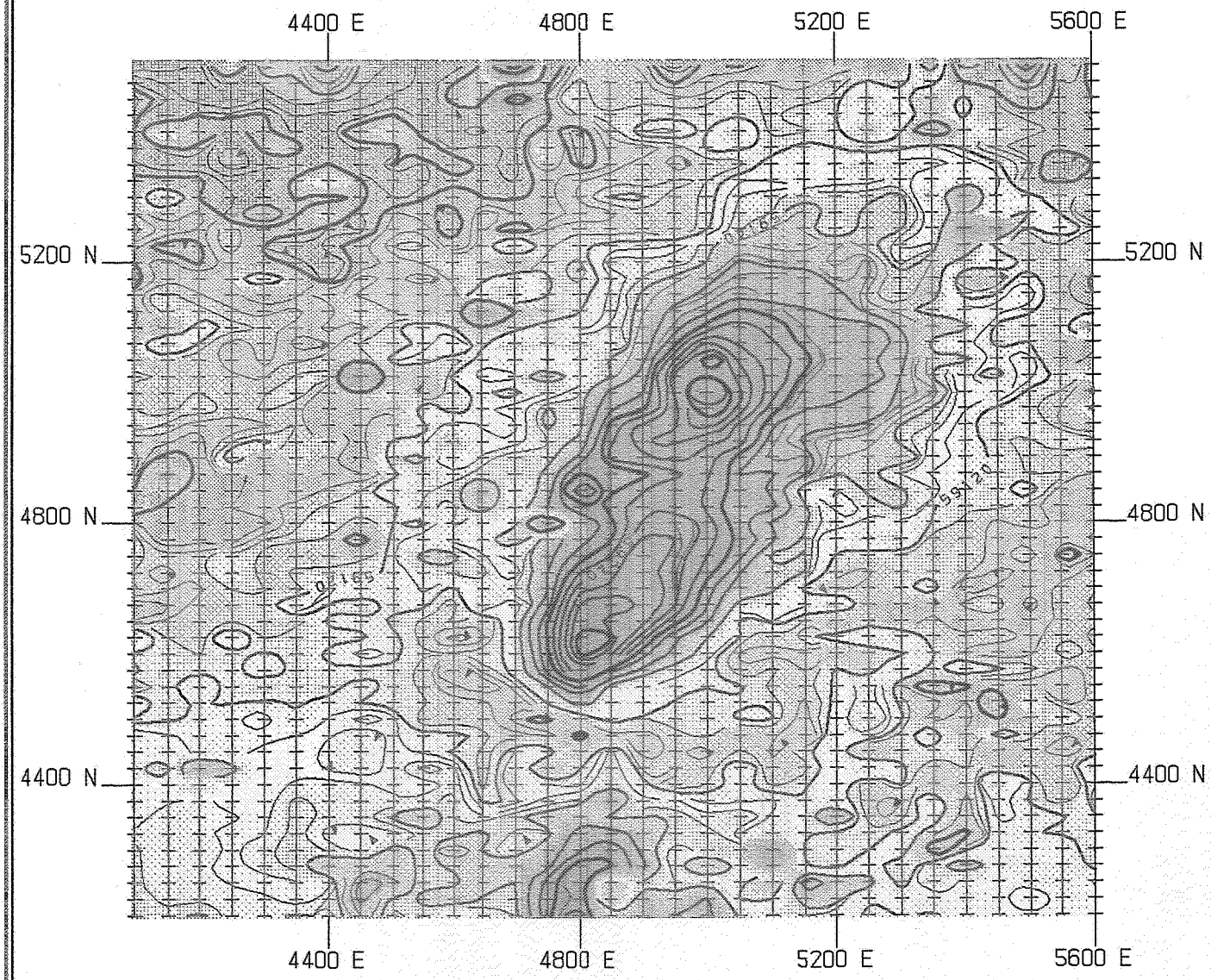
Scale 1:10000

100 0 100 200 300 400 500

(metres)

STOCKDALE PROSPECTING LTD	
SHEOAK SH3 Ground Magnetic Survey	
Magnetic North cont 10nT 26.6 - 2.7.91	
Kimba SI 53-7	SEL:

000032



Scale 1:10000

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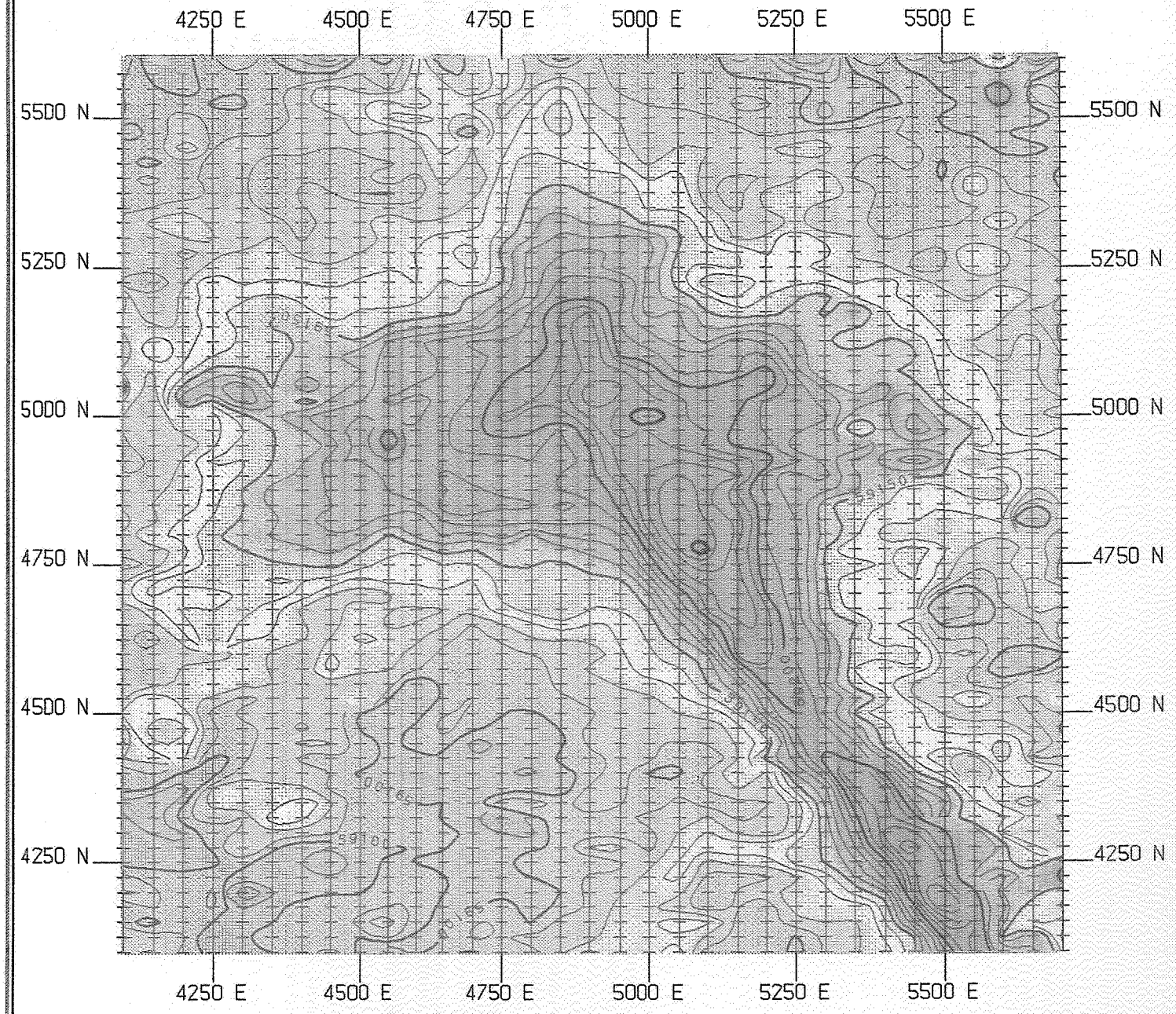
(metres)

STOCKDALE PROSPECTING LTD
SHEOAK SH4 Ground Magnetic Survey
Magnetic North cont 5 nT 21 - 22.6.91
Kimba SI 53 - 7 SEL:

000033



Scale 1:10000

100 0 100 200 300 400 500

(metres)

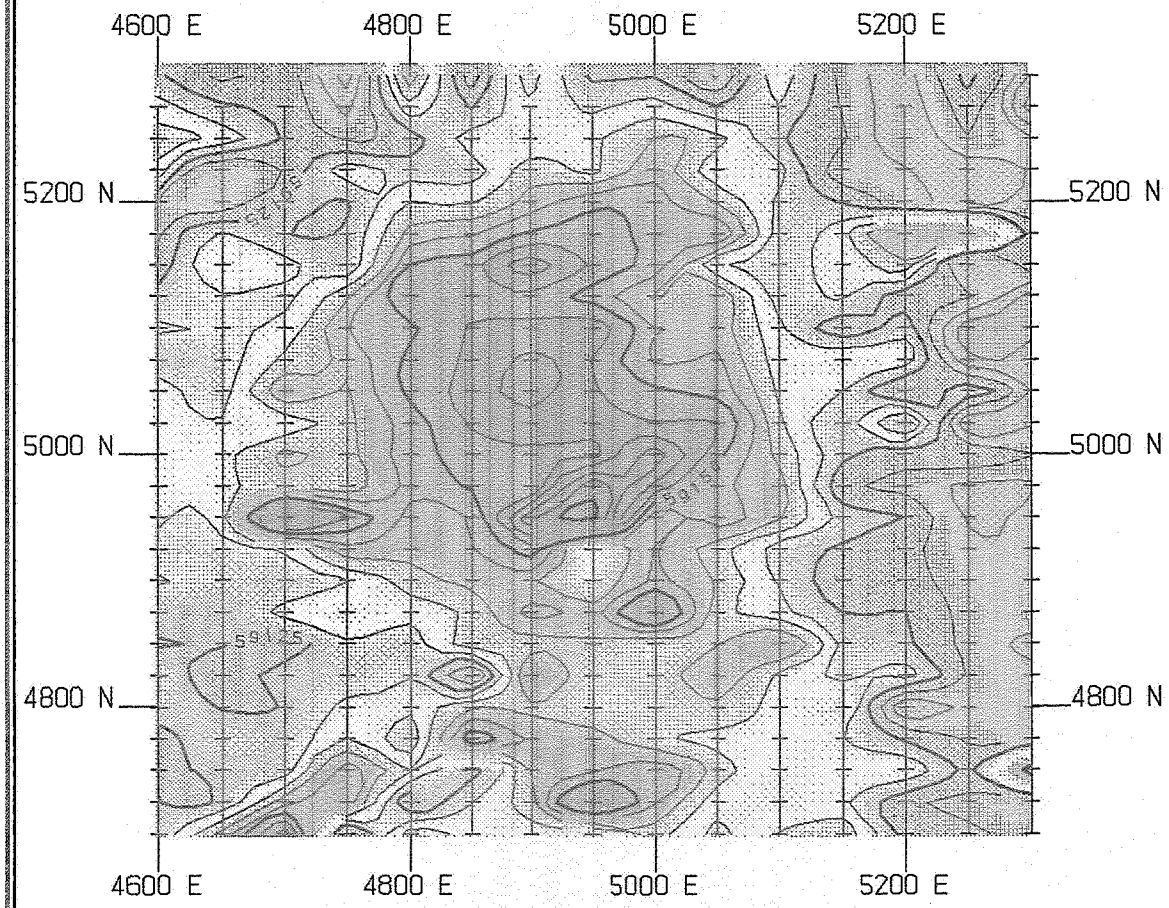
STOCKDALE PROSPECTING L

SHEOAK SH5
Groundmagnetic Survey

Magnetic North
Contour 10
5-7/6/91

KIMBA S153-7 SEL:

C000034



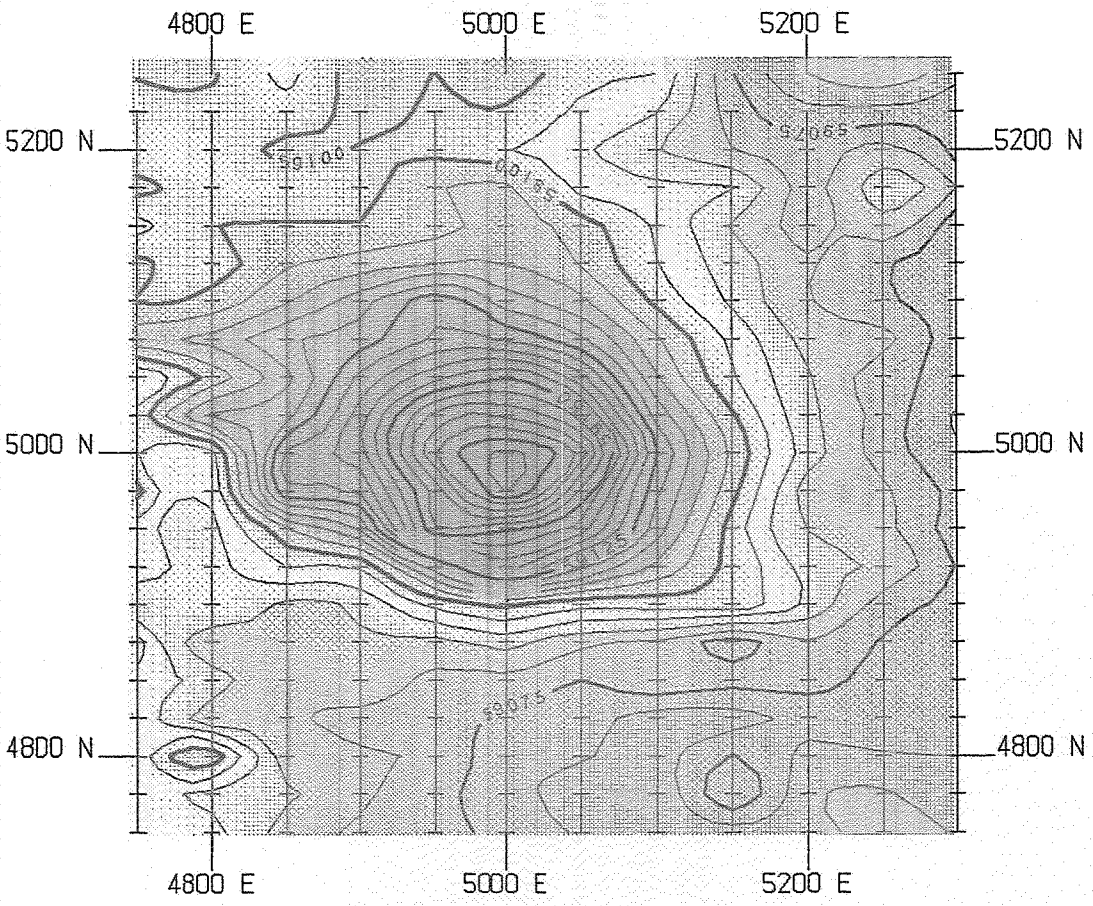
Scale 1:6000

100 0 100 200 300 400

(metres)

STOCKDALE PROSPECTING LTD
SHEOAK SH07 Ground Magnetic Survey
Magnetic North Contour 5nT 4.6.91
Kimba S153 - 7 SEL:

000035

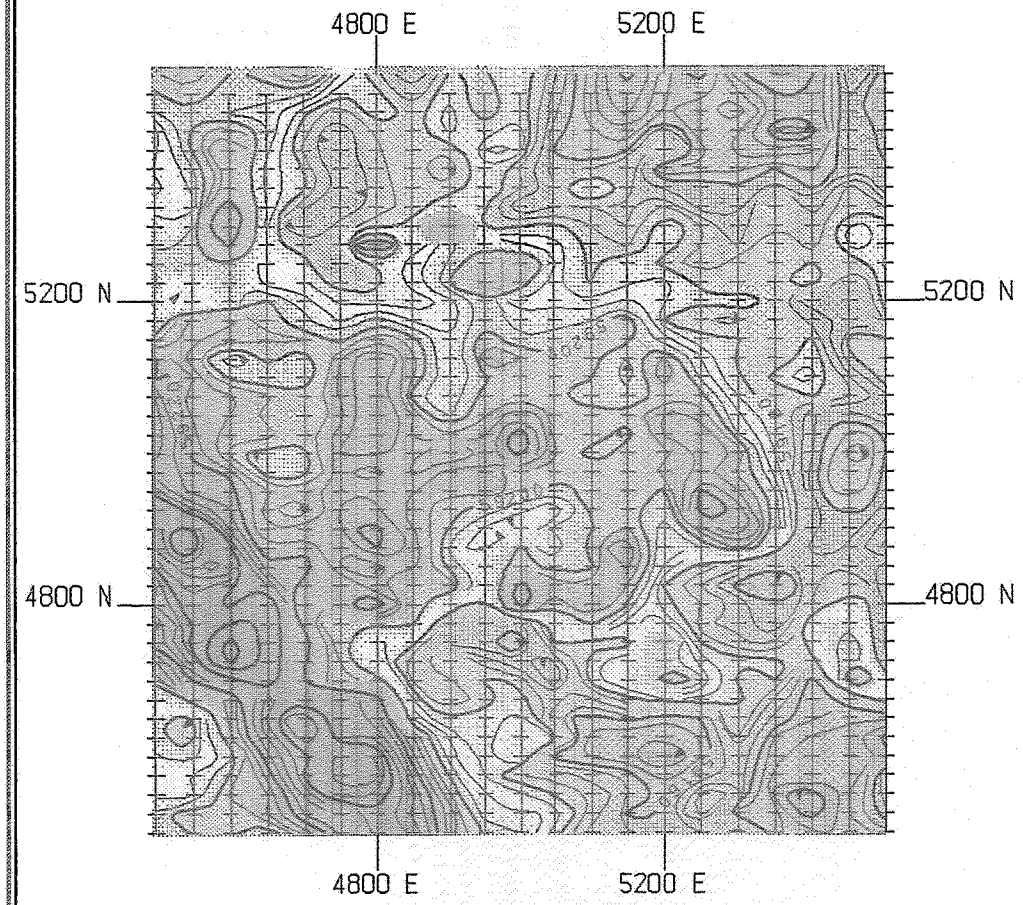


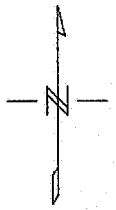
Scale 1:5000

50 0 50 100 150 200 250

(metres)

STOCKDALE PROSPECTING LTD
SHEOAK SH9 Groundmagnetic Survey
Magnetic North Cont 5nT 3 - 4.7.91
KIMBA S153-7 SEL:



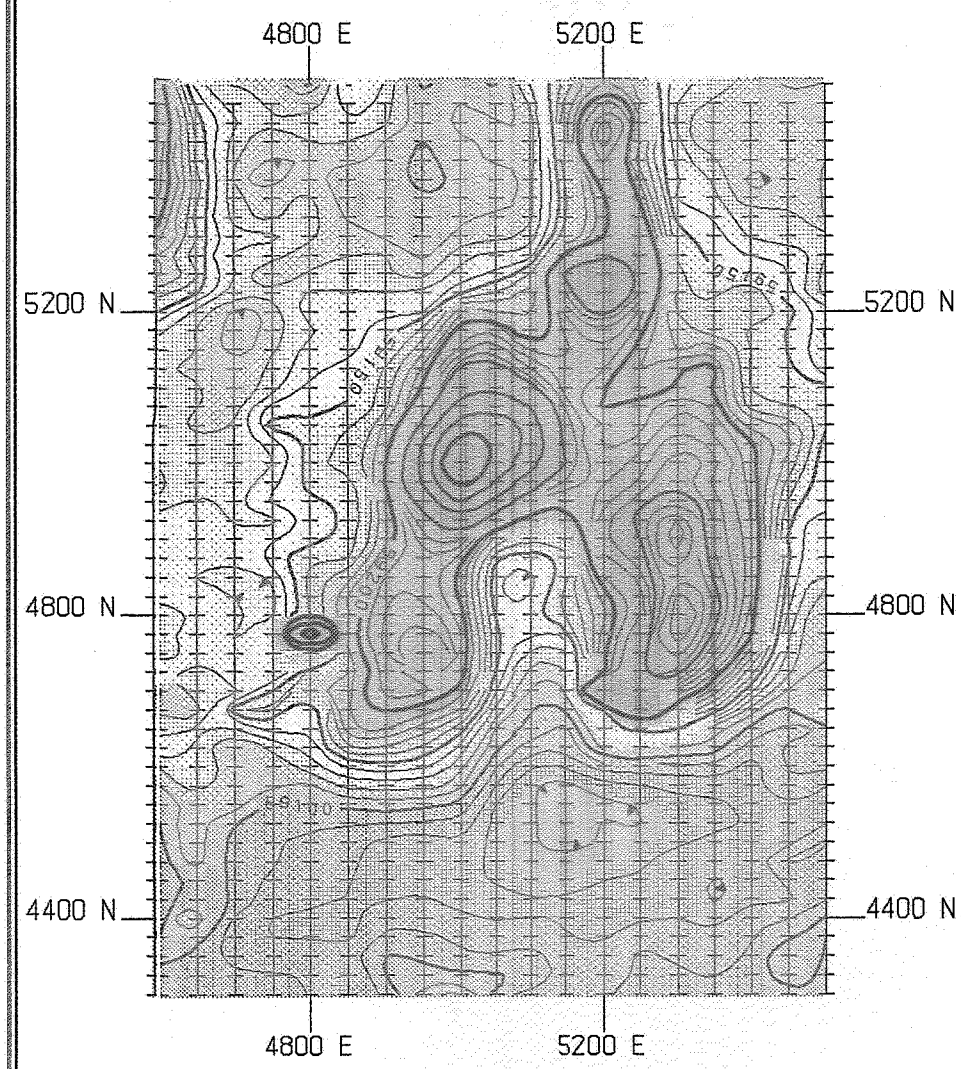


Scale 1:10000

100 0 100 200 300 400 500

(metres)

STOCKDALE PROSPECTING LTD
SHEOAK SH10 Ground Magnetic Survey
Magnetic North cont 5nT 24.6.91
Kimba SI 53 - 7 SEL:

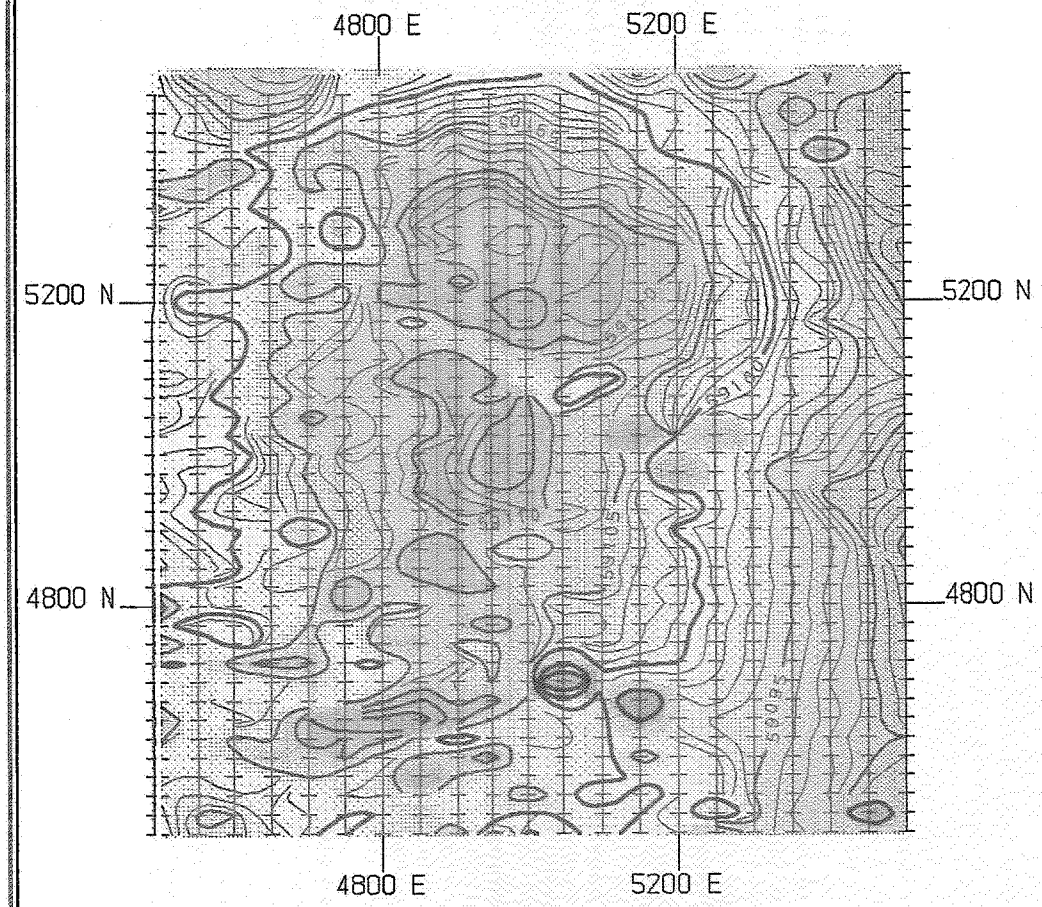


Scale 1:10000

100 0 100 200 300 400 500

(metres)

STOCKDALE PROSPECTING LTD
SHEOAK SH11 Ground Magnetic Survey
Magnetic North cont 10 nT 21 - 22.6.91
Kimba S153 - 7 SEL:

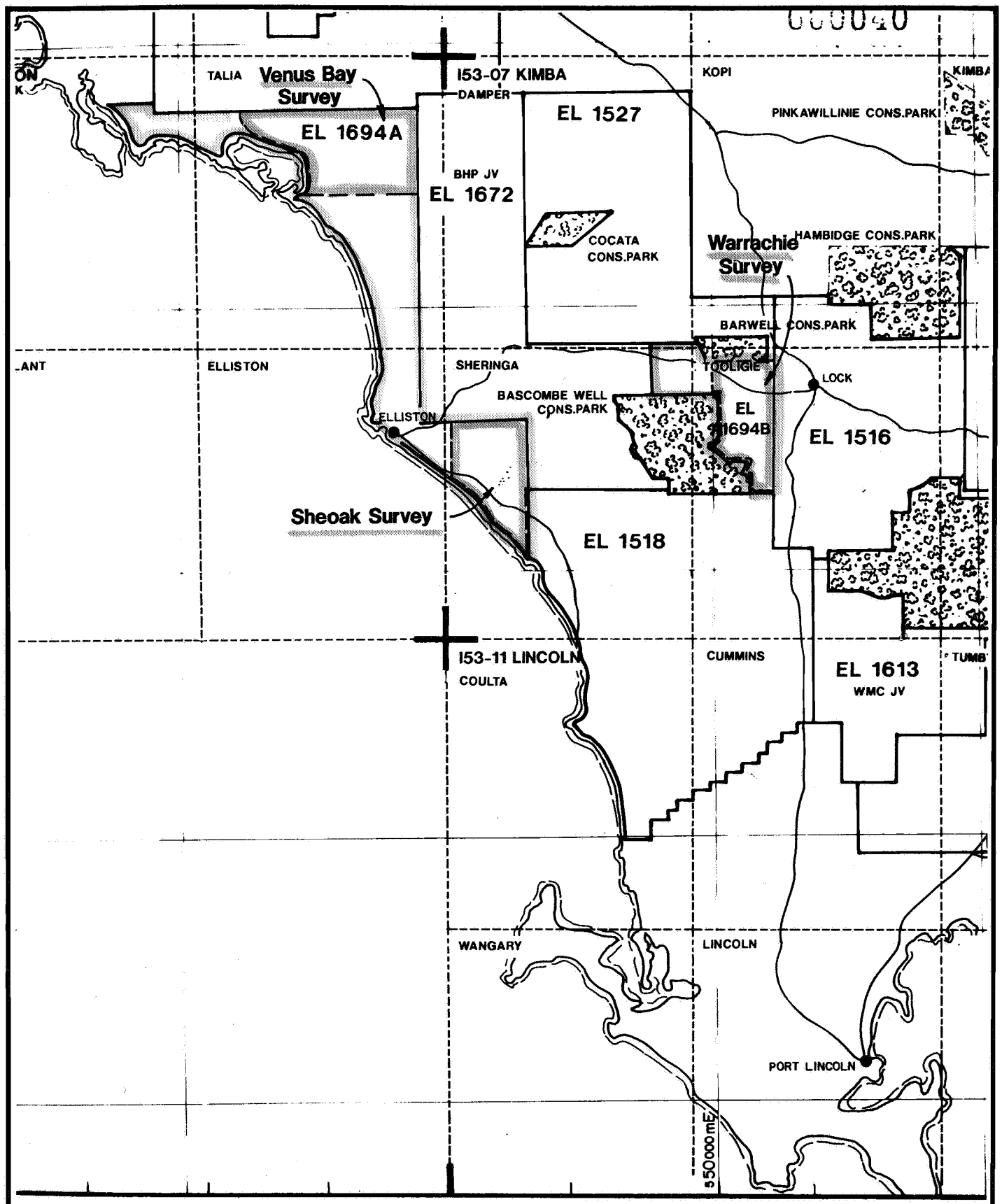


Scale 1:10000

100 0 100 200 300 400 500

(metres)

STOCKDALE PROSPECTING LTD
SHEOAK HILL MH201 Ground Magnetic Intensity
Contour Interval = 1 21.02.91 MSM
153-07 SEL:



MAP 1

STOCKDALE PROSPECTING LIMITED

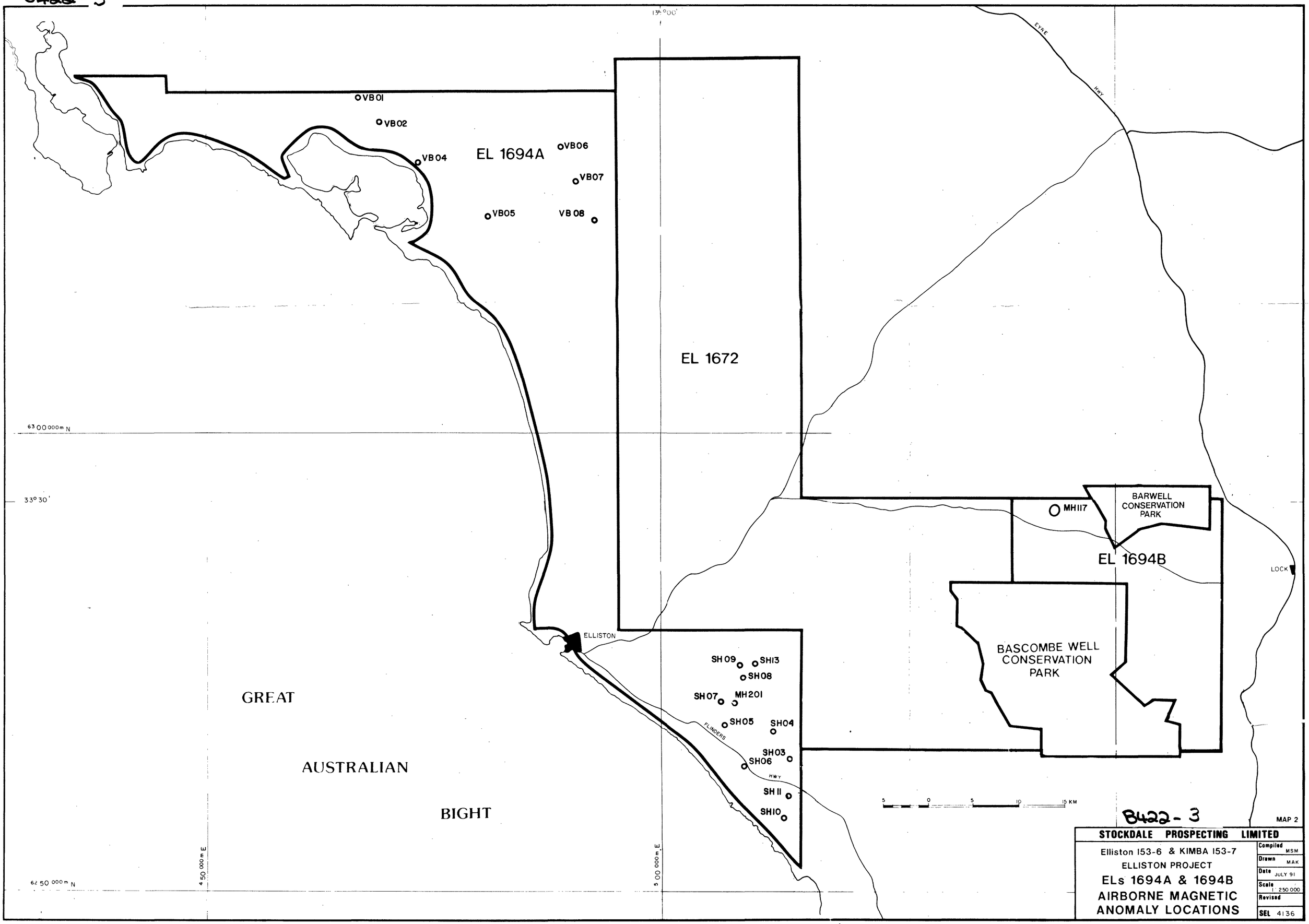
PART ELLISTON 153-6, KIMBA 153- 7, & LINCOLN 153-11

LOCATION MAP

EL 1694 A & B

Compiled	Drawn	Date	Scale	
DO	BAN	4/91	1: 1,000 000	SEL 4080

8422-3



B422-3

MAP 2

STOCKDALE PROSPECTING LIMITED

Elliston 153-6 & KIMBA 153-7

ELLISTON PROJECT

ELs 1694A & 1694B

AIRBORNE MAGNETIC ANOMALY LOCATIONS

Compiled	MSM
Drawn	MAK
Date	JULY 91
Scale	1: 250 000
Revised	
SEL	4136

8422-4

EYRE PENINSULA

EL 1694(A)

SH 13 * SH 9 * SH 08 * MH 201 * SH 07 * SH 05 * SH 04 * SH 03 * SH 06 * SH 11 * SH 10

X5475 X5476 X5477 X5474 X5473 X5472 X5457 X5458 X5459 X5461 X5462 X5460

FLINDERS HIGHWAY

Kappawanta

Lake Tungetta

Middle Lake

South Lake

Sheringa Lagoon

GREAT AUSTRALIAN BIGHT

33°40' 62 70 33° 45' 62 60 33°50'

500 000 mE 5 000 000 mE

N

o LOAM SAMPLE

* MAGNETIC ANOMALY

0 1 2 3 4 KM

MAP 3

STOCKDALE PROSPECTING LIMITED	
KIMBA 153-07 ELLISTON PROJECT	Compiled MSM
1991 SKELETAL LOAM SAMPLE LOCATIONS EL 1694A (SHEOAK HILL)	Drawn MAK
	Date 7/91
	Scale 1:50 000
	Revised
	SEL 4135

8422-4

STOCKDALE PROSPECTING LIMITED

EXPLORATION LICENCE NO 1694A & B : ELLISTON

THIRD QUARTERLY REPORT FOR THE PERIOD

ENDING 9 OCTOBER 1991

STOCKDALE
PROSPECTING
LIMITED
Incorporated in the State of Victoria

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Telephone (03) 241 7522
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Project Name: ELLISTON

Title: EXPLORATION LICENCE NO 1694A & B : ELLISTON THIRD QUARTERLY REPORT FOR THE PERIOD ENDING 9 OCTOBER 1991

Edited: F M GAUNT

Author/s: M S MITCHELL

Approved: H R ROBISON

Date: OCTOBER 1991

Place: WHYALLA

1 : 250,000 Sheet Name/s & No/s.: KIMBA SI53-7
ELLISTON SI53-5

Text Pages No.: 4 Plan Nos.: 3 Table Nos.: 4 Appendices: 2 Plates: -

Keywords: AIRBORNE MAGNETICS, HEAVY MINERAL SAMPLE, GROUND MAGNETIC SURVEY

Abstract:

Exploration Licence No 1694A covers the Venus Bay - Elliston area on the northwestern Eyre Peninsula and Exploration Licence No 1694b covers an area west of Murdinga - Lock road. This title was granted to Stockdale Prospecting Limited on the 9 January 1991 for the purpose of diamond exploration.

Three airborne geophysical surveys were flown around the Venus Bay, Sheoak and Warrachie areas. Interpretation was completed on the Venus Bay and Sheoak areas, 17 anomalies were selected for ground follow up. Eight anomalies were ground surveyed during this quarter (15 completed to date). Detailed skeletal loam sampling on the Sheoak Hill area was completed in order to delineate a more local source(s) for the surficial spread of kimberlitic indicators. Initial results are encouraging with high numbers of indicators being recovered.

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Ref: MSM64

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CONTENTS

TABLES

MAPS

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STOCKDALE PROSPECTING LIMITED

EXPLORATION LICENCE NO 1694A & B : ELLISTON

THIRD QUARTERLY REPORT TO 9 OCTOBER 1991

1 INTRODUCTION

Exploration Licence No 1694 is located on the north western section of the Eyre Peninsula in South Australia about 200 kilometres north-northwest of Port Lincoln (Map 1). The licence comprises of two seperate areas covering 1487 square kilometres on the Kimba and Elliston 1:250,000 mapsheets (SI53-07, 53-06 respectively).

This report covers diamond exploration carried out by Stockdale Prospecting Limited for the quarter ending 9 October 1991. Fieldwork completed during this quarter comprises the ground magnetic follow-up of airborne geophysical generated anomalies from the March 1991 airborne survey. A detailed skeletal loam sampling programme was also conducted around the Sheoak Hill area.

Results became available for most of the loam sampling programme around Sheoak Hill. Results are encouraging with a high number of kimberlitic indicators recovered.

2 LEGAL

Exploration Licence No 1694A & B was granted to Stockdale Prospecting Ltd on the 9 January 1991 for a term of one year for diamond exploration.

3 GEOPHYSICAL SURVEYS

In March 1991 Aerodata undertook a magnetometer/ spectrometer survey within the Elliston project area on the Eyre Peninsula, South Australia. Three surveys were flown by Aerodata for Stockdale. These were the Venus Bay, Sheoak and Warrachie surveys (Map 1).

The primary objective of the surveys was to identify individual magnetic anomalies which could be attributable to kimberlitic intrusives.

The airborne survey specifications for the Venus Bay and Sheoak Hill areas are listed in Appendix 1.

The 200m flight line spacings and north-south orientation, are common to all three surveys. The mean terrain clearance was set at 70m. Magnetic and four channel radiometric data were acquired.

Seven anomalies were selected from the Venus Bay Survey, four of these are considered to be worthy of follow-up (Table 1 & Map 2).

Ten anomalies within EL1694A were selected for follow up from the Sheoak survey data. A 5km x 5km block of airborne magnetic data centred on the highly anomalous surface indicator counts around the start of the Old Coach Road, was reexamined for potential magnetic sources of the indicators. Two anomalies SH26 and SH27 were selected due to their dipolar nature. A total of 13 magnetic anomalies have been selected in the Sheoak Hill region (Table 2a and Map 2).

The Warrachie survey has not been interpreted to date.

4 REMOTE SENSING

TM and radiometric imagery for the western Eyre Peninsula was purchased and enhanced. The imagery was presented on 1:100,000 scale colour photographs for viewing and interpretation. The TM imagery consists of colour composite and clay iron images and the radiometrics data set uses K/Th/Ur counts.

No formal interpretation has been conducted to date, however, in the initial viewing of the TM imagery, the extent of the calcrete and dune cover is visible. Photofeatures displaying structural control could not readily be identified.

The radiometric data image was useful in gaining an understanding of the depth to basement, especially where the basement was at or near surface.

5 FIELD WORK

5.1 Ground Magnetic Follow-up

A total of four airborne magnetic anomalies (SH08, 13, 26 & 27) were subject to ground magnetic surveys in the Sheoak Hill survey area.

A total of four airborne magnetic anomalies (VB01, 04, 05 & 06) were subject to ground magnetic surveys.

Grids were surveyed by tape and compass over each anomaly, and magnetic readings were taken at 25m intervals from north-south lines spaced 50m apart using Geometrics G856 memory magnetometers. An

additional G856 magnetometer was used as a base station to record diurnal drift. The field and base station records were downloaded onto a Zennith lap-top computer, drift corrected and processed to produce magnetic contour plots as presented in Appendix 2. The ground magnetic survey data has been forwarded to our Melbourne office for interpretation and drilling recommendations.

5.2 Skeletal Loam Sampling

A detailed loam sampling programme was initiated in the Sheoak Hill area across Exploration Licences 1694A and 1672. The purpose of the programme was to delineate a local source for the kimberlitic indicator mineral spread previously detected. This was done by increasing the sample density using the existing network of tracks.

A total of 151 samples were taken in EL1694A during this quarter, along tracks at half kilometre intervals (Map 3). At each sample site 10 litres of -1.0 + 0.3 mm deflation sediment was collected.

6 RESULTS

A total of 288 loam samples were taken in the second wave of loam sampling at Sheoak Hill. Results are still outstanding for 81 of these samples. Of the 207 results received, 133 samples recovered kimberlitic indicators (Table 3). No interpretation of the spread of indicators in the Sheoak Hill area will be carried out until all the results are available.

7 FORWARD WORK PROGRAMME

The forward work programme involves the drilling of the Sheoak Hill and Venus Bay ground magnetic anomalies, a detailed loam sampling programme around Venus Bay, and the ground follow-up of the outstanding airborne magnetic targets and those generated from the Warrachie Survey.

A drilling programme is scheduled for mid to late October and is aimed to drill magnetic anomalies SH03, 04, 05, 07, 08, 09, 11, 13, 26, 27, MH201, VB04 and VB05. Wallis Drilling Pty Ltd, Midvale W.A., has been contracted to perform the drilling using a modified RC rig known as aircore.

A second wave loam sampling programme is to be initiated in the Venus Bay areas as follow-up to the previously recorded (Quarterly report ending 9 April 1991) spread of kimberlitic indicators. Both the Sheoak Hill and Venus Bay loaming results will be evaluated for further work entailing loam grids and the possible drilling of indicator haloes.

8 STAFF

Staff employed in the field were :

Geologists	4
Field Assistants	7

The project has been supported by the facilities of the regional office in Whyalla and the head office in Melbourne.

9 EXPENDITURE

Expenditure for the quarter of $117,720 has been allocated as shown in Table 4.

M S Mitchell
Senior Geologist
Whyalla

H R Robison
Chief Geologist-South

Table 1

Venus Bay Airborne Survey, Elliston Project Area

Magnetic Anomalies 26-06-1991

Anom.	East	North	Pri.	Ampl.	Comments
VB01	466310	6336830	3	40	Elongate dipolar anomaly
VB02	469030	6334240	-	60	Diffuse,elongate,dipolar anomaly
VB04	473020	6329630	3	85	isolated small high
VB05	480940	6323970	2	400	intense low
VB06	489090	6331580	2	70	isolated dipolar anomaly
VB07	490850	6327800	-	80	diffuse high/low
VB08	492290	6323680	-	130	discrete high

TABLE 2

Sheoak Airborne Survey, Elliston Project

Magnetic Anomalies 05-06-1991

Anomaly	East	North	Priority	Amp.	Comments
SH03	514270	6264530	1	200nT	Discrete anomalt with associated low.
SH04	512230	6267410	3	70nT	Discrete anomaly with small associated low.
SH05	506700	6268190	2	80nT	Associated with extensive nw-se dyke-like feature. Possible blow.
SH06	509320	6263390	3	60nT	Associated with dyke, possible blow.
SH07	506410	6270820	3	15nT	Close to positve samples. Prominant on upward continuation.
SH08	509030	6273550	3	20nT	Weak negative.
SH09	508600	6274850	3	30nT	Discrete high.
SH10	513730	6257660	3	20nT	Associated with dyke-like feature, offset to the east.
SH11	513870	6260310	1	120nT	Close to MH01, discrete anomaly.
SH13	509990	6274970	3	25nT	Associated with a deeper dyke, but offset.
SH26	505430	6272330	3	25nT	Small dipole.
SH27	507630	6271960	3	15nT	Weakly dipolar.

Table 2b Ground Magnetic Anomaly

MH201	507728	6270850	NP	15nT	Vague discrete high.

Table 3 : Kimberlitic Indicator Results - Loam Samples

SAMPLE	PYROPE GARNET	ILMENITE	CHROME SPINEL	CHROME DIOPSIDE
X6776	2			
X6780	1			
X6786		2		
X6790		2		
X6791	2	2		
X6792	9	17		
X6793	9	19		
X6794		4		
X6795	9	3		
X6796	5	11		
X6797	3	16	2	
X6926	1			
X6960	1			
X6963	1			
X6974	4	38		
X6975	3	4		
X6802	1	2		
X6804		6		
X6805		2		
X6807	3	1		
X6809	2		1	
X6810		1		
X6811		3		
X6812		2		
X6813		2		
X6814	1	4		
X6816	1	6		
X6819	1	3		
X6820	1	2		
X6821		3		
X6822		1		
X6823	1			
X6824	2	1		
X6825	1			
X6826	3			
X6827	2			
X6828	1			1
X6832	1			
X6838	1	2		
X6841		1		
X6976		16	1	1
X6977	5	47	1	
X6978	4	23	1	
X6979	1	8	1	
X6980	1	5		
X6981	1	2		
X6982	2	12		
X6983	2	6		
X6984		8		
X6985	3	13		
X6986		2		
X6988		1		
X6989		9		
X6990	1			
X6991		7		
X6992		3		
X6993	1	15		
X6994		2		

SAMPLE	PYROPE GARNET	ILMENITE	CHROME SPINEL	CHROME DIOPSIDE
X6995		1		
X6996	1			
X6997		2		
X6998		1		
X6999	1	1		
X7000	2	2		
X6896		1	1	
X7325	9	49		
X7326	8	59		
X6842	6	8		
X6843	1	25		
X6844	3			
X6846	2	1		
X6849	1	1		
X6854		16		
X6855		1		
X6857	1			
X6862	1	1		
X6863	2	3		
X6864	1	15		
X6865	6	50		
X6866	3	23		
X7342		3		
X7349	8	47		1
X7350	3	19		
X7351	3	7		
X7352	2	1		
X7353		1		
X7354	1			
X7355	1	1		
X7356		2		
X7362		1		
X7363		1		
X7321		1		
X7324		1		
X7327	14	50		
X7328	13	50		
X7329	7	11		
X7330	4	6		
X7331	3	3		
X7332	4	27		
X7333	6	34		
X7334	4	42		
X7335	1	6		
X7337		3		
X7338	2			
X7339	1	2		
X7340	1			
X6898	1	5		
X6899	1	3	1	
X6900	4	15		
X7301	4	13		
X7302		1		
X7305		1		
X7306				
X7307	1			
X7309	1			
X7310	1			
X7311		2		
X7314		1		

SAMPLE	PYROPE GARNET	ILMENITE	CHROME SPINEL	CHROME DIOPSIDE
X7315		1	1	
X6867	2	13		
X6868	3	26		
X6869	14	50		
X6870	9	47		
X6871	1	2		
X6872	3	25		
X6873	1	6		
X6874	1	10		
X6875	2	14		
X6876		5		
X6877	3	3		
X6878	2	5		
X6879		4		
X6885		1	1	

TABLE 4 : Expenditure Summary EL 1694A & B : Elliston
Period Ending 31 August 1991

	$
OPERATIONAL STAFF COSTS	50 604
GENERAL OPERATING EXPENSES	3 481
TRANSPORT AND TRAVEL	5 501
SPECIALIST SERVICES : COMPUTER	4 126
: GEOPHYSICS	9 951
: DRAFTING	1 079
: REMOTE SENSING	155
CENTRAL TREATMENT PLANT	9 313
LABORATORY : TREATMENT	2 628
: EXAMINATION	9 975
ADMINISTRATION : REGIONAL	8 198
: HEAD OFFICE	9 321
CAPITAL UTILISATION	3 388
TOTAL THIS PERIOD	$ 117 720
TOTAL PREVIOUSLY REPORTED	$ 199 809
TOTAL EXPENDITURE TO DATE	$ 317 529

APPENDIX 1

Survey Specifications

S H E O A K H I L L

APPENDIX 1

Airborne Survey Specification

Flight Line Specification:		180-360 deg AMG
Flight Line Spacing	:	200 metres
Tie Line Direction	:	090-270 deg AMG
Tie Line Spacing	:	2000 metres
Mean terrain clearance	:	70 metres
Survey distance	:	6900 kms (approx)
Survey Area	:	1200 sq km (approx)
Time Base		
Magnetics	:	0.1 seconds
Radiometrics	:	1.0 seconds
Sample Interval		
Magnetics	:	7 metres
Radiometrics	:	65 metres
Navigation	:	Radio Positioning
Survey Aircraft	:	Rockwell Commander
Magnetometer	:	Scintrex Csvapour V201
Spectrometer	:	Geometrics GR800B

APPENDIX 2

Ground Magnetic Contours

MAGNETIC ANOMALY DETAILS

PROJECT ELLISTON CODE 8374

E.L. 1694

ANOMALY No SH-08

1. LOCATION DETAILS

1.1 MAP SHEETS

1:250,000 ICIMBA

1:100,000 SHERLNGA

1:50,000 HUDD

1.2 AIR PHOTO(S)

SVY No 3380

PHOTO No 062 SCALE 1:40000

COLOR/B.W. COLOUR

1.3 GPS CENTRE POINT (5000E,500N)

RECEIVER MAGELLAN

DATE 22/7/91 TIME

LAT LONG

NORTH 6273568mN EAST 508994 mE

ALT DATUM

PDOP 2.3

SATELLITES USED 14, 15, 18

1.4 PERMANENT PEG

RECEIVER

DATE TIME

LAT LONG

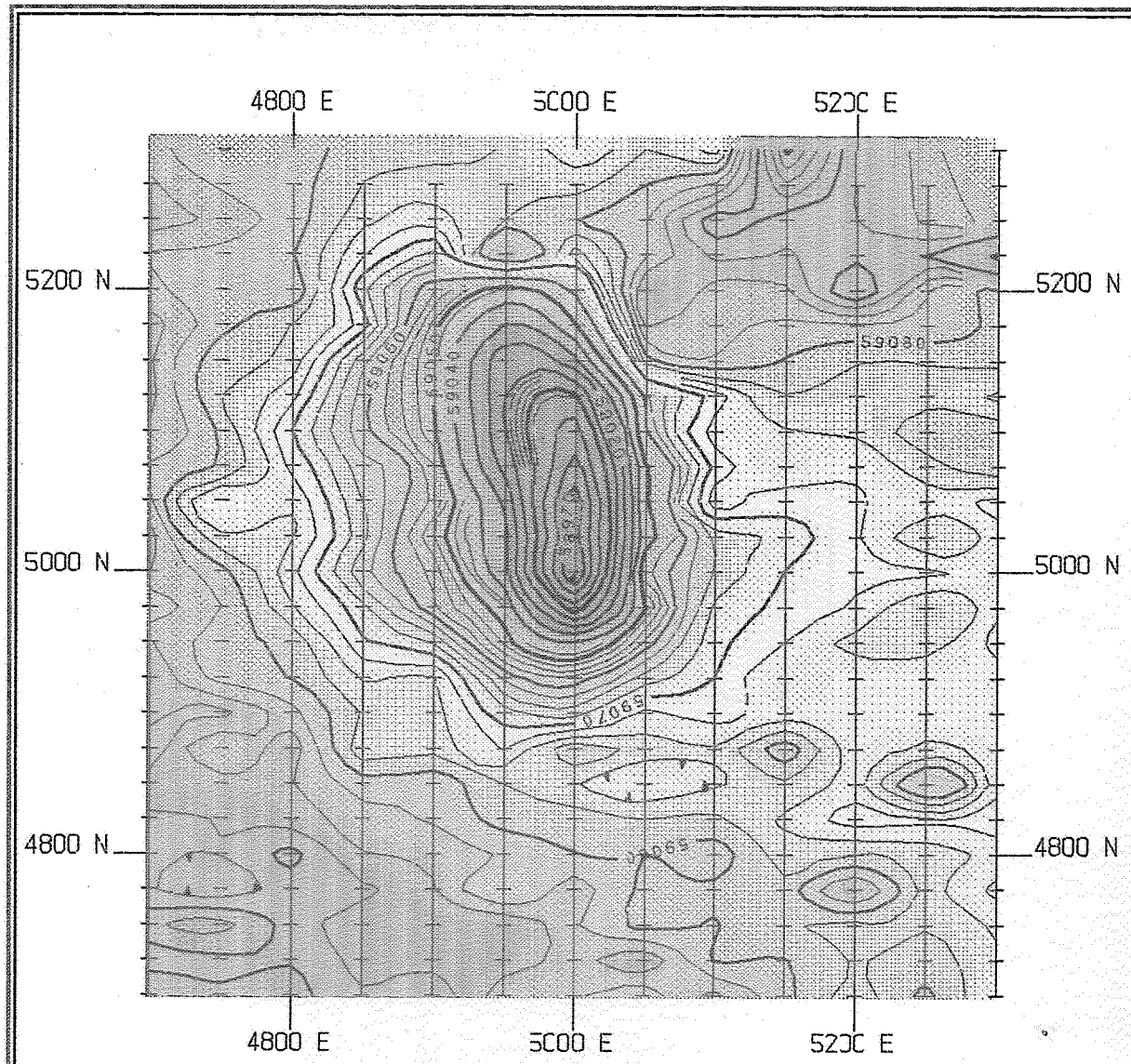
NORTH EAST

ALT DATUM

PDOP

SATELLITES USED

GRID CO-ORDS



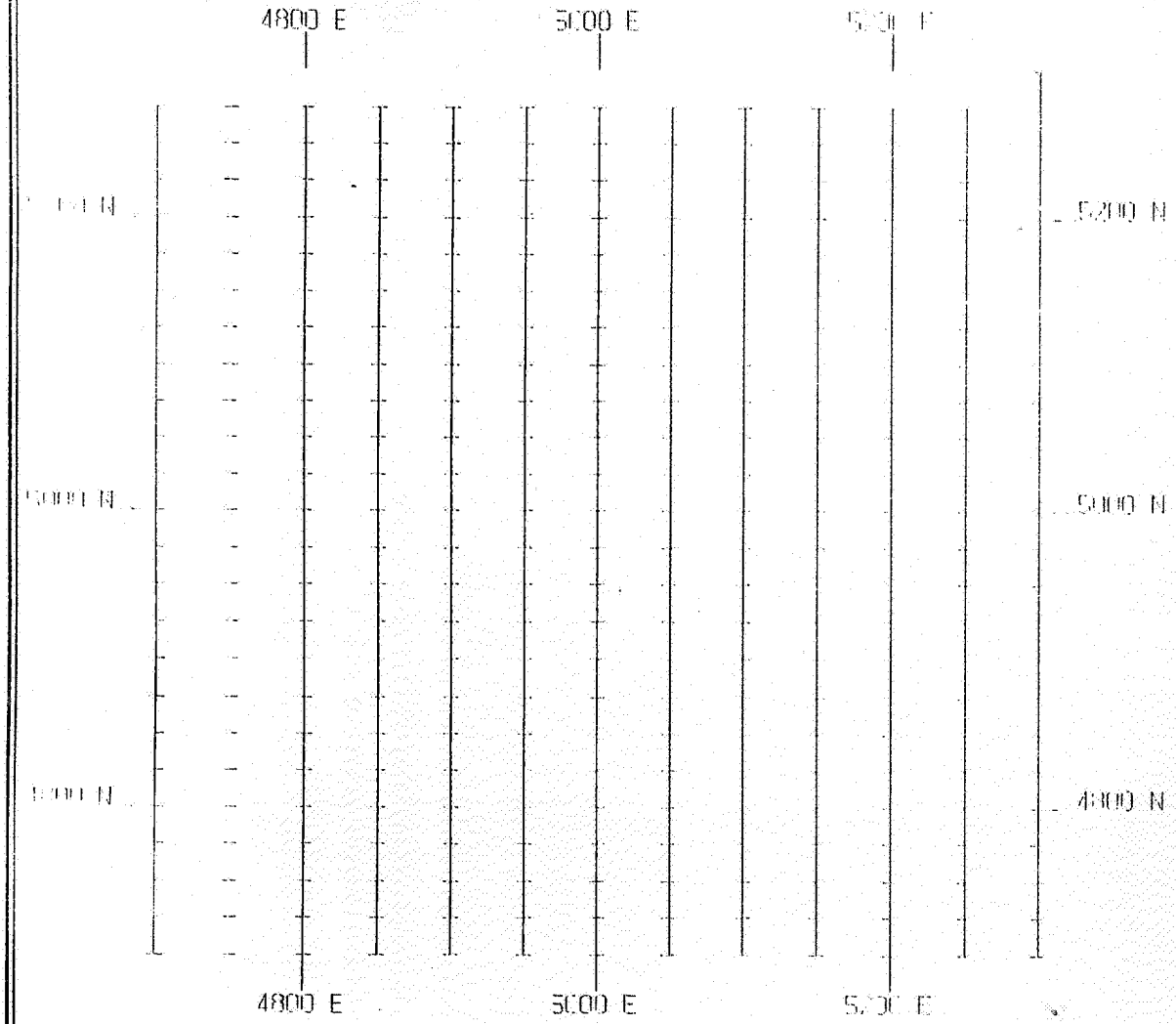
Scale 1:5000

50 0 50 100 150 200 250

(metres)

STOCKDALE PROSPECTING LTD
SHEOAK SH08 Ground Magnetic Intensity
Magnetic North cont 2.5nt 8.8.91
KIMBA S153 - 7 SEL:

000058



Scale 1:5000

50 0 50 100 150 200 250

(metres)

Grid in scrub

STOCKDALE PROSPECTING LTD

SHEOAK SHOB
Ground Magnetic Intensity

Magnetic North
Cultural Map
8.8.91

KIMBA S153 - 7 SEL:

000059

000060

MAGNETIC ANOMALY DETAILS

PROJECT ELLISTON CODE 6374

E.L. 1694A

ANOMALY No SH 13

1. LOCATION DETAILS

1.1 MAP SHEETS

1:250,000 KIMBA

1:100,000 SHERLNGA

1:50,000 HOOP

1.2 AIR PHOTO(S)

SVY No 3380

PHOTO No 062 SCALE 1:400000

COLOR/B.W. COLOUR

1.3 GPS CENTRE POINT (5000E,500N)

RECEIVER MAGELLAN

DATE 22/7/91 TIME

LAT LONG

NORTH 6275038mE EAST 509 580mE

ALT DATUM

PDOP 2.4

SATELLITES USED 14, 15, 18

1.4 PERMANENT PEG

RECEIVER

DATE TIME

LAT LONG

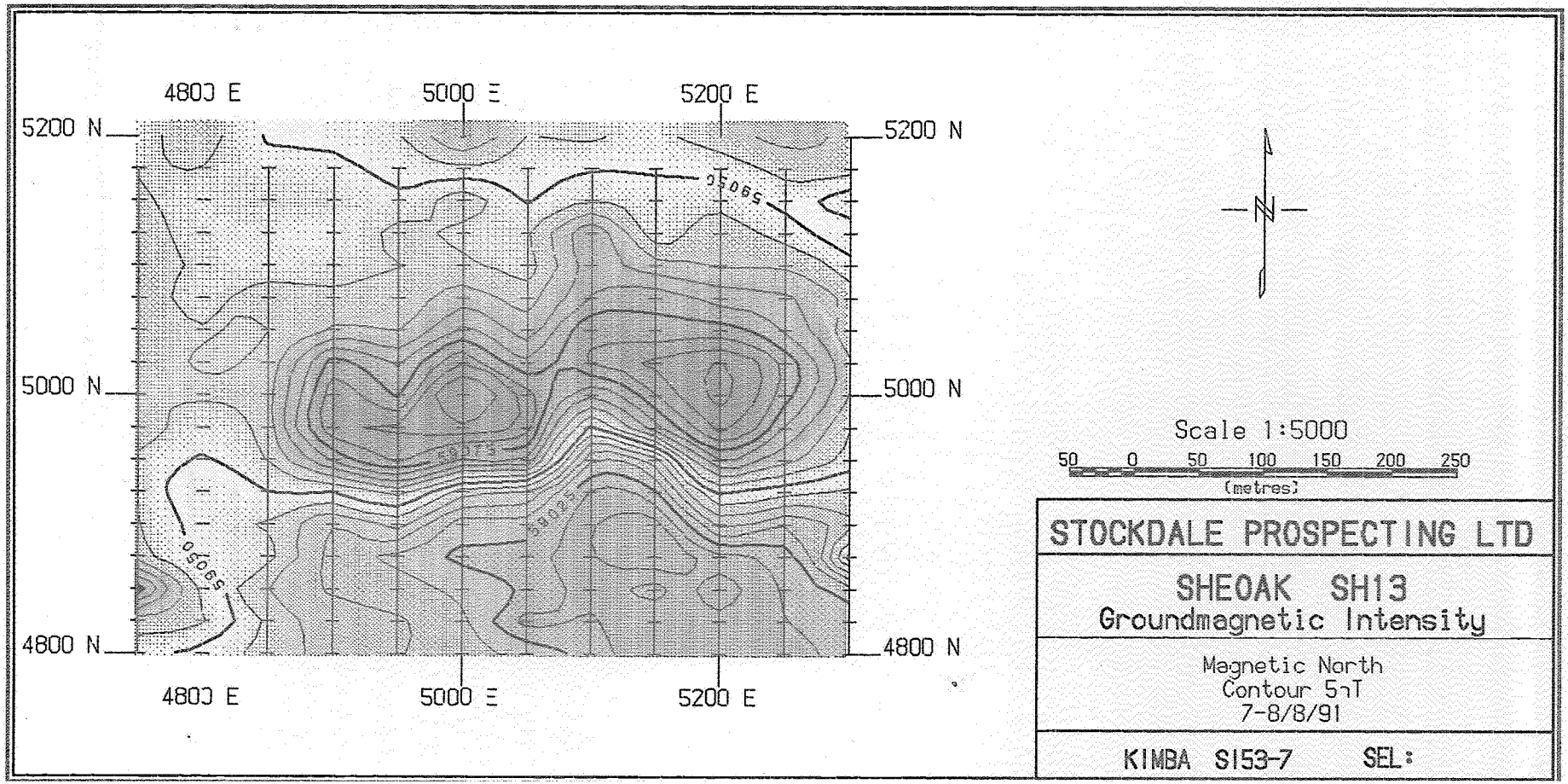
NORTH EAST

ALT DATUM

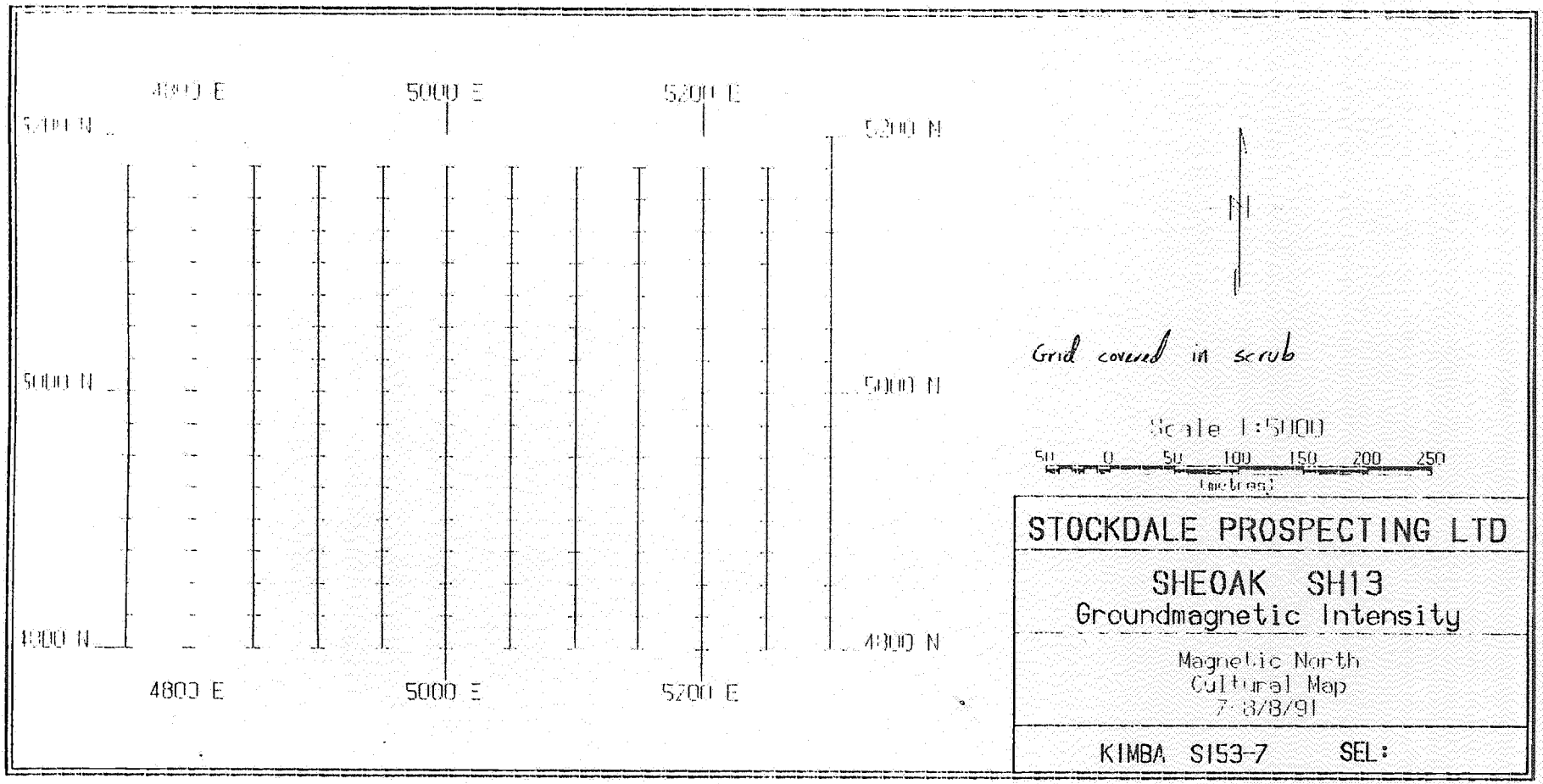
PDOP

SATELLITES USED

GRID CO-ORDS


4800 E
5000 E
5200 E
5200 N
5000 N
4800 N
59050
59000
58950
58900
58850
Scale 1:5000
50 0 50 100 150 200 250
(metres)
STOCKDALE PROSPECTING LTD
SHEOAK SH13
Groundmagnetic Intensity
Magnetic North
Contour 5nT
7-8/8/91
KIMBA S153-7 SEL:

000061


4800 E
5000 E
5200 E
5200 N
5000 N
4800 N
4800 E
5000 E
5200 E
Grid covered in scrub
Scale 1:5000
50 0 50 100 150 200 250
(metres)
STOCKDALE PROSPECTING LTD
SHEOAK SH13
Groundmagnetic Intensity
Magnetic North
Cultural Map
7/8/8/91
KIMBA S153-7 SEL:

000062

MAGNETIC ANOMALY DETAILS

PROJECT ELLISTON CODE 8374

E.L. 1694A

ANOMALY NoSH 26

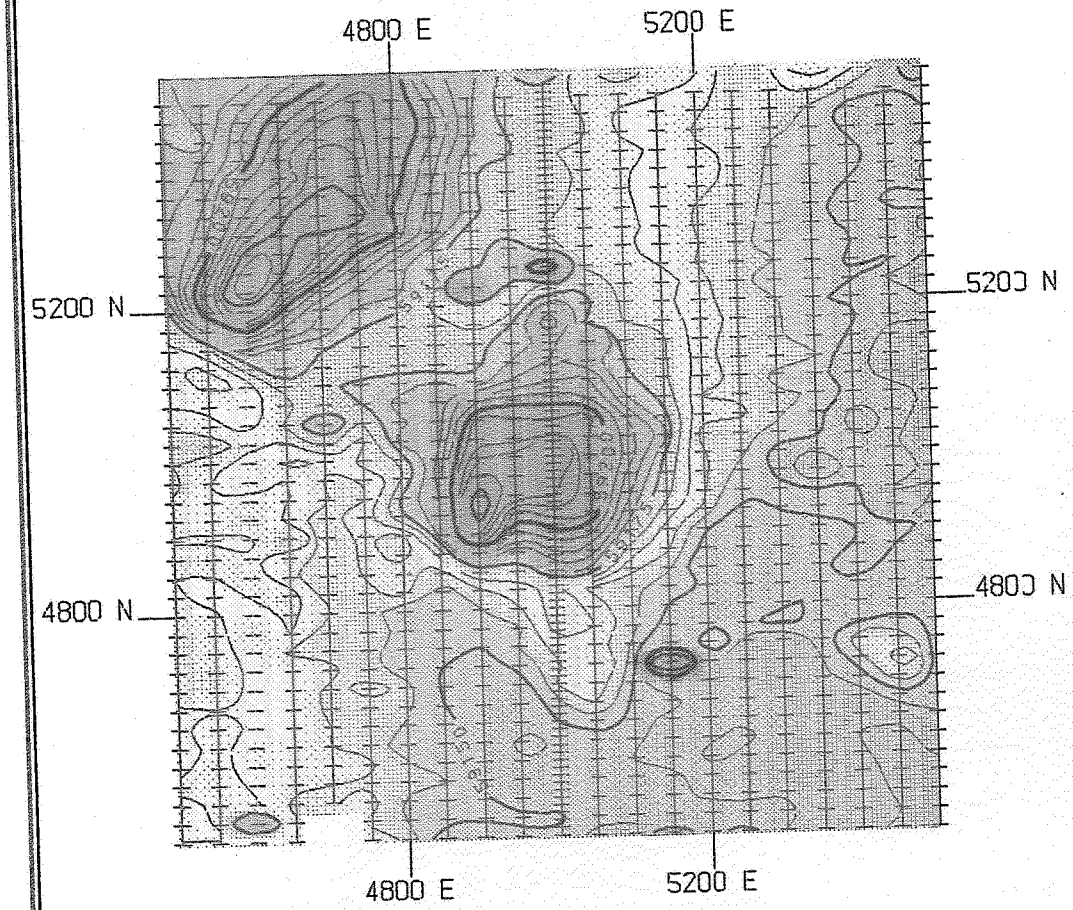
1. LOCATION DETAILS

1.1 MAP SHEETS
1:250,000 KIMBA
1:100,000 SHERINGA
1:50,000 HUDD

1.2 AIR PHOTO(S)
SVY No 3380
PHOTO No 026 SCALE 1:40 000
COLOR/B.W. COLOUR

1.3 GPS CENTRE POINT (5000E,500N)
RECEIVER MAGELLAN
DATE 20/9/91 TIME
LAT 505438 mE LONG 6272389 mN
NORTH EAST
ALT DATUM
PDOP 2.5
SATELLITES USED 14, 18, 19

1.4 PERMANENT PEG
RECEIVER
DATE TIME
LAT LONG
NORTH EAST
ALT DATUM
PDOP
SATELLITES USED
GRID CO-ORDS



Scale 1:10000

100 0 00 200 300 400 500

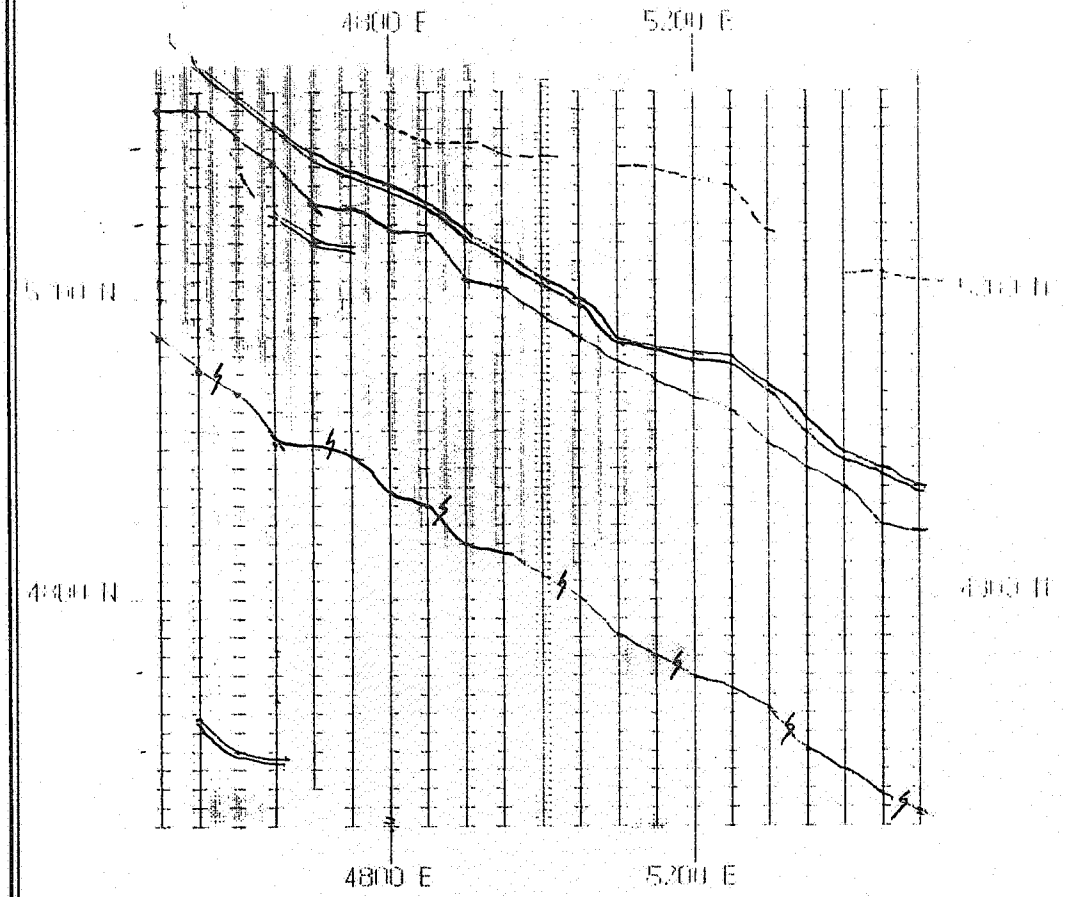
(metres)

STOCKDALE PROSPECTING LTD

ELLISTON - SH26
Ground Magnetic Intensity

Contour nterval = 5
20.09.91
MSM

S153-07 SEL:



Scale 1:10000

100 0 100 200 300 400 500

Metres

= Track --- Stone Wall

Power line/track — Fence

STOCKDALE PROSPECTING LTD

ELLISTON - SH26

Ground Magnetic Intensity

Contour interval :

0.05.91

MSM

S153-07 SEI :

000065

MAGNETIC ANOMALY DETAILS

PROJECT ELLISTON CODE 8374

E.L. 1694A

ANOMALY No SH-27

1. LOCATION DETAILS

1.1 MAP SHEETS

1:250,000 KIMBA

1:100,000 SHERINGA

1:50,000 HUDD

1.2 AIR PHOTO(S)

SVY No 3380

PHOTO No 0260 SCALE 1:40 000

COLOR/B.W. COLOUR

1.3 GPS CENTRE POINT (5000E,500N)

RECEIVER MAGELLAN

DATE 18/9/91 TIME

LAT LONG

NORTH 6272014 mN EAST 507628 mE

ALT DATUM

PDOP 1.9

SATELLITES USED 16, 6, 19

1.4 PERMANENT PEG

RECEIVER

DATE TIME

LAT LONG

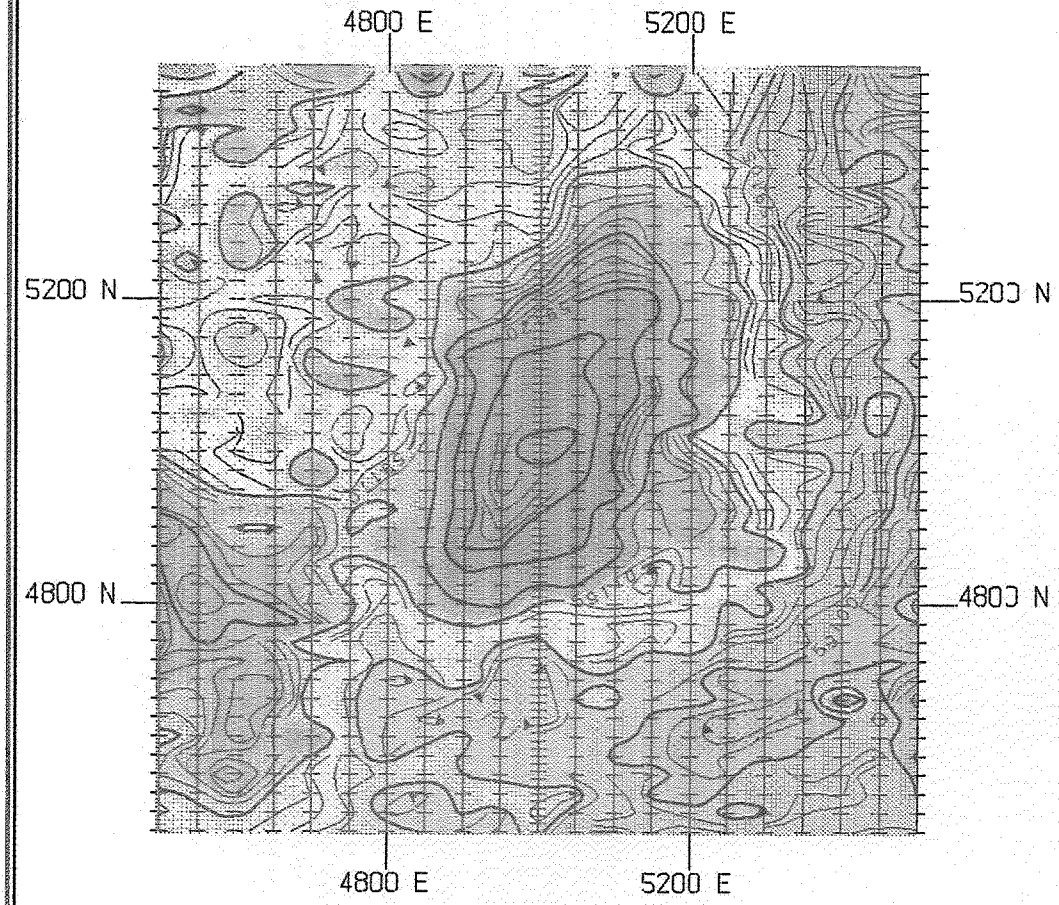
NORTH EAST

ALT DATUM

PDOP

SATELLITES USED

GRID CO-ORDS



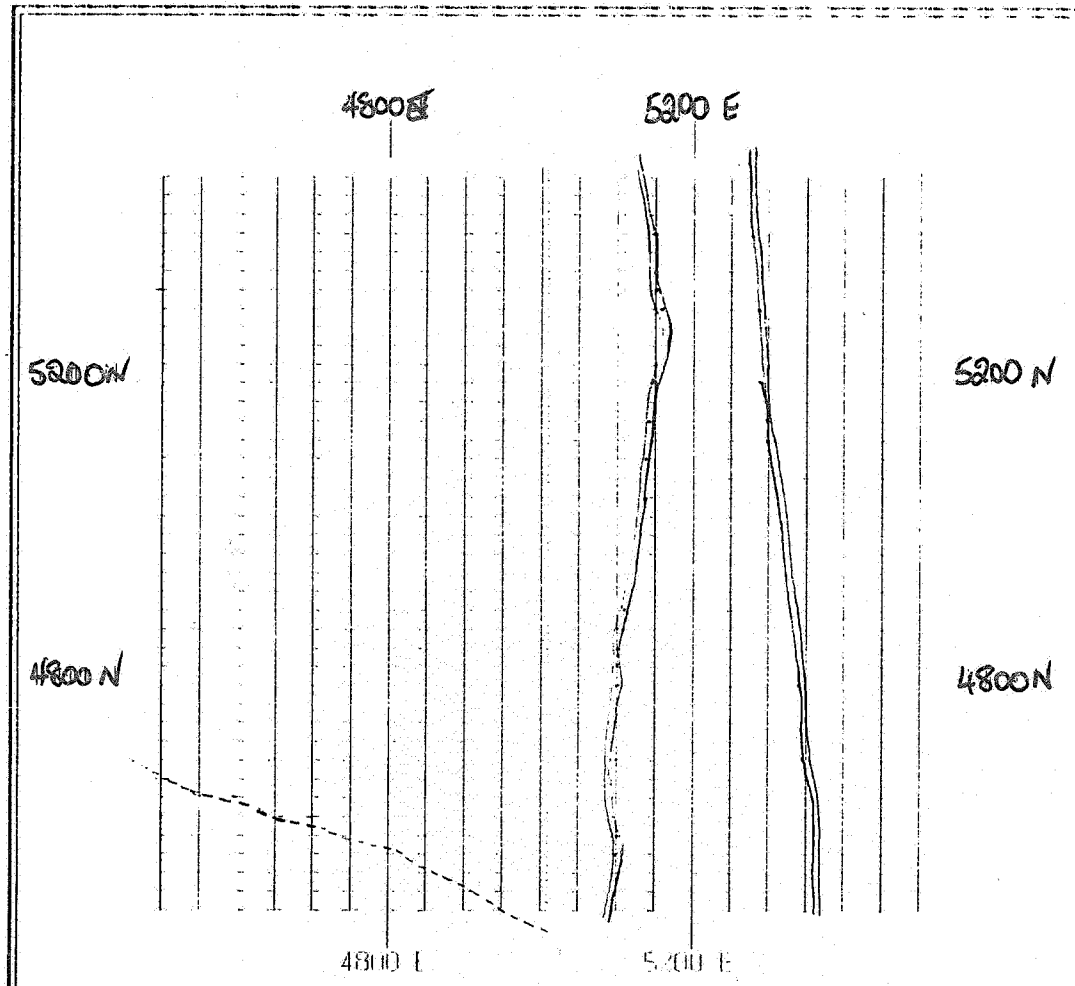
Scale 1:10000

100 0 00 200 300 400 500

(metres)

STOCKDALE PROSPECTING LTD
SHEOAK SH27 Groundmagnetic Intensity
Magretic North Cont InT 24/9/91
KIMBA S153-7 SEL:

000067



Scale 1:10000

--- Stone Wall

═══ Tracks

Entire grid in scrub.

STOCKDALE PROSPECTING LTD

SHEOAK SH27

Groundmagnetic Intensity

Magnetic North
Cultutral Map
24/9/91

KIMBA S153-7 SH :

MAGNETIC ANOMALY DETAILS

PROJECT ECCISTON CODE 8374

E.L. 1694 A

ANOMALY No VB 01

1. LOCATION DETAILS

1.1 MAP SHEETS

1:250,000 ECCISTON 5153-6

1:100,000 TALIA

1:50,000 VENUS

1.2 AIR PHOTO(S)

SVY No 3378

PHOTO No 202 SCALE 1:40 000

COLOR/~~B&W~~.

1.3 GPS CENTRE POINT (5000E,500N)

RECEIVER MAGELLAN

DATE 28-8-91 TIME

LAT LONG

NORTH 63 36 873 EAST 4 66 355

ALT 35m DATUM G.L.

PDOP 1.7

SATELLITES USED 6 14 18

1.4 PERMANENT PEG

RECEIVER AS ABOVE

DATE TIME

LAT LONG

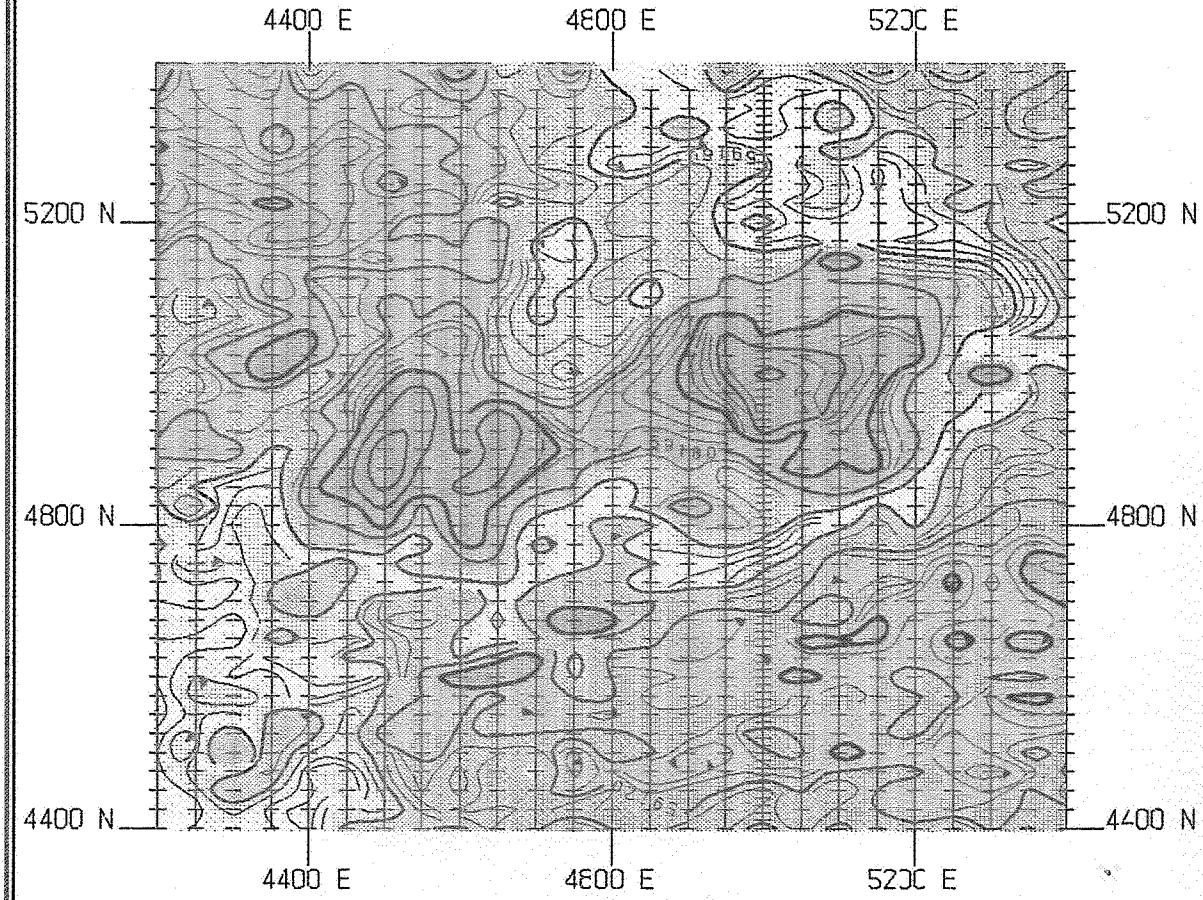
NORTH EAST

ALT DATUM

PDOP

SATELLITES USED

GRID CO-ORDS



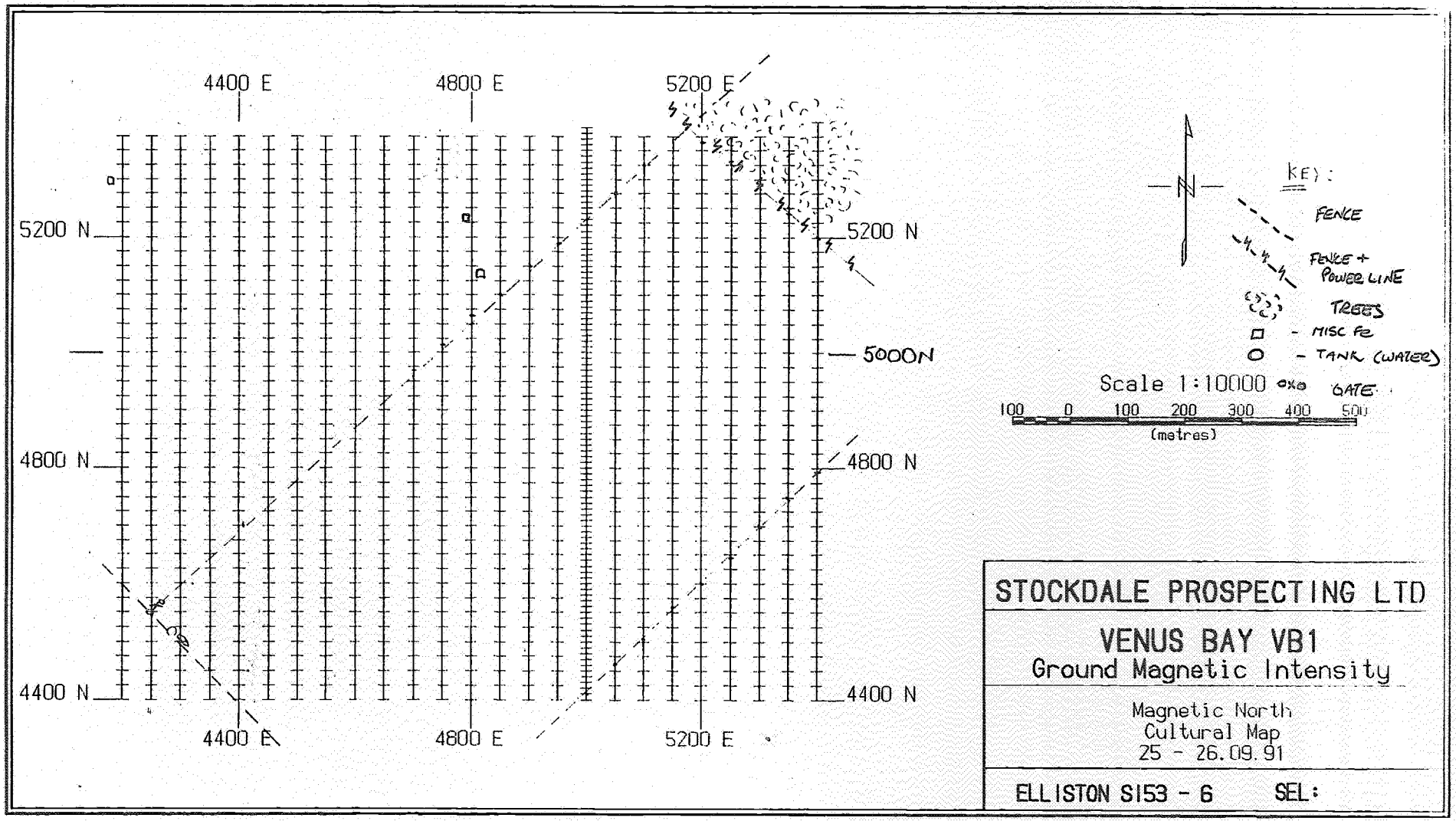
Scale 1:10000

00 0 100 200 300 400 500

(metres)

STOCKDALE PROSPECTING LTD
VENUS BAY VB1 Ground Magnetic Intensity
Magnetic North cont 5nT 25 - 26.09.91
ELLISTON S153 - 6 SEL:

000070


4400 E
4800 E
5200 E
5200 N
5000N
4800 N
4400 N
KEY:
FENCE
FENCE + POWER LINE
TREES
- MISC Fe
- TANK (WATER)
GATE
Scale 1:10000
100 0 100 200 300 400 500
(metres)
STOCKDALE PROSPECTING LTD
VENUS BAY VB1
Ground Magnetic Intensity
Magnetic North
Cultural Map
25 - 26.09.91
ELLISTON S153 - 6
SEL:

000071

MAGNETIC ANOMALY DETAILS

PROJECT ECLISTON CODE 8374

E.L. 1694 A

ANOMALY No VB 04

1. LOCATION DETAILS

1.1 MAP SHEETS

1:250,000 ECLISTON 5153-6

1:100,000 TACIA

1:50,000 VENUS

1.2 AIR PHOTO(S)

SVY No 3379

PHOTO No 91 SCALE 1:40 000

COLOR/~~B&W~~.

1.3 GPS CENTRE POINT (5000E,500N)

RECEIVER MAGELLAN

DATE 28-8-91 TIME

LAT LONG

NORTH 63 29 642 EAST 472 943

ALT 5m DATUM S.L.

PDOP 1·4

SATELLITES USED

1.4 PERMANENT PEG

RECEIVER ~~AS~~ ABOVE.

DATE TIME

LAT LONG

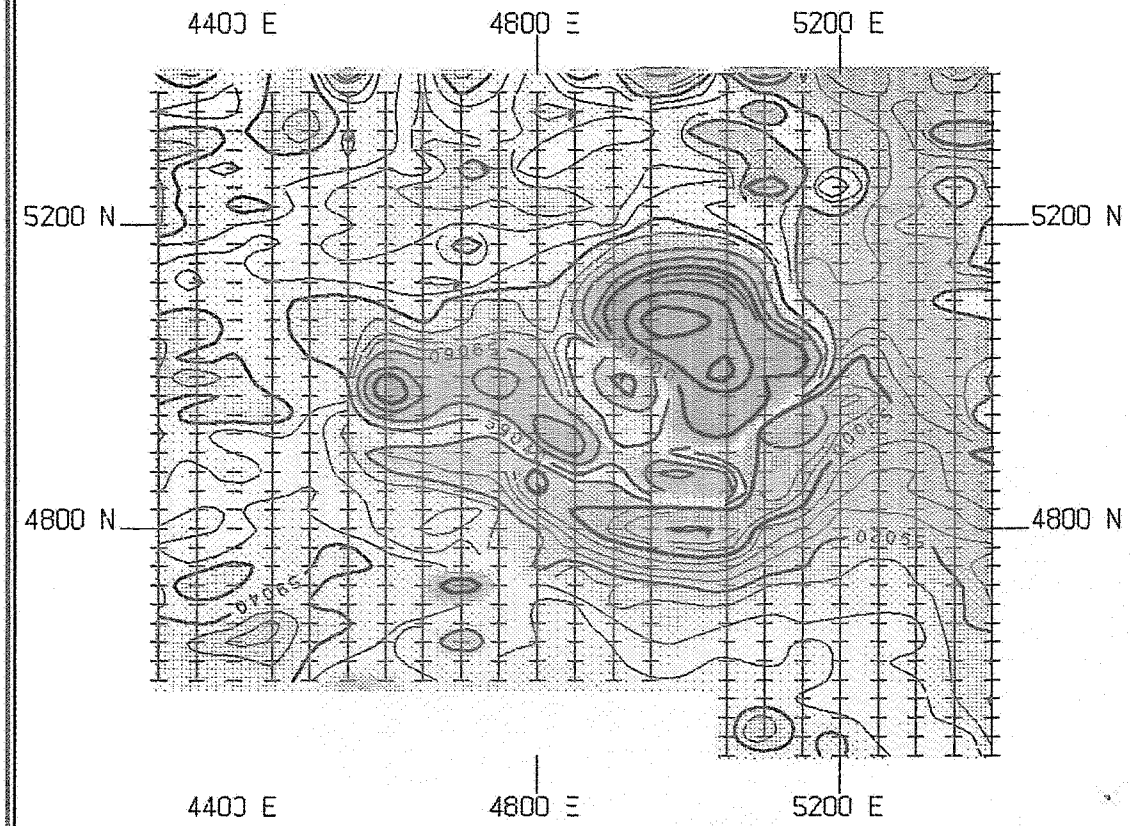
NORTH EAST

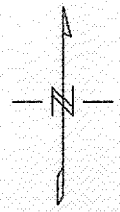
ALT DATUM

PDOP

SATELLITES USED

GRID CO-ORDS



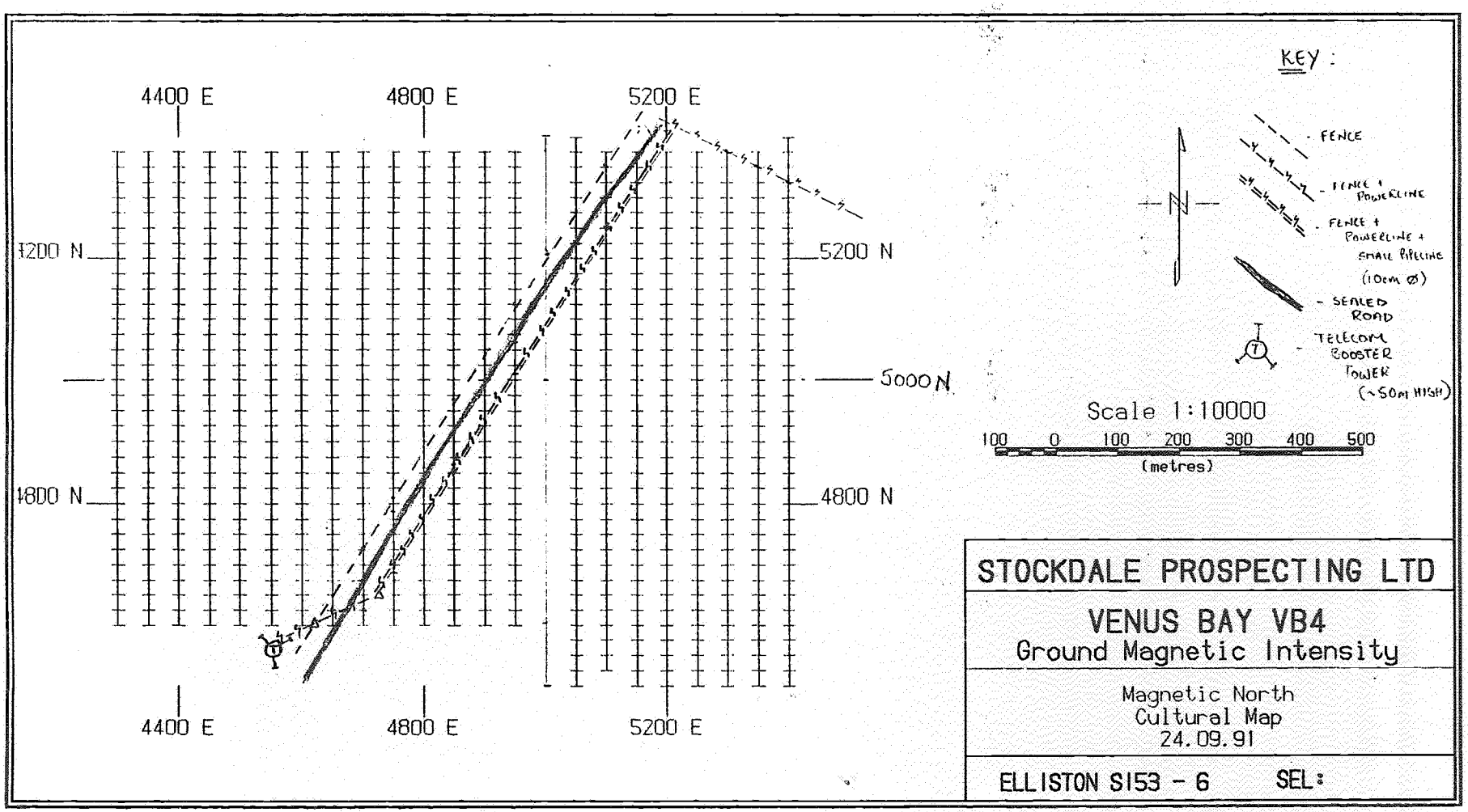


Scale 1:10000

100 0 100 200 300 400 500

(metres)

STOCKDALE PROSPECTING LTD
VENUS BAY VB4 Ground Magnetic Intensity
Magnetic North cont 5nT 24.09.91
ELLISTON S153 - 6 SEL:


4400 E
4800 E
5200 E
5200 N
5000 N
4800 N
4400 E
4800 E
5200 E
KEY :
- FENCE
- FENCE + POWERLINE
- FENCE + POWERLINE + SMALL PIPELINE (10cm Ø)
- SEALED ROAD
- TELECOM BOOSTER TOWER (~50m HIGH)
Scale 1:10000
100 0 100 200 300 400 500
(metres)
STOCKDALE PROSPECTING LTD
VENUS BAY VB4
Ground Magnetic Intensity
Magnetic North
Cultural Map
24.09.91
ELLISTON S153 - 6
SEL:

MAGNETIC ANOMALY DETAILS

PROJECT ELLISTON CODE 8374

E.L. 1694A

ANOMALY No VB 05

1. LOCATION DETAILS

1.1 MAP SHEETS

1:250,000 ELLISTON

1:100,000 TALIA

1:50,000 ADDISON

1.2 AIR PHOTO(S)

SVY No 3379

PHOTO No 119 SCALE 1:40 000

COLOR/B&W.

1.3 GPS CENTRE POINT (5000E, 500N)

RECEIVER MAGELLAN

DATE 29.8.91 TIME

LAT LONG

NORTH 63 23 950 EAST 4 80 932

ALT 10m DATUM S.L.

PDOP 1.7

SATELLITES USED 2 16 18

1.4 PERMANENT PEG

RECEIVER AS ABOVE

DATE TIME

LAT LONG

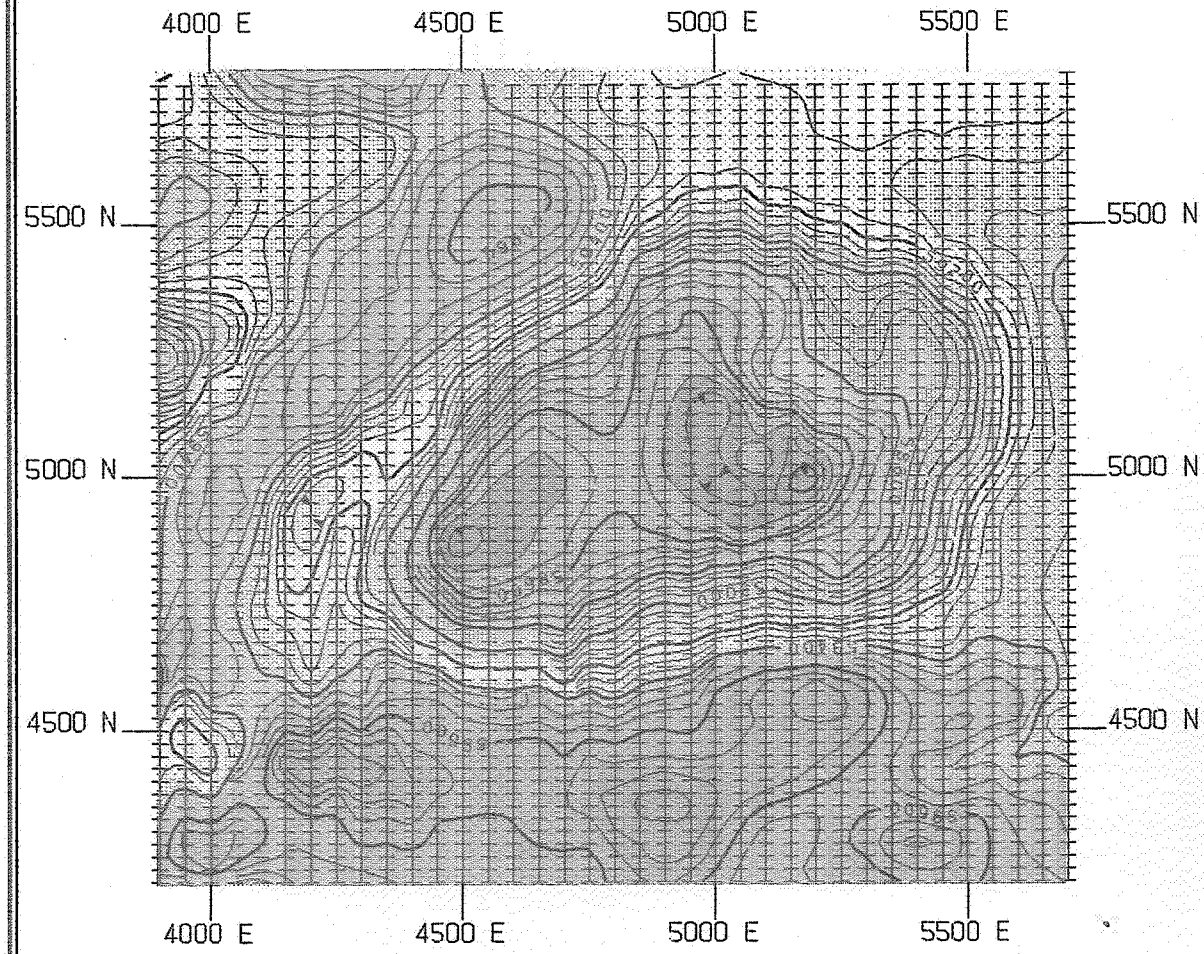
NORTH EAST

ALT DATUM

PDOP

SATELLITES USED

GRID CO-ORDS



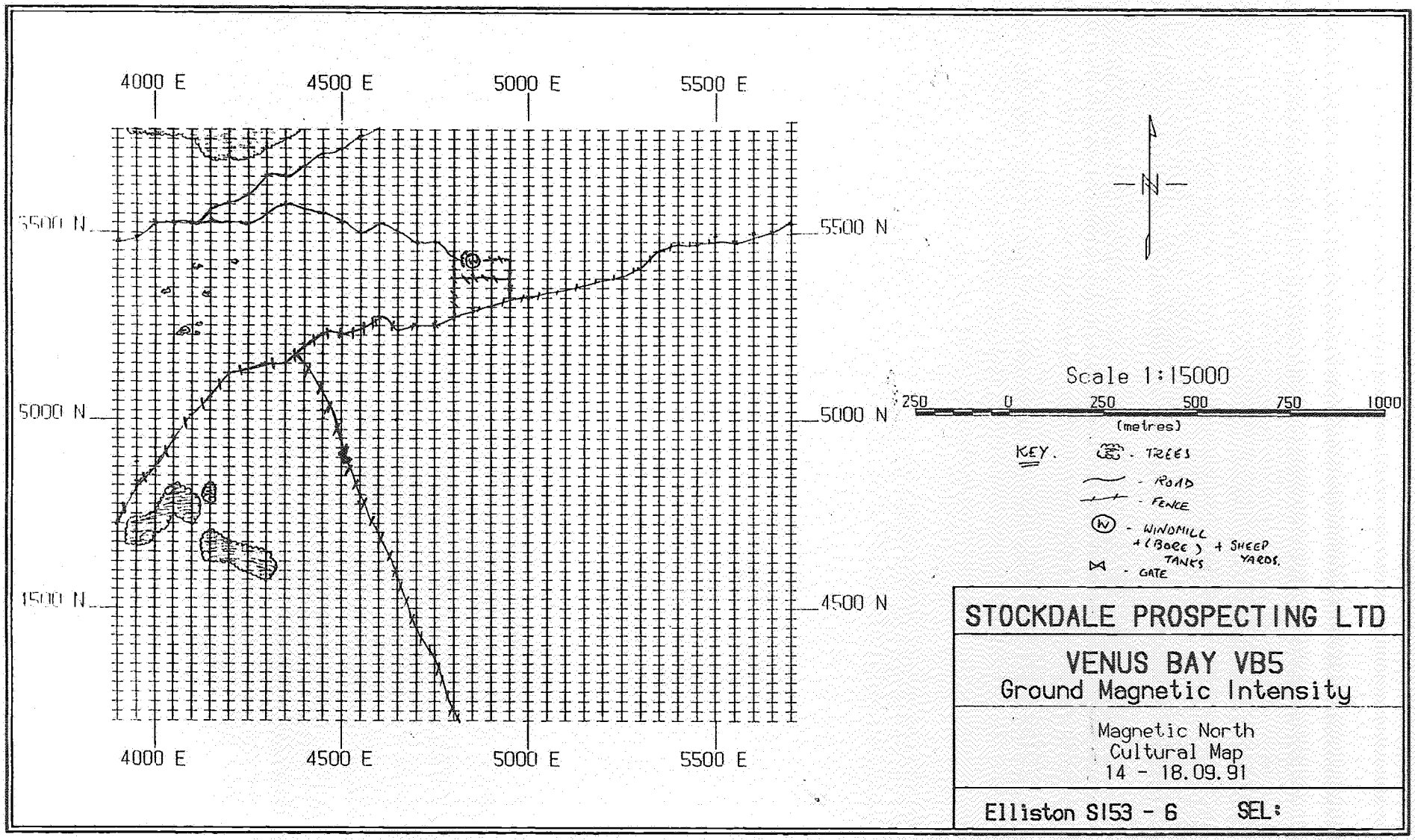
Scale 1:15000

250 0 250 500 750 1000

(metres)

STOCKDALE PROSPECTING LTD
VENUS BAY VB5 Ground Magnetic Intensity
Magnetic North cont 50nT 14 - 18.09.91
Elliston SI53 - 6 SEL:

000076


4000 E
4500 E
5000 E
5500 E
5500 N
5000 N
4500 N
Scale 1:15000
250 0 250 500 750 1000
(metres)
KEY.
- TREES
- ROAD
- FENCE
- WINDMILL + (BORE) + SHEEP TANKS YARDS.
- GATE
STOCKDALE PROSPECTING LTD
VENUS BAY VB5
Ground Magnetic Intensity
Magnetic North
Cultural Map
14 - 18.09.91
Elliston SI53 - 6
SEL:

MAGNETIC ANOMALY DETAILS

PROJECT ELLISTON CODE 6374

E.L. 1694A

ANOMALY No VB 06

1. LOCATION DETAILS

1.1 MAP SHEETS

1:250,000 ELLISTON 5153-6

1:100,000 TALIA

1:50,000 ADDISON

1.2 AIR PHOTO(S)

SVY No 3379

PHOTO No 87 SCALE 40 000

COLOR/B&W

1.3 GPS CENTRE POINT (5000E,500N)

RECEIVER MAGELLAN

DATE 29.8.91 TIME

LAT LONG

NORTH 63 31 601 EAST 4 89 065

ALT 30m DATUM

PDOP 2.2

SATELLITES USED 14 15 18

1.4 PERMANENT PEG

RECEIVER AS ABOVE

DATE TIME

LAT LONG

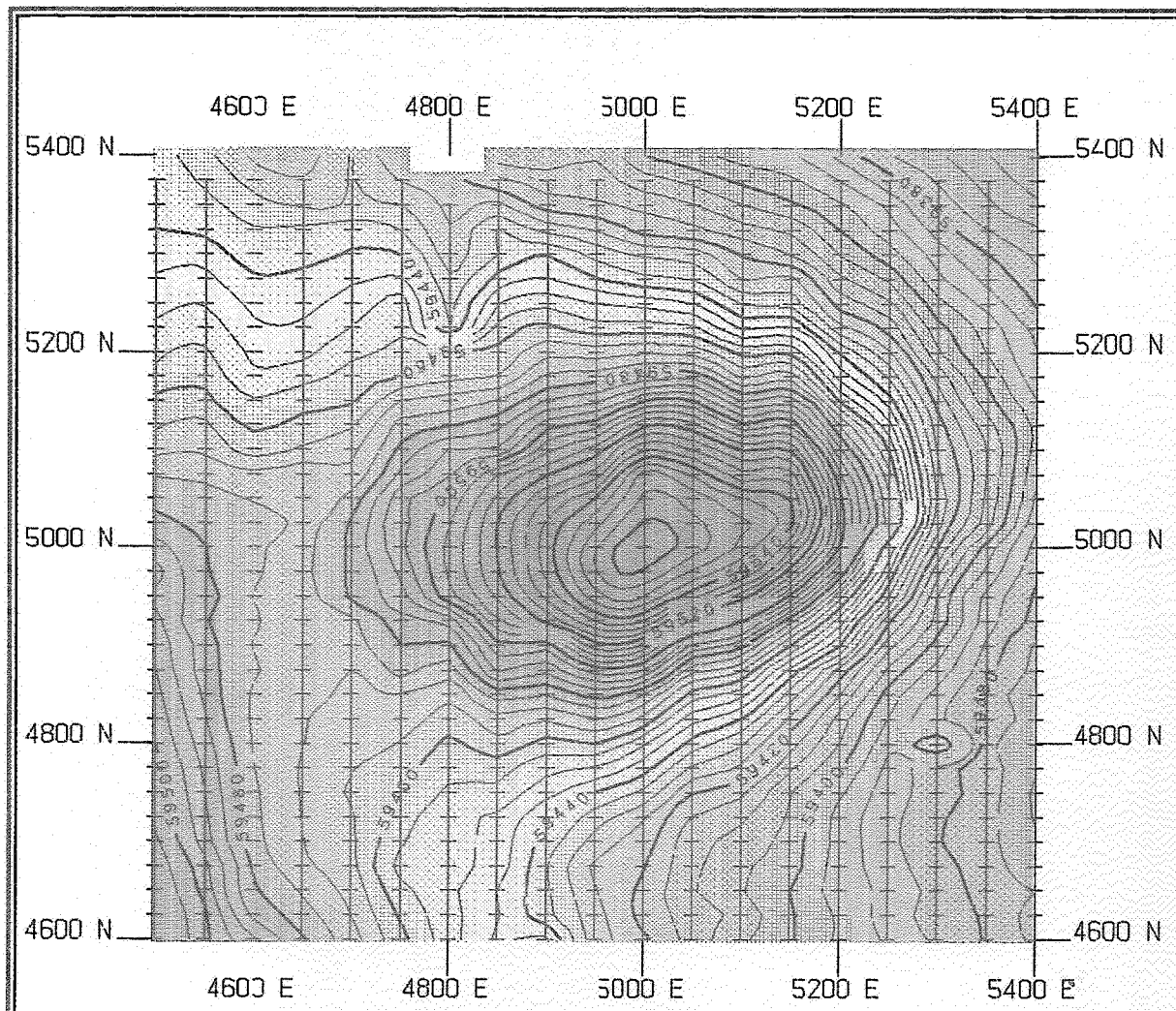
NORTH EAST

ALT DATUM

PDOP

SATELLITES USED

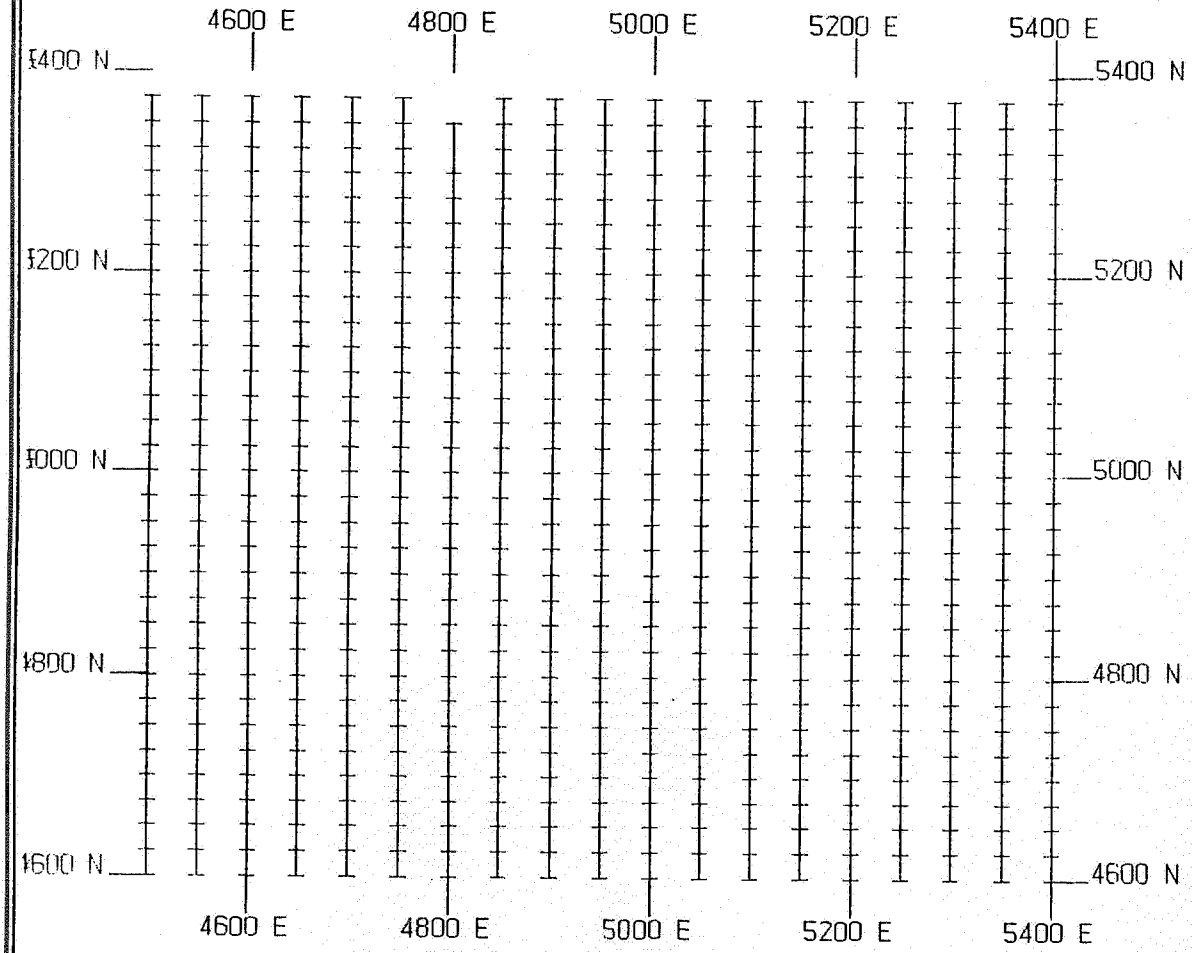
GRID CO-ORDS



Scale 1:7500

100 0 100 200 300 400 500
(metres)

STOCKDALE PROSPECTING LTD
VENUS BAY VB6 Ground Magnetic Intensity
Magnetic North cont 5nT 20 - 23.09.91
ELLISTON S153 - 6 SEL:



Scale 1:7500

100 0 100 200 300 400 500

(metres)

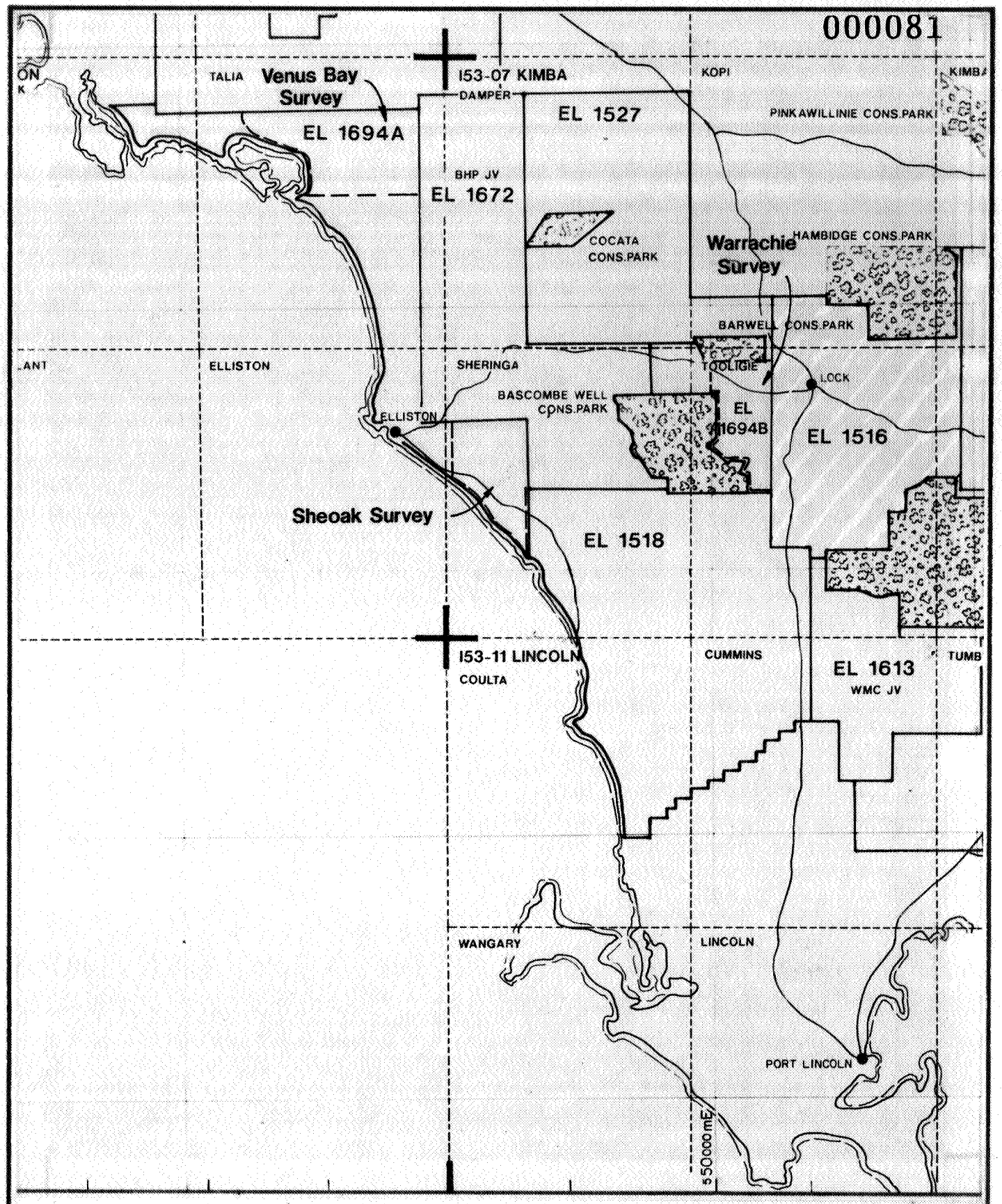
NB. NO CULTURE !

JUST TREES.

STOCKDALE PROSPECTING LTD
VENUS BAY VB6 Ground Magnetic Intensity
Magnetic North Cultural Map 20 - 23.09.91
ELLISTON S153 - 6 SEL:

000060

000081



MAP 1

10 0 10 50 KM

STOCKDALE PROSPECTING LIMITED

PART ELLISTON I53-6, KIMBA I53- 7, & LINCOLN I53-11

LOCATION MAP

EL 1694 A & B

Compiled	Drawn	Date	Scale	
DO	BAN	4/91	1: 1,000 000	SEL 4080

8422-5

135°00'

EYRE HWY

VB01
VB02
VB04
VB06
VB07
VB05
VB08

EL 1694A

EL 1672

63 00 000m N

33°30'

MH117

BARWELL CONSERVATION PARK

EL 1694B

LOCK

ELLISTON

BASCOMBE WELL CONSERVATION PARK

SH 09
SH 13
SH 08
SH 26
SH 27
SH 07
MH 201
SH 05
SH 04
FLINDERS HWY
SH 06
SH 03
SH 11
SH 10

GREAT

AUSTRALIAN

BIGHT

5 0 5 10 15 KM

62 50 000m N

450 000m E

500 000m E

8422-5

MAP 2.

STOCKDALE PROSPECTING LIMITED

Elliston 153-6 & KIMBA 153-7
ELLISTON PROJECT
ELs 1694A & 1694B
AIRBORNE MAGNETIC ANOMALY LOCATIONS

Compiled	MSM
Drawn	MAK
Date	JULY 91
Scale	1: 250 000
Revised	10/91
SEL	4136

8422-6

EYRE PENINSULA

EL 1694(A)

SH 26 SH 27 SH 07 SH 09 SH 13 SH 08 SH 05 SH 04 SH 03 SH 06 SH 11 SH 10

MH 201

Lake Tungetta

Middle Lake

South Lake

Sheringa Lagoon

GREAT AUSTRALIAN BIGHT

FLINDERS HIGHWAY

Kappwanta District

Coach Road

DH56 BM0112-60

N

33°45

33°50

62 70

62 60

500 000 mE

510 000 mE

0 1 2 3 4 KM

o LOAM SAMPLE

* MAGNETIC ANOMALY

8422-6

MAP 3

STOCKDALE PROSPECTING LIMITED

KIMBA 153-07

ELLISTON PROJECT

1991 SKELETAL LOAM SAMPLE LOCATIONS EL 1694A (SHEOAK HILL)

Compiled	MSM
Drawn	MAK
Date	7/91
Scale	1:50 000
Revised	10/91
SEL	4135

STOCKDALE PROSPECTING LIMITED

EXPLORATION LICENCE NO 1694A & B : ELLISTON

FOURTH QUARTERLY REPORT FOR THE PERIOD

ENDING 9 JANUARY 1992

000083

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PROSPECTING
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Australia
Telephone (03) 241 7522
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Project Name: ELLISTON

Title: EXPLORATION LICENCE NO 1694A & B : ELLISTON
FOURTH QUARTERLY REPORT FOR THE
PERIOD ENDING 9 JANUARY 1992

Edited: F M GAUNT

Author/s: M S MITCHELL

Approved: H R ROBISON

Date: JANUARY 1992

Place: WHYALLA

1 : 250,000 Sheet Name/s & No/s.: KIMBA SI53-7
ELLISTON SI53-5

Text Pages No.: 7 Plan Nos.: 4 Table Nos.: 9 Appendices: 5 Plates: -

Keywords: AIRBORNE MAGNETICS, HEAVY MINERAL SAMPLE, GROUND MAGNETIC SURVEY, DRILLING, PETROLOGY, GEOCHEMISTRY, PALYNOLOGY

Abstract:

One airborne magnetic anomaly was investigated with a ground magnetic survey. Spot deflation loam samples were taken over 14 magnetic anomalies prior to a drilling programme. The drilling programme involved testing thirteen magnetic anomalies, drilling a total of 1059.1m constituting 530 individual drill chip samples. Geochemical, petrological and palynological samples were taken together with magnetic susceptibility measurements.

The programme was successful in locating three kimberlites, seven magnetic anomalies were explained and results from the other six anomalies suggest a magnetic source from within the basement.

Copy to: SADME, MELBOURNE, WHYALLA

Ref: MSM79

Circulate to:

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MAP 4	Skeletal Loam Sample Locations 1:50,000 Venus Bay

APPENDICES

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APPENDIX 2	Ground Magnetic Contour Plot SH28
APPENDIX 3	Drill Logs and Ground Magnetic Contour Plots - 1991 November Programme
APPENDIX 4	Petrological Descriptions
APPENDIX 5	Geochemical Results

STOCKDALE PROSPECTING LIMITED

EXPLORATION LICENCE NO 1694A & B : ELLISTON

FOURTH QUARTERLY REPORT TO 9 JANUARY 1992

1 INTRODUCTION

Exploration Licence No 1694 is located on the north western section of the Eyre Peninsula in South Australia about 200 kilometres north-northwest of Port Lincoln (Map 1). The licence comprises of two separate areas covering 1487 square kilometres on the Kimba and Elliston 1:250,000 mapsheets (SI53-07, 53-06 respectively).

This report covers diamond exploration carried out by Stockdale Prospecting Limited for the quarter ending 9 January 1992. Fieldwork completed during this quarter comprises the ground magnetic follow-up of an airborne magnetic anomaly, access clearance to drill sites, the drilling of 13 anomalies and the continuation of skeletal loam sampling programme in the Sheoak Hill and Venus Bay areas.

Results became available for part of the Sheoak Hill loam sampling programme and from the drilling programmes petrological, geochemical and some of the drill chip heavy mineral samples.

2 LEGAL

Exploration Licence No 1694A & B was granted to Stockdale Prospecting Ltd on the 9 January 1991 for a term of one year for diamond exploration.

3 GEOPHYSICAL SURVEYS

In March 1991 Aerodata undertook a magnetometer/ spectrometer survey within the Elliston project area on the Eyre Peninsula, South Australia. Three surveys were flown by Aerodata for Stockdale. These were the Venus Bay, Sheoak and Warrachie surveys (Map 1).

The primary objective of the surveys was to identify individual magnetic anomalies which could be attributable to kimberlitic intrusives.

The airborne survey specifications for the Venus Bay, Warrachie and Sheoak Hill areas are listed in Appendix 1.

The 200m flight line spacings and north-south orientation, are common to all three surveys. The mean terrain clearance was set at 70m. Magnetic and four channel radiometric data were acquired.

Seven anomalies were selected from the Venus Bay Survey, four of these are considered to be worthy of follow-up (Table 1 & Map 2).

Ten anomalies within EL1694A were selected for follow up from the Sheoak survey data. A 5km x 5km block of airborne magnetic data centred on the highly anomalous surface indicator counts of the Old Coach Road, was reexamined for potential magnetic sources of the indicators. Two anomalies SH26 and SH27 were selected due to their dipolar nature. A total of 13 magnetic anomalies have been selected in the Sheoak Hill region. A third anomaly SH28 was also selected since it appears to be a discrete low. (Table 2a and Map 2).

The Warrachie survey interpretation became available this quarter. Eight anomalies were selected from the data set, four of these are considered to be worthy of follow up (Table 3 and Map 2).

4 FIELD WORK

4.1 Ground Magnetic Follow-up

A magnetic low located between SH07 and SH26 was considered worthy of follow-up due to its discrete nature and proximity to high kimberlitic indicator surface counts. The anomaly, SH28 was located using a Magellan GPS and a Geometrics G856 memory magnetometer. A 1km by 1.1km grid was established over the centre of the magnetic low. The survey was conducted using 50m North South line spacings, 25m station readings and two Geometrics magnetometers, the second used to record diurnal drift. The field and base station records were downloaded onto a Zenith laptop computer, drift corrected and processed to produce a magnetic contour plot as presented in Appendix 2.

4.2 Spot Deflation Loam Sampling

Spot loam deflation samples were taken over the centre points of fifteen magnetic anomalies. At each site 20kg of -1.0 + 0.3mm deflation sediment was taken to be treated and examined for kimberlitic indicators (see Table 4).

All results from this exercise are outstanding to date.

4.3 Drilling Programme

Interpretation of the ground magnetic data from thirteen surveys SH03, 04, 05, 07, 08, 09, 11, 13, 26, 27, 28, MH201 and VB05 produced collar positions for each anomaly.

Permission to clear access, drill pads and drill targets was obtained from SADME on the 22nd August 1991.

Tracks and pads were rolled into four of the anomalies, SH08, 13, 26 and 27, using a local pastoralist, Mr Peter Agars (Tungatta Station). A small dozer with its blade 20cm above the ground, towing a roller, cleared tracks and pads into each anomaly, complying with environmental regulations. Regrowth has commenced on all tracks and pads.

Wallis Drilling of Western Australia were contracted for the programme. A modified reverse circulation rig (Mantis 200) mounted on a Mercedes 911 truck was used for the duration of the programme. The drilling technique offered by Wallis was the "aircore" method. This method was chosen due to its superior drill chip recovery method which minimised contamination while also providing core large enough for identification purposes from any competent lithology encountered.

Thirteen discrete magnetic anomalies (Table 5) were drilled totalling 1059.1m, and 530 drill chip samples were collected, with every two metre section constituting one sample. Geochemical samples were also taken at every two metre interval along with magnetic susceptibility readings.

Of the thirteen magnetic anomalies drilled, seven had their magnetic sources explained by the presence of high susceptibility rock. The magnetic sources for the other six anomalies drilled must lie within the basement or deeper in the Polda Trough.

Basement was not intersected in two anomalies SH07 and SH05 drilled to 102m and 99m respectively. Difficulty was encountered in drilling greater than 100m through unconsolidated sands as the wet sands at this depth were beyond the capacity of the rig's compressor.

Details of the drilling programme are summarised in Table 5, drill logs and ground magnetic contour plots are located in Appendix 3. Each drill chip sample is to be treated individually for kimberlitic indicators in the -2.0 + 0.3mm size fraction.

The +2.0mm drill chips were kept for relogging. These logs have been combined with the field drill logs for an accurate visual account of the various lithologies encountered.

Drill samples were split up for petrographical, geochemical and palynological identification according to the lithology intersected. Core from the three kimberlites intersected was sent for petrographic description and classification. Geochemical samples were sent to Analabs to determine the depth to the geochemical signature associated with the kimberlitic bodies (elements tested Mg, K, Ca, Ti, V, Cr, Co, Ni, Sr, Y, Zr, Nb, Ba, La, Ce, Ta, Th, U). Drill holes that intersected basement with potential basemetal mineralisation had their basal clays sent off for geochemical basemetal detection, elements Au, Co, Cr, Cu, Fe, Mn, Ni, Pb, Zn, As, Bi, Mo and Sb. Associated basement core samples were also sent (to Amdel Laboratories) for petrographic description. In drill holes where it is important to distinguish between the Tertiary Poelpena Formation and Jurassic Polda Formation, fine clays and silts were sent to SADME for palynological dating.

One hundred kilograms of drill chips from each of the three kimberlites, anomalies SH08, 09 and 13 was sent for fine diamond analysis.

Table 6 summarises samples sent for petrology, geochemistry and palynology.

4.4 Skeletal Loam Sampling

A detailed loam sampling programme was initiated in the Sheoak Hill and Venus Bay areas bridging Exploration Licences 1694A and 1672. The purpose of the programmes was to delineate local source areas for the kimberlitic indicator mineral spread previously detected. This was achieved by increasing the sample density using the existing network of tracks.

A total of 11 samples (X7436 - 46) were taken on the western side of the Sheoak Hill during this quarter. Samples were taken along a track at 250m and 500m intervals (Map 3). At each site 10 litres of -1.0 + 0.3mm screened deflation sediment was collected.

At Venus Bay 404 samples were collected at 500m and 1000m intervals along the edges of tracks previously reported to contain kimberlitic indicators and those areas where sample density was sparse. At each site 10 litres of -1.0 + 0.3mm screened deflation sediment was collected (Map 4).

5 RESULTS

5.1 Spot Deflation Loam Sampling

All results are outstanding for the fourteen spot loam deflation samples taken over the ground magnetic anomalies.

5.2 Skeletal Loam Sampling

Results became available for Sheoak Hill samples X7366 - 7386. Kimberlitic ilmenites, chrome spinels, pyrope garnets and chrome diopsides were recovered (Table 7). A total of 299 loam samples were taken in the second wave of loam sampling at Sheoak Hill. Results are still outstanding for 71 of these samples. Of the 228 results received, 147 samples recovered kimberlitic indicators. No interpretation of the spread of indicators in the Sheoak Hill area will be carried out until all the results are available.

All results are outstanding for the 404 Venus Bay deflation loam samples.

5.3 November Drilling Programme Results

5.3.1 Drill Chip Results

Drill chip results became available for five holes into four magnetic anomalies. Drill holes 41 and 42 in magnetic anomaly VB05 were both negative with respect to kimberlitic indicators.

Drill holes into anomalies SH08,09 and 13 as expected recovered kimberlitic indicators from the kimberlite intersected in each hole. Results are summarised in Table 8.

5.3.2 Petrology Results

All petrological descriptions became available this quarter for the November 1991 drilling programme. Three kimberlites were intersected at SH08,09 and 13. Classifications of the bodies are as follows;

SH08 - a porphyritic, hypabyssal facies kimberlite breccia(?) with a vaguely segregationary groundmass texture. Mineralogically it is classified as a contaminated phlogopite - monticellite kimberlite.

SH09 - a probable crater facies, altered phlogopite monticellite kimberlite.

SH13 - extensive alteration has made it difficult to positively classify the facies type but it could possibly be a crater facies volcaniclastic kimberlite. Mineralogically the sample is an altered monticellite kimberlite due to its pelletal nature.

The petrographic descriptions for the non-kimberlitic rocks are listed in Appendix 4. A brief description is as follows :

SH04/DH028 - Amphibolite with feldspathic patches.
SH27/DH032 - Altered ultramafic igneous rock.
SH11/DH037 - Magnetite - dolomite skarn rock.
SH03/DH038 - Metasomatised metasediment.
VB05/DH041 (64-66m) - Altered gabbro.
VB05/DH041 (66-68m) - Hornblende-biotite quartz-diorite.
VB05/DH042 - Hornblende-biotite quartz-diorite.

5.3.3 Geochemical Results

The geochemical results from the kimberlitic and basemental suites have been received this quarter.

The kimberlitic suite geochemistry for drill holes 029(SH13), 030(SH09) and 031(SH08) approximate the top of kimberlite as per logged.

Anomaly	Drill Hole	Logged	Geochemistry
SH13	029	58m	?58m
SH09	030	65m	66m
SH08	031	19m	20m

The kimberlitic suite of elements tested for anomaly VB05 confirm the logged and petrological interpretation that no kimberlitic type rocks were intersected in the sections analysed.

A complete list of geochemical analytical data is located in Appendix 5.

5.3.4 Palynological Results

All palynological sample results were outstanding at the end of this reporting period.

6 FORWARD WORK PROGRAMME

The forward work programme for the Elliston tenement involves ground magnetic surveying and assessment of the Warrachie block airborne magnetic survey. The Venus Bay and Sheoak Hill airborne magnetic data sets will be re-assessed in light of the discovery of three kimberlites of differing signatures.

Interpretation of the Sheoak Hill and Venus Bay reconnaissance loam sampling programmes is to be carried out when all data becomes available. Any anomalous surface indicator areas delineated from the Sheoak Hill and Venus Bay deflation loam sampling programme will be subject to close interval loam grids. If any discrete haloes are resolved from these grids they may be drilled.

7 STAFF

Staff employed in the field were :

Geologists	4
Field Assistants	7

The project has been supported by the facilities of the regional office in Whyalla and the head office in Melbourne.

8 EXPENDITURE

Expenditure of exploration in EL1694A & B for the period ending 30 November 1991 totals $149,132.

M S Mitchell
Senior Geologist
Whyalla

H R Robison
Chief Geologist-South

Table 1

Venus Bay Airborne Survey, Elliston Project Area

Magnetic Anomalies 26-06-1991

Anom.	East	North	Pri.	Ampl.	Comments
VB01	466310	6336830	3	40	Elongate dipolar anomaly
VB02	469030	6334240	-	60	Diffuse,elongate,dipolar anomaly
VB04	473020	6329630	3	85	isolated small high
VB05	480940	6323970	2	400	intense low
VB06	489090	6331580	2	70	isolated dipolar anomaly
VB07	490850	6327800	-	80	diffuse high/low
VB08	492290	6323680	-	130	discrete high

Table 2

Sheoak Airborne Survey, Elliston Project.

Table 2a

Magnetic Anomalies 05-06-1991

Anomaly	East	North	Priority	Amp.	Comments
SH03	514270	6264530	1	200nT	Discrete anomalt with associated low.
SH04	512230	6267410	3	70nT	Discrete anomalt with small associated low.
SH05	506700	6268190	2	80nT	Associated with extensive nw-se dyke-like feature. Possible low.
SH06	509320	6263390	3	60nT	Associated with dyke, possible blow.
SH07	506410	6270820	3	15nT	Close to positive samples. Prominant on upward continuation
SH08	509030	6273550	3	20nT	Weak negative.
SH09	508600	6274850	3	30nT	Discrete high.
SH010	513730	6257660	3	20nT	Associated with dyke-like feature, offset to the east.
SH011	513870	6260310	1	20nT	Close to MH01, discrete anomaly.
SH013	509990	6274970	3	25nT	Associated with a deeper dyke, but offset.
SH026	505430	6272330	3	25nT	Small dipole.
SH027	507630	6271960	3	15nT	Weakly dipolar.
SH028	505815	6271243			Discrete low.

Table 2b

Ground Magnetic Anomaly

MH201	507728	6270850	NP	15nT	Vague discrete high.

Table 3 Warrachie Airborne Survey

Magnetic Anomalies 19-12-1991

Anomaly	Easting	Northing	Priority	Depth
WAR04	561628	6289937	P2	50m
WAR07	553195	6280865	NP	50m
WAR08	559205	6279752	P3	100m
WAR09	559612	6277565	P3	100m
WAR10	559425	6273272	NP	50m
WAR11	559807	6273139	NP	50m
WAR12	559973	6272759	NP	50m
WAR19	554598	6272188	P3	100m

Table 4 Spot Deflation Samples

Sample	Map (1:50,000)	AMG	Anomaly
X7447	Hudd	076 720	SH27
X7448	Hudd	054 724	SH27
X7452	Sheringa	139 604	SH11
X7453	Sheringa	137 577	SH10
X7455	Sheringa	145 645	SH03
X7460	Hudd	123 657	SH04
X7461	Hudd	068 682	SH05
X7462	Hudd	068 682	SH05
X7463	Hudd	065 709	SH07
X7466	Hudd	058 712	SH28
X7467	Hudd	090 736	SH08
X7468	Hudd	085 749	SH09
X7469	Hudd	049 750	SH13
X5981	Venus	663 368	VB01
X5979	Venus	729 296	VB04

Table 5 November 1991 Drill Summary

DRILL HOLE	ANOMALY	SAMPLE NUMBERS	Qpb	Ts	Tep	Jup	BASEMENT	INTERSECTION	SUSC x 10 SI
28	SH04	BM0861-0887	0-7	7-28			28-53	AMPHIBOLITE WITH FELDSPATHIC PATCHES.	28.90
29	SH13	BM0888-0936	0-7	7-14	14-28	28-58	58-96.8	MONTICELLITE KIMBERLITE, CRATER FACIES? (MT HOPE 06)/GNEISS.	9.03
30	SH09	BM0937-0984	0-11	11-14	14-40	40-65	65-93.7	CRATER FACIES? PHLOGOPITE MONTICELLITE KIMBERLITE (MT HOPE 07)/GNEISS.	3.56
31	SH08	BM0985-1014	0-7	7-15		15-19	19-35	HYPABYSSAL FACIES KIMBERLITE BRECCIA (MT HOPE 08)/GNEISS.	5.78
32	SH27	BM1015-1049	0-13	13-34	34-48	48-58	58-69	ALTERED ULTRAMAFIC IGNEOUS ROCK.	0.94
33	SH26	BM1050-1086	0-26	26-34		34-52	52-73	BIOTITE GNEISS.	0.27
34	SH28	BM1087-1139	0-34	34-46		46-105	105	GNEISS.	0.17
35	SH07	BM1140-1190	0-40	40-54		54-102+		TOO DEEP.	0.14
36	MH201	BM1191-1228	0-16	18-26		26-60	60-75	BIOTITE GNEISS.	0.33
37	SH11	BM1229-1264	0-70				70-72	MAGNETITE-DOLOMITE SCARN ROCK.	370.0
38	SH03	BM1265-1285	0-14				14-41	METASOMATISED METASEDIMENT.	1.34
39	SH05	BM1286-1335	0-85	85-99+				HOLE COLLAPSED. TOO DEEP.	
41	VB05	BM1355-1388	0-4	4-14	14-58		58-68	ALTERED GABBRO/HORNBLENDE-BIOTITE QUARTZ DIORITE.	5.50
42	VB05	BM1389-1414	0-6	6-14	14-38		38-51	HORNBLENDE-BIOTITE QUARTZ DIORITE.	4.47

Table 6 Petrology, Palynology and Geochemical Samples

PETROLOGY

ANOMALY	DRILL HOLE	DEPTH	SAMPLE NUMBER
SH04	DH028	52-53m	BM0189
SH27	DH032	64-69m	BM0190
SH11	DH037	70-72m	BM0191
SH03	DH038	40-41m	BM0192
VB05	DH041	64-66m	BM0194 (weathered)
	DH041	66-68m	BM0195 (fresh)
	DH042	50-52m	BM0196
SH13	DH029	76-97m	BM0178
SH09	DH030	74-94m	BM0179
SH08	DH031	24-34m	BM0180

KIMBERLITIC SUITE GEOCHEMISTRY

SH13	DH029	54-64m	BM0915-19
SH09	DH030	62-72m	BM0968-72
SH08	DH031	14-26m	BM0992-97
MH201	DH036	30-50m	BM1206-15

BASEMETAL/KIMBERLITIC SUITE GEOCHEMISTRY

VB05	DH041	58-68m	BM1383-88
	DH042	36-51m	BM1407-14

BASEMETAL SUITE GEOCHEMISTRY

SH27	DH032	60-69m	BM1045-49
SH11	DH037	68-72m	BM1263-64

PALYNOLOGY

SH13	DH029	56-60m	BM0916/17 (combined)
SH09	DH030	56-58m	BM0965
SH08	DH031	18-20m	BM0994
SH27	DH032	50-52m	BM1040
SH26	DH033	40-42m	BM1070
SH28	DH034	84-86m	BM1129
SH07	DH035	100-102m	BM1190
MH201	DH036	54-56m	BM1218
VB05	DH041	34-36m	BM1372
		42-44m	BM1376
	DH042	32-34m	BM1406

Table 7 Kimberlitic Indicator Results - Loam Samples

SAMPLE	PYROPE GARNET	ILMENITE	CHROME SPINEL	CHROME DIOPSIDE
X7366	1			
X7367	1			
X7370	1	9		
X7371		3		
X7372	5	50+	6	
X7373	5	15		
X7374	20	50+	1	4
X7375	24	29	1	1
X7376	16	21	3	
X7377	3	28	2	
X7378	2			
X7384	1			
X7385		1		
X7386	5	3		

Table 8 Drill Chip Results

DRILL HOLE	ANOMALY	DEPTH	PYROPE GARNET	ILMENITE	CHROME SPINEL	CHROME DIOPSIDE
029	SH13	18-20	1			
		30-32		1		
		32-34	3	1	1	
		34-36	4	1		
		36-38	3			
		44-46			2	
		46-48			1	
		54-56	(not tested)	fine diamond sample		
		56-58			19	
		58-60			50+	
		60-62	(not tested)	fine diamond sample		
		62-64			50+	
		64-66			50+	
		66-68			50+	
		68-70			50+	
		70-72			50+	
		72-74	(not tested)	fine diamond sample		
		74-76			50+	
		76-78	(not tested)	fine diamond sample		
		78-80	(not tested)	fine diamond sample		
		80-82	1	4	50+	
		82-84			50+	
		84-86	(not tested)	fine diamond sample		
		86-88			50+	
		88-90			50+	
		90-92	(not tested)	fine diamond sample		
		92-94		3	50+	
		94-96	(not tested)	fine diamond sample		
		96-97		2	50+	
030	SH09	8-10		1		
		14-16		1		
		16-18		3		
		36-38		1		
		52-54		1	11	
		54-56		1	1	
		60-62			2	
		64-66		50+	50+	
		66-68	(not tested)	fine diamond sample		
		68-70	50+	50+	50+	50+
		70-72	(not tested)	fine diamond sample		
		72-74	50+	50+	50+	50+
		74-76	(not tested)	fine diamond sample		
		76-78	50+	50+	50+	50+
		78-80	(not tested)	fine diamond sample		
		80-82	50+	50+	50+	50+
		82-84	(not tested)	fine diamond sample		
		84-86	50+	50+	50+	50+
		86-88	(not tested)	fine diamond sample		
		88-90	(not tested)	fine diamond sample		
		90-92	(not tested)	fine diamond sample		
		92-94	50+	50+	50+	50+
		94-94.1	50+	50+	50+	50+

DRILL HOLE	ANOMALY	DEPTH	PYROPE GARNET	ILMENITE	CHROME SPINEL	CHROME DIOPSIDE
031	SH08	0-2			2	
		14-16		17		
		20-22		11		
		22-24	(not tested)	fine diamond sample		
		24-26	(not tested)	fine diamond sample		
		26-28	(not tested)	fine diamond sample		
		28-30	(not tested)	fine diamond sample		
		30-32	(not tested)	fine diamond sample		
		34-36	(not tested)	fine diamond sample		
		40-42		2	1	
		44-46			1	

TABLE 9 : Expenditure Summary EL 1694A & B : Elliston
Period Ending 30 November 1991

		$
OPERATIONAL STAFF COSTS		66 503
GENERAL OPERATING EXPENSES		7 150
TRANSPORT AND TRAVEL		6 786
SPECIALIST SERVICES	: COMPUTER	1 405
	: GEOPHYSICS	7 306
	: DRAFTING	1 569
CONTRACTORS	: DRILLING	12 778
	: TRACK WORK	1 613
CENTRAL TREATMENT PLANT		10 015
LABORATORY	: TREATMENT	1 294
	: EXAMINATION	5 210
ADMINISTRATION	: REGIONAL	13 100
	: HEAD OFFICE	13 368
CAPITAL UTILISATION		5 413
TOTAL THIS PERIOD		$ 149 132
TOTAL PREVIOUSLY REPORTED		$ 317 529
TOTAL EXPENDITURE TO DATE		$ 566 661

APPENDIX 1

Survey Specifications

Venus Bay, Sheoak Hill, Warrachie

VENUS BAY

APPENDIX 1

Airborne Survey Specifications

Flight Line Specification	:	180-360
Flight Line Spacing	:	200 metres
Tie Line Direction	:	090-270 deg AMG
Tie Line Spacing	:	2000 metres
Mean Terrain Clearance	:	70 metres
Survey Distance	:	4100 kms (approx)
Survey Area	:	800 sq km (approx)
Time Base		
Magnetics	:	0.1 seconds
Radiometrics	:	1.0 seconds
Sample Interval		
Magnetics	:	7 metres
Radiometrics	:	65 metres
Navigation	:	Radio Positioning
Survey Aircraft	:	Rockwell Commander
Magnetometer	:	Scintrex Csvapour V201
Spectrometer	:	Geometrics GR800B

SHEOAK HILL

APPENDIX 1

Airborne Survey Specifications

Flight Line Specification	:	180-360 deg AMG
Flight Line Spacing	:	200 metres
Tie Line Direction	:	090-270 deg AMG
Tie Line Spacing	:	2000 metres
Mean Terrain Clearance	:	70 metres
Survey Distance	:	6900 kms (approx)
Survey Area	:	1200 sq km (approx)
Time Base		
Magnetics	:	0.1 seconds
Radiometrics	:	1.0 seconds
Sample Interval		
Magnetics	:	7 metres
Radiometrics	:	65 metres
Navigation	:	Radio Positioning
Survey Aircraft	:	Rockwell Commander
Magnetometer	:	Scintrex Csvapour V201
Spectrometer	:	Geometrics GR800B

WARRACHIE

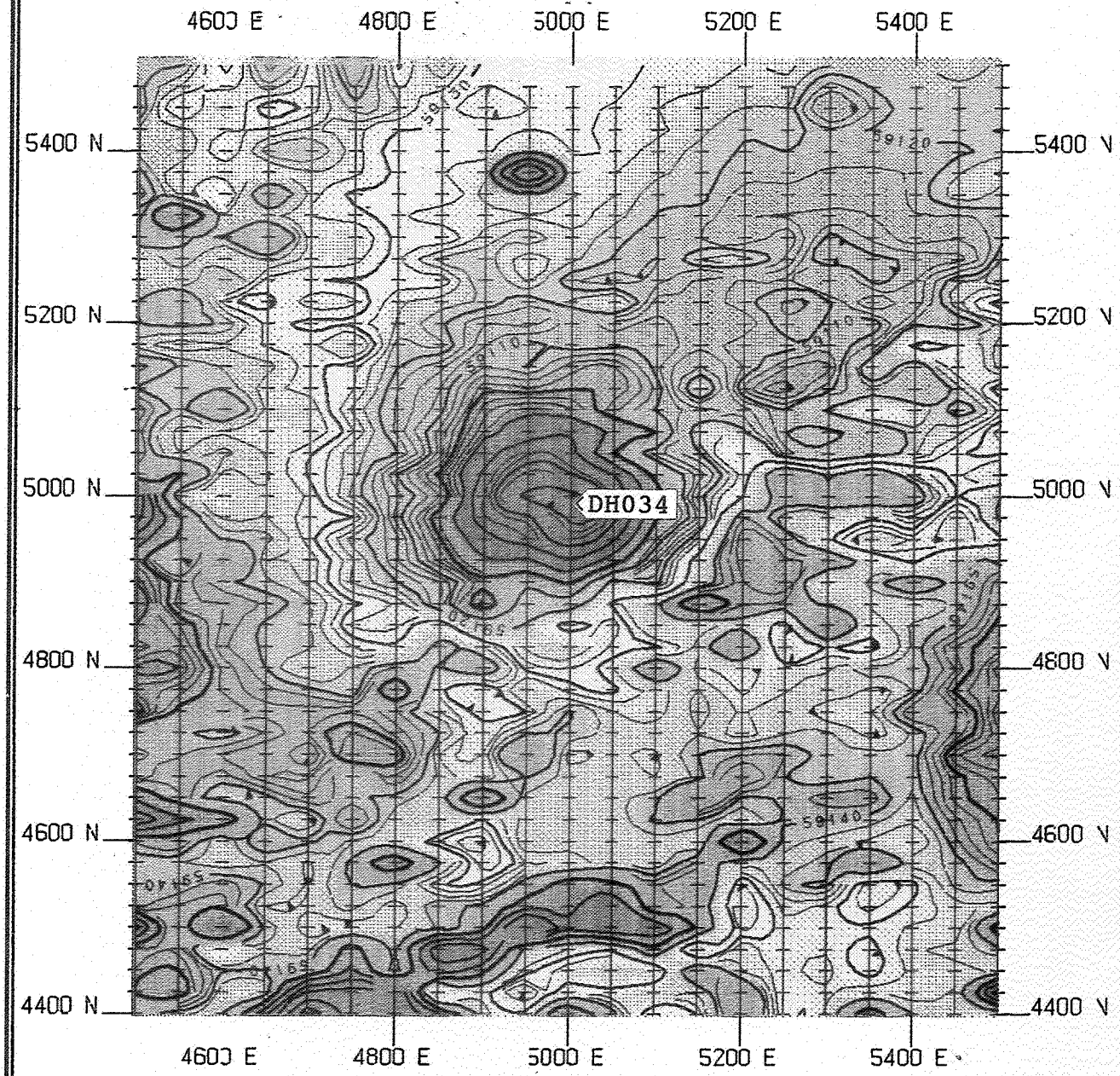
APPENDIX 1

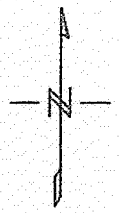
Airborne Survey Specifications

Flight Line Specification	:	180-360 deg AMG
Flight Line Spacing	:	200 metres
Tie Line Direction	:	090-270 deg AMG
Tie Line Spacing	:	2000 metres
Mean Terrain Clearance	:	70 metres
Survey Distance	:	3000 kms (approx)
Survey Area	:	600 sq km (approx)
Time Base		
Magnetics	:	0.1 seconds
Radiometrics	:	1.0 seconds
Sample Interval		
Magnetics	:	7 metres
Radiometrics	:	65 metres
Navigation	:	Radio Positioning
Survey Aircraft	:	Rockwell Commander
Magnetometer	:	Scintrex Csvapour V201
Spectrometer	:	Geometrics GR800B

APPENDIX 2

Ground Magnetic Contour Plot SH28





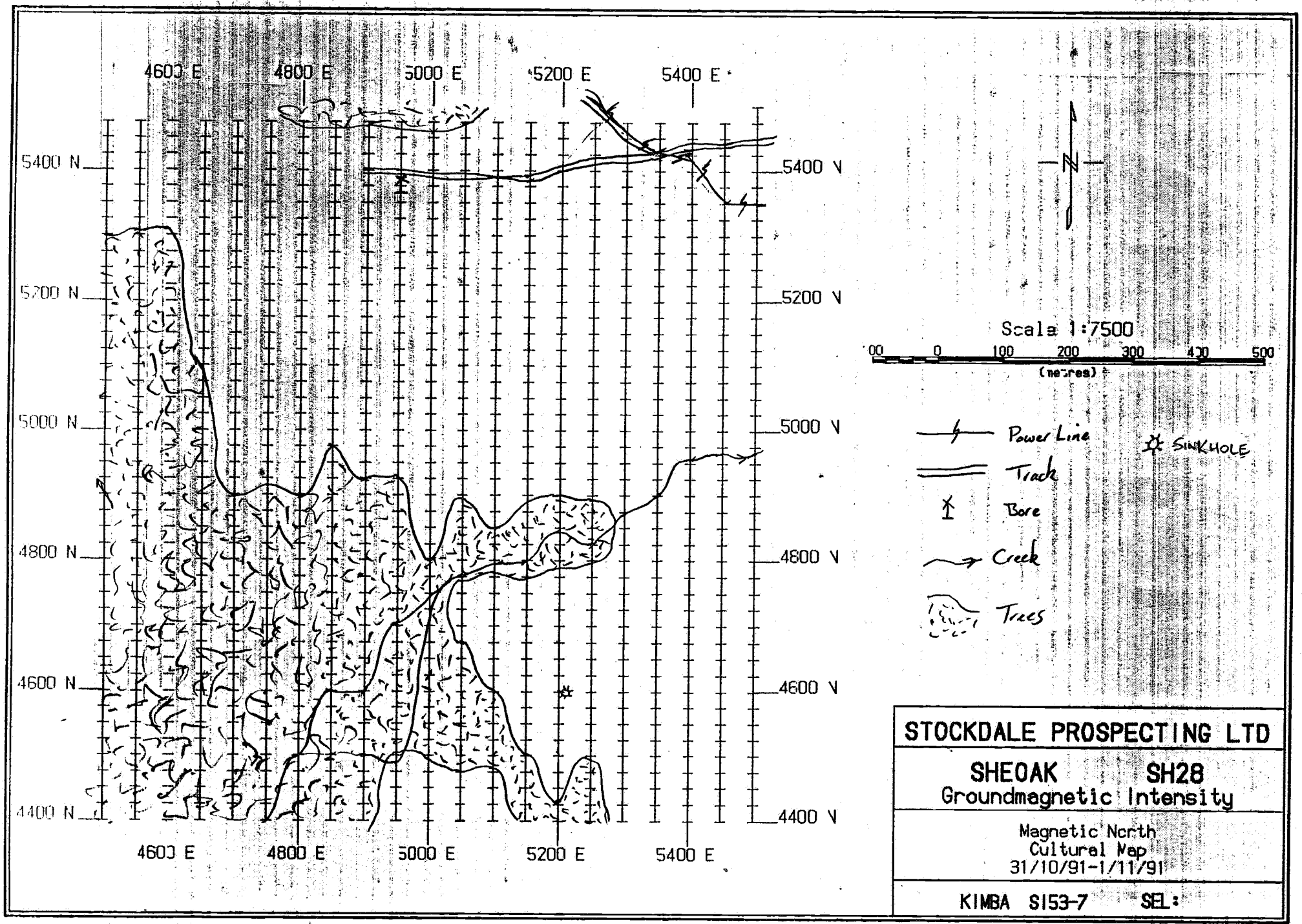
Scale 1:7500

00 0 100 200 300 400 500

(metres)

STOCKDALE PROSPECTING LTD	
SHEOAK	SH28
Groundmagnetic Intensity	
Magnetic North Cont 2.5nT 31/10/91-1/11/91	
KIMBA S153-7	SEL:

000108



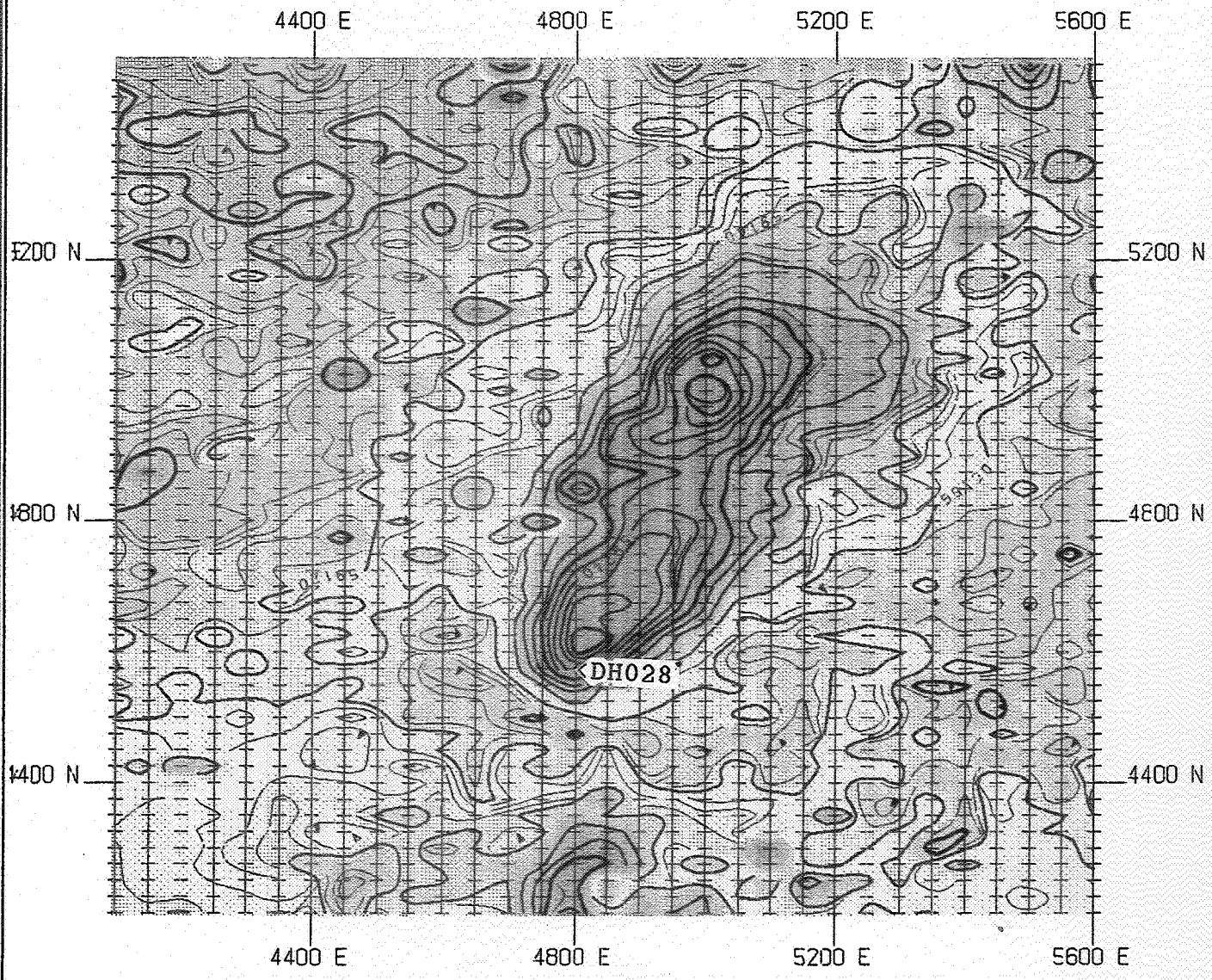
STOCKDALE PROSPECTING LTD	
SHEOAK	SH28
Groundmagnetic Intensity	
Magnetic North Cultural Map 31/10/91-1/11/91	
KIMBA S153-7	SEL:

000109

APPENDIX 3

Drill Logs and Ground Magnetic Contour Plots

1991 November Programme



Scale 1:10000

100 0 100 200 300 400 500

(metres)

STOCKDALE PROSPECTING LTD

SHEOAK SH4

Ground Magnetic Survey

Magnetic North

cont 5 nT

2 - 22.6.91

Kimba SI 53 - 7 SEL:

0001111

000112

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 1 /2

PROJECT: ELLISTON EXPLORATION LICENCE: 1694A CODE: 8374

1:100,000 SHEET: SHERINGA 1:50,000 SHEET: HUDD ANOMALY: SH04 D/H 028

DC: ELLISTON SECTION: 7 HUNDREDTH: HUDD OWNER: PETER AGARS

GRID COORDS: 4800E 457SN EASTING: 512034mE NORTHING: 6267108mN SAT: 2, 11, 16 PDOP: 1.4

DATE ST: 26.10.91 FN: 26.10.91 DRILLED BY: WALLIS RIG: MANTIS 200

DECLN: AZIMUTH: VERT. RL: D/H TYPE: AIRCORE

NON CORING TO: CORING TO: 53m CORING TO: EOH: 53m

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC X10^{-3}	COMMENTS RECOVERY
0 - 2	Qpb	FAWN CALCARENITE, IRON PISOLITES MOTTLED GREY FAWN SANDY CLAY	BM0861	1.40 1.80	SURFACE K 6.45 - 7.66
2 - 4		WHITE / BROWN CALCARENITE	62	0.10 0.11	
4 - 6		WHITE SANDY CLAY, WHITE CALCARENITE + FINE SANDY FRIABLE LAYERS	63	0.04 0.07	
6 - 8	Qpb / Ts	GREY FINE SANDY CLAY, WHITE NODULAR CALCRETE, YELLOW SANDSTONE	64	0.07 0.17	
8 - 10		GREY CLAYEY FINE SAND, WELL ROUNDED QTS GRAVELS	65	0.08	
10 - 12		GREY CLAYEY FINE SANDS, SUB ANGULAR - SUB ROUNDED QTS GRAVELS + PEBBLES	66	0.09 0.11	WATER ▽ TABLE
12 - 14		GREY - WHITE FINE SANDS, SUB TO WELL ROUNDED QTS GRAVELS	67	0.09 0.11	
14 - 16		GREY WHITE FINE SANDS, WELL ROUNDED QTS GRAVELS	68	0.14 0.16	
16 - 18		YELLOW FINE QTS SANDS, WELL ROUNDED QTS GRAVELS, YELLOW FINE GRAINED SANDSTONE	69	0.15 0.18	
18 - 20		FINE YELLOW SANDS, SUB - WELL ROUNDED QTS GRAVELS	70	0.12 0.14	
20 - 22		FINE YELLOW SANDS, SUB - WELL ROUNDED QTS GRAVELS	71	0.08	
22 - 24		FINE - MEDIUM YELLOW GREY SANDS SUB-WELL ROUNDED QTS GRAVELS	72	0.06	
24 - 26		FINE - COARSE SANDY GRAVELS, WHITE CLAY, MUSCOVITE, QTS PEBBLES QTS - SUB TO WELL ROUNDED	73	0.07 0.08	
26 - 28		PINK, YELLOW, BROWN, ORANGE, + GREY CLAYS LARGE MUSCOVITE PLATES, ANGULAR WHITE QTS GRAVELS, VERY FINE GRAINED RED SANDSTONE	74	0.06 0.07	
28 - 30	Aps	GREY CLAYS + GREEN PODS, ANGULAR QTS + PYRITE	75	0.05 0.06	

GEOLOGISTS: MSM / PDH DATE: 26.10.91

000113

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 2 /2

PROJECT: EXPLORATION LICENCE: CODE:

1:100,000 SHEET: 1:50,000 SHEET: ANOMALY: SHO4 D/H 028

DC: SECTION: HUNDREDTH: OWNER:

GRID COORDS: EASTING: NORTHING: SAT: PDOP:

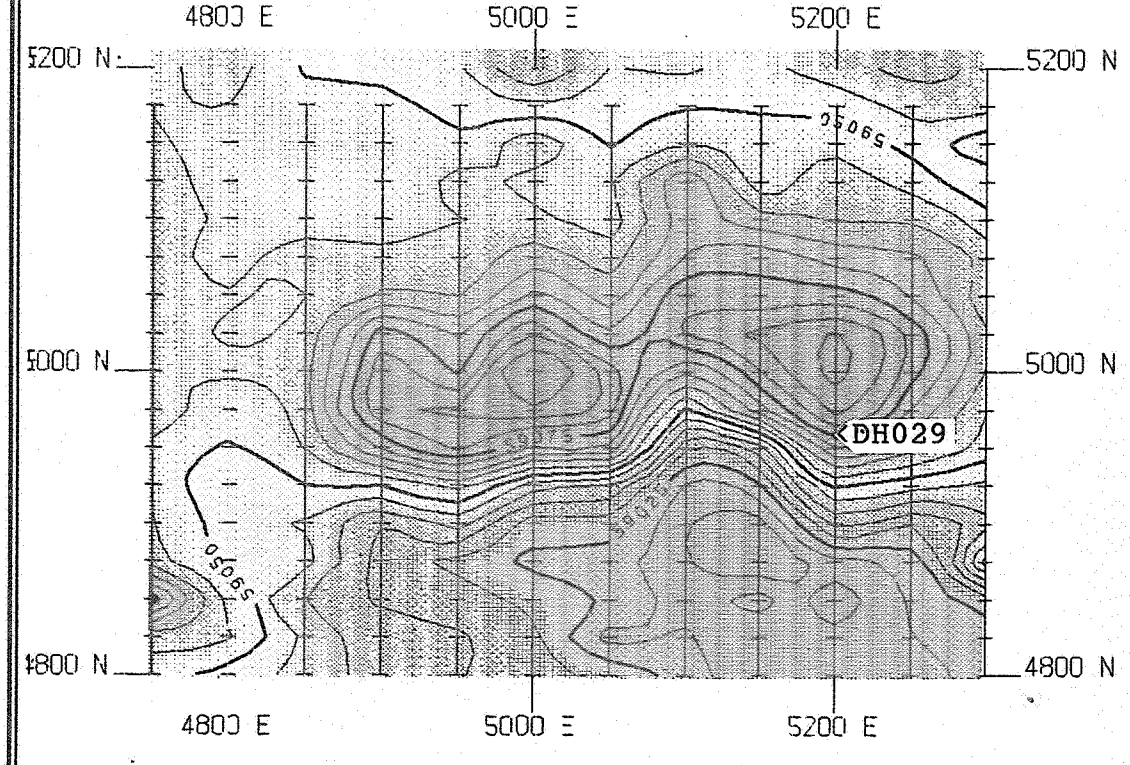
DATE ST: FN: DRILLED BY: RIG:

DECLN: AZIMUTH: RL: D/H TYPE:

NON CORING TO: CORING TO: CORING TO: EOH:

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC $X10^{-3}$	COMMENTS RECOVERY
30 - 32	Aps	GREY CLAY + GREEN CLASTS + NODULAR PYRITE	BM0876	0.05 0.07	
32 - 34		GREY MICACEOUS CLAY + NODULAR PYRITE	77	0.05 0.07	
34 - 36		GREY MICACEOUS CLAY	78	0.08 0.10	
36 - 38		GREY MICACEOUS (MUSCOVITE) CLAY + WEATHERED FELDSPAR.	79	0.04 0.18	
38 - 40		GREEN (CHLORITIZED) BIOTITE + SANDS	BM0880	0.13 0.15	
40 - 42		BADLY WEATHERED CHLORITIZED MAFIC ROCK, HORNBLENDE	81	0.13 0.15	
42 - 44		SOFT WHITE/GREEN CHLORITIZED MAFIC ROCK	82	0.11 0.13	
44 - 46		as above	83	0.11	
46 - 48		BADLY WEATHERED CHLORTIZED AMPHIBOLITE?	84	0.23 0.32	
48 - 50		as above	85	0.36	
50 - 52		as above	86	0.36 0.41	
52 - 53		WEATHERED AMPHIBOLITE, FELDSPAR, HORNBLENDE.	87	1.00 28.9	

GEOLOGISTS: DATE:



Scale 1:5000

50 0 50 100 150 200 250

(metres)

STOCKDALE PROSPECTING LTD

SHEOAK SH13
Groundmagnetic Intensity

Magnetic North
Contour 5nT
7-8/8/91

KIMBA S153-7 SEL:

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 1/4 000115

PROJECT: ELLISTON EXPLORATION LICENCE: 1694A CODE: 8374

1:100,000 SHEET: SHERINGA 1:50,000 SHEET: HUDD ANOMALY: SH13 D/H 029

DC: ELLISTON SECTION: 4 HUNDREDTH: HUDD OWNER: G. B. GILLETT

GRID COORDS: 5200E 4960N EASTING: 510094mE NORTHING: 6274968mN SAT: 2, 12, 24 PDOP: 1.5

DATE ST: 26.10.91 FN: 27.10.91 DRILLED BY: WALLIS RIG: MANTIS 200

DECLN: AZIMUTH: VERT RL: D/H TYPE: AIRCORE

NON CORING TO: CORING TO: 97m CORING TO: EOH: 97m

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC $X10^{-3}$	COMMENTS RECOVERY
0 - 2	Qpb	GREY BROWN CALCARENITE	BM0888	0.16 0.27	SURFACE K 0.37-0.71
2 - 4		FAWN - YELLOW CALCARENITE	89	0.09 0.11	
4 - 6		FAWN CALCARENITE, BROWN + GREEN CALCAREOUS SANDY CLAY	BM0890	0.45	
6 - 8	Qpb / Ts	NODULAR WHITE CALCRETE, FINE SANDY YELLOW GREY CLAY (MICACEOUS) RED BROWN FERRICRETE	91	0.07 0.12	
8 - 10		WHITE FINE CLAYEY SANDS, ROUNDED QTS GRAVELS, RED BROWN / OCHRE FERRICRETE	92	0.05 0.09	
10 - 12		LIGHT GREY + YELLOW FINE CLAYEY SANDS WELL ROUNDED QTS GRAVELS	93	0.09 0.10	
12 - 14		YELLOW FINE CLAYEY SANDS, WELL ROUNDED POLISHED QTS GRAVELS, FERRICRETE	94	0.03	WATER ▽
14 - 16	Tep	YELLOW FINE CLAYEY SANDS, BROWN CLAY WELL ROUNDED QTS (POLISHED) GRAVELS ODD WELL ROUNDED QTS PEBBLE	95	0.02 0.08	TABLE ---
16 - 18		GREY + BLACK SANDY CLAY, WOOD FRAGMENTS WELL ROUNDED POLISHED QTS GRAVELS + PEBBLES VITRINITE, GUM NUTS?	96	0.06 0.07	
18 - 20		BLACK CARBONACEOUS SANDY CLAY, WELL ROUNDED (POLISHED) QTS GRAVELS, VITRINITE LIGNITE	97	0.06 0.08	
20 - 22		BLACK CARBONACEOUS SANDY CLAY, GREY MICACEOUS MUDSTONE, THICK SANDSTONE (PARTLY PYRITIZED) LAYER, VITRINITE	98	0.08 0.21	
22 - 24		GREY MICACEOUS MUDSTONE, BLACK CARBONACEOUS MICACEOUS CLAY + SANDS, WELL ROUNDED QTS GRAVELS	99	0.21 0.35	
24 - 26		BLACK CARBONACEOUS SANDY MICACEOUS CLAY NODULAR MUD / MICA / PYRITE BALLS. MUSCOVITE WELL ROUNDED QTS PEBBLE!	BM0900	0.12 0.14	
26 - 28		BLACK CARBONACEOUS SANDY MICACEOUS CLAY GREY MICACEOUS MUDSTONE, WELL ROUNDED QTS GRAVEL	01	0.11 0.14	
28 - 30	Jup	GREY SANDY CLAY, SUB TO WELL ROUNDED QTS GRAVELS, ODD FELDSPAR, PYRITE NODULES, WELL ROUNDED QTS PEBBLES	02	0.07 0.11	WATER ▽ TABLE

GEOLOGISTS: MSM / PDH DATE: 27.10.91

000116

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 2 /4

PROJECT: EXPLORATION LICENCE: CODE:

1:100,000 SHEET: 1:50,000 SHEET: ANOMALY: SH13 D/H 029

DC: SECTION: HUNDREDTH: OWNER:

GRID COORDS: EASTING: NORTHING: SAT: PDOP:

DATE ST: FN: DRILLED BY: RIG:

DECLN: AZIMUTH: RL: D/H TYPE:

NON CORING TO: CORING TO: CORING TO: EOH:

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC X10^{-3}	COMMENTS RECOVERY
30 - 32	Jup	GREY CARBONACEOUS CLAYEY SAND, SUB TO WELL ROUNDED QTZ + FELDSPAR GRAVELS, ODD PEBBLE PYRITE NODULES	BH0903	0.08 0.09	WATER TABLE ----
32 - 34		GREY CARBONACEOUS SANDS, SUB ANGULAR TO WELL ROUNDED QTZ GRAVELS, PYRITE NODULES, LIGNITE QTZ PEBBLES, ODD FELDSPAR	04	0.07	
34 - 36		GREY CARBONACEOUS MUDS + SANDS, SUB TO WELL ROUNDED QTZ + FELDSPAR (MINOR) GRAVELS, PYRITE NODULES + CHALCOPYRITE	05	0.09 0.10	
36 - 38		GREY CARBONACEOUS SANDS + MUDS, SUB TO WELL ROUNDED QTZ GRAVELS, ODD PEBBLE, FELDSPARS, PYRITE CHALCOPYRITE NODULES, LIGNITE, MUSCOVITE	06	0.07	
38 - 40		GREY CARBONACEOUS MICACEOUS SANDY CLAY, PYRITE NODULES, MUDSTONE CLASTS, SUB TO WELL ROUNDED QTZ + FELDSPAR GRAVELS, MUSCOVITE	07	0.12 0.13	
40 - 42		GREY CARBONACEOUS SANDY CLAY, ODD QTZ + FELDSPAR GRAVEL, MICACEOUS PYRITE/MUD NODULES LIGNITE	08	0.12 0.13	
42 - 44		GREY CARBONACEOUS CLAY, MUDSTONE, PYRITE NODULES, MICA, LIGNITE, FELDSPAR + QTZ GRAVELS	09	0.05 0.07	
44 - 46		GREY CARBONACEOUS CLAYS, ANGULAR QTZ SANDS + ROUNDED QTZ + FELDSPAR GRAVEL, LIGNITE, PYRITE / MICA / MUD NODULES	BH0910	0.05 0.06	
46 - 48		GREY CARBONACEOUS SANDY CLAYS, SUB ANGULAR TO WELL ROUNDED QTZ GRAVELS, ODD PEBBLE FELDSPAR, MICACEOUS PYRITE / MUD NODULES, LIGNITE	11	0.09 0.10	MUSCOVITE ORANGE GROSSULAR? GARNET
48 - 50		GREY CARBONACEOUS SANDY CLAYS, MICACEOUS MUDSTONE, LIGNITE, SUB ANGULAR TO ROUNDED QTZ GRAVELS, PYRITE NODULES MUSCOVITE	12	0.06 0.07	
50 - 52		MICACEOUS MUDSTONE, LIGNITE, SUB ANGULAR TO SUB ROUNDED QTZ + FELDSPAR GRAVELS, MUSCOVITE LIGNITE, PYRITE NODULES	13	0.19 0.21	
52 - 54		BLACK MICACEOUS SILTSTONE, PYRITE / QTZ CHIPS WOOD FRAGMENTS, MUSCOVITE, ANGULAR TO ROUNDED QTZ + FELDSPAR GRAVELS	14	0.07 0.16	
54 - 56		GREY GREEN CARBONACEOUS CLAY, PYRITE, ANGULAR QTZ + FELDSPAR GRAVELS	15	0.08 0.11	
56 - 58		BLACK MICACEOUS SILTSTONE, PYRITE, QTZ + FELDSPAR GRAVELS, ANGULAR TO ROUNDED GREEN GREY CARBONACEOUS CLAY	16	0.01 0.09	
58 - 60	KIMBERLITE	WHITE CARBONACEOUS SANDY CLAY, YELLOW GREEN PELLETAL CLAY, MICACEOUS, ODD BLACK CARBONACEOUS SILTSTONE	17	0.12 0.47	

GEOLOGISTS: DATE:

000117

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 3 /4

PROJECT: EXPLORATION LICENCE: CODE:

1:100,000 SHEET: 1:50,000 SHEET: ANOMALY: SH13 D/H 029

DC: SECTION: HUNDREDTH: OWNER:

GRID COORDS: EASTING: NORTHING: SAT: PDOP:

DATE ST: FN: DRILLED BY: RIG:

DECLN: AZIMUTH: RL: D/H TYPE:

NON CORING TO: CORING TO: CORING TO: EOH:

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC $X10^{-3}$	COMMENTS RECOVERY
60 - 62	KIMBERLITE	OLIVE GREEN WEATHERED PELLETAL KIMBERLITE PELLETS APPEAR TO BE ORIENTATED, LOOSELY PACKED CALCITE, CARBONATE RICH	BM0918	1.52 1.87	
62 - 64		OLIVE GREEN PELLETAL KIMBERLITE, CLOSELY PACKED CARBONATE RICH ALTERED PHLOGOPITE IN FINE GROUNDMASS	19	1.51 1.72	
64 - 66		FINE CLOSELY PACKED PELLETAL KIMBERLITE ALTERED MICA, CARBONATE RICH, CALCITE CRYSTALS OLIVE GREEN COLOUR	BM0920	2.85 3.08	
66 - 68		CLOSELY PACKED PELLETS, CHLORITIZED? MICA CALCITE CRYSTALS, OLIVE GREEN COLOUR.	21	4.72 5.29	
68 - 70		DARK GREEN KIMBERLITE, PHLOGOPITE CALCITE RICH, MICA'S CHLORITIZED	22	2.54 2.84	
70 - 72		PALE BLUE GREEN PELLETAL KIMBERLITE, GNEISSIC XENOLITHS, INCREASED ANGULAR TUFFACEOUS MATERIAL, PHLOGOPITE, CALCITE	23	3.47 3.95	
72 - 74		as above	24	0.87 1.08	
74 - 76		BLUE GREEN KIMBERLITIC BRECCIA? LARGE ANGULAR BRECCIATED MATERIAL, FELDSPARS, LARGE OPAQUES PHLOGOPITE	25	8.02 9.03	
76 - 78		as above	26	6.55 7.29	
78 - 80		as above	27	5.06 6.36	
80 - 82		LOOSELY PACKED OLIVINE PELLETS, OPAQUES, ILMENITE, GARNETS, PHLOGOPITE, RED IRON STAINING IN PARTS, PALE GREEN KIMBERLITE, CALCITE	28	5.81 6.76	
82 - 84		PALE GREEN TUFFACEOUS KIMBERLITIC BRECCIA FELDSPAR XENOLITHS, CALCITE, PYROXENE, RED IRON - HEMATITE? XENOLITHS	29	5.72 6.50	
84 - 86		OLIVINE PELLETS, MODERATELY WELL PACKED ANGULAR XENOLITH'S, FINE OPAQUES DISSEMINATED SPINEL + ILMENITE	BM0930	4.77 5.10	
86 - 88		as above	31	4.48 5.76	
88 - 90	↓	OLIVE GREEN TUFFACEOUS KIMBERLITIC BRECCIA LOOSELY PACKED PELLETS, SMALL ANGULAR XENOLITHS MELSIC, MODERATE SIZE REACTION RIMS	32	8.31 8.44	

GEOLOGISTS: DATE:

000118

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 4/4

PROJECT: EXPLORATION LICENCE: CODE:

1:100,000 SHEET: 1:50,000 SHEET: ANOMALY: SH13 D/H 029

DC: SECTION: HUNDREDTH: OWNER:

GRID COORDS: EASTING: NORTHING: SAT: PDOP:

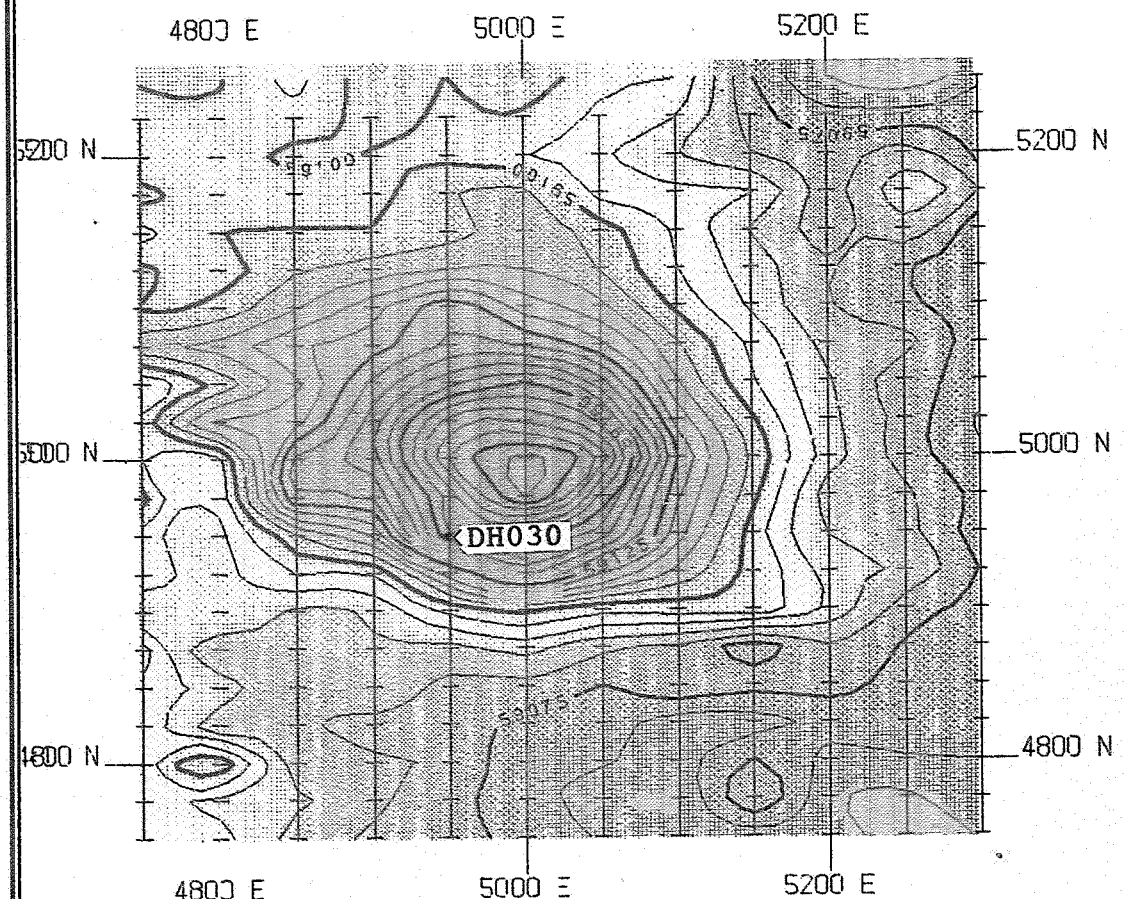
DATE ST: FN: DRILLED BY: RIG:

DECLN: AZIMUTH: RL: D/H TYPE:

NON CORING TO: CORING TO: CORING TO: EOH:

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC X10^{-3}	COMMENTS RECOVERY
90 - 92	KIMBERLITE	OLIVE GREEN KIMBERLITE, GNEISSIC XENOLITHS RED HEMATITIC XENOLITHS, MODERATELY WELL PACKED PELLETS (OLIVINE)	BM0933	4.61 6.70	
92 - 94		INCREASE COARSELY TEXTURED KIMBERLITE GNEISSIC XENOLITHS, RED HEMATITIC XENOLITHS MODERATELY WELL PACKED PELLETS, OLIVE GREEN	34	6.15 7.29	
94 - 96		as above	35	5.46 5.48	
96 - 97	Aps	DARK OLIVE GREEN KIMBERLITE, FELDSPAR XENOLITHS, RED HEMATITIC XENOLITHS LAST 20cm GNEISSIC BASEMENT + KIMBERLITIC STRINGERS	36	3.52 3.96	

GEOLOGISTS: DATE:



Scale 1:5000

50 0 50 100 150 200 250

(metres)

STOCKDALE PROSPECTING LTD
SHEOAK SH9 Groundmagnetic Survey
Magnetic North Cont 5nT 3 - 4.7.91
KIMBA S153-7 SEL:

0001119

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 1/4 000120

PROJECT: ELLISTON EXPLORATION LICENCE: 1694A CODE: 8374

1:100,000 SHEET: SHERINGA 1:50,000 SHEET: HUDD ANOMALY: SH09 D/H030

DC: ELLISTON SECTION: 4 HUNDREDTH: HUDD OWNER: G.B. GILLETT

GRID COORDS: 4950E 4950N EASTING: 508479mE NORTHING: 6274817mN SAT: 11,16,19 PDOP: 2.0

DATE ST: 27.10.91 FN: 28.10.91 DRILLED BY: WALLIS RIG: MANTIS 200

DECLN: AZIMUTH: VERT. RL: D/H TYPE: AIRCORE

NON CORING TO: CORING TO: 94.1m CORING TO: EOH: 94.1m

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC $X10^{-3}$	COMMENTS RECOVERY
0 - 2	Qpb	CREAM SHELLY CALCARENITE, WHITE SANDY CALCRETE	BM0937	1.60 1.98	SURFACE K 4.27 - 5.17
2 - 4		MOTTLED + SHELLY TO INDURATED CALCARENITE CREAM BROWN + FAWN.	38	0.20 0.21	
4 - 6		INDURATED CALCARENITE (WHITE), SHELLY IN PARTS, GREEN SANDY CLAY, NODULAR CALCRETE	39	0.05 0.06	
6 - 8		GREY/OCHRE FINE SANDY CLAY, CREAM NODULAR CALCRETE, OOD FERRICRETE	40	0.03 0.04	
8 - 10		GREY + OCHRE GREEN SANDY CLAY + NODULAR CALCRETE, + FERROCRETE	41	0.08 0.09	WATER TABLE ▽
10 - 12	Qpb/Ts	LIGHT GREY SANDY CLAY, RED + YELLOW CLAYEY SAND, FERRICRETE, NODULAR CALCRETE, WELL ROUNDED QTS GRAVELS	42	0.07 0.08	----
12 - 14		FINE RED + YELLOW CLAYEY SANDS, FERRICRETE ROUNDED QTS GRAVELS	43	0.02 0.17	
14 - 16	Tep	BLACK + GREY CLAY, FERRICRETE, OOD ROUNDED QTS GRAVEL	44	0.00 0.01	
16 - 18		BLACK + GREY CLAY, SUB TO WELL ROUNDED (POLISHED) QTS GRAVELS + PEBBLES, FERROCRETE	45	0.06 0.10	=
18 - 20		BLACK MICACEOUS CLAY, FINE MICACEOUS SANDSTONE, WELL ROUNDED QTS GRAVELS AND PEBBLES	46	0.13 0.14	
20 - 22		BLACK CLAY, RED FERRUGINOUS SANDSTONE WELL ROUNDED QTS GRAVELS + PEBBLES, LIGNITE MUDSTONE	47	0.09 0.12	
22 - 24		GREENISH BLACK CLAY, SUB TO WELL ROUNDED QTS GRAVELS (POLISHED) PYRITE, LIGNITE, FELDSPAR	48	0.10 0.14	
24 - 26		GREENISH BLACK MICACEOUS CLAY + MUDSTONE	49	0.25 0.35	
26 - 28		GREENISH GREY MICACEOUS MUDSTONE, CLAYS WELL ROUNDED QTS GRAVELS (POLISHED) LIGNITE, OOD FELDSPAR	50	0.11 0.14	
28 - 30		GREEN GREY MICACEOUS SANDY CLAY, SUBROUNDED TO WELL ROUNDED QTS GRAVELS, LIGNITE, PYRITE	51	0.08 0.09	

GEOLOGISTS: MSM/PDH DATE: 28.10.91

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET

 000121

PROJECT: EXPLORATION LICENCE: CODE:

1:100,000 SHEET: 1:50,000 SHEET: ANOMALY: SH09 D/H030

DC: SECTION: HUNDREDTH: OWNER:

GRID COORDS: EASTING: NORTHING: SAT: PDOP:

DATE ST: FN: DRILLED BY: RIG:

DECLN: AZIMUTH: RL: D/H TYPE:

NON CORING TO: CORING TO: CORING TO: EOH:

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC X10^{-3}	COMMENTS RECOVERY
30 - 32	Tep	CARBONACEOUS GREENISH BLACK MICACEOUS CLAY, WELL ROUNDED (POLISHED) QTS GRAVEL LIGNITE, GREY MICACEOUS MUDSTONE	BM0952	0.11 0.13	
32 - 34		CARBONACEOUS GREENISH BLACK MICACEOUS CLAYS + MUDS, LIGNITE, MUSCOVITE, QTS GRAVELS + SANDS	53	0.17 0.22	
34 - 36		GREY BROWN MUDSTONE, SUB TO WELL ROUNDED POLISHED QTS, LIGNITE, ODD FELDSPAR, CARBONACEOUS CLAYS	54	0.12 0.16	
36 - 38		GREENISH BLACK CARBONACEOUS SANDY CLAYS LIGNITE, QTS GRAVEL SUB ROUNDED, PYRITE	55	0.13 0.21	
38 - 40		GREENISH BLACK CARBONACEOUS SANDY CLAYS, PYRITE NODULES, WELL ROUNDED QTS POLISHED GRAVELS.	56	0.11 0.16	
40 - 42	Jup	GREENISH BLACK CARBONACEOUS/MICACEOUS CLAY, GREY MUDSTONE, LIGNITE, PYRITE	57	0.08 0.15	
42 - 44		GREEN/BLACK CARBONACEOUS MICACEOUS SANDS, GREY MICACEOUS MUDSTONE LIGNITE SUBROUNDED + SUBANGULAR QTS + FELDSPAR.	58	0.08 0.14	
44 - 46		GREENISH BLACK CARBONACEOUS/MICACEOUS SANDY CLAY, GREY MICACEOUS MUDSTONE LIGNITE	59	0.07 0.08	WATER ∇ TABLE
46 - 48		GREENISH BLACK CARBONACEOUS/MICACEOUS SANDY CLAY, GREY MICACEOUS MUDSTONE, LIGNITE	BM0960	0.07 0.08	
48 - 50		GREENISH BLACK CARBONACEOUS SANDY GRAVELS + CLAY, GREY MICACEOUS MUDSTONE PYRITE, LIGNITE	61	0.07 0.12	
50 - 52		GREENISH BLACK CARBONACEOUS SANDY GRAVELS, GREY MICACEOUS MUDSTONE, PYRITE, LIGNITE, ANG. TO SUBANG. QTS + FELD. GRAVELS. W.R. PEBBLES	62	0.07 0.15	
52 - 54		GREEN BLACK MICACEOUS SILTSTONE, LIGNITE MUSCOVITE (CARBONACEOUS)	63	0.07 0.09	
54 - 56		BLACK CARBONACEOUS/MICACEOUS SANDY CLAY/ BLACK MICACEOUS SILTSTONE, LIGNITE, MUSCOVITE	64	0.02 0.07	
56 - 58		BLACK CARBONACEOUS SANDY CLAY, MICACEOUS SILTSTONE, LIGNITE, PYRITE	65	0.07 0.08	
58 - 60		BLACK SANDY WOODY GRAVELS, BLACK CARBONACEOUS SILTSTONE, LIGNITE, PYRITE, QTS + FELDSPAR GRAVEL	66	0.08 0.14	

GEOLOGISTS: DATE:

000122

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 3 /4

PROJECT: EXPLORATION LICENCE: CODE:

1:100,000 SHEET: 1:50,000 SHEET: ANOMALY: SH09 D/H 030

DC: SECTION: HUNDREDTH: OWNER:

GRID COORDS: EASTING: NORTHING: SAT: PDOP:

DATE ST: FN: DRILLED BY: RIG:

DECLN: AZIMUTH: RL: D/H TYPE:

NON CORING TO: CORING TO: CORING TO: EOH:

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC X10^{-3}	COMMENTS RECOVERY
60 - 62	Jup	WHITE SANDY WOODY CLAYS, GREY MICACEOUS MUDSTONE, LIGNITE, ANGULAR QTS + FELDSPAR GRAVELS	BM0967	0.09 0.12	
62 - 64	↓	WHITE SANDY WOODY CLAYS, GREY MICACEOUS MUDSTONE, LIGNITE, ANGULAR QTS	68	0.11 0.26	
64 - 66	Jup / KIMBERLITE	GREY GREEN SILTS, PYRITE, ANGULAR QTS + FELDSPAR GRAVELS + PEBBLES, SOFT GREEN KIMBERLITIC CLAYS	69	0.11 0.14	
66 - 68		WEATHERED VERY FINE GRAINED KIMBERLITE, PHLOGOPITE RICH, OLIVE GREEN COLOUR, CALCITE VEINING	BM0970	3.46 3.56	
68 - 70		WEATHERED FINE GROUND MASS PELLETAL OLIVE GREEN KIMBERLITE, PHLOGOPITE RICH + CALCITE VEINING	71	1.55 3.05	
70 - 72		OLIVE GREEN KIMBERLITE, IRREGULAR PELLETIC TEXTURE, LARGE BLUE (WEATHERED) PHLOGOPITE PLATES, LARGE MAFIC XENOLITHS	72	2.16 2.66	
72 - 74		AS ABOVE	73	1.04 1.71	
74 - 76		AS ABOVE	74	1.08 1.28	
76 - 78		PALE GREEN KIMBERLITE, CLOSELY PACKED PELLETAL TEXTURE, IRREGULAR SHAPED LAPPILLI'S? LARGE PHLOGOPITE BOOKS	75	1.47 1.50	
78 - 80		AS ABOVE	76	0.89 1.76	
80 - 82		PALE GREEN KIMBERLITE, FINE CLOSELY PACKED PELLETS, IRREGULAR SHAPED, LARGE PHLOGOPITE MICAS, BASALTIC? XENOLITHS	77	0.81 0.87	
82 - 84		AS ABOVE	78	1.05 1.44	
84 - 86		AS ABOVE	79	1.17 1.26	
86 - 88		AS ABOVE	BM0980	1.57	
88 - 90	↓	GREEN PELLETAL KIMBERLITE, PHLOGOPITE RICH GNEISSIC + BASALTIC XENOLITHS	81	1.31 2.00	

GEOLOGISTS: DATE:

000123

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 4/4

PROJECT: EXPLORATION LICENCE: CODE:

1:100,000 SHEET: 1:50,000 SHEET: ANOMALY: SH09 D/H 030

DC: SECTION: HUNDREDTH: OWNER:

GRID COORDS: EASTING: NORTHING: SAT: PDOP:

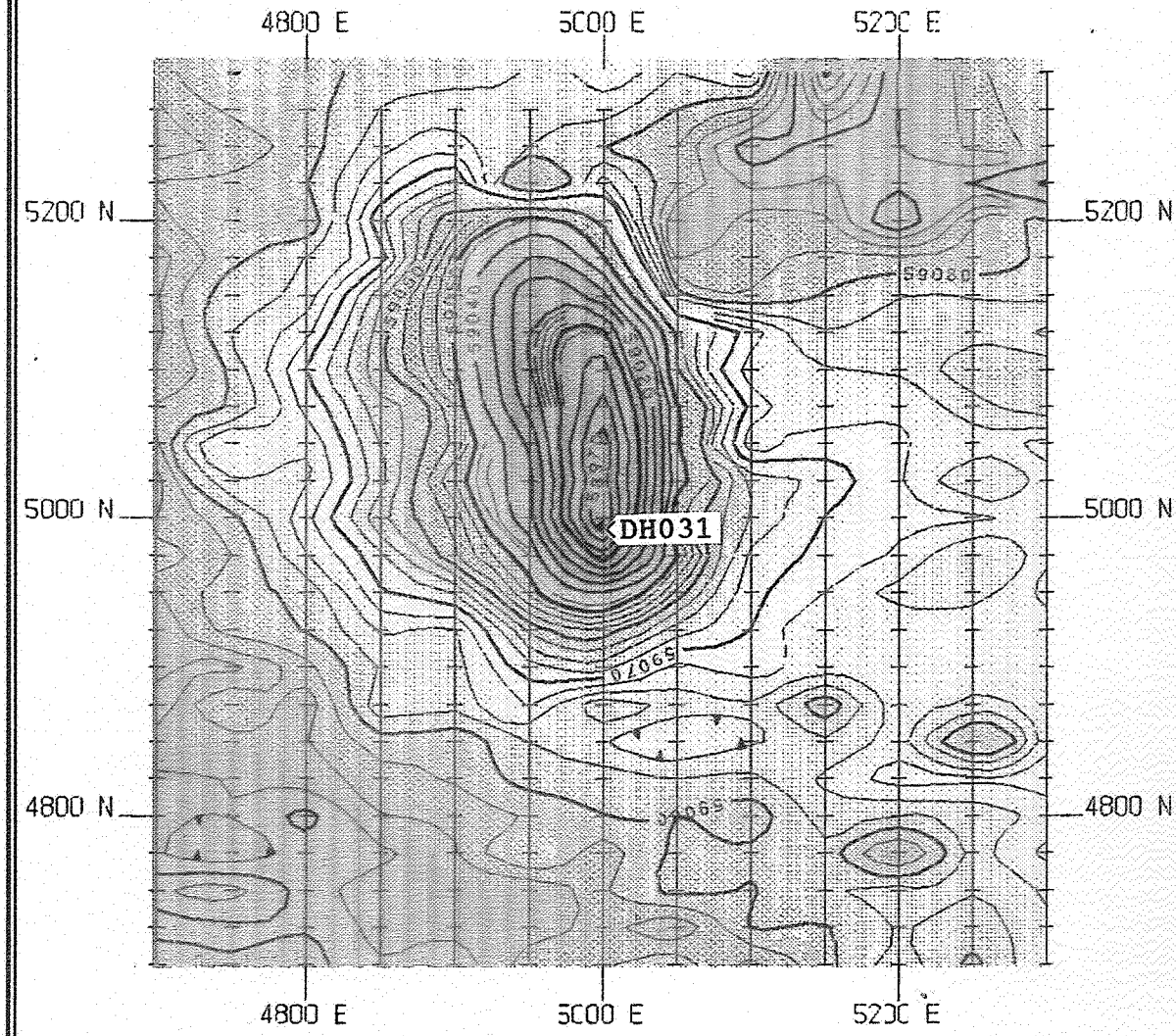
DATE ST: FN: DRILLED BY: RIG:

DECLN: AZIMUTH: RL: D/H TYPE:

NON CORING TO: CORING TO: CORING TO: EOH:

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC $X10^{-3}$	COMMENTS RECOVERY
90 - 92	KIMBERLITE	GREEN KIMBERLITIC CHIPS, PHLOGOPITE RICH GNEISSIC + BASALTIC XENOLITHS	BM0982	1.39 1.96	
92 - 94.1	KIMBERLITE 92 - Apx 93.75	93.75 GREEN PELLETAL KIMBERLITE + GNEISS XENOLITHS - 94.1 GNEISS BASEMENT? (350mm)	83	1.37 1.68	
		N.B. ROUNDED QTZ GRAVELS, LIGNITE, WERE RECOVERED AT THE EOH: PROBABLE CONTAMINATION.			

GEOLOGISTS: DATE:



Scale 1:5000

50 0 50 100 150 200 250

(metres)

STOCKDALE PROSPECTING LTD

SHEOAK SH08

Ground Magnetic Intensity

Magnetic North
cont 2.5nt
8.8.91

KIMBA S153 - 7 SEL:

000124

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 1/2 000125

PROJECT: ELLISTON EXPLORATION LICENCE: 1694A CODE: 8374

1:100,000 SHEET: SHERINGA 1:50,000 SHEET: HUDD ANOMALY: SH08 D/H 031

DC: ELLISTON SECTION: 4 HUNDREDTH: HUDD OWNER: G.B.GILLET

GRID COORDS: 5000E 4990N EASTING: 509002mE NORTHING: 6273571mN SAT: 2,11,16 PDOP: 1.3

DATE ST: 28.10.91 FN: 28.10.91 DRILLED BY: WALLIS RIG: MANTIS 200

DECLN: AZIMUTH: VERT. RL: D/H TYPE: AIRCORE

NON CORING TO: CORING TO: 60m CORING TO: EOH: 60m

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC X10^{-3}	COMMENTS RECOVERY
0 - 2	Qpl	CREAM FAWN CALCARENITE	BM0985	0.42 0.44	SURFACE K 3.68 - 4.45
2 - 4	↓	SOFT NODULAR CALCRETE, WHITE CALCAREOUS SANDS	86	0.02	
4 - 6	↓	CALCRETE, NODULAR, YELLOW + GREEN SANDY CLAYS, MINOR FERRICRETE, MOTTLED OCHRE CLAY, FERRUGINOUS STAINING	87	0.06 0.09	
6 - 8	Qpl / Ts	ODD WHITE NODULAR CALCRETE, OCHRE BROWN FERRICRETE, GREEN + BROWN CLAYS FERRUGINOUS CLASTS + LIMONITIC SANDY CLAY.	88	0.11 0.16	
8 - 10	↓	LIMONITIC (YELLOW) CLAYEY SANDS (FINE) FERRICRETE, OCHRE SANDSTONE.	89	0.15 0.18	WATER TABLE ▽
10 - 12	↓	LIMONITIC CLAYEY SANDS, FERRICRETE OCHRE SANDSTONE + WELL ROUNDED QTZ GRAVELS	BM0990	0.08 0.14	
12 - 14	↓	YELLOW MEDIUM/FINE CLAYEY SANDS, OCHRE SANDSTONE, FERRICRETE + WELL ROUNDED QTZ GRAVELS	91	0.09 0.15	
14 - 16	Tfe / Jup	YELLOW MEDIUM/FINE CLAYEY SANDS TO ISM OCHRE SANDSTONE, MINOR QTZ PEBBLES WELLROUNDED TO SUBANGULAR QTZ + FELDSPAR, GREY DARK CLAYEY SAND	92	0.06 0.14	
16 - 18	Jup	GREY MICACEOUS CLAY, PYRITE BALLS, LIGNITE	93	0.06 0.12	
18 - 20	Jup / KIMBERLITE	GREY MICACEOUS CLAY, LIGNITE, PYRITE, QTZ + FELDSPAR GRAVELS, GREY GREEN KIMBERLITIC ? CLAY	94	0.29 0.59	
20 - 22	↓	GREY GREEN CLAY + PYRITE, BLUE GREEN KIMBERLITE, LOOSELY PACKED CIRCULAR LAPILLIS VERY FINE PHLOGOPITE	95	1.33 2.52	
22 - 24		GREEN KIMBERLITE PELLETAL, FINE PHLOGOPITE, TUFFACEOUS KIMBERLITIC BRECCIA	96	0.85 1.48	
24 - 26		GREEN KIMBERLITE, VERY LARGE GNEISSIC XENOLITHS, PELLETAL FINE MICAS (PHLOGOPITE) TKB	97	1.45 2.03	
26 - 28		as above	98	5.27 5.78	
28 - 30	↓	GREEN TUFFACEOUS KIMBERLITIC BRECCIA + VERY LARGE GNEISS FRAGMENTS	99	4.17 4.59	

GEOLOGISTS: MM / PDH DATE: 28.10.91

000126

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 2/2

PROJECT: EXPLORATION LICENCE: CODE:

1:100,000 SHEET: 1:50,000 SHEET: ANOMALY: SH08 D/H 031

DC: SECTION: HUNDREDTH: OWNER:

GRID COORDS: EASTING: NORTHING: SAT: PDOP:

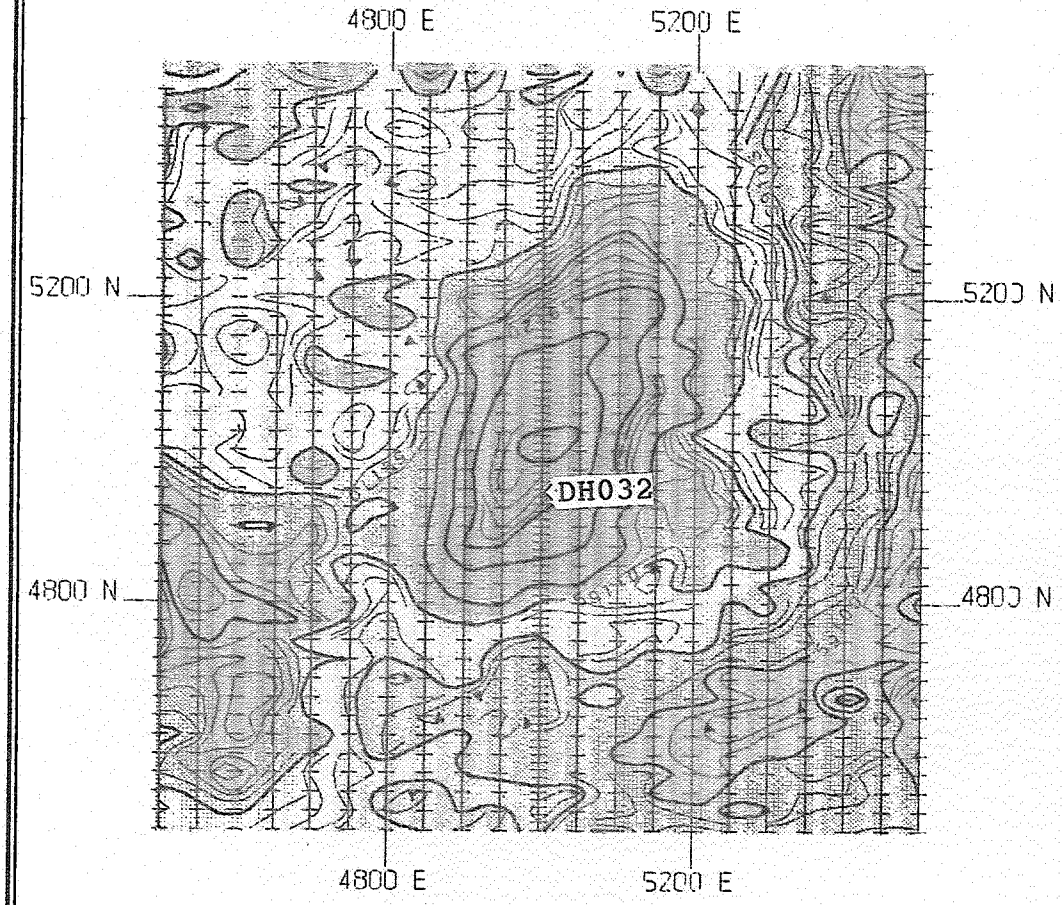
DATE ST: FN: DRILLED BY: RIG:

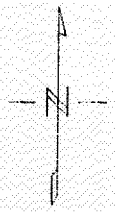
DECLN: AZIMUTH: RL: D/H TYPE:

NON CORING TO: CORING TO: CORING TO: EOH:

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC $X10^{-3}$	COMMENTS RECOVERY
30 - 32	KIMBERLITE	KIMBERLITE - TUFFACEOUS BRECCIA + LARGE GNEISSIC FRAGMENTS	BM1000	3.04 4.23	
32 - 34		GREY GREEN KIMBERLITE LOOSELY PACKED OLIVINE LAPILLI'S, PHLOGOPITE, PEROVSKITE, CALCITE VEINING GNEISSIC XENOLITHS	01	0.17 0.35	
34 - 36	Aps+Kimb	GREEN GREY SANDS OF GNEISS, VEIN QTZ, MUSCOVITE + FELDSPARS, KIMBERLITE STRINGERS	02	0.17 0.19	
36 - 38		GNEISS, FELDSPAR RICH, MUSCOVITE, GREEN KIMBERLITIC STRINGERS	03	0.07	
38 - 40	Aps	GNEISS, FELDSPAR RICH + MUSCOVITE WEATHERED	04	0.08 0.11	
40 - 42		AS ABOVE	05	0.24 0.26	
42 - 44		AS ABOVE	06	0.15 0.16	
44 - 46		GREEN MICACEOUS CLAY, GNEISSIC CHIPS FELDSPAR + MUSCOVITE	07	0.14 0.15	
46 - 48		GNEISSIC FRAGMENTS, QTZ VEINING MUSCOVITE	08	0.17 0.19	
48 - 50		GNEISSIC FRAGMENTS, QTZ VEINING BIOTITE	09	0.14 0.17	
50 - 52		GNEISSIC FRAGMENTS, BIOTITE	BM0910	0.08 0.09	
52 - 54		GNEISSIC FRAGMENTS + VEIN QTZ	11	0.08 0.09	
54 - 56		AS ABOVE	12	0.12 0.13	
56 - 58		GNEISS, ABUNDANT FELDSPAR + BIOTITE + QTZ	13	0.19 0.21	
58 - 60		GNEISSIC BASEMENT.	14	0.13 0.19	

GEOLOGISTS: DATE:





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(metres)

STOCKDALE PROSPECTING LTD
SHEOAK SH27 Groundmagnetic Intensity
Magnetic North Cont InT 24/9/91
KIMBA SI53-7 SEL:

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET

000128

PAGE 1/3

PROJECT: ELLISTON EXPLORATION LICENCE: 1694A CODE: 8374

1:100,000 SHEET: SHERINGA 1:50,000 SHEET: HUDD ANOMALY: SH27 D/H032

DC: ELLISTON SECTION: 38 HUNDREDTH: WARD OWNER: G.B. GILLETT

GRID COORDS: 5000E 4950N EASTING: 507600mE NORTHING: 6271946mN SAT: 13, 14, 19 PDOP: 1.8

DATE ST: 28.10.91 FN: 29.10.91 DRILLED BY: WALLIS RIG: MANTIS 200

DECLN: AZIMUTH: VERT RL: D/H TYPE: AIRCORE

NON CORING TO: CORING TO: 69m CORING TO: EOH: 69m

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC $X10^{-3}$	COMMENTS RECOVERY
0 - 2	Qpb	FAWN + CREAM CALCARENITE	BM1015	0.08 0.11	SURFACE K 0.37-0.64
2 - 4		NODULAR FAWN CREAM SANDY CALCRETE	16	0.08	
4 - 6		WHITE CALCAREOUS SANDS, MINOR GREEN/OCHRE SANDY CLAYS + INDURATED CALCARENITE	17	0.07	
6 - 8		INDURATED CALCARENITE, OCHRE BROWN CLAY	18	0.08 0.10	
8 - 10		WHITE + YELLOW CALCARENITE, WHITE + LIGHT BROWN CLAY, MINOR OCHRE FERRICRETE	19	0.08 0.09	
10 - 12		MINOR WHITE CALCARENITE, CLEAN YELLOW SANDSTONE	BM1020	0.06 0.08	
12 - 14	Qpb / Ts	WHITE NODULAR CALCRETE, GREY SILT, YELLOW QTZ RICH SANDSTONE, GREY/BROWN QTZ RICH CLAY	21	0.09 0.10	
14 - 16		GREEN + OCHRE CLAYS, WELL ROUNDED QTZ GRAVELS, YELLOW SANDSTONE, WHITE QTZ RICH SANDSTONE.	22	0.06 0.08	WATER ▽ TABLE
16 - 18		YELLOW QTZ SANDS, MINOR CLAYS, FINE QTZ RICH SANDSTONE, ODD QTZ GRAVEL.	23	0.09	
18 - 20		WHITE FINE SANDY CLAY, WELL ROUNDED QTZ + FELDSPAR GRAVELS	24	0.06 0.10	
20 - 22		BROWN MEDIUM/FINE SAND (ANGULAR TO ROUNDED) QTZ + FELDSPAR, MINOR CLAY	25	0.06 0.08	
22 - 24		AS ABOVE	26	0.10	
24 - 26		BROWN MEDIUM/FINE SANDS, QTZ GRAVELS WELL TO SUB ROUNDED, FELDSPARS, FERRICRETE	27	0.05 0.06	
26 - 28		BROWN SANDS + CLAYS, MUSCOVITE, QTZ GRAVELS ROUNDED QTZ + FELDSPAR PEBBLES	28	0.05	
28 - 30		YELLOW SANDS FERRICRETE, WELL TO SUBROUNDED QTZ, GNEISSIC GRAVEL.	29	0.05 0.07	

GEOLOGISTS: MSM/PDH DATE: 29.10.91

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 2/3

000129

PROJECT: EXPLORATION LICENCE: CODE:

1:100,000 SHEET: 1:50,000 SHEET: ANOMALY: SH27 D/H 032

DC: SECTION: HUNDREDTH: OWNER:

GRID COORDS: EASTING: NORTHING: SAT: PDOP:

DATE ST: FN: DRILLED BY: RIG:

DECLN: AZIMUTH: RL: D/H TYPE:

NON CORING TO: CORING TO: CORING TO: EOH:

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC $X10^{-3}$	COMMENTS RECOVERY
30 - 32	T_s	YELLOW BROWN SAND, MINOR CLAY, SUB TO WELL ROUNDED QTZ GRAVELS	BM1030	0.07 0.08	
32 - 34	↓	GREENISH BROWN SANDY CLAY, QTZ RICH GARNET BEARING FELSIC CHIPS	31	0.05	
34 - 36	T_{ep}	GREEN/GREY FINE SANDY CLAY, MICACEOUS SUBROUNDED QTZ, FERRUGINOUS SANDSTONE PYRITE NODULES, MUSCOVITE, LIGNITE	32	0.09 0.10	
36 - 38		AS ABOVE	33	0.06 0.07	
38 - 40		GREEN/GREY CARBONACEOUS MICACEOUS CLAY LIGNITE, PYRITE, QTZ RICH (+ MUSCOVITE) PEBBLES	34	0.10 0.13	
40 - 42		AS ABOVE	35	0.11 0.15	
42 - 44		AS ABOVE	36	0.09	
44 - 46		GREEN/GREY CARBONACEOUS MICACEOUS CLAY CHALCOPYRITE, PYRITE, LIGNITE, QTZ GRAVELS, ODD FELDSPAR, MUSCOVITE, GRAVELS WELL ROUNDED	37	0.05 0.10	WATER TABLE ▽
46 - 48	↓	GREEN/GREY MICACEOUS SANDY CLAY, LIGNITE FELDSPAR + QTZ ROUNDED GRAVELS, ODD PEBBLE ODD FERRICRETE	38	0.14 0.19	
48 - 50	J_{up}	GREEN/GREY MUD + ANGULAR QTZ GRAVEL, GREYWACKE (MICACEOUS), PYRITE, MUSCOVITE	39	0.06 0.16	
50 - 52		BLACK/BROWN MICACEOUS SANDY SILT, LIGNITE, MUSCOVITE, GREYWACKE, WELL ROUNDED QTZ GRAVEL	BM1040	0.14 0.17	
52 - 54		BLACK/BROWN MICACEOUS SILT, LIGNITE, PYRITE, GREYWACKE, ODD QTZ GRAVEL	41	0.25 0.36	
54 - 56		LIGHT BROWN SANDY CLAY, PYRITE, MUSCOVITE, QTZITE PEBBLES, BLUE/WHITE COLOURED SANDS	42	0.04 0.08	
56 - 58		BROWN CLAYEY SAND, WHITE QTZ/MICA/PYRITE WEATHERED IGNEOUS ROCK CHIPS	43	0.22 0.26	
58 - 60	WEATHERED ULTRAMAFIC	GREY/BROWN CLAYEY SAND, BROWN CLAY + PINK MOTTLING MUSCOVITE, WEATHERED IGNEOUS TEXTURED ROCK SULPHIDE MINERALISATION/BIOTITE/BROWN WHITE CLAYS	44	0.21 0.33	

GEOLOGISTS: DATE:

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 3 /3

000130

PROJECT: EXPLORATION LICENCE: CODE:

1:100,000 SHEET: 1:50,000 SHEET: ANOMALY: SH 27 D/H 032

DC: SECTION: HUNDREDTH: OWNER:

GRID COORDS: EASTING: NORTHING: SAT: PDOP:

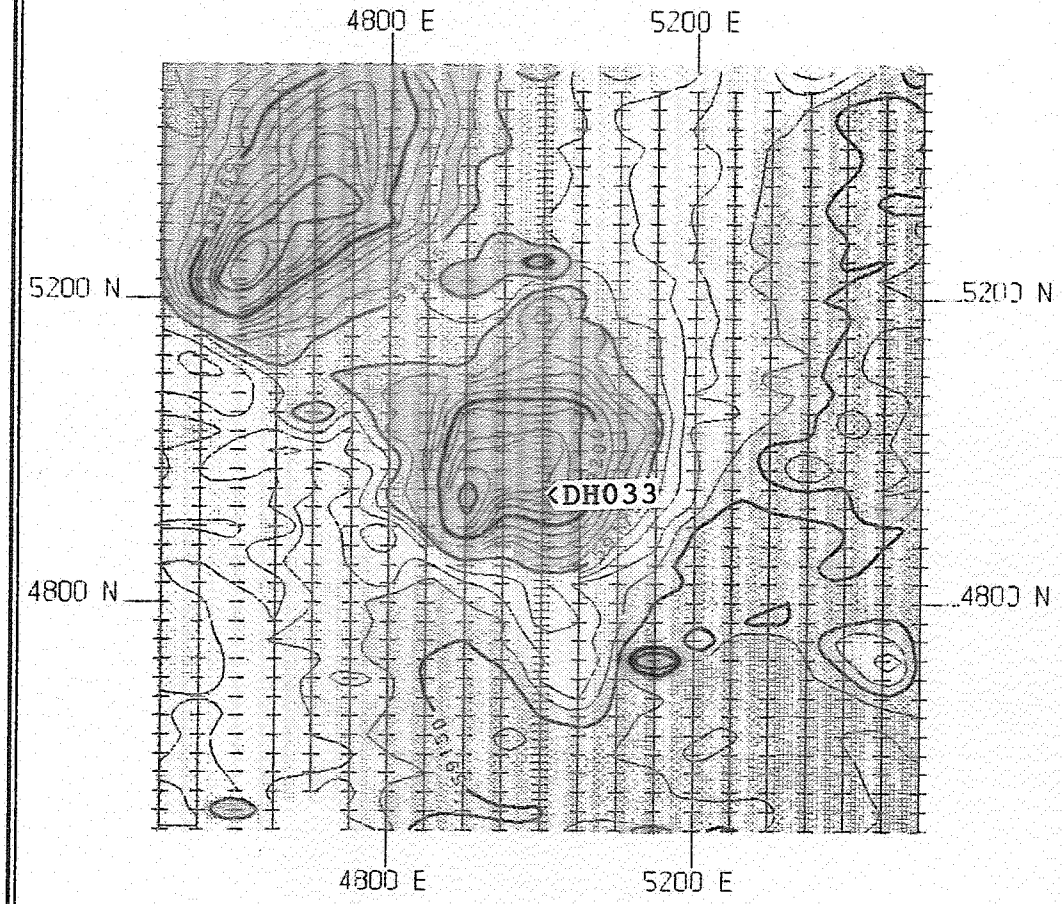
DATE ST: FN: DRILLED BY: RIG:

DECLN: AZIMUTH: RL: D/H TYPE:

NON CORING TO: CORING TO: CORING TO: EOH:

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC X10^{-3}	COMMENTS RECOVERY
60 - 62	ALTERED ULTRAMAFIC	BLUE GREEN CLAY + GREEN CHERT WEATHERED PALE GREEN IGNEOUS ROCK POSSIBLY ULTRAMAFIC?, VEIN QTZ	BM1045	0.45 0.47	
62 - 64		BLUE GREEN MOTTLED GREY CLAY, BROWN VESECULAR GOSSAN, ZEOLITES (CALCITE) IN VESECULES GREY GREEN FINE GRAINED ULTRAMAFIC ROCK CHIPS	46	0.54 0.56	DOWN
64 - 66		BROWN IRON OXIDE RICH, GOSSANROUS, CALLITE RICH ALTERED ULTRAMAFIC. SILICIFIED + BRECCIATED IN PARTS, MINOR AZURITE + MALACHITE?	47	0.85 0.97	THE WHOLE
66 - 68		IRON RICH HEMATITIC ALTERATION CONTACT ON BLUE/BLACK FINE GRAINED LAYERED? ALTERED ULTRAMAFIC + CALCITE VEINING	48		SAND CONTAMINATI
68 - 69	↓	GREEN MICACEOUS (BIOTITE) LAYERED ALTERED ULTRAMAFIC (IN PARTS)	49		

GEOLOGISTS: DATE:



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Scale 1:10000

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(metres)

STOCKDALE PROSPECTING LTD

ELLISTON - SH26

Ground Magnetic Intensity

Contour interval = 5

20.09.91

MSM

S153-07 SEL:

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 1/3

PROJECT: ELLISTON EXPLORATION LICENCE: 1694A CODE: 8374

1:100,000 SHEET: SHERINGA 1:50,000 SHEET: HUDD ANOMALY: SH26 D/H 033

DC: ELLISTON SECTION: 58 HUNDREDTH: WARD OWNER: BRUCE AGARS

GRID COORDS: 5000E 4945N EASTING: 505444mN NORTHING: 6272328mN SAT: 11, 16, 18 PDOP: 1.2

DATE ST: 29.10.91 FN: 29.10.91 DRILLED BY: WALLIS RIG: MANTIS 200

DECLN: AZIMUTH: VERT RL: D/H TYPE: AIRCORE

NON CORING TO: CORING TO: 73m CORING TO: EOH: 73m

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC $X10^{-3}$	COMMENTS RECOVERY
0 - 2	Qpb	GREY SANDY CALCARENITE + CALCAREOUS SANDS	BM1050	0.31 0.37	SURFACE K 0.30 - 0.34
2 - 4		BROWN NODULAR SHELLY CALCRETE + SANDY + GRITTY HORIZONS	51	0.23 0.26	
4 - 6		INDURATED LITHIC GREY BROWN CALCARENITE + YELLOW BROWN SANDY CALCRETE	52	0.29 0.32	
6 - 8		LIGHT BROWN CALCAREOUS SANDS HARD GREY + BROWN/FAWN LITHIC CALCARENITE	53	0.34 0.35	
8 - 10		SOFT WHITE CALCRETE, LIGHT BROWN SANDY CALCARENITE + LOESS	54	0.08 0.11	
10 - 12		SANDY FAWN CALCARENITE + LIGHT BROWN LOESS.	55	0.11 0.13	
12 - 14		AS ABOVE	56	0.27 0.30	
14 - 16		FAWN SHELLY CALCARENITE + LIGHT BROWN TO WHITE LOESS	57	0.12 0.13	
16 - 18		SHELLY + HARD FAWN CALCARENITE RED/BROWN + WHITE LOESS	58	0.05 0.06	
18 - 20		FAWN BROWN INDURATED CALCARENITE, OCHRE CLAYS, NODULAR CALCARENITE, FERRUGINOUS CLASTS	59	0.08 0.09	
20 - 22		FINE WHITE + BROWN QTZ SANDS (LOESS)	BM1060	0.21 0.33	DRILL BIT CONTAMINATION
22 - 24		SANDY CALCARENITE CHIPS, CREAM SANDY CLAY, WHITE + BROWN LOESS	61	0.02 0.06	
24 - 26		SANDY CALCARENITE HORIZONS + CREAM SANDY CLAY + WHITE BROWN LOESS	62	0.03 0.10	
26 - 28	T_s	WHITE SANDY SILT, BROWN + GREEN SANDY CLAY WELL ROUNDED QTZ GRAVELS, ORG SANDSTONE (WHITE) CLASTS.	63	0.08 0.10	WATER TABLE ▼
28 - 30		WHITE SANDY SILT, WELL ROUNDED QTZ GRAVELS	64	0.08	

GEOLOGISTS: RBM/PJH DATE: 29.10.91

000133

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 2/3

PROJECT: EXPLORATION LICENCE: CODE:

1:100,000 SHEET: 1:50,000 SHEET: ANOMALY: SH 26 D/H 033

DC: SECTION: HUNDREDTH: OWNER:

GRID COORDS: EASTING: NORTHING: SAT: PDOP:

DATE ST: FN: DRILLED BY: RIG:

DECLN: AZIMUTH: RL: D/H TYPE:

NON CORING TO: CORING TO: CORING TO: EOH:

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC X10^{-3}	COMMENTS RECOVERY
30 - 32	Ts	WHITE CLAYEY GRAVEL, WELL ROUNDED QTZ GRAVELS + ODD SMALL PEBBLE	BM1065	0.12	
32 - 34	↓	FINE ORANGE/BROWN CLAYEY SAND WELL ROUNDED QTZ GRAVELS, NODULAR FERRICRETE	66	0.06 0.08	
34 - 36	Jup	GREEN/WHITE + BROWN CLAYEY SAND, SUB TO WELL ROUNDED QTZ + ODD FELDSPAR GRAVELS, FERRICRETE, CLAY RICH SANDSTONE	67	0.10	
36 - 38	↓	BROWN CLAYEY SAND + GREEN/GREY CLAY, ANGULAR QTZ + FELDSPAR, GRANITIC GRAVELS + PEBBLES, FERRICRETE, ODD WOOD FRAGMENT	68	0.05 0.06	
38 - 40	↓	MEDIUM TO COARSE SANDY GREY/BLACK CARBONACEOUS CLAYS, ANGULAR QTZ + FELDSPAR GRAVELS, GREY MUDSTONE PYRITE, PYRITE NODULES, LIGNITE, WOOD FRAGMENTS	69	0.03 0.15	
40 - 42	↓	GREY BLACK MICACEOUS CARBONACEOUS CLAYS, WHITE NODULAR LIMESTONE, GREY MUDSTONE (CARBONACEOUS) PYRITE, ANGULAR QTZ + FELDSPAR GRAVELS, WOOD FRAGMENTS	BM1070	0.05	
42 - 44	↓	DARK BROWN - BLACK WOODY SANDS + CLAYS, GREY/BLACK CARB. SILTSTONE, PYRITE NODULES, LIGNITE WOOD FRAGMENTS ROUNDED QTZ + FELDSPAR GRAVELS	71	0.03 0.04	
44 - 46	↓	DARK BROWN - BLACK WOODY SANDS/CLAYS SILTSTONE SUB TO WELL ROUNDED QTZ + FELDSPAR GRAVELS	72	0.04 0.05	
46 - 48	↓	DARK BROWN - BLACK WOODY SANDS/CLAYS, BLACK CARBONACEOUS SILTS, LIGNITE, SUB ANGULAR QTZ + FELDSPAR GRAVELS, PYRITE NODULES	73	0.05 0.06	
48 - 50	↓	DARK BROWN - BLACK MICACEOUS WOODY SANDY CLAYS WHITE SILCRETE CHIPS, QTZ + FELDSPAR GRAVELS + PEBBLES (ANGULAR), WOOD FRAGMENTS, GNEISSIC GRAVELS, PYRITE	74	0.05	
50 - 52	↓	GREY GREEN MICACEOUS SANDY SILT, ANGULAR QTZ CHIPS, GNEISSIC CHIPS, CHLORITIZED BIOTITE + SILCRETE?	75	0.12 0.13	
52 - 54	Aps	GREEN/GREY CLAYEY SAND, WEATHERED NODULAR GNEISSIC FRAGMENTS	76	0.09 0.18	
54 - 56	↓	BLUE GREEN CLAYEY SAND, WEATHERED GNEISS, FELDSPAR, BIOTITE, MINOR QTZ	77	0.11	
56 - 58	↓	GREEN CHLORITIZED WEATHERED GNEISS	78	0.13 0.23	
58 - 60	↓	GREEN CHLORITIZED WEATHERED GNEISS	79	0.13 0.16	

GEOLOGISTS: DATE:

000134

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 3 /3

PROJECT: EXPLORATION LICENCE: CODE:

1:100,000 SHEET: 1:50,000 SHEET: ANOMALY: SH26 D/H 033

DC: SECTION: HUNDREDTH: OWNER:

GRID COORDS: EASTING: NORTHING: SAT: PDOP:

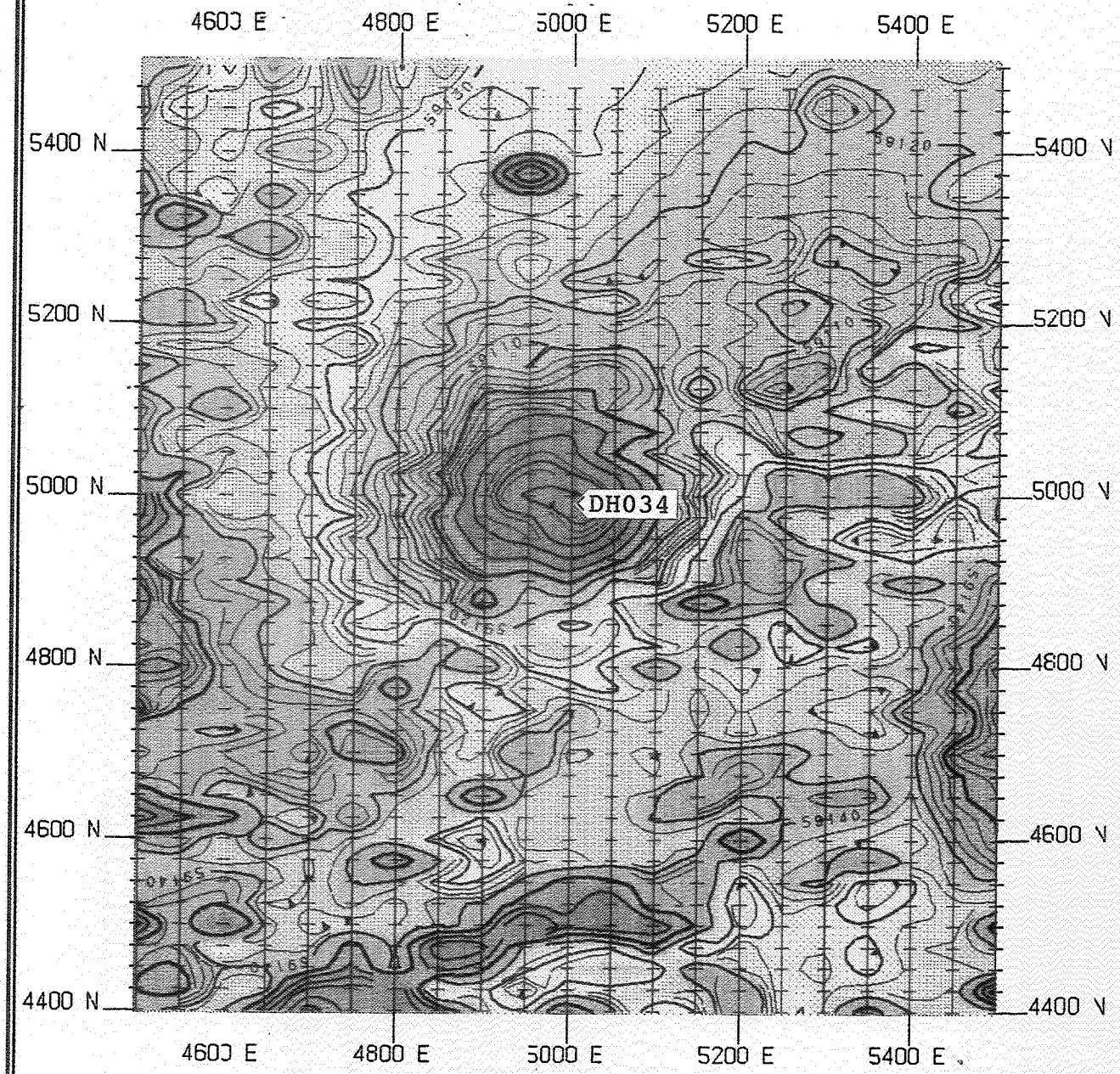
DATE ST: FN: DRILLED BY: RIG:

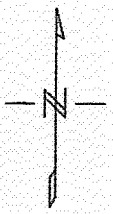
DECLN: AZIMUTH: RL: D/H TYPE:

NON CORING TO: CORING TO: CORING TO: EOH:

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC X10^{-3}	COMMENTS RECOVERY
60-62	A_{ps}	GREEN MICACEOUS CHLORITIZED GNEISS	RM1080	0.21 0.27	
62_64		AS ABOVE	81	0.19 0.21	
64-66		GREEN-BLACK BIOTITE RICH GNEISS (CHLORITIZED)	82	0.13	
66-68		GREEN-BLACK BIOTITE RICH GNEISS (CHLORITIZED) MINOR QTS	83	0.18 0.21	
68-70		AS ABOVE	84	0.19 0.23	
70-72		AS ABOVE	85	0.24 0.27	
72-73	↓	FRESH BIOTITE RICH GNEISS	86		

GEOLOGISTS: DATE:





Scale 1:7500

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(metres)

STOCKDALE PROSPECTING LTD	
SHEOAK	SH28
Groundmagnetic Intensity	
Magnetic North Cont 2.5nT 31/10/91-1/11/91	
KIMBA S153-7	SEL:

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 1 /4

PROJECT: ELLISTON EXPLORATION LICENCE: 1694A CODE: 8374

1:100,000 SHEET: SHERINGA 1:50,000 SHEET: HUDD ANOMALY: SH28 D/H 034

DC: ELLISTON SECTION: 37 HUNDREDTH: WARD OWNER: BRUCE AGARS

GRID COORDS: 5000E 4990N EASTING: 505815mE NORTHING: 6271243mN SAT: 14, 15, 18 PDOP: 2.2

DATE ST: 30.10.91 FN: 30.10.91 DRILLED BY: WALLIS RIG: MANTIS 200

DECLN: AZIMUTH: VERT RL: D/H TYPE: AIRCORE

NON CORING TO: CORING TO: 105m CORING TO: EOH: 105m

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC X10^{-3}	COMMENTS RECOVERY
0 - 2	Q_{pb}	FAWN BROWN SHELLY CALCARENITE BROWN SANDY CLAYS	BM1087	0.18 0.30	SURFACE 0.19-3.04
2 - 4		FAWN CALCARENITE CHIPS, BROWN SANDY CALCRETE	88	0.18 0.20	
4 - 6		FAWN CALCARENITE, CALCAREOUS SANDS	89	0.21 0.23	
6 - 8		SHELLY FAWN CALCARENITE, LOESS	BM1090	0.19 0.24	
8 - 10		FAWN SHELLY FRIABLE CALCARENITE	91	0.17 0.20	
10 - 12		AS ABOVE	92	0.10 0.13	
12 - 14		FAWN SHELLY CALCARENITE, WELL CEMENTED	93	0.10 0.12	
14 - 16		AS ABOVE	94	0.10 0.13	
16 - 18		AS ABOVE	95	0.12 0.14	
18 - 20		FAWN SHELLY CALCARENITE, PINKISH BROWN LITHIC INDURATED CALCARENITE, SHELLY GRITS	96	0.25 0.31	
20 - 22		PINK/BROWN LITHIC CALCARENITE	97	0.79 0.83	
22 - 24		AS ABOVE	98	0.35 0.39	
24 - 26		WHITE INDURATED CALCARENITE, MEDIUM/FINE CARBONATE SANDS (YELLOW BROWN) GREEN BROWN LOESS CLAY	99	0.14 0.23	
26 - 28		GREEN BROWN TO YELLOW/BROWN SANDY CLAY WHITE CALCARENITE	BM1100	0.13 0.16	
28 - 30	↓	YELLOW BROWN SANDY CLAY, WHITE CALCARENITE, LOESS	01	0.08 0.10	

GEOLOGISTS: MSM/PDH DATE: 30.10.91

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 2 /4

PROJECT: EXPLORATION LICENCE: CODE:

1:100,000 SHEET: 1:50,000 SHEET: ANOMALY: SH28 D/H 034

DC: SECTION: HUNDREDTH: OWNER:

GRID COORDS: EASTING: NORTHING: SAT: PDOP:

DATE ST: FN: DRILLED BY: RIG:

DECLN: AZIMUTH: RL: D/H TYPE:

NON CORING TO: CORING TO: CORING TO: EOH:

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC X10^{-3}	COMMENTS RECOVERY
30 - 32	Qpb	WHITE CALCARENITE + BLACK ORGANIC? FLECKS, SUB ANGULAR QTS GRAVELS + WHITE CLAY	BM1102	0.15 0.16	
32 - 34	↓	NODULAR CALCARENITE (WHITE) WELL ROUNDED QTS GRAVELS + PEBBLES + WHITE CLAY/SILT HORIZONS	03	0.21 0.23	
34 - 36	Ts	FINE WHITE QTS SANDS + WELL ROUNDED QTS GRAVELS + PEBBLES, OCHRE FINE SANDSTONE, ODD FELDSPAR	04	0.13	WATER ▽ TABLE
36 - 38		FINE WHITE QTS SANDS, WELL ROUNDED QTS GRAVEL, ODD FELDSPAR, FINE OCHRE SANDSTONE	05	0.12 0.15	
38 - 40		FINE WHITE CLAYEY SANDS + WELL ROUNDED QTS GRAVELS	06	0.10 0.13	
40 - 42		FINE WHITE + ORANGE BROWN SANDS, WELL ROUNDED QTS GRAVELS OCHRE SANDY/ BROWN FERRICRETE	07	0.15 0.17	
42 - 44		FINE ORANGE BROWN FERRUGINOUS SANDS OCHRE BROWN SANDY FERROCRETE, WELL ROUNDED QTS GRAVELS	08	0.09	-----
44 - 46	↓	FINE ORANGE BROWN FERRUGINOUS SANDS WELL ROUNDED QTS + FELDSPAR GRAVELS/PEBBLES ODD FERRICRETE	09	0.05 0.09	
46 - 48	Jup	GREY-BLACK MICACEOUS CLAYS WELL ROUNDED QTS + FELDSPAR GRAVELS/PEBBLES, LIGNITE, PYRITE BLACK MUDSTONE CLASTS.	BM1110	0.10	
48 - 50		GREEN/GREY MICACEOUS WOODY SILTS + SANDS, WELL ROUNDED QTS + FELDSPAR GRAVELS PYRITE BALLS, ODD FERROCRETE, LIGNITE	11	0.09	WATER ▽ TABLE
50 - 52		GREY CLAYEY CARBONACEOUS SANDS, SUBANGULAR QTS + FELDSPAR GRAVELS, PYRITE NODULES, LIGNITE	12	0.06 0.07	
52 - 54		GREY CARBONACEOUS CLAYEY SANDS SUBANGULAR -SUB ROUNDED QTS MINOR FELDSPAR, GRAVELS, ODD QTS PEBBLE, PYRITE, WOOD FRAGMENTS	13	0.12	
54 - 56		GREY CLAYEY SAND, ANGULAR TO SUB ANGULAR QTS + FELDSPAR GRAVELS, WOOD FRAGMENTS, PYRITE, MUSCOVITE	14	0.10 0.12	
56 - 58		OLIVE GREEN CLAY, CARBONACEOUS ANGULAR QTS + FELDSPAR GRAVELS, WOOD FRAGMENTS, PYRITE, MUSCOVITE.	15	0.04 0.07	
58 - 60	↓	GREEN GREY CARBONACEOUS CLAYS, ABUNDANT PYRITE NODULES, ODD WOOD FRAGMENT, ODD QTS + FELDSPAR GRAVEL.	16	0.06	

GEOLOGISTS: DATE:

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET

000138

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PROJECT: EXPLORATION LICENCE: CODE:

1:100,000 SHEET: 1:50,000 SHEET: ANOMALY: SH28 D/H-034

DC: SECTION: HUNDREDTH: OWNER:

GRID COORDS: EASTING: NORTHING: SAT: PDOP:

DATE ST: FN: DRILLED BY: RIG:

DECLN: AZIMUTH: RL: D/H TYPE:

NON CORING TO: CORING TO: CORING TO: EOH:

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC $X10^{-3}$	COMMENTS RECOVERY
60 - 62	Jup	GREEN GREY CLAYS CARBONACEOUS, ABUNDANT PYRITE NODULES, WOOD FRAGMENTS, ODD QTS SANDS + GRAVELS	BM1117	0.06 0.07	
62 - 64		GREEN GREY CLAYS CARBONACEOUS, PYRITE NODULES QTS + FELDSPAR GRAVELS (ANGULAR), WOOD FRAGMENTS	18	0.03 0.04	
64 - 66		GREEN GREY CARBONACEOUS CLAYS, PYRITE NODULES, WOOD FRAGMENTS, ODD QTS + FELDSPAR GRAVEL, MINOR SANDS	19	0.03	
66 - 68		GREEN GREY MICACEOUS CARBONACEOUS SILTS CLAYS, PYRITE NODULES, QTS + FELDSPAR ANGULAR GRAVEL, WOOD FRAGMENTS, MINOR QTS SAND.	BM1120	0.06	
68 - 70		GREEN/GREY MICACEOUS + CARBONACEOUS SILTS/CLAYS PYRITE, QTS + FELDSPAR GRAVELS, MUSCOVITE, WOOD FRAGMENTS	21	0.12 0.14	
70 - 72		GREEN/GREY MICACEOUS CARBONACEOUS SILTS SUBANGULAR TO WELL ROUNDED QTS GRAVELS, WOOD FRAGMENTS, PYRITE, MUSCOVITE	22	0.08 0.09	
72 - 74		GREEN/GREY MICACEOUS CARBONACEOUS SILTS PYRITE, ROUNDED QTS + FELDSPAR GRAVELS, LIGNITE	23	0.08 0.11	
74 - 76		GREEN/GREY MICACEOUS CARBONACEOUS SILTS PYRITE, WELL ROUNDED QTS GRAVELS, WOOD FRAGMENTS	24	0.25 0.26	
76 - 78		GREEN/GREY MICACEOUS CARBONACEOUS SILTS + GREY SILTSTONE.	25	0.30 0.34	
78 - 80		GREEN/GREY MICACEOUS CARBONACEOUS SILTS WOOD FRAGMENTS, QTS + FELDSPAR GRAVELS	26	0.35 0.36	
80 - 82		GREEN GREY-BROWN MICACEOUS CARBONACEOUS SANDY SILT + CLAY	27	0.78 0.87	
82 - 84		GREY MICACEOUS SILTSTONE, GREY/BROWN CARBONACEOUS SILTS	28	0.54 0.64	
84 - 86		BLACK FINE CARBONACEOUS CLAYS	29	0.10 0.17	
86 - 88		CARBONACEOUS WOODY SANDS, GREY/BLACK SILTS, LIGNITE, QTS GRAVEL (ODD)	BM1130	0.04 0.07	
88 - 90		CARBONACEOUS WOODY SANDS, WHITE CLAYS, WOOD FRAGMENTS, LIGNITE, GREY SILTSTONE, WHITE SILTS, ODD QTS GRAVEL.	31	0.03	

GEOLOGISTS: DATE:

000139

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 4/4

PROJECT: EXPLORATION LICENCE: CODE:

1:100,000 SHEET: 1:50,000 SHEET: ANOMALY: SH28 D/H 034

DC: SECTION: HUNDREDTH: OWNER:

GRID COORDS: EASTING: NORTHING: SAT: PDOP:

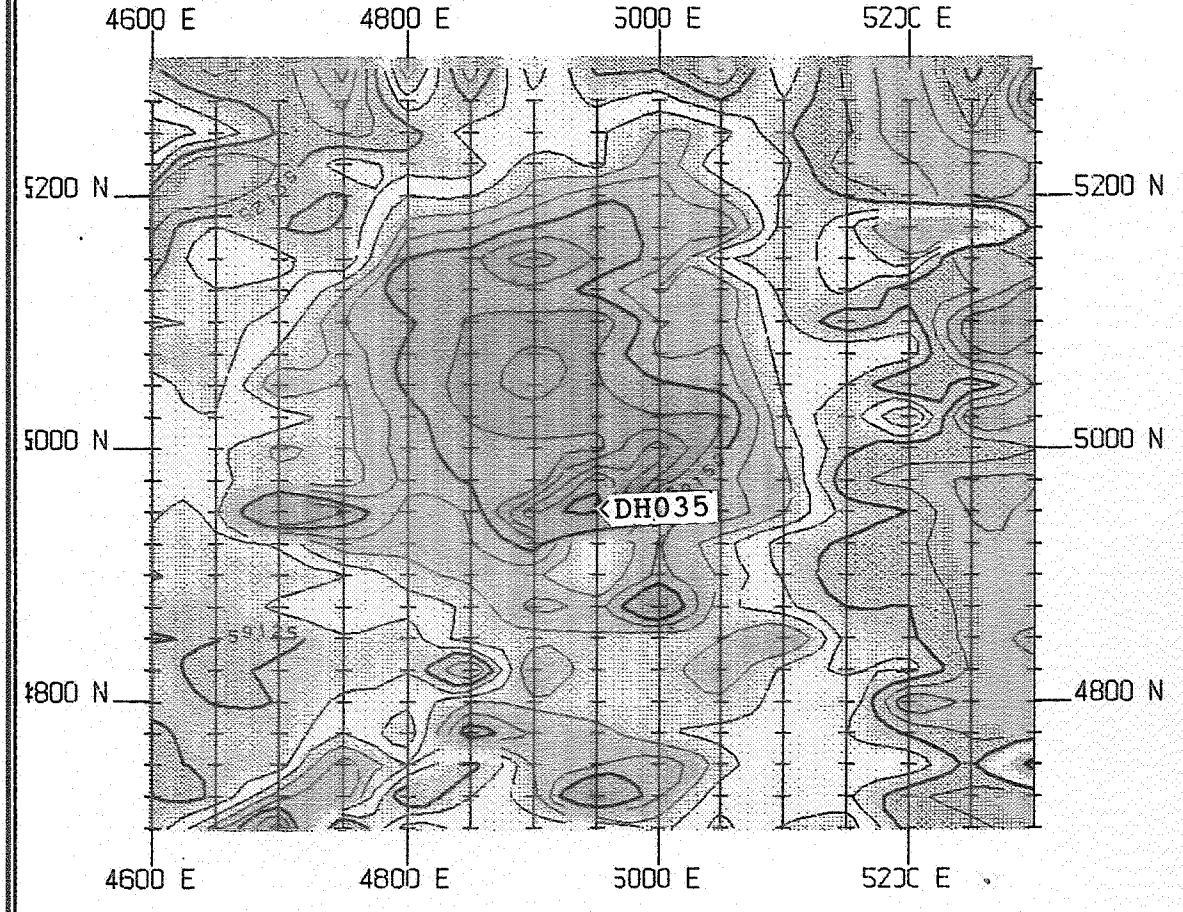
DATE ST: FN: DRILLED BY: RIG:

DECLN: AZIMUTH: RL: D/H TYPE:

NON CORING TO: CORING TO: CORING TO: EOH:

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC X10^{-3}	COMMENT RECOVER
90 - 92	Jup	WHITE SANDY CLAY, WELL ROUNDED QTZ GRAVELS, WOOD FRAGMENTS, GREEN CHLORITIC GNEISS (FELDSPARS/BIOTITE), ODD FERRICRETE?	BM1132	0.03 0.06	
92 - 94		BLUE/GREEN MICACEOUS CLAY, WELL ROUNDED QTZ SANDS + GRAVELS, WHITE SILTS, GNEISS GRAVELS	33	0.07	
94 - 96		GREEN/GREY CLAYEY GRAVEL, WELL ROUNDED QTZ + FELDSPAR GRAVELS, GNEISS PEBBLES ODD FERRICRETE?	34	0.09 0.14	
96 - 98		BLUE/GREEN CLAY ROUNDED QTZ + FELDSPAR PYRITE GNEISS FRAGMENTS, FERRICRETE?	35	0.14	
98 - 100		BLUE/GREEN CLAY WELL ROUNDED QTZ + FELDSPAR + GNEISSIC GRAVELS, PYRITE, WOOD FRAGMENTS FERRICRETE? VERY SANDY CLAY	36	0.10	
100 - 102		BLUE/GREEN CLAY WELL ROUNDED QTZ + FELDSPAR GRAVELS, FERRICRETE, GNEISSIC GRAVELS	37	0.13 0.17	
102 - 104	↓	BLUE/GREEN CLAY WELL ROUNDED QTZ + FELDSPAR PYRITE GNEISSIC GRAVELS	38	0.10 0.15	
104 - 105	Jup ↓	BLUE/GREEN CLAY WELL ROUNDED QTZ + FELDSPAR GRAVELS, GNEISSIC GRAVELS + PEBBLES	39	0.05	
	Aps?	CLOSE TO BASEMENT (GNEISS?), DRILL RIG AT FULL CAPABILITIES, GNEISSIC BASEMENT ASSUMED.			

GEOLOGISTS: DATE:



Scale 1:6000

100 0 100 200 300 400

(metres)

STOCKDALE PROSPECTING LTD
SHEOAK SH07 Ground Magnetic Survey
Magnetic North Contour 5nT 4.6.91
Kimba S153 - 7 SEL:

000140

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET

PAGE 1/4

000141

PROJECT: ELLISTON EXPLORATION LICENCE: 1694A CODE: 8374

1:100,000 SHEET: SHERINGA 1:50,000 SHEET: HUDD ANOMALY: SH07 D/H035

DC: ELLISTON SECTION: 37 HUNDREDTH: HUDD OWNER: B. AGARS

GRID COORDS: 4950E 4960N EASTING: 506408 mE NORTHING: 6270817 mN SAT: 14, 15, 18 PDOP: 2.2

DATE ST: 31.10.91 FN: 31.10.91 DRILLED BY: WALLIS RIG: MANTIS 200

DECLN: AZIMUTH: VERT. RL: D/H TYPE: AIRCORE

NON CORING TO: CORING TO: 102m CORING TO: EOH: 102m

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC X10^{-3}	COMMENTS RECOVERY
0 - 2	Qp6	CREAM CALCARENITE	BM1140	0.39 0.40	SURFACE K 0.23-0.33
2 - 4		FAWN SANDY CALCARENITE, FINE LIGHT BROWN LOESS	41	1.18	
4 - 6		FAWN SHELLY CALCARENITE, FINE LIGHT BROWN LOESS	42	1.16 1.23	
6 - 8		FAWN SHELLY CALCARENITE, BROWN LOESS	43	0.35 0.37	
8 - 10		WHITE SHELLY CALCARENITE	44	0.16 0.17	
10 - 12		PINK BROWN LITHIC INDURATED CALCARENITE	45	0.82 0.85	
12 - 14		PINK/WHITE LITHIC INDURATED CALCARENITE LIGHT BROWN COARSE LOESS	46	0.15 0.23	
14 - 16		CREAM FAWN SHELLY CALCARENITE BROWN LOESS	47	0.34 0.43	
16 - 18		COARSE FAWN SHELLY CALCARENITE BROWN LOESS	48	0.20 0.23	
18 - 20		FAWN SHELLY CALCARENITE, BROWN LOESS	49	0.17 0.18	
20 - 22		AS ABOVE	BM1150	0.15 0.16	
22 - 24		FAWN SANDY CALCARENITE	51	0.21 0.22	
24 - 26		CREAM SHELLY CALCARENITE	52	0.10	
26 - 28		AS ABOVE	53	0.15 0.18	
28 - 30		AS ABOVE	54	0.12 0.15	

GEOLOGISTS: MJM/PDH DATE: 31.10.91

000142

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 2/4

PROJECT: EXPLORATION LICENCE: CODE:

1:100,000 SHEET: 1:50,000 SHEET: ANOMALY: SH07 D/H 035

DC: SECTION: HUNDREDTH: OWNER:

GRID COORDS: EASTING: NORTHING: SAT: PDOP:

DATE ST: FN: DRILLED BY: RIG:

DECLN: AZIMUTH: RL: D/H TYPE:

NON CORING TO: CORING TO: CORING TO: EOH:

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC $X10^{-3}$	COMMENTS RECOVERY
30 - 32	Qpl	FAWN SHELLY CALCARENITE, LIGHT BROWN LOESS	BM 1155	0.16	
32 - 34		GREY INDURATED CALCARENITE + BROWN AUTOLITHIC CALCARENITE, LOESS	56	0.35 0.38	
34 - 36		GREY INDURATED CALCARENITE BROWN LOESS	57	0.25 0.30	
36 - 38		GREEN/YELLOW CLAYEY SAND, WHITE CALCARENITE	58	0.18 0.26	
38 - 40		GREEN/YELLOW CLAYEY SAND, GREY MUDS WHITE NODULAR CALCRETE	59	0.16	
40 - 42	T_S	WHITE FINE SANDSTONE, OCHRE SANDY CLAY	BM 1160	0.13 0.21	
42 - 44		YELLOW/BROWN CLAY/SAND, WHITE POORLY SORTED SANDSTONE, WELL ROUNDED QTS + FELDSPAR GRAVELS	61	0.12 0.14	
44 - 46		AS ABOVE	62	0.14 0.16	WATER TABLE ▽
46 - 48		AS ABOVE	63	0.09 0.12	
48 - 50		FINE YELLOW/BROWN SANDS, WELL ROUNDED QTS GRAVEL, FERRICRETE	64	0.14 0.17	
50 - 52		FINE YELLOW/BROWN SANDS, WELL ROUNDED QTS + FELDSPAR GRAVELS, FERRICRETE	65	0.14 0.19	
52 - 54		AS ABOVE	66	0.07 0.13	
54 - 56	Jup	ORANGE BROWN TO DARK BROWN MEDIUM/FINE CARBONACEOUS SANDS, WOOD FRAGMENTS ODD PEBBLE	67	0.14 0.16	
56 - 58		CARBONACEOUS CLAY (BROWN) MEDIUM QTS SANDS LIGNITE, WOOD FRAGMENTS, WELL ROUNDED QTS + FELDSPAR GRAVELS, PYRITE, ODD PEBBLE (ROUNDED)	68	0.11 0.12	
58 - 60		CARBONACEOUS WOODY SILTS + CLAYS, MINOR QTS SANDS, ANGULAR QTS + BROWN SANDSTONE GRAVELS + PEBBLES, PYRITE, (GREY COLOUR)	69	0.16 0.19	----

GEOLOGISTS: DATE:

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 3 /4

PROJECT: EXPLORATION LICENCE: CODE:

1:100,000 SHEET: 1:50,000 SHEET: ANOMALY: SH07 D/H 035

DC: SECTION: HUNDREDTH: OWNER:

GRID COORDS: EASTING: NORTHING: SAT: PDOP:

DATE ST: FN: DRILLED BY: RIG:

DECLN: AZIMUTH: RL: D/H TYPE:

NON CORING TO: CORING TO: CORING TO: EOH:

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC X10^{-3}	COMMENTS RECOVERY
60 - 62	Jup	GREY CARBONACEOUS WOODY CLAY RICH SANDS WELL ROUNDED QTZ + FELDSPAR GRAVELS, GREEN-BROWN MICACEOUS SANDSTONE POORLY SORTED, PYRITE QTZ PEBBLES	BM1170	0.08 0.21	
62 - 64		BROWN CARBONACEOUS (WOODY) SANDS, CLAY POOR, WELL ROUNDED POLISHED QTZ GRAVELS, MUSCOVITE, ODD FELDSPAR.	71	0.11 0.12	
64 - 66		BROWN CARBONACEOUS (WOODY) SANDS NODULAR PYRITE, ODD QTZ GRAVEL	72	0.11 0.12	
66 - 68		BROWN CARBONACEOUS (WOODY) SANDS SANDSTONE (MICACEOUS / PYRITIC) (BROWN) QTZITE	73	0.07	
68 - 70		BROWN CARBONACEOUS (WOODY) SANDS SUB ANGULAR TO WELL ROUNDED QTZ + FELDSPAR PYRITIC SEDIMENTS, LIGNITE	74	0.19 0.22	
70 - 72		BROWN CARBONACEOUS (WOODY) SANDS ANGULAR TO SUB ANGULAR QTZ + FELDSPAR MUSCOVITE, LIGNITE, ODD QTZ PEBBLE	75	0.15 0.20	
72 - 74		BROWN CARBONACEOUS (WOODY) SAND RICH CLAY, SUBROUNDED TO SUB ANGULAR QTZ + FELDSPAR GRAVELS, PYRITIC SEDIMENTS.	76	0.15 0.17	DAMP.
74 - 76		BROWN CARBONACEOUS WOODY SAND POOR CLAY GREY MICACEOUS SILTS, ABUNDANT LIGNITE, PYRITE VITRINITE	77	0.10 0.17	
76 - 78		GREY/BLACK MICACEOUS CLAY, POLISHED SUBROUNDED QTZ GRAVELS + LIGNITE	78	0.18 0.20	
78 - 80		GREY/BLACK MICACEOUS SANDY CLAY, PYRITE NODULES ROUNDED QTZ GRAVELS, ODD PEBBLE, LIGNITE	79	0.18 0.19	WATER @ TABLE
80 - 82		GREY/BLACK SANDY CLAY, PYRITE BALLS, SUBANGULAR QTZ + FELDSPAR GRAVELS, LIGNITE	80	0.09 0.10	
82 - 84		GREY CLAYEY SAND, SUBANGULAR QTZ + FELDSPAR GRAVELS, ODD PEBBLE, LIGNITE, MICACEOUS GNEISSIC PEBBLES MUSCOVITE, PYRITE	81	0.12 0.13	
84 - 86		MEDIUM QTZ SANDY GREY CLAY, SUB ANGULAR QTZ + FELD. GRAVELS, GNEISSIC PEBBLES, PYRITE, MUSCOVITE	82	0.07 0.08	
86 - 88		GREY SANDY GRAVELS, NODULAR PYRITE, SUBANGULAR QTZ + FELDSPAR GRAVELS, LIGNITE	83	0.04 0.05	
88 - 90		GREY BROWN CARBONACEOUS CLAY, NODULAR PYRITE WELL TO SUBROUNDED QTZ GRAVELS, LIGNITE	84	0.11 0.12	

GEOLOGISTS: DATE:

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET

000144

PROJECT: EXPLORATION LICENCE: CODE:

1:100,000 SHEET: 1:50,000 SHEET: ANOMALY: SH 07 D/H 036

DC: SECTION: HUNDREDTH: OWNER:

GRID COORDS: EASTING: NORTHING: SAT: PDOP:

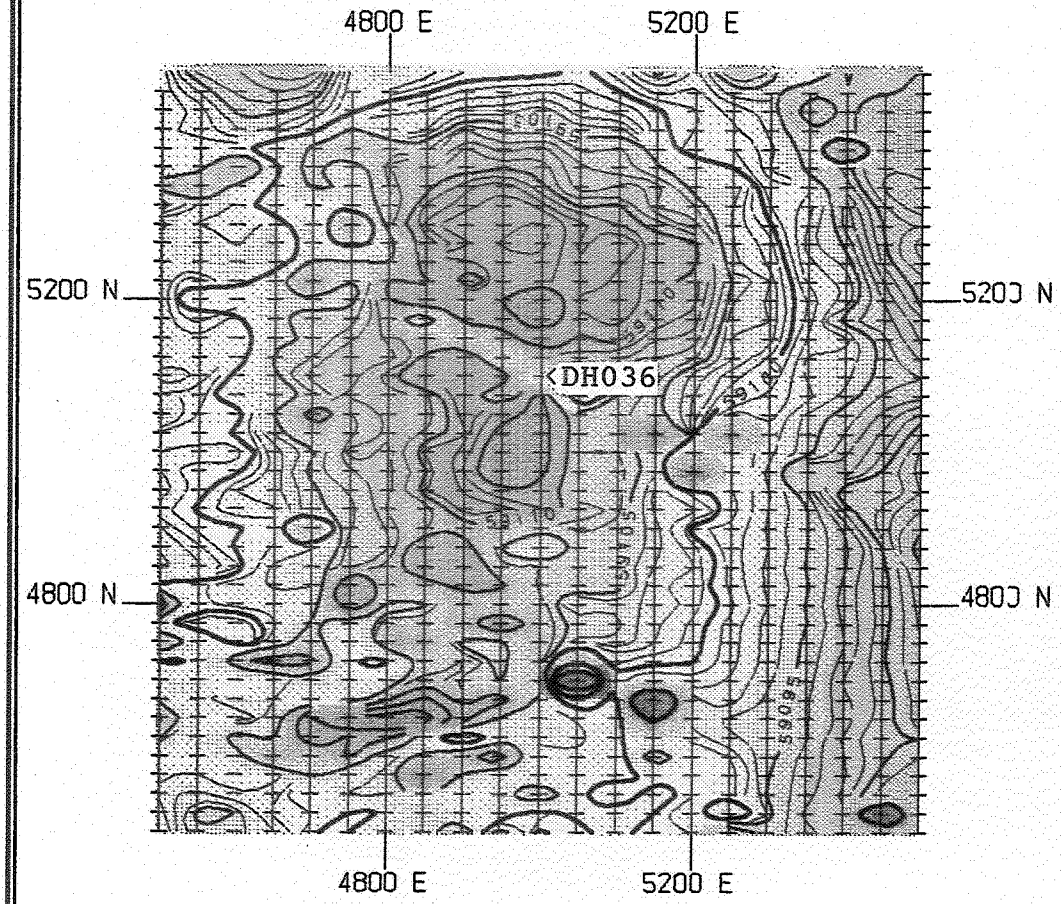
DATE ST: FN: DRILLED BY: RIG:

DECLN: AZIMUTH: RL: D/H TYPE:

NON CORING TO: CORING TO: CORING TO: EOH:

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC $X10^{-3}$	COMMENTS RECOVERY
90 - 92	Jup	GREY CARBONACEOUS CLAY, SAND RICH HORIZONS NODULAR PYRITE, ODD LIGNITE + WELL POLISHED QTZ + FELDSPAR GRAVELS	BM1185	0.11 0.13	
92 - 94	↓	GREY VERY MICACEOUS CLAY (WELL LAYERED) NODULAR PYRITE, WELL ROUNDED QTZ GRAVELS	86	0.03 0.04	
94 - 96	↓	AS ABOVE	87	0.08	
96 - 98	↓	GREY MICACEOUS CARBONACEOUS CLAY, PYRITE WELL ROUNDED QTZ GRAVELS	88	0.05 0.07	
98 - 100	↓	GREY MICACEOUS CARBONACEOUS CLAY, PYRITE GNEISS, SUBANGULAR QTZ + FELDSPAR GRAVELS, LIGNITE	89	0.05 0.09	
100 - 102	↓	GREY MICACEOUS CARBONACEOUS CLAY, PYRITE LIGNITE.	BM1190	0.14	

GEOLOGISTS: DATE:



Scale 1:10000

100 0 00 200 300 400 500

(metres)

STOCKDALE PROSPECTING LTD
SHEOAK HILL MH201 Ground Magnetic Intensity
Contour nterval = 1 21.02.91 MSM
153-07 SEL:

000146

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 1/3

PROJECT: ELLISTON EXPLORATION LICENCE: 1694A CODE: 8374

1:100,000 SHEET: SHERINGA 1:50,000 SHEET: HUOD ANOMALY: MH201D/H 036

DC: ELLISTON SECTION: 37 HUNDREDTH: WARD OWNER: B. AGARS

GRID COORDS: 5000E 5100N EASTING: 507728mE NORTHING: 6270949mN SAT: 14,15,18 PDOP: 2.1

DATE ST: 1.11.91 FN: 1.11.91 DRILLED BY: WALLIS RIG: MANTIS 200

DECLN: AZIMUTH: VERT RL: D/H TYPE: AIRCORE

NON CORING TO: CORING TO: 75m CORING TO: EOH: 75m

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC X10^{-3}	COMMENTS RECOVERY
0 - 2	Qpl	FAWN CALCARENITE	BM1191	0.20 0.21	SURFACE K 0.53 - 1.32
2 - 4		YELLOW FAWN CALCARENITE	92	0.07 0.09	
4 - 6		WHITE + FAWN CALCARENITE YELLOW BROWN SANDY CLAY	93	0.14 0.16	
6 - 8		WHITE CALCARENITE GREEN GLAUCONITIC SANDY CLAYS	94	0.06 0.07	
8 - 10		FAWN YELLOW CALCARENITE, SANDY IN PARTS, WHITE + BROWN MOTTLING	95	0.02 0.09	WATER TABLE ▽
10 - 12		FAWN + CREAM CALCARENITE, INDURATED WHITE SANDY CALCARENITE + GREY GREEN CLAY INTERBEDS	96	0.04 0.07	
12 - 14		FAWN + CREAM CALCARENITE, RED CLAY POOR SANDY GRAVEL, WELL ROUNDED QTZ PEBBLES FERROCRETE	97	0.08 0.11	
14 - 16		FAWN / WHITE SOFT CALCRETE, GREEN BROWN FINE CLAY RICH SANDS	98	0.08 0.11	
16 - 18	T_s	LIMONITIC YELLOW MEDIUM COARSE SANDS CLAY, RED MOTTLING, FERRICRETE, WELL ROUNDED QTZ GRAVELS, ODD NODULAR CALCARENITE	99	0.12 0.13	
18 - 20		FINE WHITE / BROWN CLAYEY SANDS	BM1200	0.07	
20 - 22		MEDIUM COARSE BROWN / WHITE SAND, MINOR CLAY, WELL TO SUB ROUNDED QTZ GRAVELS ODD FELDSPAR	01	0.03	
22 - 24		MEDIUM COARSE BROWN / WHITE SANDS, MINOR CLAY, WELL ROUNDED QTZ + ODD FELDSPAR GRAVELS ODD WELL ROUNDED PEBBLE (POLISHED)	02	0.05 0.06	
24 - 26		SANDY MUDS, MICACEOUS GREEN / GREY COLOUR WELL ROUNDED POLISHED QTZ + FELDSPAR GRAVELS FERRICRETE + MUSCOVITE	03	0.04 0.05	
26 - 28	Jup	GREEN / GREY MICACEOUS SANDY MUDS, PYRITIC SEDIMENTS, LIGNITE, WELL ROUNDED QTZ + FELDSPAR GRAVELS, GREY MICACEOUS GREYWACKE	04	0.11 0.19	
28 - 30		GREY MICACEOUS SILTS, PYRITIC SEDIMENTS, LIGNITE SUB ROUNDED TO SUB ANGULAR QTZ + FELDSPAR GRAVELS GREYWACKE	05	0.04 0.10	

GEOLOGISTS: MSM / PDH DATE: 1.11.91

000147

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 2/3

PROJECT: EXPLORATION LICENCE: CODE:

1:100,000 SHEET: 1:50,000 SHEET: ANOMALY: MH201 D/H 036

DC: SECTION: HUNDREDTH: OWNER:

GRID COORDS: EASTING: NORTHING: SAT: PDOP:

DATE ST: FN: DRILLED BY: RIG:

DECLN: AZIMUTH: RL: D/H TYPE:

NON CORING TO: CORING TO: CORING TO: EOH:

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC X10^{-3}	COMMENTS RECOVERY
30-32	Jup	GREY MICACEOUS SILT, GREY SANDY MUDSTONE SUB TO WELL ROUNDED QTZ + FELDSPAR GRAVELS	BM1206	0.12 0.13	
32-34		GREY SILTS, PYRITIC SEDIMENTS, MICACEOUS SANDY GREY MUDSTONE, SUB TO WELL ROUNDED POLISHED QTZ + FELDSPAR GRAVEL, LIGNITE	07	0.07 0.08	
34-36		GREY BROWN MICACEOUS CLAYS + SILTS, POLISHED QTZ + FELDSPAR GRAVELS + PEBBLES, PYRITE, MUSCOVITE, VITRINITE, GRANITIC/GNEISS GRAVEL	08	0.13 0.14	
36-38		GREY BROWN MICACEOUS CLAYS, SILTS, NODULAR PYRITE, SUB TO WELL ROUNDED QTZ + FELDSPAR GRAVELS (POLISHED), VITRINITE. ODD PEBBLE	09	0.13 0.14	
38-40		GREY BROWN MICACEOUS CARBONACEOUS CLAYS + SILTS NODULAR PYRITE, LIGNITE, SUB TO WELL ROUNDED QTZ + FELDSPAR + GNEISSIC GRAVELS, ODD PEBBLE	BM1210	0.09 0.10	TWO MAFIC? GREEN GRAVELS?
40-42		GREY BROWN MICACEOUS CARBONACEOUS CLAYS + SILTS PYRITE, VITRINITE, WELL TO SUBROUNDED QTZ + FELDSPAR GRAVELS (POLISHED) LIGNITE	11	0.12 0.13	
42-44		GREY BROWN MICACEOUS/CARBONACEOUS CLAYS, SILTS, MEDIUM COARSE SANDS, NODULAR PYRITE, VITRINITE LIGNITE, WELL ROUNDED QTZ + FELDSPAR GRAVELS, FERRICRETE	12	0.10	
44-46		GREY BROWN MICACEOUS CLAY, SILTS, PYRITE, SUB TO WELL ROUNDED QTZ + FELDSPAR GRAVELS, MUSCOVITE, ODD FERRICRETE	13	0.04 0.09	
46-48		GREY BROWN MICACEOUS CARBONACEOUS SILT, NODULAR PYRITE, SUB TO ANGULAR QTZ + FELDSPAR GRAVELS, MUSCOVITE, GNEISSIC GRAVELS	14	0.11 0.13	
48-50		BROWN MEDIUM COARSE SANDS, GREY BROWN SILTS PYRITE, ODD SUB ANGULAR - SUBROUNDED QTZ GRAVEL.	15	0.11 0.15	
50-52		BROWN/GREEN CARBONACEOUS SANDY CLAY + SILT GREY SILTSTONE, PYRITE, LIGNITE, ODD ANGULAR QTZ GRAVEL	16	0.16	
52-54		BLACK CARBONACEOUS CLAY, ODD SILTSTONE CLAST, VITRINITE, LIGNITE, ODD QTZ GRAVEL	17	0.38 0.50	
54-56		BLACK/BROWN CARBONACEOUS CLAY + SANDY CLAY WELL ROUNDED POLISHED QTZ + FELDSPAR GRAVEL VITRINITE	18	0.24 0.30	
56-58		BLACK/BROWN CARBONACEOUS CLAY + SANDY SILT POLISHED WELL TO SUBROUNDED QTZ + FELDSPAR GRAVELS VITRINITE	19	0.42	
58-60		BLACK/BROWN CARBONACEOUS CLAY, PYRITE, LIGNITE VITRINITE, ODD QTZ + FELDSPAR GRAVEL	BM1220	0.22 0.23	

GEOLOGISTS: DATE:

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET

 000148

PROJECT: EXPLORATION LICENCE: CODE:

1:100,000 SHEET: 1:50,000 SHEET: ANOMALY: MH201 D/H 036

DC: SECTION: HUNDREDTH: OWNER:

GRID COORDS: EASTING: NORTHING: SAT: PDOP:

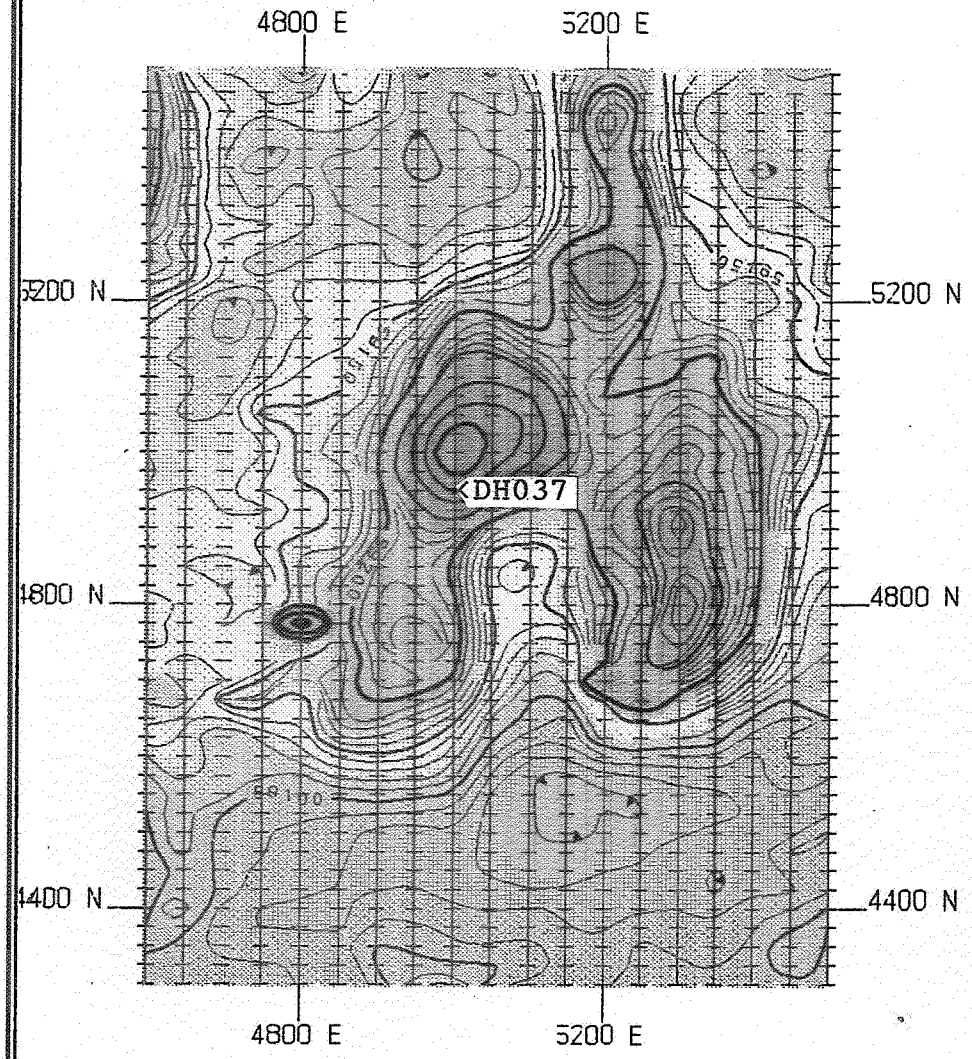
DATE ST: FN: DRILLED BY: RIG:

DECLN: AZIMUTH: RL: D/H TYPE:

NON CORING TO: CORING TO: CORING TO: EOH:

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC $X10^{-3}$	COMMENTS RECOVERY
60-62	Aps	BROWN SANDY MICACEOUS MUDSTONE AND BLUE GREEN + WHITE FOLIATED MICACEOUS CLAY, GREEN + BROWN WEATHERED FRIABLE GNEISS	BM1221	0.34 0.36	
62-64		GREEN CHLORITIZED GNEISS, WEATHERED	22	0.27 0.30	
64-66		WEATHERED GREEN CHLORITIZED GNEISS	23	0.29 0.33	
66-68		GREEN MICACEOUS WEATHERED GNEISS	24	0.16 0.23	
68-70		AS ABOVE	25	0.24	
70-72		GREEN MICACEOUS GNEISS CRENULATED CLEAVAGE	26	0.20 0.24	
72-74		AS ABOVE	27	0.13 0.15	
74-75		BIOTITE RICH GNEISS	28	0.23 0.26	

GEOLOGISTS: DATE:



Scale 1:10000

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(metres)

STOCKDALE PROSPECTING LTD
SHEOAK SH11 Ground Magnetic Survey
Magnetic North cont 10 nT 21 - 22.6.91
Kimba SI53 - 7 SF1 :

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 1 /3 000150

PROJECT: ELLISTON EXPLORATION LICENCE: 1694A CODE: 8374

1:100,000 SHEET: SHERINGA 1:50,000 SHEET: SHERINGA ANOMALY: SH 11 D/H 037

DC: ELLISTON SECTION: 27 HUNDREDTH: WAY OWNER: NOEL SMITH

GRID COORDS: 5000E 4950N EASTING: 513896mE NORTHING: 6260316mN SAT: 2,11,19 PDOP: 2.3

DATE ST: 1.11.91 FN: 1.11.91 DRILLED BY: WALLIS RIG: MANTIS 200

DECLN: AZIMUTH: VERT RL: D/H TYPE: AIRCORE

NON CORING TO: CORING TO: 72 m CORING TO: EOH: 72m

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC $X10^{-3}$	COMMENTS RECOVERY
0 - 2	Qp6	UNCONSOLIDATED (SHELLY) CARBONATE RICH SANDS NODULAR CALCRETE WORM CASTS - SOFT CREAM	BM1229	0.36 0.39	SURFACE K 0.43-0.57
2 - 4		UNCONSOLIDATED SHELLY SANDS, MINOR CREAM SOFT NODULAR CALCRETE	BM1230	0.13 0.16	
4 - 6		UNCONSOLIDATED SHELLY SANDS HARD NODULAR CALCARENITE	31	0.16	
6 - 8		BROWN CLAY RICH SHELLY SANDS, CREAM FAWN CALCRETE, BROWN INDURATED CALCARENITE	32	0.88 0.90	
8 - 10		CREAM + BROWN CALCARENITE, LIGHT BROWN LITHIC CALCARENITE	33	0.64 0.76	
10 - 12		SANDY BROWN CALCARENITE VERY HARD INDURATED CALCARENITE LAYER.	34	2.36 2.76	DRILL BIT CONTAMINATION
12 - 14		SANDY FAWN CALCARENITE	35	0.94 1.12	
14 - 16		VERY COARSE SHELLY CALCARENITE	36	0.27 0.30	
16 - 18		SANDY FAWN YELLOW CALCARENITE	37	0.25 0.27	
18 - 20		SANDY FAWN CALCARENITE, LITHIC INDURATED CALCARENITE.	38	0.24 0.25	
20 - 22		FINE WHITE CALCARENITE + LIGHT BROWN LOESS	39	0.28 0.50	
22 - 24		SANDY FAWN CALCARENITE, BROWN LOESS ODD FERRUGINOUS CLAST	BM1240	0.38 0.51	
24 - 26		SHELLY FAWN/ORANGE CALCARENITE ORANGE BROWN SANDY CLAY, BROWN LOESS	41	0.21 0.29	
26 - 28		LITHIC BLACK/WHITE/OCHRE CALCARENITE SANDY FAWN CALCARENITE, BROWN LOESS	42	0.24 0.28	
28 - 30	↓	WHITE SHELLY CALCARENITE. LIGHT BROWN LOESS	43	0.14 0.15	

GEOLOGISTS: MJM/PDH DATE: 1.11.91

000151

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 2 /3

PROJECT: EXPLORATION LICENCE: CODE:

1:100,000 SHEET: 1:50,000 SHEET: ANOMALY: SH 11 D/H 037

DC: SECTION: HUNDREDTH: OWNER:

GRID COORDS: EASTING: NORTHING: SAT: PDOP:

DATE ST: FN: DRILLED BY: RIG:

DECLN: AZIMUTH: RL: D/H TYPE:

NON CORING TO: CORING TO: CORING TO: EOH:

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC X10^{-3}	COMMENTS RECOVERY
30 - 32	Qpb	WHITE SHELLY CALCARENITE, WHITE LOESS (MEDIUM - FINE)	BM1244	0.12	
32 - 34		AS ABOVE	45	0.13 0.18	
34 - 36		AS ABOVE	46	0.22 0.27	
36 - 38		WHITE COARSE SHELLY CALCARENITE	47	0.01 0.07	
38 - 40		AS ABOVE	48	0.03 0.04	
40 - 42		CREAM BROWN SHELLY CALCARENITE	49	0.08 0.10	
42 - 44		AS ABOVE	BM1250	0.09 0.10	
44 - 46		CREAM SHELLY CALCARENITE	51	0.09 0.10	
46 - 48		WHITE SHELLY CALCARENITE	52	0.06 0.07	
48 - 50		FAWN SHELLY CALCARENITE	53	0.14 0.17	
50 - 52		CREAM SHELLY CALCARENITE + LOESS	54	0.10 0.11	WATER ▽ TABLE
52 - 54		BROWN SANDY CALCARENITE + WHITE CLAYS	55	0.22 0.24	
54 - 56		FAWN BROWN SANDY CALCARENITE + WHITE CLAYS	56	0.24 0.26	
56 - 58		FAWN PINK SANDY CALCARENITE + LOESS	57	0.35 0.37	
58 - 60	↓	FAWN PINK SANDY CALCARENITE MINOR CLAY	58	0.29 0.34	

GEOLOGISTS: DATE:

000152

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 3/3

PROJECT: EXPLORATION LICENCE: CODE:

1:100,000 SHEET: 1:50,000 SHEET: ANOMALY: SH 11 D/H 037

DC: SECTION: HUNDREDTH: OWNER:

GRID COORDS: EASTING: NORTHING: SAT: PDOP:

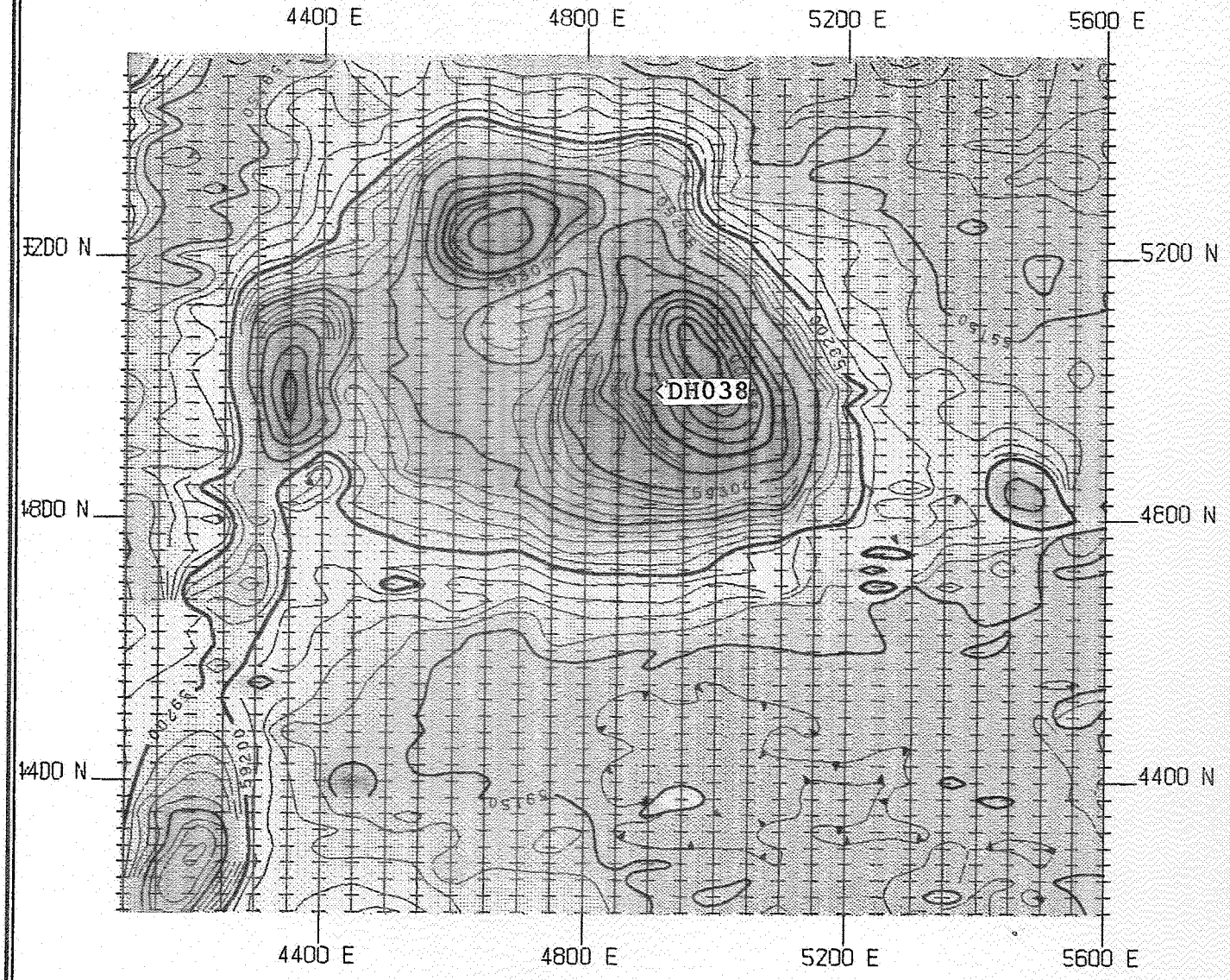
DATE ST: FN: DRILLED BY: RIG:

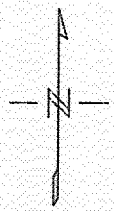
DECLN: AZIMUTH: RL: D/H TYPE:

NON CORING TO: CORING TO: CORING TO: EOH:

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC X10^{-3}	COMMENTS RECOVERY
60 - 62	Qp6	CREAM / FAWN SHELLY CALCARENITE WHITE LOESS	BM1259	0.11 0.12	
62 - 64		CREAM/ORANGE SANDY CALCARENITE	60	0.04 0.06	
64 - 66		WHITE SANDY CALCARENITE	61	0.03 0.06	
66 - 68		YELLOW/WHITE SANDY CALCARENITE	62	0.07	
68 - 70		WHITE QTZ RICH CALCARENITE. YELLOW BROWN FINE QTZ SANDS	63	0.06 0.07	
70 - 72	METASEDIMENT	FERRUGINOUS CAPPING SILICEOUS OVER MICA RICH (ALTERED BIOTITE) MAGNETITE FERRUGINIZED CONTACT METAMORPHIC METASEDIMENT	64	2.53 - 3.30 - BAG 95.0 - 310.0 CORE	

GEOLOGISTS: DATE:





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(metres)

STOCKDALE PROSPECTING LTD	
SHEOAK SH3 Ground Magnetic Survey	
Magnetic North cont 10n 26.6 - 2.7.91	
Kimba SI 53-7	SEL:

000153

000154

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 1/2

PROJECT: ELLISTON EXPLORATION LICENCE: 1694A CODE: 8374

1:100,000 SHEET: SHERINGA 1:50,000 SHEET: SHERINGA ANOMALY: SH03 D/H 038

DC: ELLISTON SECTION: 40 HUNDREDTH: WAY OWNER: P. AGARS

GRID COORDS: 4900E 5000N EASTING: 514427mE NORTHING: 6264462mN SAT: 2,11,16 PDOP: 1.3

DATE ST: 2.11.91 FN: 2.11.91 DRILLED BY: WALLIS RIG: MANTIS 200

DECLN: AZIMUTH: VERT RL: D/H TYPE: AIRCORE

NON CORING TO: CORING TO: 41m CORING TO: EOH: 41m

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC X10^{-3}	COMMENTS RECOVERY
0 - 2	Qpb	FAWN, ORANGE/BROWN CALCARENITE INDURATED IN PARTS	BM1265	0.67 0.75	SURFACE K 7.98-9.32
2 - 4		WHITE CALCARENITE + PISOLITHS + BROWN/GREY SANDY CLAY	66	0.14 0.17	
4 - 6		BROWN + GREEN/GREY CLAY, WHITE MOTTLING IRON PISOLITES, NODULAR CALCRETE	67	0.11 0.12	
6 - 8		BROWN CLAY + GREEN/GREY SILT WHITE CALCRETE + IRON PISOLITHS	68	0.13 0.15	
8 - 10		GREEN GREY + GREEN BROWN SILT, WHITE NODULAR CALCRETE, IRON PISOLITES, FERRICRETE	69	0.00	
10 - 12		GREEN/WHITE SANDY CLAY, WHITE NODULAR CALCRETE IRON PISOLITES	BM1270	0.03 0.06	
12 - 14		GREEN/WHITE SANDY SILT, NODULAR CALCRETE GREY MUSCOVITE RICH SCHIST BLACK BIOTITE/MUSCOVITE METASEDIMENT	71	0.04 0.06	
14 - 16	WEATHERED METASED.	OLIVE GREEN MICACEOUS SANDY CLAY, GREY FINE GRAINED MICACEOUS SCHIST, SECONDARY ALTERATION WITH BLACK QTS/BIOTITE/CALCITE	72	0.02 0.04	
16 - 18		BROWN CLAY. QTS + FELDSPAR CHIPS, CARBONATE ALTERATION	73	0.15 0.16	
18 - 20		OLIVE GREY MICACEOUS CLAY, GREY FINE SCHISTOSE ROCK CHIPS, CREAM GREY SILTY CLAY	74	0.12 0.15	
20 - 22		BROWN MICACEOUS CLAY + YELLOW GREY SCHISTOSE CHIPS - MUSCOVITE	75	0.04 0.10	
22 - 24		AS ABOVE	76	0.07 0.09	
24 - 26		BROWN/GREY SCHISTOSE CHIPS	77	0.07 0.09	
26 - 28		BROWN MICACEOUS CLAY, FINE SANDY WELL ROUNDED (BIOTITE) SANDSTONE, FERRUGINOUS MOTTLING	78	0.09 0.14	
28 - 30		DARK BROWN MICA RICH CLAY + SCHISTOSE CHIPS	79	0.11 0.13	

GEOLOGISTS: MSM/PDH DATE: 2.11.91

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET

000155

PAGE 2 /2

PROJECT: EXPLORATION LICENCE: CODE:

1:100,000 SHEET: 1:50,000 SHEET: ANOMALY: SH03 D/H 038

DC: SECTION: HUNDREDTH: OWNER:

GRID COORDS: EASTING: NORTHING: SAT: PDOP:

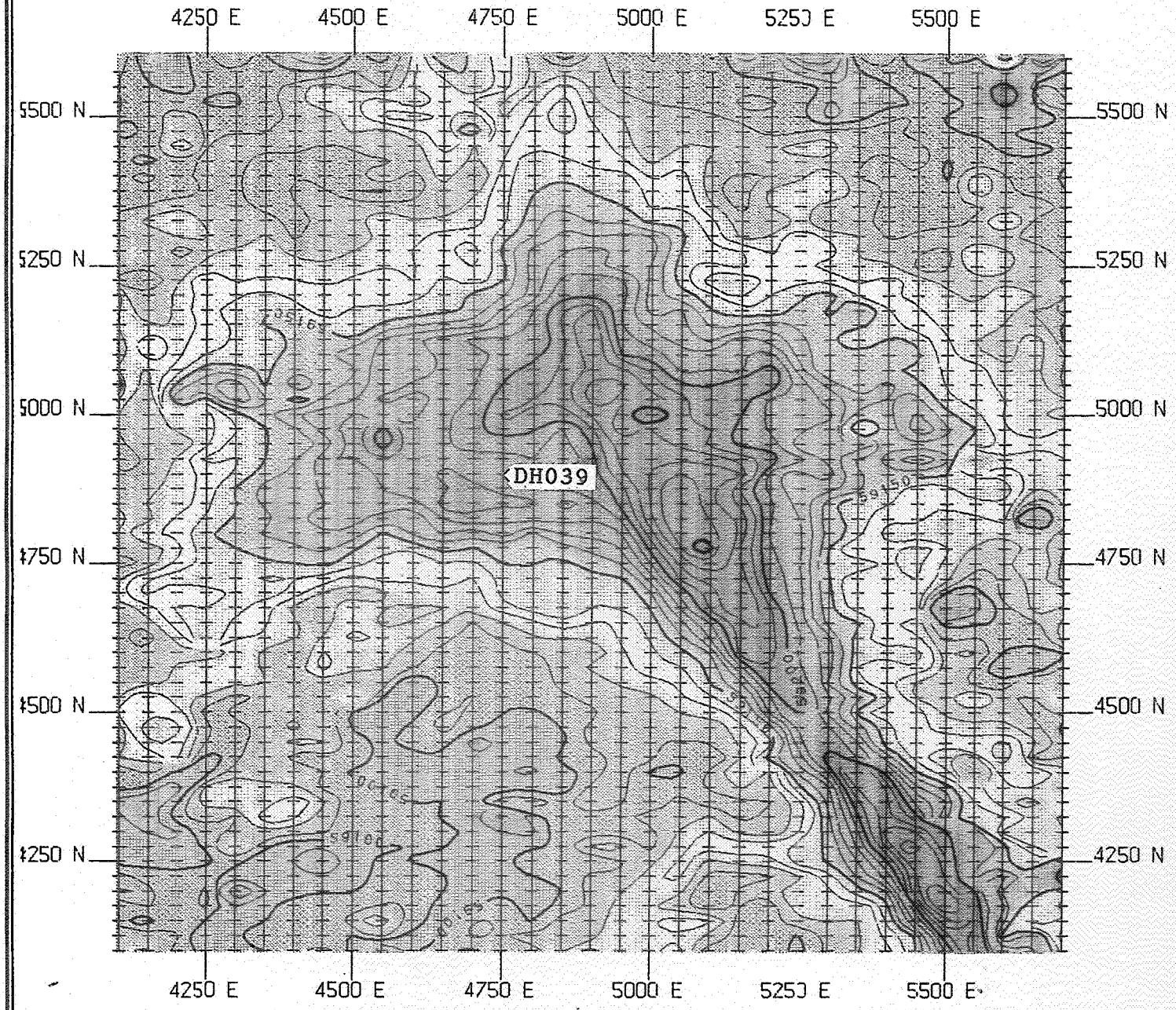
DATE ST: FN: DRILLED BY: RIG:

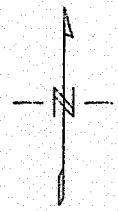
DECLN: AZIMUTH: RL: D/H TYPE:

NON CORING TO: CORING TO: CORING TO: EOH:

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC $X10^{-3}$	COMMENTS RECOVERY
30 - 32	ALTERED META-SEDIMENT	GREY SHISTOSE CHIPS - RED/GREY MOTTLING, FINE BROWN QTZ SANDSTONE	BM1280	0.07 0.12	WATER TABLE ▽
32 - 34		RED/GREY SCHISTOSE CHIPS	81	0.19 0.21	
34 - 36		FINE MICA RICH SANDSTONE CLASTS IN GREY/RED/BLACK SCHIST, HYDROTHERMAL ALTERATION?	82	0.22 0.24	
36 - 38		AS ABOVE	83	0.16 0.20	
38 - 40		GREY/RED SCHISTOSE CHIPS	84	0.17 0.21	
40 - 41	↓	GREY SCHISTOSE CHIPS, BIOTITE RICH, MINOR QTZ - ALTERED METASEDIMENT	85	1.10 1.34	

GEOLOGISTS: DATE:





Scale 1:10000

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(metres)

STOCKDALE PROSPECTING LTD
SHEOAK SH5 Groundmagnetic Survey
Magnetic North Contour 10 5-7/6/91
KIMBA SI53-7 SEL:

000156

000157

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 1 /4

PROJECT: ELLISTON EXPLORATION LICENCE: 1694A CODE: 8374

1:100,000 SHEET: SHERINGA 1:50,000 SHEET: HUDD ANOMALY: SH05 D/H 039

DC: ELLISTON SECTION: 431 HUNDREDTH: WARO OWNER: B. AGARS

GRID COORDS: 4750E 4900N EASTING: 506534mE NORTHING: 6268112mN SAT: 6, 16, 19 PDOP: 1.7

DATE ST: 2.11.91 FN: 3.11.91 DRILLED BY: WALLIS RIG: MANTIS 200

DECLN: AZIMUTH: VERT RL: D/H TYPE: AIRCORE

NON CORING TO: CORING TO: 99m CORING TO: EOH: 99m

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC $X10^{-3}$	COMMENTS RECOVERY
0 . 2	Q_p6	FAWN CALCARENITE, SHELLY IN PART	BM1286	0.39 0.56	SURFACE IC 0.20 - 3.90
2 - 4		FAWN CALCARENITE	87	0.12 0.14	
4 - 6		FAWN SANDY CALCARENITE	88	0.13 0.14	
6 - 8		FAWN SHELLY CALCARENITE	89	0.16 0.21	
8 - 10		AS ABOVE	BM1290	0.19	
10 - 12		FAWN CALCARENITE + LITHIC FRAGMENTS	91	0.54 0.56	
12 - 14		CREAM FAWN CALCARENITE	92	0.91 1.03	
14 - 16		FAWN SANDY CALCARENITE	93	1.32 1.49	
16 - 18		CREAM FAWN SANDY CALCARENITE	94	0.62 0.93	
18 - 20		FAWN SHELLY CALCARENITE SOFT + FRIABLE IN PARTS	95	0.21 0.23	
20 - 22		AS ABOVE	96	0.17 0.19	
22 - 24		FAWN SANDY CALCARENITE	97	0.24 0.29	
24 - 26		FAWN SANDY CALCARENITE	98	0.41 0.45	
26 - 28		FAWN SANDY CALCARENITE	99	0.15	
28 - 30	↓	AS ABOVE	BM1300	0.11	

GEOLOGISTS: MDH/PDH DATE: 3.11.91

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 2/4

000158

PROJECT: EXPLORATION LICENCE: CODE:

1:100,000 SHEET: 1:50,000 SHEET: ANOMALY: SH05 D/H039

DC: SECTION: HUNDREDTH: OWNER:

GRID COORDS: EASTING: NORTHING: SAT: PDOP:

DATE ST: FN: DRILLED BY: RIG:

DECLN: AZIMUTH: RL: D/H TYPE:

NON CORING TO: CORING TO: CORING TO: EOH:

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC X10^{-3}	COMMENTS RECOVERY
30 - 32	Qpl	FAWN SANDY CALCARENITE YELLOW LOESS	BM1301	0.09 0.11	
32 - 34		AS ABOVE	02	0.04 0.08	
34 - 36		AS ABOVE	03	0.08 0.09	
36 - 38		AS ABOVE	04	0.07 0.08	
38 - 40		AS ABOVE	05	0.09 0.12	
40 - 42		AS ABOVE	06	0.10 0.13	
42 - 44		AS ABOVE	07	0.11 0.12	
44 - 46		GREY BROWN INDURATED CALCARENITE (LITHIC) + YELLOW/BROWN SHELLY CALCARENITE	08	0.19 0.22	
46 - 48		CREAM SOFT LITHIC CALCARENITE	09	0.30	
48 - 50		CREAM/WHITE LITHIC CALCARENITE	BM1310	0.40 0.41	
50 - 52		BROWN COARSE SHELLY CALCARENITE CREAM SANDY CALCARENITE	11	0.18 0.21	
52 - 54		WHITE + CREAM CALCARENITE	12	0.13 0.16	
54 - 56		CREAM + FAWN SANDY CALCARENITE	13	0.11 0.17	
56 - 58		AS ABOVE	14	0.10 0.14	
58 - 60	↓	FRIABLE CREAM SANDY CALCARENITE	15	0.08 0.09	

GEOLOGISTS: DATE:

000159

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 3 /4

PROJECT: EXPLORATION LICENCE: CODE:

1:100,000 SHEET: 1:50,000 SHEET: ANOMALY: SH05 D/H039

DC: SECTION: HUNDREDTH: OWNER:

GRID COORDS: EASTING: NORTHING: SAT: PDOP:

DATE ST: FN: DRILLED BY: RIG:

DECLN: AZIMUTH: RL: D/H TYPE:

NON CORING TO: CORING TO: CORING TO: EOH:

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC X10^{-3}	COMMENTS RECOVERY
60 – 62	Qpb	FRIABLE CREAM SANDY CALCARENITE	BM1316	0.04 0.06	
62 - 64		AS ABOVE	17	0.06 0.07	
64 - 66		AS ABOVE	18	0.08 0.10	
66 - 68		FAWN SANDY CALCARENITE + BROWN LOESS	19	0.31 0.43	
68 - 70		PINK/CREAM LITHIC CALCARENITE SANDY IN PARTS	BM1320	0.24 0.32	
70 - 72		CREAM SOFT NODULAR CALCRETE + SHELLY CALCARENITE,	21	0.10	
72 - 74		FAWN SANDY CALCARENITE	22	0.11 0.14	
74 - 76		HARD CREAM CALCARENITE - INDURATED WHITE LOESS	23	0.08 0.10	
76 - 78		CREAM CALCARENITE + WHITE LOESS	24	0.16 0.18	
78 - 80		AS ABOVE	25	0.14 0.16	
80 - 82		HARD INDURATED CALCARENITE + WHITE + BROWN LOESS	26	0.18 0.19	
82 - 84		WHITE NODULAR SANDY CALCARENITE	27	0.14	
84 - 86	Qpb / Ts	ODD CALCARENITE CHIP MEDIUM FINE QTZ RICH SANDS UNCONSOLIDATED	28	0.14	WATER TABLE ▽
86 - 88		UNCONSOLIDATED QTZ RICH YELLOW SANDS	29	0.17 0.20	
88 - 90		AS ABOVE	BM1330	0.21 0.28	

GEOLOGISTS: DATE:

STOCKDALE PROSPECTING LIMITED

DRILLHOLE LOG SUMMARY SHEET

PAGE 4/4

000160

PROJECT: EXPLORATION LICENCE: CODE:

1:100,000 SHEET: 1:50,000 SHEET: ANOMALY: SH05 D/H 039

DC: SECTION: HUNDREDTH: OWNER:

GRID COORDS: EASTING: NORTHING: SAT: PDOP:

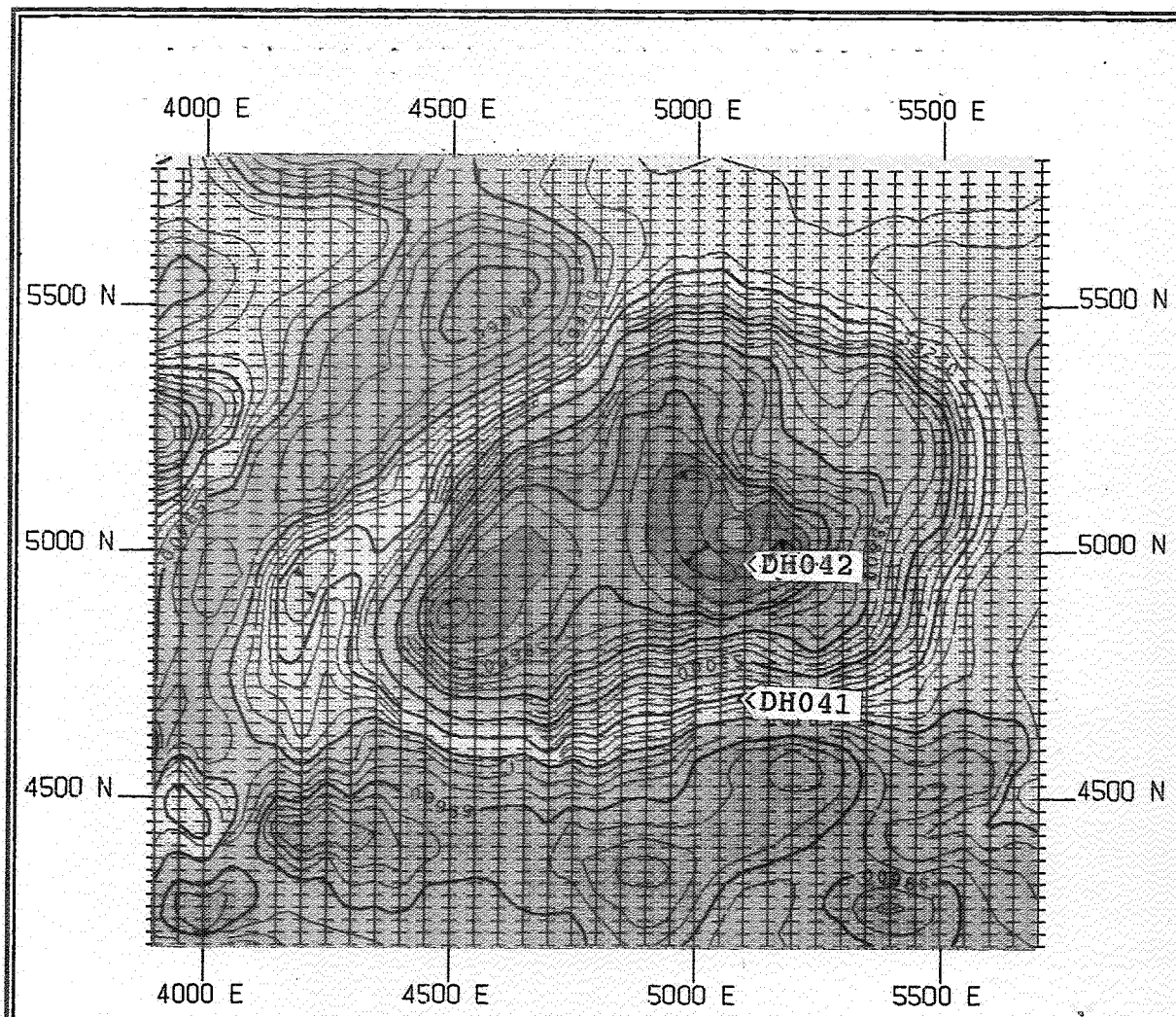
DATE ST: FN: DRILLED BY: RIG:

DECLN: AZIMUTH: RL: D/H TYPE:

NON CORING TO: CORING TO: CORING TO: EOH:

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC X10^{-3}	COMMENTS RECOVERY
90-92	Ts	YELLOW/BROWN MEDIUM FINE UNCONSOLIDATED QTS SANDS, ODD FERROCRETE GRAVEL	BM1331	0.33 0.34	WATER
92-94	↓	AS ABOVE	32	0.10	↓
94-96		YELLOW/BROWN MEDIUM FINE UNCONSOLIDATED QTS SANDS + GREY CLAY RICH HORIZONS	33	0.26 0.28	
96-98		GREY QTS SANDS MEDIUM FINE UNCONSOLIDATED	34	0.07 0.09	
98-99		AS ABOVE	35	0.28 0.29	
		ABANDONED HOLE, UNCONSOLIDATED SANDS + WATER TOO HEAVY FOR COMPRESSOR			

GEOLOGISTS: DATE:



Scale 1:15000

250 0 250 500 750 1000

(metres)

STOCKDALE PROSPECTING LTD
VENUS BAY VB5 Ground Magnetic Intensity
Magnetic North cont 50nT 14 - 18.09.91
Elliston SI53 - 6 SEL:

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 1 /3 000162

PROJECT: ELLISTON EXPLORATION LICENCE: 1694A CODE: 8374 5831-439

1:100,000 SHEET: TALIA 1:50,000 SHEET: ADDISON ANOMALY: VBOS D/H 041

DC: ELLISTON SECTION: 43/45 HUNDREDTH: WRIGHT OWNER: LAURIE GUERIN

GRID COORDS: 5100E 4700N EASTING: 481003mE NORTHING: 6323662mN SAT: 14, 18, 19 PDOP: 2.2

DATE ST: 4.11.91 FN: 4.11.91 DRILLED BY: WALLIS RIG: MANTIS 200

DECLN: AZIMUTH: VERT RL: D/H TYPE: AIRCORE

NON CORING TO: CORING TO: 68m CORING TO: EOH: 68m

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC X10^{-3}	COMMENTS RECOVERY
0 - 2	Q_{pb}	BROWN SANDY CALCARENITE + LOESS SHELLY CALCARENITE + MICA'S (WEATHERED?)	BM1355	0.26 0.27	SURFACE K 1.35 - 1.89
2 - 4	↓	WHITE CLAY, BROWN/BLACK/WHITE CALCAREOUS SANDS (WELL ROUNDED) GREEN/BROWN LOESS	56	0.17 0.19	
4 - 6	T_s	GREEN BROWN SANDY SILT, GREEN CLAY PARTLY FERRUGINIZED (RED MOTTLING)	57	0.13 0.15	
6 - 8		POORLY SORTED FERRUGINOUS SANDSTONE + WELL ROUNDED QTS, LIMONITIC STAINING	58	0.39 0.50	WATER TABLE ▽
8 - 10		VERY POORLY SORTED WHITE QTS SANDSTONE (FROSTED/PITTED WELL ROUNDED) GRANULES PARTLY FERRUGINIZED	59	0.11 0.13	
10 - 12		MEDIUM-FINE SUBANGULAR QTS SANDSTONE (KAOLINIZED - WHITE CLAY), FERRUGINIZED + LIMONITIC SANDSTONE	BM1360	0.13 0.14	
12 - 14	↓	WHITE CLAYEY SANDS, SUBANGULAR - WELL ROUNDED QTS PEBBLES (FROSTED), PYRITE, FINE ANGULAR QTS SANDSTONE (YELLOW/RED) PARTLY FERRUGINIZED	61	0.07 0.13	
14 - 16	T_{ep}	BROWN MEDIUM FINE CARBONACEOUS CLAYS/SANDS SUBROUNDED - WELL ROUNDED QTS PEBBLES/GRAVELS PYRITE	62	0.06 0.10	
16 - 18		BROWN CARBONACEOUS SANDY GRAVELS, SUB TO WELL ROUNDED QTS, PYRITE	63	0.07 0.08	
18 - 20		BLACK & GREEN MICACEOUS CARBONACEOUS CLAY, PYRITE + WOOD FRAGMENTS	64	0.06 0.08	
20 - 22		BLACK/GREEN MICACEOUS CARBONACEOUS CLAY PYRITE, WELL ROUNDED QTS PEBBLES + GRANULES (FROSTED)	65	0.05 0.07	
22 - 24		COARSE SANDY GRAVELS CARBONACEOUS, PYRITE WELL ROUNDED GRAVELS & PEBBLES	66	0.08 0.12	
24 - 26		MEDIUM FINE CARBONACEOUS SANDS, PYRITE, WELL ROUNDED GRAVELS + PEBBLES	67	0.01 0.04	
26 - 28		AS ABOVE	68	0.01 0.04	
28 - 30	↓	FINE MICACEOUS CARBONACEOUS SANDS, PYRITE SUB ROUNDED TO SUB ANGULAR QTS GRAVELS + PEBBLES	69	0.04 0.05	

GEOLOGISTS: MOM/PDH DATE: 4.11.91

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 2 3 000163

PROJECT: EXPLORATION LICENCE: CODE:

1:100,000 SHEET: 1:50,000 SHEET: ANOMALY: VB05 D/H 041

DC: SECTION: HUNDREDTH: OWNER:

GRID COORDS: EASTING: NORTHING: SAT: PDOP:

DATE ST: FN: DRILLED BY: RIG:

DECLN: AZIMUTH: RL: D/H TYPE:

NON CORING TO: CORING TO: CORING TO: EOH:

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC $X10^{-3}$	COMMENTS RECOVERY
30 - 32	Tep	FINE CARBONACEOUS MICACEOUS SANDS PYRITE, SUB ANGULAR TO SUBROUNDED QTZ GRAVELS + PEBBLES, WHITE KAOLINIZED SANDSTONE.	BM1370	0.04 0.06	
32 - 34		BLACK CARBONACEOUS CLAY + FINE SANDS PYRITIC QTZ SAND, SUB TO ANGULAR QTZ GRAVELS	71	0.05	
34 - 36		BLACK CARBONACEOUS CLAY + FINE QTZ SANDS PYRITIC QTZ CLAYS, SUB ANGULAR TO WELL ROUNDED GRAVELS + PEBBLES	72	0.05 0.07	
36 - 38		AS ABOVE	73	0.05 0.08	
38 - 40		AS ABOVE	74	0.09	
40 - 42		FINE CARBONACEOUS SANDS, BLACK PYRITIC MUDSTONE, ANGULAR - WELL ROUNDED QTZ GRAVELS	75	0.05 0.08	
42 - 44		BLACK CARBONACEOUS CLAY, WHITE CLAYS + SANDS PYRITE, OOO ANGULAR TO WELL ROUNDED QTZ GRAVEL	76	0.04 0.05	
44 - 46		WHITE + GREY MICACEOUS CLAYS, PYRITE NODULES	77	0.05 0.17	
46 - 48		RED (+ WHITE MOTTLING) MICACEOUS CLAYS PYRITE NODULES, ONE ANGULAR QTZ GRAVEL.	78	0.26 0.27	
48 - 50		RED-BROWN (+ WHITE + GREEN MOTTLED) CLAY VERY FINE YELLOW BROWN SANDY SILTSTONE	79	0.46 0.65	
50 - 52		RED-BROWN (+ WHITE-GREEN MOTTLED) CLAY V. FINE SILTSTONE (RED SPHERICAL NODULES) + YELLOW SANDY CLAY	BM1380	0.50 0.99	
52 - 54		RED-BROWN CLAY, FINE SILTSTONE, YELLOW SANDY CLAY, PYRITE/QTZ	81	0.99 1.32	
54 - 56		RED-BROWN CLAY, GASTROPOD FRAGMENTS (PYRITIZED / SILICIFIED) PYRITE WITH WELL ROUNDED QTZ	82	1.03 1.22	
56 - 58	↓	BROWN + YELLOW CLAY, PINK ANGULAR QTZ GRAVELS, MINERALIZED? QTZ PEBBLES	83	0.73 0.75	
58 - 60	Apsq	LIGHT GREEN TO OLIVE GREEN CHLORITIC CLAYS FINE GRAINED MAFIC ROCK, CHLORITIZED, LARGE MICA (BIOTITE) BOOKS, WHITE ANGULAR QTZ	84	0.68 0.79	

GEOLOGISTS: DATE:

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 3 /3

000164

PROJECT: EXPLORATION LICENCE: CODE:

1:100,000 SHEET: 1:50,000 SHEET: ANOMALY: VB05 D/H 041

DC: SECTION: HUNDREDTH: OWNER:

GRID COORDS: EASTING: NORTHING: SAT: PDOP:

DATE ST: FN: DRILLED BY: RIG:

DECLN: AZIMUTH: RL: D/H TYPE:

NON CORING TO: CORING TO: CORING TO: EOH:

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC $X10^{-3}$	COMMENTS RECOVERY
60 - 62	Apsq	FINE GRAINED CHLORITIZED MAFIC ROCK OLIVE GREEN, ABUNDANT BIOTITE, ANGULAR QTZ, PYROXENE?	BM1385	0.58 0.61	
62 - 64	↓	AS ABOVE	86	1.48 1.69	
64 - 66	↓	MAFIC GRANITOID - BIOTITE, PYROXENE, QTZ, FELDSPAR, CHLORITE STAINING	87	1.27 1.63	
66 - 68	↓	DIORITE OR GRANODIORITE, BIOTITE, PYROXENE, HORNBLENDE, QTZ, FELDSPAR.	88	4.50 5.50	

GEOLOGISTS: DATE:

000165

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 1/2

PROJECT: ELLISTON EXPLORATION LICENCE: 1694A CODE: 8374 5831-46

1:100,000 SHEET: TALIA 1:50,000 SHEET: ADDISON ANOMALY: VB05 D/H 042

DC: ELLISTON SECTION: 43/45 HUNDREDTH: WRIGHT OWNER: L. GUERIN

GRID COORDS: 5100E 4975N EASTING: 481017mE NORTHING: 6323934mN SAT: 11, 16, 18 PDOP: 1.5

DATE ST: 4.11.91 FN: 4.11.91 DRILLED BY: WALLIS RIG: MANTIS 200

DECLN: AZIMUTH: VERT RL: D/H TYPE: AIRCORE

NON CORING TO: CORING TO: 51m CORING TO: EOH: 51m

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC X10^{-3}	COMMENTS RECOVERY
0 - 2	Qpb	WHITE + YELLOW SANDY CALCARENITE	BM1389	0.10 0.12	SURFACE IC 0.45-0.47
2 - 4	↓	WHITE FRIABLE CALCRETE GREY CALCARENITE	90	0.02	
4 - 6	↓	WHITE/BROWN FRIABLE CALCARENITE	91	0.03 0.04	
6 - 8	Ts	WHITE + GREEN CLAY (OCHRE MOTTLING) ORANGE/BROWN MUDSTONE, GREY FINE QTZ SANDS FERRUGINOUS, SUB ANGULAR QTZ GRAVELS	92	0.05 0.06	
8 - 10	↓	GREEN/WHITE SANDY SILT, PARTLY FERRUGINIZED POORLY SORTED FERRUGINOUS QTZ SANDS SUB ANGULAR TO WELL ROUNDED	93	0.09 0.12	WATER ▽ TABLE
10 - 12	↓	GREEN/WHITE SILT + BROWN MOTTLING	94	0.07 0.10	
12 - 14	↓	LIGHT PINK + BROWN SANDY CLAY, MODERATELY WELL SORTED FERRUGINOUS QTZ SANDS (FINE WELL ROUND) SUBANGULAR QTZ GRAVELS	95	0.07 0.10	
14 - 16	Tep	BLACK CARBONACEOUS CLAY, WELL - SUB ROUNDED QTZ GRAVELS + PEBBLES, SOME FERRUGINOUS SANDSTONE, BLACK PYRITIC QTZ SANDSTONE	96	0.04 0.05	
16 - 18	↓	BLACK CARBONACEOUS GRAVELLY CLAY, BLACK PYRITIC QTZ SANDSTONE, SUB TO WELL ROUNDED QTZ GRAVELS	97	0.06 0.12	
18 - 20	↓	BLACK / GREEN CARBONACEOUS CLAY RICH GRAVELS PYRITE, SUB-WELL ROUNDED GRAVELS	98	0.09 0.12	
20 - 22	↓	BLACK / GREEN CARBONACEOUS CLAY RICH GRAVELS WELL ROUNDED - SUB ANGULAR QTZ GRAVELS, PEBBLES, BLACK PYRITE	99	0.01 0.03	
22 - 24	↓	BLACK / GREEN CARBONACEOUS CLAY RICH WELL TO SUB ROUNDED QTZ GRAVELS	BM1400	0.01 0.02	
24 - 26	↓	BLACK / GREEN CARBONACEOUS CLAY RICH WELL ROUNDED TO SUB ANGULAR QTZ GRAVELS PYRITE	01	0.03	
26 - 28	↓	BLACK / GREEN CARBONACEOUS CLAY RICH WELL ROUNDED TO SUB ANGULAR QTZ GRAVELS	02	0.02	
28 - 30	↓	BLACK / GREEN CARBONACEOUS CLAY RICH GRAVEL WELL TO SUB ROUNDED QTZ GRAVELS, PYRITE	03	0.00 0.04	

GEOLOGISTS: MSM/PPH DATE: 4.11.91

STOCKDALE PROSPECTING LIMITED
DRILLHOLE LOG SUMMARY SHEET PAGE 2 /2

000166

PROJECT: ELLISTON EXPLORATION LICENCE: 1694A CODE: 8374

1:100,000 SHEET: 1:50,000 SHEET: ANOMALY: VBOS D/H 042

DC: SECTION: HUNDREDTH: OWNER:

GRID COORDS: EASTING: NORTHING: SAT: PDOP:

DATE ST: FN: DRILLED BY: RIG:

DECLN: AZIMUTH: RL: D/H TYPE:

NON CORING TO: CORING TO: CORING TO: EOH:

INTERVAL	STRAT	LOG SUMMARY	SAMPLE NUMBER	SUSC X10^{-3}	COMMENTS RECOVERY
30 - 32	Tep	BLACK/GREEN CARBONACEOUS CLAYEY GRAVELS BLACK PYRITIC SANDSTONE	BM1404	0.00 0.05	
32 - 34		BLACK MICACEOUS CARBONACEOUS CLAY + SAND + SILT, FINE ANGULAR QTZ SAND, 000 QTZ PEBBLE WELL ROUNDED	05	0.04 0.05	
34 - 36		AS ABOVE	06	0.04	
36 - 38		OLIVE GREEN CLAY, BLACK CARBONACEOUS SILT (MICA + FINE QTZ SAND) PYRITE NODULES SUB-WELL ROUNDED GRAVELS	07	0.01 0.04	
38 - 40	Apsq	RED CLAY (WHITE MOTTLING) PYRITE NODULES	08	0.06 0.12	
40 - 42		RED, WHITE, GREEN MOTTLED CLAYS, WEATHERED FELDSPARS, WHITE CLAY + BIOTITE + HORNBLENDE CHLORITIZED MAFIC ROCK	09	0.16 0.32	
42 - 44		BADLY WEATHERED MICA (BIOTITE) + PYROXENES IN WHITE, YELLOW, RED + GREEN CLAYS	BM1410	0.25 0.27	
44 - 46		WHITE + RED QTZ RICH (ANGULAR) CLAY (VEIN QTZ?)	11	0.13 0.18	
46 - 48		RED CLAY (WHITE MOTTLING) WEATHERED MICA + FELDSPAR	12	0.58 0.69	
48 - 50		GREEN MICACEOUS CLAY + WHITE (+RED) MICACEOUS CLAY	13	2.35 4.47	
50 - 51		WEATHERED MAFIC ROCK, BIOTITE, FELDSPAR HORNBLENDE PYROXENE, QTZ BIOTITE - DIORITE MINOR SULPHIDE MINERALIZATION	14	1.24 1.30	SAND CONTAMIN FROM UP THE HOLE

GEOLOGISTS: DATE:

APPENDIX 4

Petrological Descriptions

SAMPLE: BM0189 SH04/DH028

Thin Section: C56386

Rock Name:
Amphibolite with feldspathic patches

Hand Specimen:
The drill core rock sample is composed of fine-grained, lineated, dark greenish grey amphibolite with scattered white, coarse-grained feldspathic patches.

Brief Petrography:

In thin section, this sample displays a granoblastic metamorphic texture with lineated structure and coarse-grained blastic aggregates.

The amphibolite host rock is represented by portions at each end of the thin section. It is composed of abundant pleochroic green hornblende that forms lineated subhedral grains, accompanied by lesser anhedral plagioclase. Elongated subhedral grains and aggregates of opaques (?ilmenite) are uniformly disseminated throughout, and in places have suffered marginal replacement by fine-grained turbid leucoxene. Minor epidote occurs as small anhedral grains intergrown with hornblende.

Felsic patches comprise a high proportion of the thin section. They are composed mainly of anhedral plagioclase grains up to ~6-8 mm in size, in places partly sericitised. Amphibole forms bladed crystals up to ~3 mm long that display mottled pleochroism in pale greens. Accessory opaques form subhedral crystals.

Cutting the rock is a single fracture, along which there has been deposition of relatively large flakes of chlorite. Chlorite also occurs elsewhere as replacement patches within amphibole.

Interpretation:

This sample represents a basic precursor rock that has suffered medium grade (amphibolite facies) dynamic regional metamorphism to generate the assemblage hornblende + plagioclase + opaques (?ilmenite) + accessory epidote. During metamorphism, blastic growth of plagioclase and lesser amphibole generated the large white patches observed in hand specimen.

SAMPLE: BM0190

SH27 /DH032

Thin Section: C56387

Rock Name:
Altered ultramafic igneous rock

Hand Specimen:
The drill core rock sample is fine- to medium-grained, massive, and has an overall brownish green colour. Dissolution cavities are present in some places, and irregular fractures may contain orange-brown staining.

Brief Petrography:

In thin section, this sample retains some microtextural features of a precursor igneous rock of possible cumulate origin, but most features have been obscured by pervasive intense alteration of weathering origin.

A fine-grained, pleochroic dark orange-brown phyllosilicate phase is abundant throughout the rock. It forms a pervasive replacement matrix in many places, but elsewhere it forms an optically continuous replacement of precursor crystals that in some cases may have been pyroxene. The identity of this phyllosilicate is uncertain, but it may be a smectite clay.

Fine-grained aggregates of talc occur as replacements of a precursor phase of equant, subhedral form. It is likely to have been olivine.

Biotite is present in moderate amount as somewhat oxidised plates, pleochroic in dark reddish browns. The biotite may be concentrated in places, but generally is distributed sparsely through the rock.

Hornblende occurs in minor amount as anhedral, interstitial grains that are pleochroic in greens and browns. It is a relict primary phase.

Carbonate (possibly dolomite) occurs throughout the rock as fine-grained, irregularly shaped patches, and also as linings in veins and solution cavities. It may be accompanied by lesser amounts of calcite (which has accepted the pink stain from Alizarin Red-S solution). In veins, the calcite fills central portions and appears to have been deposited subsequently to the ?dolomitic carbonate.

Goethite occurs as very fine-grained, dark reddish brown to orange brown aggregates that in places develop a colloform structure within coarser-grained calcite.

Interpretation:

This sample represents an ultramafic igneous rock that may have been composed mainly of pyroxene and olivine, with accompanying biotite and hornblende.

Subsequent alteration has obscured much of the primary mineralogy and texture, producing abundant ?smectite, with associated carbonate (dolomite and calcite) and goethite. The presence of talc replacements after ?olivine suggests that an earlier alteration event occurred, which has been overprinted by the intense pervasive weathering.

SAMPLE: BM0191

Thin Section: C56388 SH11/0H037

Rock Name:

Magnetite-dolomite skarn rock

Hand Specimen:

The drill core rock sample is fine- to medium-grained, of uniform grain size, moderately lineated, and with an overall dark grey to black crystalline appearance. It is strongly magnetic, suggesting that magnetite is abundant, and responds weakly to dilute HCl, suggesting that calcite is present in minor amount.

Brief Petrography:

In thin section, this sample displays a granoblastic crystalline texture.

Carbonate is abundant. Most occurs as colourless anhedral grains ~0.4 mm in size, developing a granoblastic mosaic throughout the rock. It appears to be dolomitic, as it has not accepted the pink stain from Alizarin Red-S. However, small scattered patches have accepted the stain, indicating the presence of minor calcite.

Opaque material is a little less abundant than the carbonate. It occurs as subhedral, equant crystals and also as ragged anhedral aggregates. Its form and magnetic response in hand specimen suggest it is magnetite. In places, it occurs as minute grains along carbonate grain boundaries.

A minor amount of sericite is present as complete pseudomorphous replacements of a precursor ferromagnesian phase that built subhedral stumpy crystals. It may have been a pyroxene (e.g. diopside).

Plates of colourless chlorite occur in minor amount, especially within the altered ?pyroxene sites.

Interpretation:

This sample represents a magnesian carbonate sedimentary rock that has suffered thermal metamorphism and possibly Fe metasomatism, generating a granoblastic assemblage of dolomite + magnetite with other minor phases. Subsequent to the main metamorphic event, low-grade retrogressive alteration generated sericite + chlorite after ?pyroxene.

SAMPLE: BM0192

Thin Section: C56389 SH03/DH038

Rock Name:

Metasomatised metasediment

Hand Specimen:

The drill core rock sample is fine-grained, massive, soft, and has an overall pale greenish cream colour.

Brief Petrography:

In thin section, this sample displays a porphyroblastic metamorphic texture that has been modified by retrogressive sericitic alteration.

Sericite is abundant. It occurs as a fine-grained granular mosaic throughout the rock, and appears to have formed by pseudomorphous replacement of a precursor phase (e.g. feldspar).

Biotite occurs in moderate amount as randomly oriented ragged plates up to ~1 mm in size, strongly pleochroic from reddish brown to straw yellow. In places it is accompanied by a minor amount of muscovite as plates of similar size.

Tourmaline is present in significant amount as euhedral small, randomly oriented prismatic crystals, pleochroic in browns and brownish greens.

Opaques occur in minor amount as fine-grained aggregates disseminated throughout the rock.

Quartz is present in minor amount as sparsely disseminated anhedral grains.

Chlorite occurs in accessory amount as small flakes through the sericite.

Interpretation;

The presence of randomly oriented, disseminated biotite plates and tourmaline prisms suggests that the rock has suffered pervasive metasomatic alteration. The abundant sericite is inferred to have formed during this event, and may have replaced precursor feldspar. The nature of the precursor rock is now unclear, but it may have been a fine-grained, feldspathic metasedimentary rock.

SAMPLE: BM0194 VBOS/DH041 (64-66m)

Thin Section: C56391

Rock Name:
Altered gabbro

Hand Specimen:
The drill core rock sample is massive, medium-grained, and generally white in colour with sparsely scattered ragged greenish black ferromagnesian grains.

Brief Petrography:

In thin section, this sample displays a relict medium-grained, massive igneous texture that has been extensively modified by pervasive low-grade alteration.

Plagioclase was abundant in the primary rock, but most has been partly to completely replaced by very fine-grained sericite aggregates. In places, minor relict plagioclase displays its primary twinning features.

Augite was the principal primary ferromagnesian phase, but it has been completely replaced by very pale green actinolitic amphibole and fine-grained sericite patches.

Hornblende remains as fresh, interstitial to poikilitic, pleochroic greenish brown grains up to ~2 mm in size.

Biotite is present in minor amount as ragged to poikilitic plates, pleochroic from orange-brown to very pale straw yellow.

Quartz occurs in minor amount as small interstitial patches, and as blebs in cores of large altered plagioclase grains (also see next description).

Opaques occur as small blebs within the hornblende.

Interpretation:

This sample represents an intrusive basic igneous rock that was originally composed of abundant plagioclase + augite with lesser hornblende + biotite + accessory phases. The presence of interstitial quartz and a ferromagnesian assemblage containing some hornblende and biotite suggests that the basic rock had calc-alkaline (or at least sub-alkaline) magmatic affinity.

amdel

SAMPLE: BM0195 VBOS/DH041 (66-68m)

Thin Section: C56392

Rock Name:
Hornblende-biotite quartz-diorite

Hand Specimen:
The drill core rock sample is a medium-grained, massive, waxy grey crystalline rock. Dark greenish grey ferromagnesian patches are distinguishable.

Brief Petrography:

In thin section, this sample displays an hypidiomorphic granular (granitoid) igneous texture that has been partly modified by low-grade alteration.

Plagioclase is abundant. It occurs as stumpy prismatic crystals that range widely in size ~0.2-4.0 mm. Most are quite fresh and display their primary twinning and weak zoning features. Some have suffered partial replacement by flecks and patches of fine-grained sericite.

Augite was moderately abundant as subhedral prismatic crystals, but most has been replaced actinolitic amphibole and fine-grained carbonate (?dolomitic).

Orthopyroxene (hypersthene) occurs in lesser amount as subhedral prismatic crystals, weakly pleochroic in pale greens and pale pinks. It, too, tends to be mantled by green hornblende.

Hornblende forms fresh, pleochroic greenish brown, anhedral poikilitic grains as large as 2-3 mm. It commonly mantles pyroxene.

Biotite occurs as small flakes and larger poikilitic plates up to ~2 mm in size. It is strongly pleochroic fox brown to very pale straw yellow.

Quartz is present in minor amount as small scattered interstitial grains, but also as large blebs in cores of large plagioclase grains. This latter occurrence is primary in origin, and is very similar to a similar texture observed in the previous sample.

Opaques occur in two forms: as sparsely disseminated anhedral blebs associated with ferromagnesian grains, and as minute granules within altered pyroxene sites.

Cutting the rock are rare fractures along which there has been alteration to chlorite and deposition of very fine-grained carbonate (?dolomitic).

Interpretation:

This sample represents a relatively mafic granitoid rock of calc-alkaline magmatic affinity. It was composed of plagioclase + augite + hornblende + biotite + orthopyroxene + opaques + quartz. Subsequent to consolidation, the rock body suffered low grade alteration to minor amounts of sericite + chlorite + carbonate.

SAMPLE: BM0196

Thin Section: C56393 VB05/DH042

Rock Name:
Hornblende-biotite quartz-diorite

Hand Specimen:
The drill core rock sample represents a massive, medium-grained, waxy greenish grey crystalline rock.

Brief Petrography:

In thin section, this sample displays a medium-grained, massive, hypidiomorphic granular (granitoid) texture that has been partly modified by low grade alteration.

Plagioclase forms randomly oriented, subhedral prismatic crystals ~1-2 mm in size. Most have suffered a significant degree of replacement by sericite flecks, and less commonly ragged epidote grains.

Hornblende is the most abundant ferromagnesian phase. It forms green pleochroic poikilitic grains that commonly enclose or mantle stumpy prismatic pyroxene crystals that have been completely replaced by fibrous secondary actinolitic amphibole.

Biotite occurs as individual small flakes and larger poikilitic plates. It is pleochroic from dark chocolate brown to yellow. In places, chlorite has partly replaced biotite along cleavage traces.

Quartz is present in minor amount as angular clear interstitial grains, but also as blebs within cores of larger plagioclase crystals.

Opaques occur in two forms: primary subhedra and ragged blebs occur within ferromagnesian aggregates, and minute secondary granules occur within altered pyroxene and biotite sites.

Interpretation:

This sample represents a relatively mafic granitoid of calc-alkaline magmatic affinity. It contains more hornblende, less pyroxene and somewhat more quartz than the previous sample, but otherwise has strong textural similarities to it. It represents a slightly more fractionated magma than the previous sample.

APPENDIX 5

Geochemical Results

ANOM	SAMPLE No.	Au	Co	Cr	Cu	Fe	Mn	Ni	Pb	Zn	As	Bi	Mo	Sb	DEPTH (m)
SH27	BM1045 60-62	0.001	18	220	85	15.400	2130	42	<100	111	6	0.42	1.62	2.97	60-62
	BM1046 62-64	0.001	22	118	56	12.800	2540	57	<100	106	8	0.19	2.40	1.59	62-64
PH32	BM1047 64-66	0.001	15	28	7	12.300	2500	16	<100	97	31	<0.10	1.30	0.65	64-66
	BM1048 66-68	0.001	33	<10	11	18.800	12800	33	<100	120	21	0.24	1.05	0.65	66-68
	BM1049 68-69	0.001	40	47	7	14.600	4380	40	172	172	33	0.11	1.66	2.60	68-69
SH11	BM1263	<0.001	<5	10	<5	0.850	206	<10	<100	7	7	<0.10	1.25	1.23	68-70
PH37	BM1264	0.001	23	75	59	7.120	1860	69	<100	79	52	0.20	1.73	5.72	70-72
	QCBM0860	0.002	110	2330	57	9.130	1390	540	<100	70	3	<0.10	0.53	0.28	
6															
7															
8															
9															
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18															
19															
20															
21															
22															
23	DETECTION	0.001	5	10	5	0.010	15	10	100	5	1	0.10	0.10	0.05	
24	UNITS	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
25	METHOD	GG334	GI201	GI201	GI201	GI201	GI201	GI201	GI201	GI201	GA114	GI222	GI222	GI222	

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

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ness otherwise specified
ent; but concentration too low to measure
centration is below detection limit
determined

AUTHORISED OFFICER D.K.Rowley

000179

ANOM	SAMPLE No.	Y	Zr	Nb	Ba	La	Ce	Ta	Th	U	Mg	K	Ca	Ti	V	Cr	Co	Ni	Sr	DEPTH (m)
SH13	BM0915	7	130	64	170	29	68	<10	32	<100	0.140	0.390	0.270	2120	31	44	<5	24	82	54-56
	BM0916	5	185	37	90	20	57	<10	50	<100	0.110	0.230	0.190	2580	30	55	<5	78	91	56-58
	BM0917	8	311	149	131	26	146	12	69	<100	0.150	0.330	0.380	11600	143	732	71	281	105	58-60
	BM0918	29	243	159	477	145	206	<10	46	<100	1.330	4.190	5.540	13900	146	996	159	1240	160	60-62
	BM0919	8	117	62	442	66	114	<10	26	<100	7.340	2.830	4.770	5820	69	402	76	697	158	62-64
SH09	BM0968	6	129	37	105	53	97	<10	46	<100	0.130	0.810	0.090	3510	47	42	6	28	37	62-64
	BM0969	6	145	24	219	37	74	<10	36	<100	0.130	0.860	0.080	2000	21	45	9	92	25	64-66
	BM0970	30	249	398	1770	279	457	<10	52	<100	7.000	1.490	2.910	12800	267	2190	116	2590	913	66-68
	BM0971	7	66	98	656	59	125	<10	<10	<100	3.290	0.790	21.500	3470	63	404	49	584	471	68-70
	BM0972	7	79	115	1070	70	117	<10	19	<100	10.100	0.860	3.050	3740	71	575	61	872	235	70-72
SH08	BM0992	24	177	51	534	54	102	<10	23	<100	0.170	1.880	0.150	5610	90	67	20	38	70	14-16 •
	BM0993	22	183	47	790	36	76	<10	17	<100	0.430	2.660	0.140	6180	105	51	21	42	232	16-18
	BM0994	23	139	26	642	37	76	<10	16	<100	0.550	2.260	0.230	4440	69	53	19	45	79	18-20
	BM0995 20-22	21	239	174	1080	141	244	<10	38	<100	4.780	1.690	1.360	12100	169	403	56	297	249	20-22
	BM0996 22-24	14	176	184	1170	114	201	<10	24	<100	4.920	1.420	12.300	10700	142	328	38	212	251	22-24
	BM0997 24-26	11	153	147	2190	82	139	<10	25	<100	5.670	1.700	3.960	8530	122	297	38	217	243	24-26
MH201	BM1206	28	187	46	567	50	97	<10	22	<100	0.680	2.050	0.380	5860	117	79	22	53	97	30-32
	BM1207	14	114	18	634	32	62	<10	11	<100	0.360	1.210	0.230	3220	59	50	16	51	172	32-34
	BM1208	22	185	37	611	36	71	<10	15	<100	0.630	1.980	0.470	5000	109	66	19	41	87	34-36
	BM1209	21	156	26	652	39	77	<10	17	<100	0.900	2.170	0.430	4730	87	52	16	33	83	36-38
	BM1210	13	122	24	754	24	45	<10	11	<100	0.440	2.420	0.210	3470	62	31	12	30	71	38-40
	BM1211	14	124	15	766	25	44	<10	10	<100	0.470	2.490	0.240	3490	79	33	13	24	75	40-42
	BM1212	20	147	17	616	36	69	<10	16	<100	0.560	2.020	0.300	4090	75	37	15	28	71	42-44
	BM1213	22	123	10	884	39	77	<10	17	<100	0.770	2.170	0.310	4110	74	50	18	34	73	44-46
	BM1214	16	104	13	913	27	48	<10	13	<100	0.640	2.920	0.280	3820	64	36	15	26	82	46-48
	BM1215	16	86	11	426	30	56	<10	15	<100	0.500	1.390	0.310	3200	55	29	11	25	51	48-50
	BM1216	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	50-52
	QCBM0580	100	226	237	1870	160	302	14	42	<100	1.440	2.830	0.120	9520	283	566	69	669	1190	

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

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unless otherwise specified
sent; but concentration too low to measure
centration is below detection limit
determined

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8422-7

ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.
A.C.N. 004 591 564

ANALYTICAL DATA

SAMPLE PREFIX | REPORT NUMBER | REPORT DATE: 11/12/91 | CLIENT ORDER No. | PAGE: OF | FIX

ANOM	SAMPLE No.	Au	As	Bi	Mo	Sb	Co	Cr	Cu	Fe	Mn	Ni	Pb	Zn	Ba	Ca	Ce	K	La	Mg	Nb	Sr	Ta	Th	Ti	U	V	Y	Zr	DEPTH (m)
VBOS	BM1383	<0.001	<1	0.10	2.47	0.60	38	389	29	9.140	204	229	<100	206	133	0.040	<15	0.580	<5	0.390	93	12	12	<10	4020	<100	97	11	41	56-58
(DHO92)	BM1384	<0.001	2	<0.10	1.40	0.36	158	392	26	8.610	488	694	<100	432	195	0.050	23	0.870	36	1.890	30	16	<10	<10	2630	<100	173	23	32	58-60
	BM1385	<0.001	3	<0.10	0.98	0.12	211	347	33	8.220	2750	697	<100	264	120	0.160	52	0.560	75	1.600	17	28	<10	<10	2740	<100	122	102	30	60-62
	BM1386	<0.001	3	<0.10	2.14	1.39	120	348	50	7.480	1940	404	<100	190	344	0.440	25	0.630	21	3.000	15	31	<10	<10	2880	<100	166	28	27	62-64
	BM1387	<0.001	4	<0.10	2.04	0.80	70	318	49	4.730	832	287	<100	121	180	0.790	19	0.730	12	3.100	21	31	<10	<10	3200	<100	143	11	29	64-66
	BM1388	0.002	2	<0.10	0.83	0.89	61	295	30	6.230	1580	206	<100	133	325	1.410	16	1.480	12	5.760	<10	188	<10	<10	2270	<100	94	7	21	66-68
VBOS	BM1407	0.002	74	0.11	3.94	1.28	82	80	18	6.850	188	123	<100	45	108	0.040	36	0.530	11	0.230	<10	19	<10	<10	4440	<100	223	8	69	36-38
(DHO92)	BM1408	0.001	34	0.14	2.46	0.71	21	84	41	4.210	160	79	<100	241	125	0.040	165	0.740	56	0.270	26	24	<10	14	6720	<100	460	19	130	38-40
	BM1409	0.001	5	<0.10	1.49	0.23	16	86	48	9.170	237	55	<100	100	110	0.050	40	0.490	19	0.210	10	15	<10	<10	6770	<100	581	20	54	40-42
	BM1410	0.001	10	0.11	1.07	0.34	20	65	48	8.570	371	85	<100	118	149	0.080	<15	0.680	<5	0.250	17	14	<10	<10	5920	<100	294	8	50	42-44
	BM1411	<0.001	19	0.10	1.07	0.12	32	42	245	7.870	430	152	<100	213	406	0.140	219	1.820	148	0.360	18	46	13	27	1660	<100	64	73	107	44-46
	BM1412	<0.001	3	0.10	0.90	0.47	49	40	18	5.960	215	137	<100	77	365	0.100	137	1.970	66	0.200	18	39	<10	51	3770	<100	243	24	572	46-48
	BM1413	<0.001	3	<0.10	0.79	1.52	38	60	85	4.970	294	84	<100	105	296	0.100	437	1.430	251	0.850	24	28	10	13	5260	<100	373	36	113	48-50
	BM1414	<0.001	11	<0.10	1.16	0.40	23	34	23	3.980	533	56	<100	74	206	0.570	39	0.850	22	1.070	<10	58	<10	<10	1880	<100	110	9	63	50-52
15																														
16																														
17																														
18																														
19																														
20																														
21																														
22																														
23	DETECTION	0.001	1	0.10	0.10	0.05	5	10	5	0.010	15	10	100	5	5	0.005	15	0.050	5	0.002	10	1	10	10	10	100	2	1	5	
24	UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	%	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
25	METHOD	GG334	GA114	GI222	GI222	GI222	GI201	GI201	GI201	GI201	GI201	GI201	GI201	GI201	GI201	GI201	GI201	GI201	GI201	GI201	GI201	GI201	GI201	GI201	GI201	GI201	GI201	GI201	GI201	

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
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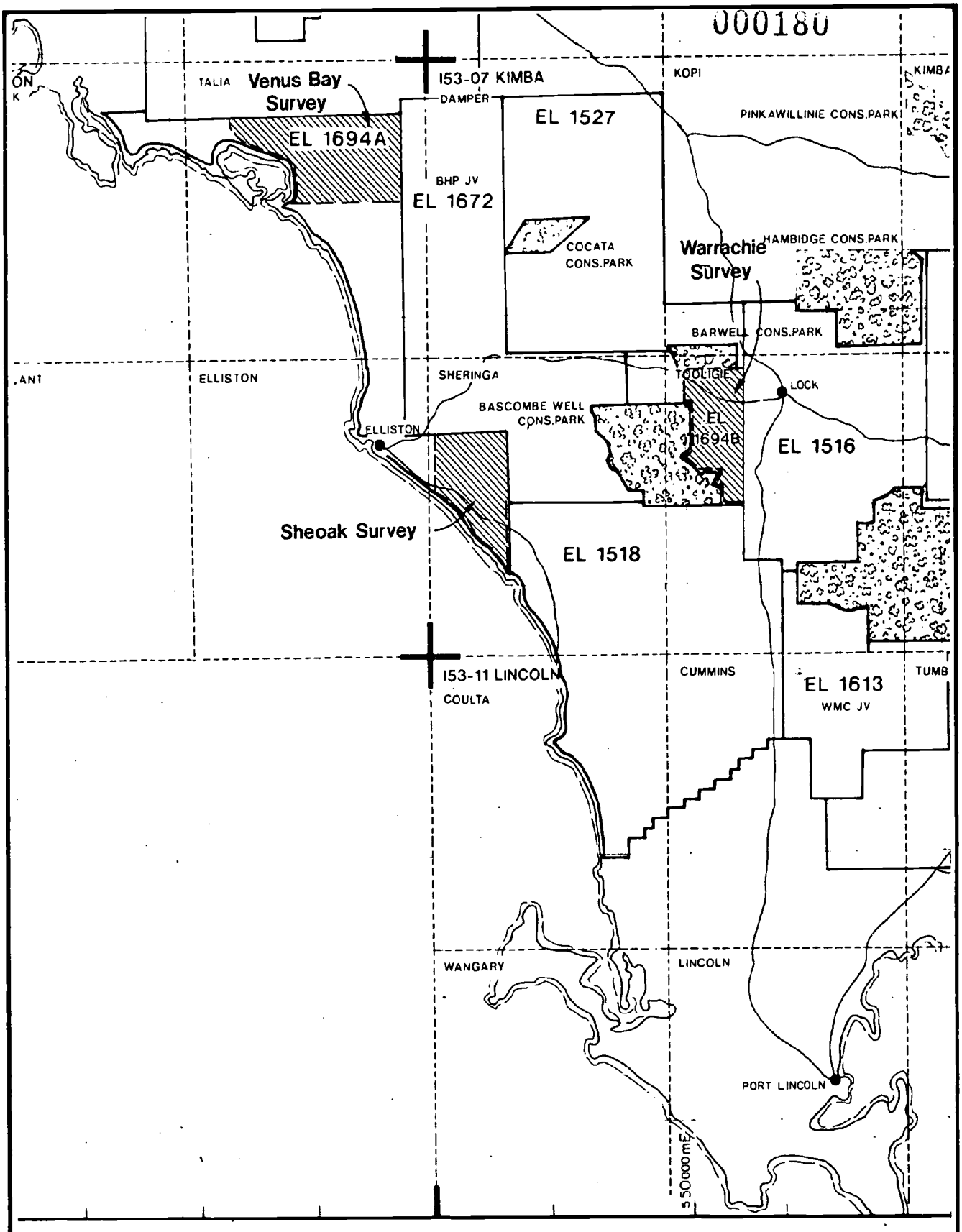
8422-7



MAP 1

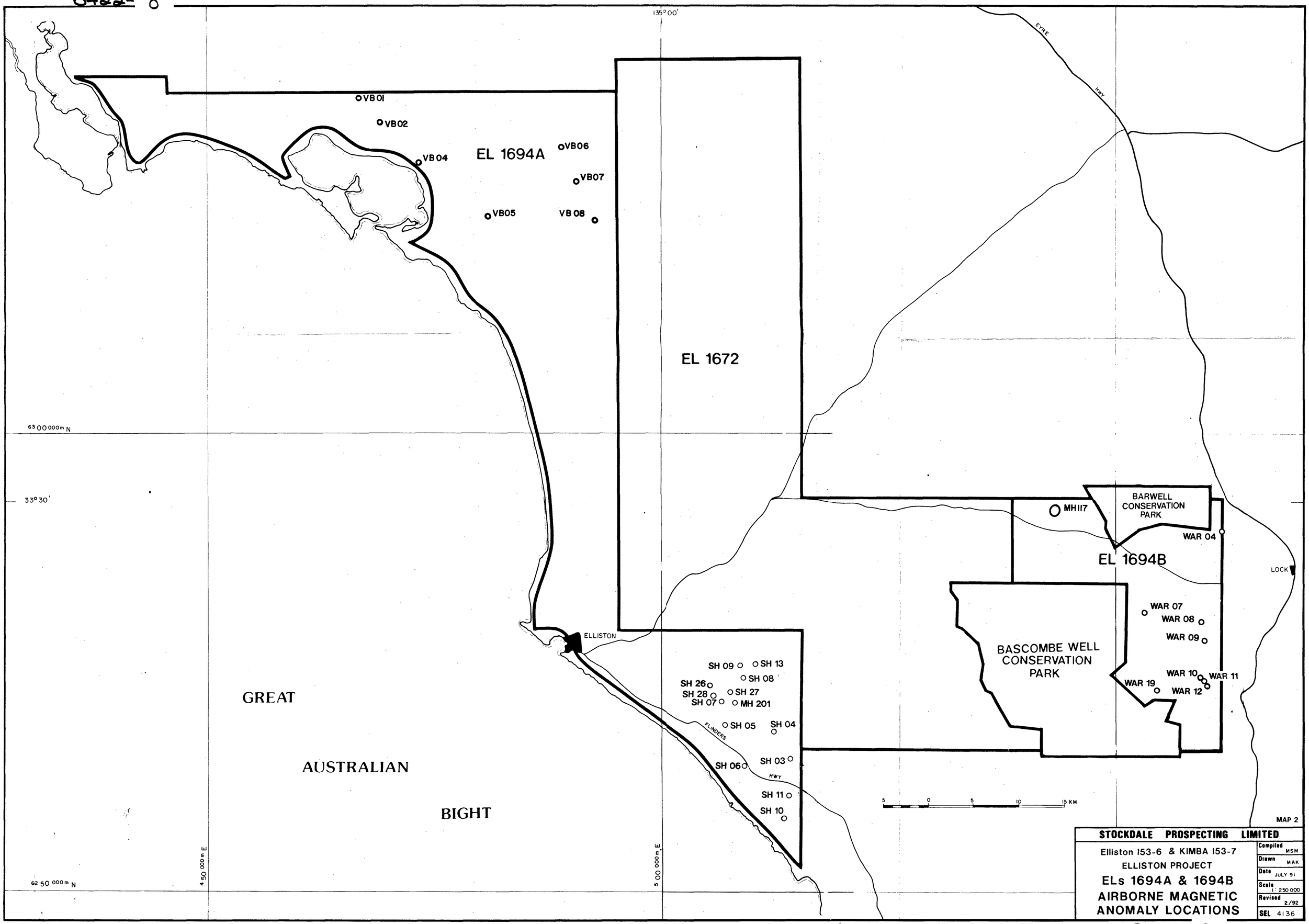
STOCKDALE PROSPECTING LIMITED

PART ELLISTON 153-6, KIMBA 153- 7, & LINCOLN 153-11

LOCATION MAP
EL 1694 A & B

Compiled	Drawn	Date	Scale	
DO	BAN	4/91	1: 1,000 000	SEL 4080

8422- 8


135°00'
EYRE HWY
VB01
VB02
VB04
EL 1694A
VB06
VB07
VB05
VB08
EL 1672
63 00 000m N
33°30'
MH117
BARWELL CONSERVATION PARK
WAR 04
EL 1694B
LOCK
WAR 07
WAR 08
WAR 09
BASCOMBE WELL CONSERVATION PARK
WAR 10
WAR 11
WAR 19
WAR 12
ELLISTON
SH 09
SH 13
SH 08
SH 26
SH 28
SH 27
SH 07
MH 201
SH 05
SH 04
FLINDERS HWY
SH 06
SH 03
SH 11
SH 10
GREAT
AUSTRALIAN
BIGHT
5 0 5 10 15 KM
62 50 000m N
450 000m E
500 000m E
MAP 2
STOCKDALE PROSPECTING LIMITED
Elliston 153-6 & KIMBA 153-7
ELLISTON PROJECT
ELs 1694A & 1694B
AIRBORNE MAGNETIC ANOMALY LOCATIONS
Compiled MSM
Drawn MAK
Date JULY 91
Scale 1: 250 000
Revised 2/92
SEL 4136

8422- 8

EL 1694(A)

EL 1694(A)

South Lake

Middle Lake

Lake Tungetta

HIGHWAY

LINDERS

FLINDERS

GREAT AUSTRALIAN BIGHT

135° 05'

33° 45'

8422- 9

MAP 3

STOCKDALE PROSPECTING LIMITED
A.C.N. 004 912 172

SOUTH AUSTRALIA
153-07 KIMBA
SHERINGA 1:100 00
SHERINGA/HUDD 1:50 000
(SHEOAK HILL)
1991 SKELETAL LOAM SAMPLE LOCATIONS
EL 1694A

Compiled	MSM
Drawn	BAN
Date	JAN. '91
Scale	1:50000
Revised	
SEL	4320

8422-10

134°30'

460 000mE

40

133°05'

70

135°45'

80

90

135°55'

Wirrera

Colley Hill

EL 1694 A

EL 1694 A

VENUS BAY

VENUS BAY
CONSERVATION PARK

GREAT AUSTRALIAN BIGHT

Port Kenny

Paradise

Venus Bay

30

35°15'

6320000mN

N

0 1 2 3 4 5km

MAP 4

STOCKDALE PROSPECTING LIMITED
A.C.N. 004 912 172

SOUTH AUSTRALIA
153-06 ELLISTON
ELLISTON 1:100 000
ADDISON/VENUS 1:50 000
(VENUS BAY)

VENUS BAY SKELETAL SAMPLES
EL 1694A

Compiled	MSM
Drawn	BAN
Date	FEB. 1992
Scale	1:50 000
Revised	
SEL.	4321

8422-10

STOCKDALE PROSPECTING LIMITED

EXPLORATION LICENCE NO 1694A & B : ELLISTON

FIFTH QUARTERLY REPORT FOR THE PERIOD

ENDING 8 APRIL 1992

STOCKDALE
PROSPECTING
LIMITED
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Project Name: ELLISTON

Title: EXPLORATION LICENCE NO 1694A & B : ELLISTON
FIFTH QUARTERLY REPORT FOR THE
PERIOD ENDING 8 APRIL 1992

Edited: F M GAUNT

Author/s: M S MITCHELL

Approved: H R ROBISON

Date: APRIL 1992

Place: WHYALLA

1:250,000 Sheet Name/s & No/s.: KIMBA SI53-7
ELLISTON SI53-5

Text Pages No.: 4 Plan Nos.: 4 Table Nos.: 8 Appendices: 2 Plates: -

Keywords: AIRBORNE MAGNETICS, HEAVY MINERAL SAMPLE, GROUND MAGNETIC SURVEY, DRILLING, PALYNOLOGY

Abstract: Eight airborne magnetic anomalies from the Warrachie survey were investigated during this quarter. Ground magnetic anomalies were surveyed and deflation loam samples were taken over each anomaly.

Encouraging results were received during this quarter from the Venus Bay loam sampling programme. Two anomalous areas of abundant kimberlitic indicators were identified.

Results also became available from spot loam samples at Venus Bay and Sheoak over ground magnetic anomalies. Palynology results from the 1991 drilling programme became available indicating a broader extent of Jurassic sediments than previously interpreted.

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MAP 3	Skeletal Loam Sample Locations 1:50,000 SEL 4135 (updated) - Sheoak Hill
MAP 4	Skeletal Loam Sample Locations 1:50,000 Venus Bay

APPENDICES

APPENDIX 1	Survey Specifications - Venus Bay, Sheoak Hill, Warrachie
APPENDIX 2	Ground Magnetic Contour Plot Warrachie Anomalies

STOCKDALE PROSPECTING LIMITED

EXPLORATION LICENCE NO 1694A & B : ELLISTON

FIFTH QUARTERLY REPORT TO 8 APRIL 1992

1 INTRODUCTION

Exploration Licence No 1694 is located on the north western section of the Eyre Peninsula in South Australia about 200 kilometres north-northwest of Port Lincoln (Map 1). The licence comprises of two separate areas covering 1487 square kilometres on the Kimba and Elliston 1:250,000 mapsheets (SI53-07, 53-06 respectively).

This report covers diamond exploration carried out by Stockdale Prospecting Limited for the quarter ending 8 April 1992. Fieldwork completed during this quarter comprises the ground magnetic follow-up and spot loam sampling over eight airborne magnetic anomalies.

Results became available from the Sheoak Hill loam sampling programme, the drilling programme palynology and drill chip heavy mineral samples, and six spot loam samples taken over magnetic anomalies.

2 LEGAL

Exploration Licence No 1694A & B was granted to Stockdale Prospecting Ltd on the 9 January 1991 for a term of one year for diamond exploration.

3 GEOPHYSICAL SURVEYS

In March 1991 Aerodata undertook a magnetometer/ spectrometer survey within the Elliston project area on the Eyre Peninsula, South Australia. Three surveys were flown by Aerodata for Stockdale. These were the Venus Bay, Sheoak and Warrachie surveys (Map 1).

The primary objective of the surveys was to identify individual magnetic anomalies which could be attributable to kimberlitic intrusives.

The airborne survey specifications for the Venus Bay, Warrachie and Sheoak Hill areas are listed in Appendix 1.

The 200m flight line spacings and north-south orientation, are common to all three surveys. The mean terrain clearance was set at 70m. Magnetic and four channel radiometric data were acquired.

Seven anomalies were selected from the Venus Bay Survey, four of these were considered to be worthy of follow-up and have since been ground surveyed.

A total of 13 magnetic anomalies have been selected in the Sheoak Hill region. All anomalies, except SH06 which lies in Lake Tungketta have been followed up on the ground with magnetic surveys.

Eight anomalies were selected from the Warrachie survey data set, four of these are considered to be worthy of follow up. However, all eight have been ground surveyed. Table 1 lists the status of each magnetic anomaly and Map 2 shows its location.

4 FIELD WORK

4.1 Ground Magnetic Follow-up

A total of eight magnetic anomalies, (the Warrachie survey anomalies), were followed up on the ground with magnetic surveys during this quarter. Each anomaly was located using a Magellan GPS and a Geometrics G856 memory magnetometer. A grid, whose parameters were determined by the size of the anomaly, was established over the centre of each magnetic anomaly. Each survey was conducted using 50m north south line spacings, 25m station readings and three Geometric magnetometers (one to record diurnal drift). The field and base station records were downloaded onto a Zenith laptop computer, drift corrected and processed to produce ground magnetic contour plots as presented in Appendix 2.

4.2 Spot Deflation Loam Sampling

Spot loam deflation samples were taken over the centre points of eight Warrachie magnetic anomalies. At each site 20kg of -1.0 + 0.3mm deflation sediment was taken to be treated and examined for kimberlitic indicators (see Table 2).

All results from this exercise are outstanding to date.

5 RESULTS

5.1 Spot Deflation Loam Sampling

Six results from the twenty five spot loam deflation samples taken over twenty four ground magnetic anomalies at Venus Bay, Sheoak Hill and Warrachie became available during this quarter (Table 3). Positive results were reported at VB04, VB05 and SH27. These results are consistent with the deflation loam sampling results previously conducted.

5.2 Skeletal Loam Sampling

5.2.1 Sheoak Hill

Results became available for Sheoak Hill samples X7436 - 7446. Kimberlitic ilmenites, chromites and pyrope garnets were recovered (Table 4, Map 3). Contour plots of kimberlitic indicator populations display two areas of concentration, one west of MH201 and another area northeast of SH28. The spread of indicators is not confined to all areas of low topographic relief, however the 30 - 40m topographic contour level presents a marked cut off in indicator populations.

5.2.2 Venus Bay

Results became available for the Venus Bay samples X7901 - 8070 and X7721 - 7723. Kimberlitic ilmenites, chromites, pyrope garnets and clinopyroxenes were recovered (Table 5, Map 4). A total of 183 sample results have been received and 196 sample results are outstanding.

5.3 Drill Chip Results

The remaining drill chip results from the late 1991 drilling programme became available this quarter (Table 6). Kimberlitic indicators were recovered from Quaternary Calcretes, Tertiary and Jurassic Sands, all known secondary hosts.

At anomalies SH27 and MH201, kimberlitic indicators were recorded in basal clays.

Also two kimberlitic indicators were recovered from Proterozoic(?) grits at SH25* suggesting possible Pre or MesoProterozoic kimberlitic type activity(?).

* in adjacent EL 1672.

5.4 Drill Sample Palynology

Palynology sample dates were received during this quarter (Table 7). The data suggests that the Jurassic is more wide spread than previously interpreted.

Stockdale are grateful to Mr Neville Alley (SADME) for his assistance in this programme.

6 FORWARD WORK PROGRAMME

The forward work programme for the Elliston tenement is dependent upon the deflation loam results from Venus Bay. Initial results are encouraging. Ground follow-up would consist of sample grids to define indicator haloes in correlation with ground magnetic surveys in order to define a drilling target.

Further ground work at Sheoak Hill will depend on the results of fine diamond analyses from the three kimberlites. All three bodies have been described as low interest, down grading the Polda Trough as a potential host of diamondiferous kimberlites. The Warrachie magnetic anomalies will be evaluated with respect to size and kimberlitic type signatures and may be drilled in a future drilling programme.

7 STAFF

Staff employed in the field were :

Geologists	2
Field Assistants	7

The project has been supported by the facilities of the regional office in Whyalla and the head office in Melbourne.

8 EXPENDITURE

Expenditure of exploration in EL1694A & B for the period ending 29 February 1992 totals $125 913.

M S Mitchell
Senior Geologist
Whyalla

H R Robison
Chief Geologist-South

Table 1 Warrachie Airborne Survey

Magnetic Anomalies 19-12-1991

Anomaly	Easting	Northing	Priority	Depth
WAR04	561628	6289937	P2	50m
WAR07	553195	6280865	NP	50m
WAR08	559205	6279752	P3	100m
WAR09	559612	6277565	P3	100m
WAR10	559425	6273272	NP	50m
WAR11	559807	6273139	NP	50m
WAR12	559973	6272759	NP	50m
WAR19	554598	6272188	P3	100m

Table 2 : Warrachie Spot Loam Samples

ANOMALY	AMG(*)		SAMPLE	COMMENT
WAR04	561545	6289982	X7475	
WAR07	552995	6280813	X7481	
WAR08	559198	6279764	X7482	
WAR09	559600	6277669	X7483	
WAR10-12	559859 (WAR11)	6273162	X7489-91	Clustered anomalies done on grid centred on WAR11, WAR10 (X7490), WAR12 (X7491).
WAR19	554681	6272293	X7492	

* AMG of centre peg determined by Magellan G.P.S. using averaging (100).

Table 3 : Spot Deflation Loam Results

SAMPLE	ANOMALY	RESULT
X5977	VB05	2 Pyrope Garnets, 7 Ilmenites.
X5978	VB06	Negative.
X5979	VB04	1 Pyrope Garnet, 16 Ilmenites.
X5981	VB01	Negative.
X7447	SH27	11 Pyrope Garnets, 57 Ilmenites, 1 Chromite.
X7448	SH26	Outstanding.
X7452	SH11	Negative.
X7453	SH10	Outstanding.
X7455	SH03	Outstanding.
X7460	SH04	Outstanding.
X7461	SH05	Outstanding.
X7462	SH05	Outstanding.
X7463	SH07	Outstanding.
X7466	SH28	Outstanding.
X7467	SH08	Outstanding.
X7468	SH09	Outstanding.
X7569	SH13	Outstanding.
X7475	WAR04	Outstanding.
X7481	WAR07	Outstanding.
X7482	WAR08	Outstanding.
X7483	WAR09	Outstanding.
X7489	WAR10	Outstanding.
X7490	WAR11	Outstanding.
X7491	WAR12	Outstanding.
X7492	WAR19	Outstanding.

Table 4 : Sheoak Loam Sample Results

SAMPLE NUMBER	PYROPE GARNETS	KIMBERLITIC ILMENITES	CHROMITES
X7436	38	65	
X7437	38	283	2
X7438	32	50	
X7439	31	216	3
X7440	26	53	2
X7441	14	53	3
X7442	7	40	
X7443	3	17	
X7444	8	13	
X7445	3	14	
X7446	2	9	

Table 5 : Venus Bay Positive Sampling Results

SAMPLE NUMBER	PYROPE GARNETS	KIMBERLITIC ILMENITES	CHROMITES	CLINOPYROXENES
X7701	1			
X7721	1			
X7722		2		
X7907	1			
X7924	2			1
X7925	1			
X7927	2			
X7933		1		
X7936		1		
X7939	1			
X7942		1		
X7943	2	1	1	
X7944	2			
X7945	1	1		
X7946	1	1		1
X7949	1			
X7950	1			
X7952	2			
X7953		2		
X7954		1		
X7958		5		
X7961		3		
X7962		1		
X7964	1	2		
X7965	2	14		
X7966		6		
X7967	1	8		
X7968		2		
X7970		5		
X7971	1	2		
X7972		3		
X7973		1		
X7974		2		
X7975	1	9		
X7976		10		
X7977		4		
X7978	4	24		
X7979		1		
X7981		3		
X7985		1		
X7986		2		
X7989		5		1
X7990	1			
X7993		2		
X7994		1		
X7995		2		
X7996		2	1	
X8002		1		
X8009		1		
X8010	1	10		
X8011	3	495	1	

SAMPLE NUMBER	PYROPE GARNETS	KIMBERLITIC ILMENITES	CHROMITES	CLINOPYROXENES
X8012	1	290		
X8013		>50		
X8014	3	138	2	
X8016		1		
X8017	2	44	1	
X8018	4	50		
X8019	3	50		
X8020	2	52	1	
X8021	2	23		
X8022		62		
X8023	1	9		
X8024	2	49		
X8025		1		
X8026		11		
X8027		2		
X8028		12		
X8029		4		
X8030		8		
X8031		10		
X8032		1		
X8033	1	1		
X8034		5	1	
X8035		5		
X8036		6		
X8039		7		
X8040	1			
X8041		2		
X8042		6		
X8043	3	7	1	
X8044		3		
X8045	1	22		
X8046		19		
X8047	2	18		
X8048	2	13		
X8049	2	11		
X8050		25	1	
X8051	1	7		
X8052	2	46		
X8053	6	43		
X8054	2	91		1
X8055	1	119		
X8056	1	67		
X8057	4	15		
X8058		36	1	
X8060		1		
X8064		3		
X8066	1			
X8068		2		

TABLE 6 : DRILL CHIP RESULTS - POSITIVE LISTING

DRILL HOLE	ANOMALY	QUATERNARY		TERTIARY		JURASSIC		BASEMENT	
028	SH04	Negative		Negative		-		1xSp	(48-50m)
032	SH27	5xil	(0-2m)	1xG, 2xil	(22-24m)	Negative			
				1xG, 2xil	(24-26m)			3xG, 1xil	(64-66m)
				1xG, 3xil	(26-28m)			2xG, 1xil, 1xSp	(66-68m)
				3xG, 1xil	(28-30m)			1xG	(68-69m)
				1xG	(30-32m)				
				2xG, 1xil	(32-34m)				
				1xG	(38-40m)				
033	SH26	1xG	(0-2m)	2xil	(28-30m)	1xSp	(34-36m)	Negative	
		1xG	(4-6m)	2xSp	(30-32m)	7xil, 1xSp	(62-64m)		
				2xil	(32-34m)				
034	SH28	2xil	(0-2m)	1xil	(36-38m)	1xG, 1xil	(50-52m)	Negative	
		1xG, 3xil	(2-4m)	1xil	(40-42m)	1xG, 8xil	(52-54m)		
		1xG, 10xil, 1xSp	(4-6m)			1xG	(54-56m)		
		4xil, 1xSp	(6-8m)			2xG	(56-58m)		
		1xG, 1xil	(8-10m)			1xG	(90-92m)		
		2xil	(10-12m)			2xil	(100-102m)		
		1xG, 10xil	(12-14m)						
		1xG, 1xil	(14-16m)						
		1xil	(18-20m)						
		3xil	(32-34m)						
035	SH07	1xil	(4-6m)	1xil	(40-42m)	1xil	(54-56m)		
		1xil	(6-8m)	1xil	(42-44m)	1xil	(56-58m)		
		2xil, 1xSp	(8-10m)	1xil	(46-48m)	1xG, 1xil	(60-62m)		
		2xil	(10-12m)	1xG, 6xil, 1xSp	(52-54m)	1xil	(62-64m)		
		1xil	(28-30m)			1xil	(68-70m)		
		1xil	(38-40m)			3xil	(76-78m)		
036	MH201	2xil	(0-2m)	1xSp	(20-22m)	1xil	(36-38m)	1xil	(60-62m)
		2xil	(2-4m)	1xil	(22-24m)			7xil	(72-74m)
		1xil	(4-6m)	1xil	(24-26m)			12xil	(74-75m)
		2xil	(6-8m)						
		2xil	(12-14m)						
037	SH11	2xil	(0-2m)	-		-		Negative	
		2xil	(6-8m)						
		1xG, 2xil	(14-16m)						
		2xil	(18-20m)						
		1xG, 2xil	(24-26m)						
		1xG	(34-36m)						
038	SH03	Negative		-		-		Negative	
039	SH05	1xSp	(8-10m)	1xG	(92-94m)	-		-	
		1xil	(46-48m)						
* 040	SH25	Negative		Negative		-		2xil	(22-24m)

* G - Pyrope Garnet, il - Kimberlitic Ilmenite, Sp - Chromite

EL 1672

Table 7 : Palynology Results

ANOMALY	DRILL HOLE	DEPTH	SAMPLE NUMBER	DATE
SH13	DH029	56-60m	BM0916/17 (combined)	Jurassic
SH09	DH030	56-58m	BM0965	Jurassic
SH08	DH031	18-20m	BM0994	Jurassic
SH27	DH032	50-52m	BM1040	Jurassic
SH26	DH033	40-42m	BM1070	?
SH28	DH034	84-86m	BM1129	Jurassic
SH07	DH035	100-102m	BM1190	Jurassic
MH201	DH036	54-56m	BM1218	Jurassic
VB05	DH041	34-36m	BM1372	Tertiary
		42-44m	BM1376	Tertiary
	DH042	32-34m	BM1406	Tertiary

TABLE 8 : Expenditure Summary EL 1694A & B : Elliston
Period Ending 29 February 1992

		$
OPERATIONAL STAFF COSTS		37 099
GENERAL OPERATING EXPENSES		3 523
TRANSPORT AND TRAVEL		8 128
SPECIALIST SERVICES	: REMOTE SENSING	134
	: COMPUTER	762
	: GEOPHYSICS	8 471
	: DRAFTING	1 630
	: MINERALOGY	945
CONTRACTORS	: SAMPLE ANALYSIS	1 540
CENTRAL TREATMENT PLANT		23 435
LABORATORY	: TREATMENT	3 683
	: EXAMINATION	13 029
ADMINISTRATION	: REGIONAL	8 749
	: HEAD OFFICE	11 170
CAPITAL UTILISATION		3 615
TOTAL THIS PERIOD		$ 125 913
TOTAL PREVIOUSLY REPORTED		$ 566 661
TOTAL EXPENDITURE TO DATE		$ 692 574

APPENDIX 1

Survey Specifications

Warrachie

WARRACHIE

APPENDIX 1

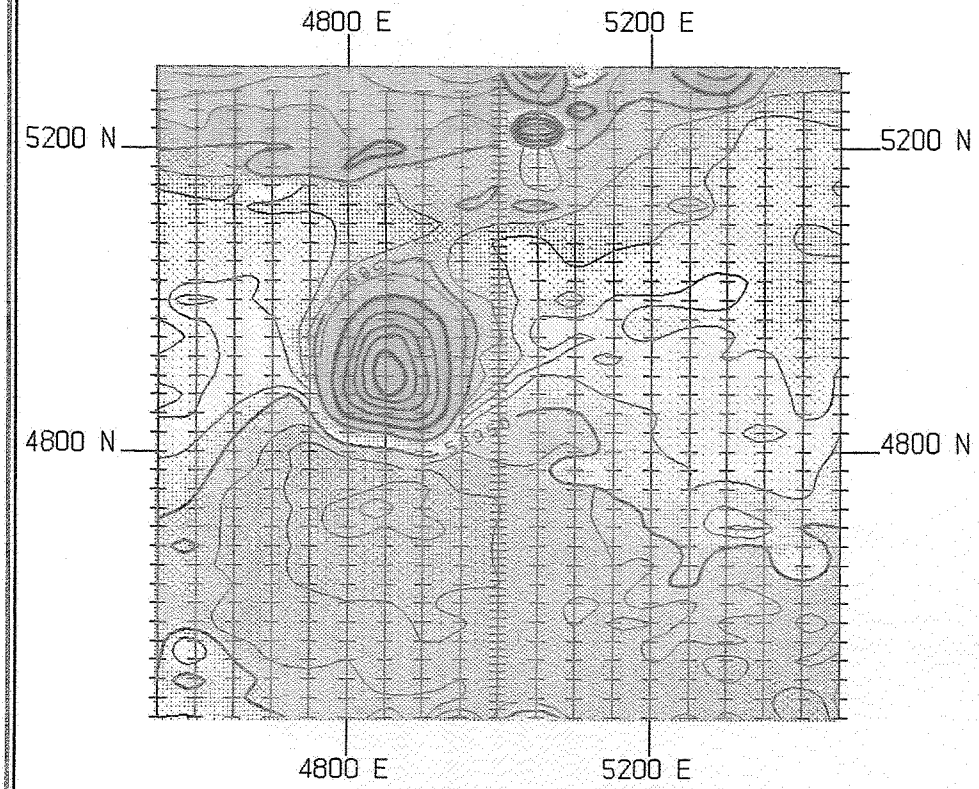
Airborne Survey Specifications

Flight Line Specification	:	180-360 deg AMG
Flight Line Spacing	:	200 metres
Tie Line Direction	:	090-270 deg AMG
Tie Line Spacing	:	2000 metres
Mean Terrain Clearance	:	70 metres
Survey Distance	:	3000 kms (approx)
Survey Area	:	600 sq km (approx)
Time Base		
Magnetics	:	0.1 seconds
Radiometrics	:	1.0 seconds
Sample Interval		
Magnetics	:	7 metres
Radiometrics	:	65 metres
Navigation	:	Radio Positioning
Survey Aircraft	:	Rockwell Commander
Magnetometer	:	Scintrex Csvapour V201
Spectrometer	:	Geometrics GR800B

APPENDIX 2

Ground Magnetic Contour Plot

Warrachie Anomalies



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(metres)

STOCKDALE PROSPECTING LTD

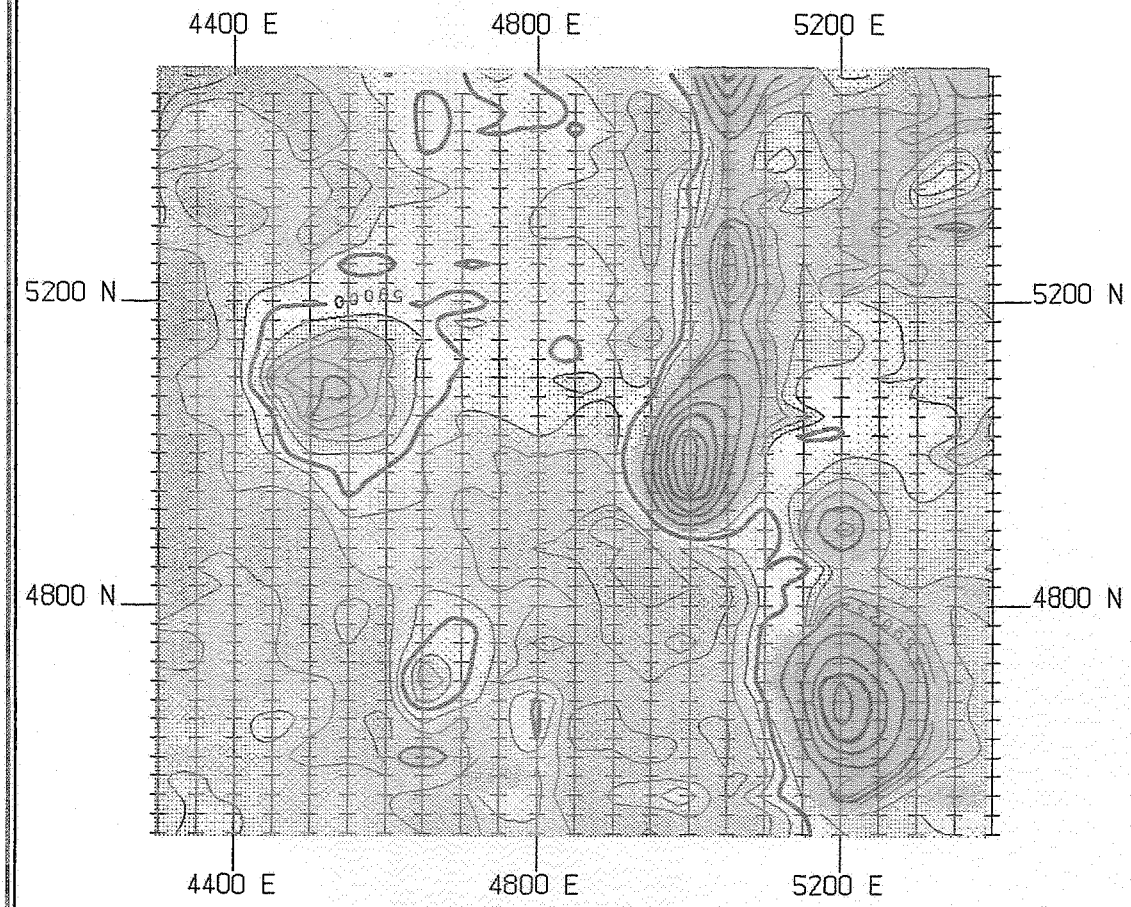
ELLISTON PROJECT : EL1694B

Magnetic Anomaly WAR19

Magnetic North
Cont 5nT
SDP

.dl. SEL:

000201



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(metres)

STOCKDALE PROSPECTING LTD

ELLISTON PROJECT : EL1694B

Magnetic Anomaly WAR10-12

Magnetic North
Cont 5nT
SDP

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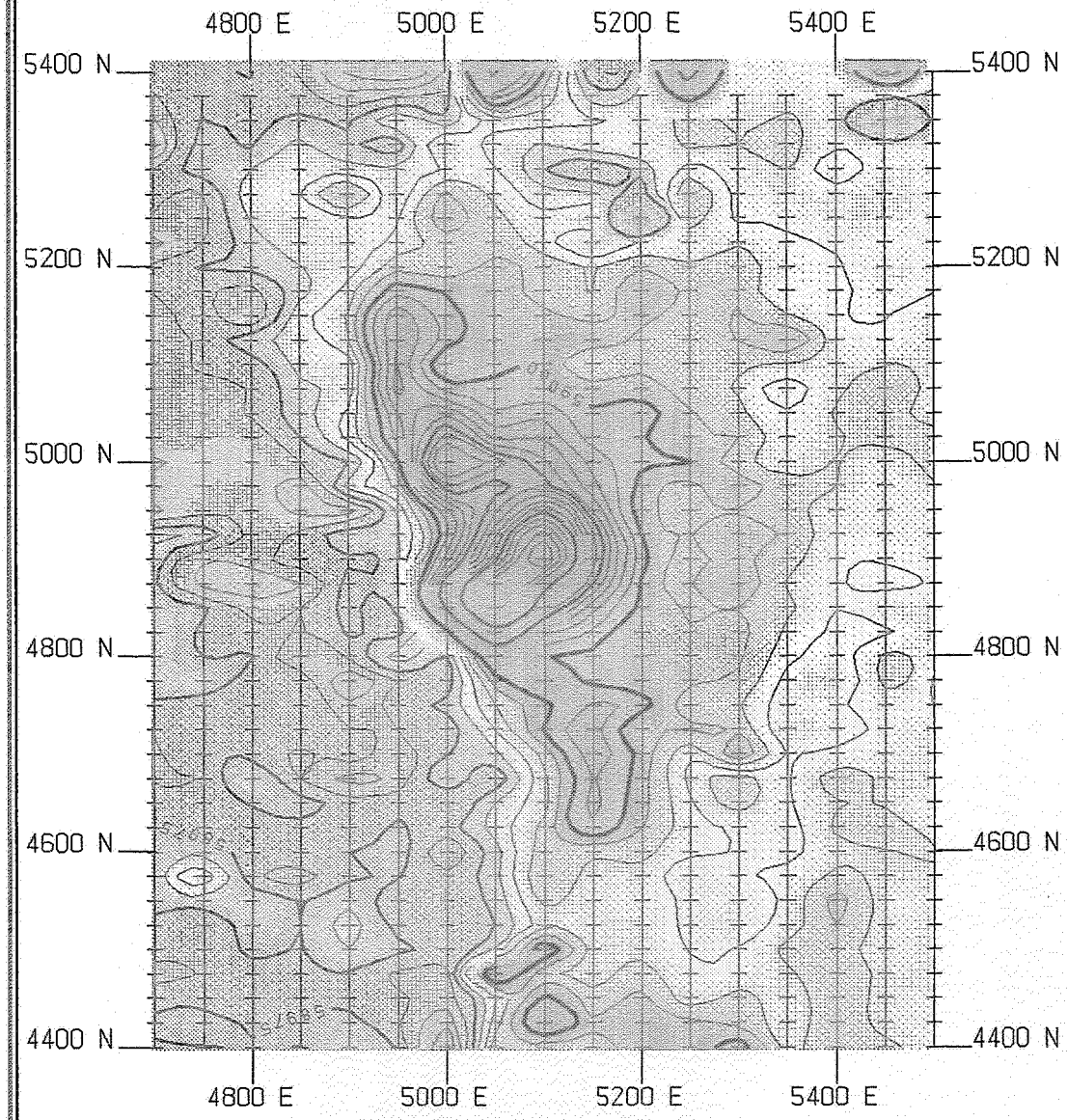

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(metres)

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Magnetic North Cont 5nT SDP
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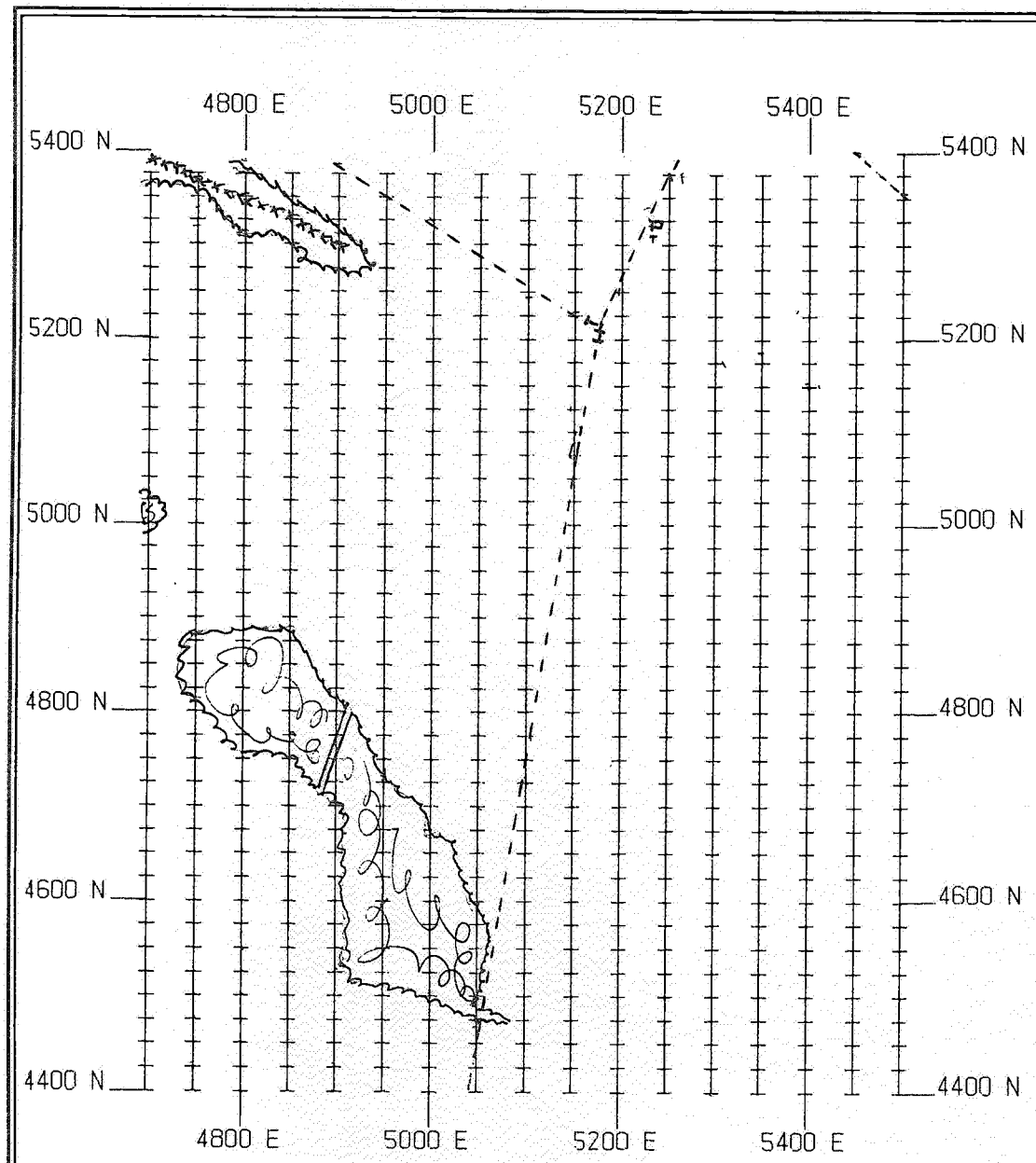

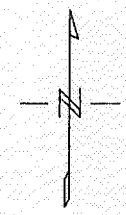

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100 0 100 200 300 400 500

(metres)

---- Fence

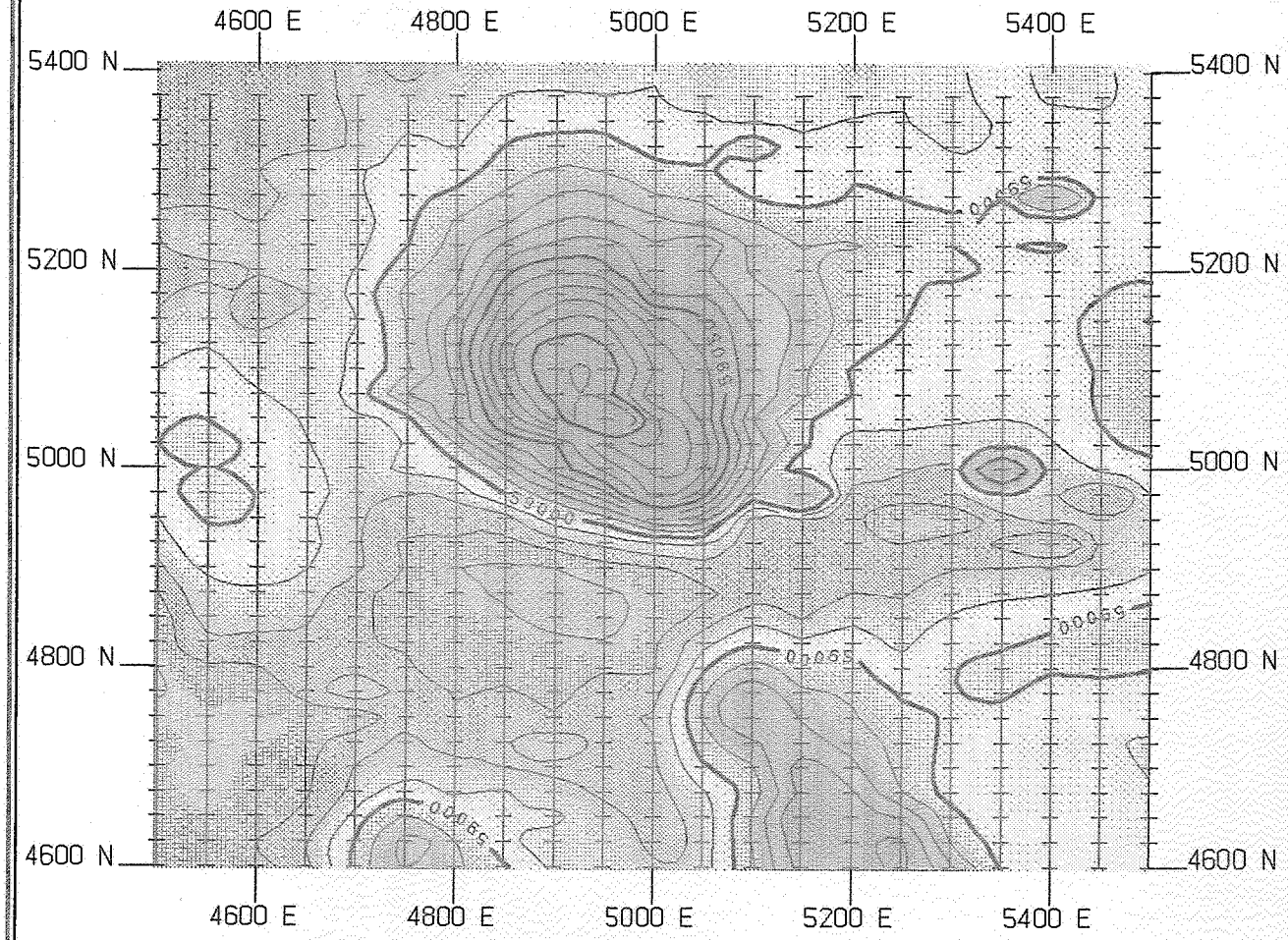
TROUGH

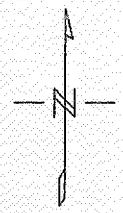
SCRUB

H GATE

xxxx OLD FENCE & WIRE

STOCKDALE PROSPECTING LTD
ELLISTON PROJECT : EL1694B Magnetic Anomaly WAR09
Ground Magnetic Survey Cultural Map SDP
.dl. SEL:





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(metres)

STOCKDALE PROSPECTING LTD

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Magnetic Anomaly WAR08

Ground Magnetic Survey
Contour Interval = 10 nT
SDP

.d1. SEL:

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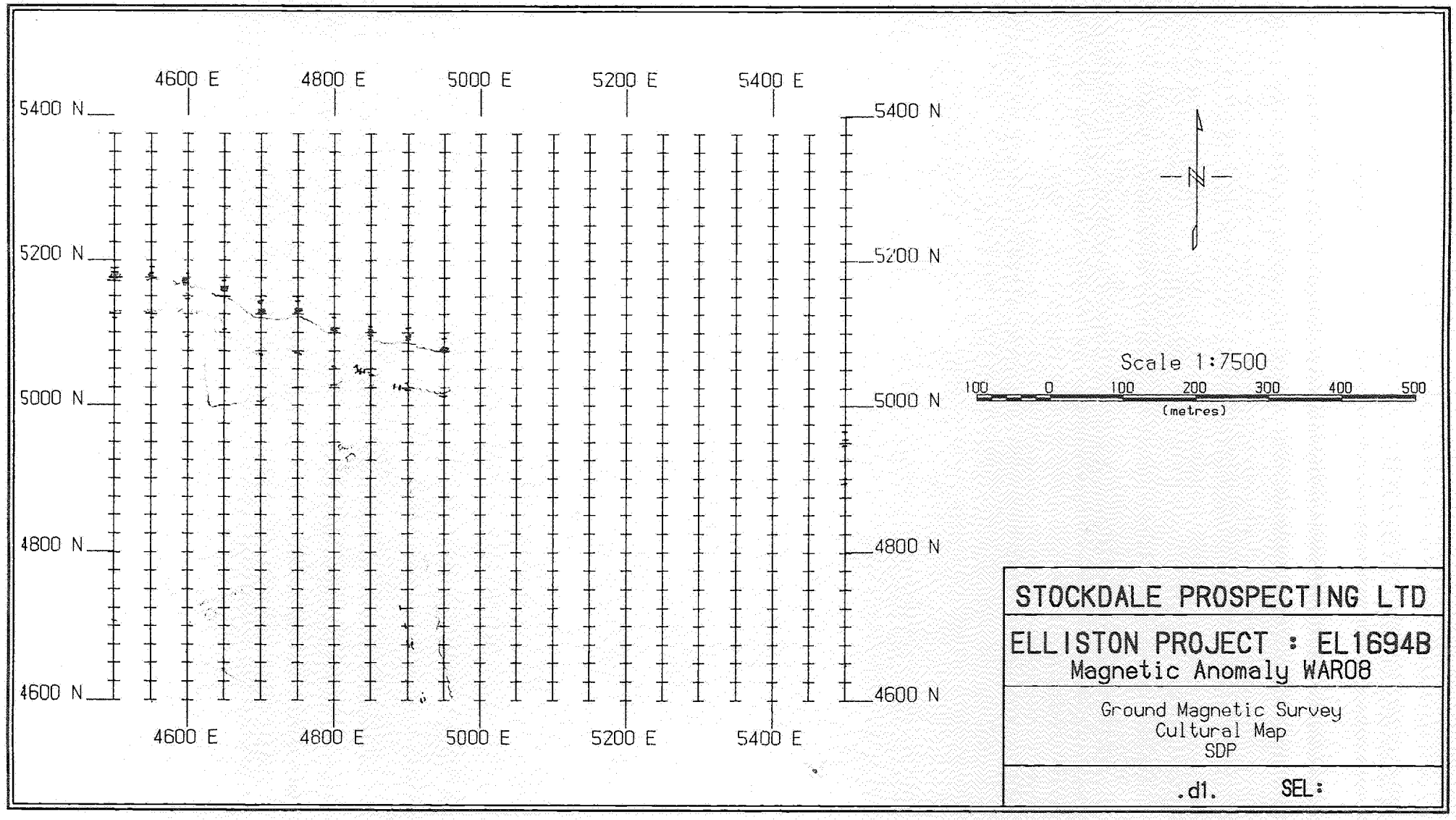
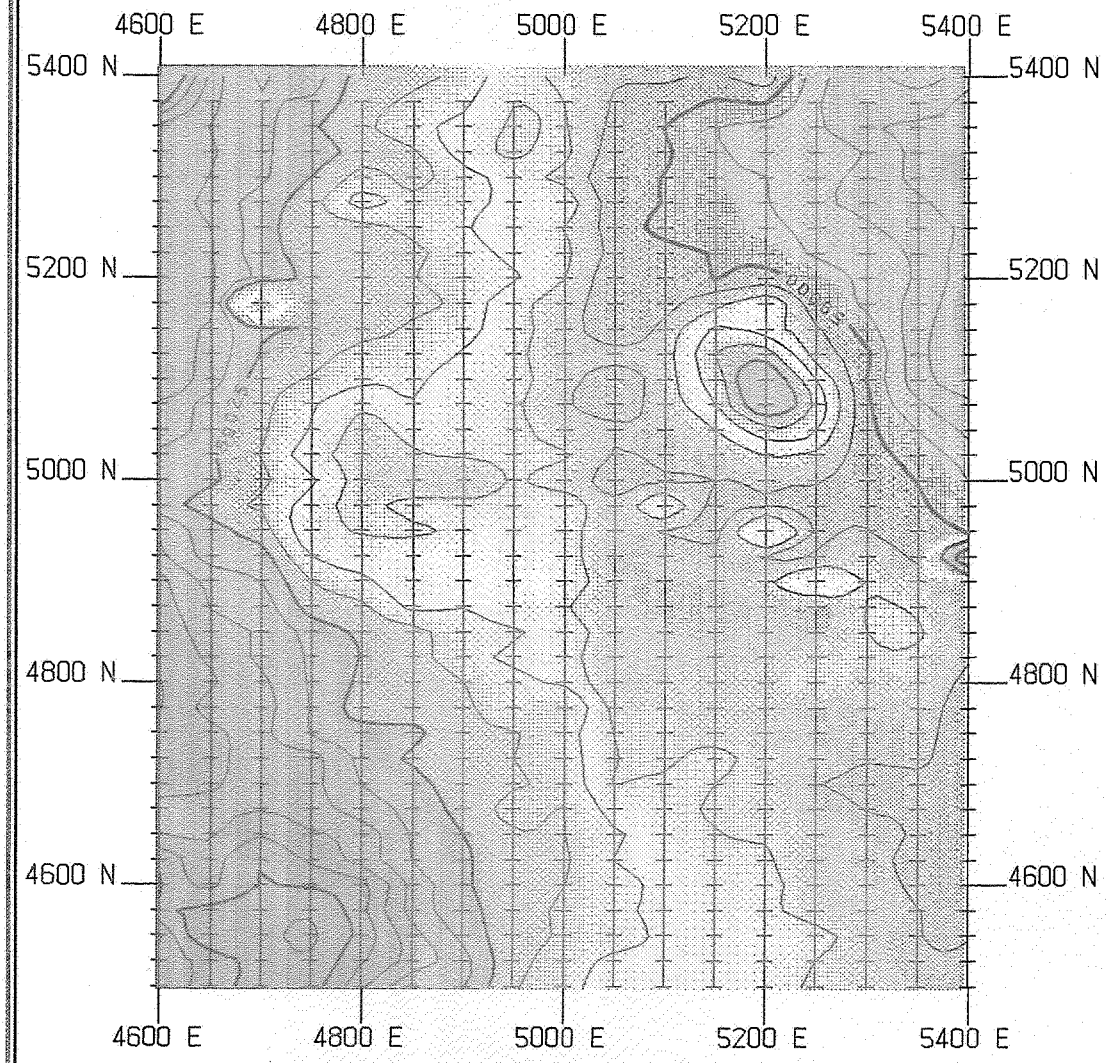

4600 E
4800 E
5000 E
5200 E
5400 E
5400 N
5200 N
5000 N
4800 N
4600 N
Scale 1:7500
100 0 100 200 300 400 500
(metres)
STOCKDALE PROSPECTING LTD
ELLISTON PROJECT : EL1694B
Magnetic Anomaly WAR08
Ground Magnetic Survey
Cultural Map
SDP
.d1.
SEL:

000206



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(metres)

STOCKDALE PROSPECTING LTD

ELLISTON PROJECT : EL1694B

Magnetic Anomaly WAR07

Magnetic North
Cont 2nT
SDP

.dl. SEL:

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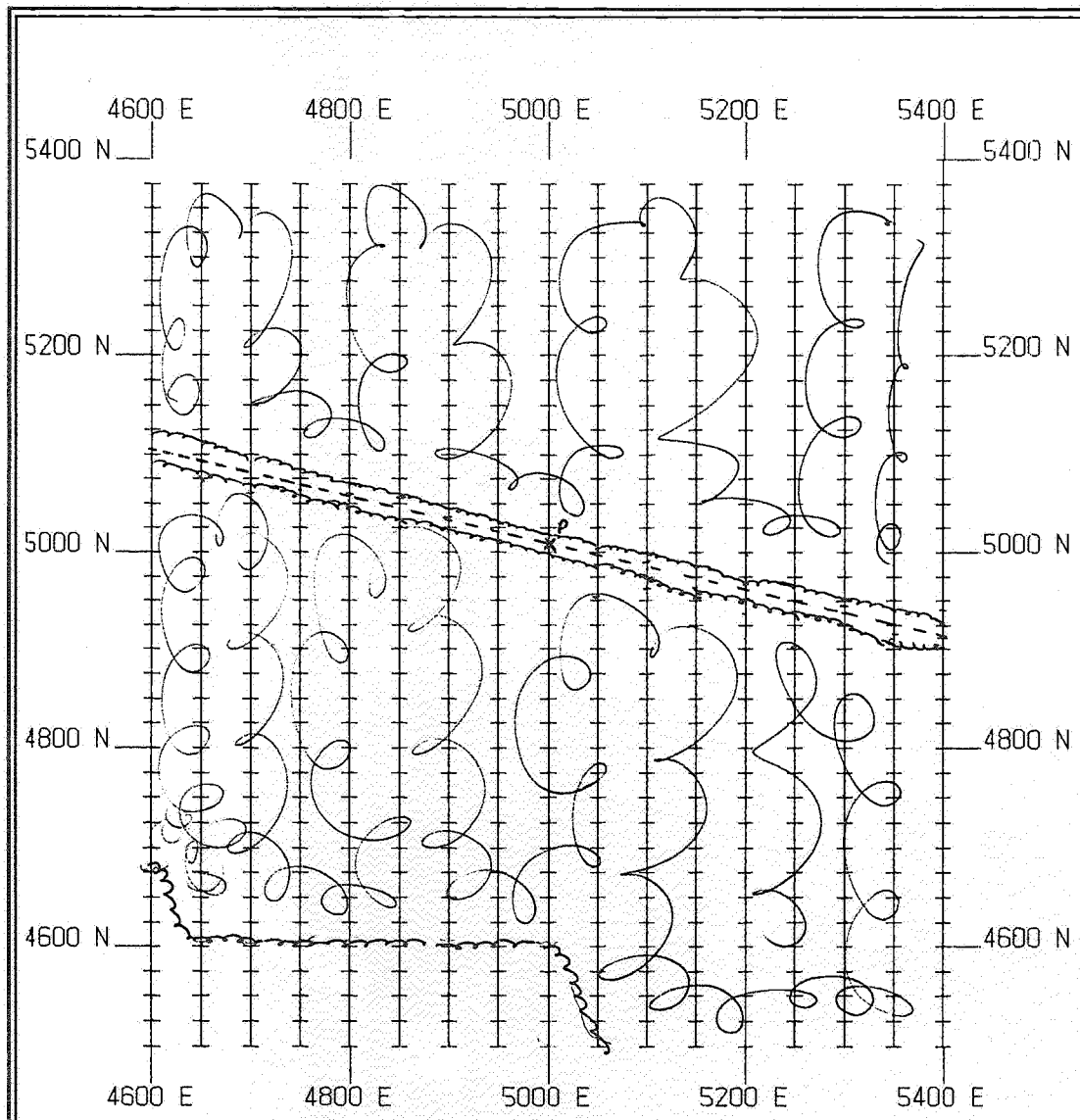

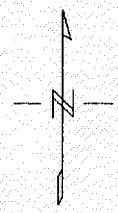

Scale 1:7500

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(metres)

SCRUB

FENCE

x Permanent Peg

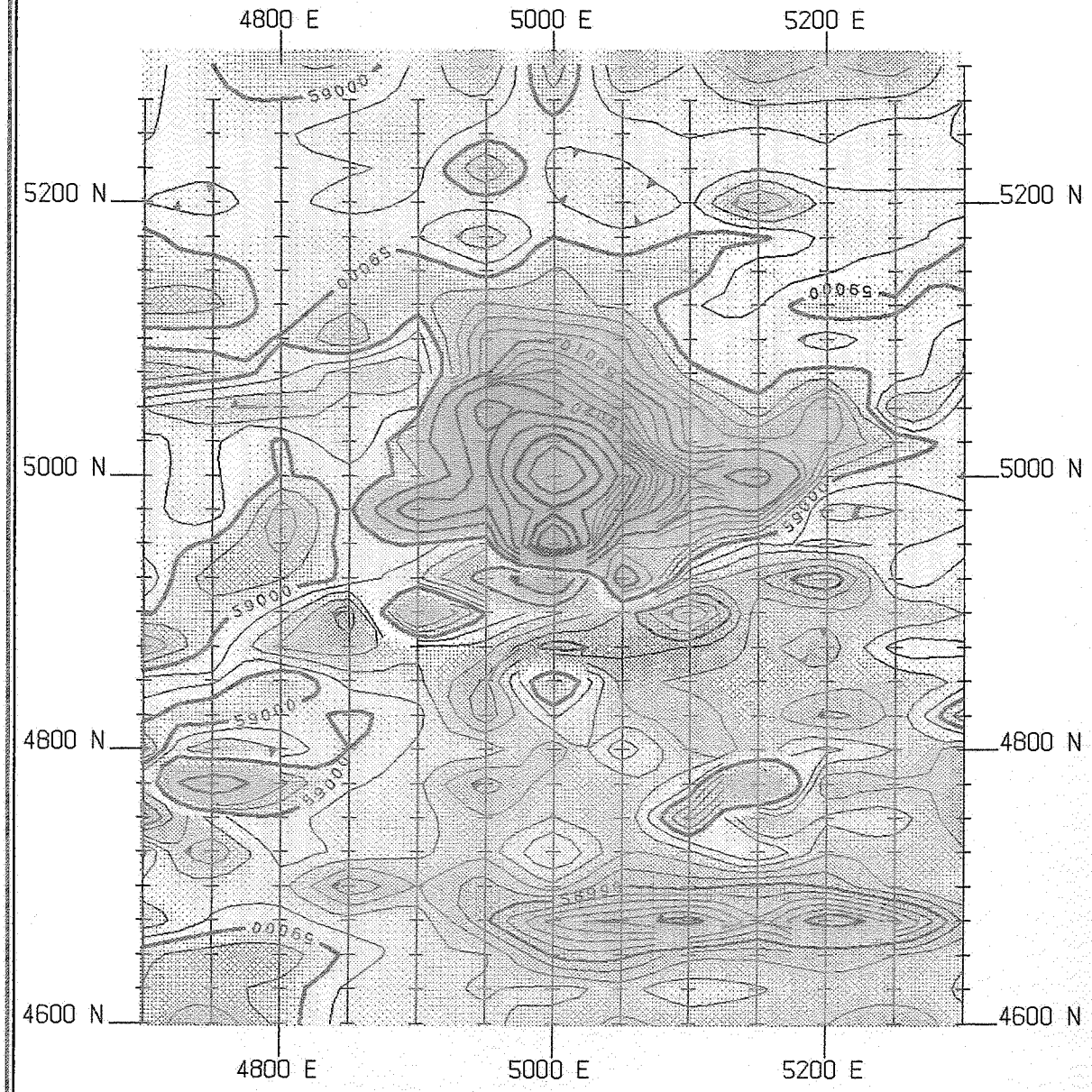
STOCKDALE PROSPECTING LTD

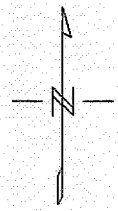
ELLISTON PROJECT : EL1694B

Magnetic Anomaly WAR07

Ground Magnetic Survey
Cultural Map
SDP

.dl. SEL:



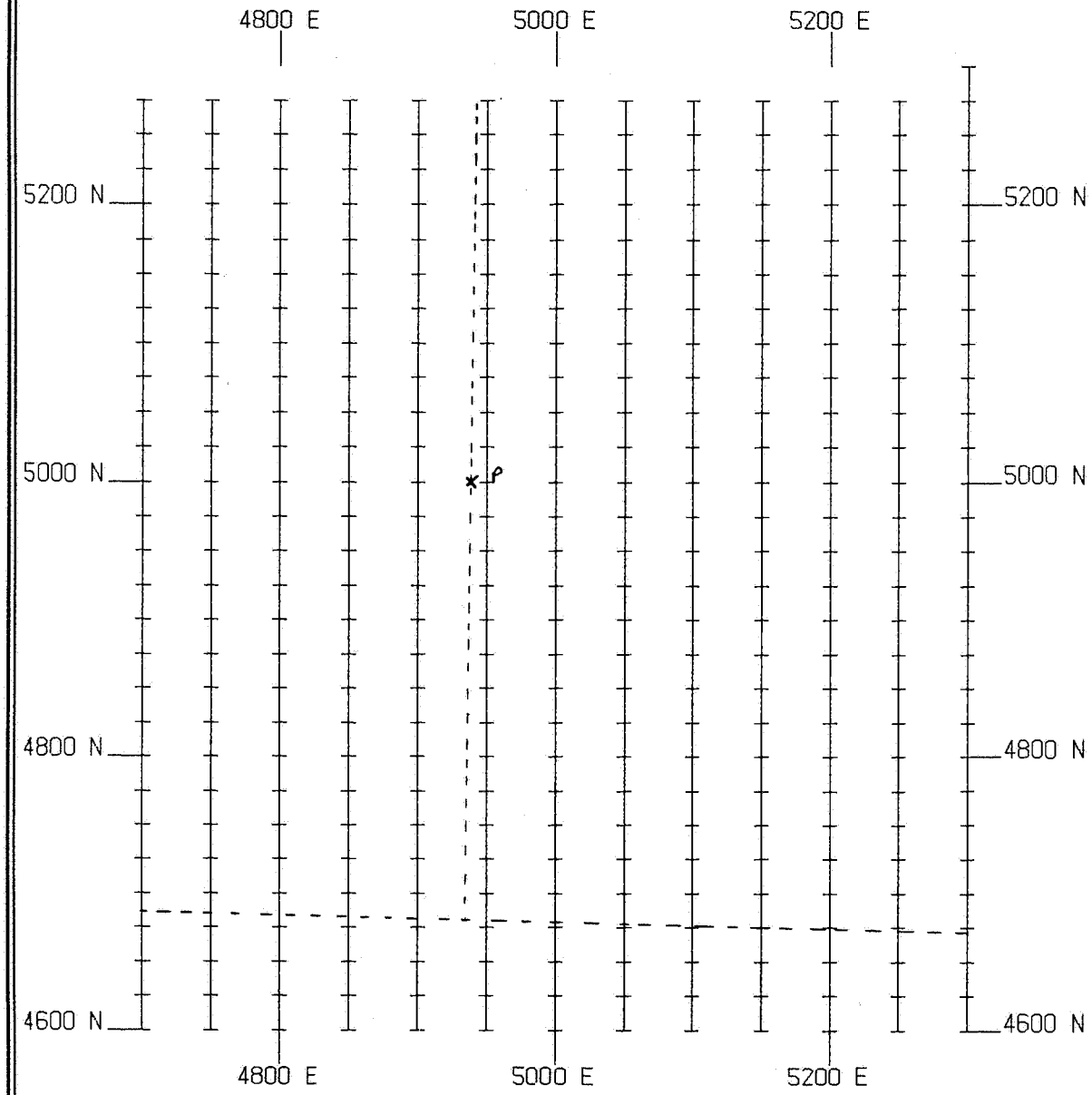


Scale 1:5000

50 0 50 100 150 200 250

(metres)

STOCKDALE PROSPECTING LTD
ELLISTON PROJECT : EL1694B Magnetic Anomaly WAR04
Magnetic North Cont 2nT 10/1/92 SDP
.d1. SEL:



Scale 1:5000

50 0 50 100 150 200 250

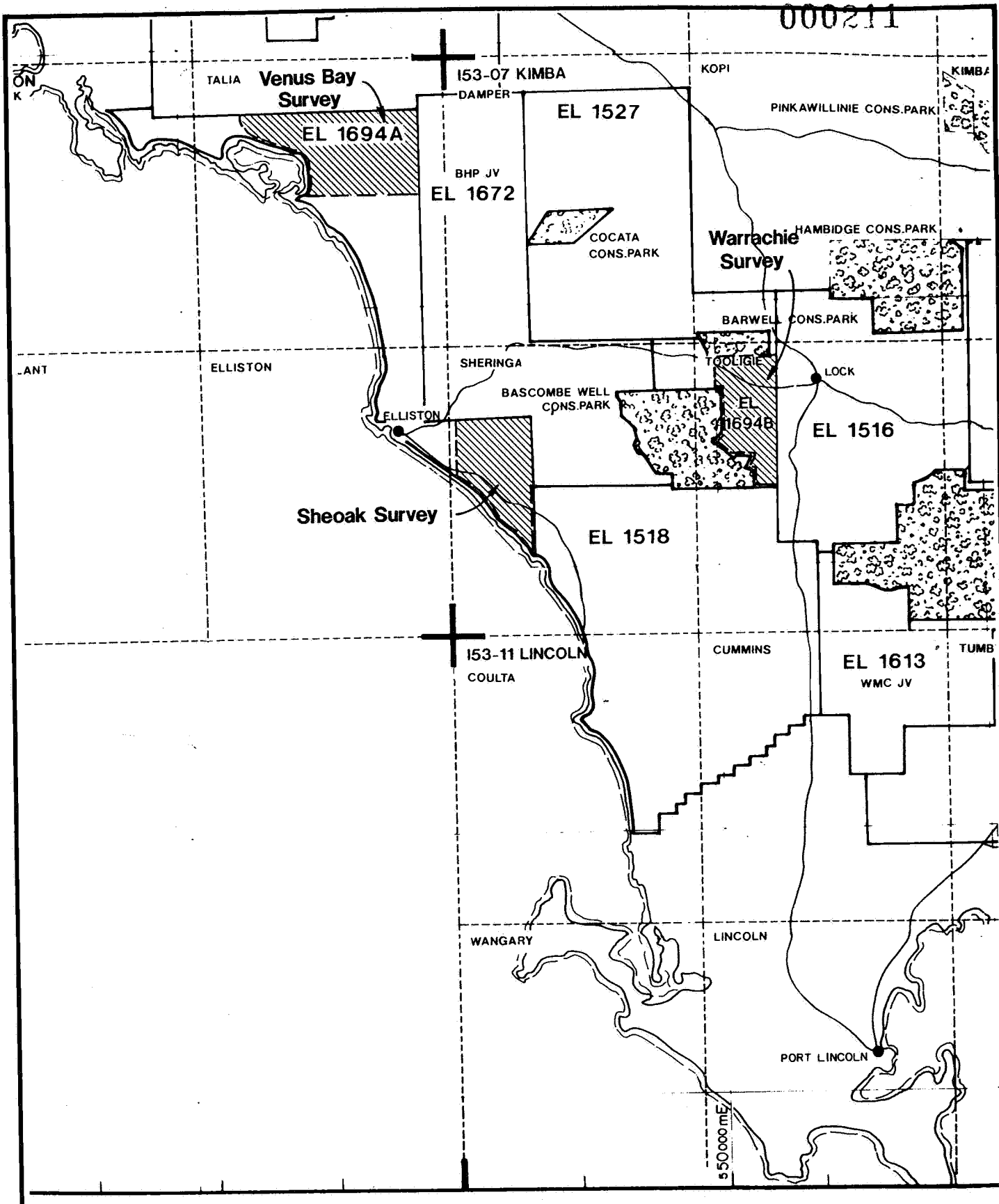
(metres)

---- Fence

*P Permanent Peg

STOCKDALE PROSPECTING LTD
ELLISTON PROJECT : EL1694B Magnetic Anomaly WAR04
Ground Magnetic Survey Cultural Map SDP
.d1. SEL:

000210



AIRBORNE MAGNETIC SURVEY AREA

10 0 10 50 KM

MAP 1

STOCKDALE PROSPECTING LIMITED

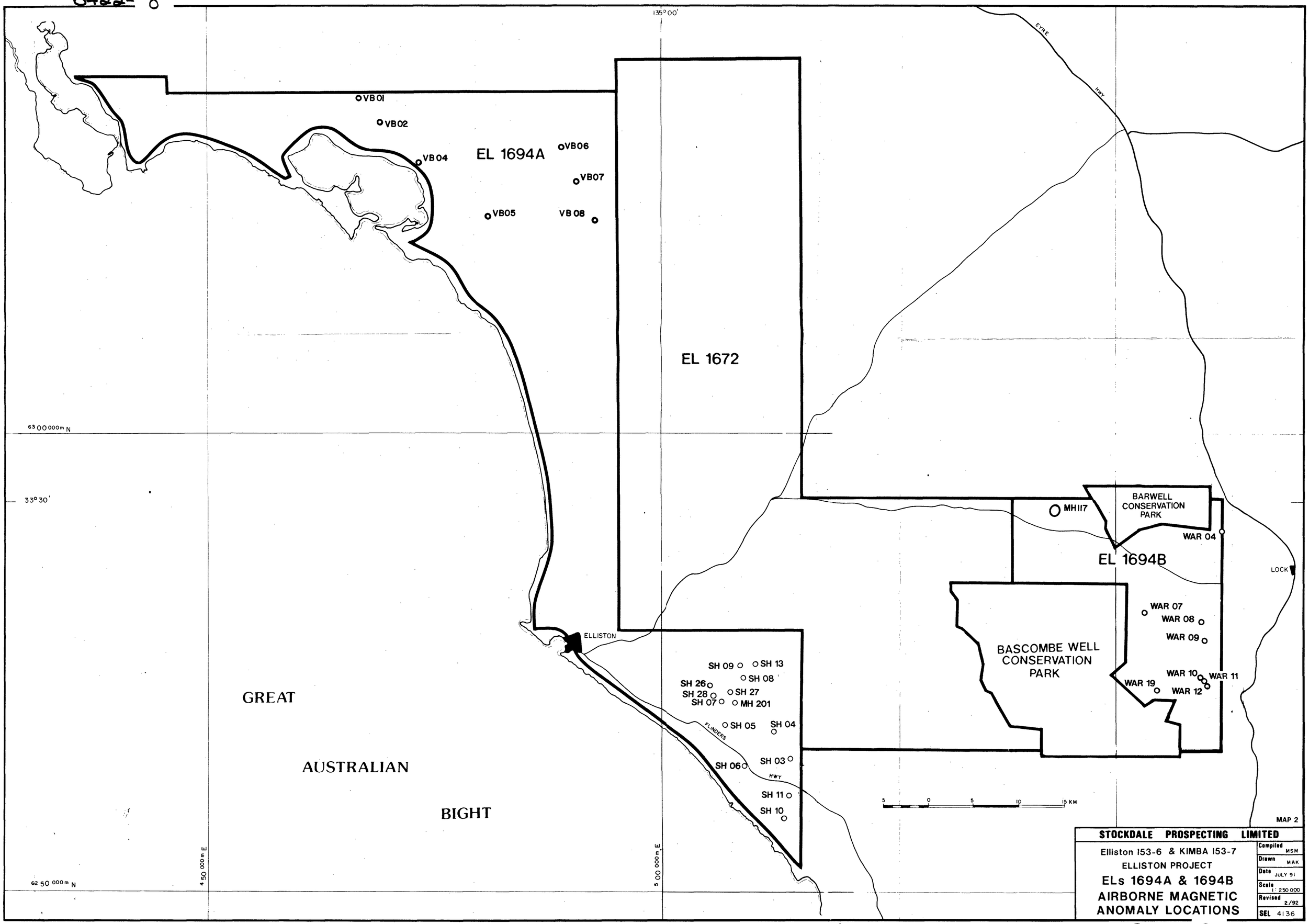
PART ELLISTON 153-6, KIMBA 153- 7, & LINCOLN 153-11

LOCATION MAP

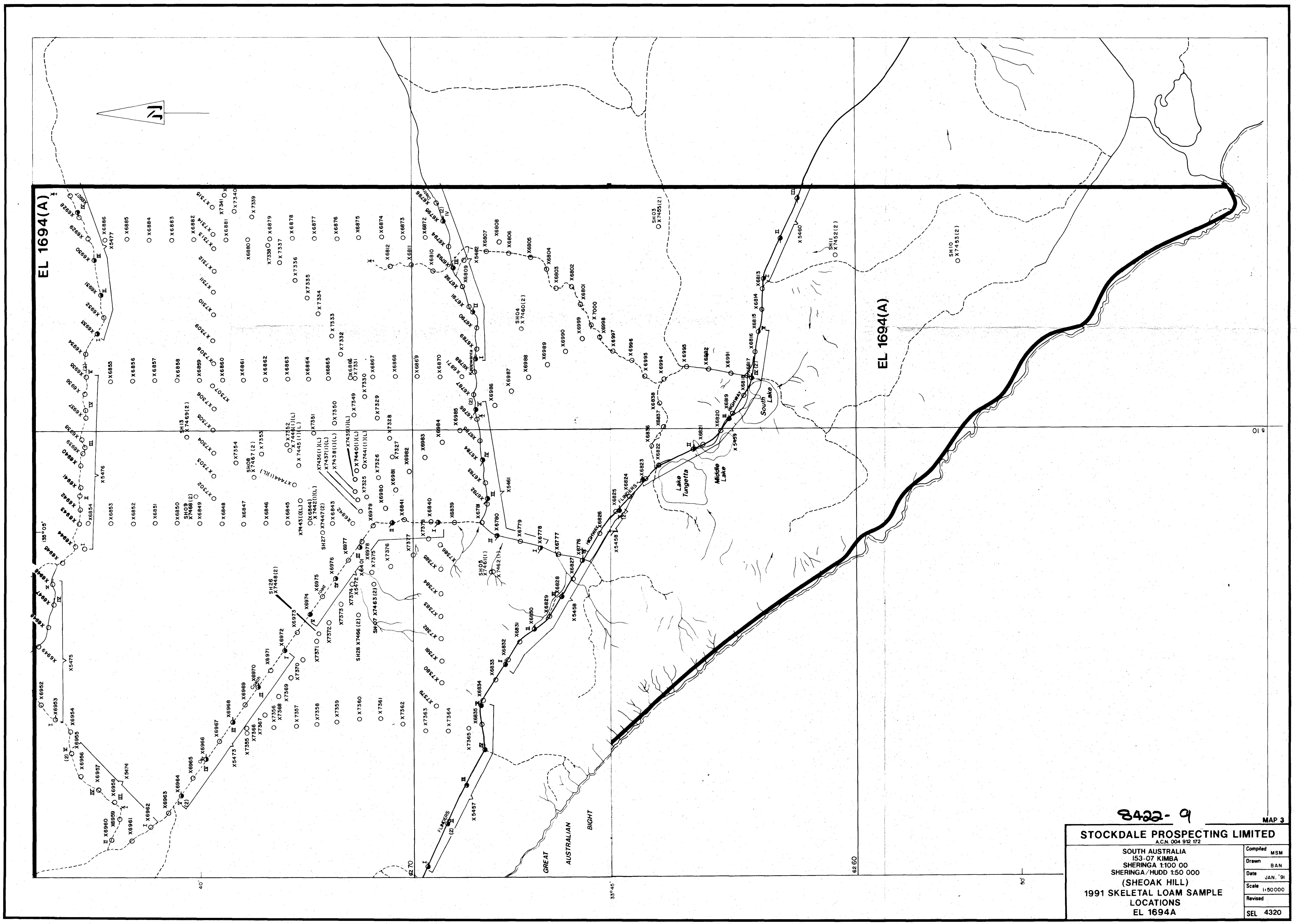
EL 1694 A & B

Compiled	Drawn	Date	Scale	
DO	BAN	4/91	1: 1,000 000	SEL 4080

8422- 8


135°00'
EYRE HWY
VB01
VB02
VB04
EL 1694A
VB06
VB07
VB05
VB08
EL 1672
63 00 000m N
33°30'
MH117
BARWELL CONSERVATION PARK
WAR 04
EL 1694B
LOCK
WAR 07
WAR 08
WAR 09
BASCOMBE WELL CONSERVATION PARK
WAR 10
WAR 11
WAR 19
WAR 12
ELLISTON
SH 09
SH 13
SH 08
SH 26
SH 28
SH 27
SH 07
MH 201
SH 05
SH 04
FLINDERS HWY
SH 06
SH 03
SH 11
SH 10
GREAT
AUSTRALIAN
BIGHT
5 0 5 10 15 KM
62 50 000m N
450 000m E
500 000m E
MAP 2
STOCKDALE PROSPECTING LIMITED
Elliston 153-6 & KIMBA 153-7
ELLISTON PROJECT
ELs 1694A & 1694B
AIRBORNE MAGNETIC ANOMALY LOCATIONS
Compiled MSM
Drawn MAK
Date JULY 91
Scale 1: 250 000
Revised 2/92
SEL 4136

8422- 8



8422- 9

MAP 3

STOCKDALE PROSPECTING LIMITED
A.C.N. 004 912 172

SOUTH AUSTRALIA
I53-07 KIMBA
SHERINGA 1:100 00
SHERINGA/HUDD 1:50 000
(SHEOAK HILL)
1991 SKELETAL LOAM SAMPLE
LOCATIONS
EL 1694A

Compiled	MSM
Drawn	BAN
Date	JAN. '91
Scale	1:50000
Revised	
SEL	4320

8422-10

134°30'

460 000mE

40

133°05'

70

135°45'

80

90

135°55'

Wirrera

Colley Hill

EL 1694 A

EL 1694 A

VENUS BAY

VENUS BAY
CONSERVATION PARK

GREAT AUSTRALIAN BIGHT

Port Kenny

Paradise

Venus Bay

30

35°15'

6320000mN

N

0 1 2 3 4 5km

MAP 4

STOCKDALE PROSPECTING LIMITED
A.C.N. 004 912 172

SOUTH AUSTRALIA
153-06 ELLISTON
ELLISTON 1:100 000
ADDISON/VENUS 1:50 000
(VENUS BAY)

VENUS BAY SKELETAL SAMPLES
EL 1694A

Compiled	MSM
Drawn	BAN
Date	FEB. 1992
Scale	1:50 000
Revised	
SEL.	4321

8422-10

STOCKDALE PROSPECTING LIMITED

EXPLORATION LICENCE 1694 : ELLISTON

FINAL REPORT

000213

STOCKDALE
PROSPECTING
LIMITED
Incorporated in the State of Victoria
60 Wilson Street
South Yarra Victoria 3141
Australia
Telephone (03) 241 7522
Telex Stodal AA39546
Fax (03) 240 0974

Project Name: ELLISTON

Title: EXPLORATION LICENCE 1694 : ELLISTON
FINAL REPORT

Edited:

Author/s: H R ROBISON

Approved: H R ROBISON

Date: AUGUST, 1992

Place: MELBOURNE

1 : 250,000 Sheet Name/s & No/s.: Elliston SI 53-06 Kimba SI 53-07.

Text Pages No.: 6 Plan Nos.: 5 Table Nos.: 3 Appendices: 1 Plates:

Keywords: Stratigraphy, heavy mineral sampling, airborne magnetics, ground magnetic surveys, drilling, indicator minerals, petrology, geochemistry, palynology

Abstract:

EL 1694 covers the coastal strip of the north west Eyre Peninsula from Elliston to Venus Bay. Diamond exploration comprising heavy mineral sampling, airborne magnetic surveys, ground magnetic surveys and drilling resulted in the discovery of three small kimberlites. However, the area is not considered to host economic deposits and exploration was terminated.

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CONTENTS

TABLES

MAPS

APPENDICES

STOCKDALE PROSPECTING LIMITED

EXPLORATION LICENCE 1694 : ELLISTON

FINAL REPORT

1. INTRODUCTION

Exploration Licence 1694 is located on the north western Eyre Peninsula about 200 kilometres north-north west of Port Lincoln. The licence comprises two separate parts (Map 1) with an aggregate area of 1487 square kilometres. The larger part occupies the coastal strip from south of Elliston to north of Venus Bay, whilst a smaller area is located west of Lock and between the Barwell and Bascombe Well Conservation Parks.

The licence was granted to Stockdale Prospecting Limited on the 9th January 1991 for a period of 12 months. This term was subsequently extended for a further twelve months. However, following a comprehensive programme of loam sampling, airborne and ground magnetic surveys and drilling, it was concluded that there is little likelihood of an economically viable diamond deposit occurring within the area. The Licence was therefore surrendered on 9th July, 1992.

2. PHYSIOGRAPHY AND GEOLOGY

The physiography and geology of the region were described in the Ist Quarterly Report. In brief, the tenement is underlain by crystalline basement rocks, predominantly gneisses and granitoids, of the Late Archaean/Early Proterozoic Sleaford Complex. These are unconformably overlain by the unmetamorphosed coarse pebbly sandstones of the Middle Proterozoic Blue Range Beds, deposited in the Itiledoo Basin. This was a precursor of the Polda Trough a later half graben (?) which extends east-west across the centre of the licence area. The Trough contains a thick sequence of Phanerozoic sediments, of which the oldest known in/adjacent to the Licence area are glacigene Permo-Carboniferous sequences. These are unconformably overlain by the Jurassic Polda Formation comprising sandstones, clays and lignite, in turn unconformably overlain by similar sediments of the Tertiary Poelpena Formation.

With the exception of the Blue Range Beds, which are exposed along the coast northwards from Talia Caves, the units mentioned are seen only sub-surface, as the entire licence area is blanketed by Quaternary sediments, dominated by the calcarenites and calcretes of the Bridgewater Formation.

3. WORK CARRIED OUT

3.1 Reconnaissance loam sampling

Reconnaissance sampling was carried out over the tenement during the lst Quarter. One bag (~15 kg) of -1+0.3mm deflation material was collected at one kilometre intervals along roads at tracks, with 4 to 6 adjacent sites conbined under a single sample number. (Map 2a,b). About 60% of these composite samples contained kimberlitic minerals, and their distribution highlighted two areas of interest, at Venus Bay centred on sample X5900, and near Sheoak Hill centred on samples X5462 and X5472.

3.2 Detailed loam sampling

3.2.1 Sheoak

Additional loam sampling (Map 3) was carried out in the Sheoak area during the 2nd, 3rd and 4th Quarters, when 299 samples, each 10 litres of -1+0.3mm fraction were collected at 500m intervals along all available roads and tracks. Results were tabulated in 3rd, 4th and 5th Quarterly reports. These showed a broad spread of indicator minerals across the area sampled, with concentrations around samples X6974/X7372/X7374; X7327/X7328; and X6869/X6870. Although these grains do not occur throughout all areas of low topography, there is a marked cut-off at 40m asl with few grains occurring above this elevation. The heavy mineral anomalies are not directly related to the kimberlites found subsequently (see below) and drilling in the general area has demonstrated that all Mesozoic and Cainozoic sequences are secondary sources. It was therefore concluded that the indicator minerals are derived from these secondary source rocks by re-working and have been concentrated in topographic depressions.

3.2.2 Venus Bay

Four hundred and four samples, each 10 litres of -1+0.3mm screened deflation sediment, were collected during the 4th Quarter. The samples were collected along roads and tracks at 500m intervals over the zone which reconnaissance sampling had shown to be positive, and at 1 km intervals peripheral to this zone. Results, tabulated in the 5th Quarterly Report, showed a general spread of indicators across the area sampled, with high counts centred on samples X8055/X8056 northwest of Port Kenny, and very high counts in samples X8011-14 and X8017-22 situated at the north-western end of Venus Bay.

Twenty-two additional samples, X7574-95, collected in April 1992 extended sampliing westwards to close off this anomaly. Results are given in Table 1. All sample locations are shown on Map 4.

As noted, the highest grain counts occur at the north-western end of Venus Bay, where a group of samples with 50 or more grains occur over a distance of about 8 kms. These samples occur in a topographic low, which may be related to a paleodrainage which flowed from the west and north into Venus Bay. From here grain counts generally diminish to the east and south-east, suggesting a dispersion from the area of highest counts. This is the direction o f the prevailing winds and, not surprisingly, also the orientation of dunes in the area. It is suggested that the grains are being, or were, released from a secondary sedimentary source close to the North-west end of Venus Bay, were concentrated in a topographic sink, and are being redistributed from that point. Examination of the topographic contours on published 1:50,000 scale maps suggests that local concentrations disrupting the steadily diminishing dispersion pattern correlate with local topographic lows.

3.3 "Spot" loam samples

A spot loam sample of 10 litres -1+0.3mm deflation sediment was collected at the third site of reconnaissance sample X5472 and continued 34 ilmenites.

Loam samples of 20 litres -1+0.3mm were collected from close to the centres of 24 magnetic anomalies interpreted from the airborne surveys (see below). Six results were given in the 5th Quarterly Report, and the remaining results have since become available. All results are presented in Table 2.

A number of these samples were positive, some quite strongly so, but they occur in areas which detailed loam sampling has shown to carry a concentration of indicator minerals. Consequently the sources of the magnetic anomalies are not considered to be the source of these indicator minerals.

3.4 Airborne Magnetic Surveys

In March 1991, Aerodata were contracted to fly airborne surveys over three areas of the licence (Map 1). The Venus Bay survey covered the north-eastern portion of the tenement, and was flown to cover the heavy mineral anomaly detected by reconnaissance loam sampling (3.1 above). Similarly, the Sheoak survey in the south-east was flown over the Sheoak heavy mineral anomaly. The Warrachie survey was flown to cover an area of potential interest in the extreme east of the Licence.

All surveys were flown with N-S flight lines at 200m intervals, and E-W tie lines spaced at 2000m. Mean terrain clearance was a nominal 70m, and radio beacons were used for navigation. Magnetic, and 4 channel radiometric, data were acquired.

The data were located, levelled, and gridded by the contractor and the magnetic data was further processed by Stockdale using various image processing enhancements. Following interpretation, a number of anomalies considered to be potential kimberlite targets were selected. Seven anomalies, of which 4 merited follow up were chosen from the Venus Bay survey; 10 anomalies were selected for follow-up from the Sheoak data; and 8 anomalies were selected from the Warrachie survey. These anomalies were listed in the 2nd and 5th Quarterly reports, and contour plots of the airborne data for each anomaly are presented in Appendix 1.

Subsequent re-examination of a 5km x 5km block of data over the peak of the Sheoak heavy mineral anomaly (3.2 above) led to the selection of 3 additional anomalies, SH26-28. All anomaly locations are shown on Map 5.

3.5 Ground magnetic surveys

Those airborne magnetic anomalies selected for follow-up were ground surveyed, except for anomaly SH06 which is coincident with Lake Tungketta. At each anomaly a grid, the size of which was dependent on the size of the anomaly, was established by tape and compass. Grid lines were oriented magnetic N-S, and spaced at 50m intervals. Magnetic readings were taken at 25m intervals along each line using Geometrics G856 proton precession memory magnetometers. An additional G856 magnetometer was used to monitor diurnal drift. The field and base station data were downloaded to a Zenith laptop PC, drift corrected and processed to produce magnetic contour plots. These were presented in the 2nd (SH03, 04, 05, 07, 09, 10,11), 3rd (SH08,13,26, 27; VB01, 04, 05, 06), 4th (SH28), and 5th (WAR 04, 07, 08, 09, 10, 11, 12, 19) Quarterly reports.

A 1 km x 1 km grid, centred on anomalous loam sample X6401, was also ground surveyed. This produced a weak magnetic anomaly designated MH201. A contour plot for this anomaly was appended to the 2nd Quarterly report.

Data from the ground magnetic surveys was submitted to Stockdale's Melbourne based Geophysical department for review and recommendations for drilling.

3.6 Drilling

Interpretation of the ground magnetic data resulted in 13 anomalies being recommended for drilling. These included 11 anomalies from the Sheoak survey, and anomalies MH201 and VB05. None of the Warrachie anomalies were considered to have sufficient potential to warrant drilling.

The 13 anomalies selected were investigated by 14 drillholes, aggregate depth 1059m, drilled under contract by Wallis Drilling using a Mercedes truck-mounted Mantis 200 reverse circulation air core rig.

Heavy mineral samples were systematically collected from every 2m section drilled, and selected geochemical, petrological and palynological samples were also taken.

Basement was not intersected at anomalies SH05 and 07, which were drilled to 99m and 102m respectively and terminated in Tertiary/Jurassic sediments. Drillholes at seven anomalies intersected rocks with high magnetic susceptibilities. Three of these were kimberlite.

Anomaly SH13 is a normally magnetised body of about 250m E-W by 60 or 70m N-S, designated Mt. Hope 06. It is an extensively altered monticellite kimberlite containing large quantities of chromite but few of the other indicator minerals. Fine diamond analysis was negative.

Mt. Hope 07 (anomaly SH09) is also normally magnetised. It is an altered diatreme facies phlogopite - monticellite kimberlite, which may be 3-4 ha in size. Chromite, pyrope garnet, ilmenite and pyroxene are relatively abundant, but no diamonds were recovered.

Anomaly SH08 is discrete and reversely magnetised. Hypabyssal phlogopite-monticellite kimberlite was intersected between about 20m and 32m in DH031, and may extend over an area of about 3 ha. Indicator minerals are sparsely represented and no diamonds were present.

Mt. Hope -06 and Mt. Hope -07 were capped by a Quaternary-Tertiary-Jurassic sequence of sediments totalling ~58m and ~65m respectively. Cover at Mt. Hope -08 is thinner, about 19m, although Quaternary, Tertiary and Jurassic units are all represented as sample BM0994 (18-20m, DH031) was dated by N. Alley (SADME) as Jurassic on the basis of its microflora.

The drilling programme is detailed in the 4th Quarterly report, to which drill logs, petrological descriptions and geochemical results are appended. Heavy mineral results from drill chip samples and the results of palynology are given in the 5th Quarterly report.

4. CONCLUSIONS

The work conducted in the Licence resulted in the discovery of 3 small kimberlites, which are not of economic significance. Although it is possible that additional bodies may be present, it is thought they are unlikely to be of greater interest.

Major heavy mineral anomalies detected by sampling at Sheoak and Venus Bay appear to be derived from secondary source rocks, perhaps related to deposition associated with the Polda Trough. The kimberlites discovered are adjacent to the Sheoak anomaly, and may therefore contribute to it.

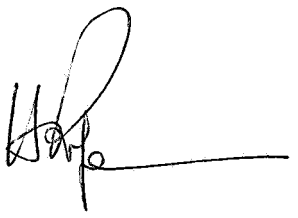
No kimberlite was discovered at Venus Bay, although most of the heavy mineral anomaly (3.2.2 above) is covered by the airborne survey. However, the postulated

dispersion of heavy minerals from the north-western end of Venus Bay suggests the source may lie outside the area covered by aeromagnetics, and perhaps outside the licence area.

None of the results obtained suggest that a large or significantly diamondiferous kimberlite occurs in the tenement area, and exploration was therefore terminated and the licence surrendered.

5. EXPENDITURE

Exploration expenditure during the tenure of the tenement totalled $635,853, as detailed in Table 3.



H R ROBISON
Senior Divisional Geologist

RTF:HRR948

TABLE 1 : Sample results, Venus Bay Loam Sampling, April 1992.

Sample Number	Pyrope Garnet	Kimberlitic Ilmenite	Chromite
X7574	5	>50	1
X7575		3	
X7576	1	9	
X7577	2	18	
X7578	1	4	
X7579	1	14	
X7580	1	32	
X7581	1	8	
X7582	4	50	
X7583	4	50	
X7584	5	>50	
X7585	1	30	
X7586	1	21	
X7587		7	
X7588	1	15	
X7589	3	23	
X7590		1	
X7591	1	7	
X7592	1	>50	
X7593	1	>50	
X7594	3	>50	
X7595	4	>50	

TABLE 2 : Spot Deflation Loam Results

Sample	Anomaly	Result
X5977	VB05	2 Pyrope Garnets, 7 Ilmenites.
X5978	VB06	Negative.
X5979	VB04	1 Pyrope Garnet, 16 Ilmenites.
X5981	VB01	Negative.
X7447	SH27	11 Pyrope Garnets, 57 Ilmenites, 1 Chromite.
X7448	SH26	3 Pyrope Garnets, 15 Ilmenites, 2 Chromites.
X7452	SH11	Negative.
X7453	SH10	7 Ilmenites.
X7455	SH03	>50 Ilmenites.
X7460	SH04	2 Pyrope Garnets, 11 Ilmenites,
X7461	SH05	1 Pyrope Garnet, 11 Ilmenites, 1 Chromite.
X7462	SH05	1 Ilmenite.
X7463	SH07	4 Pyrope Garnets, 14 Ilmenites.
X7466	SH28	42 Pyrope Garnets, >50 Ilmenites, 1 Chromite, 4 Pyroxenes.
X7467	SH08	2 Pyrope Garnets, 3 Ilmenites.
X7468	SH09	1 Pyrope Garnet, 2 Ilmenites.
X7569	SH13	2 Pyrope Garnets, 3 Ilmenites.
X7475	WAR04	1 Pyrope Garnet.
X7481	WAR07	Negative.
X7482	WAR08	Negative.
X7483	WAR09	Negative.
X7489	WAR10	Negative.
X7490	WAR11	Negative.
X7491	WAR12	Negative.
X7492	WAR19	Negative.

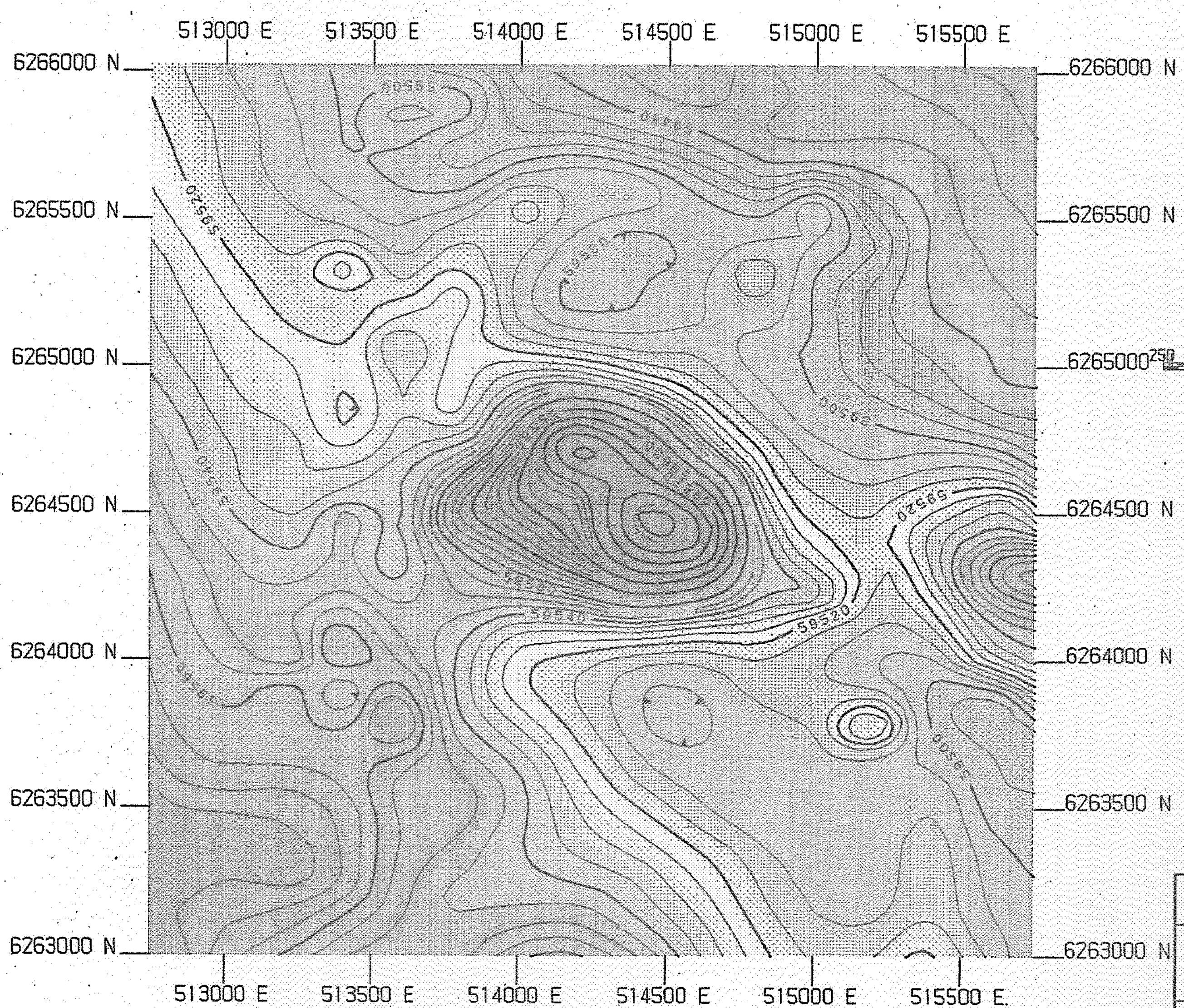
TABLE 3 : Expenditure Summary EL 1694
For the period 9 January 1991 - 30 June, 1992.

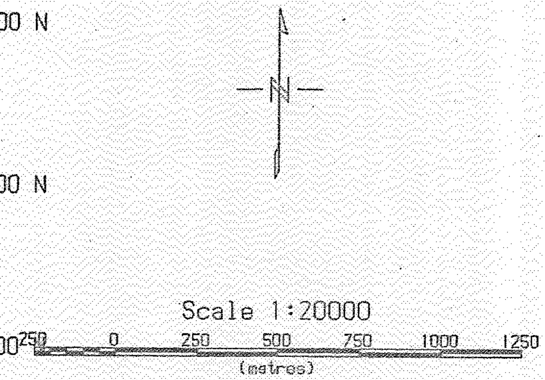
			$
OPERATIONAL STAFF COSTS			189,618
GENERAL OPERATIONAL EXPENSES			18,754
TRANSPORT AND TRAVEL			26,392
CENTRAL TREATMENT PLANT			60,737
LABORATORY :	TREATMENT		12,263
	EXAMINATION		46,233
CONTRACTORS :	GEOPHYSICS		81,178
	DRILLING		12,778
	SAMPLE ANALYSIS		1,658
	EARTHMOVING		1,613
TECHNICAL SERVICES :		GEOPHYSICS	34,150
		REMOTE SENSING	289
		DRAFTING	11,873
		MINERALOGY	4,666
		COMPUTING	6,321
ADMINISTRATION :		REGIONAL	53,479
		HEAD OFFICE	53,221
CAPITAL UTILISATION			20,630
TOTAL EXPENDITURE			635,853

APPENDIX 1

AIRBORNE MAGNETIC SURVEY

ANOMALY CONTOUR PLOTS





STOCKDALE PROSPECTING LTD

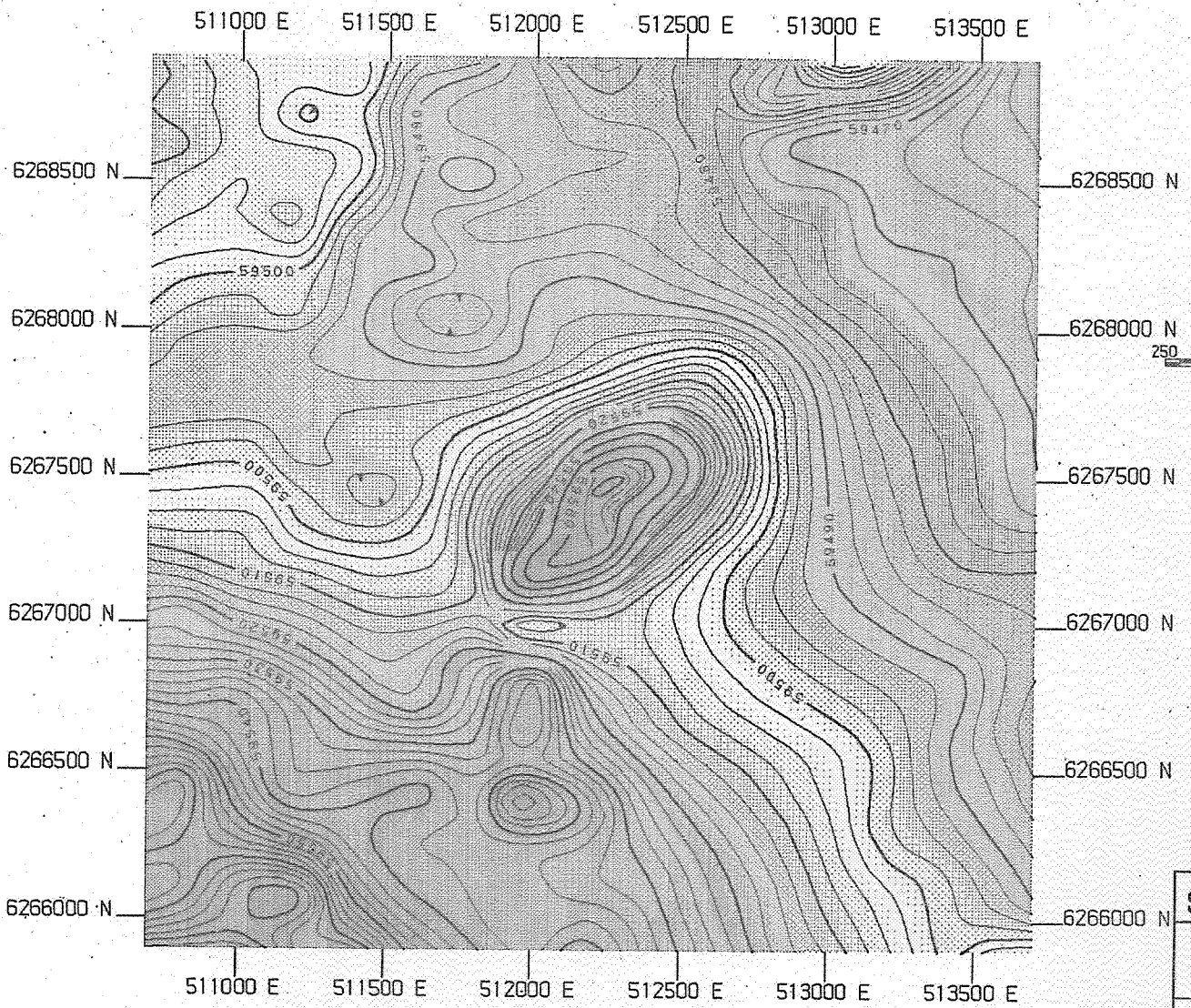
SHEOAK
Anomally SH03

Total Aeromagnetic Intensity
Contour Interval = 5nT

Elliston I53-06 SEL:G 1996

Ingres G-ref 6154

000225



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(metres)

STOCKDALE PROSPECTING LTD

SHEOAK
Anomally SH04

Total Aeromagnetic Intensity
Contour Interval = 2.5nT

Elliston 153-06 SEL:G 1997

Ingres Gref: 6155

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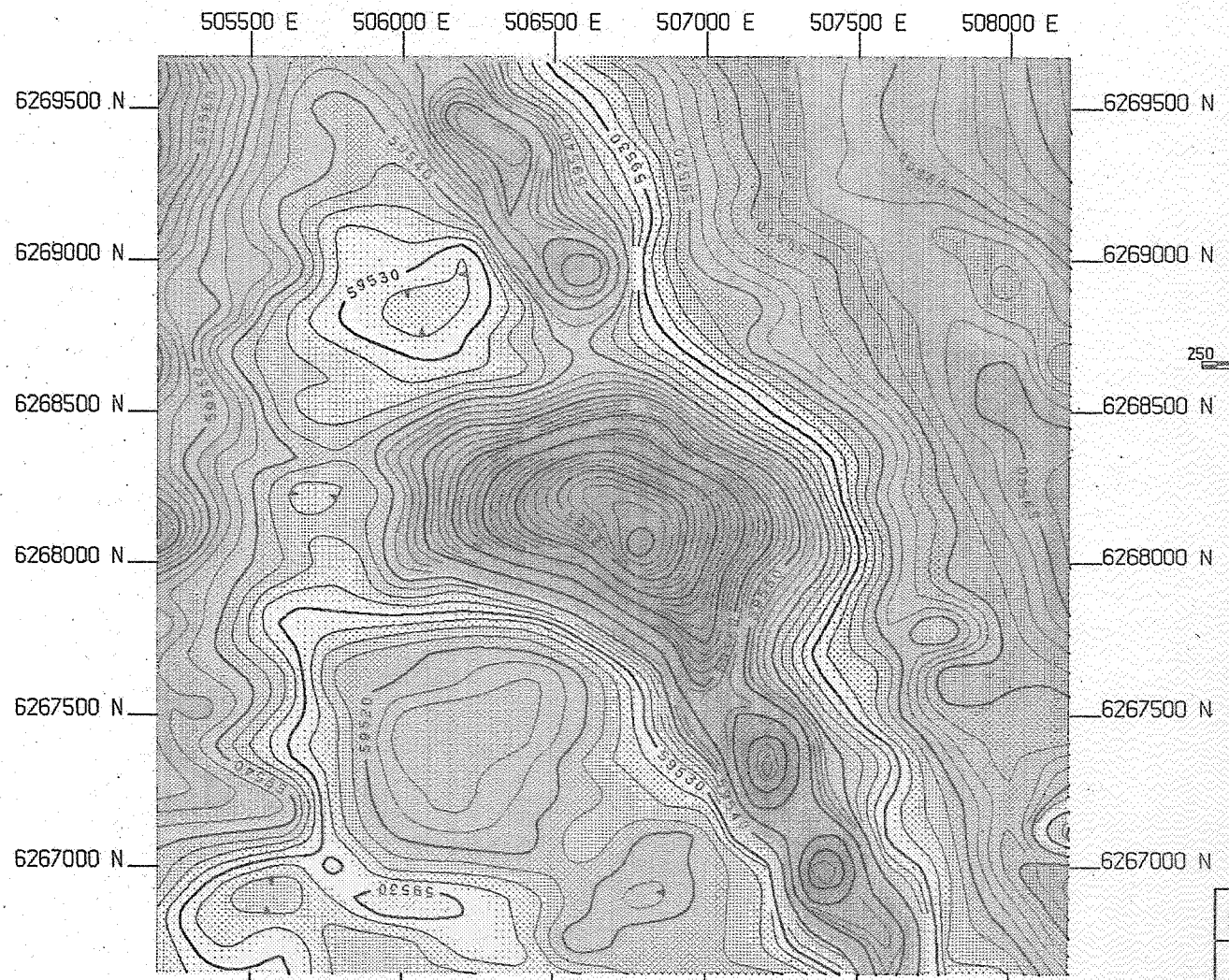

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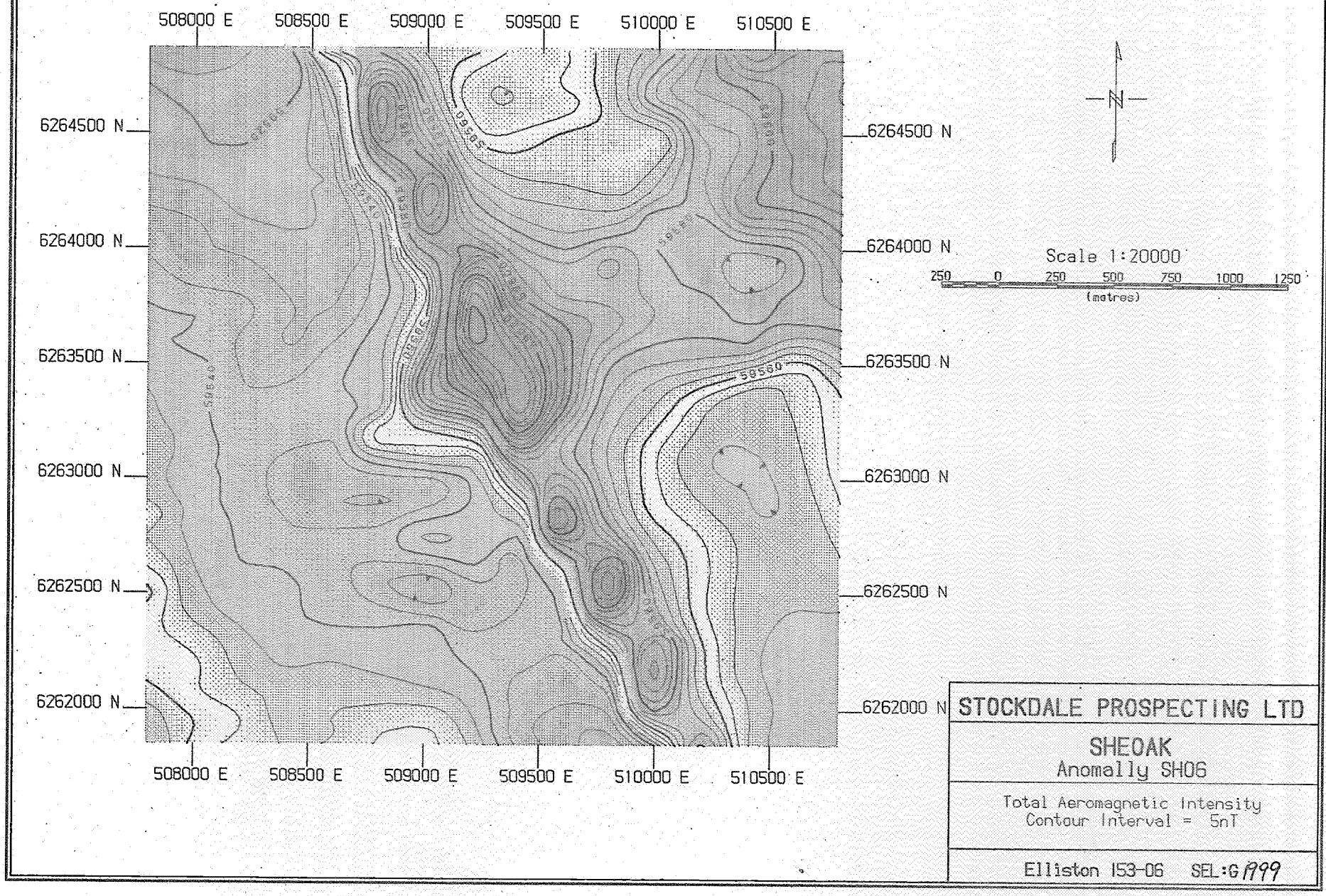
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50580
50560
Scale 1:20000
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(metres)
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SHEOAK
Anomally SH06
Total Aeromagnetic Intensity
Contour Interval = 5nT
Elliston 153-06 SEL:G1999

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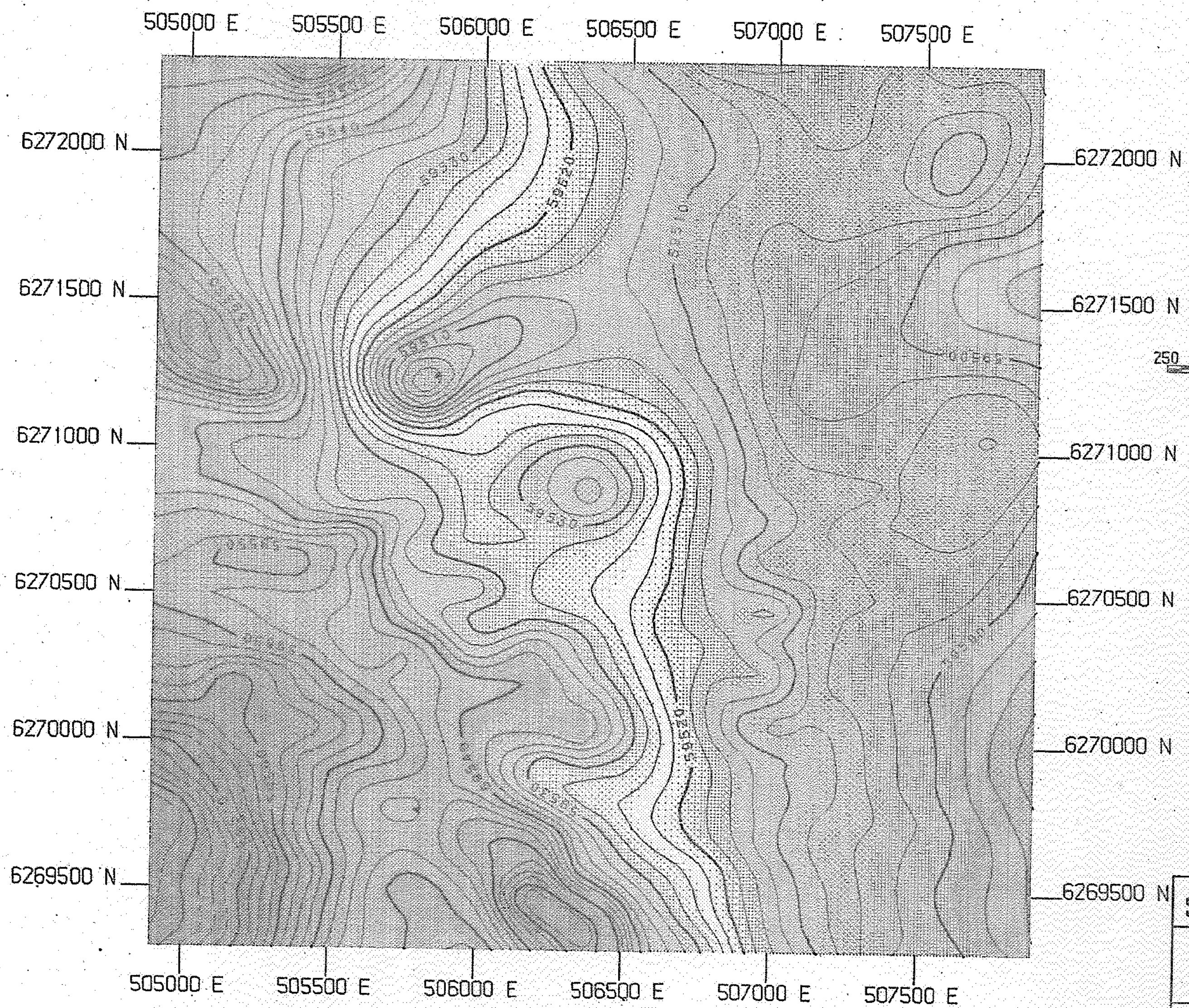

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STOCKDALE PROSPECTING LTD

SHEOAK
Anomally SH07

Total Aeromagnetic Intensity
Contour Interval = 2.5nT

Elliston I53-06 SEL:G2000

6158

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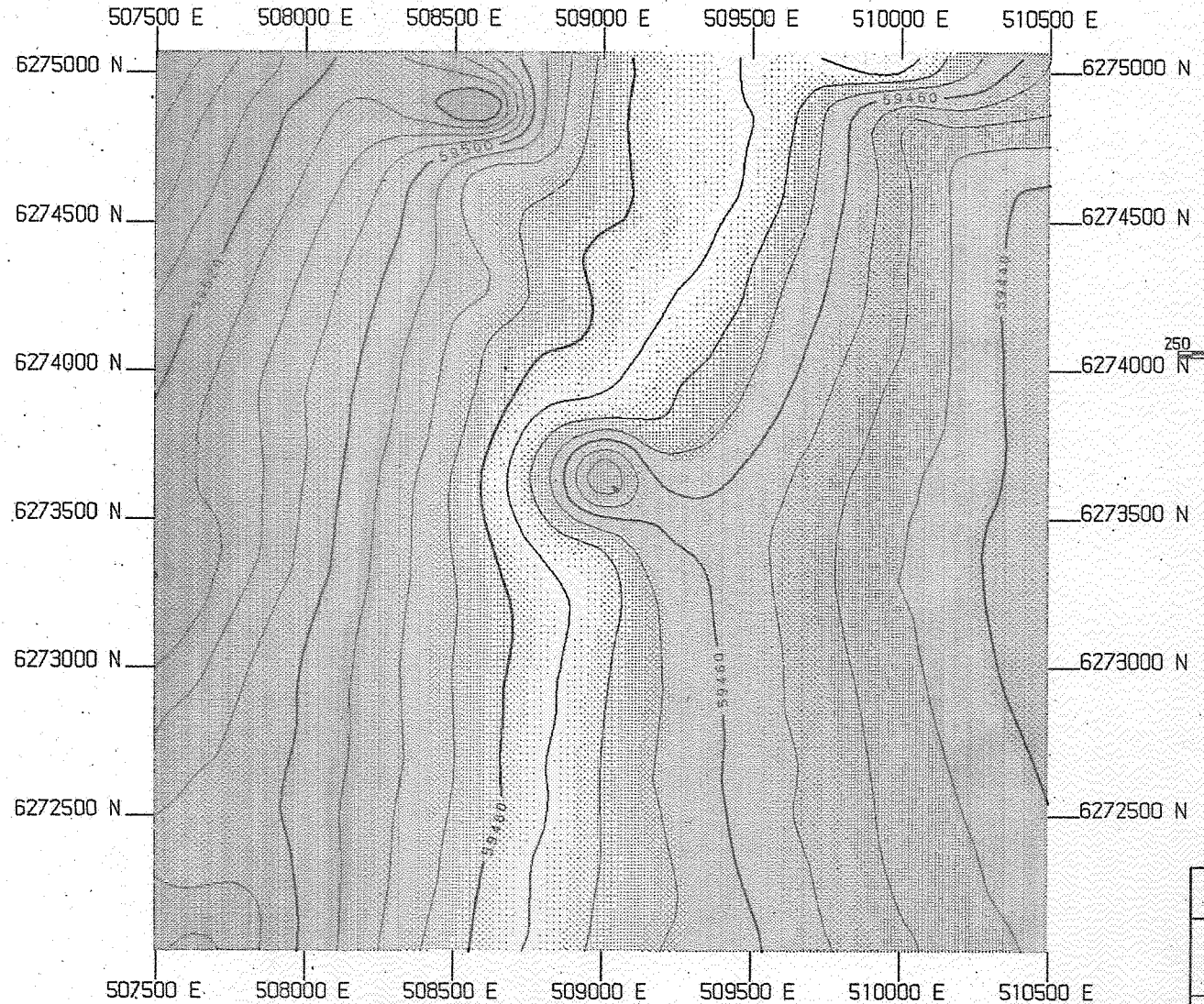

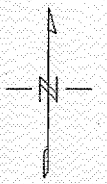

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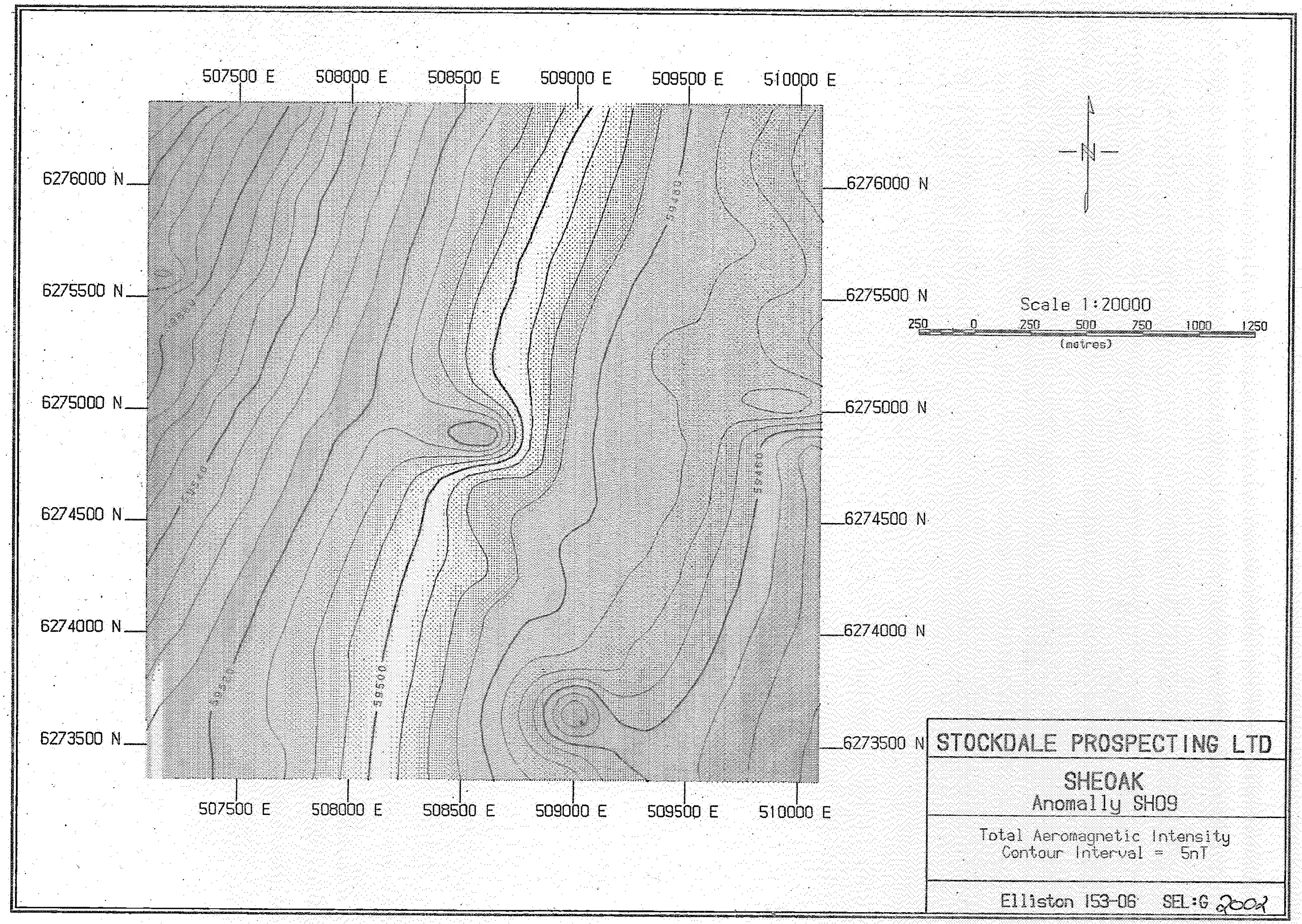
STOCKDALE PROSPECTING LTD

SHEOAK
Anomally SH08

Total Aeromagnetic Intensity
Contour Interval = 5nT

Elliston 153-06 SEL:G 2001

659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59500
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Scale 1:20000
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(metres)
STOCKDALE PROSPECTING LTD
SHEOAK
Anomally SH09
Total Aeromagnetic Intensity
Contour Interval = 5nT
Elliston I53-06 SEL:G 2002

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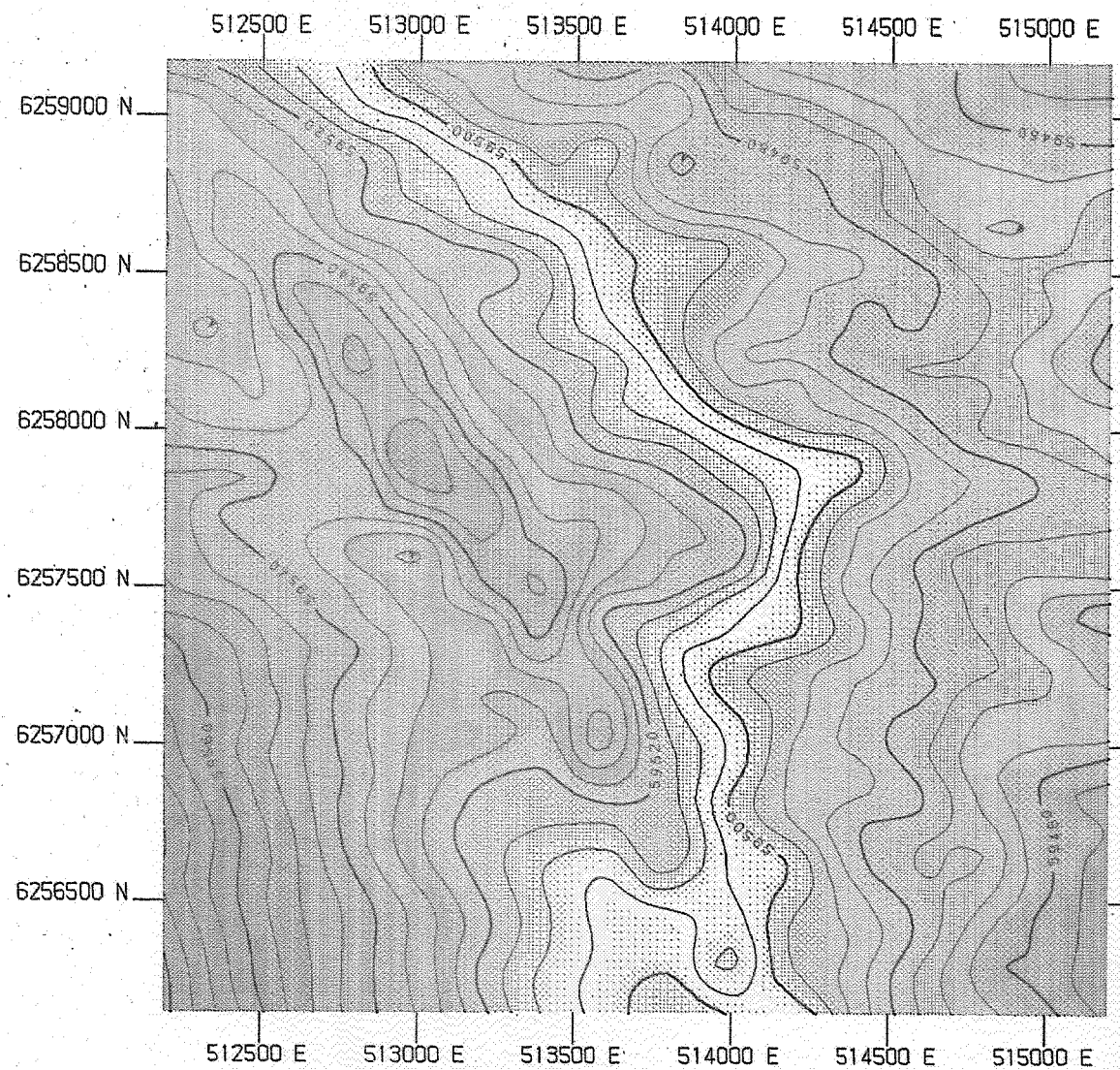

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(metres)

STOCKDALE PROSPECTING LTD
SHEOAK Anomally SH10
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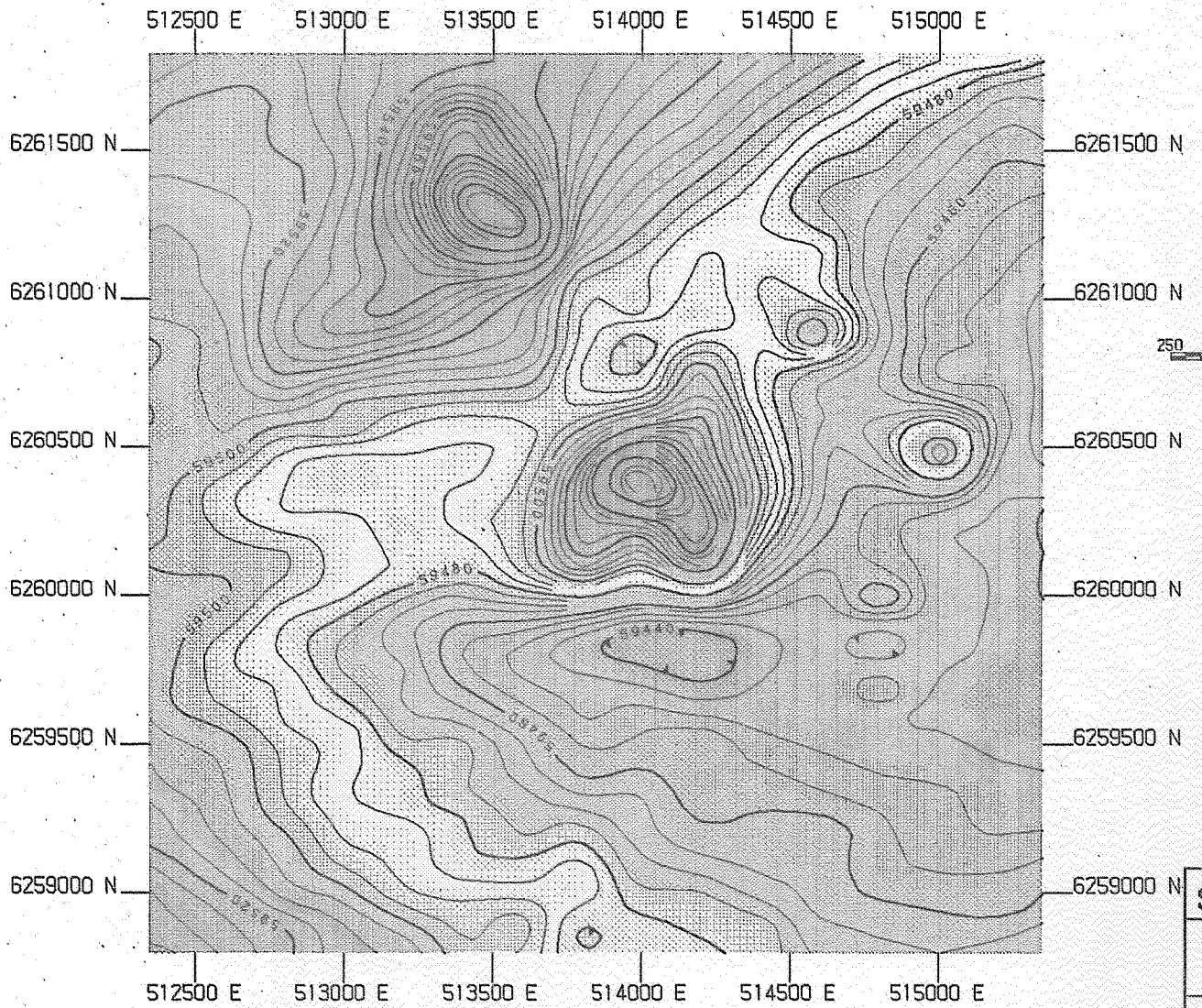
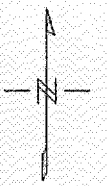
Elliston 153-06 SEL:G~~2203~~

6161

000232





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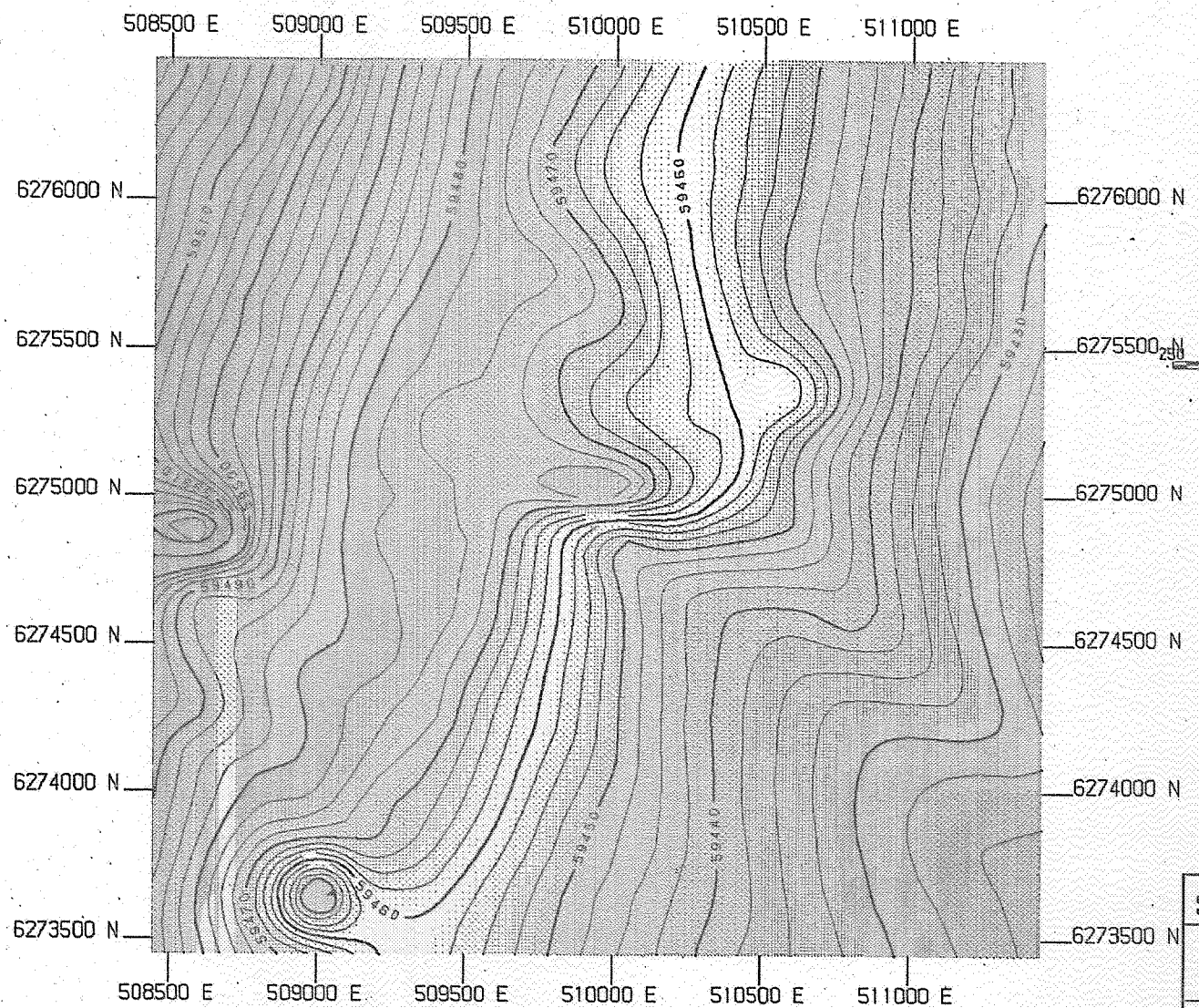
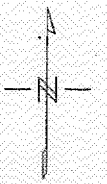
(metres)

STOCKDALE PROSPECTING LTD
SHEOAK Anomally SH11
Total Aeromagnetic Intensity Contour Interval = 5nT
Elliston 153-06 SEL:G 2004

6162

000233





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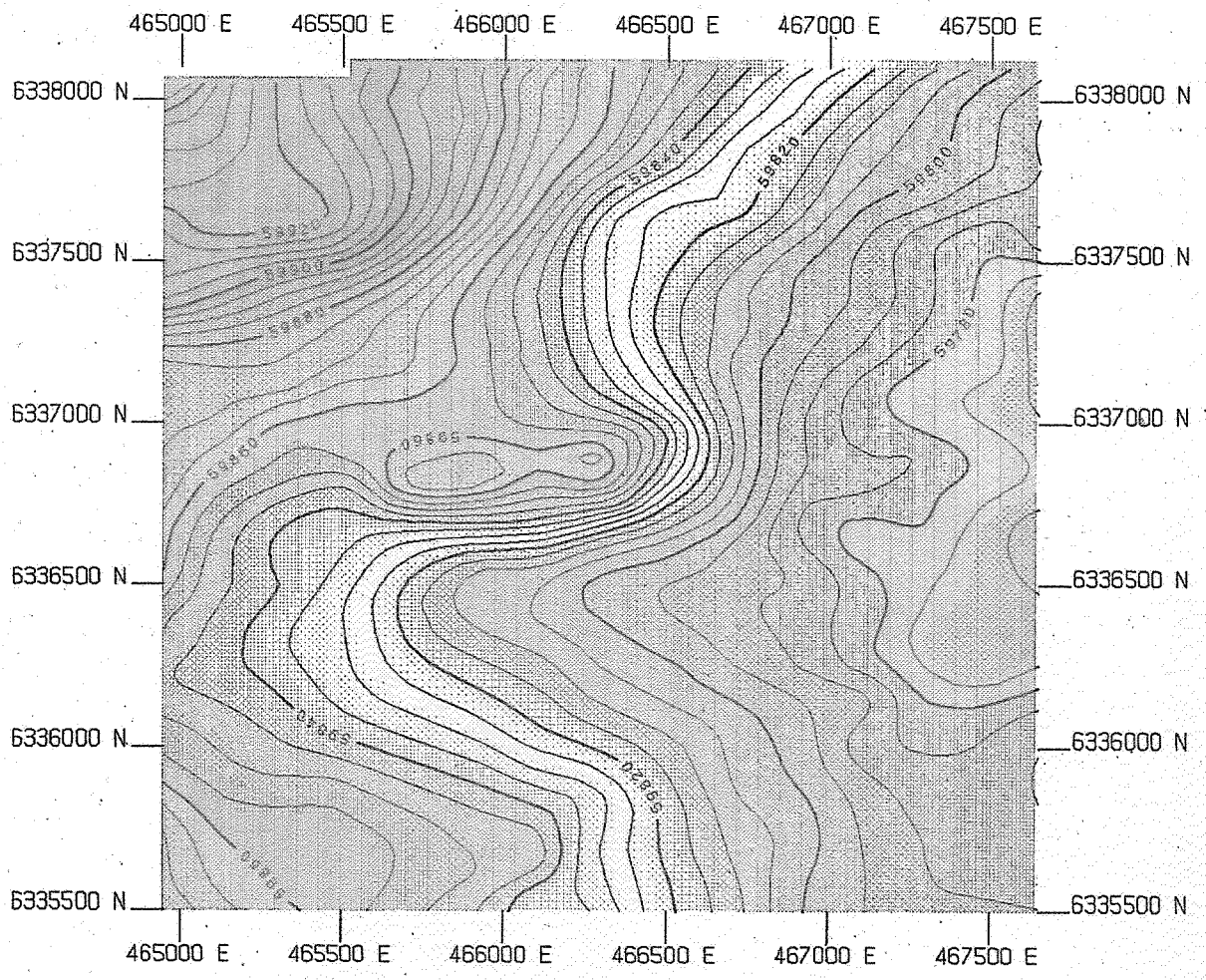
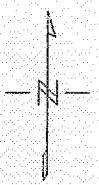
SHEOAK Anomally SH13
Total Aeromagnetic Intensity Contour Interval = 2.5nT
Elliston 153-06 SEL:G 2006

6164

000234





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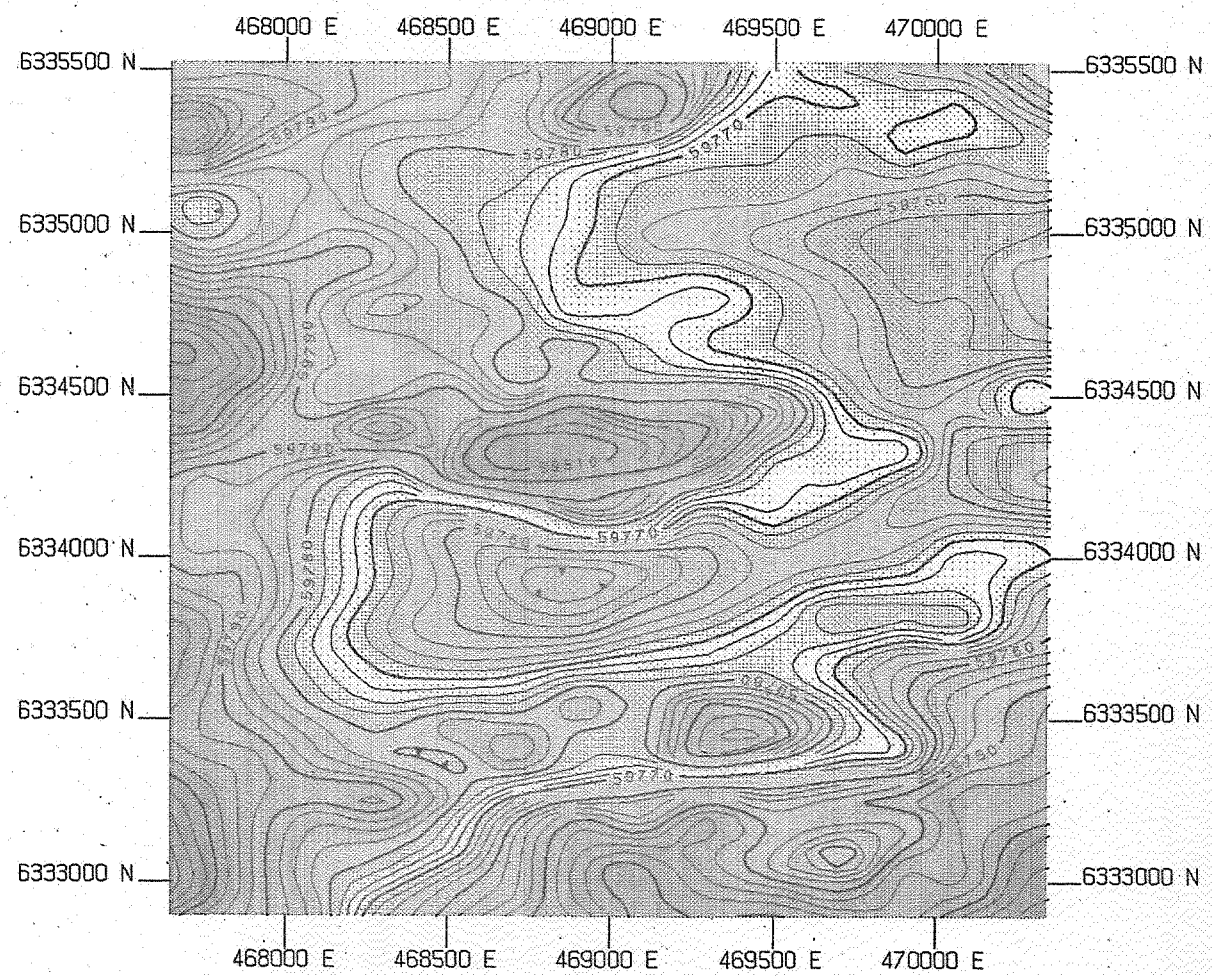
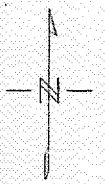
STOCKDALE PROSPECTING LTD
VENUS BAY Anomally VB01
Total Aeromagnetic Intensity Contour Interval = 5nT





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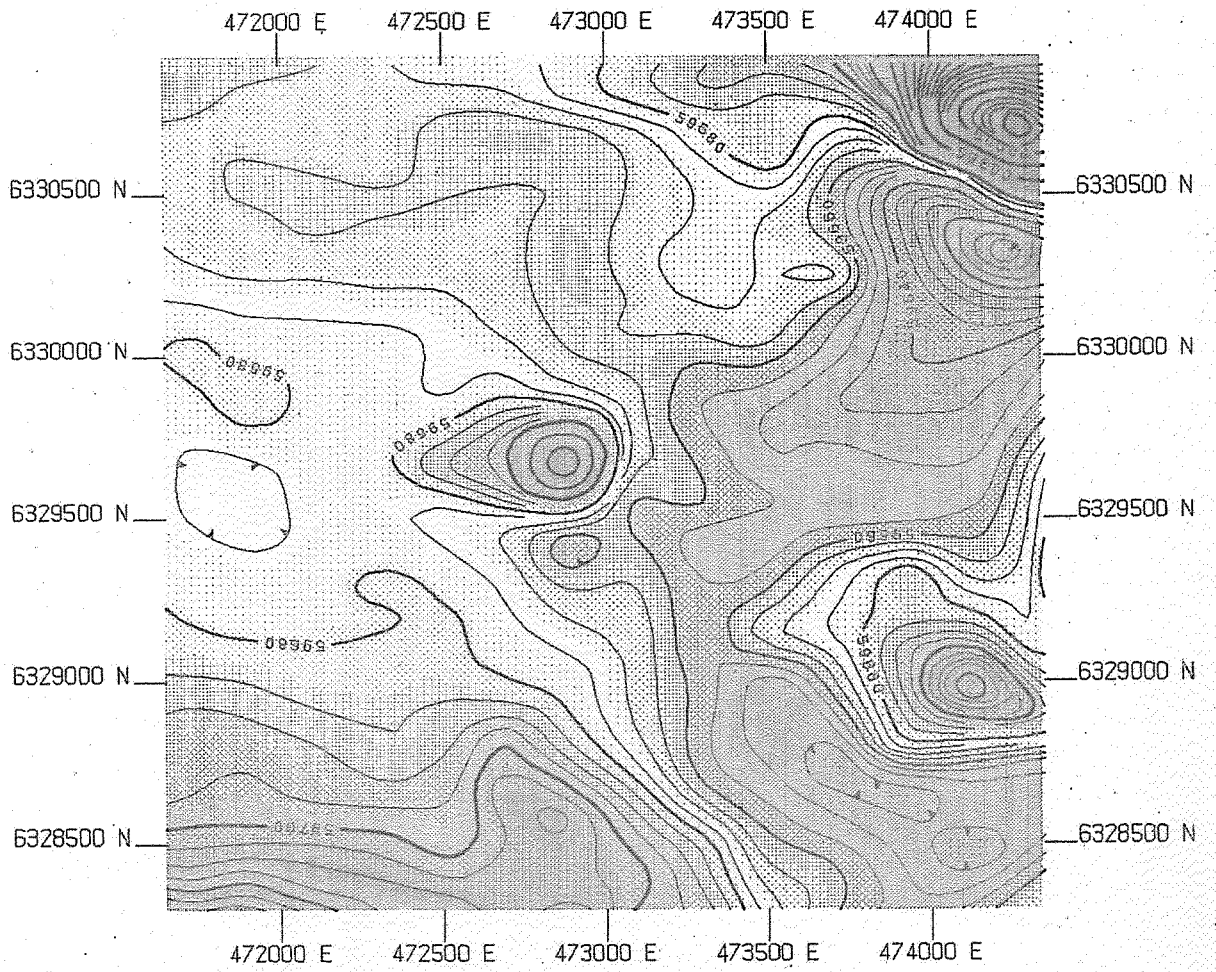
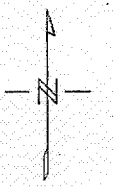
(metres)

STOCKDALE PROSPECTING LTD
VENUS BAY Anomally VB02
Total Aeromagnetic Intensity Contour Interval = 2.5nT
Elliston 1:53-06 SEL:G 2234





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(metres)

STOCKDALE PROSPECTING LTD
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Total Aeromagnetic Intensity Contour Interval = 5nT
Elliston 153-06 SEL:G 2236

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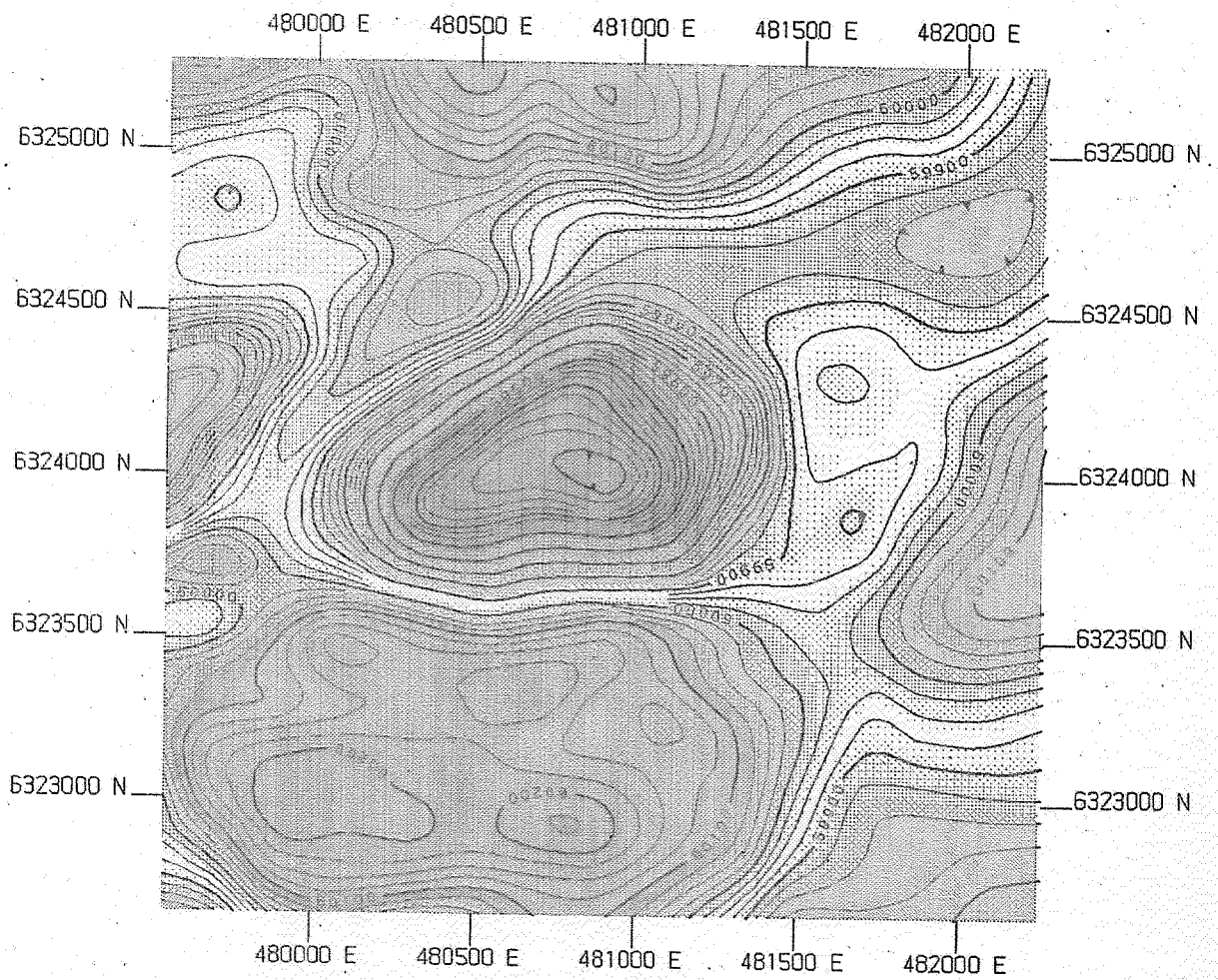

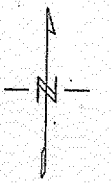

Scale 1:20000

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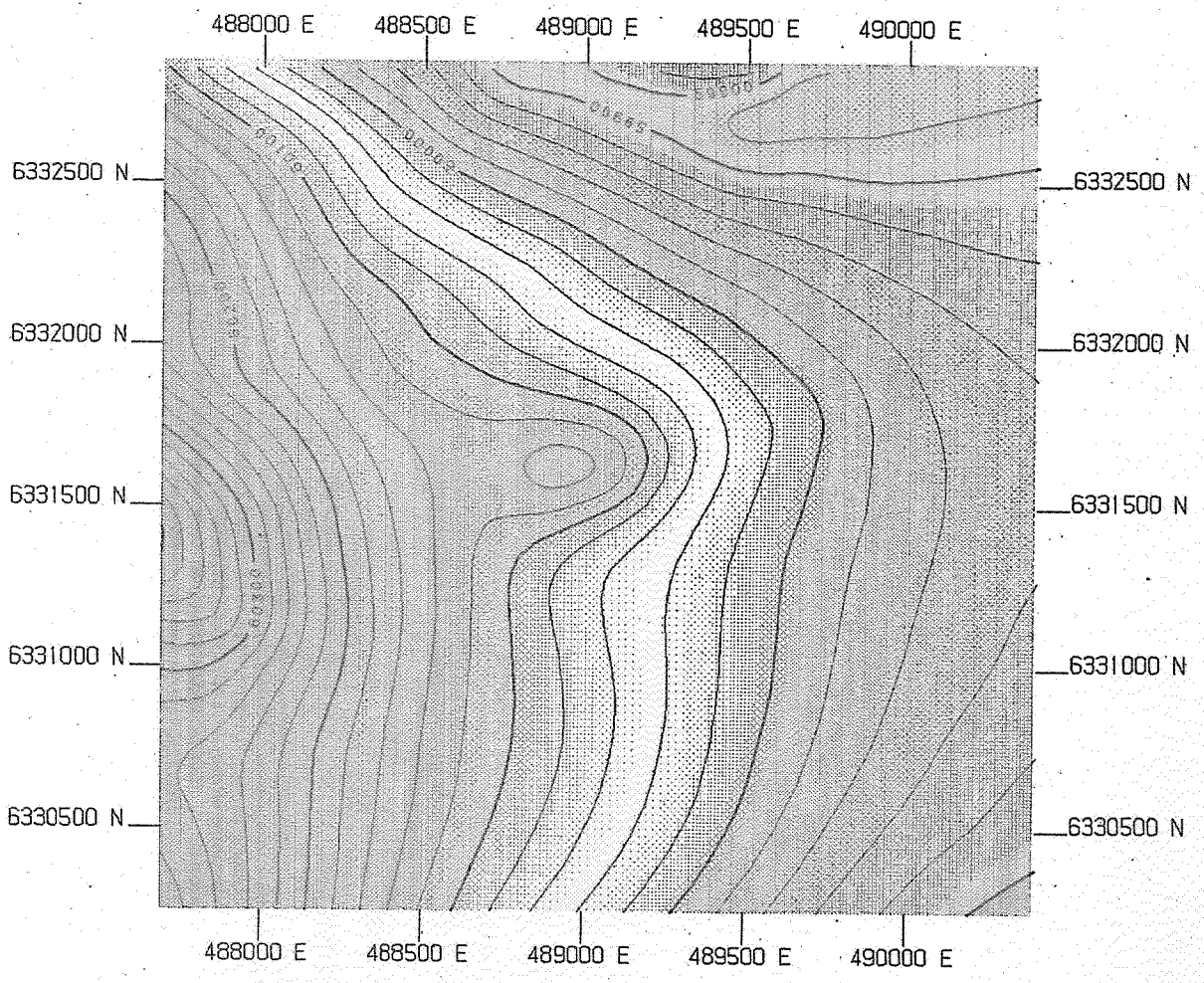
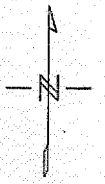
(metres)

STOCKDALE PROSPECTING LTD
VENUS BAY Anomally VB05
Total Aeromagnetic Intensity Contour Interval = 25nT
Elliston 153-06 SEL:G2237





Scale 1:20000

250 0 250 500 750 1000 1250

(metres)

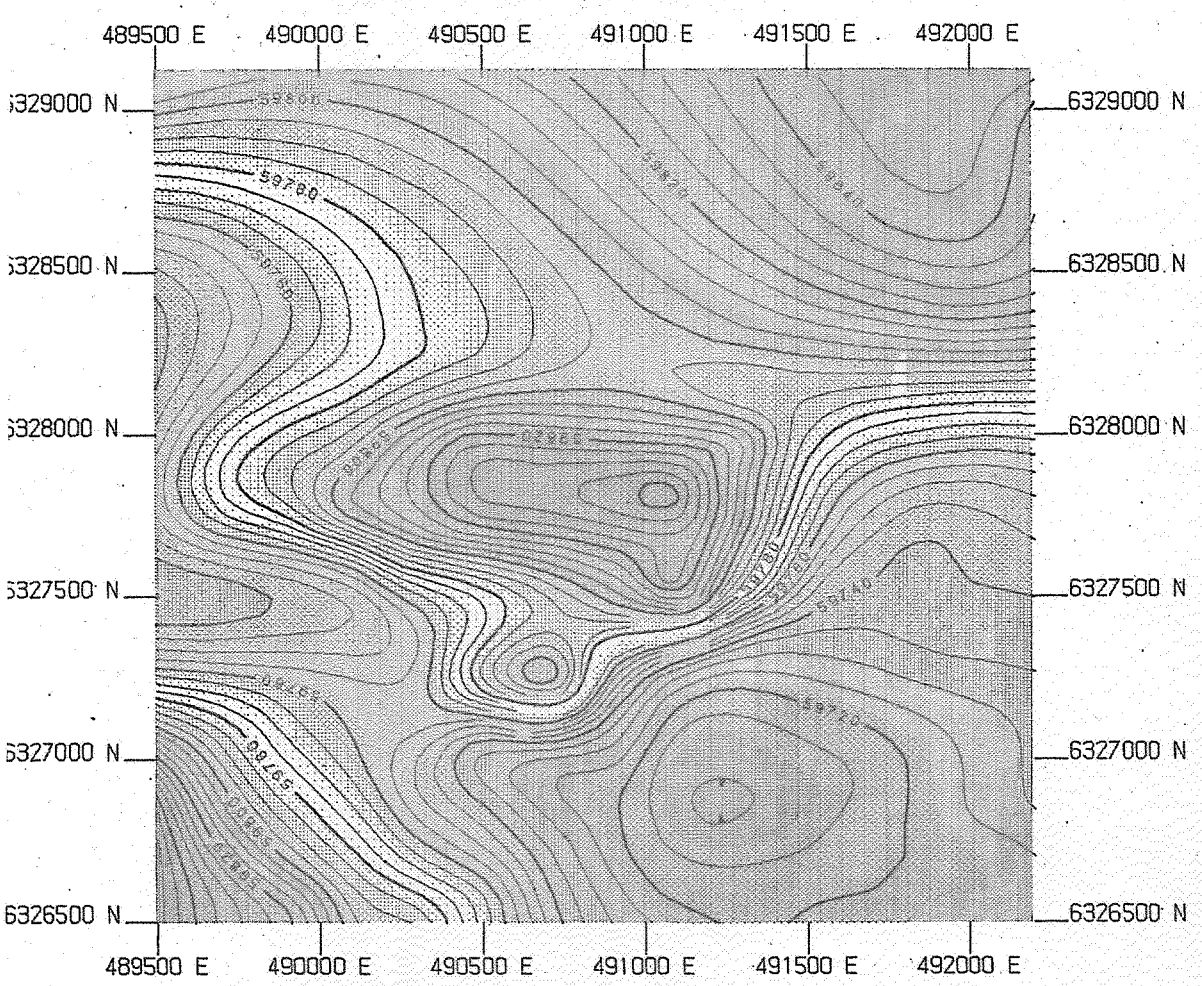
STOCKDALE PROSPECTING LTD

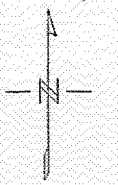
VENUS BAY
Anomally VB06

Total Aeromagnetic Intensity
Contour Interval = 20nT

Elliston 153-06 SEL:G223

000239





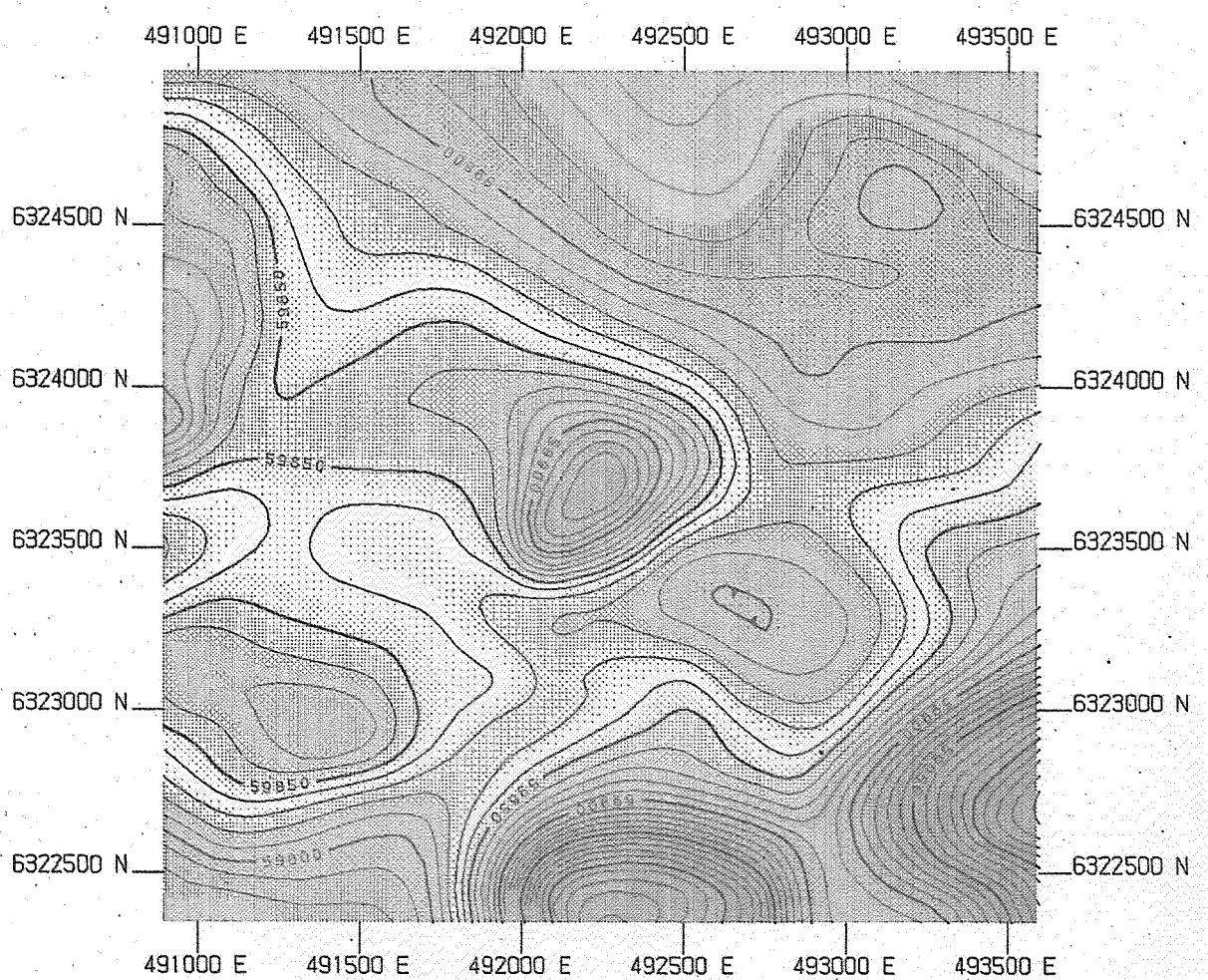
Scale 1:20000

250 0 250 500 750 1000 1250

(metres)

STOCKDALE PROSPECTING LTD
VENUS BAY Anomally VB07
Total Aeromagnetic Intensity Contour Interval = 5nT
Elliston 153-06 SEL:G 2239

000240



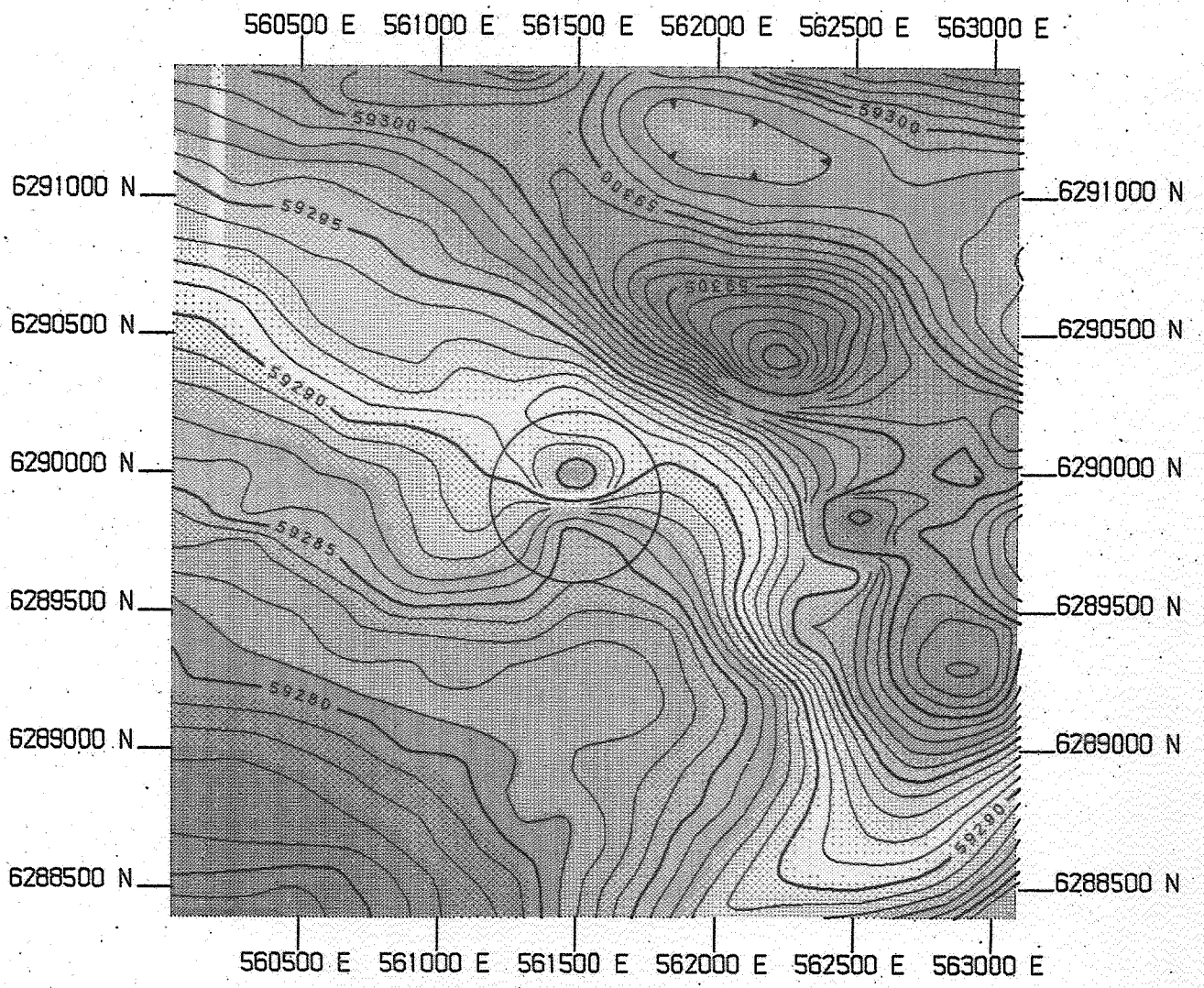
Scale 1:20000

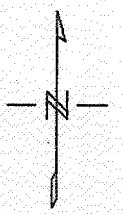
250 0 250 500 750 1000 1250

(metres)

STOCKDALE PROSPECTING LTD
VENUS BAY Anomally VB08
Total Aeromagnetic Intensity Contour Interval = 10nT
Elliston 153-06 SEL:G2240

000241





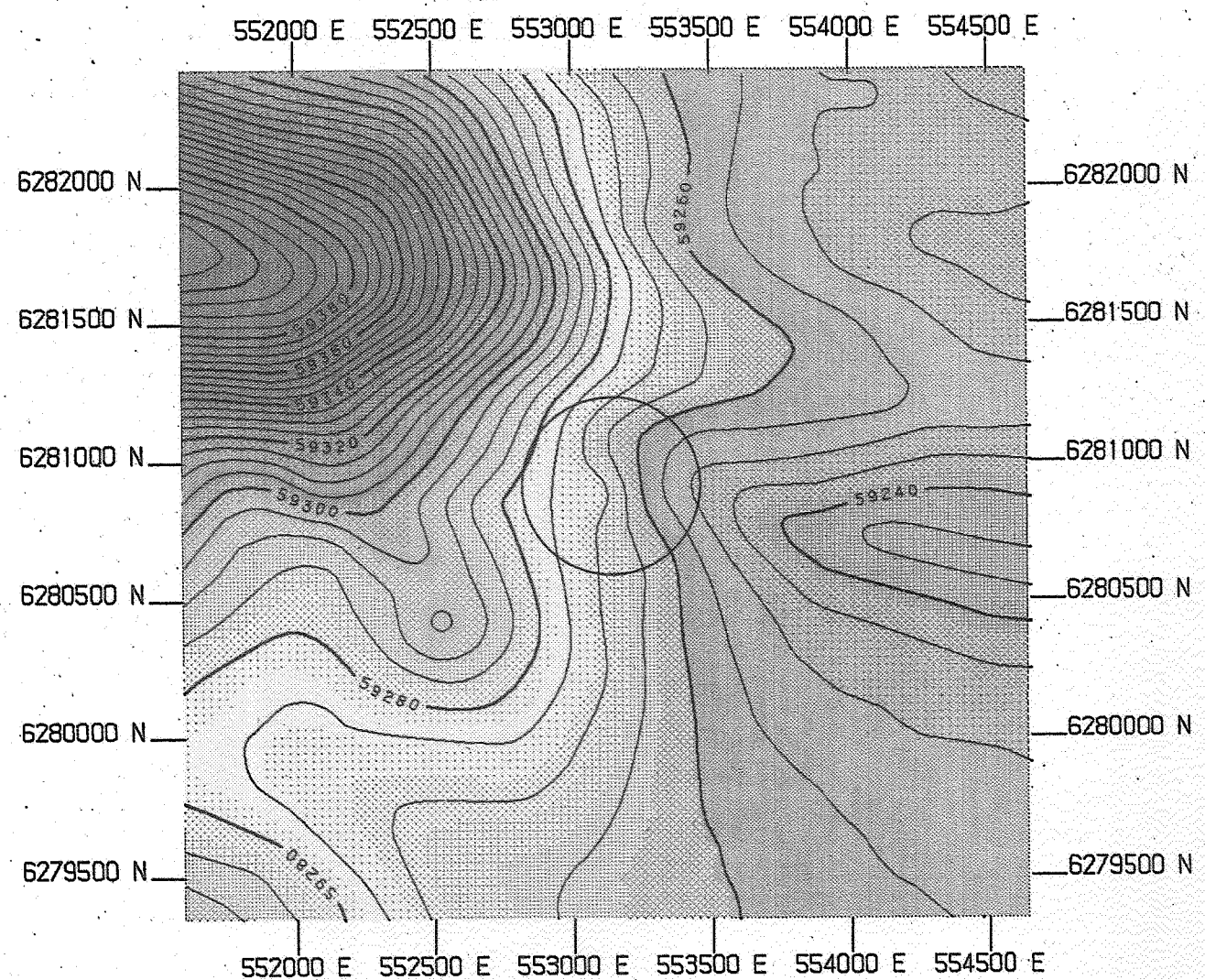
Scale 1:25000

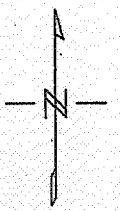
250 0 250 500 750 1000 1250

(metres)

STOCKDALE PROSPECTING LTD
WARRACHIE SURVEY Anomaly WAR04
Total Aeromagnetic Intensity Contour Interval = 1nT FLG
Kimba 153-07 SEL:G 2494

000242





Scale 1:25000

250 0 250 500 750 1000 1250

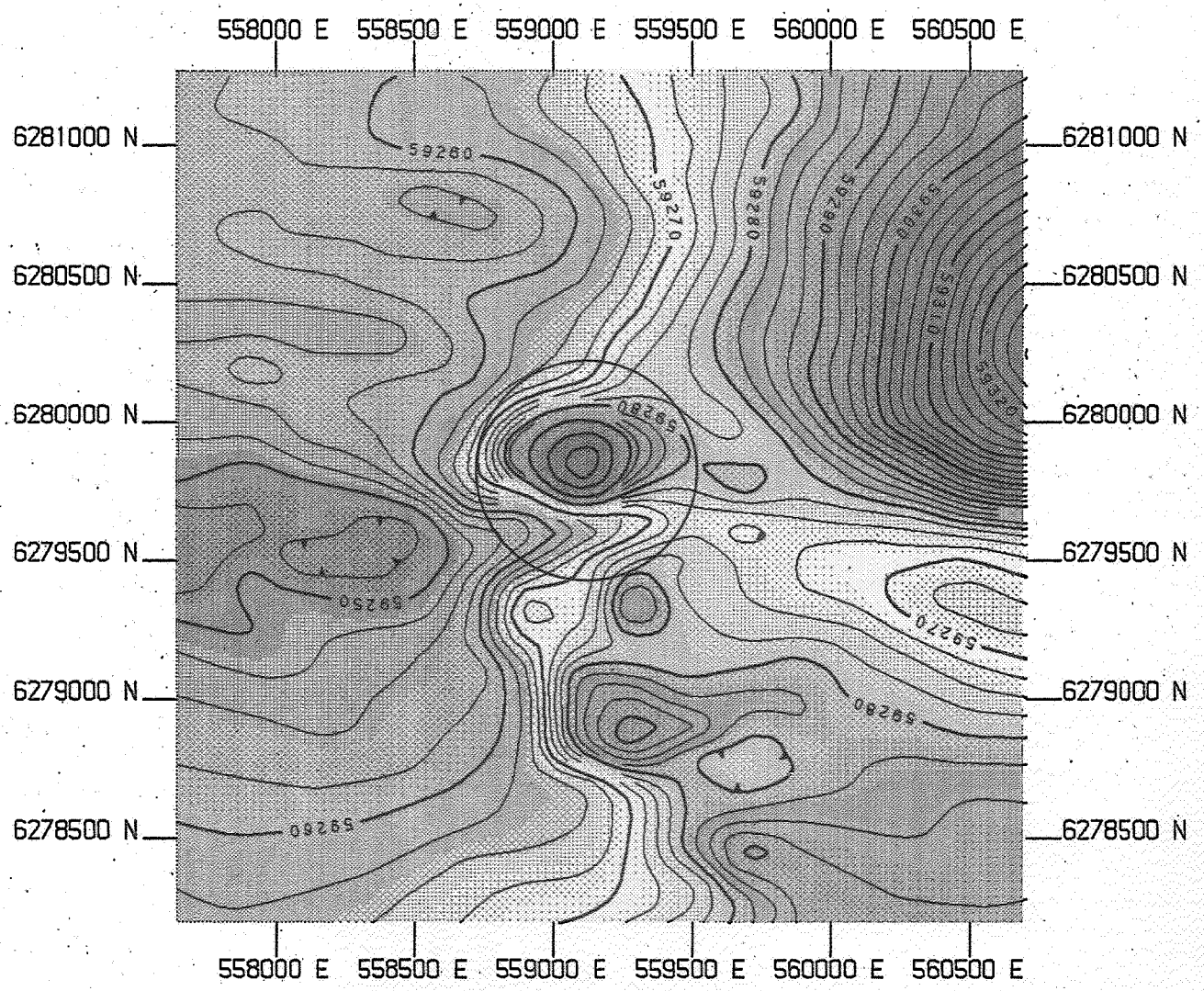
(metres)

STOCKDALE PROSPECTING LTD

WARRACHIE SURVEY
Anomaly WAR07

Total Aeromagnetic Intensity
Contour Interval = 5nT
FLG

Kimba 153-07 SEL:G 2497



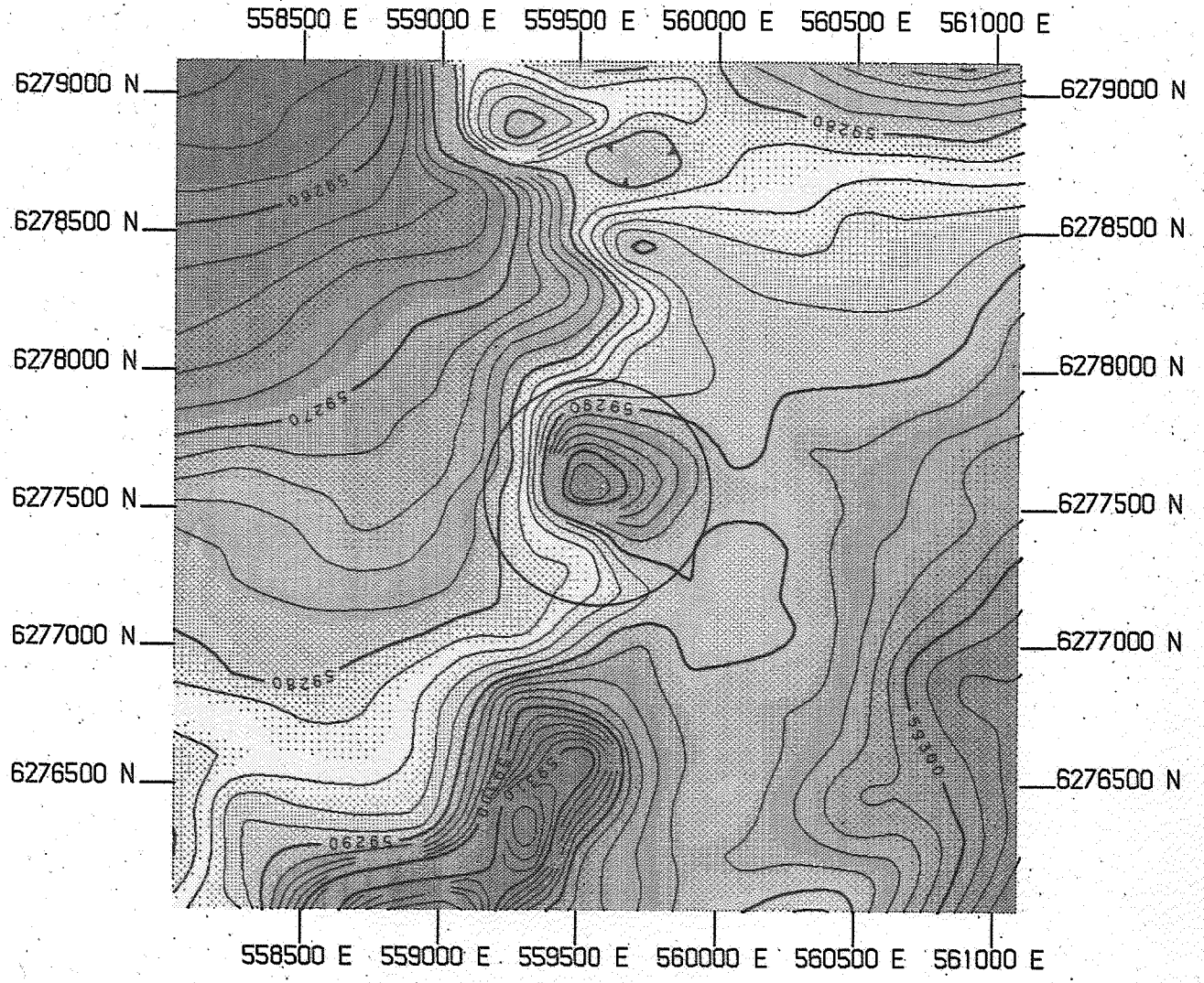
Scale 1:25000

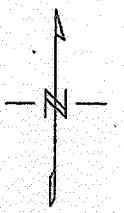
250 0 250 500 750 1000 1250

(metres)

STOCKDALE PROSPECTING LTD
WARRACHIE SURVEY Anomaly WAR08
Total Aeromagnetic Intensity Contour Interval = 2.5nT FLG
Kimba 153-07 SEL:G 2498

0002244





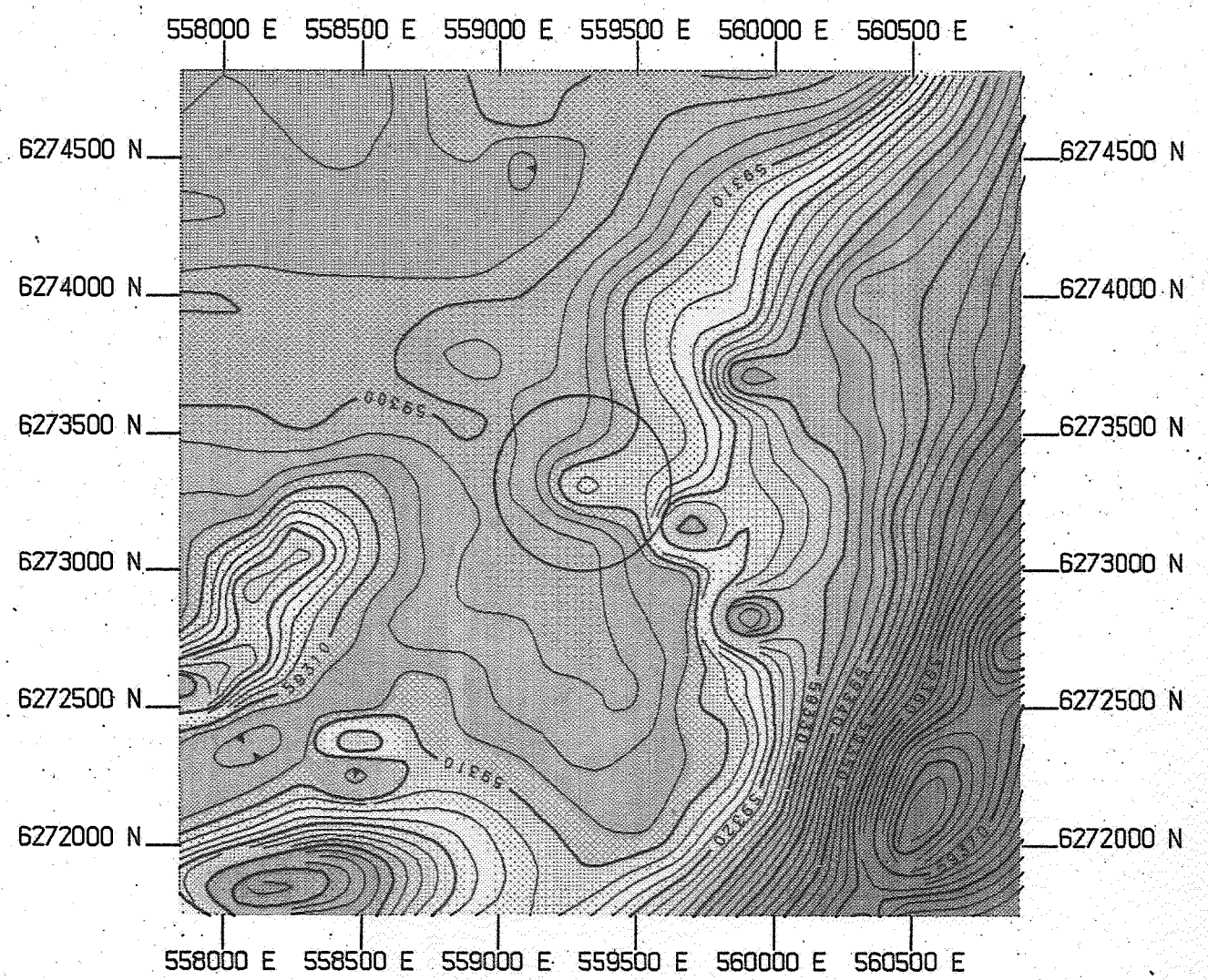
Scale 1:25000

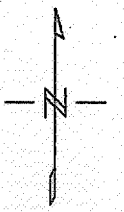
250 0 250 500 750 1000 1250

(metres)

STOCKDALE PROSPECTING LTD
WARRACHIE SURVEY Anomaly WAR09
Total Aeromagnetic Intensity Contour Interval = 2nT FLG
Kimba 153-07 SEL:G 2499

000245





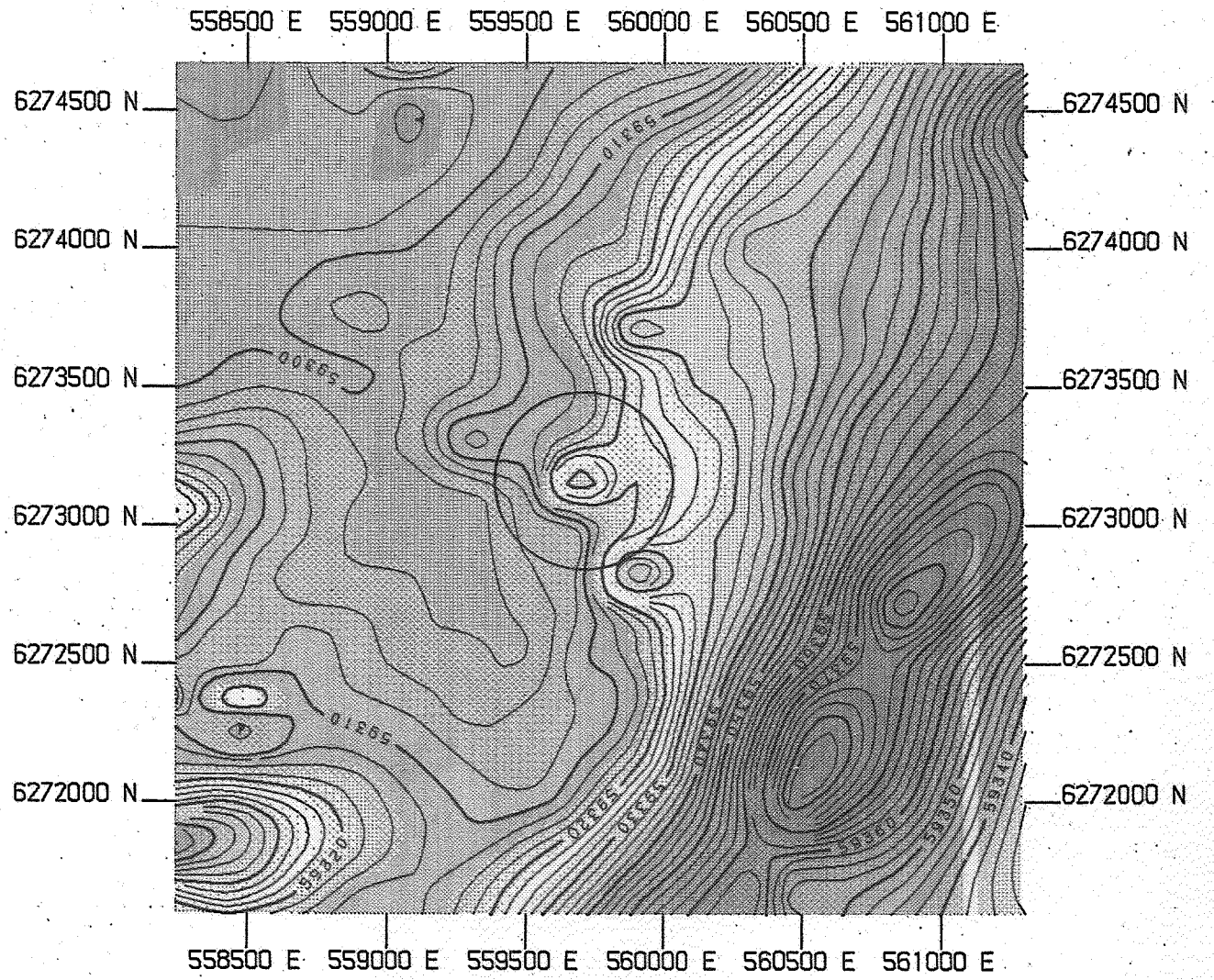
Scale 1:25000

250 0 250 500 750 1000 1250

(metres)

STOCKDALE PROSPECTING LTD
WARRACHIE SURVEY Anomaly WAR10
Total Aeromagnetic Intensity Contour Interval = 2.5nT FLG
Kimba 153-07 SEL:G 2500

000246



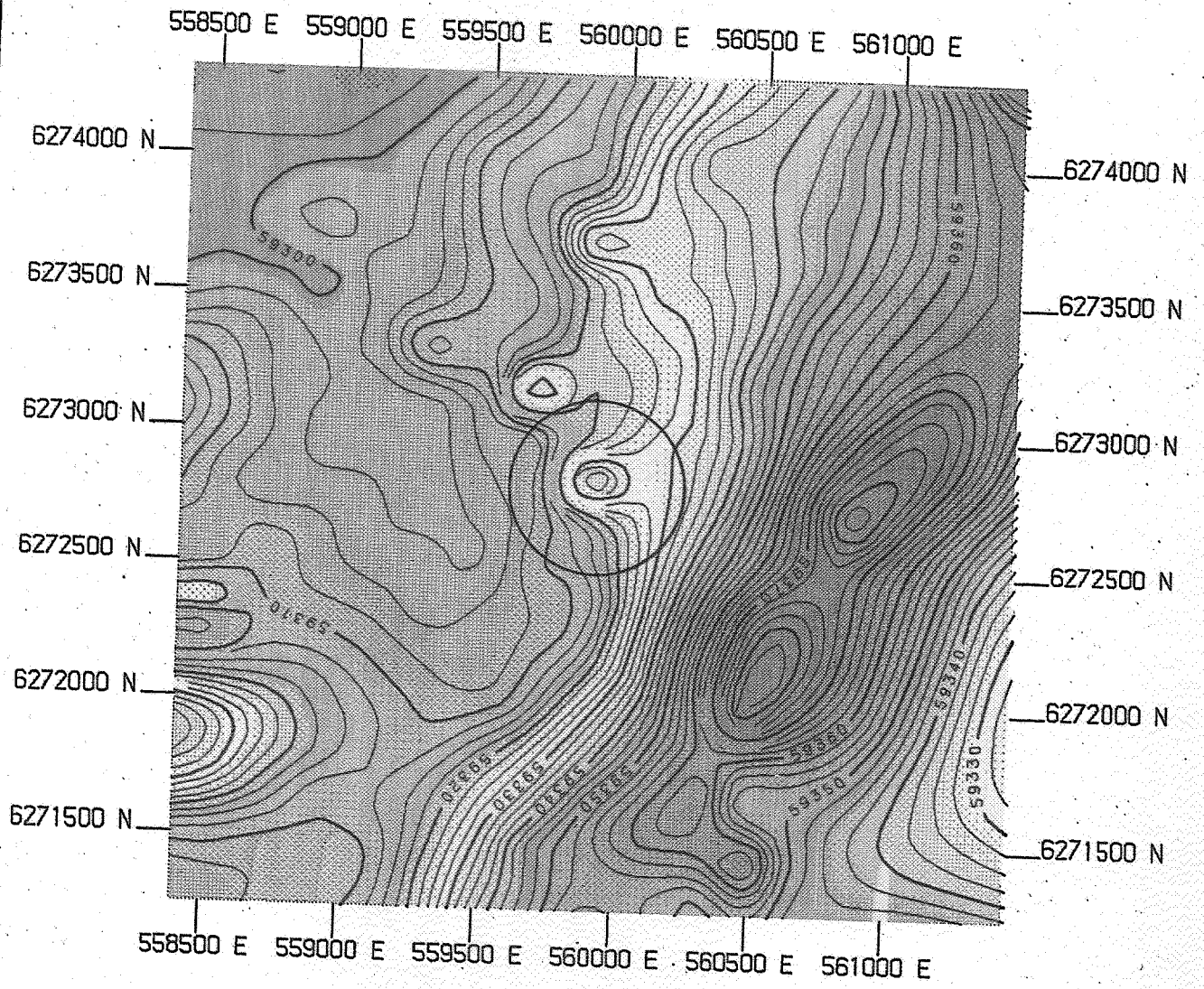
Scale 1:25000

250 0 250 500 750 1000 1250

(metres)

STOCKDALE PROSPECTING LTD
WARRACHIE SURVEY Anomaly WAR11
Total Aeromagnetic Intensity Contour Interval = 2.5nT FLG
Kimba 153-07 SEL:G 2501

000247



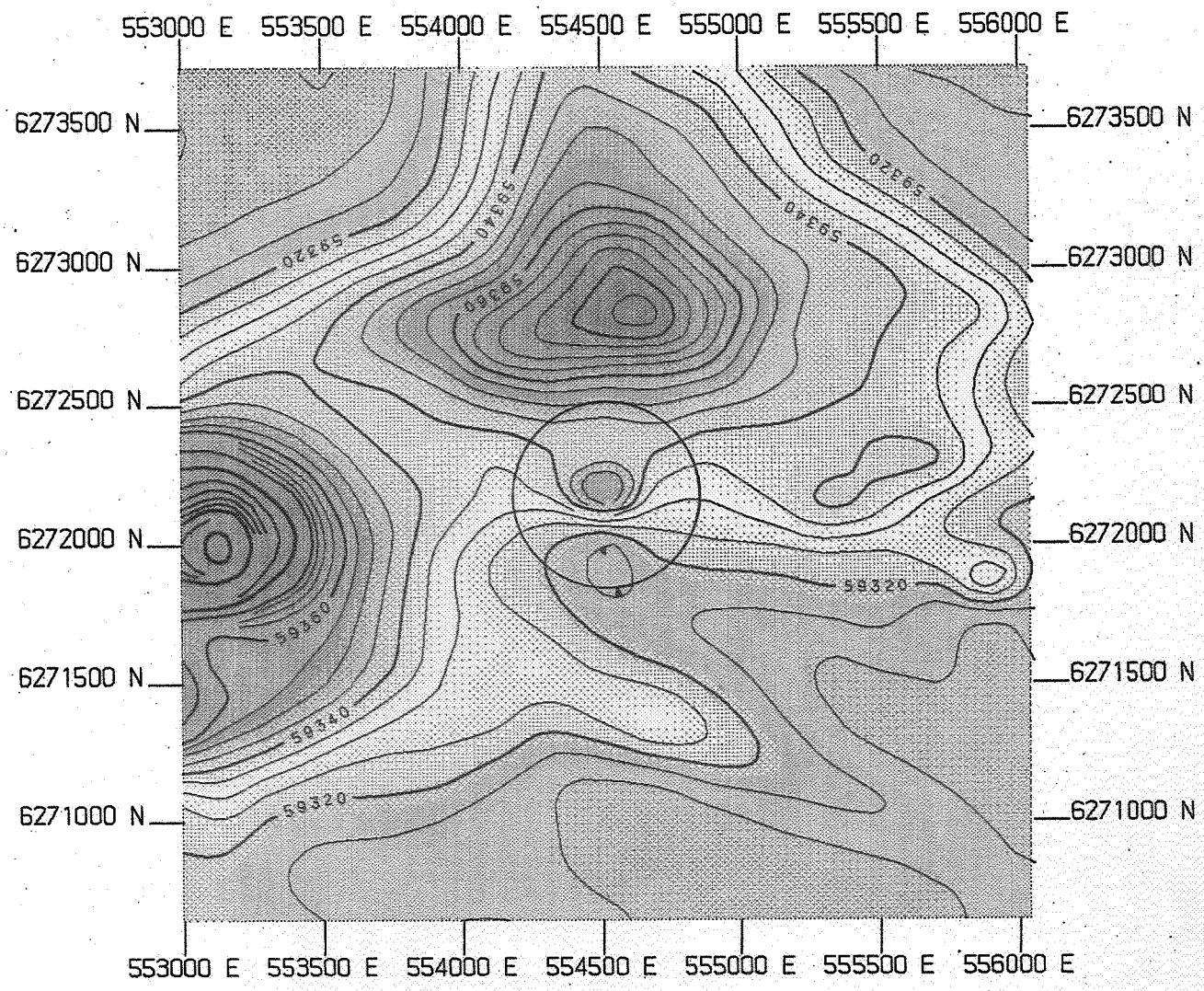
Scale 1:25000

250 0 250 500 750 1000 1250

(metres)

STOCKDALE PROSPECTING LTD
WARRACHIE SURVEY Anomaly WAR12
Total Aeromagnetic Intensity Contour Interval = 2.5nT FLG
Kimba 153-07 SEL:G 2502

000248



N

Scale 1:25000

250 0 250 500 750 1000 1250

(metres)

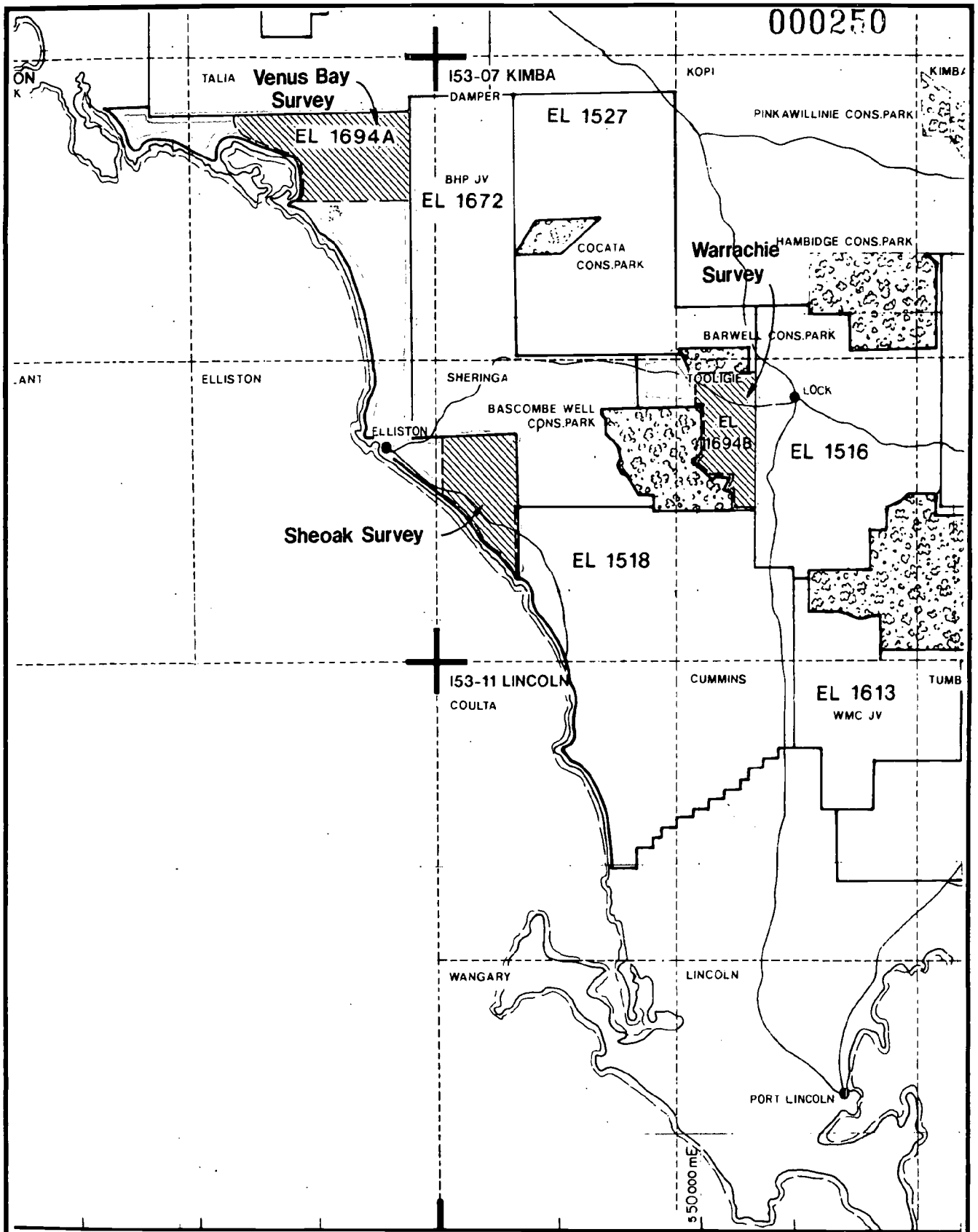
STOCKDALE PROSPECTING LTD

WARRACHIE SURVEY
Anomaly WAR19

Total Aeromagnetic Intensity
Contour Interval = 5nT
FLG

Kimba 153-07 SEL:G 2509

GS 000243



AIRBORNE MAGNETIC SURVEY AREA

10 0 10 50 KM

MAP 1

STOCKDALE PROSPECTING LIMITED

PART ELLISTON 153-6, KIMBA 153- 7, & LINCOLN 153-11

LOCATION MAP

EL 1694 A & B

Compiled	Drawn	Date	Scale	
DO	BAN	4/91	1: 1,000000	SEL 4080


8422-1
134°40'
134°50'
135°00'
E.L. 1694A
VENUS
BAY
Port Kenny
Venus Bay
FLINDERS HWY
LAKE NEWLAND
GREAT AUSTRALIAN BIGHT
SOUTHERN
Elliston
E.L. 1694A
33°30
SAMPLE LOCATION
LOCATION MAP
STOCKDALE PROSPECTING LIMITED
153-06 ELLISTON
PART TALIA, ELLISTON & SHERINGA
1:100000 MAPSHEETS
EL 1694A LOAM SAMPLING
MAP 2A
Compiled D.O.
Drawn MAK
Date April 91
Scale 1:100 000
Revised
SEL.
8422-1

8422-2

135°30'

33° 30'

90

80

70

BASCOMBE WELL

CONSERVATION PARK

E.L. 1694B

BASIN

X5443

X5444

X5444

X5445

X5446

X5447

X5490

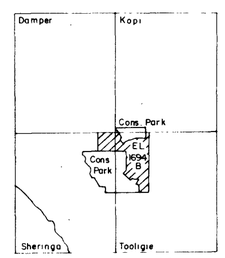
X5491

X5492

X5493

X5495

SAMPLE LOCATION X5446



LOCATION MAP

1 0 1 2 3 4 5 KM

62 60 000 m N

530 000m N

50

60

70

8422-2

MAP 2B

STOCKDALE PROSPECTING LIMITED

153-07 KIMBA
PART SHERINGA & TOOLIGIE
1:100000 MAPSHEETS

EL 1694B LOAM SAMPLING

Compiled	DO
Drawn	MAK
Date	APRIL '91
Scale	1 100 000
Revised	
	SEL

EL 1694(A)

EL 1694(A)

South Lake

Middle Lake

Lake Tungetta

HIGHWAY

LINDERS

FLINDERS

GREAT AUSTRALIAN BIGHT

135° 05'

33° 45'

8422- 9

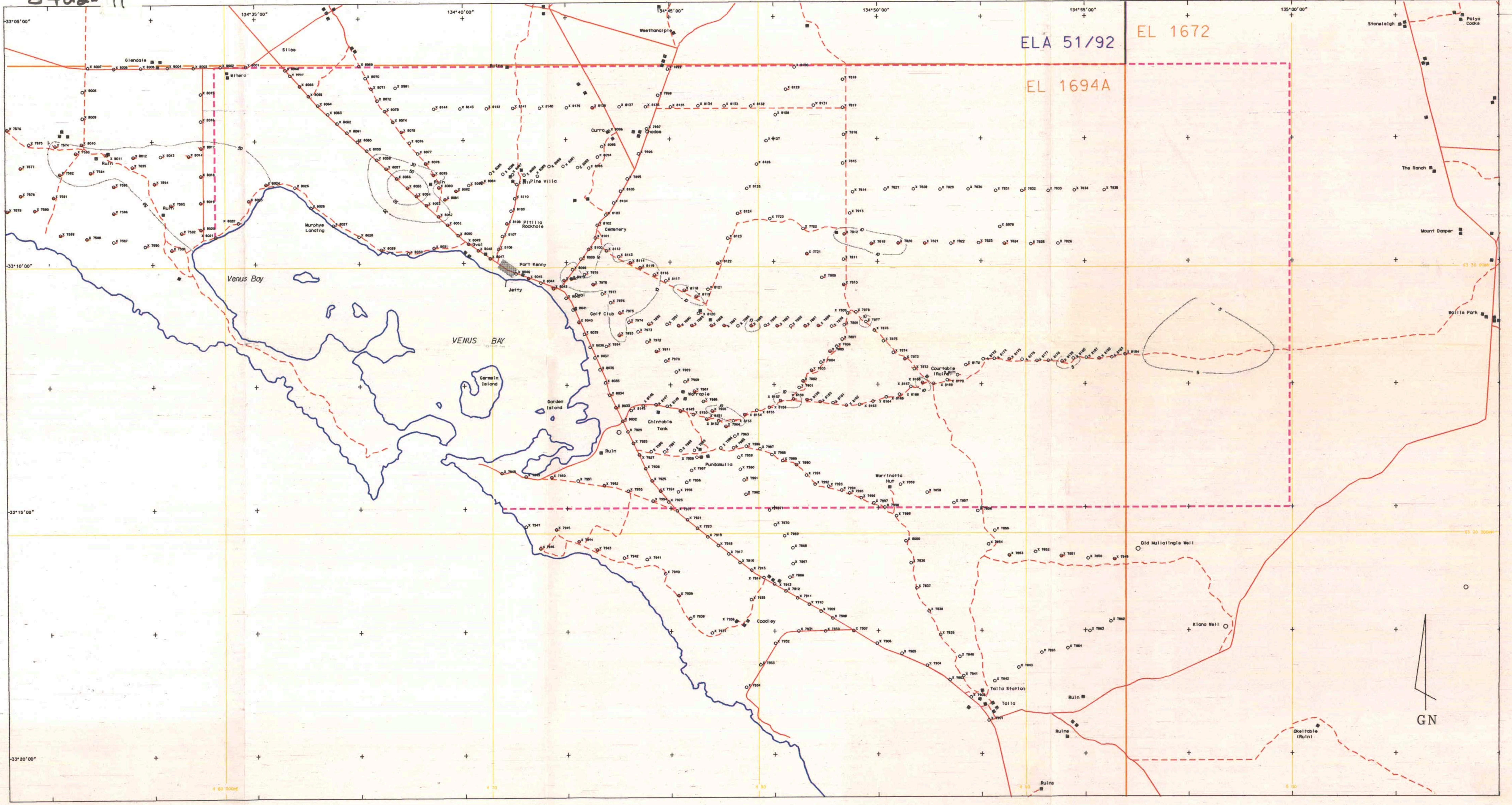
MAP 3

STOCKDALE PROSPECTING LIMITED
A.C.N. 004 912 172

SOUTH AUSTRALIA
153-07 KIMBA
SHERINGA 1:100 00
SHERINGA/HUDD 1:50 000
(SHEOAK HILL)
1991 SKELETAL LOAM SAMPLE LOCATIONS
EL 1694A

Compiled	MSM
Drawn	BAN
Date	JAN. '91
Scale	1:50000
Revised	
SEL	4320

8422- 11



VGC RESULTS

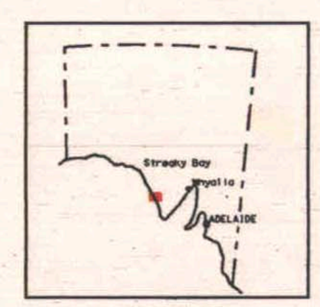
- KIMBERLITIC GARNET
- KIMBERLITIC ILMENITE
- POSSIBLE KIMBERLITIC SPINEL
- POSSIBLE KIMBERLITIC GARNET
- POSSIBLE KIMBERLITIC ILMENITE
- POSSIBLE KIMBERLITIC CHROME DIOPSIDE
- DIAMOND

VENUS BAY AIRBORNE MAGNETIC SURVEY BOUNDARY

CONTOURS OF HEAVY MINERAL COUNTS
(Only selected contours shown)

ANALYSED SAMPLES

- STREAM SAMPLE
- LOAM SAMPLE
- ROCK SAMPLE
- BARRAGE SAMPLE
- BULK SAMPLE
- DRILL SAMPLE
- TRENCH SAMPLE
- UNCLASSIFIED



LOCATION MAP

0 1 2 3 4 5km

MAP 4

STOCKDALE PROSPECTING LIMITED
A.C.N. 004 912 172

SOUTH AUSTRALIA
I5306 ELLISTON
ELLISTON 1:100 000
(VENUS BAY)

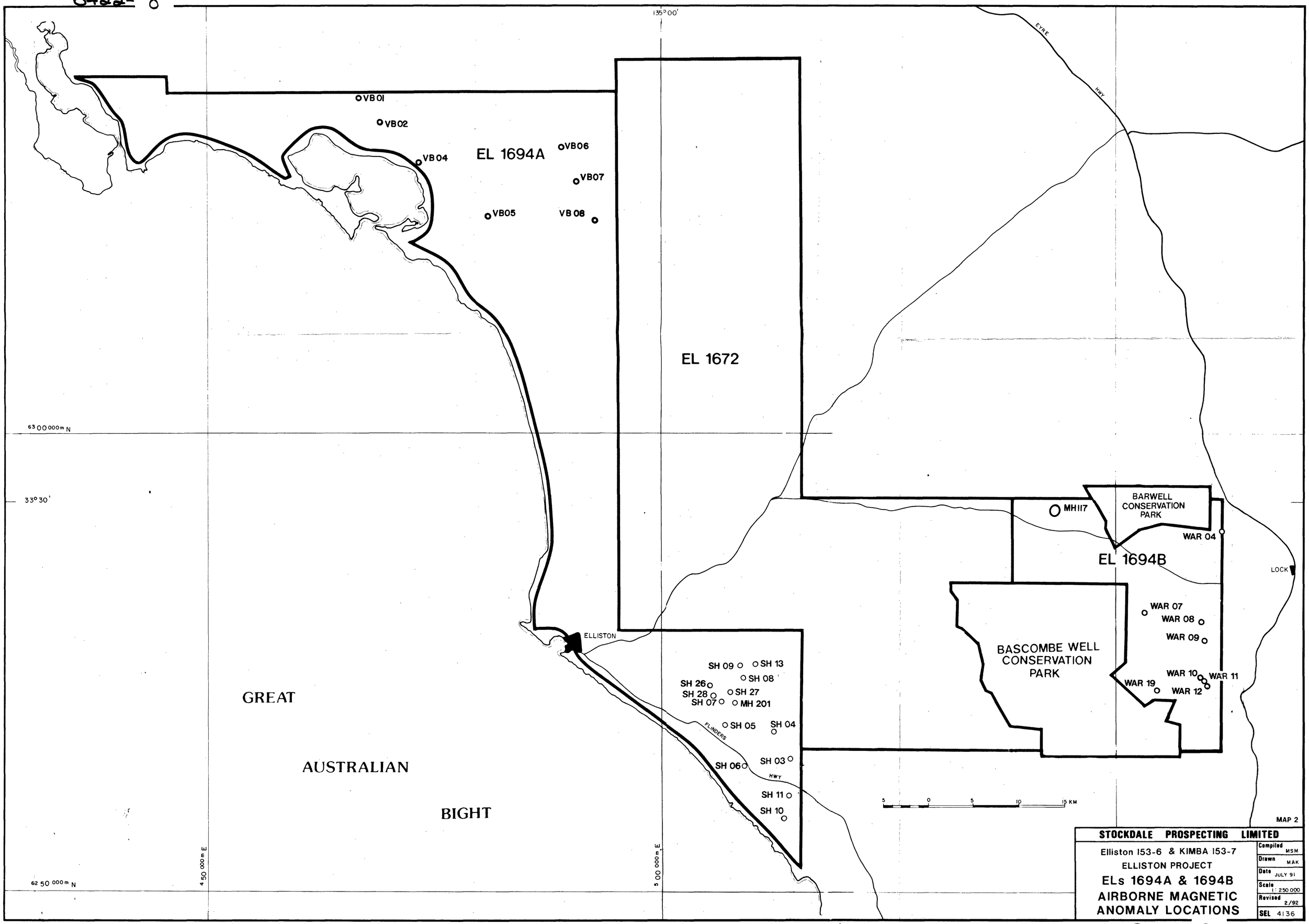
PART EL 1694
VENUS BAY
DETAILED LOAM SAMPLES

Compiled	BAH
Drawn	BAH
Date	06/92
Scale	1:100 000
Revised	08/1992
SEL 4321a	

4321ap.bnd
4321ap.oul
4321ap.drn
4321ap.sam
4321ap.top

8422- 11

8422- 8


135°00'
EYRE HWY
VB01
VB02
VB04
EL 1694A
VB06
VB07
VB05
VB08
EL 1672
63 00 000m N
33°30'
MH117
BARWELL CONSERVATION PARK
WAR 04
EL 1694B
LOCK
WAR 07
WAR 08
WAR 09
BASCOMBE WELL CONSERVATION PARK
WAR 10
WAR 11
WAR 19
WAR 12
ELLISTON
SH 09
SH 13
SH 08
SH 26
SH 28
SH 27
SH 07
MH 201
SH 05
SH 04
FLINDERS HWY
SH 06
SH 03
SH 11
SH 10
GREAT
AUSTRALIAN
BIGHT
5 0 5 10 15 KM
62 50 000m N
450 000m E
500 000m E
MAP 2
STOCKDALE PROSPECTING LIMITED
Elliston 153-6 & KIMBA 153-7
ELLISTON PROJECT
ELs 1694A & 1694B
AIRBORNE MAGNETIC ANOMALY LOCATIONS
Compiled MSM
Drawn MAK
Date JULY 91
Scale 1: 250 000
Revised 2/92
SEL 4136

8422- 8

000251

STOCKDALE
PROSPECTING
LIMITED
A.C.N. 004 912 172

P.O. Box 126
60 Wilson Street
South Yarra Victoria 3141
Australia
Telephone (03) 827 7522
Telex Stodal AA39546
Fax (03) 826 0974

15 October 1992

The Director-General
Department of Mines and Energy
PO Box 151
EASTWOOD SA 5063

Attention: Mr. G. Kwitko

Dear Sir,

Exploration Licences 1518, 1527, 1672, 1694

Further to your letter of 1 October, 1992, I enclose supplementary information as follows:

EL1518

1. Petrographic Report KR 89/772 for kimberlite Mt. Hope-01 (Anomaly MH01)
2. Petrographic Report KR 90/114 for kimberlite Mt. Hope-02 (Anomaly MH14)
3. A report detailing the Ion-microprobe U-Pb dating of perovskite from Kimberlite Mt. Hope-01.
4. Drill hole logs for drillholes DH 53-55, Anomaly MH109.
5. AMG co-ordinates for drillholes DH20-55, Anomalies MH11 to MH109, Feb. '91 drilling programme.
6. Results for loam sample X7493.

E1527

1. AMG co-ordinates for DH21 (Anomaly MW19) and DH22 (Anomaly MW18).
2. Results for loam samples X7496-7500.

EL1672

1. Results for loam samples X7701-20, X7844-48 and X8184-200.

EL1694

1. Petrographic report KR 91/624 for kimberlite Mt. Hope -06 (Anomaly SH13)
2. Petrographic report KR 91/606 for kimberlite Mt. Hope -07 (Anomaly SH09)
3. Petrographic report KR 91/625 for kimberlite Mt. Hope -08 (Anomaly SH08)

The raw/field data for SIROTEM surveys over anomalies MH01 and MH14 (EL1518) and over anomaly SH14 (EL 1672) are being compiled and will be forwarded to you in due course.

Samples (cores/cuttings) of all drilling undertaken on Eyre Peninsula are presently being prepared and documented in Whyalla. These, and representative samples of the kimberlites discovered will be lodged with the Department's Core Library in Whyalla and we will contact Mr. Logan when all samples are ready for submission.

Please advise if you have any further requirements.

Yours faithfully,

H R ROBISON
Senior Divisional Geologist

RTF:HRR993

CONFIDENTIAL

ANGLO AMERICAN RESEARCH LABORATORIES

KIMBERLITE RESEARCH AND SERVICES LABORATORY

KRSL REPORT NO: KR91/624

TITLE: PETROGRAPHY OF A SAMPLE FROM MT HOPE-06 KIMBERLITE, SOUTH AUSTRALIA.

DATE RECEIVED: 28/11/91 HQ REF. NO.: GD91/1578

ORIGINATORS NO.: AUS91/063 KRSL REF. NO.: M/91/1214

BROAD KEYWORDS: Petrology.

KEYWORDS: Crater, volcaniclastic, diatreme, TKB, monticellite, Group-1.

LOCALITY: 601/290/K006

ORIGIN: 3013 TYPE: 102 DATABANK INDEX: 18.2.1

CIRCULATION: HO (X2), KRSL (X2)

SUMMARY:

One sample (BM0178) from Mt Hope-06 was submitted for petrographic identification. The sample is from between 76 and 97m in drill hole 029. No further information was provided. The occurrence/sample number assigned is 601/290/K006/1.

Extensive alteration makes it difficult to positively classify the facies of this sample. The close packed, fragmental texture and absence of clinopyroxene microlites could suggest crater facies volcaniclastic kimberlite. The possibility that this sample represents a diatreme facies TKB cannot be ruled out as the extensive alteration may mask the presence of clinopyroxene microlites. Mineralogically the sample is classified as a Group-1, altered probable monticellite kimberlite (on the basis of the mineralogy in the pellets).

AUTHOR: E.A. Colgan DATE: 11/12/91

CHECKED BY:

J.W. Bristow
HEAD: GEOLOGY LABORATORY

INTRODUCTION

One core sample (BM0178) from Mt Hope-06 was submitted for petrographic identification. The sample is from between 76 and 97m in drill hole 029. No further information was provided. The occurrence/sample number assigned is 601/290/K006/1.

PETROGRAPHY

In hand specimen the sample is a hard, speckled grey and cream rock. It consists of abundant pale olive-green olivine pseudomorphs and angular, cream coloured country rock fragments set in a macroscopically indeterminate brown matrix.

In thin section the sample is extensively altered to clay minerals and carbonate but relict textures are well preserved. The sample is characterised by a close packed, fragmental texture. It comprises abundant altered olivine phenocrysts and minor macrocrysts, country rock fragments (predominantly feldspathic) rare, small lapilli and rare bleached and chloritised mica (discrete and in aggregates) all set in a turbid brown matrix of clay minerals and cryptocrystalline carbonate.

The lapilli occur as very narrow rinds rimming olivine phenocrysts and as occassional small irregular shaped blebs of magmatic material. The magmatic material is extremely altered but a vague sugary texture characteristic of monticellite is evident. Small flakes of bleached mica, opaque minerals and altered, turbid grey, possible perovskite are also present in the lapilli.

CONCLUSION

Extensive alteration makes it difficult to positively classify the facies of this sample. The close packed, fragmental texture and absence of clinopyroxene microlites could suggest crater facies volcaniclastic kimberlite. The possibility that this sample represents a diatreme facies TKB cannot be ruled out as the extensive alteration may mask the presence of clinopyroxene microlites. It is extremely difficult to distinguish between diatreme and crater facies kimberlites on a small scale. Mineralogically the sample is classified as a Group-1, altered probable monticellite kimberlite (on the basis of the mineralogy in the pellets).

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ANGLO AMERICAN RESEARCH LABORATORIES

KIMBERLITE RESEARCH AND SERVICES LABORATORY

KRSL REPORT NO: KR91/606

TITLE: PETROGRAPHY OF ROCK CHIPS FROM MT HOPE-07 KIMBERLITE, SOUTH AUSTRALIA

DATE RECEIVED: 28/11/91

HQ REF. NO.: GD91/1579

ORIGINATORS NO.: AUS91/064

KRSL REF. NO.: M/91/1215

BROAD KEYWORDS: Petrology.

KEYWORDS: Group-1, crater, diatreme, phlogopite, monticellite.

LOCALITY: 601/290/K007

ORIGIN: 3013 TYPE: 102 DATABANK INDEX: 18.2.1

CIRCULATION: HO (X2), KRSL (X2)

SUMMARY:

A bag of rock fragments from Mt Hope-07 was submitted for petrographic identification. The fragments are from between 74 and 94m in drill hole 030. No further information is available. The sample (BM0179) has been numbered 601/290/K007/1.

The rock type comprises small fragments of possible country rock, dissagregated country rock(?) xenocrysts, phlogopite, altered olivine(?) and pellets all set in an altered, turbid brown base.

The specimen is classified as a probable crater facies kimberlite. It is however difficult to distinguish between crater facies and diatreme facies rocks on a small scale and the possibility that this represents diatreme facies kimberlite cannot be ruled out. On the basis of the pellets the specimen is classified as a Group-1, altered probable phlogopite-monticellite kimberlite.

AUTHOR: E.A. Colgan DATE: 06/12/91

CHECKED BY:

J.W. Bristow
HEAD: GEOLOGY LABORATORY

INTRODUCTION

A bag of rock fragments from Mt Hope-07 was submitted for petrographic identification. The fragments are from between 74 and 94m in drill hole 030. No further information is available. The sample (BM0179) has been numbered 601/290/K007/1.

PETROGRAPHY

Extensive alteration to clay minerals masks the original texture and mineralogy of the rock fragments and precludes a positive classification. Some primary minerals and an indistinct relict texture are however preserved.

In handspecimen The sample is a friable, pale greenish-grey rock with a fragmental texture. It consists of abundant cream and grey coloured country rock xenoliths, altered pale greenish-cream pseudomorphs that resemble olivine, indistinct rounded pellets and phlogopite all set in a macroscopically indeterminate cream coloured base.

In thin section the specimen has a distinctive close packed fragmental texture. It comprises small fragments of possibl country rock, dissagregated country rock(?) xenocrysts, phlogopite, altered olivine(?) and pellets all set in an altered, turbid brown base.

A variety of fragments are evident. These consist of basaltic igneous rocks, feldspar-pyroxene fragments, metamorphic mafic rocks and possible argillaceous material.

The pellets occur as small rounded to irregular shaped structures. They consist of possible altered olivine phenocrysts set in a finer grained groundmass of phlogopite, calcite, apatite and turbid brownish clay minerals. A vague sugary texture is discernable in this turbid matrix and could indicate the presence of indistinct relict monticellite pseudomorphs. Opaque minerals and altered perovskite are also discernable within the matrix of the pellets.

CONCLUSION

The specimen is classified as a probable crater facies kimberlite on the basis of the fragmental texture and variable shapes of the juvenile pellets. It is however difficult to distinguish between crater facies and diatreme facies rocks on a small scale and the possibility that this represents diatreme facies kimberlite cannot be ruled out. On the basis of the pellets the specimen is classified as a Group-1, altered probable phlogopite-monticellite kimberlite.

CONFIDENTIAL

ANGLO AMERICAN RESEARCH LABORATORIES

KIMBERLITE RESEARCH AND SERVICES LABORATORY

KRSL REPORT NO: KR91/625

TITLE: PETROGRAPHY OF A SAMPLE FROM MT HOPE-08 KIMBERLITE, SOUTH AUSTRALIA.

DATE RECEIVED: 28/11/91 HQ REF. NO.: GD91/1580

ORIGINATORS NO.: AUS91/065 KRSL REF. NO.: M/91/1216

BROAD KEYWORDS: Petrology.

KEYWORDS: Group-1, hypabyssal, phlogopite, monticellite, contaminated, clinopyroxene.

LOCALITY: 601/290/K008

ORIGIN: 3013 TYPE: 102 DATABANK INDEX: 18.2.1

CIRCULATION: HO (X2), KRSL (X2)

SUMMARY:

One sample of core fragments (BM0180) from Mt Hope-08 was submitted for petrographic identification. The sample is from between 24 and 34m depth in drill hole 031. No other information was provided. The occurrence/sample number assigned is 601/290/K008/1.

The sample is classified as a porphyritic, hypabyssal facies kimberlite brooola(?) with a vaguely segregationary groundmass texture. Mineralogically it is a contaminated, Group 1, phlogopite-monticellite kimberlite. The paucity of olivine macrocrysts may downgrade the interest rating of the locality.

The perovskites are too altered to use in age dating. It MAY however be possible to extract some fresh grains if a large (20kg?) sample is treated. The phlogopite is too fine-grained to be used for dating the locality.

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INTRODUCTION

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PETROGRAPHY

In hand specimen the sample is a hard greenish-grey porphyritic rock. It cosists of black olivine pseudomorphs and rare phlogopite macrocrysts set in a fine grained macroscopically indeterminate matrix.

In thin section the sample consists of abundant altered olivine phenocrysts and rare macrocrysts and conspicuous altered country rock fragments all set in a finer grained groundmass. The groundmass consists of indistinct ghost relicts after possible monticellite, relatively abundant phlogopite and conspicuous patches of clinopyroxene. Small, irregular shaped 'pools' of chloritised serpentine(?) and crystalline carbonate are present in the groundmass. Opaque minerals and altered perovskite are ubiquitous. The latter mineral is in some cases fairly coarse grained (up to 0.17mm in size) and occasional relict fresh patches are evident.

CONCLUSION

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